



Fannie Mae®

# Single-Family MBS Disclosures Guide

A resource for disclosure publication timing, definitions, calculations and file formats

April 2021



# Introduction

This guide provides definitions and calculations for the data elements disclosed on Fannie Mae's Single-Family Mortgage-Backed Securities which are published in our issuance and monthly disclosure files, as well as displayed on our PoolTalk® web-based application. This document also provides the disclosure file naming convention, publication timing, and file formats.



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| Business Name                                     | File Name                  | Publication Timing  | Process Cycle | Product                      | Archive                             | Location                                       |
|---|----------------------------|---|---------------|------------------------------|-------------------------------------|--|
| CRA Report  | FNM_CRA_Prefix_Pool#_CUSIP | Every Business Day 6:30 AM, 11:30 AM, 3:30 PM, 4:30 PM Eastern Time as applicable | Issuance      | MBS & UMBS                   | Indefinitely                        | • PoolTalk - Security Documents                |
| MBS Intraday Issuance Loan Level File             | FNM_ILLD_YYYYMMDD_1        | Every Business Day - 6:30 AM Eastern Time   | Issuance      | MBS & UMBS                   | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Issuance Loan Level File             | FNM_ILLD_YYYYMMDD_2        | Every Business Day - 11:30 AM Eastern Time  | Issuance      | MBS & UMBS                   | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Issuance Loan Level File             | FNM_ILLD_YYYYMMDD_3        | Every Business Day - 3:30 PM Eastern Time   | Issuance      | MBS & UMBS                   | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Issuance File               | FNM_IS_YYYYMMDD_1          | Every Business Day - 6:30 AM Eastern Time   | Issuance      | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Issuance File               | FNM_IS_YYYYMMDD_2          | Every Business Day - 11:30 AM Eastern Time  | Issuance      | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Issuance File               | FNM_IS_YYYYMMDD_3          | Every Business Day - 3:30 PM Eastern Time   | Issuance      | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Supplemental Issuance File  | FNM_ISS_YYYYMMDD_1         | Every Business Day - 6:30 AM Eastern Time   | Issuance      | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Supplemental Issuance File  | FNM_ISS_YYYYMMDD_2         | Every Business Day -11:30 AM Eastern Time   |               | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Intraday Security Supplemental Issuance File  | FNM_ISS_YYYYMMDD_3         | Every Business Day - 3:30 PM Eastern Time   | Issuance      | MBS & UMBS<br>Megas & Supers | 15 Calendar Days                    | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Month-End Issuance Loan Level                 | FNM_ILLD_YYYYMM            | Business Day 1 of Following Month - 6:30 AM Eastern Time                          | Month-End     | MBS & UMBS                   | Current Month + 5 Historical Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Month-End Issuance Security File              | FNM_IS_YYYYMM              | Business Day 1 of Following Month - 6:30 AM Eastern Time                          | Month-End     | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Month-End Issuance Security Supplemental File | FNM_ISS_YYYYMM             | Business Day 1 of Following Month - 6:30 AM Eastern Time                          | Month-End     | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical Months | • SFTP<br>• PoolTalk - Files & Reports Section |

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| Business Name                                      | File Name                                    | Publication Timing  | Process Cycle | Product                      | Archive                                | Location                                       |
|--|--|---|---------------|------------------------------|--|--|
| MBS Monthly Loan Level File                        | FNM_MLLD_YYYYMM                              | Business Day 4- 4:30 PM Eastern Time  | Monthly       | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical<br>Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Monthly Security Factor File                   | FNM_MF_YYYYMM                                | Business Day 4- 4:30 PM Eastern Time  | Monthly       | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical<br>Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Monthly Security Supplemental File             | FNM_MS_YYYYMM                                | Business Day 4- 4:30 PM Eastern Time  | Monthly       | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical<br>Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Security Issuance Correction File              | FNM_RIS_YYYYMM                               | Business Days 1-4 - 6:30 AM Eastern Time (Only if corrections were applied) | Month-End     | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical<br>Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| MBS Security Supplemental Issuance Correction File | FNM_RISS_YYYYMM                              | Business Days 1-4 - 6:30 AM Eastern Time (Only if corrections were applied) | Month-End     | MBS & UMBS<br>Megas & Supers | Current Month + 5 Historical<br>Months | • SFTP<br>• PoolTalk - Files & Reports Section |
| Megas Backed by Ginnie Mae Collateral Factor File  | FNM_GN_MEGA_YYYYMM<br>FNM_GN_MEGA_YYYYMM_REV | Business Day 8 at 4:30 PM Eastern Time (Ginnie Mae backed collateral)       | Monthly       | Megas                        | Indefinitely                           | • SFTP<br>• PoolTalk - Files & Reports Section |

MM and DD in file name represents the posting date in the issuance and monthly files. For the Month-end and the Correction Files, the MM represents the issuance month

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| <b>All applicable data attributes are disclosed for each security except the following attributes which are disclosed for securities issued on or after the below referenced effective dates</b> |   |   |  |  |
|--|---|---|--|--|
| <b>Implementation Date</b>   | <b>Effective Date</b>                           | <b>Loan Level File</b>  | <b>Security Level File</b>                 | <b>Security Supplemental Level File</b>  |
| April 2003   | May 1996 Issuances                              |   | WA Loan-to-Value (LTV)                     | Quartiles - Loan-to-Value (LTV)  |
|  |   |   | WA Borrower Credit Score                   | Quartiles - Borrower Credit Score  |
|  |   |   |  | Quartiles - Updated Credit Score   |
|  |   |   |  | Borrower Credit Score Not Available Stratification   |
|  |   |   |  | Loan Purpose Stratification  |
|  |   |   |  | Loan-to-Value (LTV) Not Available Stratification   |
|  |   |   |  | Number of Units Stratification   |
|  |   |   |  | Occupancy Status Stratification  |
| September 2007   | September 2007 Issuances                        |   | Third Party Origination UPB Percent        | Channel Stratification   |
| January 2013   | January 2013 Issuances                          | All loan level attributes   | WA Combined Loan-to-Value (CLTV)           | Quartiles - Combined Loan-to-Value (CLTV)  |
|  |   |   | WA Debt-to-Income (DTI)                    | Quartiles - Debt-to-Income   |
|  |   |   |  | Combined Loan-to-Value (CLTV) Not Available Stratification                                 |
|  |   |   |  | Debt-to-Income (DTI) Not Available Stratification  |
|  |   |   |  | First-Time Homebuyer Indicator Stratification  |
|  |   |   |  | Property State Stratification  |
|  |   |   |  | Government Insured/Guarantee Stratification  |
|  |   |   |  | Mortgage Insurance Cancellation Indicator Stratification                                   |
|  |   |   |  | Mortgage Insurance Coverage Stratification   |
|  |   |   |  | Number of Borrowers Stratification   |
|  | Property Type Stratification                    |   |  |  |
|  |   | Days Delinquent Stratification (for reperforming, step-rate and modified securities only) |  |  |
| June 2019  | November 2018                                   |   | Involuntary Loan Removal (Loan Count)      | Days Delinquent Stratification (excluding reperforming, step-rate and modified securities) |
|  |   |   | Involuntary Loan Removal (Prior Month UPB) |  |
| March 2020   | January 2017 Issuances                          | Property Valuation Method   |  | Property Valuation Method Stratification   |
| June 2020  | All Active Securities (Previously<br>2017-2018) |   | Involuntary Loan Removal (Loan Count)      | Days Delinquent Stratification   |
|  |   |   | Involuntary Loan Removal (Prior Month UPB) |  |
| June 2020  | All Active Securities                           |   | Borrower Assistance Plan                   | Borrower Assistance Plan Stratification  |
| December 2020  | All Active Securities                           | Alternative Delinquency Resolution Type   |  | Alternative Delinquency Resolution Type Stratification                                     |
|  |   | Number of Alternative Delinquency Resolutions Type  |  | Number of Alternative Delinquency Resolutions Stratification                               |
|  |   | Total Deferral Amount   |  |  |
| March 2021   | All Active Securities                           | Days Delinquent (change to apply to all loans)  |  |  |
|  |   | Borrower Assistance Plan  |  |  |
| May 2021   | All Active Securities                           | Seller City & State   |  | Seller City & State in Seller Stratification   |
|  |   | Servicer City & State   |  | Servicer City & State in Servicer Stratification   |

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Loan Level Data  
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| ID    | Attribute Name             | Attribute Definition  | Enumerations                                  | Data Type | Format | Max Length | Notes  | Calculations |
|-------|----------------------------|---|---|-----------|--------|------------|--|--------------|
| L-001 | Loan Identifier            | The unique designation assigned to the loan by the issuer.  |   | String    |        | 12         |  |              |
| L-002 | Loan Correction Indicator  | The indicator denoting whether any attributes for the loan have changed from previous disclosures.  | Y = Yes<br>N = No<br>A = Added<br>D = Deleted | String    |        | 1          |  |              |
| L-003 | Prefix                     | The designation assigned by the issuer denoting the type of the loans and the security.   |   | String    |        | 3          |  |              |
| L-004 | Security Identifier        | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| L-005 | CUSIP                      | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |  |              |
| L-006 | Mortgage Loan Amount       | The dollar amount of the loan as stated on the note at the time the loan was originated or modified.<br>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.  |   | Numeric   | 9.2    | 12         | Privacy Masking: Amount rounded to nearest thousand if > \$500.  |              |
| L-007 | Issuance Investor Loan UPB | The unpaid principal balance of the loan as it contributes to the balance of the security at the time the security was issued.  |   | Numeric   | 9.2    | 12         | Privacy Masking: If loan age ≤ 6 months, UPB rounded to nearest thousand if > \$500.   |              |
| L-008 | Current Investor Loan UPB  | The unpaid principal balance of the loan as it contributes to the current balance of the security.<br><br>The Current Investor loan UPB is derived from the mortgage balance as reported by the servicer. The Current Investor UPB reflects any scheduled and unscheduled principal reductions applied to the mortgage. |   | Numeric   | 9.2    | 12         | •Privacy Masking: If loan age ≤ 6 months, UPB rounded to nearest thousand if > \$500.<br><br>•File will include the loan when the balance equals zero for one month. |              |
| L-009 | Amortization Type          | The classification of the loan as having either a fixed- or an adjustable-interest rate at the time the loan was originated or modified.  | FRM = Fixed-Rate<br>ARM = Adjustable-Rate     | String    |        | 3          |  |              |
| L-010 | Original Interest Rate     | The interest rate of the loan as stated on the note at the time the loan was originated or modified.  |   | Numeric   | 2.3    | 6          |  |              |
| L-011 | Issuance Interest Rate     | The interest rate of the loan in effect at the time the security was issued.  |   | Numeric   | 2.3    | 6          |  |              |
| L-012 | Current Interest Rate      | The interest rate of the loan in effect during the current reporting period.  |   | Numeric   | 2.3    | 6          |  |              |
| L-013 | Issuance Net Interest Rate | The interest rate of the loan at the time the security was issued less servicing fees and guarantor fees.   |   | Numeric   | 2.3    | 6          |  |              |

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| ID    | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations  |
|-------|------------------------------|---|--------------|-----------|--------|------------|--|---|
| L-014 | Current Net Interest Rate    | The interest rate of the loan in effect during the current reporting period less servicing fees and guarantor fees.   |              | Numeric   | 2.3    | 6          |  |   |
| L-015 | First Payment Date           | The month and year that the first scheduled payment on the loan is due at the time the loan was originated or modified.   |              | Date      | MMCCYY | 6          |  |   |
| L-016 | Maturity Date                | The month and year that the final scheduled payment on the loan is due at the time the loan was originated or modified.   |              | Date      | MMCCYY | 6          |  |   |
| L-017 | Loan Term                    | For fixed-rate, adjustable-rate and interest-only mortgages, the number of months in which regularly scheduled borrower payments are due at the time the loan was originated or modified. |              | Numeric   |        | 3          |  |   |
| L-018 | Remaining Months to Maturity | The number of remaining months that will reduce the Current Investor Loan UPB to zero.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments.         |              | Numeric   |        | 3          | <ul style="list-style-type: none"> <li>For fixed-rate mortgages and interest-only mortgages that are amortizing:<br/><br/>Calculation 1:<br/>- (FUNCTION LOG10 (1- (Issuance Investor Loan UPB*((Issuance Interest Rate/1200) / Loan Principal and Interest)))) / FUNCTION LOG10 (1 + (Issuance Interest Rate/1200))</li> <li>Calculation 2:<br/>Difference between the Current Factor Date and the Loan Maturity Date.</li> </ul> <p>Round up to the nearest integer and use the lower value of the two calculations</p> <ul style="list-style-type: none"> <li>For adjustable-rate mortgages and interest-only mortgages in their interest-only period, use the following calculation:<br/>Difference between the Current Factor Date and the Loan Maturity Date.</li> </ul> |   |
| L-019 | Loan Age                     | The number of scheduled payments from the time the loan was originated or modified, up to and including the current reporting period.   |              | Numeric   |        | 3          |  | ((Security Factor Date (MM/YY) – First Payment Date (MM/YY)) + 1) |



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| ID    | Attribute Name                | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculations   |
|-------|-------------------------------|--|--------------|-----------|--------|------------|---|--|
| L-020 | Loan-to-Value (LTV)           | <p>The ratio, expressed as a percentage, obtained by dividing the amount of the loan at origination by the value of the property.</p> <p>Value of the property reflects either the lesser of the sales price or the property value for a purchase or the property value for a refinance.</p> <p>For modified fixed-rate, modified step-rate loans, and reinstated loans, this value will be blank.</p>   |              | Numeric   |        | 3          | <ul style="list-style-type: none"> <li>• If LTV ratios is &lt; 1% or &gt; 998%, it will be disclosed as "Not Available", indicated by 999.</li> <li>• If any of the following criteria is met, the LTV ratio will be disclosed as "Not Available", indicated by 999. <ul style="list-style-type: none"> <li>- The LTV ratio is &lt;1% &gt;998%</li> <li>- The CLTV ratio is &lt; the LTV ratio</li> <li>- The LTV ratio is "Not Available"</li> </ul> </li> </ul> | <p>Purchase:<br/> <math>LTV = \text{Mortgage Loan Amount} / (\text{Min}(\text{Sales Price}, \text{Property Value})) * 100</math></p> <p>Refinance:<br/> <math>LTV = \text{Mortgage Loan Amount} / \text{Property Value} * 100</math></p> <ul style="list-style-type: none"> <li>• Truncate (shortened) to two decimal places, then rounded up to the nearest whole percent.</li> </ul>                                     |
| L-021 | Combined Loan-to-Value (CLTV) | <p>The ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the property.</p> <p>Value of the property reflects either the lesser of the sales price or the property value for a purchase or the property value for a refinance.</p> <p>For modified fixed-rate, modified step-rate loans, and reinstated loans, this value will be blank.</p>  |              | Numeric   |        | 3          | <ul style="list-style-type: none"> <li>• If CLTV ratios is &lt; 1% or &gt; 998%, it will be disclosed as "Not Available", indicated by 999.</li> <li>• The CLTV ratio will be disclosed as "Not Available", indicated by 999: <ul style="list-style-type: none"> <li>- The CLTV ratio is &lt;1% &gt;998%</li> <li>- The CLTV ratio is &lt; the LTV ratio</li> <li>- The CLTV ratio is "Not Available"</li> </ul> </li> </ul>                                      | <p>Sum of All Outstanding Loan Amounts / (Min (Sales Price, Property Value)) * 100</p> <ul style="list-style-type: none"> <li>• Loan Amounts may include: <ul style="list-style-type: none"> <li>- Original loan amount of the first mortgage,</li> <li>- Drawn portion (outstanding principal balance) of a HELOC, and</li> <li>- Unpaid principal balance of all closed-end subordinate financing</li> </ul> </li> </ul> |
| L-022 | Debt-to-Income (DTI)          | <p>The ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated or modified.</p>  |              | Numeric   |        | 3          | <p>If value is &lt; 1 or &gt; 65, it will be disclosed as "Not Available", indicated by 999.</p>  | <p>(Borrower Total Monthly Liabilities Amount / Borrower Total Monthly Income Amount) * 100</p> <ul style="list-style-type: none"> <li>• Round to nearest integer</li> </ul>   |
| L-023 | Borrower Credit Score         | <p>The standardized credit score used to evaluate the borrower during the loan origination process.</p> <ul style="list-style-type: none"> <li>• If there are two or more borrowers on a mortgage loan and more than one credit score is provided, Fannie Mae will use the lower of the two scores.</li> <li>• For all newly delivered loans, Fannie Mae uses the "Classic" FICO score developed by Fair Isaac Corporation with the range of 300 - 850.</li> </ul> |              | Numeric   |        | 4          | <ul style="list-style-type: none"> <li>• If credit score is &lt; 300 or &gt; 850, the Borrower Credit Score will be disclosed as "Not Available", which will be indicated by 9999.</li> <li>• For modified fixed-rate, modified step-rate loans and reinstated loans, this value will be blank.</li> </ul>  |  |
| L-024 | Filler                        |  |              |           |        |            |   |  |
| L-025 | Filler                        |  |              |           |        |            |   |  |
| L-026 | Filler                        |  |              |           |        |            |   |  |

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| ID    | Attribute Name                 | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
|-------|--------------------------------|---|---|-----------|--------|------------|-------|--------------|
| L-027 | Number of Borrowers            | The number of borrowers who, at the time the loan was originated, are obligated to repay the loan.  | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>5 = 5<br>6 = 6<br>7 = 7<br>8 = 8<br>9 = 9<br>10 = 10<br>99 = Not Available  | Numeric   |        | 2          |       |              |
| L-028 | First-Time Homebuyer Indicator | The indicator denoting whether a borrower on the loan qualifies as a first-time homebuyer.<br><br>An individual is to be considered a first-time homebuyer who (1) is purchasing the property; (2) will reside in the property; and (3) had no ownership interest (sole or joint) in a residential property during the three-year period preceding the date of the purchase of the property. In addition, an individual who is a displaced homemaker or single parent also will be considered a first-time homebuyer if he or she had no ownership interest in a principal residence (other than a joint ownership interest with a spouse) during the preceding three-year time period. | Y = Yes<br>N = No<br>9 = Not Available  | String    |        | 1          |       |              |
| L-029 | Loan Purpose                   | The classification describing the purpose of the loan.  | C = Refinance - Cash Out<br>N = Refinance - No Cash Out<br>R = Refinance - Not Specified<br>P = Purchase<br>M = Modified - Loss Mitigation<br>9 = Not Available | String    |        | 1          |       |              |
| L-030 | Occupancy Status               | The classification describing the property occupancy status at the time the loan was originated.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.   | P = Primary Residence<br>S = Second Home<br>I = Investment Property<br>9 = Not Available  | String    |        | 1          |       |              |
| L-031 | Number of Units                | The number of dwelling units in the mortgaged property at the time the loan was originated.   | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>99 = Not Available  | Numeric   |        | 2          |       |              |
| L-032 | Property Type                  | The classification describing the type of property that secures the loan.   | CP = Cooperative<br>CO = Condominium<br>PU = Planned Unit Development<br>SF = Single-Family<br>MH = Manufactured Housing<br>99 = Not Available                  | String    |        | 2          |       |              |

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| ID    | Attribute Name                            | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
|-------|---|---|---|-----------|--------|------------|--|--------------|
| L-033 | Channel                                   | <p>The origination channel used by the party that delivered the loan to the issuer.</p> <p>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</p> <ul style="list-style-type: none"> <li>• Broker: A mortgage loan that is originated under circumstances where a person or firm other than a mortgage loan seller or lender correspondent is acting as a "broker" and receives a commission for bringing together a borrower and a lender. The broker performs some (or most) of the loan processing functions (such as taking loan applications; ordering credit reports, appraisals, and title reports; verifying a borrower's income and employment, etc.), but it typically does not actually underwrite the loan, fund the loan at settlement, or service the loan. The mortgage loan is closed in the name of and funded by the mortgage loan seller (or, in some cases, the lender correspondent) that commissioned the broker's services.</li> <li>• Correspondent: A mortgage loan that is originated by a party other than a mortgage loan seller and is then sold to a mortgage loan seller. A lender correspondent generally performs some (or all) of the loan processing functions (such as taking loan applications; ordering credit reports, appraisals, and title reports; verifying a borrower's income and employment; etc.) as well as underwriting and funding the mortgage loan at settlement. The mortgage loan is closed in the name of the lender correspondent, which may or may not service the loan.</li> <li>• Retail: A mortgage loan, for which the mortgage loan seller takes the mortgage loan application and then processes, underwrites, funds, and delivers the mortgage loan to us. The loan is closed in the name of the mortgage loan seller, which may or may not service the loan. This definition may include joint ventures between the mortgage loan seller and another entity, provided that the mortgage loan seller retains control of the joint ventures (either through majority ownership or voting rights). For mortgage loans acquired prior to March 2013, the term "retail" may also, from time to time, include certain mortgage loans originated pursuant to a contractual arrangement, specifically approved by Fannie Mae, between a third party and the mortgage loan seller by which the third party may perform one or more of the functions (but not all) related to the origination of the mortgage loan, including taking the mortgage loan application, processing, underwriting, funding or delivering the mortgage loan to Fannie Mae.</li> </ul> | R = Retail<br>B = Broker<br>C = Correspondent<br>T = Third Party Origination - Not Specified<br>9 = Not Available | String    |        | 1          |  |              |
| L-034 | Property State                            | The abbreviation denoting the location of the property securing the loan.   |   | String    |        | 2          | See Appendix B   |              |
| L-035 | Seller Name                               | The name of the entity that sold the loan to the issuer.  |   | String    |        | 100        | A pool with multiple sellers will display "Multiple"   |              |
| L-036 | Servicer Name                             | The name of the entity that services the loan during the current reporting period.  |   | String    |        | 100        |  |              |
| L-037 | Mortgage Insurance Percent                | The percentage of mortgage insurance coverage obtained at origination in effect at the time the security was issued.  | 000= No MI<br>999= Not Available  | String    |        | 3          | When the Mortgage Insurance is cancelled or expired, the Mortgage Insurance Percent is displayed as "000". |              |
| L-038 | Mortgage Insurance Cancellation Indicator | The indicator denoting whether the mortgage insurance has been cancelled after the security was issued.   | Y = Yes<br>N = No<br>7 = Not Applicable   | String    |        | 1          |  |              |

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| ID    | Attribute Name  | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations   |
|-------|---|--|--|-----------|--------|------------|--|--|
| L-039 | Government Insured Guarantee                            | The classification describing the Government Insured/Guarantee Program, if any, covering the loan.   | FH = FHA<br>VA = Veterans Affair<br>RH = Rural Housing<br>IH = Section 184 Indian Home<br>99 = Not Available | String    |        | 2          | Applicable only to Government Insured/Guarantee loans.   |  |
| L-040 | Assumability Indicator                                  | The indicator denoting whether the loan is assumable by another borrower.  | Y = Yes<br>N = No  | String    |        | 1          |  |  |
| L-041 | Interest Only Loan Indicator                            | The indicator denoting whether the loan only requires interest payments for a specified period of time beginning with the first payment date.                                  | Y = Yes<br>N = No  | String    |        | 1          |  |  |
| L-042 | Interest Only First Principal and Interest Payment Date | For interest-only loans, the month and year that the first monthly scheduled fully amortizing principal and interest payment is due.   |  | Date      | MMCCYY | 6          |  |  |
| L-043 | Months to Amortization                                  | For interest-only loans, the number of months from the current month to the first scheduled principal and interest payment date.   |  | Numeric   |        | 3          | After the first P&I payment date, this value will be set to zero.  | Interest Only First P&I Payment Date (MM/YY) - Security Factor Date (MM/YY)                            |
| L-044 | Prepayment Penalty Indicator                            | The indicator denoting whether the borrower is subject to a penalty for early payment of principal.  | Y = Yes<br>N = No  | String    |        | 1          |  |  |
| L-045 | Prepayment Penalty Total Term                           | The total number of months that the prepayment penalty may be in effect.   | 06 = 6 Months<br>12 = 1 Year<br>24 = 2 Years<br>36 = 3 Years<br>99 = Not Available                           | String    |        | 2          |  |  |
| L-046 | Index   | For adjustable-rate loans, the description of the index on which adjustments to the interest rate are based.   | See Appendix A   | String    |        | 3          | Index description is no longer provided. See Appendix A to translate the index codes to their respective descriptions. |  |
| L-047 | Mortgage Margin   | For adjustable-rate loans, the number of percentage points to be added to the index to arrive at the new interest rate.  |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable  |  |
| L-048 | MBS Margin  | For adjustable-rate loans, the mortgage margin less applicable fees (servicing fees and guarantor fees).   |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable  | Mortgage Margin minus Applicable Fees (Servicing and Guarantor Fees)<br>• Round to third decimal place |
| L-049 | Interest Rate Adjustment Frequency                      | For adjustable-rate loans, the number of months, excluding any fixed-rate period, between scheduled rate changes.  |  | Numeric   |        | 3          |  |  |
| L-050 | Interest Rate Lookback                                  | For adjustable-rate loans, the number of calendar days prior to the rate change date used to determine the effective index value required to calculate the next interest rate. |  | Numeric   |        | 3          |  |  |
| L-051 | Interest Rate Rounding Method                           | For adjustable-rate loans, the designation of how the interest rate is rounded when a new interest rate is calculated.   | DN = Down<br>NE = Nearest<br>UP = Up<br>NO = No Rounding   | String    |        | 2          |  |  |
| L-052 | Interest Rate Rounding Method Percent                   | For adjustable-rate loans, the percentage to which the interest rate is rounded when a new interest rate is calculated.  | 01 = 0.25<br>02 = 0.125<br>03 = .01  | String    |        | 2          |  |  |
| L-053 | Convertibility Indicator                                | The indicator denoting whether the loan has a feature that allows the borrower to convert from an adjustable rate to a fixed rate.   | Y = Yes<br>N = No  | String    |        | 1          |  |  |

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|-------|--|---|--|-----------|--------|------------|---|---|
| L-054 | Initial Fixed Rate Period                    | For adjustable-rate loans, the number of calendar months between the first full month the loan accrues interest and the first interest rate adjustment date.                        | 00 = <=6 Months<br>01 = 7-18 Months<br>02 = 19-30 Months<br>03 = 31-42 Months<br>04 = 43-54 Months<br>05 = 55-66 Months<br>06 = 67-78 Months<br>07 = 79-90 Months<br>08 = 91-102 Months<br>09 = 103-114 Months<br>10 = 115-126 Months<br>11 = 127-138 Months<br>12 = 139-150 Months<br>13 = 151-162 Months<br>14 = 163-174 Months<br>15 = 175-186 Months<br>16 = >186 Months | String    |        | 2          |   |   |
| L-055 | Next Interest Rate Adjustment Date           | For adjustable-rate loans, the month and year that the interest rate is next subject to change.   |  | Date      | MMCCYY | 6          |   |   |
| L-056 | Months to Next Interest Rate Adjustment Date | For adjustable-rate loans, the number of months from the current month to the next interest rate change date.   |  | Numeric   |        | 3          | If the Next Interest Rate Adjustment is in the past, the field will be null.  | Next Adjustment Date (MMCCYY) – Security Factor Date (MM/YY)                |
| L-057 | Life Ceiling Interest Rate                   | For adjustable-rate loans, the lifetime maximum interest rate.  |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   |   |
| L-058 | Life Ceiling Net Interest Rate               | For adjustable-rate loans, the maximum interest rate less applicable fees (servicing fees and guarantor fees).  |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   | Life Ceiling Interest Rate – Applicable Fees (Servicing and Guarantor Fees) |
| L-059 | Life Floor Interest Rate                     | For adjustable-rate loans, the lifetime minimum interest rate.  |  | Numeric   | 2.3    | 6          | If the mortgage loans in the MBS pool have no floor other than the mortgage margin, Fannie Mae will populate this field as the margin.<br><br>77.777 = Not Applicable     |   |
| L-060 | Life Floor Net Interest Rate                 | For adjustable-rate loans, the minimum interest rate less applicable fees (servicing fees and guarantor fees).  |  | Numeric   | 2.3    | 6          | If the mortgage loans in the MBS pool have no floor other than the mortgage margin, Fannie Mae will populate this field as the net margin.<br><br>77.777 = Not Applicable | Life Floor Interest Rate – Applicable Fees (Servicing and Guarantor Fees)   |
| L-061 | Initial Interest Rate Cap Up Percent         | For adjustable-rate loans, the maximum percentage points the interest rate can adjust upward at the first interest rate adjustment date.  |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   |   |
| L-062 | Initial Interest Rate Cap Down Percent       | For adjustable-rate loans, the maximum number of percentage points the interest rate can adjust downward at the first interest rate change date.                                    |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   |   |
| L-063 | Periodic Interest Rate Cap Up Percent        | For adjustable-rate loans, the maximum percentage points the interest rate can adjust upward at each interest rate adjustment date after the first interest rate adjustment date.   |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   |   |
| L-064 | Periodic Interest Rate Cap Down Percent      | For adjustable-rate loans, the maximum percentage points the interest rate can adjust downward at each interest rate adjustment date after the first interest rate adjustment date. |  | Numeric   | 2.3    | 6          | 77.777 = Not Applicable   |   |

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| ID    | Attribute Name           | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
|-------|--------------------------|---|---|-----------|--------|------------|-------|--------------|
| L-065 | Modification Program     | <p>For reperforming, modified fixed-rate and modified step-rate loans, the program under which the loan was modified.</p> <ul style="list-style-type: none"> <li>• Standard Modification: Standard modifications contain features previously included in the Fannie Mae Home Affordable Modification Program (HAMP), Fannie Mae Regular Modification and Fannie Mae Streamlined Modification programs. This program started October 1, 2017 (with early adoption permitted). Legacy disclosures previously disclosed as Flex.</li> <li>• Regular Modification: Regular modifications allowed for a variety of modification types including capitalization of interest and non-interest arrearages, extension of the mortgage term, change in interest rate, and forbearance, but no reduction of principal. Program expired October 1, 2017.</li> <li>• Streamlined Modification: Streamlined modifications include several programs that generally allow capitalization of interest and non-interest arrearages, extension of the mortgage term, change in interest rate, and forbearance. These programs, existed from July 2013 – October 2017 (with earlier adoption permitted) and include Fannie Mae Standard Modifications and Fannie Mae Streamlined Modifications as referenced in Fannie Mae’s Servicing Guide.</li> <li>• Home Affordable Modification Program: HAMP modifications include capitalization of interest and non-interest arrearages, extension of the mortgage term, reduction of interest rates (to a floor of 2%), and in some instances forbearance, but no reduction of principal. The HAMP program applies to mortgage loans originated on or before January 1, 2009 and expired on December 31, 2016.</li> <li>• Other: This category currently comprises of modifications outside of Fannie Mae sponsored programs. Currently, only Bankruptcy Cramdowns are identified in this category. A bankruptcy cramdown is a modification to any terms of the security deed, mortgage or note by a bankruptcy court order.</li> </ul> | A = Alternative<br>C = Classic<br>B = HAMP Backup<br>H = HAMP<br>O = Other<br>R = Regular<br>S = Standard<br>T = Streamlined<br>U = Underwater<br>9 = Not Available<br>D = Deferred Payment<br>F = Flex | String    |        | 1          |       |              |
| L-066 | Modification Type        | For reperforming, modified fixed-rate and modified step-rate loans, the classification describing the type of modification.   | R = Rate<br>T = Term<br>B = Rate & Term<br>C = Capitalization<br>F = Rate, Term & Forbearance<br>O = Other  | String    |        | 1          |       |              |
| L-067 | Number of Modifications  | For reperforming, modified fixed-rate and modified step-rate loans, the number of times the loan has been modified, at the time security was issued.  |   | Numeric   |        | 3          |       |              |
| L-068 | Total Capitalized Amount | For reperforming, modified fixed-rate and modified step-rate loans, the amount of interest and non-interest arrearages added to the principal balance as of the most recent modification.   |   | Numeric   | 9.2    | 12         |       |              |

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| ID    | Attribute Name                        | Attribute Definition   | Enumerations      | Data Type | Format | Max Length | Notes  | Calculations  |
|-------|---------------------------------------|--|-------------------|-----------|--------|------------|--|---|
| L-069 | Interest Bearing Mortgage Loan Amount | For reperforming, modified fixed-rate and modified step-rate loans, the interest bearing unpaid principal balance at the time of modification.   |                   | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500.   |   |
| L-070 | Original Deferred Amount              | For reperforming, modified fixed-rate and modified step-rate loans, the non-interest bearing unpaid principal balance at the time of modification.<br><br>The deferred amount is not included in the unpaid principal balance of the security and is not payable to the certificate holder.  |                   | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500.   | Original deferred amount is populated as 0. Deferred amount is populated in current deferred amount.  |
| L-071 | Current Deferred UPB                  | For reperforming, modified fixed-rate and modified step-rate loans, the current non-interest bearing unpaid principal balance.<br><br>The deferred amount is not included in the unpaid principal balance of the security and is not payable to the certificate holder.  |                   | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500.   | Original deferred amount is populated as 0. Deferred amount is populated in current deferred amount.  |
| L-072 | Loan Age As Of Modification           | For reperforming, modified fixed-rate and modified step-rate loans, the number of scheduled payments from the time the loan was originated up to the date of modification.   |                   | Numeric   |        | 3          |  | Modification Date (MM/YY) – Origination First Payment Date (MM/YY) +1   |
| L-073 | Estimated o-Value (ELTV)              | For reinstated, reperforming, modified fixed-rate and modified step-rate loans, the ratio obtained by dividing the outstanding balance of the mortgage loan by the estimated current value of the property obtained by the issuer at the time of issuance.   |                   | Numeric   |        | 3          | If Estimated LTV ratios is < 1% or > 998%, it will be disclosed as "Not Available", indicated by 999.                              | (Mortgage Modification Amount / property Value) * 100<br><br>• Truncate (shorten) to two decimal places, then round up to the nearest whole percent |
| L-074 | Updated Credit Score                  | For reinstated, reperforming, modified fixed-rate and modified step-rate loans, the most recently available standardized credit score provided at the time of issuance.<br><br>This represents the most recently available credit score provided by Equifax to Fannie Mae generally in the month of the MBS issuance or within the three months prior to the MBS issuance. |                   | Numeric   |        | 4          | If credit score is < 300 or > 850, the updated credit Score will be disclosed as "Not Available", which will be indicated by 9999. |   |
| L-075 | Filler                                |  |                   |           |        |            |  |   |
| L-076 | Interest Rate Step Indicator          | The indicator denoting whether the modification includes a step rate.  | Y = Yes<br>N = No | String    |        | 1          |  |   |

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| ID    | Attribute Name                           | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations  |
|-------|--|---|--|-----------|--------|------------|--|---|
| L-077 | Initial Step Fixed-Rate Period           | For reprerforming, modified step-rate loans, the number of months between the first payment date of the modified loan and the first step rate adjustment date.  | 00 = <=6 Months<br>01 = 7-18 Months<br>02 = 19-30 Months<br>03 = 31-42 Months<br>04 = 43-54 Months<br>05 = 55-66 Months<br>06 = 67-78 Months<br>07 = 79-90 Months<br>08 = 91-102 Months<br>09 = 103-114 Months<br>10 = 115-126 Months<br>11 = 127-138 Months<br>12 = 139-150 Months<br>13 = 151-162 Months<br>14 = 163-174 Months<br>15 = 175-186 Months<br>16 = >186 Months | String    |        | 2          |  |   |
| L-078 | Total Number of Steps                    | For reprerforming, modified step-rate loans, the number of upward interest rate adjustments per the modification agreement.   |  | Numeric   |        | 2          |  |   |
| L-079 | Number of Remaining Steps                | For reprerforming, modified step-rate loans, the number of upward interest rate adjustments remaining.  |  | Numeric   |        | 2          |  |   |
| L-080 | Next Step Rate                           | For reprerforming, modified step-rate loans, the scheduled interest rate in effect at the next step-rate date.  |  | Numeric   | 2.3    | 6          |  |   |
| L-081 | Terminal Step Rate                       | For reprerforming, modified step-rate loans, the maximum interest rate in effect following the final scheduled interest rate adjustment date.<br><br>Once the interest rate reaches the Terminal Step Rate, it is fixed for the remaining term of the mortgage. |  | Numeric   | 2.3    | 6          |  |   |
| L-082 | Terminal Step Date                       | For reprerforming, modified step-rate loans, the final scheduled date on which the mortgage interest rate is scheduled to increase to its terminal step rate.   |  | Date      | MMCCYY | 6          |  |   |
| L-083 | Step Rate Adjustment Frequency           | For reprerforming, modified step-rate loans, the number of months between each interest rate adjustment.  |  | Numeric   |        | 3          |  |   |
| L-084 | Next Step Rate Adjustment Date           | For reprerforming, modified step-rate loans, the month and year that the interest rate is scheduled to increase.  |  | Date      | MMCCYY | 6          |  |   |
| L-085 | Months to Next Step Rate Adjustment Date | For reprerforming, modified step-rate loans, the number of months from the current month to the next date on which the mortgage interest rate increases.  |  | Numeric   |        | 3          | If no more steps, then the field will be "Null"          | Next Step Rate Adjustment Date (MM/YY) – Security Factor Date (MM/YY) |
| L-086 | Periodic Step Cap Up Percent             | For reprerforming, modified step-rate loans, the maximum percentage points the interest rate may increase at each step rate adjustment date.  |  | Numeric   | 2.3    | 6          |  |   |
| L-087 | Origination Mortgage Loan Amount         | For reprerforming, modified fixed-rate and modified step-rate loans, the dollar amount of the loan in the security as stated on the note at the time the loans were originated or modified.   |  | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500. | Round to the nearest thousand   |



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| ID    | Attribute Name                            | Attribute Definition  | Enumerations                              | Data Type | Format | Max Length | Notes  | Calculations  |
|-------|---|---|---|-----------|--------|------------|--|---|
| L-088 | Origination Interest Rate                 | For reperforming, modified fixed-rate and modified step-rate loans, the interest rate of the loan as stated on the note at the time the loan was originated.  |   | Numeric   | 2.3    | 6          |  |   |
| L-089 | Origination Amortization Type             | For reperforming, modified fixed-rate and modified step-rate loans, the classification of the loan as having either a fixed- or an adjustable-interest rate as stated on the note at the time the loan was originated.  | FRM = Fixed-Rate<br>ARM = Adjustable-Rate | String    |        | 3          |  |   |
| L-090 | Origination Interest Only Loan Indicator  | For reperforming, modified fixed-rate and modified step-rate loans, the indicator denoting whether the loan only required interest payments for a specified period of time beginning with the first payment date as stated on the note at the time the loan was originated.   | Y = Yes<br>N = No                         | String    |        | 1          |  |   |
| L-091 | Origination First Payment Date            | For reperforming, modified fixed-rate and modified step-rate loans, the month and year that the first scheduled payment on the loan was due as stated on the note at the time the loan was originated.  |   | Date      | MMCCYY | 6          |  |   |
| L-092 | Origination Maturity Date                 | For reperforming, modified fixed-rate and modified step-rate loans, the month and year in which the final payment on the loan was scheduled to be made at the time the loan was originated.   |   | Date      | MMCCYY | 6          |  |   |
| L-093 | Origination Loan Term                     | For reperforming, modified fixed-rate and modified step-rate loans, the number of months in which regularly scheduled borrower payments are due as stated on the note at the time the loan was originated.  |   | Numeric   |        | 3          |  |   |
| L-094 | Origination Loan-to-Value (LTV)           | For reperforming, modified fixed-rate and modified step-rate loans, the ratio, expressed as a percentage, obtained by dividing the amount of the loan at origination by the value of the property.<br><br>Property value reflects either the lesser of the sales price or the appraised property value for a purchase, or the appraised property value for a refinance. |   | Numeric   |        | 3          | <ul style="list-style-type: none"> <li>If Origination LTV ratio is &lt; 1% or &gt;998%, it will be disclosed as "Not Available", indicated by 999.</li> <li>If any of the following criteria is met, the LTV ratio will be disclosed as "Not Available", indicated by 999. <ul style="list-style-type: none"> <li>The LTV ratio is &lt;1% or &gt;998%</li> <li>The CLTV ratio is &lt; the LTV ratio</li> <li>The LTV ratio is "Not Available"</li> </ul> </li> </ul> | Purchase:<br>(Mortgage Loan Amount / (Min (Sales Price, Appraised Value))) * 100<br><br>Refinance:<br>(Mortgage Loan Amount / Appraised Value) * 100<br><br>• Truncate at the 2nd decimal and round up to the higher integer.   |
| L-095 | Origination Combined Loan-to-Value (CLTV) | For reperforming, modified fixed-rate and modified step-rate loans, the ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the property.   |   | Numeric   |        | 3          | <ul style="list-style-type: none"> <li>If CLTV ratios is &lt; 1% or &gt; 998%, it will be disclosed as "Not Available", indicated by 999.</li> <li>The CLTV ratio will be disclosed as "Not Available", indicated by 999: <ul style="list-style-type: none"> <li>The CLTV ratio is &lt;1% or &gt;998%</li> <li>The CLTV ratio is &lt; the LTV ratio</li> <li>The CLTV ratio is "Not Available"</li> </ul> </li> </ul>  | Sum of All Outstanding Loan Amounts / (Min (Sales Price, Property Value)) * 100<br><br>• Loan Amounts may include: <ul style="list-style-type: none"> <li>- Original loan amount of the first mortgage,</li> <li>- Drawn portion (outstanding principal balance) of a HELOC, and</li> <li>- Unpaid principal balance of all closed-end subordinate financing</li> </ul> |
| L-096 | Origination Debt-to-Income Ratio          | For reperforming, modified fixed-rate and modified step-rate loans, the ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated.  |   | Numeric   |        | 3          | If value is < 1 or > 65, it will be disclosed as "Not Available", indicated by 999.  |   |
| L-097 | Origination Credit Score                  | For reperforming, modified fixed-rate and modified step-rate loans, the standardized credit score used to evaluate the borrower during the loan origination process.  |   | Numeric   |        | 4          | If credit score is < 300 or > 850, the Origination Credit Score will be disclosed as "Not Available", which will be indicated by 9999.   |   |

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|-------|------------------------------|---|---|-----------|--------|------------|-------|--------------|
| L-098 | Filler                       |   |   |           |        |            |       |              |
| L-099 | Filler                       |   |   |           |        |            |       |              |
| L-100 | Filler                       |   |   |           |        |            |       |              |
| L-101 | Origination Loan Purpose     | For reperforming, modified fixed-rate and modified step-rate loans, the classification of the loan as either a purchase money mortgage or a refinance mortgage at the time the loan was originated.   | C = Refinance - Cash Out<br>N = Refinance - No Cash Out<br>R = Refinance - Not Specified<br>P = Purchase<br>M = Modified - Loss Mitigation<br>9 = Not Available | String    |        | 1          |       |              |
| L-102 | Origination Occupancy Status | For reperforming, modified fixed-rate and modified step-rate loans, the classification describing the property occupancy status at the time the loan was originated.  | P = Primary Residence<br>S = Second Home<br>I = Investment Property<br>9 = Not Available  | String    |        | 1          |       |              |
| L-103 | Origination Channel          | <p>For reperforming, modified fixed-rate and modified step-rate loans, the origination channel used by the party that delivered the loan to the issuer.</p> <ul style="list-style-type: none"> <li>• Broker: A mortgage loan that is originated under circumstances where a person or firm other than a mortgage loan seller or lender correspondent is acting as a "broker" and receives a commission for bringing together a borrower and a lender. The broker performs some (or most) of the loan processing functions (such as taking loan applications; ordering credit reports, appraisals, and title reports; verifying a borrower's income and employment, etc.), but it typically does not actually underwrite the loan, fund the loan at settlement, or service the loan. The mortgage loan is closed in the name of and funded by the mortgage loan seller (or, in some cases, the lender correspondent) that commissioned the broker's services.</li> <li>• Correspondent: A mortgage loan that is originated by a party other than a mortgage loan seller and is then sold to a mortgage loan seller. A lender correspondent generally performs some (or all) of the loan processing functions (such as taking loan applications, ordering credit reports, appraisals, and title reports, verifying a borrower's income and employment, etc.) as well as underwriting and funding the mortgage loan at settlement. The mortgage loan is closed in the name of the lender correspondent, which may or may not service the loan.</li> <li>• Retail: A mortgage loan, for which the mortgage loan seller takes the mortgage loan application and then processes, underwrites, funds, and delivers the mortgage loan to us. The loan is closed in the name of the mortgage loan seller, which may or may not service the loan. This definition may include joint ventures between the mortgage loan seller and another entity, provided that the mortgage loan seller retains control of the joint ventures (either through majority ownership or voting rights).</li> </ul> <p>For mortgage loans acquired prior to March 2013, the term "retail" may also, from time to time, include certain mortgage loans originated pursuant to a contractual arrangement, specifically approved by Fannie Mae, between a third party and the mortgage loan seller by which the third party may perform one or more of the functions (but not all) related to the origination of the mortgage loan, including taking the mortgage loan application, processing, underwriting, funding or delivering the mortgage loan to Fannie Mae.</p> | R = Retail<br>B = Broker<br>C = Correspondent<br>T = Third Party Origination - Not Specified<br>9 = Not Available   | String    |        | 1          |       |              |

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|-------|--------------------------|--|---|-----------|--------|------------|--|--|
| L-104 | Days Delinquent          | The number of days for which a mortgage loan has been reported delinquent.   | 0 = Current<br>1 = 30-59<br>2 = 60-89<br>3 = 90-119<br>4 = 120-149<br>5 = 150-179<br>6 = 180-209<br>7 = 210-239<br>8 = 240-269<br>9 = 270-299<br>10 = 300-329<br>11 = 330-359<br>12 = 360-389<br>13 = 390-419<br>14 = 420-449<br>15 = 450-479<br>16 = 480-509<br>17 = 510-539<br>18 = 540-569<br>19 = 570-599<br>20 = 600-629<br>21 = 630-659<br>22 = 660-689<br>23 = 690-719<br>24 = 720+  | Numeric   |        | 1          |  | Applicable only for monthly disclosure |
| L-105 | Loan Performance History | For reperforming, modified and modified step-rate loans, the coded string of values that describes the previous payment performance of the loan at the time of issuance.<br><br>This string will contain 36 months of history for reperforming modified and modified step rate loans and 12 months for reinstated loans. | 00 = Current<br>01 = 1 Month<br>02 = 2 Months<br>03 = 3 Months<br>04 = 4 Months<br>05 = 5 Months<br>06 = 6 Months<br>07 = 7 Months<br>08 = 8 Months<br>09 = 9 Months<br>10 = 10 Months<br>11 = 11 Months<br>12 = 12 Months<br>13 = 13 Months<br>14 = 14 Months<br>15 = 15 Months<br>16 = 16 Months<br>17 = 17 Months<br>18 = 18 Months<br>19 = 19 Months<br>20 = 20 Months<br>21 = 21 Months<br>22 = 22 Months<br>23 = 23 Months<br>24 = 24 Months<br>25>= 25 Months & above<br>XX = Unknown<br>YY = Not Expected | String    |        | 150        | <ul style="list-style-type: none"> <li>• Applicable only for Issuance Disclosure.</li> <li>• The most recently reported activity is located in the last two spaces in the string.</li> <li>• Unknown represents when a loan payment is not available or activity is not reported by servicer.</li> <li>• Not expected represents when a payment is not due (e.g. month prior to first payment date)</li> </ul> |  |

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|-------|----------------------------|---|---|-----------|--------|------------|---|--------------|
| L-106 | Loan Participation Percent | The percentage of the loan that is backing the security.  |   | Numeric   | 3.2    | 6          |   |              |
| L-107 | Property Valuation Method  | <p>The method by which the value of the subject property was obtained.</p> <ul style="list-style-type: none"> <li>• Appraisal: The property value obtained through an appraisal that was completed by a licensed or certified appraiser.</li> <li>• Onsite Property Data Collection: The property data collected onsite by a licensed or certified appraiser or other third-party, and validated through a proprietary automated valuation model.</li> <li>• GSE Targeted Refinance Programs: The programs implemented by the GSEs for targeted refinance products.</li> <li>• Appraisal Waiver: The appraisal waived per applicable Selling Guide or negotiated terms.</li> <li>• Other: Any property valuation method not provided for within the other enumerations.</li> <li>• Not Available: Property valuation method not available for disclosure.</li> <li>• Not Applicable: Property valuation method not applicable to the related loan product.</li> </ul> | <p>A = Appraisal<br/> P = Onsite Property Data Collection<br/> R = GSE Targeted Refinance Program<br/> W = Appraisal Waiver<br/> O = Other<br/> 7 = Not Applicable<br/> 9 = Not Available</p> | String    |        | 1          | <ul style="list-style-type: none"> <li>• Onsite Property Data Collection: An automated valuation model, using the property data collected onsite, evaluates the validity (within tolerances) of the lender-provided property value that is generally used in the LTV calculation. For purchase transactions, the Sales Price is the value generally provided by the lender.</li> <li>• GSE Targeted Refinance Programs: Loans in these programs may have received an appraisal, an appraisal waiver, or utilized an automated valuation model to determine the property value. Includes Fannie Mae HARP, Refi Plus or High LTV Refinance loans, and, in the case of commingled Supers, can contain Freddie Mac's Relief Refinance and Enhanced Relief Refinance program loans.</li> <li>• Appraisal Waiver: Generally, Fannie Mae employs a valuation methodology that walks forward a prior Uniform Appraisal Dataset (UAD) compliant appraisal, which is then used to evaluate the validity (within tolerances) of the lender provided property value, which is generally used in the LTV calculation. For purchase transactions, the Sales Price is the value generally provided by the lender. In some instances, an automated valuation model may be used. A commingled Supers may contain loans with appraisal waivers granted under Fannie Mae's program and/or under Freddie Mac's program.</li> <li>• Other: May include methods such as broker price opinion or tax valuation.</li> <li>• Not Applicable: For Modified Reperforming loans in fixed-rate and step-rate pools, the value will default to Not Applicable.</li> <li>• Not Available: For loans backing pools issued prior to January 1, 2017, the value will default to Not Available.</li> </ul> |              |

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| ID    | Attribute Name                                | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes   | Calculations |
|-------|---|---|---|-----------|--------|------------|---|--------------|
| L-108 | Alternative Delinquency Resolutions Type      | <p>The loss mitigation solution that resolves delinquencies and help homeowners remain in their homes in accordance with the servicer's contractual obligation, while allowing the loan to remain in the security.</p> <ul style="list-style-type: none"> <li>• Payment deferral - For borrowers who have resolved a temporary hardship and can resume making their monthly mortgage payment but cannot afford either a full reinstatement or repayment plan to bring the loan current. The borrower can defer up to two months of missed principal and interest (P&amp;I) payments. The amount is deferred into a non-interest-bearing balance due at mortgage loan maturity, or earlier upon the sale or transfer of the property, refinance of the mortgage loan, or payoff of the interest-bearing UPB.</li> <li>• COVID-19 Payment Deferral - For borrowers who experienced a COVID-19 related hardship and can resume making their monthly mortgage payment. The borrower can defer up to 18 months of missed P&amp;I payments, out-of-pocket escrow advances paid to third parties; servicing advances paid to third parties in the ordinary course of business and not retained by the servicer, if allowed by state law. The amount is deferred into a non-interest-bearing balance due at mortgage loan maturity or earlier upon the sale or transfer of the property, refinance of the mortgage loan, or payoff of the interest-bearing UPB.</li> <li>• Disaster Payment Deferral - For borrowers who experienced a disaster related hardship and can resume making their monthly mortgage payment. The borrower can defer up to 12 months of missed P&amp;I payments, out-of-pocket escrow advances paid to third parties; servicing advances paid to third parties in the ordinary course of business and not retained by the servicer, if allowed by state law. The amount is deferred into a non-interest-bearing balance due at mortgage loan maturity or earlier upon the sale or transfer of the property, refinance of the mortgage loan, or payoff of the interest-bearing UPB.</li> <li>• Other - The borrower has executed an Alternative Delinquency Resolution program other than the other provided enumerations.</li> <li>• Not Applicable - An Alternative Delinquency Resolution is not applicable for the related mortgage loan.</li> <li>• Not Available - The Alternative Delinquency Resolution is not available for disclosure.</li> </ul> | <p>P = Payment Deferral<br/> C = COVID-19 Payment Deferral<br/> D = Disaster Payment Deferral<br/> O = Other<br/> 7 = Not Applicable<br/> 9 = Not Available</p> | String    |        | 1          | <p>This represents the last reported alternative delinquency resolutions type.</p> <p>Other - Not currently used</p> <p>Not applicable - Loan never had a payment deferral.</p> |              |
| L-109 | Number of Alternative Delinquency Resolutions | The total number of Alternative Delinquency Resolutions as reported by the servicer for a specific loan.  |   | Numeric   |        | 2          | Exact number to be disclosed  |              |
| L-110 | Total Deferral Amount                         | The total non-interest-bearing deferral amount related to one or more Alternative Delinquency Resolutions.  |   | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500.  |              |

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| ID    | Attribute Name           | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations                           |
|-------|--------------------------|--|--|-----------|--------|------------|--|--|
| L-111 | Borrower Assistance Plan | <p>The type of assistance plan that the borrower is enrolled in that provides temporary mortgage payment relief or an opportunity to cure a mortgage delinquency over a defined period.</p> <ul style="list-style-type: none"> <li>• Forbearance Plan - An agreement between the servicer and the borrower that reflects the terms of the forbearance, including whether the borrower may make either reduced or no monthly payments for a specific period.</li> <li>• Repayment Plan - An agreement between the servicer and a borrower that gives the borrower a defined period to reinstate the mortgage by paying normal regular payments plus an additional agreed upon amount in repayment of the delinquency.</li> <li>• Trial Period Plan - An agreement, generally lasting three months, that allows the servicer to test the borrower's ability to make a modified loan payment before finalizing the modification.</li> <li>• Other Workout Plan - The borrower is enrolled in a plan other than a forbearance plan, a repayment plan or a trial period plan.</li> <li>• No Workout Plan - The borrower is not enrolled in an alternate plan.</li> <li>• Not Applicable - A borrower assistance plan is not applicable for the related mortgage loan.</li> <li>• Not Available - A borrower assistance plan is not available for disclosure.</li> </ul> | <p>F = Forbearance Plan<br/> R = Repayment Plan<br/> T = Trial Period Plan<br/> O = Other Workout Plan<br/> N = No Workout Plan<br/> 7 = Not Applicable<br/> 9 = Not Available</p> | String    |        | 1          | <p>The data will be published on a one-month delay due to the timing of our servicing reporting cycle. For example, the values published in July 2020 correspond to the delinquency status in the Days Delinquent published in June 2020.</p> <p>For non-delinquent loans, for which a Borrower Assistance Plan is not reported by the Servicer, this attribute will be defaulted to Not Applicable.</p> <p>The field may be populated if the loan is reported current in days delinquent.</p> | Applicable only for monthly disclosure |
| L-112 | Seller City              | The city of the address of the entity that sold the loans to the issuer.   |  | String    |        | 50         |  |  |
| L-113 | Seller State             | The state or territory of the address of the entity that sold the loans to the issuer.   |  | String    |        | 2          | XX will populate for non US states and territories   |  |
| L-114 | Servicer City            | The city of the address of the entity that services the loans.   |  | String    |        | 50         |  |  |
| L-115 | Servicer State           | The state or territory of the address of the entity that services the loans.   |  | String    |        | 2          | XX will populate for non US states and territories   |  |

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| ID   | Attribute Name                     | Attribute Definition   | Enumerations  | Data Type | Format   | Max Length | Notes  | Calculations   |
|------|------------------------------------|--|---|-----------|----------|------------|--|--|
| S-01 | Prefix                             | The designation assigned by the issuer denoting the type of the loans and the security.  |   | String    |          | 3          |  |  |
| S-02 | Security Identifier                | The unique designation assigned to the security by the issuer.   |   | String    |          | 6          |  |  |
| S-03 | CUSIP                              | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |   | String    |          | 9          |  |  |
| S-04 | Security Factor Date               | The month and year on which the corresponding factor is effective.   |   | Date      | MMCCYY   | 6          |  |  |
| S-05 | Security Factor                    | The decimal value that, when multiplied by the Issuance Investor Security UPB amount, equals the Current Investor Security UPB amount.                                   |   | Numeric   | 1.8      | 10         | <ul style="list-style-type: none"> <li>• Issuance factor would equal to 1.00000000.</li> <li>• The field will be zero in the months when the security factor goes to zero including collapses and dissolves</li> </ul> | (Current Investor Security UPB)/ (Issuance Investor Security UPB)<br><ul style="list-style-type: none"> <li>• Round to eighth decimal</li> </ul> |
| S-06 | Payment Delay Days                 | The indicator denoting whether the loans in the security participate in a 45 day, 55 day or a 75 day payment delay period at the time the security was issued.           | 45 = 45 Days<br>55 = 55 Days<br>75 = 75 Days                | Numeric   |          | 2          | <ul style="list-style-type: none"> <li>• Fannie Mae is 55 only</li> <li>• Supers/Megas populated when collateral is delivered</li> </ul>   |  |
| S-07 | Security Data Correction Indicator | The indicator denoting the data correction status of the security based on the current reporting period.   | Y = Yes<br>N = No   | String    |          | 1          |  |  |
| S-08 | Security Status Indicator          | The indicator denoting the status of the security based on the current reporting period.   | A = Active<br>P = Paidoff<br>C = Collapsed<br>D = Dissolved | String    |          | 1          |  |  |
| S-09 | Security Notification Indicator    | The indicator denoting whether the disclosure is preliminary and subject to change or final.   | P = Preliminary<br>F = Final<br>7 = Not Applicable          | String    |          | 1          | Monthly File will display 7  |  |
| S-10 | Security Description               | The unique designation of the security including abbreviated FED code, WA Net Interest Rate, Prefix and Security Identifier.   |   | String    |          | 22         |  |  |
| S-11 | Issuer                             | The name of the entity that issued the security.   | FNM = Fannie Mae<br>FRE = Freddie Mac                       | String    |          | 3          |  |  |
| S-12 | Issue Date                         | The date on which the security was issued.   |   | Date      | MMDDCCYY | 8          |  |  |
| S-13 | Maturity Date                      | The month and year in which the final payment on the security is scheduled to be made at the time the security was issued.   |   | Date      | MMCCYY   | 6          |  |  |
| S-14 | Updated Longest Maturity Date      | The updated month and year in which the final payment on the security is scheduled to be made based on the longest maturity date of the remaining loans in the security. |   | Date      | MMCCYY   | 6          | Applicable only for Monthly Disclosure.  |  |
| S-15 | Issuance Investor Security UPB     | The aggregate unpaid principal balance of the loans as they contribute to the balance of the security at the time the security was issued.                               |   | Numeric   | 14.2     | 17         |  |  |
| S-16 | Current Investor Security UPB      | The aggregate unpaid principal balance of the loans as they contribute to the current balance of the security.   |   | Numeric   | 14.2     | 17         | The field will be zero in the months when the security factor goes to zero, including collapses and dissolves.   |  |

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| ID   | Attribute Name                           | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes  | Calculations  |
|------|--|--|--------------|-----------|--------|------------|--|---|
| S-17 | WA Net Interest Rate                     | The weighted average interest rate of the loans less applicable fees (servicing fees and guarantor fees).  |              | Numeric   | 2.3    | 6          |  | $(\text{Sum}((\text{Net Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> </ul>                               |
| S-18 | WA Issuance Interest Rate                | The weighted average interest rate of the loans in effect at the time the security was issued.   |              | Numeric   | 2.3    | 6          |  | $(\text{Sum}((\text{Interest Rate}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum}(\text{Issuance Investor Loan UPB}))$  |
| S-19 | WA Current Interest Rate                 | The weighted average interest rate of the loans in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          | During the month of issuance, the WA Issuance Interest Rate value would be the same as the Current WA Interest Rate value. | $(\text{Sum}((\text{Interest Rate}) * (\text{Current Investor Loan UPB}))) / (\text{Sum}(\text{Current Investor Loan UPB}))$  |
| S-20 | WA Net Accrual Interest Rate             | For adjustable-rate loans, the weighted average Interest Rate less applicable fees (servicing fees and guarantor fees).  |              | Numeric   | 2.3    | 6          | The net interest rate schedule to pay in the following month.  | $(\text{Sum}((\text{Net Accrual Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> </ul>                       |
| S-21 | WA Loan Term                             | The weighted average number of months in which regularly scheduled borrower payments are due.  |              | Numeric   |        | 3          |  | $(\text{Sum}((\text{Loan Term}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> </ul> |
| S-22 | WA Issuance Remaining Months to Maturity | The weighted average of number of remaining months that will reduce the Current Investor Loan UPB to zero, at the time the security was issued.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments. |              | Numeric   |        | 3          |  | $(\text{Sum}((\text{Loan Remaining Months to Maturity}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum}(\text{Issuance Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> </ul>   |



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| ID   | Attribute Name                          | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations   |
|------|---|---|--------------|-----------|--------|------------|--|--|
| S-23 | WA Current Remaining Months to Maturity | The weighted average of number of remaining months that will reduce the Current Investor Loan UPB to zero.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments.   |              | Numeric   |        | 3          | During the month of issuance, the WA Issuance Remaining Months to Maturity value would be the same as the WA Current Remaining Months to Maturity value                        | $(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))$<br><br>• Round to the nearest integer   |
| S-24 | WA Loan Age                             | The weighted average number of months from the time the loans were originated or modified up to and including the current reporting period.   |              | Numeric   |        | 3          | Value can be negative  | $(\text{Sum} ((\text{Loan Age}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$<br><br>• Round to the nearest integer<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB            |
| S-25 | WA Mortgage Loan Amount                 | The weighted average dollar amount of the loans, as stated on the notes, at the time the loans were originated or modified.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount. |              | Numeric   | 9.2    | 12         | The input values are masked in the calculation.<br><br>• Mortgage Loan Amount is rounded to the nearest thousand<br><br>• If Mortgage Loan Amount < \$500, set to actual value | $(\text{Sum} ((\text{Mortgage Loan Amount}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB<br><br>• Round to the second decimal |
| S-26 | Average Mortgage Loan Amount            | The simple average dollar amount of the loans as stated on the notes, at the time the loans were originated or modified.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.    |              | Numeric   | 9.2    | 12         | The input values are masked in the calculation.<br><br>• Mortgage Loan Amount is rounded to the nearest thousand<br><br>• If Mortgage Loan Amount < \$500, set to actual value | $(\text{Sum} (\text{Mortgage Loan Amount})) / (\text{Count} (\text{Loans in Pool}))$<br><br>• For Loan Count in Pool, the issuance file calculation is based upon the issuance date loan count and the monthly file calculation is based upon the current loan count<br><br>• Round to the second decimal  |

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| ID   | Attribute Name                   | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes               | Calculations  |
|------|----------------------------------|---|--------------|-----------|--------|------------|---------------------|---|
| S-27 | WA Loan-to-Value (LTV)           | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of the loans at origination by the value of the properties.</p> <p>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.</p> <p>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</p>                   |              | Numeric   |        | 3          | 999 = Not Available | $\frac{\text{Sum}((\text{LTV Ratio}) * (\text{Investor Loan UPB}))}{\text{Sum}(\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>The LTV ratio will be disclosed as "Not Available", indicated by 999, if the ratio is &lt;1% or &gt;998%</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>   |
| S-28 | WA Combined Loan-to-Value (CLTV) | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the properties.</p> <p>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.</p> <p>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</p> |              | Numeric   |        | 3          | 999 = Not Available | $\frac{\text{Sum}((\text{CLTV Ratio}) * (\text{Investor Loan UPB}))}{\text{Sum}(\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>The CLTV ratio will be disclosed as "Not Available", indicated by 999, if the ratio is &lt;1% or &gt;998%</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul> |
| S-29 | WA Debt-to-Income (DTI)          | <p>The weighted average ratio obtained by dividing the total monthly debt expenses by the total monthly incomes of the borrowers at the time the loans were originated or modified.</p>   |              | Numeric   |        | 3          | 999 = Not Available | $\frac{\text{Sum}((\text{DTI}) * (\text{Investor Loan UPB}))}{\text{Sum}(\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If loan value is &lt; 1 or &gt; 65, it will be excluded from the WA DTI Ratio calculation</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>                        |

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| ID   | Attribute Name                      | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations   |
|------|-------------------------------------|---|--------------|-----------|--------|------------|--|--|
| S-30 | WA Borrower Credit Score            | The weighted average standardized credit score used to evaluate the borrower during the loan origination process.   |              | Numeric   |        | 4          | 9999 = Not Available   | $\frac{\text{Sum}((\text{Borrower Credit Score}) * (\text{Investor Loan UPB}))}{\text{Sum}(\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If credit score is &lt; 300 or &gt; 850, the loan is excluded from the WA Borrower Credit Score calculation</li> <li>The issuance file calculation is based upon the Issuance Investor Loan UPB. The monthly file calculation is based upon the Scheduled Investor Loan UPB</li> </ul> |
| S-31 | Filler                              |   |              |           |        |            |  |  |
| S-32 | Filler                              |   |              |           |        |            |  |  |
| S-33 | Loan Count                          | The total number of loans in the security.  |              | Numeric   |        | 9          |  | Sum the number of loans where Investor Loan UPB > zero   |
| S-34 | Third Party Origination UPB Percent | The percentage of the aggregate Investor Loan UPB that were originated by a third party, to include Broker and Correspondent originations.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |              | Numeric   | 3.2    | 6          |  | $\frac{\text{Sum}(\text{Investor Loan UPB for Channel = Broker}) + (\text{Investor Loan UPB for Channel = Correspondent})}{\text{Sum}(\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>   |
| S-35 | Seller Name                         | The name of the entity that sold the loans to the issuer.   |              | String    |        | 100        | <ul style="list-style-type: none"> <li>For securities with more than one Seller, this field will reflect MULTIPLE.</li> <li>For Megas/Supers, this field will reflect the value of SCR (Single-Class Resecuritization).</li> </ul>   |  |
| S-36 | Seller City                         | The city of the address of the entity that sold the loans to the issuer.  |              | String    |        | 50         | For securities/Megas/Supers with more than one Seller, the field will be blank.  |  |
| S-37 | Seller State                        | The state or territory of the address of the entity that sold the loans to the issuer.  |              | String    |        | 2          | <ul style="list-style-type: none"> <li>For securities/Megas/Supers with more than one Seller, the field will be blank.</li> <li>XX will populate for non US states and territories</li> </ul>  |  |
| S-38 | Servicer Name                       | The name of the entity that sold the loans to the issuer during the current reporting period.   |              | String    |        | 100        | <ul style="list-style-type: none"> <li>For securities with more than one Servicer, this field will reflect MULTIPLE.</li> <li>For Megas/Supers, this field will reflect the value of SCR (Single-Class Resecuritization).</li> </ul> |  |

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|------|--|---|--|-----------|--------|------------|---|--|
| S-39 | Servicer City                              | The city of the address of the entity that services the loans.  |  | String    |        | 50         | For securities/Megas/Supers with more than one Servicer, the field will be blank.   |  |
| S-40 | Servicer State                             | The state or territory of the address of the entity that services the loans.  |  | String    |        | 2          | For securities/Megas/Supers with more than one Servicer, the field will be blank.<br><br>XX will populate for non US states and territories |  |
| S-41 | Involuntary Loan Removal (Prior Month UPB) | For the current reporting period, the aggregate prior period Investor UPB of loans removed from the security for involuntary reasons including delinquencies, loss mitigation efforts and lender repurchases. |  | Numeric   | 14.2   | 17         | Applicable only for Monthly Disclosure.<br><br>File header label - Delinquent Loans Purchased (Prior Month UPB)                             |  |
| S-42 | Involuntary Loan Removal (Loan Count)      | For the current reporting period, the number of loans removed from the security for involuntary reasons including loan delinquencies, loss-mitigation efforts and lender repurchases.                         |  | Numeric   |        | 9          | Applicable only for Monthly Disclosure.<br><br>File header label - Delinquent Loans Purchased (Loan Count)                                  |  |
| S-43 | Eligible for Resecuritization              | The indicator denoting whether the security is eligible for resecuritization.   | Y = Yes<br>N = No                      | String    |        | 1          |   |  |
| S-44 | Notes                                      | Additional information about the loans in the security.   |  | String    |        | 2048       |   |  |
| S-45 | Notes Ongoing                              | Additional information about the loans in the security.   |  | String    |        | 2048       | Applicable only for Monthly Disclosure.   |  |
| S-46 | Interest Only Security Indicator           | The indicator denoting whether the loans only require interest payments for a specified period of time beginning with the first payment date.   | Y = Yes<br>N = No<br>S = Mixed         | String    |        | 1          |   |  |
| S-47 | WA Months to Amortization                  | For interest-only loans, the weighted average number of months from the current month to the first scheduled principal and interest payment date.   |  | Numeric   |        | 3          |   | (Sum ((Months to Amortization) * (Investor Loan UPB))) / (Sum (Investor Loan UPB))<br><br>• Round to nearest integer<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB |
| S-48 | Prepayment Penalty Indicator               | The indicator denoting whether the security is subject to a penalty for early payment of principal.   | Y = Yes<br>N = No<br>9 = Not Available | String    |        | 1          |   |  |
| S-49 | Reduced Minimum Servicing Indicator        | The indicator denoting whether the loans in the security may have a reduced servicing fee.  | Y = Yes<br>N = No<br>9 = Not Available | String    |        | 1          |   |  |
| S-50 | Subtype                                    | For an adjustable-rate mortgage, the code that identifies ARM product characteristics and features.   |  | String    |        | 20         |   |  |
| S-51 | Index                                      | For adjustable-rate loans, the description of the index on which adjustments to the interest rate are based.  | See Appendix A                         | String    |        | 3          |   |  |

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| ID   | Attribute Name                     | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                   | Calculations   |
|------|------------------------------------|---|--------------|-----------|--------|------------|-------------------------|--|
| S-52 | WA Mortgage Margin                 | For adjustable-rate loans, the weighted average number of percentage points to be added to the index to arrive at the new interest rate.  |              | Numeric   | 2.3    | 6          | 77.777 = Not Applicable | $(\text{Sum}((\text{Mortgage Margin}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>If all loan level values = 77.777, then set to 77.777; else exclude from weighted average calculation</li> </ul> |
| S-53 | WA MBS Margin                      | For adjustable-rate loans, the weighted average mortgage margin less applicable fees (servicing fees and guarantor fees).   |              | Numeric   | 2.3    | 6          | 77.777 = Not Applicable | $(\text{Sum}((\text{MBS Margin}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>If all loan level values = 77.777, then set to 77.777; else exclude from weighted average calculation</li> </ul>      |
| S-54 | Interest Rate Adjustment Frequency | For adjustable-rate loans, the number of months, excluding any fixed-rate period, between scheduled rate changes.   |              | Numeric   |        | 3          | 555 = Mixed             |  |
| S-55 | Interest Rate Lookback             | For adjustable-rate loans, the number of calendar days prior to the interest rate adjustment date used to determine the effective index value required to calculate the next interest rate.   |              | Numeric   |        | 3          | 555 = Mixed             |  |
| S-56 | Payment Adjustment Frequency       | For negative amortizing adjustable-rate loans, the number of months between scheduled payment changes. For a security with an initial fixed-rate period, the payment adjustment frequency is the number of months between subsequent payment changes. |              | Numeric   |        | 3          | 555 = Mixed             |  |
| S-57 | Payment Lookback                   | For negative amortizing adjustable-rate loans, the number of days prior to a payment effective date used to determine value when calculating a principal and interest payment.  |              | Numeric   |        | 3          | 999 = Not Available     |  |

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| ID   | Attribute Name                         | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes   | Calculations  |
|------|--|---|--|-----------|--------|------------|---|---|
| S-58 | Convertibility Indicator               | For adjustable-rate loans, the indicator denoting whether the loans in the security have a feature that allows the borrower to convert from an adjustable rate to a fixed rate. | Y = Yes<br>N = No<br>9 = Not Available   | String    |        | 1          |   |   |
| S-59 | Negative Amortization Indicator        | For adjustable-rate loans, the indicator denoting whether the loans in the security allow negative amortization.  | Y = Yes<br>N = No<br>9 = Not Available   | String    |        | 1          |   |   |
| S-60 | Negative Amortization Factor           | For negative amortizing adjustable-rate loans, the decimal value that, when multiplied by the Issuance Investor Security UPB amount, equals the negative amortization amount.   |  | Numeric   | 1.8    | 10         |   | (Negative Amortization UPB) / (Issuance UPB)<br><br>• Round to 8th decimal  |
| S-61 | WA Negative Amortization Limit         | For negative amortizing adjustable-rate loans, the weighted average Negative Amortization Limit of the loans in the security.   |  | Numeric   | 3.3    | 7          | 777.777 = Not Applicable<br>999.999 = Not Available |   |
| S-62 | Initial Fixed Rate Period              | For adjustable-rate loans, the number of calendar months between the first full month the loans accrue interest and the first interest rate adjustment date.                    | 00 = <=6 Months<br>01 = 7-18 Months<br>02 = 19-30 Months<br>03 = 31-42 Months<br>04 = 43-54 Months<br>05 = 55-66 Months<br>06 = 67-78 Months<br>07 = 79-90 Months<br>08 = 91-102 Months<br>09 = 103-114 Months<br>10 = 115-126 Months<br>11 = 127-138 Months<br>12 = 139-150 Months<br>13 = 151-162 Months<br>14 = 163-174 Months<br>15 = 175-186 Months<br>16 = >186 Months<br>55 = Mixed | String    |        | 2          |   | (Sum ((Negative Amortization Limit) * (Investor Loan UPB))) / (Sum (Investor Loan UPB))<br><br>• Round to the third decimal place<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB |
| S-63 | First Rate Adjustment Date             | For adjustable-rate loans, the earliest first rate adjustment date of the loans in the security.  |  | Date      | MMCCYY | 6          |   |   |
| S-64 | First Payment Adjustment Date          | For adjustable-rate loans, the earliest first payment adjustment date of the loans in the security.   |  | Date      | MMCCYY | 6          | Applicable only for Fannie Mae issued securities    |   |
| S-65 | WA Months to Next Rate Adjustment Date | For adjustable-rate loans, the weighted average number of months from the current month to the next interest rate adjustment date.  |  | Numeric   |        | 3          |   | (Sum ((Months to Next Adjustment Date) * (Investor Loan UPB))) / (Sum (Investor Loan UPB))<br><br>• Round to nearest integer<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB      |

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| ID   | Attribute Name                    | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations   |
|------|-----------------------------------|---|--------------|-----------|--------|------------|--|--|
| S-66 | WA Life Interest Rate Ceiling     | For adjustable-rate loans, the weighted average lifetime maximum interest rate.   |              | Numeric   | 2.3    | 6          | 77.777 = Not Applicable  | $(\text{Sum} ((\text{Life Ceiling Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>If all loan level values = 77.777, set WA Life Interest Rate to 77.777; else exclude from weighted average calculation</li> </ul>     |
| S-67 | WA Net Life Interest Rate Ceiling | For adjustable-rate loans, the weighted average maximum interest rate less applicable fees (servicing fees and guarantor fees). |              | Numeric   | 2.3    | 6          | 77.777 = Not Applicable  | $(\text{Sum} ((\text{Life Ceiling Net Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> <li>If all loan level values = 77.777, set WA Net Life Interest Rate Ceiling to 77.777; else exclude from weighted average calculation</li> </ul>       |
| S-68 | WA Life Interest Rate Floor       | For adjustable-rate loans, the weighted average lifetime minimum interest rate.   |              | Numeric   | 2.3    | 6          | <p>If the mortgage loans in the MBS pool have no floor other than the mortgage margin, Fannie Mae will populate this field with the margin.</p> <p>77.777 = Not Applicable</p> | $(\text{Sum} ((\text{Life Floor Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$ <ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>If all loan level values = 77.777, set WA Life Interest Rate Floor to 77.777; else exclude from weighted average calculation</li> </ul> |

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| ID   | Attribute Name                    | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes   | Calculations   |
|------|-----------------------------------|---|--|-----------|--------|------------|---|--|
| S-69 | WA Net Life Interest Rate Floor   | For adjustable-rate loans, the weighted average minimum interest rate less applicable fees (servicing fees and guarantor fees).   |  | Numeric   | 2.3    | 6          | If the mortgage loans in the MBS pool have no floor other than the mortgage margin, Fannie Mae will populate this field with the MBS margin.<br><br>77.777 = Not Applicable | (Sum ((Life Floor Net Interest Rate) * (Investor Loan UPB))) / (Sum (Investor Loan UPB))<br><br><ul style="list-style-type: none"> <li>Round to the third decimal place</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>If all loan level values = 77.777, set WA Net Life Interest Rate Ceiling to 77.777</li> </ul> |
| S-70 | Initial Interest Rate Cap Up %    | For adjustable-rate loans, the maximum percentage points the interest rate can adjust upward at the first interest rate adjustment date.  |  | Numeric   | 2.3    | 6          | 55.555 = Mixed<br>77.777 = Not Applicable   |  |
| S-71 | Initial Interest Rate Cap Down %  | For adjustable-rate loans, the maximum percentage points the interest rate can adjust downward at the first interest rate adjustment date.  |  | Numeric   | 2.3    | 6          | 55.555 = Mixed<br>77.777 = Not Applicable   |  |
| S-72 | Periodic Interest Rate Cap Up %   | For adjustable-rate loans, the maximum percentage points the interest rate can adjust upward at each interest rate adjustment date after the first interest rate adjustment date.   |  | Numeric   | 2.3    | 6          | 55.555 = Mixed<br>77.777 = Not Applicable   |  |
| S-73 | Periodic Interest Rate Cap Down % | For adjustable-rate loans, the maximum percentage points the interest rate can adjust downward at each interest rate adjustment date after the first interest rate adjustment date. |  | Numeric   | 2.3    | 6          | 55.555 = Mixed<br>77.777 = Not Applicable   |  |
| S-74 | Initial Step Fixed-Rate Period    | For reperforming, modified step-rate loans, the number of months between the first payment date of the modified loan and the first step rate adjustment.                            | 00 = <=6 Months<br>01 = 7-18 Months<br>02 = 19-30 Months<br>03 = 31-42 Months<br>04 = 43-54 Months<br>05 = 55-66 Months<br>06 = 67-78 Months<br>07 = 79-90 Months<br>08 = 91-102 Months<br>09 = 103-114 Months<br>10 = 115-126 Months<br>11 = 127-138 Months<br>12 = 139-150 Months<br>13 = 151-162 Months<br>14 = 163-174 Months<br>15 = 175-186 Months<br>16 = >186 Months<br>55 = Mixed | String    |        | 2          |   |  |



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| ID   | Attribute Name                         | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes   | Calculations   |
|------|--|---|--------------|-----------|--------|------------|---|--|
| S-75 | Step Rate Adjustment Frequency         | For reperforming, modified step-rate loans, the number of months between each interest rate adjustment.   |              | Numeric   |        | 3          | 555 = Mixed   |  |
| S-76 | Next Step Rate Adjustment Date         | For reperforming, modified step-rate loans, the month and year that the interest rate is next scheduled to increase.  |              | Date      | MMCCYY | 6          |   |  |
| S-77 | WA Months to Next Step Rate Adjustment | For reperforming, modified step-rate loans, the weighted average number of months from the current month to the next date on which the mortgage interest rate increases.                          |              | Numeric   |        | 3          |   | $\frac{(\text{Sum} ((\text{Loan Months to Next Step Rate Adjustment Date}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round to nearest integer</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>   |
| S-78 | Periodic Step Rate Cap Up %            | For reperforming, modified step-rate loans, the maximum percentage points the interest rate may increase at each step rate adjustment date.   |              | Numeric   | 2.3    | 6          | 55.555 = Mixed  |  |
| S-79 | WA Origination Mortgage Loan Amount    | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average dollar amount of the loans in the security as stated on the notes at the time the loans were originated. |              | Numeric   | 9.2    | 12         | <p>The input values are masked in the calculation.</p> <ul style="list-style-type: none"> <li>Origination Mortgage Loan Amount is rounded to the nearest thousand</li> <li>If Origination Mortgage Loan Amount &lt; \$500, set to actual value</li> </ul> | $\frac{(\text{Sum} ((\text{Origination Mortgage Loan Amount}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>If the Origination Mortgage Loan Amount is invalid, the loan is excluded from the WA Mortgage Origination Loan Amount calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> <li>Round to the second decimal</li> </ul> |

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| ID   | Attribute Name                           | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculations   |
|------|--|--|--------------|-----------|--------|------------|---|--|
| S-80 | Average Origination Mortgage Loan Amount | For reperforming, modified fixed-rate and modified step-rate loans, the simple average dollar amount of the loans in the security as stated on the notes at the time the loans were originated.<br><br>This value represents both the interest bearing and non-interest bearing amount.  |              | Numeric   | 9.2    | 12         | The input values are masked in the calculation.<br><br><ul style="list-style-type: none"> <li>• Origination Mortgage Loan Amount is rounded to the nearest thousand</li> <li>• If Origination Mortgage Loan Amount &lt; \$500, set to actual value</li> </ul> | $(\text{Sum (Origination Mortgage Loan Amount)}) / (\text{Count (Loans in Pool)})$<br><br><ul style="list-style-type: none"> <li>• If the Origination Mortgage Loan Amount is invalid, the loan is excluded from the Origination Average Loan Amount calculation.</li> <li>• For loan count in pool, the issuance file calculation is based upon the issuance date loan count and the monthly file calculation is based upon the current loan count.</li> <li>• Round to the second decimal</li> </ul> |
| S-81 | WA Origination Interest Rate             | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average interest rate of the loans as stated on the note at the time the loans were originated.   |              | Numeric   | 2.3    | 6          |   | $(\text{Sum ((Origination Interest Rate) * (Current Investor Loan UPB))}) / (\text{Sum (Current Investor Loan UPB)})$  |
| S-82 | WA Origination Loan Term                 | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average number of months in which regularly scheduled borrower payments are due as stated on the note at the time the loans were originated.  |              | Numeric   |        | 3          |   | $(\text{Sum ((Origination Loan Term) * (Investor Loan UPB))}) / (\text{Sum (Investor Loan UPB)})$<br><br><ul style="list-style-type: none"> <li>• Round to the nearest integer</li> <li>• The issuance file calculation is based upon the Issuance Investor Loan UPB. The monthly file calculation is based upon the Scheduled Investor Loan UPB.</li> </ul>   |
| S-83 | WA Origination Loan-to-Value (LTV)       | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio, expressed as a percentage, obtained by dividing the amount of the loans at origination by the values of the properties.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance. |              | Numeric   |        | 3          | 999 = Not Available   | $(\text{Sum ((Loan LTV Ratio) * (Investor Loan UPB))}) / (\text{Sum (Investor Loan UPB)})$<br><br><ul style="list-style-type: none"> <li>• Round to the nearest integer</li> <li>• If the loan Origination LTV ratio is &lt;1% or &gt;998%, the loan is excluded from the WA Origination LTV calculation</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>            |

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| ID   | Attribute Name                               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                | Calculations   |
|------|--|---|--------------|-----------|--------|------------|----------------------|--|
| S-84 | WA Origination Combined Loan-to-Value (CLTV) | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the property.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance. |              | Numeric   |        | 3          | 999 = Not Available  | $(\text{Sum}((\text{Origination CLTV Ratio}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$<br><br><ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>The loan Origination CLTV Ratio is excluded from the WA Origination CLTV calculation if ratio is &lt; 1% or &gt;998%</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>  |
| S-85 | WA Origination Debt-to-Income (DTI)          | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated.   |              | Numeric   |        | 3          | 999 = Not Available  | $(\text{Sum}((\text{Origination DTI Ratio}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$<br><br><ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If value is &lt; 1 or &gt; 65, it will be disclosed as "Not Available", indicated by 999 and will be excluded from the WA Origination DTI ratio calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul> |
| S-86 | WA Origination Credit Score                  | For reperforming, modified fixed-rate and modified step-rate loans, the weighted average standardized credit score used to evaluate the borrower during the loan origination process.   |              | Numeric   |        | 4          | 9999 = Not Available | $(\text{Sum}((\text{Origination Credit Score}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$<br><br><ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If credit score is &lt; 300 or &gt; 850, the loan is excluded from the WA Origination Credit Score calculation</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> </ul>                          |
| S-87 | Filler                                       |   |              |           |        |            |                      |  |
| S-88 | Filler                                       |   |              |           |        |            |                      |  |

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| ID   | Attribute Name                                  | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                | Calculations   |
|------|---|---|--------------|-----------|--------|------------|----------------------|--|
| S-89 | Origination Third Party Origination UPB Percent | For reperforming, modified fixed-rate and modified step rate loans, the percentage of the aggregate Investor Loan UPB that was originated by a third party, to include Broker and Correspondent originations.   |              | Numeric   | 3.2    | 6          |                      | Sum (Investor Loan UPB for Origination Channel = Broker) + (Investor Loan UPB for Origination Channel = Correspondent)) / (Sum (Investor Loan UPB))  |
| S-90 | WA Estimated Loan-to-Value (ELTV)               | For reinstated, reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio obtained by dividing the outstanding balance of the mortgage loan by the estimated current value of the property obtained by the issuer at the time of issuance. |              | Numeric   |        | 3          | 999 = Not Available  | $\frac{\text{Sum} ((\text{Estimated LTV Ratio}) * (\text{Investor Loan UPB}))}{\text{Sum} (\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If Estimated LTV ratio is &lt; 1% or &gt; 998%, the loan is excluded from the WA Estimated LTV calculation</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>                    |
| S-91 | WA Updated Credit Score                         | For reinstated, reperforming, modified fixed-rate and modified step-rate loans, the weighted average most recently available standardized credit score provided at the time of issuance.  |              | Numeric   |        | 4          | 9999 = Not Available | $\frac{\text{Sum} ((\text{Updated Credit Score}) * (\text{Investor Loan UPB}))}{\text{Sum} (\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer</li> <li>If credit score is &lt; 300 or &gt; 850, the loan is excluded from the WA Updated Credit Score calculation</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> </ul> |

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| Security Supplemental File Record Type Description |  |                 |  |
|--|--|-----------------|--|
| Record Type No.                                    | Record Type Description  | Record Type No. | Record Type Description  |
| 1  | Quartiles  | 25              | Non-Standard Loan Type Stratification                                  |
| 2  | Next Interest Rate Adjustment Date                                     | 26              | Modification Program Stratification                                    |
| 3  | Loan-Value (LTV) Not Available Stratification                          | 27              | Modification Type Stratification                                       |
| 4  | Combined Loan-to-Value (CLTV) Not Available Stratification             | 28              | Modification Information Stratification                                |
| 5  | Debt-to-Income (DTI) Not Available Stratification                      | 29              | Number of Modifications Stratification                                 |
| 6  | Borrower Credit Score Not Available Stratification                     | 30              | Deferred Unpaid Principal Balance Stratification                       |
| 7  | Days Delinquent Stratification   | 31              | Estimated Loan-to-Value (ELTV) Not Available Stratification            |
| 8  | Number of Borrowers Stratification                                     | 32              | Updated Credit Score Not Available Stratification                      |
| 9  | First Time Homebuyer Stratification                                    | 33              | Number of Remaining Steps Stratification                               |
| 10   | Loan Purpose Stratification  | 34              | Number of Steps - At Modification Stratification                       |
| 11   | Occupancy Status Stratification  | 35              | Next Step Rate Adjustment Date Stratification                          |
| 12   | Number of Units Stratification   | 36              | Origination Loan-to-Value (LTV) Not Available Stratification           |
| 13   | Property Type Stratification   | 37              | Origination Combined Loan-to-Value (CLTV) Not Available Stratification |
| 14   | Channel Stratification   | 38              | Origination Debt-to-Income (DTI) Not Available Stratification          |
| 15   | Property State Stratification  | 39              | Origination Borrower Credit Score Not Available Stratification         |
| 16   | Seller Name Stratification   | 40              | Origination Loan Purpose Stratification                                |
| 17   | Servicer Name Stratification   | 41              | Origination Occupancy Status Stratification                            |
| 18   | Mortgage Insurance Coverage Stratification                             | 42              | Borrower Payment History Stratification                                |
| 19   | Mortgage Insurance Cancellation Indicator Stratification               | 43              | Collateral List  |
| 20   | Government Insured/Guarantee Stratification                            | 44              | Property Valuation Method Stratification                               |
| 21   | Interest Only First Principal and Interest Payment Date Stratification | 45              | Borrower Assistance Plan Stratification                                |
| 22   | Not Paying Principal in First Distribution Stratification              | 46              | Alternative Delinquency Resolutions Type                               |
| 23   | Origination Year Stratification  | 47              | Number of Alternative Delinquency Resolutions                          |
| 24   | Origination Channel Stratification                                     | 48              | Borrower Assistance Plan History Stratification                        |

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| Applicable Stratified Variable |   |
|--------------------------------|---|
| Quartile                       | For each mortgage loan characteristic where quartile levels appear, each loan in the pool is ranked from the highest to the lowest value. For example, in the case of Loan-to-Value (LTV) ratios, each loan in the pool is ranked from that with the highest LTV ratio to that with the lowest LTV ratio. The lowest LTV ratio would appear in the pool statistics under "MIN." The next figure in the quartile table for such mortgage loan characteristic is determined by counting the loans starting with the lowest value and continuing upward until the Investor Loan Unpaid Principal Balance (UPB) of the loans counted equals twenty-five percent of the Investor Loan UPB of all the loans in the pool. The value associated with the last loan counted appears in the quartile-level distribution table under "25%." Likewise, the next figures in the quartile-level distribution table are determined by again counting all of the loans starting with the lowest value and continuing upward until the Investor Loan UPB of the loans counted equal fifty percent of the Investor Loan UPB of all the loans in the pool. This process is repeated to determine the value in the quartile-level distribution table associated with seventy-five percent. The values of the last loan counted in each case appear in the quartile-level distribution table under "MED" and "75%," respectively. The highest such value for any mortgage loan in a pool appears in the quartile-level distribution table under "MAX." |
| Aggregate Loan Count           | Count (Loans in Stratification)   |
| Percentage Loan Count          | $\frac{\text{Count (Loans in Stratification)}}{\text{Count (Loans in Pool)}} * 100$ <ul style="list-style-type: none"> <li>• Round to the second decimal place</li> <li>• The sum of the percent of loans for the mortgages within a MBS may not add up to 100% due to rounding</li> </ul>  |
| Aggregate Investor Loan UPB    | Sum (Loans in Stratification) <ul style="list-style-type: none"> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB</li> <li>• The aggregate Investor Loan UPB may not equal the security balance due to loan corrections</li> </ul>  |
| Percentage Investor Loan UPB   | $\frac{\text{Sum (Stratification of Loan Investor Loan UPB)}}{\text{Sum (Investor Loan UPB)}} * 100$ <ul style="list-style-type: none"> <li>• Round to the second decimal place</li> <li>• The sum of the percent of UPB for the mortgages within a MBS may not add up to 100% due to rounding</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>   |
| Percentage Missing             | $\frac{\text{Sum ((Investor UPB for which Attribute's Values are Unavailable))}}{\text{Sum (Investor Loan UPB)}} * 100$ <ul style="list-style-type: none"> <li>• Round to the second decimal place</li> <li>• The sum of the percent of UPB for the mortgages within a MBS may not add up to 100% due to rounding</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB</li> </ul>  |

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| ID     | Attribute Name                | Attribute Definition  | Enumerations                    | Data Type | Format | Max Length | Notes   | Calculations |
|--------|-------------------------------|---|---------------------------------|-----------|--------|------------|---|--------------|
| SS-001 | Record Type = 1               | Quartiles   |                                 | String    |        | 2          |   |              |
| SS-002 | Prefix                        | The designation assigned by the issuer denoting the type of the loans and the security.   |                                 | String    |        | 3          |   |              |
| SS-003 | Security Identifier           | The unique designation assigned to the security by the issuer.  |                                 | String    |        | 6          |   |              |
| SS-004 | CUSIP                         | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |                                 | String    |        | 9          |   |              |
| SS-005 | Quartile                      | Based on the Current Investor UPB for all of the active loans in a security, distributed across the following quartile data points: MIN, 25%, MED, 75%, MAX.  | MAX<br>75%<br>MED<br>25%<br>MIN | String    |        | 3          |   |              |
| SS-006 | Mortgage Loan Amount          | The dollar amount of the loan as stated on the note at the time the loan was originated or modified.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.  |                                 | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500 |              |
| SS-007 | Interest Rate                 | The interest rate of the loan in effect during the current reporting period.  |                                 | Numeric   | 2.3    | 6          |   |              |
| SS-008 | Current Net Interest Rate     | The interest rate of the loan in effect during the current reporting period less servicing fees and guarantor fees.   |                                 | Numeric   | 2.3    | 6          |   |              |
| SS-009 | Loan Term                     | For fixed-rate, adjustable-rate and interest-only mortgages, the number of scheduled monthly payments of the mortgage, between the first payment date and the maturity date of the mortgage.  |                                 | Numeric   |        | 3          |   |              |
| SS-010 | Remaining Months to Maturity  | The number of remaining months that will reduce the Current Investor Loan UPB to zero.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments.   |                                 | Numeric   |        | 3          |   |              |
| SS-011 | Loan Age                      | The number of months from the time the loan was originated or modified up to and including the current reporting period.  |                                 | Numeric   |        | 4          |   |              |
| SS-012 | Loan-to-Value (LTV)           | The ratio, expressed as a percentage, obtained by dividing the amount of the loan at origination by the value of the property.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.                    |                                 | Numeric   |        | 3          |   |              |
| SS-013 | Combined Loan-to-Value (CLTV) | The ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the property.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |                                 | Numeric   |        | 3          |   |              |
| SS-014 | Debt-to-Income (DTI)          | The ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated or modified.  |                                 | Numeric   |        | 3          |   |              |
| SS-015 | Borrower Credit Score         | The standardized credit score used to evaluate the borrower during the loan origination process.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.   |                                 | Numeric   |        | 4          |   |              |
| SS-016 | Filler                        |   |                                 |           |        |            |   |              |

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|--------|---|---|--------------|-----------|--------|------------|-------|--------------|
| SS-017 | Filler  |   |              |           |        |            |       |              |
| SS-018 | Updated Credit Score                                    | For reinstated, reperforming, modified fixed-rate and modified step-rate loans, the most recently available standardized credit score provided at the time of issuance.   |              | Numeric   |        | 4          |       |              |
| SS-019 | Estimated Loan-to-Value (ELTV)                          | For reinstated, reperforming, modified fixed-rate, and modified step-rate loans, the ratio obtained by dividing the outstanding balance of the mortgage loan by the estimated current value of the property obtained by the issuer at the time of issuance. |              | Numeric   |        | 3          |       |              |
| ID     | Attribute Name  | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes | Calculations |
| SS-020 | Record Type = 2   | Next Interest Rate Adjustment Date  |              | String    |        | 2          |       |              |
| SS-021 | Prefix  | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |       |              |
| SS-022 | Security Identifier                                     | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |       |              |
| SS-023 | CUSIP   | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |       |              |
| SS-024 | Next Interest Rate Adjustment Date                      | For adjustable-rate loans, the month and year that the interest rate is next subject to change.   |              | Date      | MMCCYY | 6          |       |              |
| SS-025 | Months to Next Interest Rate Adjustment Date            | For the stratified attribute of adjustable-rate loans, the number of months from the current month to the next interest rate adjustment date.   |              | Numeric   |        | 3          |       |              |
| SS-026 | Interest Only First Principal and Interest Payment Date | For the stratified attribute for interest only adjustable-rate loans, the month and year that the first monthly scheduled fully amortizing principal and interest payment is due.   |              | Date      | MMCCYY | 6          |       |              |
| SS-027 | Aggregate Investor Loan UPB                             | For the stratified attribute of adjustable-rate loans, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |       |              |
| SS-028 | Percentage Investor Security UPB                        | For the stratified attribute of adjustable-rate loans, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |       |              |
| SS-029 | Aggregate Loan Count                                    | For the stratified attribute of adjustable-rate loans, the total number of loans in the security.   |              | Numeric   |        | 9          |       |              |
| SS-030 | Percentage Loan Count                                   | For the stratified attribute of adjustable-rate loans, the percentage of loans in the security.   |              | Numeric   | 3.2    | 6          |       |              |
| SS-031 | WA Current Interest Rate                                | For the stratified attribute of adjustable-rate loans, the weighted average interest rate of the loans in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |       |              |
| SS-032 | Current High Interest Rate                              | For the stratified attribute of adjustable-rate loans, the highest interest rate of the loans in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |       |              |
| SS-033 | Current Low Interest Rate                               | For the stratified attribute of adjustable-rate loans, the lowest interest rate of the loans in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |       |              |
| SS-034 | WA Current Net Interest Rate                            | For the stratified attribute of adjustable-rate loans, the weighted average interest rate of the loans in effect during the current reporting period less servicing fees and guarantor fees.  |              | Numeric   | 2.3    | 6          |       |              |
| SS-035 | Current High Net Interest Rate                          | For the stratified attribute of adjustable-rate loans, the highest value interest rate of the loans in effect during the current reporting period less servicing fees and guarantor fees.   |              | Numeric   | 2.3    | 6          |       |              |
| SS-036 | Current Low Net Interest Rate                           | For the stratified attribute of adjustable-rate loans, the lowest value interest rate of the loans in effect during the current reporting period less servicing fees and guarantor fees.  |              | Numeric   | 2.3    | 6          |       |              |
| SS-037 | WA Mortgage Margin                                      | For the stratified attribute of adjustable-rate loans, the weighted average number of percentage points to be added to the index to arrive at the new interest rate.  |              | Numeric   | 2.3    | 6          |       |              |
| SS-038 | High Mortgage Margin                                    | For the stratified attribute of adjustable-rate loans, the highest number of percentage points to be added to the index to arrive at the new interest rate.   |              | Numeric   | 2.3    | 6          |       |              |



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|--------|-------------------------------------|--|--------------|-----------|--------|------------|--|--------------|
| SS-039 | Low Mortgage Margin                 | For the stratified attribute of adjustable-rate loans, the lowest number of percentage points to be added to the index to arrive at the new interest rate. |              | Numeric   | 2.3    | 6          |  |              |
| SS-040 | WA MBS Margin                       | For the stratified attribute of adjustable-rate loans, the weighted average mortgage margin less servicing fees and guarantor fees.                        |              | Numeric   | 2.3    | 6          |  |              |
| SS-041 | High MBS Margin                     | For the stratified attribute of adjustable-rate loans, the highest value mortgage margin less servicing fees and guarantor fees.                           |              | Numeric   | 2.3    | 6          |  |              |
| SS-042 | Low MBS Margin                      | For the stratified attribute of adjustable-rate loans, the lowest value mortgage margin less servicing fees and guarantor fees.                            |              | Numeric   | 2.3    | 6          |  |              |
| SS-043 | WA Life Ceiling Interest Rate       | For the stratified attribute of adjustable-rate loans, the weighted average lifetime maximum interest rate.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-044 | Life Ceiling High Interest Rate     | For the stratified attribute of adjustable-rate loans, the highest value lifetime maximum interest rate.   |              | Numeric   | 2.3    | 6          |  |              |
| SS-045 | Life Ceiling Low Interest Rate      | For the stratified attribute of adjustable-rate loans, the lowest value lifetime maximum interest rate.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-046 | WA Life Ceiling Net Interest Rate   | For the stratified attribute of adjustable-rate loans, the weighted average maximum interest rate less servicing fees and guarantor fees.                  |              | Numeric   | 2.3    | 6          |  |              |
| SS-047 | Life Ceiling High Net Interest Rate | For the stratified attribute of adjustable-rate loans, the highest value maximum interest rate less servicing fees and guarantor fees.                     |              | Numeric   | 2.3    | 6          |  |              |
| SS-048 | Life Ceiling Low Net Interest Rate  | For the stratified attribute of adjustable-rate loans, the lowest value maximum interest rate less servicing fees and guarantor fees.                      |              | Numeric   | 2.3    | 6          |  |              |
| SS-049 | WA Life Floor Interest Rate         | For the stratified attribute of adjustable-rate loans, the weighted average lifetime minimum interest rate.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-050 | Life Floor High Interest Rate       | For the stratified attribute of adjustable-rate loans, the highest value lifetime minimum interest rate.   |              | Numeric   | 2.3    | 6          |  |              |
| SS-051 | Life Floor Low Interest Rate        | For the stratified attribute of adjustable-rate loans, the lowest value lifetime minimum interest rate.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-052 | WA Life Floor Net Interest Rate     | For the stratified attribute of adjustable-rate loans, the weighted average minimum interest rate less servicing fees and guarantor fees.                  |              | Numeric   | 2.3    | 6          |  |              |
| SS-053 | Life Floor High Net Interest Rate   | For the stratified attribute of adjustable-rate loans, the highest value minimum interest rate less servicing fees and guarantor fees.                     |              | Numeric   | 2.3    | 6          |  |              |
| SS-054 | Life Floor Low Net Interest Rate    | For the stratified attribute of adjustable-rate loans, the lowest value minimum interest rate less servicing fees and guarantor fees.                      |              | Numeric   | 2.3    | 6          |  |              |
| ID     | Attribute Name                      | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-055 | Record Type = 3                     | Loan-to-Value (LTV) Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.      |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-056 | Prefix                              | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |        | 3          |  |              |
| SS-057 | Security Identifier                 | The unique designation assigned to the security by the issuer.   |              | String    |        | 6          |  |              |
| SS-058 | CUSIP                               | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                  |              | String    |        | 9          |  |              |
| SS-059 | Aggregate Investor Loan UPB         | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |  |              |
| SS-060 | Percentage Investor Loan UPB        | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |  |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-061 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-062 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-063 | Record Type = 4              | Combined Loan-to-Value (CLTV) Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-064 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-065 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-066 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                       |              | String    |        | 9          |  |              |
| SS-067 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-068 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-069 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-070 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-071 | Record Type = 5              | Debt-to-Income (DTI) Not Available Stratification   |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-072 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-073 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-074 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                       |              | String    |        | 9          |  |              |
| SS-075 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-076 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-077 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-078 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-079 | Record Type = 6              | Borrower Credit Score Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.         |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-080 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-081 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-082 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                       |              | String    |        | 9          |  |              |
| SS-083 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-084 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes                                  | Calculations |
|--------|------------------------------|---|--|-----------|--------|------------|--|--------------|
| SS-085 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |  |              |
| SS-086 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes                                  | Calculations |
| SS-087 | Record Type = 7              | Days Delinquent Stratification  |  | String    |        | 2          | Applicable only for monthly disclosure |              |
| SS-088 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |  | String    |        | 3          |  |              |
| SS-089 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |  |              |
| SS-090 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |  |              |
| SS-091 | Days Delinquent              | The number of days for which a mortgage loan has been reported delinquent.  | 0 = Current<br>1 = 30-59<br>2 = 60-89<br>3 = 90-119<br>4 = 120-149<br>5 = 150-179<br>6 = 180-209<br>7 = 210-239<br>8 = 240-269<br>9 = 270-299<br>10 = 300-329<br>11 = 330-359<br>12 = 360-389<br>13 = 390-419<br>14 = 420-449<br>15 = 450-479<br>16 = 480-509<br>17 = 510-539<br>18 = 540-569<br>19 = 570-599<br>20 = 600-629<br>21 = 630-659<br>22 = 660-689<br>23 = 690-719<br>24 = 720+ | String    |        | 1          |  |              |
| SS-092 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |  | Numeric   | 14.2   | 17         |  |              |
| SS-093 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |  | Numeric   | 3.2    | 6          |  |              |
| SS-094 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |  |              |
| SS-095 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes                                  | Calculations |
| SS-096 | Record Type = 8              | Number of Borrowers Stratification  |  | String    |        | 2          |  |              |
| SS-097 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |  | String    |        | 3          |  |              |
| SS-098 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |  |              |
| SS-099 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |  |              |

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|--------|------------------------------|---|---|-----------|--------|------------|-------|--------------|
| SS-100 | Number of Borrowers          | The number of borrowers who, at the time the loan is originated, are obligated to repay the loan.                         | 1<br>2<br>>2<br>99 = Not Available  | String    |        | 2          |       |              |
| SS-101 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |       |              |
| SS-102 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |       |              |
| SS-103 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |       |              |
| SS-104 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |       |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
| SS-105 | Record Type = 9              | First Time Homebuyer Stratification   |   | String    |        | 2          |       |              |
| SS-106 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |   | String    |        | 3          |       |              |
| SS-107 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |       |              |
| SS-108 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |       |              |
| SS-109 | First Time Homebuyer         | The indicator denoting whether a borrower on the loan qualifies as a first-time homebuyer.                                | Y = Yes<br>N = No<br>9 = Not Available  | String    |        | 1          |       |              |
| SS-110 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |       |              |
| SS-111 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |       |              |
| SS-112 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |       |              |
| SS-113 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |       |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
| SS-114 | Record Type = 10             | Loan Purpose Stratification   |   | String    |        | 2          |       |              |
| SS-115 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |   | String    |        | 3          |       |              |
| SS-116 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |       |              |
| SS-117 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |       |              |
| SS-118 | Loan Purpose                 | The classification describing the purpose of the loan.  | C = Refinance - Cash Out<br>N = Refinance - No Cash Out<br>R = Refinance - Not Specified<br>P = Purchase<br>M = Modified - Loss Mitigation<br>9 = Not Available | String    |        | 1          |       |              |
| SS-119 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |       |              |
| SS-120 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |       |              |
| SS-121 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |       |              |

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|--------|------------------------------|---|--|-----------|--------|------------|-------|--------------|
| SS-122 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| SS-123 | Record Type = 11             | Occupancy Status Stratification   |  | String    |        | 2          |       |              |
| SS-124 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |       |              |
| SS-125 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| SS-126 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |       |              |
| SS-127 | Occupancy Status             | The classification describing the property occupancy status at the time the loan was originated.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. | P = Primary Residence<br>S - Second Home<br>I = Investment Property<br>9 = Not Available | String    |        | 1          |       |              |
| SS-128 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |       |              |
| SS-129 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| SS-130 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| SS-131 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| SS-132 | Record Type = 12             | Number of Units Stratification  |  | String    |        | 2          |       |              |
| SS-133 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |       |              |
| SS-134 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| SS-135 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |       |              |
| SS-136 | Number of Units              | The number of dwelling units in the mortgaged property at the time the loan was originated.   | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>99 = Not Available                                   | Numeric   |        | 2          |       |              |
| SS-137 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |       |              |
| SS-138 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| SS-139 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| SS-140 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| SS-141 | Record Type = 13             | Property Type Stratification  |  | String    |        | 2          |       |              |
| SS-142 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |       |              |

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| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes          | Calculations |
|--------|------------------------------|--|--|-----------|--------|------------|----------------|--------------|
| SS-143 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |                |              |
| SS-144 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |                |              |
| SS-145 | Property Type                | The classification describing the type of property that secures the loan.  | CP = Cooperative<br>CO = Condominium<br>PU = Planned Unit Development<br>SF = Single-Family<br>MH = Manufactured Housing<br>99 = Not Available | String    |        | 2          |                |              |
| SS-146 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |                |              |
| SS-147 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |                |              |
| SS-148 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |                |              |
| SS-149 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |                |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes          | Calculations |
| SS-150 | Record Type = 14             | Channel Stratification   |  | String    |        | 2          |                |              |
| SS-151 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |                |              |
| SS-152 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |                |              |
| SS-153 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |                |              |
| SS-154 | Channel                      | The origination channel used by the party that delivered the loan to the issuer.<br><br>For repricing, modified fixed-rate and modified step-rate loans, this value will be blank. | R = Retail<br>B = Broker<br>C = Correspondent<br>T = Third Party Origination -<br>Not Specified<br>9 = Not Available                           | String    |        | 1          |                |              |
| SS-155 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |                |              |
| SS-156 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |                |              |
| SS-157 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |                |              |
| SS-158 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |                |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes          | Calculations |
| SS-159 | Record Type = 15             | Property State Stratification  |  | String    |        | 2          | See Appendix B |              |
| SS-160 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |                |              |
| SS-161 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |                |              |

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| ID     | Attribute Name                       | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculations |
|--------|--------------------------------------|--|--------------|-----------|--------|------------|---|--------------|
| SS-162 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |   |              |
| SS-163 | Property State                       | The abbreviation denoting the location of the property securing the loan.  |              | String    |        | 2          |   |              |
| SS-164 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |   |              |
| SS-165 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |   |              |
| SS-166 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.   |              | Numeric   |        | 9          |   |              |
| SS-167 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.   |              | Numeric   | 3.2    | 6          |   |              |
| ID     | Attribute Name                       | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculations |
| SS-168 | Record Type = 16                     | Seller Name Stratification   |              | String    |        | 2          |   |              |
| SS-169 | Prefix                               | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |        | 3          |   |              |
| SS-170 | Security Identifier                  | The unique designation assigned to the security by the issuer.   |              | String    |        | 6          |   |              |
| SS-171 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |   |              |
| SS-172 | Seller Name                          | The name of the entity that sold the loan to the issuer.   |              | String    |        | 100        | Will not be updated after issuance, regardless of mergers/acquisitions. |              |
| SS-173 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |   |              |
| SS-174 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |   |              |
| SS-175 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.   |              | Numeric   |        | 9          |   |              |
| SS-176 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.   |              | Numeric   | 3.2    | 6          |   |              |
| SS-177 | Minimum Loan Age                     | For the stratified attribute, the minimum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period. |              | Numeric   |        | 3          |   |              |
| SS-178 | Maximum Loan Age                     | For the stratified attribute, the maximum number of scheduled payments from the time the loan was originated or modified to and including the current reporting period.    |              | Numeric   |        | 3          |   |              |
| SS-179 | Minimum Interest Rate                | For the stratified attribute, the minimum interest rate of the loan in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |   |              |
| SS-180 | Maximum Interest Rate                | For the stratified attribute, the maximum interest rate of the loan in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |   |              |
| SS-181 | Minimum Remaining Months to Maturity | For the stratified attribute, the minimum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |              | Numeric   |        | 3          |   |              |
| SS-182 | Maximum Remaining Months to Maturity | For the stratified attribute, the maximum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |              | Numeric   |        | 3          |   |              |

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| ID     | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|--------|--------------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-183 | WA Loan Age                          | For the stratified attribute, the weighted average number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period. |              | Numeric   |        | 3          |  |              |
| SS-184 | WA Interest Rate                     | For the stratified attribute, the weighted average interest rate of the loan in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |  |              |
| SS-185 | WA Remaining Months to Maturity      | For the stratified attribute, the weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |              | Numeric   |        | 3          |  |              |
| SS-186 | Seller City                          | The city of the address of the entity that sold the loans to the issuer.  |              | String    |        | 50         |  |              |
| SS-187 | Seller State                         | The state or territory of the address of the entity that sold the loans to the issuer.  |              | String    |        | 2          | XX will populate for non US states and territories   |              |
| ID     | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-188 | Record Type = 17                     | Servicer Name Stratification  |              | String    |        | 2          |  |              |
| SS-189 | Prefix                               | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-190 | Security Identifier                  | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-191 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-192 | Servicer Name                        | The name of the entity that services the loan during the current reporting period.<br><br>Will reflect servicer names contributing > 1% of the Current Investor Security UPB.       | < 1%         | String    |        | 100        | Servicer names contributing < 1% of the Current Investor Security UPB will be aggregated and reflected in the < 1% enumeration |              |
| SS-193 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-194 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-195 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-196 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-197 | Minimum Loan Age                     | For the stratified attribute, the minimum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.          |              | Numeric   |        | 3          |  |              |
| SS-198 | Maximum Loan Age                     | For the stratified attribute, the maximum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.          |              | Numeric   |        | 3          |  |              |
| SS-199 | Minimum Interest Rate                | For the stratified attribute, the minimum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-200 | Maximum Interest Rate                | For the stratified attribute, the maximum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-201 | Minimum Remaining Months to Maturity | For the stratified attribute, the minimum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.  |              | Numeric   |        | 3          |  |              |



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| ID     | Attribute Name                       | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
|--------|--------------------------------------|--|--|-----------|--------|------------|--|--------------|
| SS-202 | Maximum Remaining Months to Maturity | For the stratified attribute, the maximum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.   |  | Numeric   |        | 3          |  |              |
| SS-203 | WA Loan Age                          | For the stratified attribute, the weighted average number of scheduled payments from the time the loan was originated or modified to and including the current reporting period. |  | Numeric   |        | 3          |  |              |
| SS-204 | WA Interest Rate                     | For the stratified attribute, the weighted average interest rate of the loan in effect during the current reporting period.  |  | Numeric   | 2.3    | 6          |  |              |
| SS-205 | WA Remaining Months to Maturity      | For the stratified attribute, the weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                  |  | Numeric   |        | 3          |  |              |
| SS-206 | Servicer City                        | The city of the address of the entity that services the loans.   |  | String    |        | 50         |  |              |
| SS-207 | Servicer State                       | The state or territory of the address of the entity that services the loans.   |  | String    |        | 2          | XX will populate for non US states and territories |              |
| ID     | Attribute Name                       | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-208 | Record Type = 18                     | Mortgage Insurance Coverage Stratification   |  | String    |        | 2          |  |              |
| SS-209 | Prefix                               | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-210 | Security Identifier                  | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |
| SS-211 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |  |              |
| SS-212 | Mortgage Insurance Coverage          | The mortgage insurance coverage in effect at the time the security was issued.   | WITHMI = Loans With Mortgage Insurance<br>NOMI = Loans Without Mortgage Insurance<br>999 = Not Available | String    |        | 6          |  |              |
| SS-213 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |  |              |
| SS-214 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| SS-215 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |  |              |
| SS-216 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name                       | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-217 | Record Type = 19                     | Mortgage Insurance Cancellation Indicator Stratification   |  | String    |        | 2          |  |              |
| SS-218 | Prefix                               | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-219 | Security Identifier                  | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |

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| ID     | Attribute Name                            | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
|--------|---|---|---|-----------|--------|------------|--|--------------|
| SS-220 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |  |              |
| SS-221 | Mortgage Insurance Cancellation Indicator | The indicator denoting whether the mortgage insurance has been cancelled after the security was issued.                   | Y = Yes<br>N = No<br>7 = Not Applicable   | String    |        | 1          |  |              |
| SS-222 | Aggregate Investor Loan UPB               | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |  |              |
| SS-223 | Percentage Investor Loan UPB              | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |  |              |
| SS-224 | Aggregate Loan Count                      | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| SS-225 | Percentage Loan Count                     | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name                            | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| SS-226 | Record Type = 20                          | Government Insured/Guarantee Stratification   |   | String    |        | 2          | Applicable only to Government Insured/Guarantee loans. |              |
| SS-227 | Prefix                                    | The designation assigned by the issuer denoting the type of the loans and the security.                                   |   | String    |        | 3          |  |              |
| SS-228 | Security Identifier                       | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| SS-229 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |  |              |
| SS-230 | Government Insured/Guarantee              | The classification describing the Government Insured/Guarantee Program, if any, covering the loan.                        | FH = FHA<br>VA = Veterans Affairs<br>RH = Rural Housing<br>IH = Section 184 Indian Home<br>99 = Not Available | String    |        | 2          |  |              |
| SS-231 | Aggregate Investor Loan UPB               | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |  |              |
| SS-232 | Percentage Investor Loan UPB              | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |  |              |
| SS-233 | Aggregate Loan Count                      | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| SS-234 | Percentage Loan Count                     | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name                            | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| SS-235 | Record Type = 21                          | Interest Only First Principal and Interest Payment Date Stratification  |   | String    |        | 2          |  |              |
| SS-236 | Prefix                                    | The designation assigned by the issuer denoting the type of the loans and the security.                                   |   | String    |        | 3          |  |              |
| SS-237 | Security Identifier                       | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| SS-238 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |  |              |

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| ID     | Attribute Name  | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                       | Calculations |
|--------|---|---|--------------|-----------|--------|------------|-----------------------------|--------------|
| SS-239 | Interest Only First Principal and Interest Payment Date | For interest-only loans, the month and year that the first monthly scheduled fully amortizing principal and interest payment is due.  |              | Date      | MMCCYY | 6          |                             |              |
| SS-240 | Aggregate Investor Loan UPB                             | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |                             |              |
| SS-241 | Percentage Investor Loan UPB                            | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |                             |              |
| SS-242 | Aggregate Loan Count                                    | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |                             |              |
| SS-243 | Percentage Loan Count                                   | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |                             |              |
| SS-244 | Minimum Loan Age  | For the stratified attribute, the minimum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.          |              | Numeric   |        | 3          |                             |              |
| SS-245 | Maximum Loan Age  | For the stratified attribute, the maximum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.          |              | Numeric   |        | 3          |                             |              |
| SS-246 | Minimum Interest Rate                                   | For the stratified attribute, the minimum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |                             |              |
| SS-247 | Maximum Interest Rate                                   | For the stratified attribute, the maximum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |                             |              |
| SS-248 | Minimum Remaining Months to Maturity                    | For the stratified attribute, the minimum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.  |              | Numeric   |        | 3          |                             |              |
| SS-249 | Maximum Remaining Months to Maturity                    | For the stratified attribute, the maximum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.  |              | Numeric   |        | 3          |                             |              |
| SS-250 | WA Loan Age   | For the stratified attribute, the weighted average number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period. |              | Numeric   |        | 3          |                             |              |
| SS-251 | WA Interest Rate  | For the stratified attribute, the weighted average interest rate of the loan in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |                             |              |
| SS-252 | WA Remaining Months to Maturity                         | For the stratified attribute, the weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |              | Numeric   |        | 3          |                             |              |
| SS-253 | WA Months to Amortization                               | For the stratified attribute, the weighted average number of months from the current month to the first scheduled principal and interest payment date.                              |              | Numeric   |        | 3          |                             |              |
| ID     | Attribute Name  | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                       | Calculations |
| SS-254 | Record Type = 22  | Not Paying Principal in First Distribution Stratification<br><br>Loans that will not receive a principal distribution in the first investor payment.                                |              | String    |        | 2          | Applicable only at issuance |              |
| SS-255 | Prefix  | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |                             |              |
| SS-256 | Security Identifier                                     | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |                             |              |
| SS-257 | CUSIP   | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |                             |              |
| SS-258 | Aggregate Investor Loan UPB                             | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |                             |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-259 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |              | Numeric   | 3.2    | 6          |  |              |
| SS-260 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-261 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-262 | Record Type = 23             | Origination Year Stratification   |              | String    |        | 2          |  |              |
| SS-263 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |              | String    |        | 3          |  |              |
| SS-264 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-265 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |              | String    |        | 9          |  |              |
| SS-266 | Origination Year             | The year of origination of the loans in the security.   |              | Date      | CCYY   | 4          |  |              |
| SS-267 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |              | Numeric   | 14.2   | 17         |  |              |
| SS-268 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |              | Numeric   | 3.2    | 6          |  |              |
| SS-269 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-270 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-271 | Record Type = 24             | Origination Channel Stratification  |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-272 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                   |              | String    |        | 3          |  |              |
| SS-273 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-274 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |              | String    |        | 9          |  |              |

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| ID     | Attribute Name               | Attribute Definition   | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|--|---|-----------|--------|------------|--|--------------|
| SS-275 | Origination Channel          | For reperforming, modified fixed-rate and modified step-rate loans, the origination channel used by the party that delivered the loan to the issuer. | R = Retail<br>B = Broker<br>C = Correspondent<br>T = Third-Party Origination - Not Specified<br>9 = Not Available | String    |        | 1          |  |              |
| SS-276 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 14.2   | 17         |  |              |
| SS-277 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 3.2    | 6          |  |              |
| SS-278 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |   | Numeric   |        | 9          |  |              |
| SS-279 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |   | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| SS-280 | Record Type = 25             | Non-Standard Loan Type Stratification  | COOP = Cooperative<br>HIGH = FHFA High Cost Area<br>BYDN = Interest-rate buydown<br>RELO = Relocation             | String    |        | 2          | Applicable only at issuance for Single-Class (no- securitizations).  |              |
| SS-281 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |   | String    |        | 3          |  |              |
| SS-282 | Security Identifier          | The unique designation assigned to the security by the issuer.   |   | String    |        | 6          |  |              |
| SS-283 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                            |   | String    |        | 9          |  |              |
| SS-284 | Non-Standard Loan Type       | The non-standard loan characteristics included in the security.  | COOP = Cooperative<br>HIGH = FHFA High Cost Area<br>BYDN = Interest-rate buydown<br>RELO = Relocation             | String    |        | 4          | <p>Applicable only at issuance for Single-Class securities (no securitizations).</p> <p>One or more of the following non-standard mortgage loan types will be displayed if any constitutes greater than 10% of the scheduled unpaid principal balance of the MBS pool, or if a combination of two or more of these mortgage loan types constitute greater than 15% of the scheduled unpaid principal balance of the MBS pool:</p> <ul style="list-style-type: none"> <li>• Co-operative share loans (COOP)</li> <li>• Interest-rate loans (significant temporary interest rate buy down loans)</li> <li>• Relocation loans</li> <li>• FHFA High Cost Area</li> </ul> <p>The categories are not mutually exclusive. For example, one mortgage loan may be a co-op mortgage loan and an interest-rate mortgage loan, and if so, it will appear in this table in both categories. Totals may exceed 100%.</p> |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|---|--|-----------|--------|------------|--|--------------|
| SS-285 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                               |  | Numeric   | 14.2   | 17         |  |              |
| SS-286 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                        |  | Numeric   | 3.2    | 6          |  |              |
| SS-287 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |  |              |
| SS-288 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-289 | Record Type = 26             | Modification Program Stratification   |  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-290 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                     |  | String    |        | 3          |  |              |
| SS-291 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |  |              |
| SS-292 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |  |              |
| SS-293 | Modification Program         | For reperforming, modified fixed-rate and modified step-rate loans, the program under which the loan was modified.          | H = HAMP<br>O = Other<br>R = Regular<br>S = Standard<br>T = Streamlined<br>9 = Not Available               | String    |        | 1          |  |              |
| SS-294 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                               |  | Numeric   | 14.2   | 17         |  |              |
| SS-295 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                        |  | Numeric   | 3.2    | 6          |  |              |
| SS-296 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |  |              |
| SS-297 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-298 | Record Type = 27             | Modification Type Stratification  |  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-299 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.                                     |  | String    |        | 3          |  |              |
| SS-300 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |  |              |
| SS-301 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |  |              |
| SS-302 | Modification Type            | For reperforming, modified fixed-rate and modified step-rate loans, the classification describing the type of modification. | R = Rate<br>T = Term<br>B = Rate & Term<br>C = Capitalization<br>F = Rate, Term & Forbearance<br>O = Other | String    |        | 1          |  |              |
| SS-303 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                               |  | Numeric   | 14.2   | 17         |  |              |

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| ID     | Attribute Name               | Attribute Definition   | Enumerations                             | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|--|--|-----------|--------|------------|--|--------------|
| SS-304 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| SS-305 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |  |              |
| SS-306 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations                             | Data Type | Format | Max Length | Notes  | Calculations |
| SS-307 | Record Type = 28             | Modification Information Stratification  |  | String    |        | 2          | Not applicable for Fannie Mae.                     |              |
| SS-308 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-309 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |
| SS-310 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |  |              |
| SS-311 | Modification Information     | For reperforming, modified fixed-rate and modified step-rate loans, the Total Capitalized Amounts and Deferred Unpaid Principal Balances of the loans in the security. | TOTAL CAPITALIZED AMOUNT<br>DEFERRED UPB | String    |        | 25         |  |              |
| SS-312 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |  |              |
| SS-313 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| SS-314 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |  |              |
| SS-315 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations                             | Data Type | Format | Max Length | Notes  | Calculations |
| SS-316 | Record Type = 29             | Number of Modifications Stratification   |  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-317 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-318 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |
| SS-319 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |  |              |
| SS-320 | Number of Modifications      | For reperforming, modified fixed-rate and modified step-rate loans, the number of times the loan has been modified.  | 1<br>2<br>>2                             | Numeric   |        | 2          |  |              |
| SS-321 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |  |              |
| SS-322 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| SS-323 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |  |              |
| SS-324 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |

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| ID     | Attribute Name                | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes                          | Calculations |
|--------|-------------------------------|---|---|-----------|--------|------------|--------------------------------|--------------|
| ID     | Attribute Name                | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes                          | Calculations |
| SS-325 | Record Type = 30              | Deferred Unpaid Principal Balance Stratification<br><br>Applicable only for modified pools  |   | String    |        | 2          | Not applicable for Fannie Mae. |              |
| SS-326 | Prefix                        | The designation assigned by the issuer denoting the type of the loans and the security.   |   | String    |        | 3          |                                |              |
| SS-327 | Security Identifier           | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |                                |              |
| SS-328 | CUSIP                         | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |                                |              |
| SS-329 | Deferred UPB Type             | For reperforming, modified fixed-rate and modified step-rate loans, denotes if the reported unpaid principal balance includes any deferred amount.  | WITHDEFUPB = With Deferred UPB<br>NODEFUPB = Without Deferred UPB<br>99 = Not Available | String    |        | 10         |                                |              |
| SS-330 | Interest-Bearing UPB          | For reperforming, modified fixed-rate and modified step-rate loans, the aggregate interest bearing unpaid principal balance at the time of modification.  |   | Numeric   | 14.2   | 17         |                                |              |
| SS-331 | Deferred UPB                  | For reperforming, modified fixed-rate and modified step-rate loans, the aggregate non-interest bearing amount at the time of modification. This amount does not contribute to MBS.<br><br>The deferred amount is not included in the unpaid principal balance of the security and is not payable to the certificate holder.   |   | Numeric   | 14.2   | 17         |                                |              |
| SS-332 | Aggregate Loan Count          | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |                                |              |
| SS-333 | WA Interest Rate              | For the stratified attribute, the weighted average interest rate of the loans in effect during the current reporting period.  |   | Numeric   | 2.3    | 6          |                                |              |
| SS-334 | WA Estimated LTV (ELTV)       | For the stratified attribute in reinstated, reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio obtained by dividing the outstanding balance of the mortgage loan by the estimated current value of the property obtained by the issuer, at the time of issuance.  |   | Numeric   |        | 3          |                                |              |
| SS-335 | WA Updated Credit Score       | For the stratified attribute in reinstated, reperforming, modified fixed-rate and modified step-rate loans, the weighted average most recently available standardized credit score provided at the time of issuance.  |   | Numeric   |        | 4          |                                |              |
| SS-336 | WA Debt-to-Income (DTI) Ratio | For the stratified attribute in reinstated, reperforming, modified fixed-rate and modified step-rate loans, the weighted average ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated or modified.   |   | Numeric   |        | 3          |                                |              |
| SS-337 | Average Mortgage Loan Amount  | For the stratified attribute in reinstated, reperforming, modified fixed-rate and modified step-rate loans, the simple average dollar amount of the loan as stated on the note at the time the loan was originated or modified.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount. |   | Numeric   | 9.2    | 12         |                                |              |
| SS-338 | Property State 1              | The abbreviation denoting the location of the property securing the loan for the stratified attribute.<br><br>*Ranked #1 by Investor Loan UPB   |   | String    |        | 2          |                                |              |



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| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-339 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security that are associated with Property State #1 (ranked by Investor Loan UPB).                  |              | Numeric   | 14.2   | 17         |  |              |
| SS-340 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security that are associated with Property State #1 (ranked by Investor Loan UPB).           |              | Numeric   | 3.2    | 6          |  |              |
| SS-341 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security that are associated with Property State #1 (ranked by Investor Loan UPB).                                       |              | Numeric   |        | 9          |  |              |
| SS-342 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security with Property State #1 (ranked by Investor Loan UPB).   |              | Numeric   | 3.2    | 6          |  |              |
| SS-343 | Property State 2             | The abbreviation denoting the location of the property securing the loan for the stratified attribute.<br><br>~Ranked #2 by Investor Loan UPB   |              | String    |        | 2          |  |              |
| SS-344 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security that are associated with Property State #2 (ranked by Investor Loan UPB).                  |              | Numeric   | 14.2   | 17         |  |              |
| SS-345 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security that are associated with Property State #2 (ranked by Investor Loan UPB).           |              | Numeric   | 3.2    | 6          |  |              |
| SS-346 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security that are associated with Property State #2 (ranked by Investor Loan UPB).                                       |              | Numeric   |        | 9          |  |              |
| SS-347 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security with Property State #2 (ranked by Investor Loan UPB).   |              | Numeric   | 3.2    | 6          |  |              |
| SS-348 | Property State 3             | The abbreviation denoting the location of the property securing the loan for the stratified attribute.<br><br>~Ranked #3 by Investor Loan UPB   |              | String    |        | 2          |  |              |
| SS-349 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security that are associated with Property State #3 (ranked by Investor Loan UPB).                  |              | Numeric   | 14.2   | 17         |  |              |
| SS-350 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security that are associated with Property State #3 (ranked by Investor Loan UPB).           |              | Numeric   | 3.2    | 6          |  |              |
| SS-351 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security that are associated with Property State #3 (ranked by Investor Loan UPB).                                       |              | Numeric   |        | 9          |  |              |
| SS-352 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security with Property State #3 (ranked by Investor Loan UPB).   |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-353 | Record Type = 31             | Estimated Loan-to-Value (ELTV) Not Available Stratification<br><br>For non-reperforming, modified fixed-rate and modified step-rate loans, this value will be populated, if applicable. |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-354 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-355 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-356 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-357 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | String    | 14.2   | 17         |  |              |
| SS-358 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |

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|--------|------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-359 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-360 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-361 | Record Type = 32             | Updated Credit Score Not Available Stratification<br><br>For non-reperforming, modified fixed-rate and modified step-rate loans, this value will be populated, if applicable. |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-362 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-363 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-364 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-365 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-366 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-367 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-368 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-369 | Record Type = 33             | Number of Remaining Steps Stratification  |              | String    |        | 2          | Not applicable to Fannie Mae.                      |              |
| SS-370 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-371 | Security Identifier          | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-372 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-373 | Number of Remaining Steps    | For reperforming, modified step-rate loans, the number of upward interest rate adjustments remaining.   |              | Numeric   |        | 2          |  |              |
| SS-374 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-375 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-376 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-377 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-378 | Record Type = 34             | Number of Steps - At Modification Stratification  |              | String    |        | 2          | Not applicable to Fannie Mae.                      |              |

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|--------|-----------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| SS-379 | Prefix                            | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-380 | Security Identifier               | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-381 | CUSIP                             | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-382 | Number of Steps - at Modification | For reperforming, modified step-rate loans, the number of upward interest rate adjustments at the time of modification.   |              | Numeric   |        | 2          |  |              |
| SS-383 | Aggregate Investor Loan UPB       | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-384 | Percentage Investor Loan UPB      | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-385 | Aggregate Loan Count              | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-386 | Percentage Loan Count             | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name                    | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-387 | Record Type = 35                  | Next Step Rate Adjustment Date Stratification   |              | String    |        | 2          | Not applicable to Fannie Mae.                      |              |
| SS-388 | Prefix                            | The designation assigned by the issuer denoting the type of the loans and the security.   |              | String    |        | 3          |  |              |
| SS-389 | Security Identifier               | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| SS-390 | CUSIP                             | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |              |
| SS-391 | Next Step Rate Adjustment Date    | For reperforming, modified step-rate loans, the month and year that the interest rate is scheduled to increase.   |              | Date      | MMCCYY | 6          |  |              |
| SS-392 | Projected WA Interest Rate        | For reperforming, modified fixed-rate and modified step-rate loans, the projected weighted average of the expected interest rates in effect on the associated adjustment date, not accounting for prepayments.  |              | Numeric   | 2.3    | 6          |  |              |
| SS-393 | Projected WA Net Interest Rate    | For reperforming, modified fixed-rate and modified step-rate loans, the projected weighted average of the expected interest rates in effect on the associated adjustment date, not accounting for prepayments less servicing fees and guarantor fees. |              | Numeric   | 2.3    | 6          |  |              |
| SS-394 | Aggregate Investor Loan UPB       | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| SS-395 | Percentage Investor Loan UPB      | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| SS-396 | Aggregate Loan Count              | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| SS-397 | Percentage Loan Count             | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name                    | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-398 | Record Type = 36                  | Origination Loan-to-Value (LTV) Not Available Stratification<br><br>For non-reperforming, modified fixed-rate and modified step-rate loans, this value will be populated, if applicable.  |              | String    |        | 2          | Applicable only if security characteristics apply. |              |

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| ID     | Attribute Name               | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|--|--------------|-----------|--------|------------|--|--------------|
| SS-399 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |        | 3          |  |              |
| SS-400 | Security Identifier          | The unique designation assigned to the security by the issuer.   |              | String    |        | 6          |  |              |
| SS-401 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |  |              |
| SS-402 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |  |              |
| SS-403 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |  |              |
| SS-404 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |              | Numeric   |        | 9          |  |              |
| SS-405 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-406 | Record Type = 37             | Origination Combined Loan-to-Value (CLTV) Not Available Stratification<br><br>For non-reperforming, modified fixed-rate and modified step-rate loans, this value will be populated, if applicable. |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-407 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |        | 3          |  |              |
| SS-408 | Security Identifier          | The unique designation assigned to the security by the issuer.   |              | String    |        | 6          |  |              |
| SS-409 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |  |              |
| SS-410 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |  |              |
| SS-411 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 3.2    | 6          |  |              |
| SS-412 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |              | Numeric   |        | 9          |  |              |
| SS-413 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |              | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| SS-414 | Record Type = 38             | Origination Debt-to-Income (DTI) Not Available Stratification  |              | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-415 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |        | 3          |  |              |
| SS-416 | Security Identifier          | The unique designation assigned to the security by the issuer.   |              | String    |        | 6          |  |              |
| SS-417 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |  |              |
| SS-418 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 14.2   | 17         |  |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|---|---|-----------|--------|------------|--|--------------|
| SS-419 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| SS-420 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| SS-421 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| SS-422 | Record Type = 39             | Origination Borrower Credit Score Not Available Stratification  |   | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-423 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |   | String    |        | 3          |  |              |
| SS-424 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| SS-425 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |  |              |
| SS-426 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 14.2   | 17         |  |              |
| SS-427 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| SS-428 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| SS-429 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| SS-430 | Record Type = 40             | Origination Loan Purpose Stratification   |   | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-431 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |   | String    |        | 3          |  |              |
| SS-432 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| SS-433 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |  |              |
| SS-434 | Origination Loan Purpose     | For reperforming, modified fixed-rate and modified step-rate loans, the classification of the loan as either a purchase money mortgage or a refinancing mortgage at the time the loan was originated. | C = Refinance - Cash Out<br>N = Refinance - No Cash Out<br>R = Refinance - Not Specified<br>P = Purchase<br>M = Modified - Loss Mitigation<br>9 = Not Available | String    |        | 1          |  |              |
| SS-435 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 14.2   | 17         |  |              |
| SS-436 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| SS-437 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |

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| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
|--------|------------------------------|--|--|-----------|--------|------------|--|--------------|
| SS-438 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-439 | Record Type = 41             | Origination Occupancy Status Stratification  |  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| SS-440 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-441 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |
| SS-442 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |  |              |
| SS-443 | Origination Occupancy Status | For reperforming, modified fixed-rate and modified step rate loans, the classification describing the property occupancy status at the time the loan was originated. | P = Primary Residence<br>S = Second Home<br>I = Investment Property<br>9 = Not Available | String    |        | 1          |  |              |
| SS-444 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 14.2   | 17         |  |              |
| SS-445 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| SS-446 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |  | Numeric   |        | 9          |  |              |
| SS-447 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |  | Numeric   | 3.2    | 6          |  |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations   | Data Type | Format | Max Length | Notes  | Calculations |
| SS-448 | Record Type = 42             | Borrower Payment History Stratification  |  | String    |        | 2          | Not applicable to Fannie Mae.                      |              |
| SS-449 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |  | String    |        | 3          |  |              |
| SS-450 | Security Identifier          | The unique designation assigned to the security by the issuer.   |  | String    |        | 6          |  |              |
| SS-451 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |  | String    |        | 9          |  |              |

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| ID     | Attribute Name                 | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes   | Calculations |
|--------|--------------------------------|---|--|-----------|--------|------------|---|--------------|
| SS-452 | Days Delinquent                | For reperforming, modified and modified step-rate loans, the number of days for which a mortgage loan was reported delinquent.                        | 0 = Current<br>1 = 30-59<br>2 = 60-89<br>3 = 90-119<br>4 = 120-149<br>5 = 150-179<br>6 = 180-209<br>7 = 210-239<br>8 = 240-269<br>9 = 270-299<br>10 = 300-329<br>11 = 330-359<br>12 = 360-389<br>13 = 390-419<br>14 = 420-449<br>15 = 450-479<br>16 = 480-509<br>17 = 510-539<br>18 = 540-569<br>19 = 570-599<br>20 = 600-629<br>21 = 630-659<br>22 = 660-689<br>23 = 690-719<br>24 = 720+ | String    |        | 1          |   |              |
| SS-453 | Borrower Payment Date          | The month and year that the borrower was scheduled to remit payment. Up to 36-months of payment history   |  | Date      | MMCCYY | 6          |   |              |
| SS-454 | Aggregate Investor Loan UPB    | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |   |              |
| SS-455 | Percentage Investor Loan UPB   | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |   |              |
| SS-456 | Aggregate Loan Count           | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |   |              |
| SS-457 | Percentage Loan Count          | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |   |              |
| ID     | Attribute Name                 | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes   | Calculations |
| SS-458 | Record Type = 43               | Collateral List   |  | String    |        | 2          | Applicable only at issuance for Single-Class securitizations. |              |
| SS-459 | Prefix                         | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |   |              |
| SS-460 | Security Identifier            | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |   |              |
| SS-461 | CUSIP                          | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                             |  | String    |        | 9          |   |              |
| SS-462 | Collateral Prefix              | For each security that directly underlies the securitization, the designation assigned by the issuer denoting the type of the loans and the security. |  | String    |        | 3          |   |              |
| SS-463 | Collateral Security Identifier | For each security that directly underlies the securitization, the unique designation assigned to the security by the issuer.                          |  | String    |        | 6          |   |              |

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| ID     | Attribute Name   | Attribute Definition   | Enumerations | Data Type | Format   | Max Length | Notes  | Calculations |
|--------|--|--|--------------|-----------|----------|------------|--|--------------|
| SS-464 | Collateral CUSIP   | For each security that directly underlies the securitization, the unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |          | 9          |  |              |
| SS-465 | Collateral Current WA Net Interest Rate                  | For each security that directly underlies the securitization, the weighted average interest rate of the loans in effect during the current reporting period less servicing fees and guarantor fees.  |              | Numeric   | 2.3      | 6          |  |              |
| SS-466 | Collateral Issue Date                                    | For each security that directly underlies the securitization, the date on which the security was issued.   |              | Date      | MMDDCCYY | 8          |  |              |
| SS-467 | Collateral Issuer  | The issuer for each security that directly underlies the securitization.   |              | String    |          | 3          |  |              |
| SS-468 | Collateral Maturity Date                                 | The month and year in which the final payment on the underlying security is scheduled to be made at the time the underlying security was issued.   |              | Date      | MMCCYY   | 6          |  |              |
| SS-469 | Collateral Issuance Investor Security UPB                | For each security that directly underlies the securitization, the unpaid principal balance of the loans as they contribute to the balance of the security.   |              | Numeric   | 12.2     | 15         |  |              |
| SS-470 | Collateral Issuance Contributing Investor Security UPB   | For each security that directly underlies the securitization, the pro-rata share of the Investor Security UPB - Issuance amount .  |              | Numeric   | 12.2     | 15         |  |              |
| SS-471 | Collateral Current Contributing Investor Security UPB    | For each security that directly underlies the securitization, the pro-rata share of the Investor Security UPB - Current amount.  |              | Numeric   | 12.2     | 15         |  |              |
| SS-472 | Collateral WA Interest Rate at Settlement                | For each security that directly underlies the securitization, the weighted average interest rate at the time of securitization.  |              | Numeric   | 2.3      | 6          |  |              |
| SS-473 | Collateral WA Remaining Months to Maturity at Settlement | For each security that directly underlies the securitization, the weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero at the time of securitization.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments. |              | Numeric   |          | 3          |  |              |
| SS-474 | Collateral WA Loan Age at Settlement                     | For each security that directly underlies the securitization, the weighted average number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period at the time of securitization.  |              | Numeric   |          | 3          |  |              |
| SS-475 | Collateral Trust Identifier                              | For each security that directly underlies the securitization, an identifier assigned to the trust when established into a multiclass securitization.   |              | String    |          | 50         | Applicable only when underlying collateral is a REMIC.         |              |
| SS-476 | Collateral Class Identifier                              | For each security that directly underlies the securitization, an identifier assigned to the class when established into a multiclass securitization.   |              | String    |          | 4          | Applicable only when underlying collateral is a REMIC.         |              |
| SS-477 | Group Identifier   | An identifier assigned to the group when established into a multiclass securitization.   |              | String    |          | 5          | Applicable only when underlying collateral is a REMIC or SMBS. |              |
| ID     | Attribute Name   | Attribute Definition   | Enumerations | Data Type | Format   | Max Length | Notes  | Calculations |
| SS-478 | Record Type = 44   | Property Valuation Method Stratification   |              | String    |          | 2          |  |              |
| SS-479 | Prefix   | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |          | 3          |  |              |
| SS-480 | Security Identifier                                      | The unique designation assigned to the security by the issuer.   |              | String    |          | 6          |  |              |
| SS-481 | CUSIP  | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |          | 9          |  |              |



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| ID     | Attribute Name               | Attribute Definition   | Enumerations  | Data Type | Format | Max Length | Notes   | Calculations |
|--------|------------------------------|--|---|-----------|--------|------------|---|--------------|
| SS-482 | Property Valuation Method    | The method by which the value of the subject property was obtained.  | A = Appraisal<br>P = Onsite Property Data Collection<br>R = GSE Targeted Refinance Programs<br>W = Appraisal Waiver<br>O = Other<br>7 = Not Applicable<br>9 = Not Available | String    |        | 1          |   |              |
| SS-483 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 14.2   | 17         |   |              |
| SS-484 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 3.2    | 6          |   |              |
| SS-485 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |   | Numeric   |        | 9          |   |              |
| SS-486 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |   | Numeric   | 3.2    | 6          |   |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations  | Data Type | Format | Max Length | Notes   | Calculations |
| SS-487 | Record Type = 45             | Borrower Assistance Plan Stratification  |   | String    |        | 2          | Applicable only for monthly disclosure  |              |
| SS-488 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.  |   | String    |        | 3          |   |              |
| SS-489 | Security Identifier          | The unique designation assigned to the security by the issuer.   |   | String    |        | 6          |   |              |
| SS-490 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |   | String    |        | 9          |   |              |
| SS-491 | Borrower Assistance Plan     | The type of assistance plan that the borrower is enrolled in that provides temporary mortgage payment relief or an opportunity to cure a mortgage delinquency over a defined period. | F = Forbearance Plan<br>R = Repayment Plan<br>T = Trial Period Plan<br>O = Other Workout Plan<br>N = No Workout Plan<br>7 = Not Applicable<br>9 = Not Available             | String    |        | 1          | The data in this stratification will be published on a one-month delay due to the timing of our servicing reporting cycle. For example, the values in this stratification published in July 2020 correspond to the delinquency status in the Days Delinquent+H552t Stratification published in June 2020.<br><br>For non-delinquent loans, for which a Borrower Assistance Plan is not reported by the Servicer, this attribute will be defaulted to Not Applicable.<br><br>The field may be populated if the loan is reported current in days delinquent stratification. |              |
| SS-492 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 14.2   | 17         |   |              |
| SS-493 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 3.2    | 6          |   |              |
| SS-494 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.   |   | Numeric   |        | 9          |   |              |
| SS-495 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.   |   | Numeric   | 3.2    | 6          |   |              |
| ID     | Attribute Name               | Attribute Definition   | Enumerations  | Data Type | Format | Max Length | Notes   | Calculations |

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|--------|---|---|--|-----------|--------|------------|---|--------------|
| SS-496 | Record Type = 46                              | Alternative Delinquency Resolution Stratification   |  | String    |        | 2          | Applicable only for monthly disclosure  |              |
| SS-497 | Prefix  | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |   |              |
| SS-498 | Security Identifier                           | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |   |              |
| SS-499 | CUSIP   | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |   |              |
| SS-500 | Alternative Delinquency Resolutions           | The loss mitigation solution that resolves delinquencies and help homeowners remain in their homes in accordance with the servicer's contractual obligation, while allowing the loan to remain in the security. | P = Payment Deferral<br>C = COVID-19 Payment Deferral<br>D = Disaster Payment Deferral<br>M = Multiple Payment Deferrals<br>O = Other<br>7 = Not Applicable<br>9 = Not Available | String    |        | 1          | Multiple enumeration is not present at the loan-level. If number of alternative delinquency resolution is greater than 1, the record will be represented as Multiple. |              |
| SS-501 | Aggregate Investor Loan UPB                   | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 14.2       |   |              |
| SS-502 | Percentage Investor Loan UPB                  | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |   |              |
| SS-503 | Aggregate Loan Count                          | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |   |              |
| SS-504 | Percentage Loan Count                         | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |   |              |
| SS-505 | Total Deferral Amount                         | The total non-interest-bearing deferral amount related to one or more Alternative Delinquency Resolutions.  |  | Numeric   | 14.2   | 14.2       |   |              |
| ID     | Attribute Name                                | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes   | Calculations |
| SS-506 | Record Type = 47                              | Number of Alternative Delinquency Resolutions Stratification  |  | String    |        | 2          | Applicable only for monthly disclosure  |              |
| SS-507 | Prefix  | The designation assigned by the issuer denoting the type of the loans and the security.   |  | String    |        | 3          |   |              |
| SS-508 | Security Identifier                           | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |   |              |
| SS-509 | CUSIP   | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |   |              |
| SS-510 | Number of Alternative Delinquency Resolutions | The total number of Alternative Delinquency Resolutions as reported by the servicer for a specific loan.  | 1<br>2<br>3<br>4<br>5<br>>5  | String    |        | 1          |   |              |
| SS-511 | Aggregate Investor Loan UPB                   | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 14.2       |   |              |
| SS-512 | Percentage Investor Loan UPB                  | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |   |              |
| SS-513 | Aggregate Loan Count                          | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |   |              |

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| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes                         | Calculations |
|--------|------------------------------|---|---|-----------|--------|------------|-------------------------------|--------------|
| SS-514 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |                               |              |
| SS-515 | Total Deferral Amount        | The total non-interest-bearing deferral amount related to one or more Alternative Delinquency Resolutions.  |   | Numeric   | 14.2   | 14.2       |                               |              |
| ID     | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes                         | Calculations |
| SS-516 | Record Type = 48             | Borrower Assistance Plan Stratification   |   | String    |        | 2          | Not applicable to Fannie Mae. |              |
| SS-517 | Prefix                       | The designation assigned by the issuer denoting the type of the loans and the security.   |   | String    |        | 3          |                               |              |
| SS-518 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |                               |              |
| SS-519 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |                               |              |
| SS-520 | Borrower Assistance Plan     | For a reperforming or modified loan in a newly issued security, the type of borrower assistance plan that the borrower was enrolled in at any time during the 36 months prior to issuance of such security. | F = Forbearance Plan<br>R = Repayment Plan<br>T = Trial Period Plan<br>O = Other Workout Plan<br>N = No Workout Plan<br>7 = Not Applicable<br>9 = Not Available | String    |        | 1          |                               |              |
| SS-521 | Borrower Payment Date        | The month and year that the borrower was scheduled to remit payment.  |   | Date      | MMCCYY | 6          |                               |              |
| SS-522 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |   | Numeric   | 14.2   | 17         |                               |              |
| SS-523 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |   | Numeric   | 3.2    | 6          |                               |              |
| SS-524 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |                               |              |
| SS-525 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |                               |              |

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| ID    | Attribute Name                          | Attribute Definition   | Enumerations | Data Type | Format   | Max Length | Notes | Calculation  |
|-------|---|--|--------------|-----------|----------|------------|-------|--|
| GM-01 | Security Identifier                     | The unique designation assigned to the security by the issuer.   |              | String    |          | 6          |       |  |
| GM-02 | Issue Date                              | The date on which the security was issued.   |              | Date      | MMDDCCYY | 8          |       |  |
| GM-03 | Issuance Investor Security UPB          | The aggregate unpaid principal balance of the loans as they contribute to the balance of the security at the time the security was issued.   |              | Numeric   | 14.2     | 17         |       | Sum (Issuance Investor Loan UPB)   |
| GM-04 | WA Current Interest Rate                | The weighted average interest rate of the loans in effect during the current reporting period.   |              | Numeric   | 2.3      | 6          |       | $(\text{Sum} ((\text{Interest Rate}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))$   |
| GM-05 | WA Current Remaining Months to Maturity | The weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments. |              | Numeric   |          | 3          |       | $(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))$<br><br>• Round up to the nearest integer  |
| GM-06 | Prefix                                  | The designation assigned by the issuer denoting the type of the loans and the security.  |              | String    |          | 3          |       |  |
| GM-07 | Product                                 | The indicator denoting the type of security.   | Mega         | String    |          | 4          |       |  |
| GM-08 | CUSIP                                   | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |          | 9          |       |  |
| GM-09 | WA Net Interest Rate                    | The weighted average interest rate of the loans at the time the security was issued less servicing fees and guarantor fees.  |              | Numeric   | 2.5      | 8          |       | $(\text{Sum} ((\text{Net Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.                              |
| GM-10 | Maturity Date                           | The month and year in which the final payment on the security is scheduled to be made at the time the security was issued.   |              | Date      | MMCCYY   | 6          |       |  |
| GM-11 | Security Factor                         | The decimal value that, when multiplied by the Issuance Investor Security UPB amount, equals the Current Investor Security UPB amount.   |              | Numeric   | 1.8      | 10         |       | $(\text{Current Investor Loan UPB}) / (\text{Issuance Investor Loan UPB})$<br><br>• Round to eighth decimal  |
| GM-12 | WA Loan Age                             | The weighted average number of scheduled payments from the time the loans were originated or modified up to and including the current reporting period.  |              | Numeric   |          | 3          |       | $(\text{Sum} ((\text{Loan Age}) * (\text{Investor Loan UPB}))) / (\text{Sum} (\text{Investor Loan UPB}))$<br><br>• Round to the nearest integer<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB. |

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|       |  |  |  |         |        |   |  |   |
|-------|--|--|--|---------|--------|---|--|---|
| GM-13 | Scheduled Distribution Date              | The date of the scheduled investor payment.  |  | Date    | MMCCYY | 6 |  |   |
| GM-14 | WA Issuance Interest Rate                | The weighted average interest rate of the loans in effect at the time the security was issued.   |  | Numeric | 2.3    | 6 |  | $(\text{Sum} ((\text{Interest Rate}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))$  |
| GM-15 | WA Issuance Remaining Months to Maturity | The weighted average number of scheduled monthly payments that will reduce the Investor Loan UPB to zero, at the time the security was issued. |  | Numeric |        | 3 |  | $(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))$<br><br>• Round up to the nearest integer |

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Appendix A - Indices  
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| Index Code | Index Description                   | Index Code | Index Description                      |
|------------|-------------------------------------|------------|--|
| 001        | 11thdist_Dly_Guar_Rate              | 033        | FRM_Conv_60Day_Posted_Yld_SA           |
| 002        | CD_6Mo_Sec_Mrkt_Mnth_Avg            | 034        | LIBOR_1Mo_BBA_Dly                      |
| 003        | CD_6Mo_Wkly                         | 035        | LIBOR_1Mo_WSJ_Dly                      |
| 004        | CMT_10Yr_Mnth                       | 036        | LIBOR_1Mo_WSJ                          |
| 005        | CMT_10Yr_Wkly_Avg                   | 037        | LIBOR_1Yr_WSJ                          |
| 006        | CMT_1Yr_Cuml_Avg_Prior12_Mnth_Avg   | 038        | LIBOR_1Yr_WSJ_Dly                      |
| 007        | CMT_1Yr_Cuml_Mnth_Avg_4Wks_Wkly_Avg | 039        | LIBOR_3Mo_BBA_Dly                      |
| 008        | CMT_1Yr_Cuml_Avg_Prev12_Mnth_Avg    | 040        | LIBOR_6Mo_BBA                          |
| 009        | CMT_1Yr_Mnth_Avg                    | 041        | LIBOR_6Mo_BBA_Dly                      |
| 010        | CMT_1Yr_Wkly_Avg                    | 042        | LIBOR_6Mo_WSJ                          |
| 011        | CMT_2Yr_Wkly_Avg                    | 043        | LIBOR_6Mo_WSJ_Dly                      |
| 012        | CMT_3Yr_Mnth_Avg                    | 044        | LIBOR_6Mo_WSJ_Mnth_Avg                 |
| 013        | CMT_3Yr_Wkly_Avg                    | 045        | MM_6Mo_Combank_Wkly                    |
| 014        | CMT_5Yr_Wkly_Avg                    | 046        | PRIM_MORT_MRKT_SRVY_PLUS               |
| 015        | CMT_5Yr_Mnth_Cuml_Avg_4Wks_Wkly_Avg | 047        | Ntl_Avg_Effective_Rate                 |
| 016        | CMT_5Yr_Mnth_Avg                    | 048        | Prime_WSJ_Dly                          |
| 017        | CMT_6Mo_Wkly_Avg                    | 049        | RNY_Fre_30Yr_60Day_Dly                 |
| 018        | CMT_7Yr_Mnth_Avg                    | 050        | Tbill_1Yr_Disc_Mnth_Avg                |
| 019        | CMT_Blend_1Yr_Wkly_Avg              | 051        | Tbill_1Yr_Disc_Wkly_Avg                |
| 020        | COFI_12Mo_11thdist_Cuml_Avg         | 052        | Tbill_6Mo_Cuml_Avg_Prev26_Wkly_Avg     |
| 021        | COFI_1Mo_11thdist                   | 053        | Tbill_6Mo_Disc_Cuml_Avg_Prev4_Wkly_Avg |
| 022        | COFI_1Mo_7thdist                    | 054        | Tbill_6Mo_Disc_Mnth_Avg                |
| 023        | COFI_1Mo_Ntl_Mnth_Avg               | 055        | Tbill_6Mo_Disc                         |
| 024        | COFI_6Mo_11thdist                   | 056        | Tbill_6Mo_Inv_Cuml_Avg_Prev4_Wkly_Avg  |
| 025        | COFI_6Mo_Ca                         | 057        | Tbill_6Mo_Inv                          |
| 026        | COFI_Fed_Qrty_Avg                   | 058        | Tbill_6Mo_Sec_Wkly_Avg                 |
| 027        | COFI_Fre                            | 059        | ICE_5YR_INT_RATE_SWAP                  |
| 028        | COS_1Mo_Wellsfargo                  | 060        | COFI_1MO_4THDIST                       |
| 029        | FRM_Conv_30Day_Posted_Yld_AA        | 061        | 30-Day Average SOFR                    |
| 030        | FRM_Conv_30Day_Posted_Yld_SA        | 062        | Tbill_1yr_Auct_Mnth_Avg                |
| 031        | FRM_Conv_60Day_30Yr_Aa_Dly          | 063        | CMT-1Yr_Mnth_Avg_Of_Wkly_Avg           |
| 032        | FRM_Conv_60Day_Posted_Yld_AA        | 555        | Mixed indices                          |

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Appendix B - Property State  
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| Property State Code | Property State Description | Property State Code | Property State Description |
|---------------------|----------------------------|---------------------|----------------------------|
| AK                  | Alaska                     | MT                  | Montana                    |
| AL                  | Alabama                    | NC                  | North Carolina             |
| AR                  | Arkansas                   | ND                  | North Dakota               |
| AZ                  | Arizona                    | NE                  | Nebraska                   |
| CA                  | California                 | NH                  | New Hampshire              |
| CO                  | Colorado                   | NJ                  | New Jersey                 |
| CT                  | Connecticut                | NM                  | New Mexico                 |
| DC                  | District of Columbia       | NV                  | Nevada                     |
| DE                  | Delaware                   | NY                  | New York                   |
| FL                  | Florida                    | OH                  |                            |
| GA                  | Georgia                    | OK                  | Oklahoma                   |
| GU                  | Guam                       | OR                  | Oregon                     |
| HI                  | Hawaii                     | PA                  | Pennsylvania               |
| IA                  | Iowa                       | PR                  | Puerto Rico                |
| ID                  | Idaho                      | RI                  | Rhode Island               |
| IL                  | Illinois                   | SC                  | South Carolina             |
| IN                  | Indiana                    | SD                  | South Dakota               |
| KS                  | Kansas                     | TN                  | Tennessee                  |
| KY                  | Kentucky                   | TX                  | Texas                      |
| LA                  | Louisiana                  | UT                  | Utah                       |
| MA                  | Massachusetts              | VA                  | Virginia                   |
| MD                  | Maryland                   | VI                  | Virgin Islands             |
| ME                  | Maine                      | VT                  | Vermont                    |
| MI                  | Michigan                   | WA                  | Washington                 |
| MN                  | Minnesota                  | WI                  | Wisconsin                  |
| MO                  | Missouri                   | WV                  | West Virginia              |
| MS                  | Mississippi                | WY                  | Wyoming                    |

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| Business Name   | File Name <sup>1</sup>                                     | Publication Date  | Publication Timing  | Process Cycle | Products             | Archive Availability                 | Location   |
|---|--|---|---|---------------|----------------------|--------------------------------------|--|
| Deal Summary  | FNM_DEAL#_SUMMARY.JSON                                     | Print date<br><br>(no later than 2 Business Days before settlement)   | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Issuance      | REMIC<br>SMBS        | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| Delay Floater Reset File Indices                          | FNM_RESET_D_YYYYMM.TXT                                     | Business Day 1<br>2 Business Days before EOM  | 6:30 PM Eastern Time  | Monthly       | REMIC                | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| Excess Servicing Fee Monthly Security Factor File         | FNM_ESF_MS_YYYYMM.TXT                                      | Business Day 4  | 4:30 PM Eastern Time  | Monthly       | Excess Servicing Fee | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| Excess Servicing Fee Monthly Security Supplemental File   | FNM_ESF_MSS_YYYYMM.TXT                                     | Business Day 4  | 4:30 PM Eastern Time  | Monthly       | Excess Servicing Fee | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| Excess Servicing Fee Security Issuance File               | FNM_DEAL#_ESF_IS_YYYYMM.TXT                                | 2 Business Days before settlement date  | Every 2 hours<br>between 6:30 AM -<br>6:30 PM Eastern<br>Time       | Issuance      | Excess Servicing Fee | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| Excess Servicing Fee Security Supplemental Issuance Files | FNM_DEAL#_ESF_ISS_YYYYMM.TXT                               | 2 Business Days before settlement date  | Every 2 hours<br>between 6:30 AM -<br>6:30 PM Eastern<br>Time       | Issuance      | Excess Servicing Fee | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| Excess Servicing Summary Report                           | FNM_Deal#_XIO.TXT  | 2 Business Days before settlement date  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Issuance      | Excess Servicing Fee | Current month + 11 historical months | • PoolTalk - Files & Reports Section   |
| Final Data Statements                                     | FNM_Deal#_FDS.TXT<br>FNM_Deal#_FDS.REV.TXT                 | Multiple times per deal process:<br><br>Preliminary – collateral is delivered or updated<br>Final – settlement date | Every 2 hours<br>between 6:30 AM -<br>6:30 PM Eastern<br>Time       | Issuance      | REMIC<br>SMBS        | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| No Delay Floater Reset File                               | NODELAY_YYYYMM.TXT   | 2 Business Days before Calendar Day 25  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Monthly       | REMIC                | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| No Delay Floater Reset File Indices                       | FNM_RESET_ND_YYYYMM.TXT                                    | Business Day 1<br><br>2 Business Days before Calendar Days 15,17,18,20,25   |   | Monthly       | REMIC                | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| PAC Schedule  | FNM_DEAL#_PAC.TXT  | Print date<br><br>(no later than 2 Business Days before settlement)   | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Issuance      | REMIC                | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| Prospectus Supplement                                     | FNM_DEAL#_SUPPLEMENT                                       | Print date<br><br>(no later than 2 Business Days before settlement)   | 6:30 AM, 11:30 AM,<br>3:30 PM, 6:30 PM<br>Eastern Time upon receipt | Issuance      | REMIC<br>SMBS        | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| Recently Priced Dealer Report                             | FNM_DealerReport_YYYYMM.XLS<br>FNM_DealerReport_YYYYMM.PDF | Print date<br><br>(no later than 2 Business Days before settlement)   | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Issuance      | REMIC<br>SMBS        | Current month + 11 historical months | • PoolTalk - Files & Reports Section   |
| Relay File  | FNM_DEAL#_RELAY.TXT  | Print date<br><br>(no later than 2 Business Days before settlement)   | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Issuance      | REMIC<br>SMBS        | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk – Deal Section</li> </ul>                |
| REMIC Collateral (RC) Loan Level File                     | RC_YYYYMM.ZIP  | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time              | Monthly       | REMIC                | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| REMIC Component File                                      | FNM_REMIC_COMPONENT_YYYYMM_DD.TXT                          | Business Day 4  | 4:30 PM Eastern Time  | Monthly       | REMIC                | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |



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| Business Name                            | File Name <sup>1</sup>                 | Publication Date  | Publication Timing                                     | Process Cycle | Products | Archive Availability                 | Location   |
|--|--|---|--|---------------|----------|--------------------------------------|--|
| REMIC Factor File                        | FNM_REMIC_YYYYMM_DD.TXT                | Business Day 4<br>Business Day 8<br><br>Non-standard deals:<br>2 Business Days before Calendar Days 2,4,17,18,20,25 | 4:30 PM  | Monthly       | REMIC    | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| REMIC Shortfall File                     | FNM_REMIC_SHORT_YYYYMM_DD.TXT          | Business Day 4<br>Business Day 8  | 4:30 PM  | Monthly       | REMIC    | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| Remittance Report                        | DEAL_YYYYMM_SUMMARY.PDF                | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |
| SIFMA                                    | SIFMA_YYYYMM.TXT                       | 1 Business Day before Calendar Days 2,4, 17,18,20,25<br>File cumulative when published                              | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| SMBS Factor File                         | FNM_SMBS_YYYYMM_DD.TXT                 | Business Day 4<br>Business Day 8  | 4:30 PM  | Monthly       | SMBS     | Indefinitely                         | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| Supplemental Factor                      | REMICSUP_YYYYMM.TXT                    | 1 Business Day before Calendar Days 2,4, 17,18,20,25<br>File cumulative when published                              | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• SFTP</li> <li>• PoolTalk - Files &amp; Reports Section</li> </ul> |
| WAS REMIC - Deal Level File              | DEAL#_YYYYMM_DLS.PDF                   | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |
| WAS REMIC - Loan Level File              | DEAL#_YYYYMM_LL.ZIP                    | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |
| WAS REMIC - Summary Report               | DEAL#_YYYYMM_LLS.PDF                   | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |
| WAS Whole Loan & SMBS Pseudo Pool Report | WLPsuedo_YYYYMM.TXT                    | 1 Business Day before Calendar Days 2,4, 17,18,20,25<br>File cumulative when published                              | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Files &amp; Reports Section</li> </ul>                 |
| Whole Loan REMIC - Loan Level Report     | DEAL#_YYYYMM_LLD.TXT                   | 1 Business Day after Calendar Day 27  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |
| Whole Loan REMIC – Delinquency Report    | DEAL#_WL_Delinquency_Report_YYYYMM.xls | Business Day 8  | 6:30 AM, 11:30 AM,<br>3:30 PM, 4:30 PM<br>Eastern Time | Monthly       | REMIC    | Current month + 12 historical months | <ul style="list-style-type: none"> <li>• PoolTalk - Deal Section</li> </ul>                                |

MM and DD in file name represents the posting date in the issuance and monthly files.

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| ID    | Attribute Name   | Attribute Definition  | Enumerations   | Data Type | Format   | Max Length | Notes | Calculation |
|-------|--|---|--|-----------|----------|------------|-------|-------------|
| CL-01 | Trust Identifier   | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |          | 50         |       |             |
| CL-02 | Issue Date   | The date on which the security was issued.  |  | Date      | MMDDCCYY | 8          |       |             |
| CL-03 | Collateral Issuer  | The issuer for each security that directly underlies the resecuritization.  | FNM = Fannie Mae<br>FRE = Freddie Mac<br>GM = Ginnie Mae | String    |          | 3          |       |             |
| CL-04 | Collateral Prefix  | For each security that directly underlies the resecuritization, the designation assigned by the issuer denoting the type of the loans and the security at the time of resecuritization.   |  | String    |          | 3          |       |             |
| CL-05 | Collateral Security Identifier                           | For each security that directly underlies the resecuritization, the unique designation assigned to the security by the issuer.  |  | String    |          | 6          |       |             |
| CL-06 | Collateral CUSIP   | For each security that directly underlies the resecuritization, the unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |          | 9          |       |             |
| CL-07 | Collateral Current WA Net Interest Rate                  | For each security that directly underlies the resecuritization, the weighted average interest rate of the loans in effect during the current reporting period less servicing fees and guarantor fees.   |  | Numeric   | 2.3      | 6          |       |             |
| CL-08 | Collateral Issue Date                                    | For each security that directly underlies the resecuritization, the date on which the security was issued.  |  | Date      | MMDDCCYY | 8          |       |             |
| CL-09 | Collateral Maturity Date                                 | For each security that directly underlies the resecuritization, the month and year that the final scheduled payment on the loan is due at the time of resecuritization.   |  | Date      | MMCCYY   | 6          |       |             |
| CL-10 | Collateral Issuance Investor Security UPB                | For each security that directly underlies the resecuritization, the unpaid principal balance of the loans as they contribute to the balance of the security.  |  | Numeric   | 12.2     | 15         |       |             |
| CL-11 | Collateral Issuance Contributing Investor Security UPB   | For each security that directly underlies the resecuritization, the pro-rata share of the Investor Issuance Security UPB amount.  |  | Numeric   | 12.2     | 15         |       |             |
| CL-12 | Collateral Current Contributing Investor Security UPB    | For each security that directly underlies the resecuritization, the pro-rata share of the Current Investor Security UPB amount.   |  | Numeric   | 12.2     | 15         |       |             |
| CL-13 | Collateral WA Interest Rate at Settlement                | For each security that directly underlies the resecuritization, the weighted average interest rate at the time of resecuritization.   |  | Numeric   | 2.3      | 6          |       |             |
| CL-14 | Collateral WA Remaining Months to Maturity at Settlement | For each security that directly underlies the resecuritization, the weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero at the time of resecuritization.<br><br><i>For fixed-rate loans, this value takes into account the impact of any curtailments.</i> |  | Numeric   |          | 3          |       |             |

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| ID    | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculation |
|-------|--------------------------------------|---|--------------|-----------|--------|------------|--|-------------|
| CL-15 | Collateral WA Loan Age at Settlement | For each security that directly underlies the securitization, the weighted average number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period at the time of securitization. |              | Numeric   |        | 3          |  |             |
| CL-16 | Collateral Trust Identifier          | An identifier assigned to the trust when established into a multiclass securitization.  |              | String    |        | 50         | Applicable only for underlying REMIC collateral          |             |
| CL-17 | Collateral Class Identifier          | An identifier assigned to the class when established into a multiclass securitization.  |              | String    |        | 5          | Applicable only for underlying REMIC collateral          |             |
| CL-18 | Group Identifier                     | An identifier assigned to the group when established into a multiclass securitization.  |              | String    |        | 5          | Applicable only for underlying REMIC and SMBS collateral |             |

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REMIC Factor  
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| ID    | Attribute Name                            | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculation  |
|-------|---|--|--------------|-----------|--------|------------|---|--|
| RF-01 | Trust Identifier                          | An identifier assigned to the trust when established into a multiclass securitization.   |              | String    |        | 50         |   |  |
| RF-02 | Class Identifier                          | An identifier assigned to the class when established into a multiclass securitization.   |              | String    |        | 5          |   |  |
| RF-03 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |   |  |
| RF-04 | Maturity Date                             | The month and year in which the final payment on the security is scheduled to be made at the time the security was issued.   |              | Date      | MMCCYY | 6          |   |  |
| RF-05 | Class Issuance Investor Security UPB      | The unpaid principal balance of the security at the time the security was issued.  |              | Numeric   | 14.2   | 17         |   |  |
| RF-06 | Security Factor                           | The decimal value that, when multiplied by the Class Issuance Investor Security UPB amount, equals the Class Current Investor Security UPB amount.   |              | Numeric   | 9.8    | 18         |   | (Class Current Investor Security UPB)/(Class Issuance Investor Security UPB)<br><br>• Round to eight decimal place |
| RF-07 | Class Current Investor Security UPB       | The unpaid principal balance of the security as of the current reporting period.   |              | Numeric   | 14.2   | 17         |   | Class Issuance Investor Security UPB * Security Factor   |
| RF-08 | Interest Rate                             | The rate at which interest is calculated to be paid on the security during the current period.   |              | Numeric   | 12.6   | 19         |   |  |
| RF-09 | Interest Factor                           | The decimal value that, when multiplied by Class Investor Security UPB amount (for prior reporting period), equals the amount of interest paid in the current period.  |              | Numeric   | 9.8    | 18         |   | (Interest Rate / 1.2) / 1000<br>• Round to eight decimal place   |
| RF-10 | Interest Paid                             | The amount of interest paid in the period to the certificateholder.  |              | Numeric   | 14.2   | 17         |   | Interest Factor * Class Issuance Investor Security UPB   |
| RF-11 | Principal Paydown Factor                  | The decimal value that, when multiplied by Class Investor Security UPB - Issuance amount, equals the amount of principal paid in the current period.   |              | Numeric   | 9.8    | 18         |   | (Class Current Investor Security UPB)/(Class Issuance Investor Security UPB)<br><br>• Round to eight decimal place |
| RF-12 | Principal Paydown Amount                  | The amount of principal paid in the period to the certificateholder.   |              | Numeric   | 14.2   | 17         |   | Principal Paydown Factor * Class Issuance Investor Security UPB  |
| RF-13 | Accretion Factor                          | The decimal value that, when multiplied by Class Investor Security UPB - Issuance, equals the amount of accrued but unpaid interest that has been added in the current period to the unpaid principal balance of the security. |              | String    | 9.8    | 18         |   | Security Accretion Amount / Class Issuance Investor Security UPB<br><br>• Round to eight decimal place             |
| RF-14 | Accretion Amount                          | The amount of accrued but unpaid interest that has been added in the current period to the unpaid principal balance of the security.   |              | String    | 14.2   | 17         |   |  |
| RF-15 | Scheduled Distribution Date               | The date of the scheduled investor payment.  |              | Date      | MMCCYY | 6          |   |  |
| RF-16 | Yield Maintenance Premium/ Penalty Amount | The prepayment premium allowing investors to attain the same yield as if the borrower made all scheduled mortgage payments until maturity.   |              | Numeric   | 14.2   | 17         | Not applicable for Fannie Mae issued securities |  |
| RF-17 | Notes                                     | Additional information about the loans in the security.  |              | String    |        | 2048       |   |  |

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| ID    | Attribute Name                            | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes   | Calculation  |
|-------|---|--|--------------|-----------|--------|------------|---|--|
| SF-01 | Trust Identifier                          | An identifier assigned to the trust when established into a multiclass securitization.   |              | String    |        | 50         |   |  |
| SF-02 | Class Identifier                          | An identifier assigned to the class when established into a multiclass securitization.   |              | String    |        | 5          |   |  |
| SF-03 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |              | String    |        | 9          |   |  |
| SF-04 | Maturity Date                             | The month and year in which the final payment on the security is scheduled to be made at the time the security was issued.   |              | Date      | MMCCYY | 6          |   |  |
| SF-05 | Class Issuance Investor Security UPB      | The unpaid principal balance of the security at the time the security was issued.  |              | Numeric   | 14.2   | 17         |   |  |
| SF-06 | Security Factor                           | The decimal value that, when multiplied by the Class Issuance Investor Security UPB amount, equals the Class Current Investor Security UPB amount.   |              | Numeric   | 9.8    | 18         |   | (Class Current Investor Security UPB)/(Class Issuance Investor Security UPB)<br><br>• Round to eight decimal place |
| SF-07 | Class Current Investor Security UPB       | The unpaid principal balance of the security as of the current reporting period.   |              | Numeric   | 14.2   | 17         |   | Class Issuance Investor Security UPB * Security Factor   |
| SF-08 | Interest Rate                             | The rate at which interest is calculated to be paid on the security during the current period.   |              | Numeric   | 12.6   | 19         |   |  |
| SF-09 | Interest Factor                           | The decimal value that, when multiplied by Class Investor Security UPB amount (for prior reporting period), equals the amount of interest paid in the current period.  |              | Numeric   | 9.8    | 18         |   | (Interest Rate / 1.2) / 1000<br>• Round to eight decimal place   |
| SF-10 | Interest Paid                             | The amount of interest paid in the period to the certificateholder.  |              | Numeric   | 14.2   | 17         |   | Interest Factor * Class Issuance Investor Security UPB   |
| SF-11 | Principal Paydown Factor                  | The decimal value that, when multiplied by Class Investor Security UPB - Issuance amount, equals the amount of principal paid in the current period.   |              | Numeric   | 9.8    | 18         |   | (Class Current Investor Security UPB)/(Class Issuance Investor Security UPB)<br><br>• Round to eight decimal place |
| SF-12 | Principal Paydown Amount                  | The amount of principal paid in the period to the certificateholder.   |              | Numeric   | 14.2   | 17         |   | Principal Paydown Factor * Class Issuance Investor Security UPB  |
| SF-13 | Accretion Factor                          | The decimal value that, when multiplied by Class Investor Security UPB - Issuance, equals the amount of accrued but unpaid interest that has been added in the current period to the unpaid principal balance of the security. |              | String    | 9.8    | 18         |   | Security Accretion Amount / Class Issuance Investor Security UPB<br><br>• Round to eight decimal place             |
| SF-14 | Accretion Amount                          | The amount of accrued but unpaid interest that has been added in the current period to the unpaid principal balance of the security.   |              | String    | 14.2   | 17         |   |  |
| SF-15 | Scheduled Distribution Date               | The date of the scheduled investor payment.  |              | Date      | MMCCYY | 6          |   |  |
| SF-16 | Yield Maintenance Premium/ Penalty Amount | The prepayment premium allowing investors to attain the same yield as if the borrower made all scheduled mortgage payments until maturity.   |              | Numeric   | 14.2   | 17         | Not applicable for Fannie Mae issued securities |  |
| SF-17 | Notes                                     | Additional information about the loans in the security.  |              | String    |        | 2048       |   |  |

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Component Factor  
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| ID    | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                                    | Calculation   |
|-------|--------------------------------------|---|--------------|-----------|--------|------------|--|---|
| CF-01 | Trust Identifier                     | The unique alpha and/or numeric designation assigned to each deal.  |              | String    |        | 50         |  |   |
| CF-02 | Class Identifier                     | The unique alpha and/or numeric designation assigned to each sub-deal.  |              | String    |        | 5          |  |   |
| CF-03 | Component Identifier                 | The unique alpha and/or numeric designation assigned to each group in the sub-deal.   |              | String    |        | 3          | Last Character in Class in current state |   |
| CF-04 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |  |   |
| CF-05 | Class Issuance Investor Security UPB | The unpaid principal balance of the security as of issuance at the component level.   |              | Numeric   | 14.2   | 17         |  |   |
| CF-06 | Security Factor                      | The decimal value that, when multiplied by the Class Issuance Investor Security UPB amount, equals the Class Current Investor Security UPB amount at the component level. |              | Numeric   | 9.8    | 18         |  | $\frac{\text{Class Component Current Investor Security UPB}}{\text{Class Component Issuance Investor Security UPB}}$ <ul style="list-style-type: none"> <li>• Round to eight decimal place</li> </ul> |
| CF-07 | Interest Rate                        | The rate at which interest is calculated to be paid on the security during the current period at the component level.   |              | Numeric   | 12.6   | 19         |  |   |

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 REMIC Shortfall  
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| ID     | Attribute Name              | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes | Calculation   |
|--------|-----------------------------|---|--------------|-----------|--------|------------|-------|---|
| SFF-01 | Trust Identifier            | The unique alpha and/or numeric designation assigned to each deal.  |              | String    |        | 50         |       |   |
| SFF-02 | Class Identifier            | The unique alpha and/or numeric designation assigned to each sub-deal.  |              | String    |        | 5          |       |   |
| SFF-03 | CUSIP                       | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |              | String    |        | 9          |       |   |
| SFF-04 | Current Shortfall Amount    | The difference between the interest payments received from the underlying collateral and the interest distribution to be paid to investors in the security in the current reporting period. |              | Numeric   | 14.2   | 17         |       | Collateral Interest Payments - Interest Paid to Investors       |
| SFF-05 | Cumulative Shortfall Amount | The cumulative difference between the interest payments received from the underlying collateral and the interest distributions paid to investors in the security.                           |              | Numeric   | 14.2   | 17         |       | Prior Period Shortfall Amount + Current Period Shortfall Amount |

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| ID   | Attribute Name                 | Attribute Definition   | Enumerations      | Data Type | Format   | Max Length | Notes | Calculation  |
|------|--------------------------------|--|-------------------|-----------|----------|------------|-------|--|
| X-01 | Trust Identifier               | The unique alpha and/or numeric designation assigned to each deal.   |                   | String    |          | 50         |       |  |
| X-02 | Class Identifier               | The unique alpha and/or numeric designation assigned to each sub-deal.   |                   | String    |          | 5          |       |  |
| X-03 | Issuer                         | The name of the entity that issued the security.   | FNM = Fannie Mae  | String    |          | 3          |       |  |
| X-04 | CUSIP                          | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |                   | String    |          | 9          |       |  |
| X-05 | Security Identifier            | The unique designation assigned to the security by the issuer.   |                   | String    |          | 6          |       |  |
| X-06 | Issue Date                     | The date on which the security was issued.   |                   | Date      | MMDDCCYY | 8          |       |  |
| X-07 | WA Class Identifier            | The indicator denoting the pseudo pool is a weighted average or a fixed strip percentage.  | Y = Yes<br>N = No | String    |          | 1          |       |  |
| X-08 | WA Excess Strip Percent        | The weighted average percentage of excess servicing stripped from the collateral.  |                   | Numeric   | 2.9      | 12         |       | $(\text{Sum}((\text{loan excess strip percent}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$ for all active loans in pseudo pool *100<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB. |
| X-09 | Maturity Date                  | The month and year in which the final payment on the security is scheduled to be made at the time the security was issued.   |                   | Date      | MMCCYY   | 6          |       |  |
| X-10 | Updated Longest Maturity Date  | The updated month and year in which the final payment on the security is scheduled to be made based on the longest maturity date of the remaining loans in the security. |                   | Date      | MMCCYY   | 6          |       |  |
| X-11 | Issuance Investor Security UPB | The aggregate unpaid principal balance of the loans as they contribute to the balance of the security at the time the security was issued.                               |                   | Numeric   | 14.2     | 17         |       | Sum (Issuance Investor Loan UPB)   |
| X-12 | Current Investor Security UPB  | The aggregate unpaid principal balance of the loans as they contribute to the current balance of the security.   |                   | Numeric   | 14.2     | 17         |       | Sum (Current Investor Loan UPB)<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.   |
| X-13 | WA Net Interest Rate           | The weighted average interest rate of the loans at the time the security was issued less servicing fees and guarantor fees.  |                   | Numeric   | 2.5      | 8          |       | $(\text{Sum}((\text{Net Interest Rate}) * (\text{Investor Loan UPB}))) / (\text{Sum}(\text{Investor Loan UPB}))$<br><br>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.  |



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| ID   | Attribute Name  | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes | Calculation   |
|------|---|--|--------------|-----------|--------|------------|-------|---|
| X-14 | WA Net Interest Rate with Excess Contribution Percent                     | The weighted average interest rate of the loans at the time the security was issued less servicing fees and guarantor fees, which is additionally weighted by the applicable Excess Yield Rates of those loans.  |              | Numeric   | 2.3    | 6          |       | $\frac{((\text{Sum} ((\text{Net Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{(\text{Sum} ((\text{Net Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent}))}$ <ul style="list-style-type: none"> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul> |
| X-15 | WA Issuance Interest Rate   | The weighted average interest rate of the loans in effect at the time the security was issued.   |              | Numeric   | 2.3    | 6          |       | $\frac{(\text{Sum} ((\text{Interest Rate}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))}{(\text{Sum} ((\text{Interest Rate}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))}$   |
| X-16 | WA Issuance Interest Rate with Excess Contribution Percent                | The weighted average interest rate of the loans in effect at the time the security was issued, which is additionally weighted by the applicable Excess Yield Rates of those loans.   |              | Numeric   | 2.3    | 6          |       | $\frac{((\text{Sum} ((\text{Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{((\text{Sum} ((\text{Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}$   |
| X-17 | WA Current Interest Rate  | The weighted average interest rate of the loans in effect during the current reporting period.   |              | Numeric   | 2.3    | 6          |       | $\frac{(\text{Sum} ((\text{Interest Rate}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))}{(\text{Sum} ((\text{Interest Rate}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))}$   |
| X-18 | WA Current Interest Rate with Excess Contribution Percent                 | The weighted average interest rate of the loans in effect during the current reporting period, which is additionally weighted by the applicable Excess Yield Rates of those loans.   |              | Numeric   | 2.3    | 6          |       | $\frac{((\text{Sum} ((\text{Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{((\text{Sum} ((\text{Interest Rate}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}$   |
| X-19 | WA Issuance Remaining Months to Maturity                                  | The weighted average number of scheduled monthly payments that will reduce the Investor Loan UPB to zero, at the time the security was issued.<br><br><i>For fixed-rate loans, this value takes into account the impact of any curtailments.</i>   |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))}{(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Issuance Investor Loan UPB}))) / (\text{Sum} (\text{Issuance Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round up to the nearest integer</li> </ul>   |
| X-20 | WA Issuance Remaining Months to Maturity with Excess Contribution Percent | The weighted average number of scheduled monthly payments that will reduce the Investor Loan UPB to zero, at the time the security was issued, which is additionally weighted by the applicable Excess Yield Rates of those loans.<br><br><i>For fixed-rate loans, this value takes into account the impact of any curtailments.</i> |              | Numeric   |        | 3          |       | $\frac{((\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{((\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}$ <ul style="list-style-type: none"> <li>Round up to the nearest integer</li> </ul>   |
| X-21 | WA Current Remaining Months to Maturity                                   | The weighted average number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.<br><br><i>For fixed-rate loans, this value takes into account the impact of any curtailments.</i>  |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))}{(\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Current Investor Loan UPB}))) / (\text{Sum} (\text{Current Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round up to the nearest integer.</li> <li>During the month of issuance the WA Issuance Remaining Months to Maturity value would be the same as the WA Current Remaining Months to Maturity value.</li> </ul>   |

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| ID   | Attribute Name   | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes | Calculation  |
|------|--|--|--------------|-----------|--------|------------|-------|--|
| X-22 | WA Current Remaining Months to Maturity with Excess Contribution Percent | The weighted average number of scheduled monthly payments that will reduce the Investor Loan UPB to zero, at the time the security was issued, which is additionally weighted by the applicable Excess Yield Rates of those loans.<br><br><i>For fixed-rate loans, this value takes into account the impact of any curtailments.</i> |              | Numeric   |        | 3          |       | $\frac{((\text{Sum} ((\text{Loan Remaining Months to Maturity}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))$ <ul style="list-style-type: none"> <li>Round up to the nearest integer.</li> <li>During the month of issuance, the WA Issuance Remaining Months to Maturity value would be the same as the WA Current Remaining Months to Maturity value.</li> </ul> |
| X-23 | WA Loan Age  | The weighted average number of scheduled payments from the time the loans were originated or modified up to and including the current reporting period.  |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{Loan Age}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>   |
| X-24 | WA Loan Age with Excess Contribution Percent                             | The weighted average number of scheduled payments from the time the loans were originated or modified up to and including the current reporting period, which is additionally weighted by the applicable Excess Yield Rates of those loans.  |              | Numeric   |        | 3          |       | $\frac{((\text{Sum} ((\text{Loan Age}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>      |
| X-25 | WA Loan Term   | The weighted average number of months in which regularly scheduled borrower payments are due.  |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{Loan Term}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>  |

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| ID   | Attribute Name   | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes | Calculation  |
|------|--|--|--------------|-----------|--------|------------|-------|--|
| X-26 | WA Loan Term with Excess Contribution Percent            | The weighted average number of months in which regularly scheduled borrower payments are due, which is additionally weighted by the applicable Excess Yield Rates of those loans.  |              | Numeric   | 3      | 3          |       | $\frac{((\text{Sum} ((\text{Loan Term}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{(\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent}))}$ <ul style="list-style-type: none"> <li>• Round to the nearest integer.</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>  |
| X-27 | WA Mortgage Loan Amount                                  | The weighted average dollar amount of the loans as stated on the notes at the time the loans were originated or modified.<br><br><i>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.</i>   |              | Numeric   | 9.2    | 12         |       | $\frac{(\text{Sum} ((\text{Mortgage Loan Amount}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>• Mortgage Loan Amount is rounded to the nearest thousand.</li> <li>• If Mortgage Loan Amount &lt; \$500, set to actual value.</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>  |
| X-28 | WA Mortgage Loan Amount with Excess Contribution Percent | The weighted average dollar amount of the loans as stated on the notes at the time the loans were originated or modified, which is additionally weighted by the applicable Excess Yield Rates of those loans.<br><br><i>For performing, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.</i> |              | Numeric   | 9.2    | 12         |       | $\frac{(\text{Sum} ((\text{Mortgage Loan Amount}) * (\text{Investor Loan UPB}) * \text{loan strip percent}))}{(\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent}))} * \text{Mortgage Loan Amount}$ <ul style="list-style-type: none"> <li>• Mortgage Loan Amount is rounded to the nearest thousand.</li> <li>• If Mortgage Loan Amount &lt; \$500, set to actual value.</li> <li>• For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul> |
| X-29 | Average Mortgage Loan Amount                             | The simple average dollar amount of the loans as stated on the notes at the time the loans were originated or modified.<br><br><i>For reperforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount.</i>   |              | Numeric   | 9.2    | 12         |       | $\frac{(\text{Sum} (\text{Mortgage Loan Amount}))}{(\text{Count} (\text{Loans in Pool}))}$ <ul style="list-style-type: none"> <li>• Mortgage Loan Amount is rounded to the nearest thousand.</li> <li>• If Mortgage Loan Amount &lt; \$500, set to actual value.</li> <li>• For Loan Count in Pool, the issuance file calculation is based upon the issuance date loan count and the monthly file calculation is based upon the current loan count.</li> </ul>   |

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| ID   | Attribute Name  | Attribute Definition   | Enumerations | Data Type | Format | Max Length | Notes | Calculation  |
|------|---|--|--------------|-----------|--------|------------|-------|--|
| X-30 | WA Loan-To-Value (LTV)  | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of the loans at origination by the value of the properties.</p> <p>Property value reflects either the lesser of the sales price or the appraised property value for a purchase, or the appraised property value for a refinance.</p> <p><i>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</i></p>   |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{LTV Ratio}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>LTV ratios &lt; 1% or &gt; 998% will be excluded from the WA LTV calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB.</li> </ul>   |
| X-31 | WA Loan-To-Value (LTV) with Excess Contribution Percent           | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of the loans at origination by the value of the properties, which is additionally weighted by the applicable Excess Yield Rates of those loans.</p> <p>Property value reflects either the lesser of the sales price or the appraised property value for a purchase, or the appraised property value for a refinance.</p> <p><i>For performing, modified fixed-rate and modified step-rate loans, this value will be blank.</i></p>                   |              | Numeric   |        | 3          |       | $\frac{((\text{Sum} ((\text{LTV Ratio}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{(\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>LTV ratios &lt; 1% or &gt; 998% will be excluded from the WA LTV calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB.</li> </ul>   |
| X-32 | WA Combined Loan-To-Value (CLTV)                                  | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the properties.</p> <p>Property value reflects either the lesser of the sales price or the appraised property value for a purchase, or the appraised property value for a refinance.</p> <p><i>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</i></p>   |              | Numeric   |        | 3          |       | $\frac{(\text{Sum} ((\text{CLTV}) * (\text{Investor Loan UPB})))}{(\text{Sum} (\text{Investor Loan UPB}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>The CLTV ratio will be disclosed as "Not Available," indicated by 999, if the ratio is &lt;1% or &gt;998%.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul>   |
| X-33 | WA Combined Loan-To-Value (CLTV) with Excess Contribution Percent | <p>The weighted average ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the properties, which is additionally weighted by the applicable Excess Yield Rates of those loans.</p> <p>Property value reflects either the lesser of the sales price or the appraised property value for a purchase, or the appraised property value for a refinance.</p> <p><i>For performing, modified fixed-rate and modified step-rate loans, this value will be blank.</i></p> |              | Numeric   |        | 3          |       | $\frac{((\text{Sum} ((\text{CLTV}) * (\text{Investor Loan UPB}) * \text{loan strip percent})) / (\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})))}{(\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent}))}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>The CLTV ratio will be disclosed as "Not Available," indicated by 999, if the ratio is &lt;1% or &gt;998%.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Investor Loan UPB and the monthly file calculation is based upon the Current Investor Loan UPB.</li> </ul> |

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| ID   | Attribute Name  | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes | Calculation   |
|------|---|---|--------------|-----------|--------|------------|-------|---|
| X-34 | WA Debt-To-Income (DTI)                                   | The weighted average ratio obtained by dividing the total monthly debt expenses by the total monthly incomes of the borrowers at the time the loans were originated or modified.  |              | Numeric   |        | 3          |       | $\frac{\text{Sum} ((\text{DTI}) * (\text{Investor Loan UPB}))}{\text{Sum} (\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>If value is &lt; 1 or &gt; 65, it will be disclosed as "Not Available," indicated by 999 and will be excluded from the WA DTI Ratio calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB.</li> </ul>   |
| X-35 | WA Debt-To-Income (DTI) with Excess Contribution Percent  | The weighted average ratio obtained by dividing the total monthly debt expenses by the total monthly incomes of the borrowers at the time the loans were originated or modified, which is additionally weighted by the applicable Excess Yield Rates of those loans.  |              | Numeric   |        | 3          |       | $\frac{\text{Sum} ((\text{DTI}) * (\text{Investor Loan UPB}))}{\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>If value is &lt; 1 or &gt; 65, it will be disclosed as "Not Available," indicated by 999 and will be excluded from the WA DTI Ratio calculation.</li> <li>For Investor Loan UPB, the issuance file calculation is based upon the Issuance Loan UPB and the monthly file calculation is based upon the Current Loan UPB.</li> </ul>        |
| X-36 | WA Borrower Credit Score                                  | The weighted average standardized credit score used to evaluate the borrower during the loan origination process.<br><br><i>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.</i>   |              | Numeric   |        | 4          |       | $\frac{\text{Sum} ((\text{Borrower Credit Score}) * (\text{Investor Loan UPB}))}{\text{Sum} (\text{Investor Loan UPB})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>If credit score is &lt; 300 or &gt; 850, the loan is excluded from the WA Borrower Credit Score calculation.</li> <li>The issuance file calculation is based upon the Issuance Investor Loan UPB. The monthly file calculation is based upon the Scheduled Investor Loan UPB.</li> </ul>   |
| X-37 | WA Borrower Credit Score with Excess Contribution Percent | The weighted average standardized credit score used to evaluate the borrower during the loan origination process, which is additionally weighted by the applicable Excess Yield Rates of those loans.<br><br><i>For performing, modified fixed-rate and modified step-rate loans, this value will be blank.</i> |              | Numeric   |        | 4          |       | $\frac{((\text{Sum} ((\text{Borrower Credit Score}) * (\text{Investor Loan UPB}) * \text{loan strip percent}))}{\text{Sum} (\text{Investor Loan UPB}) * (\text{loan excess strip percent})}$ <ul style="list-style-type: none"> <li>Round to the nearest integer.</li> <li>If credit score is &lt; 300 or &gt; 850, the loan is excluded from the WA Borrower Credit Score calculation.</li> <li>The issuance file calculation is based upon the Issuance Investor Loan UPB. The monthly file calculation is based upon the Scheduled Investor Loan UPB.</li> </ul> |
| X-38 | Loan Count  | The total number of loans in the security.  |              | Numeric   |        | 9          |       |   |

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| ID   | Attribute Name                             | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes                                  | Calculation   |
|------|--|---|--------------|-----------|--------|------------|--|---|
| X-39 | Third Party Origination UPB Percent        | The percentage of the aggregate Investor Loan UPB that were originated by a third party, to include Broker and Correspondent originations.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |              | Numeric   | 3.2    | 6          |  | $\text{Sum (Investor Loan UPB for Channel = Broker)} + (\text{Investor Loan UPB for Channel = Correspondent}) / (\text{Sum (Investor Loan UPB)})$ |
| X-40 | Seller Name                                | The name of the entity that sold the loans to the issuer.   |              | String    |        | 100        |  |   |
| X-41 | Servicer Name                              | The name of the entity that services the loan during the current reporting period.  |              | String    |        | 100        |  |   |
| X-42 | Involuntary Loan Removal (Loan Count)      | The number of loans that were purchased from the security due to delinquency status during the current reporting period.  |              | Numeric   |        | 9          | Applicable only for Monthly Disclosure | $\text{Sum (Prior Month Investor Loan UPB where Loan Liquidation Status Type = "Delinquency")}$   |
| X-43 | Involuntary Loan Removal (Prior Month UPB) | The aggregate prior period Investor Loan UPB of the loans that were purchased from the security due to delinquency status during the current reporting period.  |              | Numeric   | 14.2   | 17         | Applicable only for Monthly Disclosure | $\text{Count (Loans in Pool where Loan Liquidation Status Type = "Delinquency")}$   |
| X-44 | Security Factor Date                       | The month and year on which the corresponding factor is effective.  |              | Date      | MMCCYY | 6          |  |   |
| X-45 | Notes                                      | Additional information about the loans in the security.   |              | String    |        | 2048       |  |   |

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| Security Supplemental File Record Type Description |  |               |  |
|--|--|---------------|--|
| Record Type #                                      | Record Type Description                                    | Record Type # | Record Type Description                                  |
| 1  | Deciles  | 11            | Number of Units Stratification                           |
| 2  | Loan-To-Value (LTV) Not Available Stratification           | 12            | Property Type Stratification                             |
| 3  | Combined Loan-To-Value (CLTV) Not Available Stratification | 13            | Channel Stratification                                   |
| 4  | Debt-To-Income (DTI) Not Available Stratification          | 14            | Property State Stratification                            |
| 5  | Borrower Credit Score Not Available Stratification         | 15            | Seller Name Stratification                               |
| 6  | Days Delinquent Stratification                             | 16            | Servicer Name Stratification                             |
| 7  | Number of Borrowers Stratification                         | 17            | Mortgage Insurance Coverage Stratification               |
| 8  | First Time Home Buyer Stratification                       | 18            | Mortgage Insurance Cancellation Indicator Stratification |
| 9  | Loan Purpose Stratification                                | 19            | Government Insured/Guarantee Stratification              |
| 10   | Occupancy Status Stratification                            | 20            | Origination Year Stratification                          |

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| ID      | Attribute Name            | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes   | Calculations |
|---------|---------------------------|---|---|-----------|--------|------------|---|--------------|
| XI - 01 | Record Type = 1           | Deciles   |   | String    |        | 2          |   |              |
| XI - 02 | Trust Identifier          | The unique alpha and/or numeric designation assigned to each deal.  |   | String    |        | 50         |   |              |
| XI - 03 | Class Identifier          | The unique alpha and/or numeric designation assigned to each sub-deal.  |   | String    |        | 5          |   |              |
| XI - 04 | Issuer                    | The name of the entity that issued the security.  | FNM = Fannie Mae  | String    |        | 3          |   |              |
| XI - 05 | CUSIP                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |   | String    |        | 9          |   |              |
| XI - 06 | Security Identifier       | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |   |              |
| XI - 07 | Decile                    | Based on the Current Investor UPB for all of the active loans in a security, distributed across the following decile data points: MIN, 10%, 20%, 30%, 40%, MED, 60%, 70%, 80%, 90%. MAX   | MAX<br>90<br>80<br>70<br>60<br>MED<br>40<br>30<br>20<br>10<br>MIN | String    |        | 3          |   |              |
| XI - 08 | Mortgage Loan Amount      | The dollar amount of the loan as stated on the note at the time the loan was originated or modified.<br><br>For reprforming, modified fixed-rate and modified step-rate loans, this value represents both the interest bearing and non-interest bearing amount. |   | Numeric   | 9.2    | 12         | Privacy Masking: Rounded to nearest thousand if > \$500 |              |
| XI - 09 | Interest Rate             | The interest rate of the loan in effect during the current reporting period.  |   | Numeric   | 2.3    | 6          |   |              |
| XI - 10 | Current Net Interest Rate | The interest rate of the loan in effect during the current reporting period less servicing fees and guarantor fees.   |   | Numeric   | 2.3    | 6          |   |              |
| XI - 11 | Loan Term                 | For fixed-rate, adjustable-rate and interest-only mortgages, the number of scheduled monthly payments of the mortgage, between the first payment date and the maturity date of the mortgage.  |   | Numeric   |        | 3          |   |              |



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| ID      | Attribute Name                | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
|---------|-------------------------------|---|------------------|-----------|--------|------------|--|--------------|
| XI - 12 | Remaining Months to Maturity  | The number of remaining months that will reduce the Current Investor Loan UPB to zero.<br><br>For fixed-rate loans, this value takes into account the impact of any curtailments.   |                  | Numeric   |        | 3          |  |              |
| XI - 13 | Loan Age                      | The number of months from the time the loan was originated or modified up to and including the current reporting period.  |                  | Numeric   |        | 4          |  |              |
| XI - 14 | Loan-to-Value (LTV)           | The ratio, expressed as a percentage, obtained by dividing the amount of the loan at origination by the value of the property.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.                    |                  | Numeric   |        | 3          |  |              |
| XI - 15 | Combined Loan-to-Value (CLTV) | The ratio, expressed as a percentage, obtained by dividing the amount of all known outstanding loans at origination by the value of the property.<br><br>Value of the property reflects either the lesser of the sales price or the property value at purchase or refinance.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |                  | Numeric   |        | 3          |  |              |
| XI - 16 | Debt-to-Income (DTI)          | The ratio obtained by dividing the total monthly debt expense by the total monthly income of the borrower at the time the loan was originated or modified.  |                  | Numeric   |        | 3          |  |              |
| XI - 17 | Borrower Credit Score         | The standardized credit score used to evaluate the borrower during the loan origination process.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.   |                  | Numeric   |        | 4          |  |              |
| ID      | Attribute Name                | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 18 | Record Type = 2               | Loan-to-Value (LTV) Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank.   |                  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| XI - 19 | Trust Identifier              | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |  |              |
| XI - 20 | Class Identifier              | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |  |              |
| XI - 21 | Issuer                        | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |  |              |

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| ID      | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
|---------|------------------------------|---|------------------|-----------|--------|------------|--|--------------|
| XI - 22 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                       |                  | String    |        | 9          |  |              |
| XI - 23 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |  |              |
| XI - 24 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |                  | Numeric   | 14.2   | 17         |  |              |
| XI - 25 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| XI - 26 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |  |              |
| XI - 27 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 28 | Record Type = 3              | Combined Loan-to-Value (CLTV) Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |                  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| XI - 29 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |  |              |
| XI - 30 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |  |              |
| XI - 31 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |  |              |
| XI - 32 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                                       |                  | String    |        | 9          |  |              |
| XI - 33 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |  |              |
| XI - 34 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |                  | Numeric   | 14.2   | 17         |  |              |
| XI - 35 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| XI - 36 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |  |              |
| XI - 37 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 38 | Record Type = 4              | Debt-to-Income (DTI) Not Available Stratification   |                  | String    |        | 2          | Applicable only if security characteristics apply. |              |

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| ID      | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
|---------|------------------------------|---|------------------|-----------|--------|------------|--|--------------|
| XI - 39 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |  |              |
| XI - 40 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |  |              |
| XI - 41 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |  |              |
| XI - 42 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                               |                  | String    |        | 9          |  |              |
| XI - 43 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |  |              |
| XI - 44 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |                  | Numeric   | 14.2   | 17         |  |              |
| XI - 45 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| XI - 46 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |  |              |
| XI - 47 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 48 | Record Type = 5              | Borrower Credit Score Not Available Stratification<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. |                  | String    |        | 2          | Applicable only if security characteristics apply. |              |
| XI - 49 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |  |              |
| XI - 50 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |  |              |
| XI - 51 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |  |              |
| XI - 52 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                               |                  | String    |        | 9          |  |              |
| XI - 53 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |  |              |
| XI - 54 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |                  | Numeric   | 14.2   | 17         |  |              |
| XI - 55 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |                  | Numeric   | 3.2    | 6          |  |              |
| XI - 56 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |  |              |

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| ID      | Attribute Name              | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes                                  | Calculations |
|---------|-----------------------------|---|--|-----------|--------|------------|--|--------------|
| XI - 57 | Percentage Loan Count       | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |  |              |
| ID      | Attribute Name              | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes                                  | Calculations |
| XI - 58 | Record Type = 6             | Days Delinquent Stratification  |  | String    |        | 2          | Applicable only for monthly disclosure |              |
| XI - 59 | Trust Identifier            | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |  |              |
| XI - 60 | Class Identifier            | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |  |              |
| XI - 61 | Issuer                      | The name of the entity that issued the security.  | FNM = Fannie Mae   | String    |        | 3          |  |              |
| XI - 62 | CUSIP                       | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |  |              |
| XI - 63 | Security Identifier         | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |  |              |
| XI - 64 | Days Delinquent             | The number of days for which a mortgage loan has been reported delinquent.  | 0 = Current<br>1 = 30-59<br>2 = 60-89<br>3 = 90-119<br>4 = 120-149<br>5 = 150-179<br>6 = 180-209<br>7 = 210-239<br>8 = 240-269<br>9 = 270-299<br>10 = 300-329<br>11 = 330-359<br>12 = 360-389<br>13 = 390-419<br>14 = 420-449<br>15 = 450-479<br>16 = 480-509<br>17 = 510-539<br>18 = 540-569<br>19 = 570-599<br>20 = 600-629<br>21 = 630-659<br>22 = 660-689<br>23 = 690-719<br>24 = 720+ | String    |        | 1          |  |              |
| XI - 65 | Aggregate Investor Loan UPB | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |  | Numeric   | 14.2   | 17         |  |              |

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| ID      | Attribute Name               | Attribute Definition  | Enumerations                       | Data Type | Format | Max Length | Notes | Calculations |
|---------|------------------------------|---|------------------------------------|-----------|--------|------------|-------|--------------|
| XI - 66 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |                                    | Numeric   | 3.2    | 6          |       |              |
| XI - 67 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                                    | Numeric   |        | 9          |       |              |
| XI - 68 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                                    | Numeric   | 3.2    | 6          |       |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations                       | Data Type | Format | Max Length | Notes | Calculations |
| XI - 69 | Record Type = 7              | Number of Borrowers Stratification  |                                    | String    |        | 2          |       |              |
| XI - 70 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                                    | String    |        | 50         |       |              |
| XI - 71 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                                    | String    |        | 5          |       |              |
| XI - 72 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae                   | String    |        | 3          |       |              |
| XI - 73 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |                                    | String    |        | 9          |       |              |
| XI - 74 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                                    | String    |        | 6          |       |              |
| XI - 75 | Number of Borrowers          | The number of borrowers who, at the time the loan is originated, are obligated to repay the loan.                         | 1<br>2<br>>2<br>99 = Not Available | String    |        | 2          |       |              |
| XI - 76 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |                                    | Numeric   | 14.2   | 17         |       |              |
| XI - 77 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |                                    | Numeric   | 3.2    | 6          |       |              |
| XI - 78 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                                    | Numeric   |        | 9          |       |              |
| XI - 79 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                                    | Numeric   | 3.2    | 6          |       |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations                       | Data Type | Format | Max Length | Notes | Calculations |
| XI - 80 | Record Type = 8              | First Time Homebuyer Stratification   |                                    | String    |        | 2          |       |              |
| XI - 81 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                                    | String    |        | 50         |       |              |
| XI - 82 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                                    | String    |        | 5          |       |              |

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| ID      | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
|---------|------------------------------|---|---|-----------|--------|------------|-------|--------------|
| XI - 83 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae  | String    |        | 3          |       |              |
| XI - 84 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |       |              |
| XI - 85 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |       |              |
| XI - 86 | First Time Homebuyer         | The indicator denoting whether a borrower on the loan qualifies as a first-time homebuyer.                                | Y = Yes<br>N = No<br>9 = Not Available  | String    |        | 1          |       |              |
| XI - 87 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |       |              |
| XI - 88 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |       |              |
| XI - 89 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |       |              |
| XI - 90 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |       |              |
| ID      | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes | Calculations |
| XI - 91 | Record Type = 9              | Loan Purpose Stratification   |   | String    |        | 2          |       |              |
| XI - 92 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |   | String    |        | 50         |       |              |
| XI - 93 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |   | String    |        | 5          |       |              |
| XI - 94 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae  | String    |        | 3          |       |              |
| XI - 95 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |       |              |
| XI - 96 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |       |              |
| XI - 97 | Loan Purpose                 | The classification describing the purpose of the loan.  | C = Refinance - Cash Out<br>N = Refinance - No Cash Out<br>R = Refinance - Not Specified<br>P = Purchase<br>M = Modified - Loss Mitigation<br>9 = Not Available | String    |        | 1          |       |              |
| XI - 98 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |       |              |

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| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
|----------|------------------------------|---|--|-----------|--------|------------|-------|--------------|
| XI - 99  | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| XI - 100 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| XI - 101 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| XI - 102 | Record Type = 10             | Occupancy Status Stratification   |  | String    |        | 2          |       |              |
| XI - 103 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |       |              |
| XI - 104 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |       |              |
| XI - 105 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae   | String    |        | 3          |       |              |
| XI - 106 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |       |              |
| XI - 107 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| XI - 108 | Occupancy Status             | The classification describing the property occupancy status at the time the loan was originated.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. | P = Primary Residence<br>S - Second Home<br>I = Investment Property<br>9 = Not Available | String    |        | 1          |       |              |
| XI - 109 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |       |              |
| XI - 110 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| XI - 111 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| XI - 112 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| XI - 113 | Record Type = 11             | Number of Units Stratification  |  | String    |        | 2          |       |              |
| XI - 114 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |       |              |
| XI - 115 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |       |              |

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| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
|----------|------------------------------|---|--|-----------|--------|------------|-------|--------------|
| XI - 116 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae                                       | String    |        | 3          |       |              |
| XI - 117 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |       |              |
| XI - 118 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| XI - 119 | Number of Units              | The number of dwelling units in the mortgaged property at the time the loan was originated.                               | 1 = 1<br>2 = 2<br>3 = 3<br>4 = 4<br>99 = Not Available | Numeric   |        | 2          |       |              |
| XI - 120 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |  | Numeric   | 14.2   | 17         |       |              |
| XI - 121 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |  | Numeric   | 3.2    | 6          |       |              |
| XI - 122 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| XI - 123 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| XI - 124 | Record Type = 12             | Property Type Stratification  |  | String    |        | 2          |       |              |
| XI - 125 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |       |              |
| XI - 126 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |       |              |
| XI - 127 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae                                       | String    |        | 3          |       |              |
| XI - 128 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |       |              |
| XI - 129 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |



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| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
|----------|------------------------------|---|--|-----------|--------|------------|-------|--------------|
| XI - 130 | Property Type                | The classification describing the type of property that secures the loan.   | CP = Cooperative<br>CO = Condominium<br>PU = Planned Unit Development<br>SF = Single-Family<br>MH = Manufactured Housing<br>99 = Not Available | String    |        | 2          |       |              |
| XI - 131 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |       |              |
| XI - 132 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| XI - 133 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| XI - 134 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| XI - 135 | Record Type = 13             | Channel Stratification  |  | String    |        | 2          |       |              |
| XI - 136 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |       |              |
| XI - 137 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |       |              |
| XI - 138 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae   | String    |        | 3          |       |              |
| XI - 139 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).   |  | String    |        | 9          |       |              |
| XI - 140 | Security Identifier          | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| XI - 141 | Channel                      | The origination channel used by the party that delivered the loan to the issuer.<br><br>For reperforming, modified fixed-rate and modified step-rate loans, this value will be blank. | R = Retail<br>B = Broker<br>C = Correspondent<br>T = Third Party Origination - Not Specified<br>9 = Not Available                              | String    |        | 1          |       |              |
| XI - 142 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |  | Numeric   | 14.2   | 17         |       |              |
| XI - 143 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| XI - 144 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |

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| ID       | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes          | Calculations |
|----------|------------------------------|---|------------------|-----------|--------|------------|----------------|--------------|
| XI - 145 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |                |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes          | Calculations |
| XI - 146 | Record Type = 14             | Property State Stratification   |                  | String    |        | 2          | See Appendix B |              |
| XI - 147 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |                |              |
| XI - 148 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |                |              |
| XI - 149 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |                |              |
| XI - 150 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |                  | String    |        | 9          |                |              |
| XI - 151 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |                |              |
| XI - 152 | Property State               | The abbreviation denoting the location of the property securing the loan.   |                  | String    |        | 2          |                |              |
| XI - 153 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |                  | Numeric   | 14.2   | 17         |                |              |
| XI - 154 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |                  | Numeric   | 3.2    | 6          |                |              |
| XI - 155 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |                |              |
| XI - 156 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |                |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes          | Calculations |
| XI - 157 | Record Type = 15             | Seller Name Stratification  |                  | String    |        | 2          |                |              |
| XI - 158 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |                  | String    |        | 50         |                |              |
| XI - 159 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |                |              |
| XI - 160 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |                |              |
| XI - 161 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |                  | String    |        | 9          |                |              |
| XI - 162 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |                |              |

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| ID       | Attribute Name                       | Attribute Definition   | Enumerations     | Data Type | Format | Max Length | Notes   | Calculations |
|----------|--------------------------------------|--|------------------|-----------|--------|------------|---|--------------|
| XI - 163 | Seller Name                          | The name of the entity that sold the loan to the issuer.   |                  | String    |        | 100        | Will not be updated after issuance, regardless of mergers/acquisitions. |              |
| XI - 164 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.  |                  | Numeric   | 14.2   | 17         |   |              |
| XI - 165 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.   |                  | Numeric   | 3.2    | 6          |   |              |
| XI - 166 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.   |                  | Numeric   |        | 9          |   |              |
| XI - 167 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.   |                  | Numeric   | 3.2    | 6          |   |              |
| XI - 168 | Minimum Loan Age                     | For the stratified attribute, the minimum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period. |                  | Numeric   |        | 3          |   |              |
| XI - 169 | Maximum Loan Age                     | For the stratified attribute, the maximum number of scheduled payments from the time the loan was originated or modified to and including the current reporting period.    |                  | Numeric   |        | 3          |   |              |
| XI - 170 | Minimum Interest Rate                | For the stratified attribute, the minimum interest rate of the loan in effect during the current reporting period.   |                  | Numeric   | 2.3    | 6          |   |              |
| XI - 171 | Maximum Interest Rate                | For the stratified attribute, the maximum interest rate of the loan in effect during the current reporting period.   |                  | Numeric   | 2.3    | 6          |   |              |
| XI - 172 | Minimum Remaining Months to Maturity | For the stratified attribute, the minimum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |                  | Numeric   |        | 3          |   |              |
| XI - 173 | Maximum Remaining Months to Maturity | For the stratified attribute, the maximum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.                                     |                  | Numeric   |        | 3          |   |              |
| ID       | Attribute Name                       | Attribute Definition   | Enumerations     | Data Type | Format | Max Length | Notes   | Calculations |
| XI - 174 | Record Type = 16                     | Servicer Name Stratification   |                  | String    |        | 2          |   |              |
| XI - 175 | Trust Identifier                     | The unique alpha and/or numeric designation assigned to each deal.   |                  | String    |        | 50         |   |              |
| XI - 176 | Class Identifier                     | The unique alpha and/or numeric designation assigned to each sub-deal.   |                  | String    |        | 5          |   |              |
| XI - 177 | Issuer                               | The name of the entity that issued the security.   | FNM = Fannie Mae | String    |        | 3          |   |              |
| XI - 178 | CUSIP                                | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).  |                  | String    |        | 9          |   |              |

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| ID       | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
|----------|--------------------------------------|---|--------------|-----------|--------|------------|--|--------------|
| XI - 179 | Security Identifier                  | The unique designation assigned to the security by the issuer.  |              | String    |        | 6          |  |              |
| XI - 180 | Servicer Name                        | The name of the entity that services the loan during the current reporting period.<br><br>Will reflect servicer names contributing > 1% of the Current Investor Security UPB. | < 1%         | String    |        | 100        | Servicer names contributing < 1% of the Current Investor Security UPB will be aggregated and reflected in the < 1% enumeration |              |
| XI - 181 | Aggregate Investor Loan UPB          | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.   |              | Numeric   | 14.2   | 17         |  |              |
| XI - 182 | Percentage Investor Loan UPB         | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| XI - 183 | Aggregate Loan Count                 | For the stratified attribute, the total number of loans in the security.  |              | Numeric   |        | 9          |  |              |
| XI - 184 | Percentage Loan Count                | For the stratified attribute, the percentage of loans in the security.  |              | Numeric   | 3.2    | 6          |  |              |
| XI - 185 | Minimum Loan Age                     | For the stratified attribute, the minimum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.    |              | Numeric   |        | 3          |  |              |
| XI - 186 | Maximum Loan Age                     | For the stratified attribute, the maximum number of scheduled payments from the time the loan was originated or modified up to and including the current reporting period.    |              | Numeric   |        | 3          |  |              |
| XI - 187 | Minimum Interest Rate                | For the stratified attribute, the minimum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |  |              |
| XI - 188 | Maximum Interest Rate                | For the stratified attribute, the maximum interest rate of the loan in effect during the current reporting period.  |              | Numeric   | 2.3    | 6          |  |              |
| XI - 189 | Minimum Remaining Months to Maturity | For the stratified attribute, the minimum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.  |              | Numeric   |        | 3          |  |              |
| XI - 190 | Maximum Remaining Months to Maturity | For the stratified attribute, the maximum number of scheduled monthly payments that will reduce the Current Investor Loan UPB to zero.  |              | Numeric   |        | 3          |  |              |
| ID       | Attribute Name                       | Attribute Definition  | Enumerations | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 191 | Record Type = 17                     | Mortgage Insurance Coverage Stratification  |              | String    |        | 2          |  |              |
| XI - 192 | Trust Identifier                     | The unique alpha and/or numeric designation assigned to each deal.  |              | String    |        | 50         |  |              |
| XI - 193 | Class Identifier                     | The unique alpha and/or numeric designation assigned to each sub-deal.  |              | String    |        | 5          |  |              |

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| ID       | Attribute Name                            | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
|----------|---|---|--|-----------|--------|------------|-------|--------------|
| XI - 194 | Issuer                                    | The name of the entity that issued the security.  | FNM = Fannie Mae   | String    |        | 3          |       |              |
| XI - 195 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |       |              |
| XI - 196 | Security Identifier                       | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| XI - 197 | Mortgage Insurance Coverage               | The mortgage insurance coverage in effect at the time the security was issued.  | WITHMI = Loans With Mortgage Insurance<br>NOMI = Loans Without Mortgage Insurance<br>999 = Not Available | String    |        | 6          |       |              |
| XI - 198 | Aggregate Investor Loan UPB               | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |  | Numeric   | 14.2   | 17         |       |              |
| XI - 199 | Percentage Investor Loan UPB              | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |  | Numeric   | 3.2    | 6          |       |              |
| XI - 200 | Aggregate Loan Count                      | For the stratified attribute, the total number of loans in the security.  |  | Numeric   |        | 9          |       |              |
| XI - 201 | Percentage Loan Count                     | For the stratified attribute, the percentage of loans in the security.  |  | Numeric   | 3.2    | 6          |       |              |
| ID       | Attribute Name                            | Attribute Definition  | Enumerations   | Data Type | Format | Max Length | Notes | Calculations |
| XI - 202 | Record Type = 18                          | Mortgage Insurance Cancellation Indicator Stratification  |  | String    |        | 2          |       |              |
| XI - 203 | Trust Identifier                          | The unique alpha and/or numeric designation assigned to each deal.  |  | String    |        | 50         |       |              |
| XI - 204 | Class Identifier                          | The unique alpha and/or numeric designation assigned to each sub-deal.  |  | String    |        | 5          |       |              |
| XI - 205 | Issuer                                    | The name of the entity that issued the security.  | FNM = Fannie Mae   | String    |        | 3          |       |              |
| XI - 206 | CUSIP                                     | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |  | String    |        | 9          |       |              |
| XI - 207 | Security Identifier                       | The unique designation assigned to the security by the issuer.  |  | String    |        | 6          |       |              |
| XI - 208 | Mortgage Insurance Cancellation Indicator | The indicator denoting whether the mortgage insurance has been cancelled after the security was issued.                   | Y = Yes<br>N = No<br>7 = Not Applicable  | String    |        | 1          |       |              |
| XI - 209 | Aggregate Investor Loan UPB               | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |  | Numeric   | 14.2   | 17         |       |              |

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| ID       | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
|----------|------------------------------|---|---|-----------|--------|------------|--|--------------|
| XI - 210 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |  |              |
| XI - 211 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| XI - 212 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 213 | Record Type = 19             | Government Insured/Guarantee Stratification   |   | String    |        | 2          | Applicable only to Government Insured/Guarantee loans. |              |
| XI - 214 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |   | String    |        | 50         |  |              |
| XI - 215 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |   | String    |        | 5          |  |              |
| XI - 216 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae  | String    |        | 3          |  |              |
| XI - 217 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |   | String    |        | 9          |  |              |
| XI - 218 | Security Identifier          | The unique designation assigned to the security by the issuer.  |   | String    |        | 6          |  |              |
| XI - 219 | Government Insured/Guarantee | The classification describing the Government Insured/Guarantee Program, if any, covering the loan.                        | FH = FHA<br>VA = Veterans Affairs<br>RH = Rural Housing<br>IH = Section 184 Indian Home<br>99 = Not Available | String    |        | 2          |  |              |
| XI - 220 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |   | Numeric   | 14.2   | 17         |  |              |
| XI - 221 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |   | Numeric   | 3.2    | 6          |  |              |
| XI - 222 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |   | Numeric   |        | 9          |  |              |
| XI - 223 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |   | Numeric   | 3.2    | 6          |  |              |
| ID       | Attribute Name               | Attribute Definition  | Enumerations  | Data Type | Format | Max Length | Notes  | Calculations |
| XI - 224 | Record Type = 20             | Origination Year Stratification   |   | String    |        | 2          |  |              |
| XI - 225 | Trust Identifier             | The unique alpha and/or numeric designation assigned to each deal.  |   | String    |        | 50         |  |              |

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ESF Security Supplemental File  
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| ID       | Attribute Name               | Attribute Definition  | Enumerations     | Data Type | Format | Max Length | Notes | Calculations |
|----------|------------------------------|---|------------------|-----------|--------|------------|-------|--------------|
| XI - 226 | Class Identifier             | The unique alpha and/or numeric designation assigned to each sub-deal.  |                  | String    |        | 5          |       |              |
| XI - 227 | Issuer                       | The name of the entity that issued the security.  | FNM = Fannie Mae | String    |        | 3          |       |              |
| XI - 228 | CUSIP                        | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP). |                  | String    |        | 9          |       |              |
| XI - 229 | Security Identifier          | The unique designation assigned to the security by the issuer.  |                  | String    |        | 6          |       |              |
| XI - 230 | Origination Year             | The year of origination of the loans in the security.   |                  | Date      | CCYY   | 4          |       |              |
| XI - 231 | Aggregate Investor Loan UPB  | For the stratified attribute, the sum of the Investor Loan UPB for the loans in the security.                             |                  | Numeric   | 14.2   | 17         |       |              |
| XI - 232 | Percentage Investor Loan UPB | For the stratified attribute, the percentage of the Investor Loan UPB for the loans in the security.                      |                  | Numeric   | 3.2    | 6          |       |              |
| XI - 233 | Aggregate Loan Count         | For the stratified attribute, the total number of loans in the security.  |                  | Numeric   |        | 9          |       |              |
| XI - 234 | Percentage Loan Count        | For the stratified attribute, the percentage of loans in the security.  |                  | Numeric   | 3.2    | 6          |       |              |

Fannie Mae Single-Family Disclosure Guide  
 Floater Reset Indices  
 April 2021

| ID    | Attribute Name        | Attribute Definition  | Enumerations      | Data Type | Format | Max Length | Notes | Calculation |
|-------|-----------------------|---|-------------------|-----------|--------|------------|-------|-------------|
| FI-01 | Index                 | The index code on which adjustments to the interest rate are based.               |                   | String    |        |            |       |             |
| FI-02 | Index Value           | The value of the index on which adjustments to the interest rate are based.       |                   | Numeric   | 2.5    |            |       |             |
| FI-03 | Index Description     | The description of the index in which adjustments to the interest rate are based. |                   | String    |        |            |       |             |
| FI-04 | Current Month Payment | The index will be used to calculate the current month payment.                    | Y = Yes<br>N = No | String    |        |            |       |             |



Fannie Mae Single-Family Disclosure Guide  
Tax Publication Times  
April 2021

| Business Name                | File Name <sup>1</sup>   | Publication Date  | Publication Timing | Process Cycle   | Products                       | Archive Availability | Location  |
|------------------------------|--|---|--------------------|---|--------------------------------|----------------------|---|
| Single-Class Tax Type File   | FNM_SCTAX_Q#YYYY.TYP within a zip file<br>FNM_SCTAX_Q#YYYY_*.ZIP | Jan 30th, April 30th, July 30th and Oct 30th<br>by 5:00 PM eastern time | Quarterly          | Fixed length TXT format with ZIP<br>extension<br><br>Quarterly Files are Cumulative Year to<br>Date | MBS<br>UMBS<br>MEGA<br>SUPERS  | Indefinitely         | • SFTP<br>• PoolTalk - Files &<br>Reports Section |
| Single-Class Tax Factor File | FNM_SCTAX_Q#YYYY.FAC within a zip file<br>FNM_SCTAX_Q#YYYY_*.ZIP | Jan 30th, April 30th, July 30th and Oct 30th<br>by 5:00 PM eastern time | Quarterly          | Fixed length TXT format with ZIP<br>extension<br><br>Quarterly Files are Cumulative Year to<br>Date | MBS<br>UMBS<br>MEGA<br>SUPERS  | Indefinitely         | • SFTP<br>• PoolTalk - Files &<br>Reports Section |
| Multiclass Tax Type File     | FNM_MCTAX_Q#YYYY.TYP within a zip file<br>FNM_MCTAX_Q#YYYY_*.ZIP | Jan 30th, April 30th, July 30th and Oct 30th<br>by 5:00 PM eastern time | Quarterly          | Fixed length TXT format with ZIP<br>extension<br><br>Quarterly Files are Cumulative Year to<br>Date | REMIC<br>SMBS<br>Grantor Trust | Indefinitely         | • SFTP<br>• PoolTalk - Files &<br>Reports Section |
| Multiclass Tax Factor File   | FNM_MCTAX_Q#YYYY.FAC within a zip file<br>FNM_MCTAX_Q#YYYY_*.ZIP | Jan 30th, April 30th, July 30th and Oct 30th<br>by 5:00 PM eastern time | Quarterly          | Fixed length TXT format with ZIP<br>extension<br><br>Quarterly Files are Cumulative Year to<br>Date | REMIC<br>SMBS<br>Grantor Trust | Indefinitely         | • SFTP<br>• PoolTalk - Files &<br>Reports Section |

<sup>1</sup> If the date falls on a weekend or holiday, the file will be published on the next business day.

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Tax Factor Master  
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| ID | Attribute Name                    | Attribute Definition   | Enumerations   | Data Type | Format    | Max Length | End Position | Notes   | Calculation |
|----|-----------------------------------|--|--|-----------|-----------|------------|--------------|---|-------------|
| 1  | CUSIP                             | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).                  |  | String    |           | 9          | 9            |   |             |
| 2  | Filler                            | Not applicable   |  | Space     |           | 1          | 10           |   |             |
| 3  | Security / Trust Identifier       | The unique designation assigned to the security by the issuer.   |  | String    |           | 8          | 18           |   |             |
| 4  | Filler                            | Not applicable   |  | Space     |           | 1          | 19           |   |             |
| 5  | Class                             | An identifier assigned to the class when established into a multiclass re-securitization.  |  | String    |           | 8          | 27           | Applicable to Multiclass securities only  |             |
| 6  | Filler                            | Not applicable   |  | Space     |           | 1          | 28           |   |             |
| 7  | Security Classification           | The type of trust established for the security for tax reporting purposes.   | WHMT<br>REMIC  | String    |           | 5          | 33           | WHMT= Widely Held Fixed Investment Trust<br><br>REMIC - Real Estate Mortgage Investment Conduit |             |
| 8  | Filler                            | Not applicable   |  | Space     |           | 1          | 34           |   |             |
| 9  | Class Issued With                 | The type of discount in which the class was issued.  | DEMIMUM<br>PAR<br>PREMIUM                                    | String    |           | 13         | 47           |   |             |
| 10 | Filler                            | Not applicable   |  | Space     |           | 1          | 48           |   |             |
| 11 | Interest Class                    | The tax status of interest earned on security.   | Non Qualified<br>Qualified                                   | String    |           | 13         | 61           |   |             |
| 12 | Filler                            | Not applicable   |  | Space     |           | 1          | 62           |   |             |
| 13 | Interest accrual method           | The method for accruing interest. It is assumed month has 30 days and year consists of 360 days.   | 30/360   | String    |           | 7          | 69           |   |             |
| 14 | Filler                            | Not applicable   |  | Space     |           | 1          | 70           |   |             |
| 15 | Original Amount                   | The aggregate unpaid principal balance of the loans as they contribute to the balance of the security at the time the security was issued. |  | String    |           | 12         | 82           |   |             |
| 16 | Filler                            | Not applicable   |  | Space     |           | 1          | 83           |   |             |
| 17 | Issuer's Tax Identification (TIN) | The unique identifier received from the Internal Revenue Service and used to identify each security for tax purposes.                      |  | String    | xx-xxxxxx | 10         | 93           |   |             |
| 18 | Filler                            | Not applicable   |  | Space     |           | 1          | 94           |   |             |
| 19 | Issuer Name                       | An alphanumeric designation used to identify the issuing entity.   | Federal National Mortgage Association                        | String    |           | 50         | 144          |   |             |
| 20 | Filler                            | Not applicable   |  | Space     |           | 1          | 145          |   |             |
| 21 | Filler                            | Not applicable   |  | String    |           | 50         | 195          |   |             |
| 22 | Filler                            | Not applicable   |  | Space     |           | 1          | 1            |   |             |
| 23 | Issuer Address                    | The physical address for the issuing entity.   | Midtown Center, 1100<br>15th St, NW, Washington,<br>DC 20005 | String    |           | 50         | 246          |   |             |

Fannie Mae Single-Family Disclosure Guide  
Tax Factor Detail  
April 2021

| ID | Attribute Name                | Attribute Definition   | Enumerations | Data Type | Format   | Max Length | End Position | Notes   | Calculation  |
|----|-------------------------------|--|--------------|-----------|----------|------------|--------------|---|--|
| 1  | CUSIP                         | The unique designation assigned to the security by the Committee on Uniform Securities Identification Procedures (CUSIP).              |              | String    |          | 9          | 9            |   |  |
| 2  | Filler                        | Not applicable   |              | Space     |          | 1          | 10           |   |  |
| 3  | Days in Period                | The number of days from the beginning of the accrual period to the end of the accrual period within the current tax year.              |              | String    |          | 3          | 13           |   |  |
| 4  | Filler                        | Not applicable   |              | Space     |          | 1          | 14           |   |  |
| 5  | Beginning of Accrual Period   | The date of which the accrual period begins.   |              | Date      | YYYYMMDD | 10         | 24           | <ul style="list-style-type: none"> <li>• Single-Class securities are left justified</li> <li>• Multiclass securities are right justified</li> </ul> |  |
| 6  | Filler                        | Not applicable   |              | Space     |          | 1          | 25           |   |  |
| 7  | End of Accrual Period         | The date of which the accrual period ends.   |              | Date      | YYYYMMDD | 10         | 35           | <ul style="list-style-type: none"> <li>• Single-Class securities are left justified</li> <li>• Multiclass securities are right justified</li> </ul> |  |
| 8  | Filler                        | Not applicable   |              | Space     |          | 1          | 36           |   |  |
| 9  | Payment Date                  | The date principal and interest is paid to the investor.   |              | Date      | YYYYMMDD | 10         | 46           | <ul style="list-style-type: none"> <li>• Single-Class securities are left justified</li> <li>• Multiclass securities are right justified</li> </ul> |  |
| 10 | Filler                        | Not applicable   |              | Space     |          | 1          | 47           |   |  |
| 11 | Ending UPB Factor             | The decimal value that, when multiplied by the Issuance Investor Security UPB amount, equals the Current Investor Security UPB amount. |              | Numeric   | 5.8      | 14         | 61           |   | <ul style="list-style-type: none"> <li>•(Current Investor Security UPB)/ (Issuance Investor Security UPB)</li> <li>•Round to eighth decimal</li> </ul> |
| 12 | Filler                        | Not applicable   |              | Space     |          | 1          | 62           |   |  |
| 13 | QSI Factor                    | The qualified stated interest per \$1000 of Par.   |              | Numeric   | 5.8      | 14         | 76           |   |  |
| 14 | Filler                        | Not applicable   |              | Space     |          | 1          | 77           |   |  |
| 15 | OID Factor                    | The original issue discount per \$1000 of Par.   |              | Numeric   | 5.8      | 14         | 91           |   |  |
| 16 | Filler                        | Not applicable   |              | Space     |          | 1          | 92           |   |  |
| 17 | Other Income / Expense Factor |  |              | Numeric   | 5.8      | 14         | 106          | <ul style="list-style-type: none"> <li>• Not applicable for Fannie Mae</li> <li>• Populated with zeroes</li> </ul>                                  |  |
| 18 | Filler                        | Not applicable   |              | Space     |          | 1          | 107          |   |  |
| 19 | Section 212 Expense Factor    | The Section 212 servicing expenses per \$1000 of par.  |              | Numeric   | 5.8      | 14         | 121          |   |  |

Fannie Mae Single-Family Disclosure Guide  
 Tax Factor Detail  
 April 2021

| ID  | Attribute Name                    | Attribute Definition   | Enumerations | Data Type | Format | Max Length | End Position | Notes | Calculation |
|-----|-----------------------------------|--|--------------|-----------|--------|------------|--------------|-------|-------------|
| 20  | Filler                            | Not applicable   |              | Space     |        | 1          | 122          |       |             |
| 21  | AIP at Beginning of Period Factor | The adjusted issue price at beginning of accrual period per \$1000 of par.                           |              | Numeric   | 5.8    | 14         | 136          |       |             |
| 22  | Filler                            | Not applicable   |              | Space     |        | 1          | 137          |       |             |
| 23  | Market Discount Accrual Ratio     | The fraction of unamortized market discount that should be accrued for the period per \$1000 of Par. |              | Numeric   | 5.8    | 14         | 151          |       |             |
| Tax | Filler                            | Not applicable   |              | Space     |        | 1          | 152          |       |             |
| 25  | Real Estate Percentage            | The real estate percentage of qualifying assets.   |              | Numeric   | 4.2    | 7          | 159          |       |             |

Fannie Mae Single-Family Disclosure Guide  
Revision Log  
April 2021

| Item #                                 | File/Attribute  | Change  | Publish Date | Version |
|--|---|---|--------------|---------|
| Version 1.0 published – June 2019      |   |   |              |         |
| Version 1.1 published – August 2019    |   |   |              |         |
| Version 1.2 published – September 2019 |   |   |              |         |
| Version 1.3 published – November 2019  |   |   |              |         |
| Version 1.4 published – March 2020     |   |   |              |         |
| Version 1.5 published – May 2020       |   |   |              |         |
| Version 1.6 published – May 2020       |   |   |              |         |
| Version 1.7 published – September 2020 |   |   |              |         |
| Version 1.8 published – October 2020   |   |   |              |         |
| Version 1.9 published – January 2021   |   |   |              |         |
| 1                                      | Loan Level File - Alternative Delinquency Resolutions Type (L-108)          | Update alternative delinquency definition of COVID payment from 12 months to 18 months as servicing policy changed.   | April 2021   | 1.10    |
| 2                                      | Loan Level File - Original Deferred & Current Deferred Amount (L-070 L-071) | Added implementation note to indicate for RPL with forbearance principal forbearance will be populated in the current deferred amount and the original deferred amount will be zero | April 2021   | 1.10    |
| 3                                      | Loan Level File - Seller City (L-112)                                       | Added new attribute - Seller City to security supplemental file   | April 2021   | 1.10    |
| 4                                      | Loan Level File - Seller State (L-113)                                      | Added new attribute - Seller State to loan level file   | April 2021   | 1.10    |
| 5                                      | Loan Level File - Servicer City (L-114)                                     | Added new attribute - Servicer City to loan level file  | April 2021   | 1.10    |
| 6                                      | Loan Level File - Servicer State (L-115)                                    | Added new attribute - Servicer State to loan level file   | April 2021   | 1.10    |
| 7                                      | Security Supplemental File - Seller Record Type 16                          | Added new attribute - Seller City to security supplemental file   | April 2021   | 1.10    |
| 8                                      | Security Supplemental File - Seller Record Type 16                          | Added new attribute - Seller State to security supplemental file  | April 2021   | 1.10    |
| 9                                      | Security Supplemental File - Servicer Record Type 17                        | Added new attribute - Servicer City to security supplemental file   | April 2021   | 1.10    |
| 10                                     | Security Supplemental File - Servicer Record Type 17                        | Added new attribute - Servicer State to security supplemental file  | April 2021   | 1.10    |
| 11                                     | Loan Level File - Days Delinquent (L-104)                                   | Expanded enumerations to 24 months  | April 2021   | 1.10    |
| 12                                     | Security Supplemental File - Days Delinquent Record Type 7                  | Expanded enumerations to 24 months  | April 2021   | 1.10    |
| 13                                     | ESF Security Supplemental Record Type 6                                     | Expanded enumerations to 24 months  | April 2021   | 1.10    |
| 14                                     | MBS Issuance Security Supplemental File 2                                   | Removed file - Discontinued on April 1, 2021  | April 2021   | 1.10    |



Fannie Mae®

## Contact Information

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