

ETSI TS 138 521-1 V16.8.0 (2021-08)



**5G;
NR;
User Equipment (UE) conformance specification;
Radio transmission and reception;
Part 1: Range 1 standalone
(3GPP TS 38.521-1 version 16.8.0 Release 16)**



Reference

RTS/TSGR-0538521-1vg80

Keywords

5G

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is one part of a multi-part Technical Specification (TS) covering the New Radio (NR) User Equipment (UE) conformance specification, which is divided in the following parts:

- 3GPP TS 38.521-1: " NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone" (the present document).
- 3GPP TS 38.521-2 [13]: " NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 Standalone".
- 3GPP TS 38.521-3 [14]: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios"
- 3GPP TS 38.521-4 [15]: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 4: Performance".
- 3GPP TS 38.522 [16]: NR; User Equipment (UE) conformance specification; Applicability of RF and RRM test cases;
- 3GPP TS 38.533 [17]: NR; User Equipment (UE) conformance specification; Radio resource management;

1 Scope

The present document specifies the measurement procedures for the conformance test of the user equipment (UE) that contain RF characteristics for frequency Range 1 as part of the 5G-NR.

The requirements are listed in different clauses only if the corresponding parameters deviate. More generally, tests are only applicable to those mobiles that are intended to support the appropriate functionality. To indicate the circumstances in which tests apply, this is noted in the "*definition and applicability*" part of the test.

For example only Release 15 and later UE declared to support 5G-NR shall be tested for this functionality. In the event that for some tests different conditions apply for different releases, this is indicated within the text of the test itself.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

For a specific reference, subsequent revisions do not apply.

For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.

[1] to [23] (void)

[24] 3GPP TS 38.521-1 Release 17: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone "

3 Definitions, symbols and abbreviations

Void

4 General

The requirements of the present document are provided in 3GPP TS 38.521-1 Release 17 [24].

5 to 7 Void

Annex A to H: Void

Annex I (informative): Change history

| Change history | | | | | | | |
|----------------|---------------------------|--|----|---------|-----|---|--------------------|
| Date | Meeting | TDoc | CR | R ev | Cat | Subject/Comment | New versio n |
| 2017-08 | RAN5#76 | R5-175705 | - | - | - | Draft skeleton | 0.0.1 |
| 2018-01 | RAN5#1- 5G-NR Adhoc | R5-180068 R5-180069 R5-180070 R5-180071 R5-180072 R5-180073 R5-180075 R5-180076 R5-180077 R5-180078 R5-180079 | - | - | - | Implementation of pCRs to TS 38.521-1 V0.1.0 | 0.1.0 |
| 2018-01 | RAN5#78 | R5-181506 R5-181507 R5-181670 R5-181671 R5-181672 R5-181676 R5-181677 R5-181678 R5-181679 R5-181685 R5-181686 R5-181698 R5-181699 R5-181700 | - | - | - | Implementation of pCRs to TS 38.521-1 V0.2.0 | 0.2.0 |
| 2018-03 | RAN5#2- 5G-NR Adhoc | R5-181759 | - | - | - | Update TS 38.521-1 to align with new structure of TS 38.101-1 based on endorsed CR R4-1802403 | 0.3.0 |
| 2018-04 | RAN5#2- 5G-NR Adhoc | R5-81976 | - | - | - | 3GU mismatch | 0.3.1 |
| 2018-04 | RAN5#2- 5G-NR Adhoc | R5-181771 R5-181833 R5-181842 R5-182000 R5-182002 R5-182003 R5-182004 R5-182005 R5-182020 R5-182021 R5-182026 | - | - | - | Implementation of pCRs to TS 38.521-1 V0.4.0 Add clause 4.4 Test point analysis | 0.4.0 |
| 2018-07 | RAN5#79 | R5-182768 R5-182973 R5-183702 R5-183703 R5-183704 R5-183705 R5-183906 R5-183936 R5-183280 R5-183923 R5-183953 R5-183954 R5-183955 R5-183956 R5-183957 R5-183958 R5-183959 R5-183960 | - | - | - | Implementation of pCRs to TS 38.521-1 V0.5.0 | 0.5.0 |
| 2018-07 | RAN5#79 | R5-183960 R5-183279 | - | - | - | Corrected Table numbering issues in subclause 6.5.2.4.1.4.2 Test procedure to capture R5-183960 changes into draft TS 38.521-1 v0.5.1 | 0.5.1 |
| 2018-07 | RAN5#79 | R5-182363 | - | - | - | withdrawn | 1.0.0 |

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|---------|--------|--|------|---|---|--|--------|
| 2018-08 | RAN#80 | R5-185321 R5-184298 R5-185305 R5-185322 R5-185323 R5-185495 R5-185444 R5-185565 R5-185445 R5-185524 R5-184572 R5-185390 R5-184574 R5-185521 R5-185408 R5-184822 R5-185446 R5-185324 R5-185447 R5-185411 R5-185413 R5-185496 R5-185414 R5-185415 R5-185325 R5-185500 R5-185501 R5-185312 R5-185326 R5-185315 R5-185317 R5-185320 | - | - | - | Implementation of pCRs to TS 38.521-1 V1.0.1 | 1.0.1 |
| 2018-09 | RAN#81 | - | - | - | - | raised to v15.0.0 with editorial changes only | 15.0.0 |
| 2018-12 | RAN#82 | R5-186604 | 0072 | - | F | 5G_FR1 Text update for 7.3 Reference sensitivity | 15.1.0 |
| 2018-12 | RAN#82 | R5-186605 | 0073 | - | F | 5R_FR1 Text Update for 6.5.3.1 General spurious emissions | 15.1.0 |
| 2018-12 | RAN#82 | R5-186606 | 0074 | - | F | 5R FR1 Text Update for 6.5.3.2 Spurious emission for UE co-existence | 15.1.0 |
| 2018-12 | RAN#82 | R5-186670 | 0078 | - | F | Updating test case 6.2.3 UE additional maximum output power reduction | 15.1.0 |
| 2018-12 | RAN#82 | R5-186671 | 0079 | - | F | Updating test case 6.5.2.3 Additional spectrum emission mask | 15.1.0 |
| 2018-12 | RAN#82 | R5-186680 | 0080 | - | F | Update of test case 6.5.2.4.2, UTRA ACLR in 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-186736 | 0084 | - | F | Update of FR1 Transmit OFF power | 15.1.0 |
| 2018-12 | RAN#82 | R5-186774 | 0088 | - | F | Addition of 6.3D.1 Minimum output power for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-186776 | 0089 | - | F | Addition of 6.3D.2 Transmit OFF power for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-186781 | 0090 | - | F | Addition of 6.3D.3 Transmit ON/OFF time mask for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-186901 | 0091 | - | F | Update SEM requirements to TS 38.101-1 v15.3.0 | 15.1.0 |
| 2018-12 | RAN#82 | R5-186902 | 0092 | - | F | Update ACS and inband blocking test cases in TS 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187034 | 0107 | - | F | Adding edge allocation into common uplink configuration in 6.1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187038 | 0109 | - | F | Update test points for multiple FR1 test cases | 15.1.0 |
| 2018-12 | RAN#82 | R5-187149 | 0111 | - | F | Updated to Annexes for FR1 tests | 15.1.0 |
| 2018-12 | RAN#82 | R5-187150 | 0112 | - | F | General clauses updated for TS38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187376 | 0120 | - | F | Update of 6.2.1 MOP | 15.1.0 |
| 2018-12 | RAN#82 | R5-187378 | 0122 | - | F | Update of 6.3.1 Minimum Output Power | 15.1.0 |
| 2018-12 | RAN#82 | R5-187379 | 0123 | - | F | Update of 6.3.3.2 General ON/OFF time mask | 15.1.0 |
| 2018-12 | RAN#82 | R5-187380 | 0124 | - | F | Addition of 6.2D.1 MOP for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187381 | 0125 | - | F | Addition of 6.2D.2 MPR for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187382 | 0126 | - | F | Addition of 6.2D.4 Configured Output Power for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187383 | 0127 | - | F | Addition of 6.4D.1 Frequency error for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187384 | 0128 | - | F | Addition of 6.4D.2.1 EVM for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187385 | 0129 | - | F | Addition of 6.4D.2.2 Carrier Leakage for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187386 | 0130 | - | F | Addition of 6.4D.2.3 In-band emissions for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187387 | 0131 | - | F | Addition of 6.4D.2.4 EVM equalizer spectrum flatness for MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187395 | 0132 | - | F | Update of test case 6.2.3 UE A-MPR, general | 15.1.0 |
| 2018-12 | RAN#82 | R5-187397 | 0133 | - | F | Update of test case 6.2.3 UE A-MPR, NS_04 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187399 | 0134 | - | F | Update of test case test case 6.5.2.3 Additional spectrum emission mask, NS_04 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187421 | 0136 | - | F | Introduction of TC 6.5D.1 Occupied bandwidth for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187422 | 0137 | - | F | Introduction of TC 6.5D.2.2 Spectrum Emission Mask for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187423 | 0138 | - | F | Introduction of TC 6.5D.2.3 Additional Spectrum Emission Mask for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187424 | 0139 | - | F | Introduction of TC 6.5D.2.4.1 NR ACLR for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187425 | 0140 | - | F | Introduction of TC 6.5D.2.4.2 UTRA ACLR for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187429 | 0144 | - | F | Introduction of TC 6.5D.4 Transmit intermodulation for UL MIMO | 15.1.0 |

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|---------|--------|-----------|------|---|---|---|--------|
| 2018-12 | RAN#82 | R5-187431 | 0146 | - | F | Introduction of TC 7.4D Maximum input level for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187432 | 0147 | - | F | Updating of 6.2C.1 Configured transmitted power for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187433 | 0148 | - | F | Introduction of TC 6.5C.1 Occupied bandwidth for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187434 | 0149 | - | F | Introduction of TC 6.5C.2 Spectrum Emission Mask for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187435 | 0150 | - | F | Introduction of TC 6.5C.2.3 Additional Spectrum Emission Mask for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187436 | 0151 | - | F | Introduction of TC 6.5C.2.4.1 NR ACLR for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187437 | 0152 | - | F | Introduction of TC 6.5C.2.4.2 UTRA ACLR for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187438 | 0153 | - | F | Introduction of TC 6.5C.3.2 General spurious emissions for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187439 | 0154 | - | F | Introduction of TC 6.5C.3.3 Spurious Emission for UE co-existence for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187440 | 0155 | - | F | Introduction of TC 6.5C.3.4 Additional Spurious Emission for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187455 | 0158 | - | F | Updating test case 6.3.4.2 Absolute Power Tolerance | 15.1.0 |
| 2018-12 | RAN#82 | R5-187456 | 0159 | - | F | Updating test case 6.3.4.4 Aggregate Power Tolerance | 15.1.0 |
| 2018-12 | RAN#82 | R5-187560 | 0162 | - | F | Update to Table 5.3.5-1 in TS 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187585 | 0164 | - | F | Update of transmit signal quality test cases in 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187615 | 0167 | - | F | Introduction of TC 6.5D.3.1 General spurious emissions for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187616 | 0168 | - | F | Introduction of TC 6.5D.3.2 Spurious Emission for UE co-existence for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187617 | 0169 | - | F | Introduction of TC 6.5D.3.3 Additional Spurious Emission for UL MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187618 | 0170 | - | F | Updating of Uplink channel for SUL in Annex G | 15.1.0 |
| 2018-12 | RAN#82 | R5-187804 | 0069 | 1 | F | Editorial Cleaning up for description of test requirement in clause 6 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187805 | 0063 | 1 | F | Introduction of TC 7.7D Spurious response for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187807 | 0113 | 1 | F | Introduction of receiver spurious emission tests for FR1 SA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187810 | 0114 | 1 | F | Introduction of wideband intermodulation tests for FR1 SA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187811 | 0145 | 1 | F | Introduction of TC 7.3D Reference sensitivity for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-187812 | 0085 | 1 | F | Update of operating bands and channel arrangement to TS 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187888 | 0121 | 1 | F | Update of 6.2.4 Configured Output Power | 15.1.0 |
| 2018-12 | RAN#82 | R5-187890 | 0156 | 1 | F | Introduction of TC 6.5C.4 Transmit intermodulation for SUL | 15.1.0 |
| 2018-12 | RAN#82 | R5-187892 | 0108 | 1 | F | Removing the Editor's notes of SA messages and procedures for all FR1 test cases | 15.1.0 |
| 2018-12 | RAN#82 | R5-187893 | 0083 | 1 | F | Update of FR1 6.2.2 MPR | 15.1.0 |
| 2018-12 | RAN#82 | R5-187894 | 0086 | 1 | F | Addition of Time alignment error for UL-MIMO to TS38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187895 | 0115 | 1 | F | Introduction of New FR1 test case 6.3.3.6 SRS time mask | 15.1.0 |
| 2018-12 | RAN#82 | R5-187896 | 0116 | 1 | F | 5G_FR1 Text update for 6.5.3.3 Additional Spurious emission | 15.1.0 |
| 2018-12 | RAN#82 | R5-187897 | 0161 | 1 | F | Update of test case 6.3.4.3, Power Control Relative power tolerance in 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187898 | 0165 | 1 | F | Addition of EVM equalizer spectral flatness test case 6.4.2.5 to TS 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187899 | 0099 | 1 | F | Introduction of test case for Frequency error for CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187900 | 0100 | 1 | F | Introduction of test cases for Transmit modulation quality for CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187901 | 0101 | 1 | F | Introduction of test case for Spectrum emission mask for Inter-band CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187902 | 0102 | 1 | F | Introduction of test case for NR ACLR for Inter-band CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187903 | 0103 | 1 | F | Introduction of test case for UTRA ACLR for Inter-band CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187904 | 0104 | 1 | F | Introduction of test case for General spurious emissions for Inter-band CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187905 | 0105 | 1 | F | Introduction of test case for Spurious emission for UE co-existence for CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187906 | 0106 | 1 | F | Introduction of test case for Transmit intermodulation for Inter-band CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-187911 | 0118 | 1 | F | Addition of notes to clarify test point selection into general section of TS 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187914 | 0163 | 1 | F | Update of Global In-channel Tx Test Annex in 38.521-1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-187915 | 0082 | 1 | F | Introduction of FR1 7.4 Maximum input level | 15.1.0 |
| 2018-12 | RAN#82 | R5-188032 | 0075 | 1 | F | Addition of 6.3D.4.1 Absolute Power tolerance for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-188033 | 0076 | 1 | F | Addition of 6.3D.4.2 Relative Power Tolerance for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-188034 | 0077 | 1 | F | Addition of 6.3D.4.3 Aggregate Power tolerance for UL-MIMO | 15.1.0 |
| 2018-12 | RAN#82 | R5-188035 | 0110 | 1 | F | Update to FR1 test case 6.3.3.4 PRACH time mask | 15.1.0 |
| 2018-12 | RAN#82 | R5-188206 | 0117 | 1 | F | Introduction of New FR1 test case 6.3.3.7 PUSCH-PUCCH and PUSCH-SRS time masks | 15.1.0 |
| 2018-12 | RAN#82 | R5-188207 | 0071 | 1 | F | 5G_FR1 Text update for 7.3A Reference sensitivity for CA | 15.1.0 |
| 2018-12 | RAN#82 | R5-188208 | 0067 | 2 | F | Updates of MU in TS 38.521-1 Annex F during RAN5#81 | 15.1.0 |
| 2018-12 | RAN#82 | R5-188209 | 0068 | 2 | F | Updates of TT in TS 38.521-1 Annex F during RAN5#81 | 15.1.0 |
| 2018-12 | RAN#82 | R5-188210 | 0097 | 1 | F | TDD configuration for UE Tx test in FR1 | 15.1.0 |
| 2018-12 | RAN#82 | R5-188211 | 0119 | 1 | F | Core alignment CR to capture TS 38.101-1 updates during RAN4#89 | 15.1.0 |
| 2019-03 | RAN#83 | R5-191034 | 0228 | - | F | Update Clause 2 of TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191035 | 0229 | - | F | Update Clause 3.2 of TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191039 | 0232 | - | F | Correction to TC 6.4A.2.1.1 Error Vector Magnitude for CA (2UL CA) | 15.2.0 |
| 2019-03 | RAN#83 | R5-191088 | 0244 | - | F | Editorial cleaning up of test configuration tables in TS 38.521-1 | 15.2.0 |

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| 2019-03 | RAN#83 | R5-191089 | 0245 | - | F | Editorial correction of core alignment in TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191090 | 0246 | - | F | Updates of TT in TS38.521-1 Annex F during RAN5#NR4 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191156 | 0247 | - | F | General clauses updated for TS38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191244 | 0249 | - | F | Editorial change in 6.5.2.1 general section | 15.2.0 |
| 2019-03 | RAN#83 | R5-191245 | 0250 | - | F | Update ACS and Inband Blocking test cases in TS38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191258 | 0251 | - | F | Update to FR1 test case 6.5.4 Transmit intermodulation | 15.2.0 |
| 2019-03 | RAN#83 | R5-191262 | 0252 | - | F | Update of TC 7.6.3_Out-of-band blocking | 15.2.0 |
| 2019-03 | RAN#83 | R5-191264 | 0253 | - | F | Introduction of TC 7.6.4 Narrow-band blocking | 15.2.0 |
| 2019-03 | RAN#83 | R5-191265 | 0254 | - | F | Introduction of TC 7.7 Spurious response | 15.2.0 |
| 2019-03 | RAN#83 | R5-191338 | 0256 | - | F | Update of test case 6.3.4.3, Power Control Relative power tolerance in 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191465 | 0257 | - | F | Correction of FR1 6.2.2 Maximum Power Reduction (MPR) | 15.2.0 |
| 2019-03 | RAN#83 | R5-191506 | 0262 | - | F | Shared Risk clarification in TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191526 | 0263 | - | F | Update to FR1 test case 6.3.3.6 SRS time mask | 15.2.0 |
| 2019-03 | RAN#83 | R5-191675 | 0267 | - | F | Addition of MU and TT for NR FR1 UL-MIMO test cases | 15.2.0 |
| 2019-03 | RAN#83 | R5-191815 | 0272 | - | F | OBW test procedure update for 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191846 | 0277 | - | F | FR1 Text update for 6.5.3.1 General spurious emission | 15.2.0 |
| 2019-03 | RAN#83 | R5-191848 | 0278 | - | F | Correction of errors in Table 6.1-1 of 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-191849 | 0279 | - | F | FR1 Text update for 7.3C Reference sensitivity power level for SUL | 15.2.0 |
| 2019-03 | RAN#83 | R5-191852 | 0280 | - | F | FR1 Text update for 6.5.3.2 Spurious emission for UE co-existence | 15.2.0 |
| 2019-03 | RAN#83 | R5-191854 | 0281 | - | F | FR1 Text update for 7.3.2 Reference sensitivity power level | 15.2.0 |
| 2019-03 | RAN#83 | R5-192088 | 0317 | - | F | Test mode and test loop function activation in SA Tx RF test cases in TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192089 | 0318 | - | F | Test mode and test loop function activation in SA Rx RF test cases in TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192121 | 0320 | - | F | Update of Global In-channel Tx Test Annex for FR1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192402 | 0266 | 1 | F | Update of FR1 6.2.4 Configured transmitted power | 15.2.0 |
| 2019-03 | RAN#83 | R5-192407 | 0294 | 1 | F | Update of time alignment error for UL MIMO FR1 6.4D.3 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192408 | 0295 | 1 | F | Introduction of TC 6.4D.4 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192409 | 0309 | 1 | F | Update of FR1 6.2.1 MOP | 15.2.0 |
| 2019-03 | RAN#83 | R5-192411 | 0310 | 1 | F | Update of FR1 6.3.1 Minimum Output Power | 15.2.0 |
| 2019-03 | RAN#83 | R5-192412 | 0311 | 1 | F | Addition of FR1 6.3A.1 minimum output power for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192413 | 0321 | 1 | F | Update of transmit signal quality test cases for FR1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192414 | 0231 | 1 | F | Introduction of TC 7.7A.0 Minimum conformance requirements | 15.2.0 |
| 2019-03 | RAN#83 | R5-192416 | 0240 | 1 | F | Update to Wideband Intermodulation for SA FR1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192417 | 0241 | 1 | F | Updates to 7.9 spurious emission for SA in FR1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192418 | 0259 | 1 | F | Introduction of FR1 7.6D.3 Out-of-band blocking for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192419 | 0260 | 1 | F | Introduction of FR1 7.6D.4 Narrow band blocking for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192420 | 0261 | 1 | F | Introduction of FR1 7.8D.2 Wide band Intermodulation for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192421 | 0276 | 1 | F | Correction of FR1 7.4 Maximum input level | 15.2.0 |
| 2019-03 | RAN#83 | R5-192510 | 0322 | 1 | F | Asymmetric CH BWs test configuration for Reference Sensitivity | 15.2.0 |
| 2019-03 | RAN#83 | R5-192544 | 0230 | 1 | F | Correction to TC 6.4A.2.2 Carrier leakage for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192545 | 0248 | 1 | F | Update of test case 6.5.2.4.2, UTRA ACLR in 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192547 | 0273 | 1 | F | Update of FR1 6.2D.1 MOP for MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192548 | 0275 | 1 | F | Update of 6.2D.4 Configured Output Power for MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192549 | 0284 | 1 | F | Update of FR1 test case 6.3D.1 Minimum output power for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192550 | 0296 | 1 | F | Update of TC 6.5D.1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192551 | 0297 | 1 | F | Update of TC 6.5D.2.2 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192553 | 0298 | 1 | F | Introduction of TC 6.5D.2.3 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192554 | 0299 | 1 | F | Update of TC 6.5D.2.4.1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192555 | 0300 | 1 | F | Update of TC 6.5D.2.4.2 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192556 | 0301 | 1 | F | Update of 6.5D.3.1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192557 | 0302 | 1 | F | Update of 6.5D.3.2 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192558 | 0303 | 1 | F | Update of 6.5D.3.3 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192559 | 0304 | 1 | F | Update of 6.5D.4 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192561 | 0313 | 1 | F | Addition of FR1 6.3A.3 Transmit ON/OFF time mask for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192562 | 0325 | 1 | F | Update of FR1 6.2D.2 MPR for MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192563 | 0233 | 1 | F | Introduction of TC 7.7A.1 Spurious response for 2DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192564 | 0234 | 1 | F | Introduction of TC 7.7A.2 Spurious response for 3DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192565 | 0235 | 1 | F | Introduction of TC 7.7A.3 Spurious response for 4DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192566 | 0258 | 1 | F | Introduction of FR1 7.6D.2 Inband blocking for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192567 | 0285 | 1 | F | Update on TC 6.4A.1.1 Frequency error for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192570 | 0286 | 1 | F | Update on TCs in section 6.4A.2 Transmit modulation quality for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192576 | 0287 | 1 | F | Update on TC 6.5A.2.2.1 Spectrum emission mask for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192577 | 0288 | 1 | F | Update on TC 6.5A.2.4.1.1 NR ACLR for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192578 | 0289 | 1 | F | Update on TC 6.5A.2.4.2.1 UTRA ACLR for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192579 | 0290 | 1 | F | Update on TC 6.5A.3.1.1 General spurious emissions for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192580 | 0291 | 1 | F | Update on TC 6.5A.3.2.1 Spurious emissions for UE co-existence for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192581 | 0292 | 1 | F | Update on TC 6.5A.4.1 TX IM for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192583 | 0268 | 1 | F | Addition of 7.5A.0 Minimum conformance requirements | 15.2.0 |
| 2019-03 | RAN#83 | R5-192584 | 0269 | 1 | F | Addition of 7.5A.1 Adjacent channel selectivity for 2DL CA | 15.2.0 |

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| 2019-03 | RAN#83 | R5-192585 | 0270 | 1 | F | Addition of 7.5A.2 Adjacent channel selectivity for 3DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192586 | 0271 | 1 | F | Addition of 7.5A.3 Adjacent channel selectivity for 4DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192587 | 0282 | 1 | F | FR1 Text update for 7.3A.2 Reference sensitivity power level for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192588 | 0283 | 1 | F | FR1 Text update for 7.3.2_1 Reference sensitivity level with 4 Rx antenna ports | 15.2.0 |
| 2019-03 | RAN#83 | R5-192589 | 0305 | 1 | F | Update of 7.3D.2 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192590 | 0306 | 1 | F | Update of TC 7.4D | 15.2.0 |
| 2019-03 | RAN#83 | R5-192591 | 0307 | 1 | F | Introduction of TC 7.5D | 15.2.0 |
| 2019-03 | RAN#83 | R5-192592 | 0324 | 1 | F | Update of TC 7.7D Spurious response for UL-MIMO | 15.2.0 |
| 2019-03 | RAN#83 | R5-192593 | 0243 | 1 | F | Updates of TT in TS38.521-1 Annex F during RAN5#82 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192594 | 0265 | 1 | F | Correction of HARQ-ACK transmission timing for DL RMC for FR1 TDD SCS=60kHz | 15.2.0 |
| 2019-03 | RAN#83 | R5-192597 | 0319 | 1 | F | Updating test case 7.3.2 Reference sensitivity power level Table 7.3.2.4.1-3 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192598 | 0323 | 1 | F | Update OBW, SEM and ACLR in TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192682 | 0236 | 1 | F | Introduction of TC 7.9A.0 Minimum conformance requirements | 15.2.0 |
| 2019-03 | RAN#83 | R5-192683 | 0237 | 1 | F | Introduction of TC 7.9A.1 Spurious emission for 2DL CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192685 | 0312 | 2 | F | Addition of FR1 6.3A.2 Transmit OFF power for CA | 15.2.0 |
| 2019-03 | RAN#83 | R5-192693 | 0293 | 1 | F | Introduction of Annex on Characteristics of the Interfering Signal FR1 | 15.2.0 |
| 2019-03 | RAN#83 | R5-192837 | 0326 | 1 | F | Update of operating bands and channel arrangement to TS 38.521-1 | 15.2.0 |
| 2019-03 | RAN#83 | - | - | - | - | Editorial correction of references to TS 38.508-1 clause 4.6 tables | 15.2.0 |
| 2019-06 | RAN#84 | R5-193535 | 0389 | - | F | Update of test case 6.5.2.4.2, UTRA ACLR in 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193536 | 0390 | - | F | Update of test case 6.3.4.3, Power Control Relative power tolerance | 15.3.0 |
| 2019-06 | RAN#84 | R5-193567 | 0394 | - | F | Correction of 38.521-1 7.6D.2 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193569 | 0395 | - | F | Correction of 38.521-1 7.6D.3 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193571 | 0396 | - | F | Correction of 38.521-1 7.6D.4 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193573 | 0397 | - | F | Correction of 38.521-1 7.8D.2 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193574 | 0398 | - | F | Correction of 38.521-1 6.2.2 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193585 | 0400 | - | F | Update of TC 7.7A.0 Spurious response for CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-193586 | 0401 | - | F | Correction of section number for UE diagram in Initial conditions of 38.521-1 Clause 6 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193589 | 0404 | - | F | Correction of section number for UE diagram in Initial conditions of 38.521-1 Clause 7 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193593 | 0405 | - | F | Unify Outer_1RB and Edge_1RB in Test Configuration Table of 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193753 | 0413 | - | F | Update of 6.3D Output power dynamics for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-193915 | 0417 | - | F | Update of NR FR1 6.2.3 A-MPR NS_04 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193917 | 0418 | - | F | Update of SA FR1 RF 6.5D.2.3 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193918 | 0419 | - | F | Update of SA FR1 RF 6.5D.2.4.2 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193920 | 0420 | - | F | Update of SA FR1 RF 6.5D.3.3 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193930 | 0421 | - | F | Addition of NR FR1 6.2D.3 A-MPR for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-193955 | 0423 | - | F | Update of clause 5 to TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194125 | 0425 | - | F | Update Out of band emission test cases in TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194126 | 0426 | - | F | Update ACS and Inbandblocking interferer definition in TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194161 | 0428 | - | F | Update of test case 6.2.3 UE A-MPR, NS_35 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194162 | 0429 | - | F | Update of test case 6.5.2.3; Additional spectrum emission mask | 15.3.0 |
| 2019-06 | RAN#84 | R5-194226 | 0435 | - | F | Correction to In-band emission test case | 15.3.0 |
| 2019-06 | RAN#84 | R5-194228 | 0437 | - | F | Correction to PRACH configurations | 15.3.0 |
| 2019-06 | RAN#84 | R5-194256 | 0439 | - | F | Correction to FR1 Reference Sensitivity | 15.3.0 |
| 2019-06 | RAN#84 | R5-194268 | 0440 | - | F | Update of 7.5A.0 Minimum conformance requirements | 15.3.0 |
| 2019-06 | RAN#84 | R5-194304 | 0442 | - | F | Correction to time domain allocation of DMRS | 15.3.0 |
| 2019-06 | RAN#84 | R5-194305 | 0443 | - | F | Updating 7.8.2 Wide band Intermodulation | 15.3.0 |
| 2019-06 | RAN#84 | R5-194307 | 0445 | - | F | Correction to ON/OFF time mask test | 15.3.0 |
| 2019-06 | RAN#84 | R5-194308 | 0446 | - | F | Correction to carrier leakage and in-band emission tests | 15.3.0 |
| 2019-06 | RAN#84 | R5-194312 | 0447 | - | F | FR1 Update for 7.3A Reference sensitivity for CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194313 | 0448 | - | F | FR1 Update for 7.3.2 Reference sensitivity power level | 15.3.0 |
| 2019-06 | RAN#84 | R5-194314 | 0449 | - | F | FR1 Update for 7.3.3 Ref sensitivity ?RIB,c | 15.3.0 |
| 2019-06 | RAN#84 | R5-194315 | 0450 | - | F | FR1 Update for 7.3C Reference sensitivity for SUL | 15.3.0 |
| 2019-06 | RAN#84 | R5-194316 | 0451 | - | F | FR1 Update for 6.5.3.2 Spurious emission for UE co-existence | 15.3.0 |
| 2019-06 | RAN#84 | R5-194377 | 0454 | - | F | FR1 Update for 6.5.3.3 Additional spurious emissions | 15.3.0 |
| 2019-06 | RAN#84 | R5-194383 | 0455 | - | F | Update of 7.5A.2 Adjacent channel selectivity for 3DL CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194905 | 0414 | 1 | F | Update of 6.3D.4.1 Absolute Power tolerance for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-194906 | 0415 | 1 | F | Update of 6.3D.4.2 Relative Power Tolerance for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-194908 | 0465 | 1 | F | Update of TC 6.3A.3 Transmit ON/OFF time mask for CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194910 | 0463 | 1 | F | Update of TC 6.3A.1 Minimum output power for CA FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194911 | 0434 | 1 | F | Update of 6.2.3 for UE additional maximum output power reduction | 15.3.0 |
| 2019-06 | RAN#84 | R5-194912 | 0430 | 1 | F | Update of test case 6.2.3 UE A-MPR FR1, general part and minimum requirements | 15.3.0 |
| 2019-06 | RAN#84 | R5-194915 | 0438 | 1 | F | Correction to SRS time mask test | 15.3.0 |
| 2019-06 | RAN#84 | R5-194916 | 0444 | 1 | F | Correction to transmit signal quality test cases | 15.3.0 |
| 2019-06 | RAN#84 | R5-194917 | 0461 | 1 | F | Introduction of 6.2A.4.0.2 TIB for CA into Rel-15 | 15.3.0 |

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| 2019-06 | RAN#84 | R5-194918 | 0468 | 1 | F | Update of transmit signal quality test cases for FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194919 | 0407 | 1 | F | Update of TC 7.9A.1 Spurious emissions for 2DL CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194920 | 0456 | 1 | F | Update of 7.5A.3 Adjacent channel selectivity for 4DL CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194921 | 0469 | 1 | F | Correction to FR1 Reference Sensitivity test configurations with n70 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194922 | 0431 | 1 | F | Update of clause 3 to TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194923 | 0432 | 1 | F | Update of clause 4 to TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194924 | 0433 | 1 | F | Update of clause 5 for operating bands and channel arrangement | 15.3.0 |
| 2019-06 | RAN#84 | R5-194925 | 0452 | 1 | F | General clause updated for FR1 spec | 15.3.0 |
| 2019-06 | RAN#84 | R5-194926 | 0467 | 1 | F | Update of Global In-channel Tx Test Annex for FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194957 | 0392 | 1 | F | Updates of MU and TT in TS 38.521-1 Annex F during RAN5#NR5 | 15.3.0 |
| 2019-06 | RAN#84 | R5-194973 | 0402 | 1 | F | Update of TC 7.9A.0 Spurious emissions for CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-194974 | 0403 | 1 | F | Update of TC 7.7D Spurious response for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-195090 | 0470 | 1 | F | Update of FR1 ON_ON time mask test cases | 15.3.0 |
| 2019-06 | RAN#84 | R5-195092 | 0441 | 1 | F | Update of 7.5A.1 Adjacent channel selectivity for 2DL CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-195140 | 0416 | 1 | F | Update of 6.3D.4.3 Aggregate Power tolerance for UL-MIMO | 15.3.0 |
| 2019-06 | RAN#84 | R5-195142 | 0422 | 1 | F | Addition of TT values for NR FR1 UL-MIMO test cases | 15.3.0 |
| 2019-06 | RAN#84 | R5-195143 | 0457 | 1 | F | Introduction of Occupied bandwidth for Inter-band CA in NR SA FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-195144 | 0458 | 1 | F | Update of 6.4D.3 Time alignment error for UL-MIMO FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-195145 | 0464 | 1 | F | Update of TC 6.3A.2 Transmit OFF power for CA FR1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-195198 | 0436 | 1 | F | Correction to power control test cases | 15.3.0 |
| 2019-06 | RAN#84 | R5-195403 | 0459 | 1 | F | Addition of 6.2A.1.3 FR1 MOP for inter-band CA | 15.3.0 |
| 2019-06 | RAN#84 | R5-195430 | 0393 | 1 | F | Updates of MU and TT in TS 38.521-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-195431 | 0424 | 1 | F | Core alignment with TS 38.101-1 | 15.3.0 |
| 2019-06 | RAN#84 | R5-193550 | 0391 | - | F | Introduction of CA_n41A-n79A into Rel-16 | 16.0.0 |
| 2019-06 | RAN#84 | R5-195053 | 0462 | 1 | F | Introduction of 6.2A.4.0.2 TIB for CA into Rel-16 | 16.0.0 |
| 2019-06 | RAN#84 | R5-195056 | 0399 | 1 | F | Introduction of CA_n41 into Rel-16 TS 38.521-1 | 16.0.0 |
| 2019-06 | RAN#84 | R5-195405 | 0460 | 1 | F | Introduction of 6.2A.1.3 FR1 MOP for inter-band CA into Rel-16 | 16.0.0 |
| 2019-09 | RAN#85 | R5-195732 | 0472 | - | F | Update Clause 6.2A.4.0.2 TIB for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-195804 | 0474 | - | F | Update of UE A_MPR test case in 6.2.3 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196191 | 0477 | - | F | Update of Minimum conformance requirements and addition of test points in TC 6.2.2 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196231 | 0483 | - | F | Correction to 6.5.2.3 Additional spectrum emission mask | 16.1.0 |
| 2019-09 | RAN#85 | R5-196233 | 0485 | - | F | Correction to 6.3.4.3 Power Control Relative power tolerance | 16.1.0 |
| 2019-09 | RAN#85 | R5-196234 | 0486 | - | F | Correction to PUCCH format in EVM and In-band emissions test | 16.1.0 |
| 2019-09 | RAN#85 | R5-196291 | 0488 | - | F | Add Annex F.4 Uplink Power window explanation for SA test cases | 16.1.0 |
| 2019-09 | RAN#85 | R5-196396 | 0489 | - | F | Update of Minimum output power for CA FR1 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196402 | 0492 | - | F | Update of NR test case 6.2A.1-UE maximum output power for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-196413 | 0498 | - | F | Update of FR1 6.4D.1 Frequency error for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-196421 | 0502 | - | F | Update of FR1 6.4D.2.4 EVM equalizer spectrum flatness for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-196425 | 0504 | - | F | Update of DL RB allocation in Annex C | 16.1.0 |
| 2019-09 | RAN#85 | R5-196481 | 0514 | - | F | Remove references to 4Rx Reference Sensitivity test case 7.3.2_1 from Annex F | 16.1.0 |
| 2019-09 | RAN#85 | R5-196499 | 0517 | - | F | Updated to Annex A for RF FR1 tests | 16.1.0 |
| 2019-09 | RAN#85 | R5-196500 | 0518 | - | F | General clause updated for FR1 spec | 16.1.0 |
| 2019-09 | RAN#85 | R5-196653 | 0521 | - | F | Update TT for 6.3D.4.1 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196696 | 0523 | - | F | Update of Minimum conformance requirements and Test requirement in TC 7.4 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196699 | 0524 | - | F | Update of Minimum conformance requirements in TC 6.3.2 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196711 | 0525 | - | F | Addition of TT for 6.3D.4.2 | 16.1.0 |
| 2019-09 | RAN#85 | R5-196726 | 0526 | - | F | Addition of TT for 6.3D.4.3 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197307 | 0476 | 1 | F | Update UL-MIMO to UL MIMO to align with RAN4 terminology in FR1 | 16.1.0 |

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| 2019-09 | RAN#85 | R5-197308 | 0506 | 1 | F | Update for 6.5.3.1 General spurious emissions | 16.1.0 |
| 2019-09 | RAN#85 | R5-197309 | 0508 | 1 | F | Update for 6.5.3.3 Additional spurious emissions | 16.1.0 |
| 2019-09 | RAN#85 | R5-197312 | 0473 | 1 | F | Update of Additional spectrum emission mask test case 6.5.2.3 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197313 | 0480 | 1 | F | Add TT to 6.3D.1 Minimum output power for UL-MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-197314 | 0484 | 1 | F | Correction to PRACH configurations | 16.1.0 |
| 2019-09 | RAN#85 | R5-197316 | 0494 | 1 | F | Addition of NR test case 6.2A.3-UE additional maximum output power reduction for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197318 | 0495 | 1 | F | Addition of NR test case 6.2A.4-Configured output power for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197319 | 0499 | 1 | F | Update of FR1 6.4D.2.1 EVM for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-197321 | 0500 | 1 | F | Update of FR1 6.4D.2.2 Carrier leakage for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-197324 | 0501 | 1 | F | Update of FR1 6.4D.2.3 Inband emission for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-197327 | 0511 | 1 | F | Update for 7.3C.0 Minimum conformance requirements for SUL | 16.1.0 |
| 2019-09 | RAN#85 | R5-197328 | 0512 | 1 | F | Update for 7.3A.0 Minimum conformance requirements for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197329 | 0522 | 1 | F | Update of Minimum conformance requirements and Test requirement in TCs 7.6.3 7.6.4 and 7.7 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197330 | 0527 | 1 | F | Update of 7.5A.0 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197492 | 0503 | 1 | F | Update of UL power configuration for ON/OFF and Absolute power tolerance | 16.1.0 |
| 2019-09 | RAN#85 | R5-197514 | 0478 | 1 | F | Correction of uplink power setting for SA FR1 transmitter test cases | 16.1.0 |
| 2019-09 | RAN#85 | R5-197515 | 0479 | 1 | F | Correction of uplink power setting for SA FR1 receiver test cases | 16.1.0 |
| 2019-09 | RAN#85 | R5-197519 | 0493 | 1 | F | Addition of NR test case 6.2A.2-UE maximum output power reduction for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197520 | 0497 | 1 | F | Update of FR1 6.2D.1 MOP for UL MIMO | 16.1.0 |
| 2019-09 | RAN#85 | R5-197521 | 0507 | 1 | F | Update for 6.5.3.2 Spurious emission for UE co-existence | 16.1.0 |
| 2019-09 | RAN#85 | R5-197522 | 0515 | 1 | F | Update to Occupied bandwidth for CA in NR SA FR1 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197523 | 0496 | 1 | F | Addition of FR1 7.4A Maximum input level for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197608 | 0510 | 1 | F | Update for 7.3C.2 Reference sensitivity power level for SUL | 16.1.0 |
| 2019-09 | RAN#85 | R5-197609 | 0513 | 1 | F | Update for 7.3.2 Reference sensitivity power level | 16.1.0 |
| 2019-09 | RAN#85 | R5-197610 | 0471 | 1 | F | Updates of MU and TT in TS 38.521-1 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197634 | 0475 | 2 | F | Update of operating bands and channel arrangement to TS38.521-1 g00 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197635 | 0491 | 2 | F | Update of Transmit ON/OFF time mask for CA FR1 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197639 | 0482 | 2 | F | Correction to power control TC 6.3.4.2 and 6.3.4.4 | 16.1.0 |
| 2019-09 | RAN#85 | R5-197640 | 0509 | 2 | F | Update for 7.3A Reference sensitivity for CA | 16.1.0 |
| 2019-09 | RAN#85 | R5-197641 | 0528 | 2 | F | Addition of the connection setup in TS 38.521-1 | 16.1.0 |
| 2019-10 | RAN#85 | - | - | - | - | Deletion of R5-197560 which was added by mistake but was withdrawn and belonged to another spec | 16.1.1 |
| 2019-12 | RAN#86 | R5-197917 | 0705 | - | F | Addition of FR1 SUL test case 6.2C.5 | 16.2.0 |
| 2019-12 | RAN#86 | R5-197923 | 0711 | - | F | Editorial update of test case 6.4D.2.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198044 | 0714 | - | F | Update of Clause 7.9A.1 Spurious emission for 2DL CA | 16.2.0 |

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| 2019-12 | RAN#86 | R5-198103 | 0715 | - | F | Correction of Clause 7.9 Spurious emissions | 16.2.0 |
| 2019-12 | RAN#86 | R5-198134 | 0716 | - | F | Updating incorrect note in test procedure | 16.2.0 |
| 2019-12 | RAN#86 | R5-198237 | 0723 | - | F | Alignment with core specification for test case 6.3.4.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198397 | 0739 | - | F | Correction to Test Configuration for In-band emissions | 16.2.0 |
| 2019-12 | RAN#86 | R5-198398 | 0740 | - | F | Editorial correction to test configuration table in MPR test | 16.2.0 |
| 2019-12 | RAN#86 | R5-198399 | 0741 | - | F | Correction to the test procedure for frequency error | 16.2.0 |
| 2019-12 | RAN#86 | R5-198401 | 0743 | - | F | Correction to Common Uplink Configuration | 16.2.0 |
| 2019-12 | RAN#86 | R5-198479 | 0747 | - | F | Correction of UL RMCs | 16.2.0 |
| 2019-12 | RAN#86 | R5-198526 | 0753 | - | F | Update of test case 6.2.3 UE A_MPR NS_43 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198546 | 0760 | - | F | Message Contents Update for TC 6.2.4 and 6.2D.4 of TS 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198547 | 0761 | - | F | Addition of NR FR1 intraband non-contiguous 2CA tests to 7.4A.1 and 7.5A.1 and updating 7.5A.1 to 38.521-1 to enable testing of CA combinations involving bands n66, n70 and n71 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198635 | 0764 | - | F | Updated to Annex A for RF FR1 tests | 16.2.0 |
| 2019-12 | RAN#86 | R5-198747 | 0774 | - | F | Update for 7.3.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-198755 | 0777 | - | F | Introduction of n65 to 38.521-1 Chapter 7 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199085 | 0701 | 1 | F | Updates of MU and TT in TS 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199308 | 0724 | 1 | F | Correction of 6.3D.3 Transmit ONOFF time mask for UL-MIMO | 16.2.0 |
| 2019-12 | RAN#86 | R5-199309 | 0725 | 1 | F | Correction of 6.3D.4.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199310 | 0727 | 1 | F | Correction of 6.3D.4.2 Relative power tolerance for UL-MIMO | 16.2.0 |
| 2019-12 | RAN#86 | R5-199311 | 0731 | 1 | F | Corrections to 6.3A.1.1 Minimum output power for CA 2UL CA FR1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199313 | 0702 | 1 | F | Update of FR1 SUL test case 6.2C.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199314 | 0703 | 1 | F | Addition of FR1 SUL test case 6.2C.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199315 | 0704 | 1 | F | Addition of FR1 SUL test case 6.2C.4 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199316 | 0706 | 1 | F | Addition of FR1 SUL test case 6.4C.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199317 | 0707 | 1 | F | Addition of FR1 SUL test case 6.4C.2.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199318 | 0708 | 1 | F | Addition of FR1 SUL test case 6.4C.2.2 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199319 | 0709 | 1 | F | Addition of FR1 SUL test case 6.4C.2.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199320 | 0710 | 1 | F | Addition of FR1 SUL test case 6.4C.2.4 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199321 | 0712 | 1 | F | Update test points in transmit quality to replace -40dBm by minimum output power | 16.2.0 |
| 2019-12 | RAN#86 | R5-199322 | 0746 | 1 | F | Correction to UL Power Control Window in FR1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199323 | 0749 | 1 | F | Corrections on A-MPR requirements in 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199324 | 0750 | 1 | F | Update of UE A_MPR Minimum Conformance requirements in 6.2.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199325 | 0751 | 1 | F | Update of test case 6.2.3 for UE A_MPR, NS_03 and NS_03U | 16.2.0 |
| 2019-12 | RAN#86 | R5-199329 | 0752 | 1 | F | Update of test case 6.2.3 UE A_MPR, NS_05 and NS_05U | 16.2.0 |
| 2019-12 | RAN#86 | R5-199330 | 0754 | 1 | F | Update of test case 6.2.3 UE A_MPR NS_43U | 16.2.0 |
| 2019-12 | RAN#86 | R5-199331 | 0755 | 1 | F | Adding of test requirements for UE A_MPR NS_100 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199332 | 0756 | 1 | F | Adding of test requirements for UE A_MPR NS_18 | 16.2.0 |

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| 2019-12 | RAN#86 | R5-199333 | 0758 | 1 | F | Update of Additional spectrum emission mask test case in 6.5.2.3 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199334 | 0775 | 1 | F | Update for 6.5.3.3 Additional spurious emissions | 16.2.0 |
| 2019-12 | RAN#86 | R5-199335 | 0718 | 1 | F | Correction of test applicability and minimum conformance requirements for SA FR1 7.6.4 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199336 | 0719 | 1 | F | Correction of minimum conformance requirements for SA FR1 7.6.3 7.7 and 7.9 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199337 | 0717 | 1 | F | Correction and addition of uplink power measurement MUs for SA FR1 TCs | 16.2.0 |
| 2019-12 | RAN#86 | R5-199338 | 0728 | 1 | F | Update of Operating bands and Channel arrangement to TS 38.521-1 R15 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199339 | 0766 | 1 | F | Update of Annex C.3.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199412 | 0765 | 1 | F | Update of clause 5 for R16 CA configurations in 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199433 | 0736 | 1 | F | Addition of reference sensitivity test for NR CA combination n29-n66 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199434 | 0729 | 1 | F | Update of Operating bands and Channel arrangement to TS 38.521-1 R16 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199435 | 0767 | 1 | F | Introduction of n29 and n65 to 38.521-1 Chapter 5 and 6.2.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199484 | 0720 | 1 | F | Correction of test procedure of SA FR1 6.5.3.1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199485 | 0768 | 1 | F | Update to ACLR test case | 16.2.0 |
| 2019-12 | RAN#86 | R5-199486 | 0776 | 1 | F | Update for 6.5.3.2 Spurious emission for UE co-existence | 16.2.0 |
| 2019-12 | RAN#86 | R5-199490 | 0748 | 1 | F | update of 7.5A.2 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199491 | 0773 | 1 | F | Update for 7.3C.0 Minimum conformance requirements for SUL | 16.2.0 |
| 2019-12 | RAN#86 | R5-199493 | 0770 | 1 | F | Add section 4.5 Applicability and test coverage rules | 16.2.0 |
| 2019-12 | RAN#86 | R5-199502 | 0721 | 1 | F | Correction of test description for SA FR1 6.5.2.4.2 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199503 | 0730 | 1 | F | Addition of almost contiguous allocation test points and update of minimum conformance requirements for SA FR1 6.2.2 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199556 | 0735 | 1 | F | Introduction of 3CA reference sensitivity case 7.3A.2 for NR and addition of reference sensitivity test for many combinations involving bands n66, n70 and n71 to 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199557 | 0762 | 1 | F | Introduction of CA blocking case 7.6A to 38.521-1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199563 | 0732 | 1 | F | Addition of 7.6A.3.1 Out-of-band blocking for CA (2DL CA) for SA FR1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199564 | 0733 | 1 | F | Addition of 7.6A.4.1 Narrow band blocking for CA (2DL CA) for SA FR1 | 16.2.0 |
| 2019-12 | RAN#86 | R5-199565 | 0734 | 1 | F | Addition of 7.8A.2.1 Wide band Intermodulation for CA (2DL CA) for SA FR1 | 16.2.0 |
| 2020-03 | RAN#87 | R5-200393 | 0789 | | F | Adding MU and TT for FR1 Rx CA test cases | 16.3.0 |
| 2020-03 | RAN#87 | R5-200397 | 0791 | | F | Updating power configuration for PRACH time mask | 16.3.0 |
| 2020-03 | RAN#87 | R5-200438 | 0792 | | F | Clarification of measurement interval of frequency error in FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200440 | 0794 | | F | Correction to 6.3.4.3 Power Control Relative power tolerance | 16.3.0 |
| 2020-03 | RAN#87 | R5-200441 | 0795 | | F | Correction to SEM and ACLR test cases | 16.3.0 |
| 2020-03 | RAN#87 | R5-200443 | 0797 | | F | Correction to UL power window description for 6.3.4.4 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200461 | 0798 | | F | Update of 7.6A.3.1 Out-of-band blocking for 2DL CA | 16.3.0 |
| 2020-03 | RAN#87 | R5-200462 | 0799 | | F | Update of 7.6A.4.1 Narrow band blocking for 2DL CA | 16.3.0 |

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| 2020-03 | RAN#87 | R5-200463 | 0800 | | F | Update of 7.8A.2.1 Wide band Intermodulation for 2DL CA | 16.3.0 |
| 2020-03 | RAN#87 | R5-200570 | 0804 | | F | Update of NR test case 6.5.3.2-Spurious emission for UE co-existence | 16.3.0 |
| 2020-03 | RAN#87 | R5-200640 | 0808 | | F | Update of Minimum requirements of 6.2.2 UE maximum output power reduction | 16.3.0 |
| 2020-03 | RAN#87 | R5-200658 | 0810 | | F | Update of 6.1 common part of Tx in TS38.521-1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200659 | 0811 | | F | Core spec alignment for test case 6.3.4.3 Relative power tolerance | 16.3.0 |
| 2020-03 | RAN#87 | R5-200664 | 0812 | | F | Correction of UL configuration for almost contiguous allocation in 6.2.2 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200666 | 0813 | | F | Update measurement bandwidth references in 6.5.4 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200693 | 0814 | | F | Update for 6.5.3.2 Spurious emission for UE co-existence | 16.3.0 |
| 2020-03 | RAN#87 | R5-200700 | 0817 | | F | Removal of square brackets for DCI format for test cases in 7.6 and 7.7 of SA FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200721 | 0818 | | F | Addition of new Rel-16 70MHz CBW for 6.3.2 and 7.4 of SA FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200725 | 0819 | | F | Correction of A-SE for NS_04 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200755 | 0823 | | F | Removing text from a Void clause | 16.3.0 |
| 2020-03 | RAN#87 | R5-200757 | 0825 | | F | Correction of A_MPR test for NS_05 and NS_05U | 16.3.0 |
| 2020-03 | RAN#87 | R5-200759 | 0826 | | F | Update of test case 6.2.3 UE A_MPR, NS_37 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200761 | 0827 | | F | Update of test case 6.2.3 UE A_MPR, NS_38 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200763 | 0828 | | F | Update of test case 6.2.3 UE A_MPR, NS_39 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200765 | 0829 | | F | Corrections of NS_43 in 38.521-1 section 6 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200767 | 0830 | | F | Corrections of NS_43U in 38.521-1 section 6 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200892 | 0815 | 1 | F | Update for 6.5.3.3 Additional spurious emissions | 16.3.0 |
| 2020-03 | RAN#87 | R5-200893 | 0809 | 1 | F | Core spec alignment for 7.6.3 and 7.8 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200895 | 0787 | 1 | F | Introduction of n95 SUL band test cases | 16.3.0 |
| 2020-03 | RAN#87 | R5-200906 | 0824 | 1 | F | Aligning A-MPR clause with TS 38.101-1 Rel-15 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200907 | 0781 | 1 | F | Update of TC 7.7A.1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200908 | 0782 | 1 | F | Update of Clause 4 in TS 38.521-1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200909 | 0783 | 1 | F | Update of clause 5 to TS 38.521-1 in R15 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200922 | 0822 | 1 | F | Introduction of Rel-16 spurious emissions co-existence requirements for bands n48, n65 and n95 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200924 | 0788 | 1 | F | Adding statistical testing condition in Annex H for CA testing | 16.3.0 |
| 2020-03 | RAN#87 | R5-200962 | 0786 | 1 | F | Corrections to TC 6.3A.3 transmit On OFF time mask for CA FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200971 | 0780 | 1 | F | Correction of reference numbers in TS 38.521-1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200972 | 0793 | 1 | F | Correction to 6.2.3 A-MPR test case | 16.3.0 |
| 2020-03 | RAN#87 | R5-200974 | 0802 | 1 | F | Update of test requirements for NR test case 6.5D.2.2 and 6.5D.2.4 | 16.3.0 |
| 2020-03 | RAN#87 | R5-200975 | 0803 | 1 | F | Update of NR SUL test cases | 16.3.0 |
| 2020-03 | RAN#87 | R5-200976 | 0820 | 1 | F | Update of NR test case 6.2.4-ConfigTP | 16.3.0 |
| 2020-03 | RAN#87 | R5-200977 | 0805 | 1 | F | Update of NR test case 7.4A Maximum input level for CA | 16.3.0 |
| 2020-03 | RAN#87 | R5-200978 | 0806 | 1 | F | Update of NR test case 7.6A.2 Inband Blocking for CA | 16.3.0 |

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| 2020-03 | RAN#87 | R5-200979 | 0821 | 1 | F | Cleaning up of Rx 2DL CA test cases in FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-201054 | 0785 | 1 | F | Update of R16 new bands and CBWs to TS 38.521-1 clause 5 | 16.3.0 |
| 2020-03 | RAN#87 | R5-201069 | 0832 | 1 | F | Adding n65 A-MPR and Emission Requirements | 16.3.0 |
| 2020-03 | RAN#87 | R5-201247 | 0790 | 2 | F | Cleaning up of power class 2 test cases in FR1 | 16.3.0 |
| 2020-03 | RAN#87 | R5-201238 | 0831 | 1 | F | Corrections of NS_18 in 38.521-1 section 6 | 16.3.0 |
| 2020-06 | RAN#88 | R5-201597 | 0835 | - | F | Correction of 4RX Reference requirement for n77 high range in 7.3.2 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201598 | 0836 | - | F | Correction of lower limit for test ID 55 in test 6.2.3 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201734 | 0841 | - | F | Addition of NR test case 6.3C.1 Minimum output power for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201735 | 0842 | - | F | Addition of NR test case 6.3C.2 Transmit OFF power for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201736 | 0843 | - | F | Addition of NR test case 6.3C.3 Transmit ON/OFF time mask for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201739 | 0846 | - | F | Addition of NR test case 6.3C.4.3 Aggregate power tolerance for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201741 | 0848 | - | F | Update of NR test case 6.5C.3.3-Additional spurious emissions for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201742 | 0849 | - | F | Update test description of NR test case 7.6.3-Out-of-band blocking | 16.4.0 |
| 2020-06 | RAN#88 | R5-201744 | 0851 | - | F | Addition of NR test case 7.6C.3 Out-of-band blocking for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-201745 | 0852 | - | F | Update of Annex F.3.2 and F.3.3 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201749 | 0854 | - | F | Update of NR test case 7.4A.1 Maximum input level for 2DL CA | 16.4.0 |
| 2020-06 | RAN#88 | R5-201750 | 0855 | - | F | Addition of NR test case 7.4A.2 Maximum input level for 3DL CA | 16.4.0 |
| 2020-06 | RAN#88 | R5-201752 | 0857 | - | F | Addition of NR test case 7.6A.2.2 IBB for 3DL CA | 16.4.0 |
| 2020-06 | RAN#88 | R5-201764 | 0861 | - | F | Adding NS_27 A_MPR and Emission Requirements for band n48 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201772 | 0865 | - | F | Adding NS_47 A_MPR and Emission Requirements for band n41 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201801 | 0866 | - | F | Update of clause 5 to TS 38.521-1 in R15 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201833 | 0867 | - | F | Update of Refsense requirements for n79 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201834 | 0868 | - | F | Correction of FR1 PUCCH EVM definition | 16.4.0 |
| 2020-06 | RAN#88 | R5-201845 | 0871 | - | F | Editorial correction of 6.2.1 test requirements | 16.4.0 |
| 2020-06 | RAN#88 | R5-201847 | 0873 | - | F | Updating 6.3.4.3 alternating sub-test | 16.4.0 |
| 2020-06 | RAN#88 | R5-201861 | 0875 | - | F | Addition of asymmetric BW combination set 1 of n66 | 16.4.0 |
| 2020-06 | RAN#88 | R5-201934 | 0877 | - | F | Update of Operating bands and Channel arrangement to TS 38.521-1 for R16 CADC configurations | 16.4.0 |
| 2020-06 | RAN#88 | R5-202034 | 0883 | - | F | Addition of new test case 7.6A.3.2 Out-of-band blocking for CA 3DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202035 | 0884 | - | F | Addition of new test case 7.6A.3.3 Out-of-band blocking for CA 4DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202036 | 0885 | - | F | Addition of new test case 7.6A.4.2 Narrow band blocking for CA 3DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202037 | 0886 | - | F | Addition of new test case 7.6A.4.3 Narrow band blocking for CA 4DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202039 | 0888 | - | F | Addition of new test case 7.8A.2.3 Wide band Intermodulation for CA 4DL CA R16 | 16.4.0 |

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| 2020-06 | RAN#88 | R5-202041 | 0890 | - | F | Correction of test procedure and some typos in 7.6A.4.1 Narrow band blocking for CA 2DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202042 | 0891 | - | F | Correction of test procedure and test requirement in 7.8A.2.1 R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202109 | 0893 | - | F | Correction to n70 asymmetric test points in Rx tests | 16.4.0 |
| 2020-06 | RAN#88 | R5-202217 | 0899 | - | F | Corrections on transmitter power for CA in 38.521-1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202422 | 0906 | - | F | Update F.1.2 with Relative Uplink power measurement uncertainty as 6.3.4.3 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202430 | 0909 | - | F | Add Reference sensitivity requirement for n48 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202484 | 0913 | - | F | Update of Reference sensitivity power level for R16 new CBW of n1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202503 | 0914 | - | F | CR on EVM Window Centre Timing Definition in FR1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202710 | 0840 | 1 | F | Update of NR test case 6.2A.3 AMPR for CA | 16.4.0 |
| 2020-06 | RAN#88 | R5-202711 | 0844 | 1 | F | Addition of NR test case 6.3C.4.1-Absolute power tolerance for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-202712 | 0845 | 1 | F | Addition of NR test case 6.3C.4.2 Power Control Relative power tolerance for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-202713 | 0847 | 1 | F | Update of NR test case 6.5.2.4 ACLR | 16.4.0 |
| 2020-06 | RAN#88 | R5-202714 | 0864 | 1 | F | Update of test case 6.2.3 UE A_MPR, NS_42 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202715 | 0905 | 1 | F | Update Uplink power control window size for SA TX TCs | 16.4.0 |
| 2020-06 | RAN#88 | R5-202716 | 0910 | 1 | F | Update for 6.5.3.1 General spurious emissions | 16.4.0 |
| 2020-06 | RAN#88 | R5-202717 | 0850 | 1 | F | Addition of NR test case 7.6C.2-Inband Blocking for SUL | 16.4.0 |
| 2020-06 | RAN#88 | R5-202718 | 0902 | 1 | F | Update of UL configuration in REFSSENS | 16.4.0 |
| 2020-06 | RAN#88 | R5-202719 | 0903 | 1 | F | Diversity Characteristics requirements alignment | 16.4.0 |
| 2020-06 | RAN#88 | R5-202765 | 0880 | 1 | F | Updates to test case 6.5.2.2, Spectrum Emission Mask | 16.4.0 |
| 2020-06 | RAN#88 | R5-202781 | 0859 | 1 | F | Adding several new 2CA and 3CA combinations to 7.3A and corrections to 7.3A.1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202783 | 0881 | 1 | F | Adding REFSSENS requirements for 30 MHz channel bandwidth in band n41 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202791 | 0869 | 1 | F | Update of general clause 7.1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202807 | 0904 | 1 | F | Receiver characteristics testing update to 38.521-1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202821 | 0862 | 1 | F | Update of test case 6.2.3 UE A_MPR, NS_40 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202822 | 0863 | 1 | F | Update of test case 6.2.3 UE A_MPR, NS_41 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202823 | 0908 | 1 | F | Update for 6.5.3.3 Additional spurious emissions | 16.4.0 |
| 2020-06 | RAN#88 | R5-202860 | 0912 | 1 | F | Update of Spurious emission for UE co-existence for CA_n1-n78 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202886 | 0860 | 1 | F | Aligning A-MPR clause with TS 38.101-1 Rel-15 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202887 | 0894 | 1 | F | NS_05 corrections related to n65 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202888 | 0896 | 1 | F | Corrections on network signalling value abbreviation in 38.521-1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202889 | 0897 | 1 | F | Corrections on NS signalling label for band n39 in 38.521-1 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202890 | 0900 | 1 | F | Correction on txDirectCurrentLocation in FR1 SA tests | 16.4.0 |
| 2020-06 | RAN#88 | R5-202891 | 0911 | 1 | F | Updated MOP UL MIMO test case to include steps for per port testing | 16.4.0 |
| 2020-06 | RAN#88 | R5-202892 | 0834 | 1 | F | Correction and clarifications of default DL physical channels power in annex C | 16.4.0 |

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| 2020-06 | RAN#88 | R5-202927 | 0876 | 1 | F | Update of Operating bands and Channel arrangement to TS 38.521-1 for R16 new bands and CBWs | 16.4.0 |
| 2020-06 | RAN#88 | R5-202928 | 0856 | 1 | F | Update for NR test case 7.6A.2.1 Inband Blocking for 2DL CA | 16.4.0 |
| 2020-06 | RAN#88 | R5-202929 | 0887 | 1 | F | Addition of new test case 7.8A.2.2 Wide band Intermodulation for CA 3DL CA R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202930 | 0889 | 1 | F | Correction of CW interference setting for OOB Inter-band 2DL CA in TC 7.6A.3.1 R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202931 | 0892 | 1 | F | Alignment of minimum conformance requirements in 7.6A.3.0 and 7.8A.2.0 with core spec R16 | 16.4.0 |
| 2020-06 | RAN#88 | R5-202940 | 0879 | 1 | F | Updates to test case 6.5.2.4.1, NR ACLR | 16.4.0 |
| 2020-06 | RAN#88 | R5-202941 | 0870 | 1 | F | Skipping 2Rx testing on bands where UE support 4Rx for SA test cases | 16.4.0 |
| 2020-06 | RAN#88 | R5-202942 | 0901 | 1 | F | Re-organization of CA refsens test cases | 16.4.0 |
| 2020-06 | RAN#88 | R5-202957 | 0853 | 1 | F | Update of NR test case 6.2.2 UE maximum output power reduction | 16.4.0 |
| 2020-09 | RAN#89 | R5-203260 | 0917 | - | F | Adding NS_47 to Additional spurious emissions test case | 16.5.0 |
| 2020-09 | RAN#89 | R5-203261 | 0918 | - | F | Adding UL MIMO additional spurious emissions test for NS_47 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203290 | 0926 | - | F | Clarification of Interferer frequency selection in FR1 IBB test case 7.6.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203291 | 0927 | - | F | Correction of K1 to achieve PUCCH Format 3 in FDD in EVM and in-band emission | 16.5.0 |
| 2020-09 | RAN#89 | R5-203572 | 0932 | - | F | Corrected test config for NS_24 in additional spurious emission test 6.5.3.3 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203678 | 0935 | - | F | Adding MU and TTs for Inter-band UL CA test cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-203679 | 0936 | - | F | Updating message content in SUL test cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-203682 | 0937 | - | F | Updating test case 6.5A.2.4.1-NR ACLR for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203687 | 0939 | - | F | Updating channel configurations for Intra-band UL contiguous CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203688 | 0940 | - | F | Updating intra-band CA UL and DL configurations | 16.5.0 |
| 2020-09 | RAN#89 | R5-203689 | 0941 | - | F | Adding MU and TTs for Intra-band UL CA test cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-203690 | 0942 | - | F | Introduce general requirement for UL CA test cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-203691 | 0943 | - | F | Updating NR test case 6.2A.1- MOP for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203696 | 0946 | - | F | Addition of general clause 7.1A | 16.5.0 |
| 2020-09 | RAN#89 | R5-203697 | 0947 | - | F | Updating REFSENS minimum requirements for Intra-band non-contiguous CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203698 | 0948 | - | F | Update of 7.4A.2-Maximum input level for 3DL CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203700 | 0950 | - | F | Update of test case 7.6A.2-Inband blocking for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203701 | 0951 | - | F | Update of test case 7.6A.2.2 Inband blocking for 3DL CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-203735 | 0956 | - | F | Add intra-band contiguous CA to 6.3A.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203748 | 0958 | - | F | Change of RB allocation start for test case 6.3.4.3 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203777 | 0960 | - | F | Update of NR test case 6.2.1 UE MOP for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203778 | 0961 | - | F | Update of NR test case 6.2.2 UE MPR for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203780 | 0962 | - | F | Update of NR test case 6.2D.1 UE MOP for UL MIMO for n30 | 16.5.0 |

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| 2020-09 | RAN#89 | R5-203783 | 0964 | - | F | Update of NR test case 6.5.3.2 Spurious Emissions for UE Co-Ex for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203786 | 0965 | - | F | Update of NR test case 7.3 UE Ref Sens for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203788 | 0967 | - | F | Update of NR test case 7.6.3 UE OBB for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203789 | 0968 | - | F | Update of NR test case 7.6.4 UE NBB for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203879 | 0972 | - | F | Correction of diversity characteristics requirement in section 7.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203880 | 0973 | - | F | Correction of UE mean power requirements Table numbers in SEM and ACLR test cases for SA FR1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203881 | 0974 | - | F | Adding NOTEs to the test requirement tables in 6.2D.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203885 | 0978 | - | F | Correction of test requirement for 6.2.1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-203967 | 0983 | - | F | Editorial correction of 6.2.4 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204010 | 0986 | - | F | Correction to target power level Pmin for SA UL MIMO TCs | 16.5.0 |
| 2020-09 | RAN#89 | R5-204035 | 0987 | - | F | Updating NR test case 7.6A.3 for n48 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204040 | 0989 | - | F | Update of NR test case 7.7A Spurious response for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-204054 | 0990 | - | F | Correction to test Configuration of flatness for Pi/2 BPSK | 16.5.0 |
| 2020-09 | RAN#89 | R5-204103 | 0991 | - | F | Correction of QPSK UL RMC | 16.5.0 |
| 2020-09 | RAN#89 | R5-204195 | 0996 | - | F | Update 6.5.3.2 Spurious emission for UE co-existence | 16.5.0 |
| 2020-09 | RAN#89 | R5-204202 | 0997 | - | F | Update for 7.3A.0 Minimum conformance requirements for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-204263 | 1001 | - | F | Update of CSI-RS definition for DL RMCs in TS 38.521-1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204711 | 0933 | 1 | F | Updating 6.2A.3-AMPR for CA for NS_43 and NS_01,NS_43U and NS_01 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204760 | 0934 | 1 | F | Cleaning up of Tx inter-band CA test cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-204761 | 1000 | 1 | F | Editorial correction to FR1 co-existence requirements | 16.5.0 |
| 2020-09 | RAN#89 | R5-204762 | 0923 | 1 | F | Update of clause5 into TS 38.521-1 R15 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204807 | 0993 | 1 | F | Update of UE co-existence for CA_n1-n78 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204808 | 0925 | 1 | F | Update of R16 CADC combos in TS 38.521-1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204823 | 0916 | 1 | F | Correction of test frequencies for NS_47 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204824 | 0919 | 1 | F | Adding band n48 to maximum output power and maximum output power reduction tests | 16.5.0 |
| 2020-09 | RAN#89 | R5-204825 | 0984 | 1 | F | Addition of 25MHz for NR band n1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204826 | 0985 | 1 | F | Addition of AMPR NS_48 for NR band n1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204827 | 0992 | 1 | F | Addition of n1 R16 new CBW into 38.521-1 Refsense test | 16.5.0 |
| 2020-09 | RAN#89 | R5-204828 | 0924 | 1 | F | Update of R16 new bands and CBWs in 38.521-1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204832 | 0952 | 1 | F | Introduce of new TC 6.3A.4.1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204833 | 0953 | 1 | F | Introduce of new TC 6.3A.4.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204834 | 0954 | 1 | F | Introduce of new TC 6.3A.4.3 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204835 | 0955 | 1 | F | Add intra-band contiguous CA to 6.3A.1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204836 | 0957 | 1 | F | Add intra-band contiguous CA to 6.3A.3 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204837 | 0949 | 1 | F | Adding band n48 for Blocking characteristics testing | 16.5.0 |

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| 2020-09 | RAN#89 | R5-204839 | 0995 | 1 | F | Updated to FR1 general clauses for NRSL eV2X | 16.5.0 |
| 2020-09 | RAN#89 | R5-204854 | 0959 | 1 | F | Correct UE output power configuration to some UL MIMO cases | 16.5.0 |
| 2020-09 | RAN#89 | R5-204855 | 0969 | 1 | F | Removal of editor's note about missing of Rel-15 In-gap OOB blocking requirement in RAN4 spec | 16.5.0 |
| 2020-09 | RAN#89 | R5-204897 | 0929 | 1 | F | Update to 7.5A.2 ACS for 3DL CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-204898 | 0988 | 1 | F | Update of NR test case 7.5A Adjacent Channel selectivity for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-204905 | 0975 | 1 | F | Correction of 6.2D.1 and Test applicability of 6.5.2.4.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204906 | 0976 | 1 | F | Correction of test requirement for 6.2.4 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204907 | 0977 | 1 | F | Addition of test procedure and test requirement for PC2 fallback to PC3 for network signalling value NS_04 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204908 | 0979 | 1 | F | Adding additional tolerance to test requirement of 6.2.1, 6.2.2, 6.2.3 and 6.2.4 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204909 | 0980 | 1 | F | Update of 6.2.3 for minimum conformance requirements for A-MPR | 16.5.0 |
| 2020-09 | RAN#89 | R5-204910 | 0970 | 1 | F | Alignment of requirements in 7.6.3 and 7.6A.3 with the core spec | 16.5.0 |
| 2020-09 | RAN#89 | R5-204911 | 0971 | 1 | F | Removal of SDL bands from single carrier Rx TCs 7.6.2, 7.6.3 and 7.6.4 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204912 | 0981 | 1 | F | Update of SA Rx test cases for 4Rx UEs | 16.5.0 |
| 2020-09 | RAN#89 | R5-204913 | 0998 | 1 | F | Update Uplink power control window size for SA RX TCs | 16.5.0 |
| 2020-09 | RAN#89 | R5-204960 | 0928 | 1 | F | Addition of test cases for n28 with CBW of 30MHz | 16.5.0 |
| 2020-09 | RAN#89 | R5-204961 | 0922 | 1 | F | n26 Rx requirements in 38.521-1 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204962 | 0966 | 1 | F | Update of NR test case 7.6.2 UE IBB for n30 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204974 | 0945 | 1 | F | Updating of NR test case 6.2A.4-Configured output power for CA | 16.5.0 |
| 2020-09 | RAN#89 | R5-204980 | 0930 | 2 | F | Corrections and additions to 7.3A | 16.5.0 |
| 2020-09 | RAN#89 | R5-204981 | 0931 | 2 | F | Completing 3CA Rx cases 7.5A.2 and 7.7A.2 | 16.5.0 |
| 2020-09 | RAN#89 | R5-204984 | 0944 | 1 | F | Update of NR test case 6.2A.2-MPR for CA | 16.5.0 |
| 2020-09 | RAN#89 | RP-201670 | 1002 | - | F | Adding FR1 PDCCH Aggregation Level in Annex C.3 | 16.5.0 |
| 2020-12 | RAN#90 | R5-205252 | 1005 | - | F | Adding NR Band n53 to UE maximum output power and MPR test cases | 16.6.0 |
| 2020-12 | RAN#90 | R5-205254 | 1007 | - | F | Adding NR Band n53 into Spurious emission for UE co-existence | 16.6.0 |
| 2020-12 | RAN#90 | R5-205299 | 1011 | - | F | Update of clause 5 in TS 38.521-1 R15 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205490 | 1014 | - | F | Update of Reference sensitivity power level for R16 new CBW of n3 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205493 | 1015 | - | F | Correction of diversity characteristics requirement in section 7.2 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205494 | 1016 | - | F | Correction of minimum conformance requirements and test requirement for narrow band blocking for Intra-band contiguous CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205495 | 1017 | - | F | Correction of Allocated slots per Frame for DL reference measurement channels | 16.6.0 |
| 2020-12 | RAN#90 | R5-205535 | 1018 | - | F | Correcting RB start for test case 6.3C.4.2 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205537 | 1019 | - | F | Update of NR test case 6.2.1 UE MOP for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205550 | 1023 | - | F | Update of NR test case 7.3 UE Ref Sens for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205551 | 1024 | - | F | Update of NR test case 7.6.2 UE IBB for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205552 | 1025 | - | F | Update of NR test case 7.6.3 UE OBB for n14 | 16.6.0 |

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| 2020-12 | RAN#90 | R5-205553 | 1026 | - | F | Update of NR test case 7.6.4 UE NBB for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205557 | 1028 | - | F | Updating abbreviation list | 16.6.0 |
| 2020-12 | RAN#90 | R5-205569 | 1031 | - | F | Adding 30 MHz channel bandwidth to test requirements for UL MIMO Spurious | 16.6.0 |
| 2020-12 | RAN#90 | R5-205574 | 1032 | - | F | Co-existence Table corrections related to n65 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205700 | 1043 | - | F | Addition of V2X reference measurement channels | 16.6.0 |
| 2020-12 | RAN#90 | R5-205731 | 1045 | - | F | Introduce General requirement for CA configurations | 16.6.0 |
| 2020-12 | RAN#90 | R5-205732 | 1046 | - | F | Adding RB allocation for channel BW 70MHz | 16.6.0 |
| 2020-12 | RAN#90 | R5-205733 | 1047 | - | F | Updating test configuration tables for intra-band UL CA test cases | 16.6.0 |
| 2020-12 | RAN#90 | R5-205734 | 1048 | - | F | Updating NR test case MOP for MIMO for several NR bands | 16.6.0 |
| 2020-12 | RAN#90 | R5-205735 | 1049 | - | F | Updating NR test case MPR for MIMO for several NR bands | 16.6.0 |
| 2020-12 | RAN#90 | R5-205736 | 1050 | - | F | Updating minimum requirement for OBW for inter-band CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205737 | 1051 | - | F | Update OBW testing for intra-band UL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205743 | 1055 | - | F | Updating NR test case 7.4A.2-Maximum input level for 3 DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205745 | 1056 | - | F | Updating NR test case 7.5A.2- Adjacent channel selectivity for 3DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205746 | 1057 | - | F | Updating NR test case 7.6A.2.2- In-band Blocking for 3DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205748 | 1058 | - | F | Updating Narrow band blocking for CA for band n48 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205790 | 1061 | - | F | Removing the highest SCS from test configuration for Tx spurious emissions for UL MIMO | 16.6.0 |
| 2020-12 | RAN#90 | R5-205791 | 1062 | - | F | Update of MPR for PC3 half Pi BPSK DMRS in 6.2.2 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205796 | 1066 | - | F | Update of MOP for UL MIMO with ULFPTx in 6.2D.1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205799 | 1068 | - | F | Addition of new test case 6.5D.3_1.2 UE co-existence spurious emissions for Rel-16 UL MIMO | 16.6.0 |
| 2020-12 | RAN#90 | R5-205800 | 1069 | - | F | Addition of new test case 6.5D.3_1.3 additional spurious emissions for Rel-16 UL MIMO | 16.6.0 |
| 2020-12 | RAN#90 | R5-205852 | 1070 | - | F | Correction of RAR timing for PRACH TC 6.3.3.4 and EVM TC 6.4.2.1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205872 | 1073 | - | F | Editorial correction to minimum requirements of REFSENS for CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-205879 | 1075 | - | F | Update of Rx test cases to add 40MHz for NR band n38 | 16.6.0 |
| 2020-12 | RAN#90 | R5-205882 | 1076 | - | F | Update of A-MPR for NS_18 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206022 | 1082 | - | F | Update of 6.3.1 for UE minimum output power test | 16.6.0 |
| 2020-12 | RAN#90 | R5-206088 | 1088 | - | F | Correction to ASEM for NS_27 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206160 | 1102 | - | F | Correction of Test Message Table 6.3.3.4.4.3-2 in section 6.3.3.4 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206638 | 1071 | 1 | F | Handling of delta Tib for UE supporting multiple band combinations | 16.6.0 |
| 2020-12 | RAN#90 | R5-206639 | 1077 | 1 | F | Update of A-MPR for NS_46 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206640 | 1090 | 1 | F | Update for 6.5.3.2 Spurious emission for UE co-existence | 16.6.0 |
| 2020-12 | RAN#90 | R5-206641 | 1092 | 1 | F | Correction for 6.3.3.6 SRS time mask | 16.6.0 |
| 2020-12 | RAN#90 | R5-206642 | 1098 | 1 | F | Correction to spurious co-existence requirements for n28 and n83 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206643 | 1044 | 1 | F | CR to update DMRS position in UL RMC for FR1 | 16.6.0 |

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| 2020-12 | RAN#90 | R5-206718 | 1037 | 1 | F | Addition of UL CA combinations to maximum output power for Inter-band CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-206719 | 1035 | 1 | F | Update of 7.5A.3 Adjacent channel selectivity for 4DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-206740 | 1006 | 1 | F | Adding NR Band n53 to UE additional maximum output power reduction test cases | 16.6.0 |
| 2020-12 | RAN#90 | R5-206741 | 1008 | 1 | F | Adding NS_45 to Additional spurious emissions test case for NR Band n53 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206742 | 1020 | 1 | F | Update of NR test case 6.2.2 UE MPR for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206743 | 1021 | 1 | F | Update of NR test case 6.2.3 UE A-MPR for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206744 | 1022 | 1 | F | Update of NR test case 6.5.3.2 Spurious Emissions for UE Co-Ex for n14 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206745 | 1029 | 1 | F | Adding A-MPR test for band n30 with NS_21 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206746 | 1030 | 1 | F | Adding additional Spectrum emission test for band n30 with NS_21 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206747 | 1041 | 1 | F | Update of NR test case 6.5.2.3 Additional Spectrum Emission Mask for n30 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206748 | 1074 | 1 | F | Update of Tx test cases to add 40MHz for NR band n38 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206749 | 1080 | 1 | F | Correction of 6.3.2 for UE transmit OFF power test | 16.6.0 |
| 2020-12 | RAN#90 | R5-206750 | 1096 | 1 | F | Adding n26 Tx requirements | 16.6.0 |
| 2020-12 | RAN#90 | R5-206751 | 1009 | 1 | F | Adding NR Band n53 Receiver requirements | 16.6.0 |
| 2020-12 | RAN#90 | R5-206761 | 1010 | 1 | F | Update of Test case 6.3A.4.1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206762 | 1034 | 1 | F | Update of Test case 6.3A.4.3 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206763 | 1059 | 1 | F | Updating NR test case 7.8A.2.2-Wide band Intermodulation for 3DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-206764 | 1078 | 1 | F | Addition of 6.2E.1.1 V2X MOP for non-concurrent | 16.6.0 |
| 2020-12 | RAN#90 | R5-206765 | 1079 | 1 | F | Addition of 7.3E.2 V2X REFSSENS for non-concurrent | 16.6.0 |
| 2020-12 | RAN#90 | R5-206766 | 1063 | 1 | F | Update of SEM for PC3 half Pi BPSK DMRS in 6.5.2.2 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206767 | 1064 | 1 | F | Update of NR ACLR for PC3 half Pi BPSK DMRS in 6.5.2.4.1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206768 | 1067 | 1 | F | Addition of new test case 6.5D.3_1.1 general spurious emissions for Rel-16 UL MIMO | 16.6.0 |
| 2020-12 | RAN#90 | R5-206863 | 1060 | 1 | F | Update of signalling configuration for almost contiguous allocation across clause 6 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206864 | 1053 | 1 | F | Updating NR test case REFSSENS for 2DL CA | 16.6.0 |
| 2020-12 | RAN#90 | R5-206879 | 1036 | 1 | F | Addition of 2UL CA exception to reference sensitivity test case | 16.6.0 |
| 2020-12 | RAN#90 | R5-206880 | 1039 | 1 | F | Update of Refsense test case for CA_n1A-n78A into 38.521-1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206881 | 1040 | 1 | F | Update of Refsense test case for CA_n1A-n77A into 38.521-1 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206882 | 1042 | 1 | F | Update of R16 CADC configurations into 38.521-1 clause 5 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206888 | 1089 | 1 | F | Update for 6.5D.3.3 Additional spurious emissions for UL MIMO | 16.6.0 |
| 2020-12 | RAN#90 | R5-206889 | 1094 | 1 | F | Update for 6.5.3.3 Additional spurious emission | 16.6.0 |
| 2020-12 | RAN#90 | R5-206890 | 1012 | 1 | F | Update of R16 new band and CBWs into TS 38.521-1 clause 5 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206891 | 1033 | 1 | F | Update of Test case 6.3A.4.2 | 16.6.0 |
| 2020-12 | RAN#90 | R5-206892 | 1054 | 1 | F | Updating NR test case REFSSENS for 3DL CA | 16.6.0 |

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| 2020-12 | RAN#90 | R5-206894 | 1027 | 1 | F | Addition of test case 6.5D.1_1, Occupied bandwidth for UL MIMO (Rel-16 onward) | 16.6.0 |
| 2020-12 | RAN#90 | R5-206901 | 1093 | 1 | F | Update for 6.5A.3.2 Spurious emission for UE co-existence | 16.6.0 |
| 2020-12 | RAN#90 | R5-206912 | 1091 | 1 | F | Update for 6.5A.3.1 General spurious emissions for CA | 16.6.0 |
| 2021-03 | RAN#91 | R5-210169 | 1106 | - | F | Addition of TC 7.3A.0.3.2.4 RIB,c for four bands | 16.7.0 |
| 2021-03 | RAN#91 | R5-210170 | 1107 | - | F | Update of TC 7.7A.3 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210290 | 1108 | - | F | Clarification of uplink power measurement uncertainty in test case 6.3.4.3 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210291 | 1109 | - | F | Message exceptions definition in test case 6.2.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210384 | 1114 | - | F | Add TT to power control for UL CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-210385 | 1115 | - | F | Update MU/TT on power control for UL CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-210419 | 1116 | - | F | Addition of new test case 6.4E.2.2.1 Error Vector Magnitude for V2X for non-concurrent operation | 16.7.0 |
| 2021-03 | RAN#91 | R5-210423 | 1118 | - | F | Addition of 6.5E.2.2.1D | 16.7.0 |
| 2021-03 | RAN#91 | R5-210424 | 1119 | - | F | Addition of 6.5E.2.3.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210425 | 1120 | - | F | Addition of 6.5E.2.3.1D | 16.7.0 |
| 2021-03 | RAN#91 | R5-210426 | 1121 | - | F | Addition of 6.5E.2.4.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210427 | 1122 | - | F | Addition of 6.5E.2.4.1D | 16.7.0 |
| 2021-03 | RAN#91 | R5-210428 | 1123 | - | F | Addition of 6.5E.3.2.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210429 | 1124 | - | F | Addition of 6.5E.3.2.1D | 16.7.0 |
| 2021-03 | RAN#91 | R5-210485 | 1125 | - | F | Correction of test purpose for 6.3.2 and 6.3D.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210487 | 1127 | - | F | Editorial correction for error in Table 7.6.4.4.1-1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210539 | 1129 | - | F | Introduction 4CA Reference Sensitivity test 7.3A.3 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210540 | 1130 | - | F | Introduction 4CA Maximum Input Level test 7.4A.3 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210541 | 1131 | - | F | Introduction 4CA In-Band Blocking test 7.6A.2.3 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210723 | 1133 | - | F | Omitting of FR1 Rx cases with UL-MIMO on TDD bands | 16.7.0 |
| 2021-03 | RAN#91 | R5-210782 | 1136 | - | F | Update of A-MPR minimum requirements for Rel-16 DMRS | 16.7.0 |
| 2021-03 | RAN#91 | R5-210787 | 1139 | - | F | Adding additional TP for half Pi BPSK DMRS to SEM test case for SUL | 16.7.0 |
| 2021-03 | RAN#91 | R5-210788 | 1140 | - | F | Adding additional TP for half Pi BPSK DMRS to NR ACLR test case for SUL | 16.7.0 |
| 2021-03 | RAN#91 | R5-210793 | 1142 | - | F | Update of the test configuration for carrier leakage for SUL | 16.7.0 |
| 2021-03 | RAN#91 | R5-210804 | 1145 | - | F | Update of R17 CADC configurations into TS38.521-1 clause 5 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210899 | 1146 | - | F | Removal of the highest SCS from test configuration for Tx spurious emissions for CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-210902 | 1147 | - | F | Updating test case 7.3A.1_1 for 4Rx test requirements | 16.7.0 |
| 2021-03 | RAN#91 | R5-210903 | 1148 | - | F | Editorial correction to clause 7.3.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210906 | 1150 | - | F | Updating A-SEM for MIMO testing for NS_04 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210908 | 1152 | - | F | Updating test applicability of test case 6.5D.2.4.2-UTRA ACLR for UL MIMO | 16.7.0 |
| 2021-03 | RAN#91 | R5-210911 | 1154 | - | F | Correction to test configuration table Test IDs for test case 6.5D.3.3 | 16.7.0 |

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| 2021-03 | RAN#91 | R5-210912 | 1155 | - | F | Correction to test case 6.2.3 AMPR for NS_24 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210918 | 1160 | - | F | Updating MOP and MPR for MIMO testing for several NR bands | 16.7.0 |
| 2021-03 | RAN#91 | R5-210919 | 1161 | - | F | Updating 6.5A.3.1.0 for intra-band CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-210920 | 1162 | - | F | Updating test requirement of CA test cases for CA configurations including n90 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210922 | 1164 | - | F | Updating test case 7.6A.4 for band n48 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210932 | 1169 | - | F | Updating Additional spurious emissions testing for SUL band n83 and n84 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210933 | 1170 | - | F | Updating clause 6.2C.2 for Rel-17 SUL combinations | 16.7.0 |
| 2021-03 | RAN#91 | R5-210934 | 1171 | - | F | Updating REFSSENS for SUL for new R17 configurations | 16.7.0 |
| 2021-03 | RAN#91 | R5-210991 | 1174 | - | F | Update for 7.3.2 Reference sensitivity power level | 16.7.0 |
| 2021-03 | RAN#91 | R5-210995 | 1175 | - | F | Update for 6.5.3.2 Spurious emission for UE co-existence_R15 | 16.7.0 |
| 2021-03 | RAN#91 | R5-210996 | 1176 | - | F | Addition of test case 6.5D.2_1.4.2, UTRA ACLR for UL MIMO (Rel-16 onward) | 16.7.0 |
| 2021-03 | RAN#91 | R5-211008 | 1178 | - | F | Update of CA_n1A-n78C into 3DL CA Refsense TC 7.3A.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211026 | 1180 | - | F | Update of CA_n1A-n78C into 3DL CA maximum input level TC 7.4A.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211037 | 1181 | - | F | Addition of minimum requirement for intra-band UL CA in the test case 6.4A.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211040 | 1182 | - | F | Addition of 70M into 38.521-1 TC6.3A.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211041 | 1183 | - | F | Addition of 70M into 38.521-1 TC6.3D | 16.7.0 |
| 2021-03 | RAN#91 | R5-211048 | 1185 | - | F | Correction to test tolerance for FR1 blocking tests | 16.7.0 |
| 2021-03 | RAN#91 | R5-211092 | 1186 | - | F | Test ID separation to powerBoostPiBPSK 1 and 0 in Table 6.5.2.2.4.1-1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211109 | 1187 | - | F | Corrections to subclauses in 38.521-1 with appropriate subclause level and heading styles | 16.7.0 |
| 2021-03 | RAN#91 | R5-211113 | 1188 | - | F | Corrections to reference figures for transmission bandwidth in FR1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211133 | 1189 | - | F | Addition of ULFPtx in MPR test case | 16.7.0 |
| 2021-03 | RAN#91 | R5-211174 | 1190 | - | F | Addition of R17 new CBWs into 38.521-1 clause 5 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211176 | 1191 | - | F | Reference to measurement BW corrected in 6.5D.4 TX intermodulation test case | 16.7.0 |
| 2021-03 | RAN#91 | R5-211274 | 1195 | - | F | Updating 6.5A.3.2 for CA_n1A-n79A | 16.7.0 |
| 2021-03 | RAN#91 | R5-211613 | 1184 | 1 | F | Spurious emissions for UE co-existence update to core specs | 16.7.0 |
| 2021-03 | RAN#91 | R5-211657 | 1192 | 1 | F | PC1 and PC3 Updates for Band n14 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211676 | 1110 | 1 | F | Clarifications for ON/OFF time mask for UL MIMO test case | 16.7.0 |
| 2021-03 | RAN#91 | R5-211677 | 1126 | 1 | F | Correction of test frequencies for NR band n28 30MHz test channel bandwidth of CA SUL and UL MIMO test cases in section 6 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211678 | 1151 | 1 | F | Updating AMPR for MIMO test case for NS_35 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211679 | 1153 | 1 | F | Correction to RB allocation start for test case 6.3D.4.2 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211680 | 1128 | 1 | F | Correction of test frequencies for NR band n28 30MHz test channel bandwidth of CA SUL and UL MIMO test cases in section 7 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211681 | 1149 | 1 | F | Updating test case 7.3C.2-Reference sensitivity power level for SUL | 16.7.0 |

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| 2021-03 | RAN#91 | R5-211682 | 1143 | 1 | F | Update of clause 5 to R15 TS 38.521-1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211764 | 1113 | 1 | F | Update of 7.5A.3 Adjacent channel selectivity for 4DL CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-211765 | 1144 | 1 | F | Update of R16 CADC configurations into TS38.521-1 clause 5 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211786 | 1134 | 1 | F | Correction of test points for NS_48 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211787 | 1135 | 1 | F | Addition of A-MPR test for NS_49 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211788 | 1177 | 1 | F | Update for 6.5.3.2 Spurious emission for UE co-existence_R16 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211804 | 1172 | 1 | F | Updating Editors Note in 6.2A.2 and 6.2A.4 for intra-band UL CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-211805 | 1159 | 1 | F | Updating general requirements for intra-band non-contiguous CA | 16.7.0 |
| 2021-03 | RAN#91 | R5-211806 | 1117 | 1 | F | Addition of 6.5E.2.2.1 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211807 | 1137 | 1 | F | Adding test point for Rel-16 DMRS in EVM equalizer spectrum flatness test case | 16.7.0 |
| 2021-03 | RAN#91 | R5-211808 | 1141 | 1 | F | Addition of new test case 6.4C.2.5 EVM equalizer spectrum flatness for half Pi BPSK DMRS for SUL | 16.7.0 |
| 2021-03 | RAN#91 | R5-211837 | 1167 | 1 | F | Updating MPR testing for SUL band n83 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211838 | 1168 | 1 | F | Updating AMPR testing for SUL band n83 and n84 | 16.7.0 |
| 2021-03 | RAN#91 | R5-211911 | 1165 | 1 | F | Adding NR test case-Time mask for Uplink carriers switching | 16.7.0 |
| 2021-03 | RAN#91 | R5-211912 | 1166 | 1 | F | Adding MU and TT for Uplink carriers switching testing | 16.7.0 |
| 2021-03 | RAN#91 | R5-211915 | 1138 | 1 | F | Adding additional TP for half Pi BPSK DMRS to MPR test case for SUL | 16.7.0 |
| 2021-06 | RAN#92 | R5-212168 | 1201 | - | F | Removal of technical content in 38.521-1 v16.7.0 and substitution with pointer to the next Release | 16.8.0 |

History

| Document history | | |
|-------------------------|----------------|-------------|
| V16.4.0 | September 2020 | Publication |
| V16.5.0 | December 2020 | Publication |
| V16.6.0 | February 2021 | Publication |
| V16.7.0 | June 2021 | Publication |
| V16.8.0 | August 2021 | Publication |