Annex B (normative):  
Conditions for RRM requirements applicability for operating bands

# B.1 Conditions for NR RRC\_IDLE state mobility

## B.1.1 Introduction

In Annex B.1, the following conditions are specified:

- UE conditions which shall apply for UE intra-frequency measurements procedures and requirements in clause 4,

- UE conditions which shall apply for UE inter-frequency measurements procedures and requirements in clause 4.

## B.1.2 Conditions for measurements on NR intra-frequency cells for cell re-selection

This clause defines the following conditions for NR intra-frequency measurements performed based on SSBs for cell re-selection: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.1.2-1 for FR1 NR cells.

The conditions are defined in Table B.1.2-2 for FR2 NR cells.

**Table B.1.2-1: Conditions for intra-frequency cell re-selection in FR1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **NR operating band groups Note1** | **Minimum SSB\_RP** | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | **dB** |
| **SCSSSB = 15 kHz** | **SCSSSB = 30 kHz** |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A | -124 | -121 | ≥ -4 |
| NR\_FDD\_FR1\_B | -123.5 | -120.5 |
| NR\_TDD\_FR1\_C | -123 | -120 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -122.5 | -119.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -122 | -119 |
| NR\_FDD\_FR1\_G | -121 | -118 |
| NR\_FDD\_FR1\_H | -120.5 | -117.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | |

**Table B.1.2-2: Conditions for intra-frequency cell re-selection in FR2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Angle of arrival** | **NR operating bands** | **Minimum SSB\_RP Note 2, Note 3** | | | | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | | | | **dB** |
| **SCSSSB = 120 kHz** | | | | **SCSSSB = 240 kHz** |
| **UE Power class** | | | | **UE Power class** |
| **1** | **2** | **3** | **4** | **1, 2, 3, 4** |
| Conditions | Rx Beam Peak | n257 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 |
| n260 | -122.3+Y1 |  | -106.5 | -122.8+Y4 |
| n261 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 |
| Spherical coverage Note 1 | n257 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 |
| n260 | -114.3+Z1 |  | -93.9 | -110.8+Z4 |
| n261 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 |
| NOTE 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  NOTE 2: Values specified at the Reference point to give minimum SSB Ês/Iot, with no applied noise.  NOTE 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.1.2-2:*

*- The value of Y for Power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for Power classes 1 and 4 respectively*

*- The value of Z for Power classes 1 and 4 is FFS, where Z1 and Z4 are the rough/fine beam gain differences in spherical coverage directions for Power classes 1 and 4 respectively*

## B.1.3 Conditions for measurements on NR inter-frequency cells for cell re-selection

This clause defines the following conditions for NR inter-frequency measurements performed based on SSBs for cell re-selection: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions defined in Table B.1.2-1 for FR1 NR intra-frequency cell re-selection shall also apply for FR1 NR inter-frequency cells in this clause.

The conditions defined in Table B.1.2-2 for FR2 NR intra-frequency cell re-selection shall also apply for FR2 NR inter-frequency cells in this clause.

# B.2 Conditions for UE measurements procedures and performance requirements in RRC\_CONNECTED state

## B.2.1 Introduction

### B.2.1.1 General

In Annex B.2, the following conditions are specified:

- The conditions for RRC connection release with redirection to NR requirements in clause 6.2.3.2.1,

- The conditions for UE transmit timing adjustment in clause 7.1,

- UE conditions which shall apply for UE intra-frequency measurements procedures and requirements in clause 9,

UE conditions which shall apply for UE inter-frequency measurements procedures and requirements in clause 9,

- UE conditions which shall apply for UE intra-frequency measurements performance requirements in clause 10,

- UE conditions which shall apply for UE inter-frequency measurements performance requirements in clause 10.

### B.2.1.2 Derivation of Minimum SSB\_RP values for FR1

[FFS]

### B.2.1.3 Derivation of Minimum SSB\_RP values for FR2

*Editor’s note:*

- The Assumption for UE beams (fine or rough) in Annex A RRM test cases is defined based on power class 3, and unless otherwise stated also applies for other UE power classes

#### B.2.1.3.1 Minimum SSB\_RP values for Rx Beam Peak angle of arrival

Minimum SSB\_RP values in Tables B.2.2-2 and B.2.3-2 are based on reference sensitivity for the Operating band and for the UE power class, taking a baseline of UE power class 3 in Band n260 with 50 MHz channel bandwidth.

Minimum SSB\_RP = Reference sensitivity PC3, n260, 50MHz +Y -10Log10(PRBRefsens x 12) – SNRRefsens + SSB Ês/Iot + ∆MBP,n

where:

Reference sensitivity PC3, n260, 50MHz is the reference sensitivity value in dBm specified for power class 3 in Band n260 for 50 MHz Channel bandwidth in Table 7.3.2.3-1 of TS 38.101-2 [19];

Y is the gain difference between fine and rough beams, which is defined in Table B.2.1.3.1-1;

Table B.2.1.3.1-1: Gain difference Y between fine and rough beams, Rx beam peak direction

|  |  |  |  |
| --- | --- | --- | --- |
| Value “Y” in dB, for each UE power class | | | |
| 1 | 2 | 3 | 4 |
| FFS | 9.0 | 7.0 | FFS |

PRBRefsens is NRB associated with subcarrier spacing 120 kHz for 50MHz in TS 38.101-2 [19] Table 5.3.2-1, and is 32;

12 is the number of subcarriers in a PRB;

SNRRefsens is the SNR used for simulation of Refsens and EIS spherical coverage, and is -1 dB;

SSB Ês/Iot is the minimum value required by the UE to perform measurements, and is -6 dB for intra-frequency measurements and -4 dB for inter-frequency measurements. The only contribution to Iot is the UE internal noise;

∆MBP,n is the UE multi-band relaxation factor value in dB specified in TS 38.101-2 [19] clause 6.2.1.

The calculated Minimum SSB\_RP value for the baseline of UE power class 3 in Band n260 is (-109.5+∆MBP,n) dBm/120kHz for intra-frequency measurements and (-107.5+∆MBP,n ) dBm/120kHz for inter-frequency measurements.

The following methodology to define the Minimum SSB\_RP level for power class X (PC\_X) and operating band Y (Band\_Y) is used:

For Intra-frequency: Minimum SSB\_RP (PC\_X, Band\_Y) = -109.5 dBm/120kHz + Refsens PC\_X, Band\_Y, 50MHz – Refsens PC3, n260, 50MHz + Y PC\_X – Y PC3 +∆MBP,n,

For Inter-frequency: Minimum SSB\_RP (PC\_X, Band\_Y) = -107.5 dBm/120kHz + Refsens PC\_X, Band\_Y, 50MHz – Refsens PC3, n260, 50MHz + Y PC\_X – Y PC3 +∆MBP,n .

B.2.1.3.2 Minimum SSB\_RP values for angle of arrival within Spherical coverage

Minimum SSB\_RP values in Tables B.2.2-2 and B.2.3-2 are based on EIS spherical coverage for the Operating band and for the UE power class, taking a baseline of UE power class 3 in Band n260 with 50 MHz channel bandwidth.

Minimum SSB\_RP = EIS spherical coverage PC3, n260, 50MHz +Z -10Log10(PRBRefsens x 12) – SNRRefsens + SSB Ês/Iot + ∆MBS,n,

where:

EIS spherical coverage PC3, n260, 50MHz is the EIS spherical coverage value in dBm specified for power class 3 in Band n260 for 50MHz Channel bandwidth in TS 38.101-2 [19] Table 7.3.4.3-1;

Z is the gain difference between fine and rough beams, and is defined in Table B.2.1.3.2-1;

Table B.2.1.3.2-1: Gain difference Z between fine and rough beams, Spherical coverage directions

|  |  |  |  |
| --- | --- | --- | --- |
| **Value “Z” in dB, for each UE power class** | | | |
| **1** | **2** | **3** | **4** |
| FFS | 9.0 | 7.0 | FFS |

PRBRefsens is NRB associated with subcarrier spacing 120 kHz for 50MHz in TS 38.101-2 [19] Table 5.3.2-1, and is 32;

12 is the number of subcarriers in a PRB;

SNRRefsens is the SNR used for simulation of Refsens and EIS spherical coverage, and is -1 dB;

SSB Ês/Iot is the minimum value required by the UE to perform measurements, and is -6 dB for intra-frequency measurements and -4 dB for inter-frequency measurements. The only contribution to Iot is the UE internal noise;

∆MBS,n is the UE multi-band relaxation factor value in dB specified in TS 38.101-2 [19] clause 6.2.1.

The calculated Minimum SSB\_RP value for the baseline of UE power class 3 in Band n260 is (-96.9+∆MBS,n) dBm/120kHz for intra-frequency measurements and is (-94.9+∆MBS,n) dBm/120kHz for inter-frequency measurements.

The following methodology to define the Minimum SSB\_RP level for power class X (PC\_X) and operating band Y (Band\_Y) is used:

For Intra-frequency: Minimum SSB\_RP (PC\_X, Band\_Y) = -96.9 dBm/120kHz + EIS spherical coverage PC\_X, Band\_Y, 50MHz – EIS spherical coverage PC3, n260, 50MHz + Z PC\_X – Z PC3 +∆MBS,n

For Inter-frequency: Minimum SSB\_RP (PC\_X, Band\_Y) = -94.9 dBm/120kHz + EIS spherical coverage PC\_X, Band\_Y, 50MHz – EIS spherical coverage PC3, n260, 50MHz + Z PC\_X – Z PC3 +∆MBS,n

### B.2.1.4 Gain to SS-RSRP measurement point for FR1

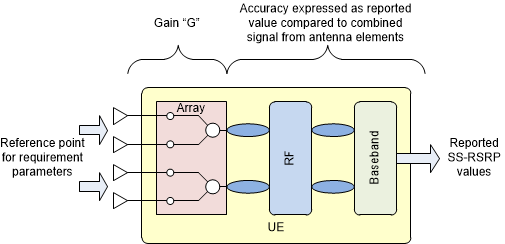
In FR1 conducted requirements are specified at the UE antenna connector, which is also the SS-RSRP measurement point.

### B.2.1.5 Gain to SS-RSRP measurement point for FR2

#### B.2.1.5.1 Gain to SS-RSRP measurement point for Rx Beam Peak angle of arrival

In clause 5.1.1 of TS 38.215 [4] SS-RSRP is defined to be measured based on the combined signal from antenna elements corresponding to a given receiver branch. The reference point for requirement parameters from the UE perspective is the input of the UE antenna array. The gain “G” relates the combined signal from antenna elements corresponding to a given receiver branch to the reference point for requirement parameters.

The gain “G” affects absolute signal level values reported by the UE.



**Figure B.2.1.5.1-1: Gain and Reference point for requirement parameters**

The gain range for each power class is specified in Table B.2.1.5.1-1.

Table B.2.1.5.1-1: UE gain G, Rx beam peak direction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | UE Power class | | | |
|  | 1 | 2 | 3 | 4 |
| Minimum, dBi | FFS | FFS | -10 | FFS |
| Maximum, dBi | FFS | FFS | +20 | FFS |

Gain range in spherical coverage directions may be lower than in Rx beam peak direction, according to the difference between the EIS spherical coverage value specified in TS 38.101-2 [19] clause 7.3.4 and the Reference sensitivity level specified in TS 38.101-2 [19] clause 7.3.2.

#### B.2.1.5.2 Gain to SS-RSRP measurement point for different frequency

In any specific direction, the UE gain G may be different depending on frequencies. The gain “Ginter” affects relative signal level values reported by the UE when measuring between different frequencies and is specified in Table B.2.1.5.2-1 for each power class.

Table B.2.1.5.2-1: UE gain difference between inter-frequencies Ginter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | UE Power class | | | |
|  | 1 | 2 | 3 | 4 |
| Maximum difference, dB | FFS | FFS | 3 | FFS |

#### B.2.1.5.3 Alignment of Rough beam to Rx beam Peak

The definition of Rx Beam Peak in TS 38.101-2 [19] clause 7.3.2 is based on Throughput at Reference sensitivity power level, and assumes use of Fine beams. In many RRM scenarios the UE can use Rough beams, but the largest Rough beam gain direction may not be aligned to the Fine beam Peak direction.

When the Rx Beam Peak is selected and defined based on Fine Beams, the rough beam gain in that direction may be lower than the largest rough beam gain in another direction within Spherical Coverage. The term “D” is the maximum allowed rough beam gain reduction, and is specified in Table B.2.1.5.3-1 for each power class.

Table B.2.1.5.3-1: Rough Beam gain reduction “D” in Rx Beam Peak direction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | UE Power class | | | |
|  | 1 | 2 | 3 | 4 |
| Maximum gain reduction, dB | FFS | FFS | 5.5 | FFS |

## B.2.2 Conditions for NR intra-frequency measurements

This clause defines the following conditions for NR intra-frequency measurements and corresponding procedures performed based on SSBs: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.2.2-1 for FR1 NR cells.

The conditions are defined in Table B.2.2-2 for FR2 NR cells.

**Table B.2.2-1: Conditions for intra-frequency measurements in FR1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **NR operating band groups Note1** | **Minimum SSB\_RP** | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | **dB** |
| **SCSSSB = 15 kHz** | **SCSSSB = 30 kHz** |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A, NR\_SDL\_FR1\_A | -127 | -124 | ≥ -6 |
| NR\_FDD\_FR1\_B | -126.5 | -123.5 |
| NR\_TDD\_FR1\_C | -126 | -123 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -125.5 | -122.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -125 | -122 |
| NR\_FDD\_FR1\_G | -124 | -121 |
| NR\_FDD\_FR1\_H | -123.5 | -120.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | |

Table B.2.2-2: Conditions for intra-frequency measurements in FR2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | Angle of arrival | NR operating bands | Minimum SSB\_RP Note 2, Note 3 | | | | | SSB Ês/Iot |
| dBm / SCSSSB | | | | | dB |
| SCSSSB = 120 kHz | | | | SCSSSB = 240 kHz |
| UE power class | | | | UE power class |
| 1 | 2 | 3 | 4 | 1, 2, 3, 4 |
| **Conditions** | Rx Beam Peak | n257 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-6 |
| n258 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 |
| n260 | -125.3+Y1 |  | -109.5 | -125.8+Y4 |
| n261 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 |
| Spherical coverage **Note 1** | n257 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-6 |
| n258 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 |
| n260 | -117.3+Z1 |  | -96.9 | -113.8+Z4 |
| n261 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 |
| Note 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  Note 2: Values specified at the Reference point to give minimum SSB Ês/Iot, with no applied noise.  Note 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.2.2-2:*

*- The value of Y for power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for power classes 1 and 4 respectively*

*- The value of Z for power classes 1 and 4 is FFS, where Z1 and Z4 are the rough/fine beam gain differences in spherical coverage directions for power classes 1 and 4 respectively*

## B.2.3 Conditions for NR inter-frequency measurements

This clause defines the following conditions for NR inter-frequency measurements and corresponding procedures performed based on SSBs: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.2.3-1 for FR1 NR cells.

The conditions are defined in Table B.2.3-2 for FR2 NR cells.

**Table B.2.3-1: Conditions for inter-frequency measurements in FR1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **NR operating band groups Note1** | **Minimum SSB\_RP** | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | **dB** |
| **SCSSSB = 15 kHz** | **SCSSSB = 30 kHz** |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A, NR\_SDL\_FR1\_A | -125 | -122 | ≥ -4 |
| NR\_FDD\_FR1\_B | -124.5 | -121.5 |
| NR\_TDD\_FR1\_C | -124 | -121 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -124.5 | -120.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -123 | -120 |
| NR\_FDD\_FR1\_G | -122 | -119 |
| NR\_FDD\_FR1\_H | -121.5 | -118.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | |

**Table B.2.3-2: Conditions for inter-frequency measurements in FR2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | Angle of arrival | NR operating bands | Minimum SSB\_RP Note 2, Note 3 | | | | | SSB Ês/Iot |
| dBm / SCSSSB | | | | | dB |
| SCSSSB = 120 kHz | | | | SCSSSB = 240 kHz |
| UE power class | | | | UE power class |
| **1** | **2** | **3** | **4** | **1, 2, 3, 4** |
| **Conditions** | Rx Beam Peak | n257 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 |
| n260 | -123.3+Y1 |  | -107.5 | -123.8+Y4 |
| n261 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 |
| Spherical coverage **Note 1** | n257 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 |
| n260 | -115.3+Z1 |  | -94.9 | -111.8+Z4 |
| n261 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 |
| NOTE 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  NOTE 2: Values specified at the Reference point to give minimum SSB Ês/Iot, with no applied noise.  NOTE 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.2.3-2:*

*- The value of Y for power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for power classes 1 and 4 respectively*

*- The value of Z for power classes 1 and 4 is FFS, where Z1, and Z4 are the rough/fine beam gain differences in spherical coverage directions for power classes 1 and 4 respectively*

## B.2.4 Conditions for NR L1-RSRP reporting

### B.2.4.1 Conditions for SSB based L1-RSRP reporting

This clause defines the following conditions for NR L1-RSRP measurement reporting and corresponding procedures performed based on SSBs: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.2.4.1-1 for FR1 NR cells.

The conditions are defined in Table B.2.4.1-2 for FR2 NR cells.

**Table B.2.4.1-1: Conditions for SSB based L1-RSRP measurements in FR1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **NR operating band groups Note1** | **Minimum SSB\_RP** | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | **dB** |
| **SCSSSB = 15 kHz** | **SCSSSB = 30 kHz** |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A, NR\_SDL\_FR1\_A | -124 | -121 | ≥ -3 |
| NR\_FDD\_FR1\_B | -123.5 | -120.5 |
| NR\_TDD\_FR1\_C | -123 | -120 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -122.5 | -119.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -122 | -119 |
| NR\_FDD\_FR1\_G | -121 | -118 |
| NR\_FDD\_FR1\_H | -120.5 | -117.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | |

**Table B.2.4.1-2: Conditions for SSB based L1-RSRP measurements in FR2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Angle of arrival** | **NR operating bands** | **Minimum SSB\_RP Note 2, Note 3** | | | | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | | | | **dB** |
| **SCSSSB = 120 kHz** | | | | **SCSSSB = 240 kHz** |
| **UE power class** | | | | **UE power class** |
| **1** | **2** | **3** | **4** | **1, 2, 3, 4** |
| **Conditions** | Rx Beam Peak | n257 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-3 |
| n258 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 |
| n260 | -122.3+Y1 |  | -106.5 | -122.8+Y4 |
| n261 | -125.3+Y1 | -110.8 | -109.1 | -124.8+Y4 |
| Spherical coverage **Note 1** | n257 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-3 |
| n258 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 |
| n260 | -114.3+Z1 |  | -93.9 | -110.8+Z4 |
| n261 | -117.3+Z1 | -99.8 | -98.2 | -115.8+Z4 |
| NOTE 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  NOTE 2: Values specified at the Reference point to give minimum SSB Ês/Iot, with no applied noise.  NOTE 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.2.4.1-2:*

*- The value of Y for power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for power classes 1 and 4 respectively*

*- The value of Z for power classes 1 and 4 is FFS, where Z1 and Z4 are the rough/fine beam gain differences in spherical coverage directions for power classes 1 and 4 respectively*

### B.2.4.2 Conditions for CSI-RS based L1-RSRP reporting

This clause defines the following conditions for NR L1-RSRP measurement reporting and corresponding procedures performed based on CSI-RS: CSI-RS\_RP and CSI-RS Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.2.4.2-1 for FR1 NR cells.

The conditions are defined in Table B.2.4.2-2 for FR2 NR cells.

**Table B.2.4.2-1: Conditions for CSI-RS based L1-RSRP measurements in FR1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter | NR operating band groups Note1 | Minimum CSI-RS\_RP | | | CSI-RS Ês/Iot |
| dBm / SCSCSI-RS | | | dB |
| SCSCSI-RS = 15 kHz | SCSCSI-RS = 30 kHz | SCSCSI-RS = 60 kHz |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A, NR\_SDL\_FR1\_A | -124 | -121 | -118 | ≥ -3 |
| NR\_FDD\_FR1\_B | -123.5 | -120.5 | -117.5 |
| NR\_TDD\_FR1\_C | -123 | -120 | -117 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -122.5 | -119.5 | -116.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -122 | -119 | -116 |
| NR\_FDD\_FR1\_G | -121 | -118 | -115 |
| NR\_FDD\_FR1\_H | -120.5 | -117.5 | -114.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | | |

**Table B.2.4.2-2: Conditions for CSI-RS based L1-RSRP measurements in FR2**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Angle of arrival** | **NR operating bands** | **Minimum CSI-RS\_RP Note 2, Note 3** | | | | | **CSI-RS Ês/Iot** |
| **dBm / SCSCSI-RS** | | | | | **dB** |
| **SCSCSI-RS = 60 kHz** | | | | **SCSCSI-RS = 120 kHz** |
| **UE power class** | | | | **UE power class** |
| **1** | **2** | **3** | **4** | **1, 2, 3, 4** |
| **Conditions** | Rx Beam Peak | n257 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 | (Value for SCSCSI-RS = 60 kHz) +3dB | ≥-3 |
| n258 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 |
| n260 | -125.3+Y1 |  | -109.5 | -125.8+Y4 |
| n261 | -128.3+Y1 | -113.8 | -112.1 | -127.8+Y4 |
| Spherical coverage **Note 1** | n257 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 | (Value for SCSCSI-RS = 60 kHz) +3dB | ≥-3 |
| n258 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 |
| n260 | -117.3+Z1 |  | -96.9 | -113.8+Z4 |
| n261 | -120.3+Z1 | -102.8 | -101.2 | -118.8+Z4 |
| NOTE 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  NOTE 2: Values specified at the Reference point to give minimum CSI-RS Ês/Iot, with no applied noise.  NOTE 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.2.4.2-2:*

*- The value of Y for power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for power classes 1 and 4 respectively*

*- The value of Z for power classes 1 and 4 is FFS, where Z1 and Z4 are the rough/fine beam gain differences in spherical coverage directions for power classes 1 and 4 respectively*

## B.2.5 Conditions for RRC connection release with redirection to NR

This clause defines the following conditions for RRC connection release with redirection to NR: SSB\_RP and SSB Ês/Iot, applicable for a corresponding operating band.

The conditions are defined in Table B.2.5-1 for FR1 NR cells.

The conditions are defined in Table B.2.5-2 for FR2 NR cells.

**Table B.2.5-1: Conditions for for RRC connection release with redirection to NR in FR1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **NR operating band groups Note1** | **Minimum SSB\_RP** | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | **dB** |
| **SCSSSB = 15 kHz** | **SCSSSB = 30 kHz** |
| **Conditions** | NR\_FDD\_FR1\_A, NR\_TDD\_FR1\_A | -125 | -122 | ≥ -4 |
| NR\_FDD\_FR1\_B | -124.5 | -121.5 |
| NR\_TDD\_FR1\_C | -124 | -121 |
| NR\_FDD\_FR1\_D, NR\_TDD\_FR1\_D | -124.5 | -120.5 |
| NR\_FDD\_FR1\_E, NR\_TDD\_FR1\_E | -123 | -120 |
| NR\_FDD\_FR1\_G | -122 | -119 |
| NR\_FDD\_FR1\_H | -121.5 | -118.5 |
| NOTE 1: NR operating band groups are defined in clause 3.5.2. | | | | |

Table B.2.5-2: Conditions for RRC connection release with redirection to NR in FR2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Angle of arrival** | **NR operating bands** | **Minimum SSB\_RP Note 2, Note 3** | | | | | **SSB Ês/Iot** |
| **dBm / SCSSSB** | | | | | **dB** |
| **SCSSSB = 120 kHz** | | | | **SCSSSB = 240 kHz** |
| **UE power class** | | | | **UE power class** |
| **1** | **2** | **3** | **4** | **1, 2, 3, 4** |
| **Conditions** | Rx Beam Peak | n257 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 |
| n260 | -123.3+Y1 |  | -107.5 | -123.8+Y4 |
| n261 | -126.3+Y1 | -111.8 | -110.1 | -125.8+Y4 |
| Spherical coverage **Note 1** | n257 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 | (Value for SCSSSB = 120 kHz) +3dB | ≥-4 |
| n258 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 |
| n260 | -115.3+Z1 |  | -94.9 | -111.8+Z4 |
| n261 | -118.3+Z1 | -100.8 | -99.2 | -116.8+Z4 |
| NOTE 1: Values based on EIS spherical coverage as defined in clause 7.3.4 of TS 38.101-2 [19]. Side condition applies for directions in which EIS spherical coverage requirement is met.  NOTE 2: Values specified at the Reference point to give minimum SSB Ês/Iot, with no applied noise.  NOTE 3: For UEs that support multiple FR2 bands, Rx Beam Peak values are increased by ∆MBP,n and Spherical coverage values are increased by ∆MBS,n, the UE multi-band relaxation factor in dB specified in clause 6.2.1 of TS 38.101-2 [19]. | | | | | | | | |

*Editor’s notes for Table B.2.5.2-2:*

*- The value of Y for power classes 1 and 4 is FFS, where Y1 and Y4 are the rough/fine beam gain differences in Rx beam peak direction for power classes 1 and 4 respectively*

*- The value of Z for power classes 1 and 4 is FFS, where Z1 and Z4 are the rough/fine beam gain differences in spherical coverage directions for power classes 1 and 4 respectively*

## B.2.6 Void

### B.2.6.1 Void

**Table B.2.6.1-1: Void**

Table B.2.6.1-2: Void

### B.2.6.2 Void

# B.3 RRM Requirements Exceptions

## B.3.1 Introduction

Annex B.3 covers exceptions for side conditions based on receiver sensitivity for CA, DC, and SUL.

## B.3.2 Receiver sensitivity relaxation for CA

### B.3.2.1 Receiver sensitivity relaxation for UE supporting CA in FR1

For a UE supporting inter-band carrier aggregation configuration with uplink in NR band, if there is a relaxation of receiver sensitivity ΔRIB,c>0 dB as defined in clause 7.3A.3 of TS 38.101-1 [18], the relevant side conditions specifying received power levels (SSB\_RP and Io) shall be increased by the amount Δ=ΔRIB,c defined for the corresponding downlink NR bands.

For a UE supporting CA configuration in FR1, the requirement in this clause applies for both SC and CA operation.

### B.3.2.2 Receiver sensitivity relaxation for UE configured with CA in FR1

#### B.3.2.2.1 Inter-band carrier aggregation

For a UE configured with inter-band carrier aggregation with active uplink in NR band, if there is a relaxation of receiver sensitivity ΔRIB,c>0 dB as defined in clause 7.3A.3 of TS 38.101-1 [18], the relevant side conditions specifying received power levels (SSB\_RP and Io) shall be increased by the amount Δ=ΔRIB,c defined for the corresponding downlink NR bands.

If the relaxation Δ specified in this clause applies, then the relaxation specified in clause B.3.2.1 should not be applied.

#### B.3.2.2.2 Reference sensitivity exceptions due to UL harmonic interference for CA

In this clause, requirements exceptions are described for the UE configured with a band in FR1 when it is impacted by UL harmonic interference from another band in FR1 of the same CA configuration.

A relevant side condition (SSB\_RP and Io) in a requirement shall be increased by the amount Δ=L2-L1, where L1 is the reference sensitivity level specified in clause 7.3.2 of TS 38.101-1 [18], and L2 is the reference sensitivity level based on the requirements in clause 7.3A.4 of TS 38.101-1 [18], when the following conditions are fulfilled,

- corresponding downlink component carriers on different NR bands are configured with CA and active,

- the upling is configured in the NR low operating band and is active,

- the uplink configuration is as specified in clause 7.3A.4 of TS 38.101-1 [18], and

- the exception requirements specified in clause 7.3A.4 of TS 38.101-1 [18] apply.

If the relaxation Δ specified in this clause applies, then the relaxation specified in clause B.3.2.1 should not be applied.

#### B.3.2.2.3 Reference sensitivity exceptions due to intermodulation interference due to 2UL CA

In this clause, requirements exceptions are described for the UE with an inter-band carrier aggregation with uplink assigned to two NR bands.

A relevant side condition (SSB\_RP and Io) in a requirement shall be increased by the amount Δ=L2-L1, where L1 is the reference sensitivity level specified in clause 7.3.2 of TS 38.101-1 [18], and L2 is the reference sensitivity level based on the requirements in clause 7.3A.5 of TS 38.101-1 [18], when the following conditions are fulfilled,

- corresponding downlink component carriers on different bands are configured with CA and active,

- uplinks are assigned to two NR bands,

- the exception requirements specified in clause 7.3A.5 of TS 38.101-1 [18] apply.

If the relaxation Δ specified in this clause applies, then the relaxation specified in clause B.3.2.1 should not be applied.

### B.3.2.3 Receiver sensitivity relaxation for UE supporting CA in FR2

### B.3.2.4 Receiver sensitivity relaxation for UE configured with CA in FR2

#### B.3.2.4.1 Intra-band contiguous carrier aggregation

For a UE configured with intra-band contiguous carrier aggregation in NR band in FR2, if there is a relaxation of receiver sensitivity ΔRIB>0 dB as defined in clause 7.3A.2.1 of TS 38.101-2 [19] depending on the aggregated channel bandwidth, the relevant side conditions specifying received power levels (SSB\_RP and Io) shall be increased by the amount Δ=ΔRIB defined for the corresponding downlink NR bands.

#### B.3.2.4.2 Intra-band non-contiguous carrier aggregation

For a UE configured with intra-band non-contiguous carrier aggregation in NR band in FR2, if there is a relaxation of receiver sensitivity ΔRIB>0 dB as defined in clause 7.3A.2.1 of TS 38.101-2 [19] depending on the aggregated channel bandwidth, the relevant side conditions specifying received power levels (SSB\_RP and Io) shall be increased by the amount Δ=ΔRIB defined for the corresponding downlink NR bands.

## B.3.3 Receiver sensitivity relaxation for DC

### B.3.3.1 Receiver sensitivity relaxation for EN-DC

Editor’s note: TBD

### B.3.3.2 Receiver sensitivity relaxation for NE-DC

Editor’s note: TBD

## B.3.4 Receiver sensitivity relaxation for SUL

### B.3.4.1 Receiver sensitivity relaxation for UE supporting SUL in FR1

For a UE supporting a SUL configuration in FR1, if there is a relaxation of receiver sensitivity ΔRIB,c>0 dB as defined in clause 7.3C.3 of TS 38.101-1 [18], the relevant side conditions specifying received power levels (SSB\_RP and Io) shall be increased by the amount Δ=ΔRIB,c defined for the corresponding downlink NR bands.

For a UE supporting a SUL configuration in FR1, the requirement in this clause applies for both SC and SUL operation.

### B.3.4.2 Receiver sensitivity relaxation for UE configured with SUL in FR1

#### B.3.4.2.1 Reference sensitivity exceptions due to UL harmonic interference for SUL

In this clause, requirements exceptions are described for the UE with a band in FR1 when it is impacted by UL harmonic interference from another band in FR1 of the same SUL configuration.

A relevant side condition (SSB\_RP and Io) in a requirement shall be increased by the amount Δ=L2-L1, where L1 is the reference sensitivity level specified in clause 7.3.2 of TS 38.101-1 [18], and L2 is the reference sensitivity level based on the requirements in clause 7.3C.2 of TS 38.101-1 [18], when the following conditions are fulfilled,

- a downlink component carrier is configured in NR band and is active,

- the upling is configured in the NR low operating band and is active,

- the uplink configuration is as specified in clause 7.3C.2 of TS 38.101-1 [18], and

- the exception requirements specified in clause 7.3C.2 of TS 38.101-1 [18] apply.

If the relaxation Δ specified in this clause applies, then the relaxation specified in clause B.3.4.1 should not be applied.

Annex C (informative):  
Change history

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2017-05 | RAN4#83 | R4-1706324 |  |  |  | Specification skeleton | 0.0.1 |
| 2017-09 |  |  |  |  |  | Email approved | 0.1.0 |
| 2017-09 | RAN4-NR AH #3 | R4-1709413 |  |  |  | Capture TPs approved in the meeting | 0.2.0 |
| 2017-10 | RAN4#84-Bis | R4-1711985 |  |  |  | Capture TPs approved in the meeting | 0.3.0 |
| 2017-12 | RAN4#85 | R4-1714546 |  |  |  | Capture TPs approved in RAN4#85 | 0.4.0 |
| 2017-12 | RAN#78 | RP-172407 |  |  |  | v1.0.0 submitted for plenary approval | 1.0.0 |
| 2017-12 | RAN#78 |  |  |  |  | Approved by plenary – Rel-15 spec under change control | 15.0.0 |
| 2018-03 | RAN#79 | RP-180264 | 0032 |  | B | CR to TS38.133 | 15.1.0 |
| 2018-06 | RAN#80 | RP-181075 | 0037 |  | B | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4 #86bis and RAN4 #87 | 15.2.0 |
| 2018-09 | RAN#81 | RP-181896 | 0043 |  | B | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4-AH-1807 and RAN4 #88 | 15.3.0 |
| 2018-12 | RAN#82 | RP-182763 | 0057 | 3 | B | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4-88bis and RAN4-89 | 15.4.0 |
| 2019-03 | RAN#83 | RP-190569 | 0064 | 1 | B | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4#90 | 15.5.0 |
| 2019-06 | RAN#84 | RP-191240 | 0072 | 1 | F | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4#90bis and RAN4#91 | 15.6.0 |
| 2019-09 | RAN#85 | RP-192022 | 0084 |  | F | CR to TS 38.133: Implementation of endorsed draft CRs from RAN4#92 (Rel-15) | 15.7.0 |
| 2019-12 | RAN#86 | RP-193039 | 0089 |  | F | Correction to the starting point of the DRX cycle length interval | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0090 |  | F | CR to 38.133 R15 Add the missing units to DRX cycle values | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0092 | 1 | F | Specification of UE antenna gain range | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0094 |  | F | Add RRM Test case setup for 1 AoA in Rx beam peak and 1 in non Rx beam peak | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0096 |  | F | Update of Parameters, Test case A.7.7.1.1 FR2 Intra-frequency SS-RSRP accuracy | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0098 |  | F | Update of Parameters, Test case A.5.7.1.1 FR2 Intra-frequency SS-RSRP accuracy | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0100 |  | F | Update of Parameters, Test case A.7.7.1.2 FR2 Inter-frequency SS-RSRP accuracy | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0102 |  | F | Update of Parameters, Test case A.5.7.1.2 FR2 Inter-frequency SS-RSRP accuracy | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0104 |  | F | Correction to Random access test case in FR1 for PSCell in EN-DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0106 |  | F | CR on handover 38.133 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0108 |  | F | CR on the BWP switch test cases EN-DC FR1 (clause A.4.5.6) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0109 |  | F | CR on the BWP switch test cases EN-DC FR2 (clause A.5.5.6) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0110 |  | F | CR on the BWP switch test cases SA FR1 (clause A.6.5.6) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0111 |  | F | CR on the BWP switch test cases SA FR2 (clause A.7.5.6) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0116 |  | F | CR to TS38.133 on correction for BWP switching with SCS changing (Clause 8.2.1.2.7, 8.2.2.2.5 and 8.6.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0120 |  | F | CR on handover RRM requirement (clause 6.1.1.5) (R15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0122 |  | F | CR on test cases for EN-DC FR2 inter-frequency measurement (clause A.5.6.2) (R15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0126 |  | F | CR on test cases for Redirection from NR in FR2 to NR in FR2 (clause A.7.3.2.3) (R15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0128 |  | F | CR on test cases for FR2 handover (clause A.7.3.1) (R15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0130 |  | F | CR to 38.133 on TCI state switching (Clause 8.10) (R15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0136 |  | F | CR on TC with monitoring PDCCH not in first 3 OFDM symbols R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0144 |  | F | Editorial correction for SCell activation and deactivation delay | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0147 |  | F | CR on inter-RAT measurement in TS38.133 (clause 9.4.2, 9.4.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0155 |  | F | CR on NR MTTD and MRTD definition for R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0158 |  | F | CR for SCell activation delay in FR2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0160 |  | F | CR for scheduling restriction due to L1-RSRP measurement | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0166 | 1 | F | CR on SSB setting for new gap and SMTC setting (Clause A.3.10) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0168 |  | F | CR on TS38.133 for EN-DC SS-SINR tests with PSCell in FR1 (Clause A.4.7.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0170 |  | F | CR on TS38.133 for SA SS-SINR tests with PCell in FR1 (Clause A.6.7.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0184 |  | F | CR on cell-reselection test cases for NR SA FR2 R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0186 |  | F | endorsed CR on intra-frequency measurement and reporting for EN-DC FR2 R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0188 |  | F | endorsed CR on intra-frequency measurement and reporting for NR SA FR2 R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0190 |  | F | endorsed CR on RLM scheduling restrictions for EN-DC FR2 R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0192 |  | F | endorsed CR on RLM scheduling restrictions for NR SA FR2 R15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0200 | 1 | F | Correction to PRACH configuration index in test cases | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0208 |  | F | Correction on the TCI state switching (clause 8.10) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0214 | 1 | F | CR for 38133 editorial for clause 8.1,8.8,8.9,8.10,8.11 in Rel-15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0215 | 1 | F | CR for 38133 editorial for clause 8.5 in Rel-15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0216 | 1 | F | CR for 38133 editorial for clause 9.3 in Rel-15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0217 | 1 | F | CR on 38133 for removal the duplicated reference in clause 2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0218 | 1 | F | CR on 38133 for clause 11 in Rel-15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0224 | 2 | F | CR on TC of UE transmit timing (A.4.4.1.1, A.5.4.1.1, A.6.4.1.1, A.7.4.1.1) Rel-15 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0229 | 1 | F | Update on requirements related to inter-band EN-DC and NE-DC synchronous requirements | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0232 | 1 | F | Editorial corrections to measurement accuracy tests | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0234 |  | F | Corrections to SS-RSRQ and SS-SINR OTA tests with SA | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0236 |  | F | Corrections to SS-RSRQ and SS-SINR OTA tests with EN-DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0238 | 1 | F | Editorial corrections to clause 9.2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0241 |  | F | Corrections to band applicability of measurement accuracy tests | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0243 | 1 | F | Introduction of bandwidth limited OCNG for OTA testing | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0247 | 1 | F | Corrections to test cases for SA FR2 inter-frequency measurement (clause A.7.6.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0249 |  | F | CR to 38.133 NR reporting criteria | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0263 | 1 | F | CR on correcting CSI-RS based BFD and link recovery tests for EN-DC in FR1 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0265 | 1 | F | CR on correcting CSI-RS based BFD and link recovery tests for SA in FR1 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0267 | 1 | F | CR on correcting CSI-RS based BFD and link recovery tests for EN-DC in FR2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0269 | 1 | F | CR on correcting CSI-RS based BFD and link recovery tests for SA in FR2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0275 | 1 | F | CR on delay uncertainty of RRC Release with redirection requirements in TS 38.133 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0277 | 1 | F | CR on known condition of PSCell addition requirement in NE-DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0279 | 1 | F | CR on known condition of PSCell addition requirement in NR DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0281 | 1 | F | CR on RRC Re-establishment requirements in TS 38.133 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0283 | 2 | F | CR on scope of interruption requirements of EN-DC in TS 38.133 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0285 | 1 | F | CR on scope of MTTD requirements in TS 38.133 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0287 | 1 | F | CR on SSB-based RLM test case for EN-DC FR1 | 15.8.0 |
| 2019-12 | RAN#86 | RP-192994 | 0289 | 1 | F | CR on SSB-based RLM test case for NR SA FR1 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0291 | 1 | F | Editorial CR on clause 8.2 | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0295 | 1 | F | CR on NR inter-frequency identification | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0297 | 1 | F | CR on NR intra-frequency measurements | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0311 | 1 | F | Correction on CSSF within measurement gap (clause 9.1.5.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0313 |  | F | CR on RLM scheduling restriction (clause 8.1.7) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0315 | 1 | F | CR on SCell activation requirements (clause 8.3.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0317 |  | F | CR to add QCL definition (clause 3.6) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0319 |  | F | CR on power offset in TRS RMC (A.3.17) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0321 |  | F | CR to introduce new PDCCH RMC (A.3.1.3.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0323 |  | F | Maintenance CR for measurement accuracy (clause 10.1) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0325 |  | F | FR1 CSI-RS RLM test OOS/IS non-DRX for EN-DC (clause A.4.5.1) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0327 | 1 | F | FR2 CSI-RS RLM test OOS/IS non-DRX for EN-DC (clause A.4.5.1) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0329 |  | F | FR1 CSI-RS RLM test OOS/IS non-DRX for SA (clause A.6.5.1) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0331 | 1 | F | FR2 CSI-RS RLM test OOS/IS non-DRX for SA (clause A.6.5.1) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0333 | 1 | F | L1-RSRP delay test FR1 EN-DC (clause A.4.6.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0335 |  | F | L1-RSRP delay test FR2 EN-DC (clause A.5.6.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0337 | 1 | F | L1-RSRP delay test FR1 SA (clause A.6.6.4) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192997 | 0339 |  | F | L1-RSRP delay test FR2 SA (clause A.7.6.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0343 |  | F | L1-RSRP accuracy test FR2 EN-DC (clause A.5.7.4) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192996 | 0345 |  | F | L1-RSRP accuracy test FR2 SA (clause A.7.7.4) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0357 |  | F | CR 38.133 (8.3.2) Amendment of requirements depending on T\_SMTC\_Max | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0359 |  | F | CR 38.133 (8.3.3) Correction of SCell deactivation delay | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0361 |  | F | CR 38.133 (A.7.5.7) TCs for PSCell addition and release delay | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0365 |  | F | CR to TS 38.133: New common clause with OTA related definitions for FR2 testing (Rel-15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0367 |  | F | CR to TS 38.133: Configuration of NR FR1 cell in NR FR1-FR2 tests (Rel-15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0369 |  | F | CR to TS 38.133: Clarificatins to Antenna Configurations for FR2 (Rel-15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0371 |  | F | CR to TS 38.133: Corrections to CORESET RMCs (Rel-15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192995 | 0373 |  | F | CR to TS 38.133: Corrections to FR2 test configurations (Rel-15) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0375 | 1 | F | Editorial updates (clause 9.4) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193039 | 0377 | 1 | F | Correction in interruption requirements (clause 8.2) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193042 | 0379 | 1 | F | Editorial updates (Annex B) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0381 |  | F | CR on 38133 for MRTD and MTTD in intra-band EN-DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0384 | 1 | F | CR for MAC-CE based TCI State switch for ENDC (Clause A.5.5.8) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0385 | 1 | B | CR for MAC-CE based TCI State switch for NR SA (Clause A.7.5.7) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0386 | 1 | B | CR for RRC based TCI State switch for NR SA (Clause A.7.5.7) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192993 | 0387 | 1 | F | CR for RRC based TCI State switch for EN-DC (Clause A.5.5.8) | 15.8.0 |
| 2019-12 | RAN#86 | RP-192992 | 0388 | 1 | F | CR for FR1 handover test cases (Clause A.6.3.1.1, A.6.3.1.2, A.6.3.1.3) | 15.8.0 |
| 2019-12 | RAN#86 | RP-193041 | 0389 | 1 | F | CR on MTTD for intra-band EN-DC | 15.8.0 |
| 2019-12 | RAN#86 | RP-193040 | 0397 |  | F | CR on corrections on NR intra frequency measurement reporting requirements (Clause 9.2.4) | 15.8.0 |
| 2020-03 | RAN#87 | RP-200400 | 0404 | 1 | F | [CR] handover requirements 38.133 R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0411 | 1 | F | [CR] SCell activation delay 38.133 R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0416 |  | F | Corrections to RRM Test case A.7.1.1.2 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0418 |  | F | Correction to Active UL BWP for SA intra-frequency event triggered reporting with per-UE gaps | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0420 |  | F | Correction to FR1-E-UTRA Inter-RAT cell re-selection test cases | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0422 |  | F | Removal of Time offset between PCell and PSCell in SA RRM Test cases | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0424 |  | F | Correction to SRS periodicity and Offset for UL transit timing with DRx config | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0426 |  | F | Update of Test Requirements, FR2 Intra-frequency SS-RSRP accuracy Test cases | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0428 |  | F | Update of Test requirements, FR2 Inter-frequency SS-RSRP accuracy Test cases | 15.9.0 |
| 2020-03 | RAN#87 | RP-200484 | 0438 | 2 | F | CR on test cases for SA FR2 inter-frequency measurement R15 (section A.7.6.2) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0444 | 1 | F | Editorial corrections for 38.133 Perf Part R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0446 |  | F | Editorial corrections for 38.133 Core Part R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0453 |  | F | Editorial correction for active TCI state switching delay | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0461 | 1 | F | Corrections for BWP switch delay R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0463 |  | F | CR for reference correction on L1-RSRP measurement period (section 9.5.3) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0465 |  | F | CR for measurement restriction in FR2 across CCs (section 8.1.2.3, 8.1.3.3, 8.5.2.3, 8.5.3.3, 8.5.5.3, 8.5.6.3, 9.5.5.1, 9.5.5.2) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0467 |  | F | CR for SSB based candidate beam detection (section 8.5.5.2) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0487 |  | F | CR to TS 38.133: Corrections to FR1-FR2 event triggered test cases Annex A.5 (Rel-15) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0489 |  | F | CR to TS 38.133: Corrections to FR1-FR2 event triggered test cases Annex A.7 (Rel-15) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0491 |  | F | CR to TS 38.133: Clarifications to AoA setup and AoA cell assignement Annex A.5 (Rel-15) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0493 |  | F | CR to TS 38.133: Clarifications to AoA setup Annex A.8 (Rel-15) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0495 |  | F | CR to TS 38.133: Addition of TC A.4.7.2.2 (Rel-15) | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0499 |  | F | Editorial correction of EN-DC FR1 L1-RSRP measurement for beam reporting | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0501 |  | F | Editorial correction of NR SA FR1 L1-RSRP measurement for beam reporting | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0508 |  | F | CR on removing one-shot timing adjustment requirements | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0515 | 1 | F | Correction to BWP switching delay | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0517 | 1 | F | Correction to inter-RAT measurement on LTE serving carrrier | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0519 | 1 | F | Correction to configurations for TRS | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0521 |  | F | Correction to FR1 SA inter-RAT measurement TCs  NOTE The CR is not implemented because the changes in this CR were already implemented in the latest version of the specification. | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0523 |  | F | Correction to interruption TCs  NOTE The CR is not implemented because some parts of changes in the CR were already implemented in the latest version of the specification. | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0527 |  | F | Correction to RF channels configuration | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0529 |  | F | Correction to RRC release with redirection TCs | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0531 |  | F | Correction to UL reconfiguration delay TCs | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0537 |  | F | CR on SSB RLM test cases EN-DC R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0539 |  | F | CR on SSB RLM test cases SA R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0541 |  | F | CR on cell reselection test cases for FR2 SA R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0543 |  | F | OCNG pattern for TDM-ed SSB R15 | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0563 |  | F | NR editorial correction | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0579 | 1 | F | CR 38.133 (8.11) Corrections to PSCell change delay requirements | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0586 |  | F | PRACH configurations in FR1 SSB based RLM tests | 15.9.0 |
| 2020-03 | RAN#87 | RP-200400 | 0588 |  | F | PRACH configurations in FR1 SSB based BFR tests | 15.9.0 |
| 2020-06 | RAN#88 | RP-200987 | 0594 | 1 | F | [CR] Editorial corrections for 38.133 R15 Core Part | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0597 | 1 | F | [CR] Editorial corrections for 38.133 R15 Perf Part | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0601 | 1 | F | CR to Intra-frequency handover from FR1 to FR1 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0605 |  | F | CR to A.6.1.2.1 Cell reselection to higher priority E-UTRAN | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0607 |  | F | Correction to General test parameters in A.6.6.1.2 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0619 | 1 | F | CR on CSSF correction for R15 TS38.133 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0628 | 1 | F | CR on Active TCI State Switching requirements - Rel15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200988 | 0633 | 2 | F | Rapportuer CR for TS38.133 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0650 |  | F | Add UE Beam assumption for RRM Test cases in A.7.3, A.7.4, A.7.7 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0652 |  | F | Add UE Beam assumption for RRM Test cases in A.5.3, A.5.4, A.5.7 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0654 |  | F | Update of FR2 RLM Test cases with 2 Angles of Arrival | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0656 |  | F | Update of Tx Timing Test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0658 |  | F | Update of FR2 RLM and BFD-LR Test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0660 |  | F | Update of FR2 SS-RSRP Test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0662 | 1 | F | CR on TCI state switch | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0664 |  | F | CR on PDSCH RMC | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0679 |  | F | Correction of CFRA RSRP threshold | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0695 | 1 | F | CR on SMTC period for beam management requirements | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0697 |  | F | CR for CSI-RS based L1-RSRP measurement period | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0699 |  | F | CR on RACH test cases with CSI-RS resource R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0703 |  | F | CR on TS38.133 for modification of the layer 3 and layer 1 measurement sharing factor when both SSB and RSSI symbol to be measured are considered | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0705 |  | F | CR on TS38.133 for modification on number of cells and number of SSB to be measured for FR2 intra-frequency measurement | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0707 | 1 | F | [CR] TCI state switch delay 38.133 R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0714 |  | F | Correction of NR SA FR2 inter-freq measurement reporting | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0726 |  | F | CR: Correction of L1-RSRP measurement period | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0728 | 1 | F | CR to TS 38.133: Correction to CSI-RS configurations in A.3.14 (Rel-15) | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0730 |  | F | CR to TS 38.133: Correction to SMTC configuration in measurement accuracy tests (Rel-15) | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0732 |  | F | CR to TS 38.133: Clarifications to AoA setup Annex A.5 (Rel-15) | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0734 |  | F | CR to TS 38.133: Clarifications to AoA setup Annex A.7 (Rel-15) | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0737 | 1 | F | Applicability of QCL | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0747 | 1 | F | CR on Psharingfactor | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0749 | 1 | F | CR on E-UTRAN Serving Cell Parameters | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0751 | 1 | F | CR on Modified parameters for BFD TCs with 4Rx antenna | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0753 | 1 | F | CR on BFD TCs | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0755 | 1 | F | CR on UL carrier RRC reconfiguration Delay TC | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0757 | 1 | F | CR to FR1 SCell activation delay test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0759 | 1 | F | CR to inter-frequency measurement TCs | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0761 | 1 | F | CR to interruption TCs | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0776 |  | F | CR on interruption due to Acitve BWP switch | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0780 |  | F | CR on UE transmit timing | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0782 |  | F | Editoral CR on TS 38.133 Rel-15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0784 |  | F | CR on RRC Connection Release with Redirection test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0786 |  | F | CR on RRC Re-establishment test cases | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0788 |  | F | CR on Timing advance test cases for EN-DC | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0790 |  | F | CR on Timing test cases for NR SA | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0798 |  | F | Correction onTCI state switching R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0800 |  | F | Accuracy of carrier aggregation in NR R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0812 |  | F | CR 38.133 (8.10.5) Corrections to RRC-based TCI state change | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0815 | 2 | F | CR 38.133 (8.3.2) Corrections to SCell Activation delay requirements | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0820 |  | F | CR on FR2 measurement requirements outside gaps R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0822 |  | F | CR on inter-RAT RSTD requirements for NE-DC in 38.133 R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0824 | 1 | F | CR on SCell activation requirements R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0826 |  | F | CR on SSB based L1-RSRP measurement R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0828 |  | F | CR on L1-RSRP delay tests for FR2 R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0830 |  | F | CR to L1-RSRP accuracy TC for FR2 EN-DC R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0832 |  | F | CR to L1-RSRP accuracy TC for FR2 SA R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0834 |  | F | CR to TCI state switch TC R15 | 15.10.0 |
| 2020-06 | RAN#88 | RP-200987 | 0866 |  | F | Clarification on RLM | 15.10.0 |
| 2020-09 | RAN#89 | RP-201512 | 0888 |  | F | CR to Redirection from NR in FR1 to E-UTRAN | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0890 |  | F | CR to timing advance adjustment accuracy in FR1 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0894 |  | F | CR to SS-RSRQ Intra-Frequency and Inter-frequency FR1 measurement accuracy | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0896 |  | F | Update to FR2 240kHz SSB Configurations | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0898 |  | F | Update of FR2 Random Access Test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0900 |  | F | Update to FR2 event-triggered reporting RRM Test cases in A.5.6 and A.7.6 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0902 |  | F | Update to FR2 SS-RSRP RRM Test cases in A.5.7 and A.7.7 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0904 |  | F | CR to EN-DC timing advance adjustment accuracy in FR2 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0906 |  | F | CR to configuration of CSI-RS for tracking | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0908 | 1 | F | Update of RRC-based Active BWP Switch test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0910 |  | F | Update to FR2 Annex B RRM side conditions | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0912 |  | F | Add UE Beam assumption for RRM Test cases in A.5.5 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0921 |  | F | Add UE Beam assumption for RRM Test cases in A.7.5 Rel-15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0932 |  | F | CR for TS38.133 Rel-15, Correction for RRM core requirements | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0934 | 1 | F | CR for TS38.133 Rel-15, Correction for test cases of BWP switching | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0945 | 1 | F | CR on TS38.133 for handover test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0947 |  | F | CR on TS38.133 for introducing the PDSCH RMC configuration in cell re-selection test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0955 | 1 | F | CR on FR2 measurement capability for R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0962 |  | F | CR on Inter-RAT RSTD measurements (section 9.4.4) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0964 | 1 | F | CR on active BWP switch in R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0985 |  | F | CR for SCell activation delay in FR2 in R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 0987 | 1 | F | CR on TCI state switch delay in R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1002 | 1 | F | Fine/rough beam assumption for idle mode and measurement procedure test case | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1022 |  | F | Clarification of SNR values in RLM Test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1024 |  | F | CR to TS 38.133: Corrections to CSI-RS configurations in A.3.14 (Rel-15) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1026 |  | F | CR to TS 38.133: Corrections to event triggered test cases (Rel-15) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1028 |  | F | CR to TS 38.133: Corrections to inter-RAT test cases (Rel-15) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1030 |  | F | CR to TS 38.133: Corrections to AoA setup information in some test cases (Rel-15) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1032 | 1 | F | CR on maintaining handover tests in Rel-15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1047 | 1 | F | CR on reporting criteria for EN-DC in 38.133 R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1049 | 1 | F | CR on test cases for Active TCI state switch delay R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1051 | 1 | F | Addition of new default configurations for RMC scheduling | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1053 | 1 | F | Correction to beam failure detection and link recovery test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1055 | 1 | F | Correction to BWP switching delay test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1057 |  | F | Correction to FR1 intra-frequency measurement with gap test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1059 | 1 | F | Correction to inter-RAT HO test cases | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1069 |  | F | CR on correction to CSSF within gap R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1071 | 1 | F | CR on SCell activation requirements R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1073 | 1 | F | CR on BWP switching delay requirements R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1074 | 1 | F | CR on UL BWP configuration for RRM test cases R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1076 | 1 | F | CR to add UE beam assumption for TC in A.5.6 R15 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1096 | 1 | F | CR to 38.133: Correction to RRC basd BWP switch delay requirements | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1098 | 1 | F | CR to 38.133: Correction to interruption requirements for per-FR gap in FR2 | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1110 |  | F | [CR] Replacing x in references with correct numbers (Core R15 Cat F) | 15.11.0 |
| 2020-09 | RAN#89 | RP-201512 | 1112 |  | F | [CR] Replacing x in references with correct numbers (Perf R15 Cat F) | 15.11.0 |
| 2020-12 | RAN#90 | RP-202487 | 1118 | 1 | F | RB allocation and Noc level in RLM Test cases | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1120 |  | F | Update FR2 event-triggered reporting Test cases in A.5.6, A.7.6 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1122 |  | F | 240kHz SSB SCS Configuration for FR2 SS-RSRP Test cases | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1124 | 1 | F | Correct UE beam assumption for Test Cases in A.5.6 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1126 | 1 | F | Aggregation level of CORESET for RMC scheduling | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1128 |  | F | Clarify FR1 NSA SS-SINR measurement TCs | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1130 |  | F | FR1 Inter-frequency Event triggered Reporting tests in DRX | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1132 |  | F | E-UTRAN | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1145 | 1 | F | CR on CSI-RS BW condition for BFD/CBD R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1147 | 1 | F | CR on AP-CSI-RS based L1-RSRP measurement R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1159 |  | F | CR on TS38.133 for cell activation and deactivation test case | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1161 | 4 | F | CR on TS38.133 for cell reselection test case | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1163 | 1 | F | Correction of active BWP switch test case | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1167 |  | F | CR for TS38.133 Rel-15, Correction for RRM core and test cases | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1195 |  | F | CR on carrier frequency range of PCell/PSCell for the maximum number of RLM-RS resources | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1201 | 1 | F | CR on MO merge in R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1208 | 1 | F | Correction on beamFailureInstanceMaxCount for test case of availability restriction during FR2 BFR in R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1215 |  | F | Correction of RRM tests | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1224 |  | F | Correction to types of requirements in annex A | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1226 | 1 | F | Corrections to frequency range in interfrequency measurement procedures tests | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1229 |  | F | Correction on TBD values in FR1+FR2 interfrequency RSRP accuracy tests | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1231 |  | F | Addition of symbol definitions | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1235 | 1 | F | Square bracket removal in 38.133 section A.1 to A.5 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1237 | 1 | F | Square bracket removal in 38.133 section A.6 to A.8 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1251 | 1 | F | CR to TS 38.133 on DCI based BWP switch requirements applicability | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1258 | 1 | F | Correction to CSI-RS RMC configuration R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1260 | 1 | F | Correction to cell reselection test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1262 | 1 | F | Correction to inter-RAT handover test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1264 | 1 | F | Correction to NR measurement under LTE SA test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1266 | 1 | F | Correction to inter-RAT SFTD measurement test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1270 |  | F | CR on maintaining BFD/CBD measurements test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1295 | 1 | F | CR on RRC-based BWP switch requirements | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1297 | 1 | F | CR on RRC-based active TCI state switch test case Rel-15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1310 |  | F | [CR] Specify RRC processing delay in TCI state switching delay | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1312 | 1 | F | [CR] NR Perf Maintenance R15 Cat F | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1316 | 1 | F | CR on SCell activation requirements R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1318 |  | F | CR on FR2 unkown SCell activation test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1320 |  | F | CR on BWP in L1-RSRP delay and accuracy test cases R15 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1335 | 1 | F | Introducing reference to the source of the Lmax and NRLM. | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1341 | 1 | F | CR to TS 38.133: Corrections to inter-RAT FR1 test cases (Rel-15) | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1343 | 1 | F | CR to TS 38.133: Corrections to inter-RAT FR2 test cases (Rel-15) | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1349 |  | F | CR 38.133 Corrections to test cases for TCI state switching | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1363 | 1 | F | Removal of annex B.2.6 on one shot timing adjustment in 38.133 | 15.12.0 |
| 2020-12 | RAN#90 | RP-202487 | 1365 | 1 | F | Correction to NR FR1 DL active BWP switch of Cell with non-DRX in SA (A.6.5.6.2.1) | 15.12.0 |
| 2020-12 | RAN#90 | RP-202486 | 1371 | 2 | F | CR to 38.133 on Active BWP switch and Active TCI State Switching requirements - Rel15 | 15.12.0 |
| 2021-03 | RAN#91 | RP-210116 | 1404 | 1 | F | CR on correcting SSB and RACH configuration in CSI-RS based beam failure detection and link recovery tests | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1416 | 1 | F | [CR] RRM test case maintenance R15 Cat F | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1422 | 1 | F | Update FR2 Reference channels and OCNG for FR2 RRM Test cases | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1425 |  | F | CR to FR1 SA SS-SINR measurement TCs | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1428 |  | F | CR on E-UTRA carrier for EN-DC event triggered reporting tests | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1431 |  | F | Add missing FR2 Test case setups and Beam assumptions | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1494 |  | F | Correction to cell reselection test case | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1503 |  | F | Update of DRX configuration in FR1 Event-triggered Test cases | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1512 |  | F | Correction on PRACH configuration for FR2 Non-Contention based Random Access in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1515 | 1 | F | Correction on PRACH configuration for Beam Failure Detection and Link Recovery Test in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1518 |  | F | Correction on PRACH RMC for FR1 CSI-RS based Non-Contention based Random Access for BFR in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210117 | 1537 | 2 | F | CR on Scell activation delay maintenance (R15) | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1545 |  | F | CR for test requirements correction of SA event triggered reporting tests for FR1 inter-frequency measurements with SSB time index detection when DRX is used | 15.13.0 |
| 2021-03 | RAN#91 | RP-210117 | 1548 | 1 | F | CR on R15 remaining issues | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1563 | 1 | F | Correction on the power of the first preamble for random access in EN-DC and SA in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1566 | 2 | F | Correction on the time for Scell activation and CSI-report in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1569 | 1 | F | Correction on the Noc level in TS38.133 in R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210117 | 1605 | 1 | F | CR on the filter for beam failure indications in 38.133 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1614 |  | F | Correction to Aperiodic CSI-RS configurations R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1617 |  | F | Correction to radio link monitoring test cases R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1620 | 2 | F | Correction to beam failure recovery test cases R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1623 | 1 | F | Correction to L1-RSRP reporting delay test cases R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210122 | 1634 | 2 | F | CR on maintaining Antenna configurations in TS38.133 R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210122 | 1637 | 1 | F | CR on test requirements for measurement performance tests R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1653 | 1 | F | Correction on test cases of inter-frequency Measurements R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1712 | 1 | F | CR to TS 38.133: Redundant and incorrect TCI state in tests with TRS (Rel-15) | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1715 | 1 | F | CR to TS 38.133: Corrections to TC A.4.5.7.1 (Rel-15) | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1749 |  | F | CR on test cases for inter-RAT measurement r15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210117 | 1752 | 2 | F | CR on SCell activation delay, cell idenfication requirements on deactivated SCell and inter-RAT ECID requirements for NE-DC R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1755 | 1 | F | CR on SCell activation TCs R15 | 15.13.0 |
| 2021-03 | RAN#91 | RP-210116 | 1779 | 2 | F | Cat-F CR to addition of TRS Configurations in Rel-15 Test Cases | 15.13.0 |
| 2021-06 | RAN#92 | RP-211080 | 1810 | 1 | F | CR to Interruptions during measurements on deactivated NR SCC | 15.14.0 |
| 2021-06 | RAN#92 | RP-211083 | 1813 |  | F | CR to CSI-RS based L1-RSRP measurement on resource set with repetition off TCs | 15.14.0 |
| 2021-06 | RAN#92 | RP-211084 | 1816 |  | F | CR to the notation of SMTC in the general test parameters of Re-establishment TCs | 15.14.0 |
| 2021-06 | RAN#92 | RP-211084 | 1819 |  | F | CR to BWP configuration for interruption test case. | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 1825 | 1 | F | Update of DRX configuration in Event-triggered Test cases | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1831 | 1 | F | Update RRM Test cases where 66RBs gives insufficient dB range | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1834 | 1 | F | Update Reference channels and OCNG for FR2 240kHz SSB SCS RRM Test cases | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1837 | 1 | F | Cat-F CR to Cell Reselection Tests with Async Cells in Rel-15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1842 | 1 | F | Cat-F CR to FR2 CORESET and Search Space RMC in Rel-15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211085 | 1845 |  | F | Cat-F CR to PDSCH RMC in Rel-15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211085 | 1848 |  | F | Cat-F CR to TRS Configuration in Rel-15 Test Case | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1855 | 1 | F | Maintenance CR for test cases - R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211085 | 1862 |  | F | CR on BFD and link recovery test cases | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 1885 | 1 | F | Maintenance on CSSF for EN-DC and deactivated SCell measurement R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 1896 | 1 | F | Core requirement maintenance on signal characteristics (R15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1928 | 1 | F | Correction on the SS-RSRP difference value for SS-RSRP measurement TC in R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1931 | 1 | F | Correction on the CSI-reporting period for SCell activation delay in R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 1938 | 1 | F | CR on scheduling restriction of UE during intra-frequency measurements on FR2 in R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211087 | 1981 |  | F | CR to TS 38.133: Correction of TDD Configuration for several TCs (Rel-15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 1984 | 1 | F | CR to TS 38.133: Correction of OCNG pattern for several TCs (Rel-15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211087 | 1987 |  | F | CR to TS 38.133: Correction of IRAT TCs (Rel-15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211087 | 1990 |  | F | CR to TS 38.133: Corrections to SS-RSRP/RSRQ/SINR accuracy TCs (Rel 15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 1993 | 1 | F | CR to TS 38.133: Several corrections to TCs (Rel 15) | 15.14.0 |
| 2021-06 | RAN#92 | RP-211087 | 2031 |  | F | CR on measurement on deactivated SCell and interruption to NR serving cells for measurements on deactivated NR Scell | 15.14.0 |
| 2021-06 | RAN#92 | RP-211088 | 2056 |  | F | Correction to CSI-RS reference configuration\_R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211089 | 2063 |  | F | Correction to TRS reference configuration\_R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 2066 | 1 | F | Correction to FR1 test cases using DLBWP.0.2\_R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211089 | 2070 |  | F | Correction to reference configurations related to DLBWP.0.2\_R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211089 | 2072 |  | F | Correction to interruption during measurement on deactivated SCell test cases\_R15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211089 | 2074 |  | F | Correction of test parameters for SA inter-frequency event triggered reporting TCs | 15.14.0 |
| 2021-06 | RAN#92 | RP-211080 | 2103 | 1 | F | CR on Rel-15 SCell activation, SMTC determination and UL timing 38133 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211090 | 2109 |  | F | CR on NR-DC PSCell addition and release delay in Rel15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 2112 | 1 | F | Maintenance CR for RRM test cases in Rel15 | 15.14.0 |
| 2021-06 | RAN#92 | RP-211081 | 2137 | 1 | F | Correction to AoA setup in FR2 | 15.14.0 |
| 2021-09 | RAN#93 | RP-211922 | 2197 |  | F | Big CR to TS 38.133: NR\_newRAT-Core maintenance (Rel-15) | 15.15.0 |
| 2021-09 | RAN#93 | RP-211925 | 2200 |  | F | Big CR to TS 38.133: NR\_newRAT-Perf maintenance Part 1 (Rel-15) | 15.15.0 |
| 2021-09 | RAN#93 | RP-211925 | 2203 |  | F | Big CR to TS 38.133: NR\_newRAT-Perf maintenance Part 2 (Rel-15) | 15.15.0 |
| 2021-09 | RAN#93 | RP-211925 | 2206 |  | F | Big CR to TS 38.133: NR\_newRAT-Perf maintenance Part 3 (Rel-15) | 15.15.0 |
| 2021-12 | RAN#94 | RP-212854 | 2237 |  | F | Big CR to TS 38.133: NR\_newRAT-Core maintenance (Rel-15) | 15.16.0 |
| 2021-12 | RAN#94 | RP-212855 | 2240 |  | F | Big CR to TS 38.133: NR\_newRAT-Perf maintenance (Rel-15) | 15.16.0 |
| 2022-03 | RAN#95 | RP-220337 | 2270 |  | F | Big CR to TS 38.133: NR\_newRAT-Core maintenance (Rel-15) | 15.17.0 |
| 2022-03 | RAN#95 | RP-220337 | 2273 | 1 | F | Big CR to TS 38.133: NR\_newRAT-Perf maintenance (Rel-15) | 15.17.0 |
| 2022-06 | RAN#96 | RP-221660 | 2311 | 1 | F | CR to maintain test case of PScell addition and release delay (A4.5.7)\_R15 | 15.18.0 |
| 2022-06 | RAN#96 | RP-221655 | 2404 |  | F | Big CR for TS 38.133 Core Maintenance Part-1 (Rel-15) | 15.18.0 |
| 2022-06 | RAN#96 | RP-221655 | 2407 |  | F | Big CR for TS 38.133 Core Maintenance Part-2 (Rel-15) | 15.18.0 |
| 2022-06 | RAN#96 | RP-221660 | 2410 |  | F | Big CR for TS 38.133 Perf Maintenance Part-1 (Rel-15) | 15.18.0 |
| 2022-06 | RAN#96 | RP-221660 | 2413 |  | F | Big CR for TS 38.133 Perf Maintenance Part-2 (Rel-15) | 15.18.0 |
| 2022-09 | RAN#97 | RP-222023 | 2568 |  | F | Big CR for 38.133 maintenance part1 (Rel-15) | 15.19.0 |
| 2022-12 | RAN#98-e | RP-223290 | 2662 |  | F | CR on NR RRM maintenance R15 | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223293 | 2674 | 1 | F | CR to CSI-RS, RLM and BWP switching in annex | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223293 | 2677 | 1 | F | Update on Scell activation and deactivation and Control Channel RMC for RLM FR2 (Rel-15) | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223292 | 2680 |  | F | Update to L1-RSRP test scenarios (Rel-15) | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223293 | 2693 | 1 | F | R15 Cat-F CR testcase correction from R15 TS 38.133 | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223292 | 2700 |  | F | CR on test case correction for timing advance | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223293 | 2709 | 1 | F | CR on TC for known PSCell addition in R15 | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223292 | 2712 |  | F | CR on TC for inter-RAT NR Cell reselection in R15 | 15.20.0 |
| 2022-12 | RAN#98-e | RP-223293 | 2747 | 2 | F | Correction on Aperiodic CSI-RS RMCs and RLM in-sync test cases for R15 | 15.20.0 |