**3GPP TSG- Meeting # *R5-253534***

**Malta, Malta, 19th May 2025 - 23rd May 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.903** | **CR** | **0995** | **rev** | **1** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | FR2 MU - PC7 update for ACS and IBB tests in 38.903 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Keysight Technologies | | | | | | | | | |
| ***Source to TSG:*** | R5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17\_Test, NR\_redcap\_plus\_ARCH-UEConTest | | | | |  | ***Date:*** | | | 2025-05-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Certain progress has been made for PC7 MU and TT analysis in discussion R5-251890. Impacted test cases should be updated accordingly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Updated ACS and IBB tests MUs for PC7. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Test specification will remain incomplete for PC7. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | B.21 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision 1:  -Added relaxation for PC7 into Table B.21.2-4 and also for PC6 as it was missing. | | | | | | | | |

## <<< START OF CHANGES >>>

# B.21 Adjacent Channel Selectivity

Following tables summarize the MU threshold for Adjacent Channel Selectivity measurement. The origin MU values for different test setups with varies parameters can be found in following subclauses.

Table B.21-1: MU threshold for Adjacent Channel Selectivity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Power Class | Frequency | MBW | Power | Threshold MU value (NOTE 1) |
| PC3, PC7 (NOTE2) | 23.45GHz <= f <= 32.125GHz | BW <= 400MHz | P = Max Output Power | 8.08 |
| 32.125GHz < f <= 40.8GHz |  |  | 8.08 |
|  | 40.8GHz < f <= 44.3GHz |  |  | 9.46 |
| PC1 | 23.45GHz <= f <= 32.125GHz | BW <= 400MHz | P = Max Output Power | 8.31 |
| 32.125GHz < f <= 40.8GHz |  |  | 8.31 |
| PC5 | 23.45GHz <= f <= 32.125GHz | BW <= 400MHz | P = Max Output Power | 8.31 |
| PC6 | 23.45GHz <= f <= 32.125GHz | BW <= 400MHz | P = Max Output Power | 8.28 |
| NOTE 1: Total Expanded MU for IFF for Quiet Zone size ≤ 30cm in Table B.21.2-2 for PC3 and PC6 UEs and Table B.21.2-3 for PC1 and PC5 UEs.  NOTE 2: MU thresholds for PC7 limited to FR2a (23.45GHz <= f <= 32.125GHz) and MBW <=100MHz. | | | | |

## B.21.1 Uncertainty budget format and assessment for DFF

FFS

## B.21.2 Uncertainty budget format and assessment for IFF

The uncertainty contributions that may impact the overall MU value are listed in Table B.21.2-1.

Table B.21.2-1: Total Uncertainty contributions for Adjacent Channel Selectivity measurement

| UID | Description of uncertainty contribution | Details in clause |
| --- | --- | --- |
| Stage 2: DUT measurement (Wanted Signal contributions) | | |
| 1 | Positioning misalignment | B.2.2.1 |
| 2 | Measure distance uncertainty | B.2.2.2 |
| 3 | Quality of Quiet Zone | B.2.2.3 |
| 4 | Mismatch | B.2.2.4 |
| 5 | Standing wave between the DUT and measurement antenna | B.2.2.5 |
| 6 | gNB emulator uncertainty | B.2.2.17 |
| 7 | Phase curvature | B.2.2.7 |
| 8 | Amplifier uncertainties | B.2.2.8 |
| 9 | Random uncertainty | B.2.2.9 |
| 10 | Influence of the XPD | B.2.2.10 |
| 11 | Insertion Loss Variation | B.2.2.11 |
| 12 | RF leakage (from measurement antenna to the receiver/transmitter) | B.2.2.12 |
| 13 | Multiple measurement antenna uncertainty | B.2.2.25 |
| 14 | DUT repositioning | B.2.2.26 |
| Stage 2: DUT measurement (Modulated Interferer Signal specific contributions) | | |
| 15 | Positioning misalignment | B.2.2.1 |
| 16 | Measure distance uncertainty | B.2.2.2 |
| 17 | Quality of Quiet Zone | B.2.2.3 |
| 18 | Mismatch | B.2.2.4 |
| 19 | Standing wave between the DUT and measurement antenna | B.2.2.5 |
| 20 | Modulated Interferer uncertainty | B.2.2.33 |
| 21 | Phase curvature | B.2.2.7 |
| 22 | Amplifier uncertainties | B.2.2.8 |
| 23 | Random uncertainty | B.2.2.9 |
| 24 | Influence of the XPD | B.2.2.10 |
| 25 | Insertion Loss Variation | B.2.2.11 |
| 26 | RF leakage (from measurement antenna to the receiver/transmitter) | B.2.2.12 |
| 27 | Multiple measurement antenna uncertainty | B.2.2.25 |
| 28 | DUT repositioning | B.2.2.26 |
| 29 | Influence of offset antenna (Std.Dev) | B.2.2.35 |
| Stage 1: Calibration measurement (Wanted Signal contributions) | | |
| 30 | Mismatch | B.2.2.4 |
| 31 | Amplifier Uncertainties | B.2.2.8 |
| 32 | Misalignment of positioning System | B.2.2.13 |
| 33 | Uncertainty of the Network Analyzer | B.2.2.14 |
| 34 | Uncertainty of the absolute gain of the calibration antenna | B.2.2.15 |
| 35 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | B.2.2.16 |
| 36 | Phase centre offset of calibration antenna | B.2.2.18 |
| 37 | Quality of quiet zone for calibration process | B.2.2.19 |
| 38 | Standing wave between reference calibration antenna and measurement antenna | B.2.2.20 |
| 39 | Influence of the calibration antenna feed cable | B.2.2.21 |
| 40 | Insertion Loss Variation | B.2.2.11 |
| Stage 1: Calibration measurement (Modulated Interferer Signal contributions) | | |
| 41 | Mismatch | B.2.2.4 |
| 42 | Amplifier Uncertainties | B.2.2.8 |
| 43 | Misalignment of positioning System | B.2.2.13 |
| 44 | Uncertainty of the Network Analyzer | B.2.2.14 |
| 45 | Uncertainty of the absolute gain of the calibration antenna | B.2.2.15 |
| 46 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | B.2.2.16 |
| 47 | Phase centre offset of calibration antenna | B.2.2.18 |
| 48 | Quality of quiet zone for calibration process | B.2.2.19 |
| 48 | Standing wave between reference calibration antenna and measurement antenna | B.2.2.20 |
| 50 | Influence of the calibration antenna feed cable | B.2.2.21 |
| 51 | Insertion Loss Variation | B.2.2.11 |
| Systematic uncertainties | | |
| 52 | Systematic error related to beam peak search | B.2.2.28 |
| 53 | Additional impact of interferer ACLR | B.2.2.32 |
| 54 | Influence of offset antenna (mean error) | B.2.2.35 |

The uncertainty assessment tables are organized as follows:

- For the purpose of uncertainty assessment, the radiating antenna aperture of the DUT is denoted as D

- The uncertainty assessment has been derived for the case of Quiet Zone size ≤ 30 cm, f = {23.45GHz, 32.125GHz, 40.8GHz, 44.3GHz}

- The uncertainty assessment for ACS is provided in Table B.21.2-2 for PC3 UEs and Table B.21.2-3 for PC1 and PC5 UEs.

Table B.21.2-2: Uncertainty assessment for Adjacent Channel Selectivity measurement (f=23.45GHz, 32.125GHz, 40.8GHz, 44.3GHz, Quiet Zone size ≤ 30 cm) for PC3 and PC6 UEs

| UID | Uncertainty source | Uncertainty value | Distribution of the probability | Divisor | Standard uncertainty (σ) [dB] |
| --- | --- | --- | --- | --- | --- |
| Stage 2: DUT measurement (Wanted Signal contributions) | | | | | |
| 1 | Positioning misalignment | 0.00 | Normal | 2.00 | 0.00 |
| 2 | Measure distance uncertainty | 0.00 | Rectangular | 1.73 | 0.00 |
| 3 | Quality of Quiet Zone (NOTE 4)  (23.45GHz <= f <= 40.8GHz) | 0.6 | Actual | 1.00 | 0.6 |
| 3 | Quality of Quiet Zone (NOTE 4)  (40.8GHz < f <= 44.3GHz) | 0.7 | Actual | 1.00 | 0.7 |
| 4 | Mismatch  (23.45GHz <= f <= 40.8GHz) | 1.30 | Actual | 1.00 | 1.30 |
| 4 | Mismatch  (40.8GHz < f <= 44.3GHz) | 1.70 | Actual | 1.00 | 1.70 |
| 5 | Standing wave between the DUT and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 6 | gNB uncertainty on absolute level  (23.45GHz <= f <= 40.8GHz) | 2.9 | Normal | 2.00 | 1.45 |
| 6 | gNB uncertainty on absolute level  (40.8GHz < f <= 44.3GHz) | 3.6 | Normal | 2.00 | 1.8 |
| 7 | Phase curvature | 0.00 | U-shaped | 1.41 | 0.00 |
| 8 | Amplifier uncertainties | 2.1 | Normal | 2.00 | 1.05 |
| 9 | Random uncertainty | 0.50 | Normal | 2.00 | 0.25 |
| 10 | Influence of the XPD | 0.01 | U-shaped | 1.41 | 0.00 |
| 11 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| 12 | RF leakage (from measurement antenna to the receiver/transmitter) | 0.00 | Actual | 1.00 | 0.00 |
| 13 | Multiple measurement antenna uncertainty (NOTE 3) | 0.15 | Actual | 1.00 | 0.15 |
| 14 | DUT repositioning | 0.08 | Rectangular | 1.73 | 0.05 |
| Stage 2: DUT measurement (Modulated Interferer Signal specific contributions) | | | | | |
| 15 | Positioning misalignment | 0.00 | Normal | 2.00 | 0.00 |
| 16 | Measure distance uncertainty | 0.00 | Rectangular | 1.73 | 0.00 |
| 17 | Quality of Quiet Zone (NOTE 4)  (23.45GHz <= f <= 40.8GHz) | 0.6 | Actual | 1.00 | 0.6 |
| 17 | Quality of Quiet Zone (NOTE 4)  (40.8GHz < f <= 44.3GHz) | 0.7 | Actual | 1.00 | 0.7 |
| 18 | Mismatch  (23.45GHz <= f <= 40.8GHz) | 1.30 | Actual | 1.00 | 1.30 |
| 18 | Mismatch  (40.8GHz < f <= 44.3GHz) | 1.70 | Actual | 1.00 | 1.70 |
| 19 | Standing wave between the DUT and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 20 | Modulated Interferer uncertainty on absolute level  (23.45GHz <= f <= 40.8GHz) | 2.9 | Normal | 2.00 | 1.45 |
| 20 | Modulated Interferer uncertainty on absolute level  (40.8GHz < f <= 44.3GHz) | 3.6 | Normal | 2.00 | 1.8 |
| 21 | Phase curvature | 0.00 | U-shaped | 1.41 | 0.00 |
| 22 | Amplifier uncertainties | 2.1 | Normal | 2.00 | 1.05 |
| 23 | Random uncertainty | 0.50 | Normal | 2.00 | 0.25 |
| 24 | Influence of the XPD | 0.01 | U-shaped | 1.41 | 0.00 |
| 25 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| 26 | RF leakage (from measurement antenna to the receiver/transmitter) | 0.00 | Actual | 1.00 | 0.00 |
| 27 | Multiple measurement antenna uncertainty (NOTE 3) | 0.15 | Actual | 1.00 | 0.15 |
| 28 | DUT repositioning | 0.08 | Rectangular | 1.73 | 0.05 |
| 29 | Influence of offset antenna (Std.Dev) (NOTE 5) | 0.00 | Normal | 2.00 | 0.00 |
| Stage 1: Calibration measurement (Wanted Signal contributions) | | | | | |
| 30 | Mismatch | 0.00 | U-shaped | 1.41 | 0.00 |
| 31 | Amplifier Uncertainties | 0.00 | Normal | 2.00 | 0.00 |
| 32 | Misalignment of positioning System | 0.00 | Normal | 2.00 | 0.00 |
| 33 | Uncertainty of the Network Analyzer  (23.45GHz <= f <= 40.8GHz) | 1.50 | Normal | 2.00 | 0.75 |
| 33 | Uncertainty of the Network Analyzer  (40.8GHz < f <= 44.3GHz) | 1.70 | Normal | 2.00 | 0.85 |
| 34 | Uncertainty of the absolute gain of the calibration antenna | 0.60 | Normal | 2.00 | 0.30 |
| 35 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | 0.01 | Rectangular | 1.73 | 0.00 |
| 36 | Phase centre offset of calibration antenna | 0.00 | Rectangular | 1.73 | 0.00 |
| 37 | Quality of quiet zone for calibration process (NOTE 4)  (23.45GHz <= f <= 40.8GHz) | 0.4 | Actual | 1.00 | 0.4 |
| 37 | Quality of quiet zone for calibration process (NOTE 4)  (40.8GHz < f <= 44.3GHz) | 0.5 | Actual | 1.00 | 0.5 |
| 38 | Standing wave between reference calibration antenna and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 39 | Influence of the calibration antenna feed cable | 0.14 | Normal | 2.00 | 0.07 |
| 40 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| Stage 1: Calibration measurement (Modulated Interferer Signal contributions) | | | | | |
| 41 | Mismatch | 0.00 | U-shaped | 1.41 | 0.00 |
| 42 | Amplifier Uncertainties | 0.00 | Normal | 2.00 | 0.00 |
| 43 | Misalignment of positioning System | 0.00 | Normal | 2.00 | 0.00 |
| 44 | Uncertainty of the Network Analyzer  (23.45GHz <= f <= 40.8GHz) | 1.50 | Normal | 2.00 | 0.75 |
| 44 | Uncertainty of the Network Analyzer  (40.8GHz < f <= 44.3GHz) | 1.70 | Normal | 2.00 | 0.85 |
| 45 | Uncertainty of the absolute gain of the calibration antenna | 0.60 | Normal | 2.00 | 0.30 |
| 46 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | 0.01 | Rectangular | 1.73 | 0.00 |
| 47 | Phase centre offset of calibration antenna | 0.00 | Rectangular | 1.73 | 0.00 |
| 48 | Quality of quiet zone for calibration process (NOTE 4)  (23.45GHz <= f <= 40.8GHz) | 0.4 | Actual | 1.00 | 0.4 |
| 48 | Quality of quiet zone for calibration process (NOTE 4)  (40.8GHz < f <= 44.3GHz) | 0.5 | Actual | 1.00 | 0.5 |
| 48 | Standing wave between reference calibration antenna and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 50 | Influence of the calibration antenna feed cable | 0.14 | Normal | 2.00 | 0.07 |
| 51 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
|  | Systematic uncertainties (NOTE 2) | | | | Value |
| 52 | Systematic error related to beam peak search (PC3) | | | | 0.5 |
| 52 | Systematic error related to beam peak search (PC6) | | | | 0.7 |
| 53 | Additional impact of interferer ACLR | | | | 0.7 |
| 54 | Influence of offset antenna (mean error) (NOTE 5) | | | | 0.00 |
| Total measurement uncertainty | | | | | Value |
| ACS Expanded uncertainty (23.45GHz <= f <= 40.8GHz) (1.96σ - confidence interval of 95 %) [dB] (PC3) | | | | | 8.08 |
| ACS Expanded uncertainty (23.45GHz <= f <= 32.125GHz) (1.96σ - confidence interval of 95 %) [dB] (PC6) | | | | | 8.28 |
| ACS Expanded uncertainty (40.8GHz < f <= 44.3GHz) (1.96σ - confidence interval of 95 %) [dB] (PC3) | | | | | 9.46 |
| NOTE 1: The analysis was done only for the case of operating at max output power, in-band, non-CA.  NOTE 2: In order to obtain the total measurement uncertainty, systematic uncertainties have to be added to the expanded root sum square of the standard deviations of the Stage 1 and Stage 2 contributors.  NOTE 3: Applies to the system which has a structure of mechanical feed antenna positioning.  NOTE 4: Value based on procedure defined in clause D.2 of TR 38.810 for Quiet Zone size less or equal to 30 cm.  NOTE 5: For MTSU derivation purpose, this value is set to 0.0 (no offset antenna case). | | | | | |

Table B.21.2-3: Uncertainty assessment for Adjacent Channel Selectivity measurement (f=23.45GHz, 32.125GHz, 40.8GHz, Quiet Zone size ≤ 30 cm) for PC1 and PC5 UEs

| UID | Uncertainty source | Uncertainty value | Distribution of the probability | Divisor | Standard uncertainty (σ) [dB] |
| --- | --- | --- | --- | --- | --- |
| Stage 2: DUT measurement (Wanted Signal contributions) | | | | | |
| 1 | Positioning misalignment | 0.02 | Normal | 2.00 | 0.01 |
| 2 | Measure distance uncertainty | 0.00 | Rectangular | 1.73 | 0.00 |
| 3 | Quality of Quiet Zone (NOTE 4) | 0.6 | Actual | 1.00 | 0.6 |
| 4 | Mismatch | 1.30 | Actual | 1.00 | 1.30 |
| 5 | Standing wave between the DUT and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 6 | gNB uncertainty on absolute level | 2.9 | Normal | 2.00 | 1.45 |
| 7 | Phase curvature | 0.00 | U-shaped | 1.41 | 0.00 |
| 8 | Amplifier uncertainties | 2.1 | Normal | 2.00 | 1.05 |
| 9 | Random uncertainty | 0.50 | Normal | 2.00 | 0.25 |
| 10 | Influence of the XPD | 0.01 | U-shaped | 1.41 | 0.00 |
| 11 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| 12 | RF leakage (from measurement antenna to the receiver/transmitter) | 0.00 | Actual | 1.00 | 0.00 |
| 13 | Multiple measurement antenna uncertainty (NOTE 3) | 0.15 | Actual | 1.00 | 0.15 |
| 14 | DUT repositioning | 0.35 | Rectangular | 1.73 | 0.20 |
| Stage 2: DUT measurement (Modulated Interferer Signal specific contributions) | | | | | |
| 15 | Positioning misalignment | 0.02 | Normal | 2.00 | 0.01 |
| 16 | Measure distance uncertainty | 0.00 | Rectangular | 1.73 | 0.00 |
| 17 | Quality of Quiet Zone (NOTE 4) | 0.6 | Actual | 1.00 | 0.6 |
| 18 | Mismatch | 1.30 | Actual | 1.00 | 1.30 |
| 19 | Standing wave between the DUT and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 20 | Modulated Interferer uncertainty on absolute level | 2.9 | Normal | 2.00 | 1.45 |
| 21 | Phase curvature | 0.00 | U-shaped | 1.41 | 0.00 |
| 22 | Amplifier uncertainties | 2.1 | Normal | 2.00 | 1.05 |
| 23 | Random uncertainty | 0.50 | Normal | 2.00 | 0.25 |
| 24 | Influence of the XPD | 0.01 | U-shaped | 1.41 | 0.00 |
| 25 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| 26 | RF leakage (from measurement antenna to the receiver/transmitter) | 0.00 | Actual | 1.00 | 0.00 |
| 27 | Multiple measurement antenna uncertainty (NOTE 3) | 0.15 | Actual | 1.00 | 0.15 |
| 28 | DUT repositioning | 0.35 | Rectangular | 1.73 | 0.20 |
| 29 | Influence of offset antenna (Std.Dev) (NOTE 5) | 0.00 | Normal | 2.00 | 0.00 |
| Stage 1: Calibration measurement (Wanted Signal contributions) | | | | | |
| 30 | Mismatch | 0.00 | U-shaped | 1.41 | 0.00 |
| 31 | Amplifier Uncertainties | 0.00 | Normal | 2.00 | 0.00 |
| 32 | Misalignment of positioning System | 0.00 | Normal | 2.00 | 0.00 |
| 33 | Uncertainty of the Network Analyzer | 1.50 | Normal | 2.00 | 0.75 |
| 34 | Uncertainty of the absolute gain of the calibration antenna | 0.60 | Normal | 2.00 | 0.30 |
| 35 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | 0.01 | Rectangular | 1.73 | 0.00 |
| 36 | Phase centre offset of calibration antenna | 0.00 | Rectangular | 1.73 | 0.00 |
| 37 | Quality of quiet zone for calibration process (NOTE 4) | 0.4 | Actual | 1.00 | 0.4 |
| 38 | Standing wave between reference calibration antenna and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 39 | Influence of the calibration antenna feed cable | 0.14 | Normal | 2.00 | 0.07 |
| 40 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
| Stage 1: Calibration measurement (Modulated Interferer Signal contributions) | | | | | |
| 41 | Mismatch | 0.00 | U-shaped | 1.41 | 0.00 |
| 42 | Amplifier Uncertainties | 0.00 | Normal | 2.00 | 0.00 |
| 43 | Misalignment of positioning System | 0.00 | Normal | 2.00 | 0.00 |
| 44 | Uncertainty of the Network Analyzer | 1.50 | Normal | 2.00 | 0.75 |
| 45 | Uncertainty of the absolute gain of the calibration antenna | 0.60 | Normal | 2.00 | 0.30 |
| 46 | Positioning and pointing misalignment between the reference antenna and the measurement antenna | 0.01 | Rectangular | 1.73 | 0.00 |
| 47 | Phase centre offset of calibration antenna | 0.00 | Rectangular | 1.73 | 0.00 |
| 48 | Quality of quiet zone for calibration process (NOTE 4) | 0.4 | Actual | 1.00 | 0.4 |
| 48 | Standing wave between reference calibration antenna and measurement antenna | 0.00 | U-shaped | 1.41 | 0.00 |
| 50 | Influence of the calibration antenna feed cable | 0.14 | Normal | 2.00 | 0.07 |
| 51 | Insertion Loss Variation | 0.00 | Rectangular | 1.73 | 0.00 |
|  | Systematic uncertainties (NOTE 2) | | | | Value |
| 52 | Systematic error related to beam peak search | | | | 0.7 |
| 53 | Additional impact of interferer ACLR | | | | 0.7 |
| 54 | Influence of offset antenna (mean error) (NOTE 5) | | | | 0.00 |
| Total measurement uncertainty | | | | | Value |
| ACS Expanded uncertainty (1.96σ - confidence interval of 95 %) [dB] (23.45GHz <= f <= 32.125GHz) | | | | | 8.31 |
| ACS Expanded uncertainty (1.96σ - confidence interval of 95 %) [dB] (32.125GHz < f <= 40.8GHz) | | | | | 8.31 |
| NOTE 1: The analysis was done only for the case of operating at max output power, in-band, non-CA.  NOTE 2: In order to obtain the total measurement uncertainty, systematic uncertainties have to be added to the expanded root sum square of the standard deviations of the Stage 1 and Stage 2 contributors.  NOTE 3: Applies to the system which has a structure of mechanical feed antenna positioning.  NOTE 4: Value based on procedure defined in clause D.2 of TR 38.810 for Quiet Zone size less or equal to 30 cm.  NOTE 5: For MTSU derivation purpose, this value is set to 0.0 (no offset antenna case). | | | | | |

NOTE: MU assessment in Table B.21.2-2 and Table B.21.2-3 is based on the following relaxation for 200MHz BW.

Table B.21.2-4: Adjacent channel selectivity requirement relaxation considered in MU assessment for 100 MHz EIRP measurement (f=23.45GHz, 32.125GHz, 40.8GHz, 44.3GHz, Quiet Zone size ≤ 30 cm)

|  |  |  |
| --- | --- | --- |
| Power Class | Frequency Range | Relaxation (dB) |
| PC3 | FR2a | 0 |
|  | FR2b | 4.8 |
|  | FR2c | 6.8 |
| PC1 | FR2a | 0 |
|  | FR2b | 0 |
| PC5, PC6 | FR2a | 0 |
| PC7 | FR2a | 3 |

## <<< END OF CHANGES >>>