



# TEST REPORT

|                                                                                                                                                                                                                                                |                                                                              |                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <p><b>Eurofins KCTL Co.,Ltd.</b><br/>         65, Sinwon-ro, Yeongtong-gu,<br/>         Suwon-si, Gyeonggi-do, 16677, Korea<br/>         TEL: 82-70-5008-1021 FAX: 82-505-299-8311<br/> <a href="http://www.kctl.co.kr">www.kctl.co.kr</a></p> | <p>Report No.:<br/> <b>KR25-SPF0015-B</b><br/>         Page (1) of (714)</p> | <div style="display: flex; align-items: center;"> <div> <b>KCTL</b> </div> </div> |
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**1. Client**

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2024-12-10

**2. Use of Report** : Certification

**3. Name of Product and Model** : Tablet PC

- Model Name : SM-X358U
- Manufacturer and Country of Origin : Samsung Electronics Co., Ltd. / Vietnam

**4. FCC ID** : A3LSMX358U

**5. Date of Test** : 2025-01-03 ~ 2025-03-11

**6. Location of Test** : ☒ Permanent Testing Lab ☐ On Site Testing  
 (Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

**7. Test Standards** : IEEE 1528-2013, ANSI/IEEE C95.1, KDB Publication

**8. Test Results** : Refer to the test result in the test report

|             |                                                 |                                                       |
|-------------|-------------------------------------------------|-------------------------------------------------------|
| Affirmation | Tested by<br><br>Name : Mungi Jeong (Signature) | Technical Manager<br><br>Name : Hosik Sim (Signature) |
|-------------|-------------------------------------------------|-------------------------------------------------------|

2025-04-04

**Eurofins KCTL Co.,Ltd.**

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|                                                                                                                                                                                                         |                                                                  |                                                                                     |
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## REPORT REVISION HISTORY

| Date       | Revision                                                 | Page No   |
|------------|----------------------------------------------------------|-----------|
| 2025-03-25 | Originally issued                                        | -         |
| 2025-03-31 | Updated WLAN 6 GHz of Simultaneous Transmission Analysis | 209 ~ 211 |
| 2025-04-04 | Updated Rear Distance of Grip Sensor off                 | 179       |
|            |                                                          |           |
|            |                                                          |           |

Note: The Report No. KR25-SPF0015-A is superseded by the report No. KR25-SPF0015-B

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## General remarks for test reports

### Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

### Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ Statement not required by the standard or client used for type testing

**1. Identification when information is provided by the customer: Information marked " # " is provided by the customer. - Disclaimer: This information is provided by the customer and can affect the validity of results.**

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## 1. General information

Client : Samsung Electronics Co., Ltd.  
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea  
 Manufacturer : Samsung Electronics Co., Ltd.  
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea  
 Laboratory : Eurofins KCTL Co.,Ltd.  
 Address : 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea  
 Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132  
                           VCCI Registration No. : R-3327, G-198, C-3706, T-1849  
                           CAB Identifier: KR0040, ISED Number: 8035A  
                           KOLAS No.: KT231

### 1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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|                                                                                                                                                                                                         |                                                           |                                                                                                                                                                         |
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## 2. Device information

### 2.1 Basic description

|                       |            |                                                                                                                                                  |                 |                     |
|-----------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|
| Product Name          |            | Tablet PC                                                                                                                                        |                 |                     |
| Product Model Name    |            | SM-X358U                                                                                                                                         |                 |                     |
| Product Manufacturer  |            | Samsung Electronics Co., Ltd.                                                                                                                    |                 |                     |
| Product Serial Number | Radiation  | R32Y1001Z6P, R32Y1001Y5L, R32Y10026PD, R32Y100285M<br>R32Y100268R, R32XB001YML, R321001YNP, R32Y1001ZZE<br>R32XB001YWJ, R32Y1001YWE, R32Y100297N |                 |                     |
|                       | Conduction | R32XB001VWT, R32Y10023JR, R32Y10023WK                                                                                                            |                 |                     |
| Device Overview       |            | Band & Mode                                                                                                                                      | Operating Modes | Tx Frequency (MHz)  |
|                       |            | WCDMA Band II                                                                                                                                    | Data            | 1 852.4 ~ 1 907.6   |
|                       |            | WCDMA Band IV                                                                                                                                    | Data            | 1 712.4 ~ 1 752.6   |
|                       |            | WCDMA Band V                                                                                                                                     | Data            | 826.4 ~ 846.6       |
|                       |            | LTE Band 2                                                                                                                                       | Data            | 1 850.7 ~ 1 909.3   |
|                       |            | LTE Band 4                                                                                                                                       | Data            | 1 710.7 ~ 1 754.3   |
|                       |            | LTE Band 5                                                                                                                                       | Data            | 824.7 ~ 848.3       |
|                       |            | LTE Band 7                                                                                                                                       | Data            | 2 502.5 ~ 2 567.5   |
|                       |            | LTE Band 12                                                                                                                                      | Data            | 699.7 ~ 715.3       |
|                       |            | LTE Band 13                                                                                                                                      | Data            | 779.5 ~ 784.5       |
|                       |            | LTE Band 14                                                                                                                                      | Data            | 790.5 ~ 795.5       |
|                       |            | LTE Band 25                                                                                                                                      | Data            | 1 850.7 ~ 1 914.3   |
|                       |            | LTE Band 26                                                                                                                                      | Data            | 814.7 ~ 848.3       |
|                       |            | LTE Band 30                                                                                                                                      | Data            | 2 307.5 ~ 2 312.5   |
|                       |            | LTE Band 41                                                                                                                                      | Data            | 2 506.0 ~ 2 680.0   |
|                       |            | LTE Band 48                                                                                                                                      | Data            | 3 552.5 ~ 3 697.5   |
|                       |            | LTE Band 66                                                                                                                                      | Data            | 1 710.7 ~ 1 779.3   |
|                       |            | LTE Band 71                                                                                                                                      | Data            | 665.5 ~ 695.5       |
|                       |            | NR Band n2                                                                                                                                       | Data            | 1 852.5 ~ 1 907.5   |
|                       |            | NR Band n5                                                                                                                                       | Data            | 826.5 ~ 846.5       |
|                       |            | NR Band n25                                                                                                                                      | Data            | 1 852.5 ~ 1 912.5   |
|                       |            | NR Band n30                                                                                                                                      | Data            | 2 307.5 ~ 2 312.5   |
|                       |            | NR Band n41                                                                                                                                      | Data            | 2 501.01 ~ 2 685.00 |
|                       |            | NR Band n48                                                                                                                                      | Data            | 3 555.00 ~ 3 694.98 |
|                       |            | NR Band n66                                                                                                                                      | Data            | 1 712.5 ~ 1 777.5   |
|                       |            | NR Band n71                                                                                                                                      | Data            | 665.5 ~ 695.5       |
|                       |            | NR Band n77 DoD                                                                                                                                  | Data            | 3 455.01 ~ 3 544.98 |
|                       |            | NR Band n77                                                                                                                                      | Data            | 3 705.00 ~ 3 975.00 |
|                       |            | NR Band n78                                                                                                                                      | Data            | 3 455.01 ~ 3 544.98 |
|                       |            | 2.4 GHz WLAN                                                                                                                                     | Data            | 2 412.0 ~ 2 472.0   |
|                       |            | U-NII-1                                                                                                                                          | Data            | 5 180.0 ~ 5 240.0   |
|                       |            | U-NII-2A                                                                                                                                         | Data            | 5 260.0 ~ 5 320.0   |
|                       |            | U-NII-2C                                                                                                                                         | Data            | 5 500.0 ~ 5 720.0   |
|                       |            | U-NII-3                                                                                                                                          | Data            | 5 745.0 ~ 5 825.0   |
|                       |            | U-NII-4                                                                                                                                          | Data            | 5 845.0 ~ 5 885.0   |
|                       |            | Bluetooth                                                                                                                                        | Data            | 2 402.0 ~ 2 480.0   |
|                       |            | NFC                                                                                                                                              | Data            | 13.56               |
| TDWR Information      |            | 5.60 GHz~ 5.65 GHz band (TDWR) is supported by the device.                                                                                       |                 |                     |

## 2.2 Summary of SAR Test Results

| Band                                      | Ant.  | Equipment Class | Highest Reported      |                        |
|-------------------------------------------|-------|-----------------|-----------------------|------------------------|
|                                           |       |                 | Body<br>1g SAR (W/kg) | Body<br>10g SAR (W/kg) |
| WCDMA Band II                             |       | PCB             | 1.13                  | N/A                    |
| WCDMA Band IV                             |       | PCB             | 1.04                  | N/A                    |
| WCDMA Band V                              |       | PCB             | 0.70                  | N/A                    |
| LTE Band 2                                | Main1 | PCB             | N/A                   | N/A                    |
|                                           | Sub1  | PCB             | N/A                   | N/A                    |
| LTE Band 4                                | Main1 | PCB             | N/A                   | N/A                    |
|                                           | Sub1  | PCB             | N/A                   | N/A                    |
| LTE Band 5                                |       | PCB             | 0.56                  | N/A                    |
| LTE Band 7                                | Main1 | PCB             | 0.70                  | N/A                    |
|                                           | Sub1  | PCB             | 0.25                  | N/A                    |
| LTE Band 12                               |       | PCB             | 0.41                  | N/A                    |
| LTE Band 13                               |       | PCB             | 0.46                  | N/A                    |
| LTE Band 14                               |       | PCB             | 0.45                  | N/A                    |
| LTE Band 25                               | Main1 | PCB             | <b>1.27</b>           | N/A                    |
|                                           | Sub1  | PCB             | 0.68                  | N/A                    |
| LTE Band 26                               |       | PCB             | 0.52                  | N/A                    |
| LTE Band 30                               | Main1 | PCB             | 0.82                  | N/A                    |
|                                           | Sub1  | PCB             | 0.51                  | N/A                    |
| LTE Band 41                               |       | PCB             | 0.82                  | N/A                    |
| LTE Band 48                               |       | CBE             | 0.44                  | N/A                    |
| LTE Band 66                               | Main1 | PCB             | 0.79                  | N/A                    |
|                                           | Sub1  | PCB             | 0.39                  | N/A                    |
| LTE Band 71                               |       | PCB             | 0.36                  | N/A                    |
| NR Band n2                                |       | PCB             | N/A                   | N/A                    |
| NR Band n5                                |       | PCB             | 0.60                  | N/A                    |
| NR Band n25                               |       | PCB             | 1.05                  | N/A                    |
| NR Band n30                               |       | PCB             | 0.60                  | N/A                    |
| NR Band n41                               | SRS 1 | PCB             | 0.48                  | N/A                    |
|                                           | SRS 2 | PCB             | 0.17                  | N/A                    |
|                                           | SRS 3 | PCB             | 0.32                  | N/A                    |
|                                           | SRS 4 | PCB             | 0.26                  | N/A                    |
| NR Band n48                               | SRS 1 | CBE             | 0.41                  | N/A                    |
|                                           | SRS 2 | CBE             | 0.90                  | N/A                    |
|                                           | SRS 3 | CBE             | 0.91                  | N/A                    |
|                                           | SRS 4 | CBE             | 0.24                  | N/A                    |
| NR Band n66                               |       | PCB             | 1.00                  | N/A                    |
| NR Band n71                               |       | PCB             | 0.44                  | N/A                    |
| NR Band n77                               | SRS 1 | PCB             | 0.66                  | N/A                    |
|                                           | SRS 2 | PCB             | 0.42                  | N/A                    |
|                                           | SRS 3 | PCB             | 0.91                  | N/A                    |
|                                           | SRS 4 | PCB             | 1.20                  | N/A                    |
| NR Band n78                               | SRS 1 | PCB             | N/A                   | N/A                    |
|                                           | SRS 2 | PCB             | N/A                   | N/A                    |
|                                           | SRS 3 | PCB             | N/A                   | N/A                    |
|                                           | SRS 4 | PCB             | N/A                   | N/A                    |
| WLAN 2.4 GHz                              |       | DTS             | 0.76                  | N/A                    |
| U-NII-2A                                  |       | NII             | 0.88                  | N/A                    |
| U-NII-2C                                  |       | NII             | 1.03                  | N/A                    |
| U-NII-3                                   |       | NII             | 1.00                  | N/A                    |
| U-NII-4                                   |       | NII             | 0.87                  | N/A                    |
| Bluetooth                                 |       | DSS             | 0.65                  | N/A                    |
| NFC                                       |       | DXX             | N/A                   | <b>&lt; 0.10</b>       |
| Simultaneous SAR per KDB 690783 D01v01r03 |       |                 | 1.59                  | N/A                    |

|                                                                                                                                                                                                         |                                                           |                                                                                     |
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## 2.3 #Antenna information

| Antenna Type       |       | [Main1,2 / Sub1,2,4: LDS Antenna]<br>[Sub3: key Antenna] |     |     |     |     |      |     |      |              |      |            |     |      |     |      |      |             |  |              |  |
|--------------------|-------|----------------------------------------------------------|-----|-----|-----|-----|------|-----|------|--------------|------|------------|-----|------|-----|------|------|-------------|--|--------------|--|
| Band               |       | WCDMA                                                    |     |     | LTE |     |      |     |      |              |      |            |     |      |     |      |      |             |  |              |  |
|                    |       | II                                                       | IV  | V   | 2   | 4   | 5    | 7   | 12   | 13           | 14   | 25         | 26  | 30   | 41  | 48   | 66   | 71          |  |              |  |
| Peak gain<br>(dBi) | Main1 | 3.0                                                      | 2.4 | 0.1 | 3.0 | 2.4 | 0.10 | -   | -3.3 | -1.6         | -2.7 | 3.0        | 0.1 | -    | -   | -    | 2.4  | -4.0        |  |              |  |
|                    | Main2 | -                                                        | -   | -   | -   | -   | -    | 1.2 | -    | -            | -    | -          | -   | 1.1  | 1.2 | -    | -    | -           |  |              |  |
|                    | Sub1  | -                                                        | -   | -   | 5.4 | 2.3 | -    | 0.9 | -    | -            | -    | 5.4        | -   | -0.2 | -   | -    | 2.3  | -           |  |              |  |
|                    | Sub2  | -                                                        | -   | -   | -   | -   | -    | -   | -    | -            | -    | -          | -   | -    | -   | -    | -    | -           |  |              |  |
|                    | Sub3  | -                                                        | -   | -   | -   | -   | -    | -   | -    | -            | -    | -          | -   | -    | -   | -    | -    | -           |  |              |  |
|                    | Sub4  | -                                                        | -   | -   | -   | -   | -    | -   | -    | -            | -    | -          | -   | -    | -   | -    | -2.9 | -           |  |              |  |
| Band               |       | NR                                                       |     |     |     |     |      |     |      |              |      |            |     |      |     |      |      |             |  |              |  |
|                    |       | n2                                                       |     | n5  | n25 |     | n30  | n41 |      | n48          |      | n66        |     | n71  |     | n77  |      | n78         |  |              |  |
| Peak gain<br>(dBi) | Main1 | 3.0                                                      |     | 0.1 |     | 3.0 |      | -   |      | -            |      | -          |     | 2.4  |     | -4.0 |      | -           |  | -            |  |
|                    | Main2 | -                                                        |     | -   |     | -   |      | 1.1 |      | SRS 1: 1.2   |      | SRS 2: 0.4 |     |      |     |      |      | SRS 1: 1.8  |  | SRS 1:1.4    |  |
|                    | Sub1  | -                                                        |     | -   |     | -   |      | -   |      | SRS 2: 1.1   |      |            |     |      |     |      |      |             |  |              |  |
|                    | Sub2  | -                                                        |     | -   |     | -   |      | -   |      |              |      | SRS 3: 1.4 |     |      |     |      |      | SRS 4: 1.1  |  | SRS 4: 1.1   |  |
|                    | Sub3  | -                                                        |     | -   |     | -   |      | -   |      | SRS 3: -8.14 |      |            |     |      |     |      |      | SRS 2: 5.69 |  | SRS 2: -6.14 |  |
|                    | Sub4  | -                                                        |     | -   |     | -   |      | -   |      | SRS 4: -1.1  |      | SRS1: -2.9 |     |      |     |      |      | SRS 3: -0.7 |  | SRS 3: -3.9  |  |

| Antenna Type       |       | LDS Antenna                |        |         |         |        |        |
|--------------------|-------|----------------------------|--------|---------|---------|--------|--------|
| Band               |       | WLAN 2.4 GHz<br>/Bluetooth | UNII-1 | UNII-2A | UNII-2C | UNII-3 | UNII-4 |
| Peak gain<br>(dBi) | Ant.1 | -4.5                       | -4.5   | -4.2    | -4.2    | -4.4   | -4.4   |
|                    | Ant.2 | -4.0                       | -4.7   | -4.6    | -4.8    | -4.9   | -4.3   |



|                                                                                                                                                                                                         |                                                           |                                                                                                   |
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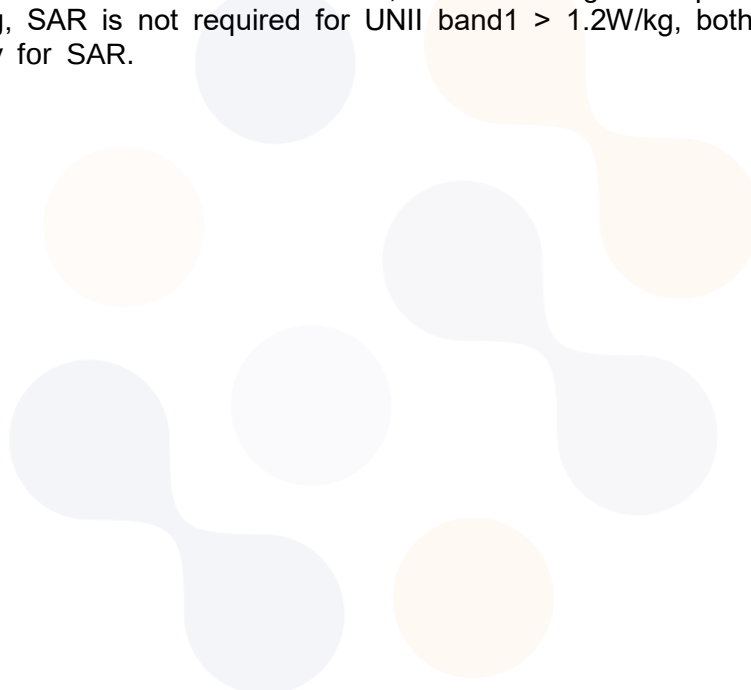
## 2.4 Power Reduction for SAR

This device utilizes a power reduction mechanism for wireless modes and bands for SAR compliance under some conditions when the device is being used in close proximity to the user's hand. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in Tablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

## 2.5 #Maximum Tune-up power

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D04v01.

When the specified maximum output power is the same for both UNII Band1 and UNII Band 2A, begins SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is  $\leq 1.2\text{W/kg}$ , SAR is not required for UNII band1  $> 1.2\text{W/kg}$ , both bands should be tested independently for SAR.





## 2.5.1 #Maximum 3G/4G/5G Output Power

| Band     | Mode     |           | Output Power(dBm) |              |                   |              |                     |              |
|----------|----------|-----------|-------------------|--------------|-------------------|--------------|---------------------|--------------|
|          |          |           | Max, $P_{max}$    |              | DSI 0 (free)      |              | DSI 1 (Grip Sensor) |              |
|          |          |           | Target            | Max. Allowed | Target            | Max. Allowed | Target              | Max. Allowed |
| WCDMA II | RMC      |           | 23.00             | 24.00        | Same as $P_{max}$ |              | 11.00               | 12.00        |
|          | AMR      |           | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          | HSDPA    | Subtest-1 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-2 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-3 | 21.50             | 22.50        |                   |              | 9.50                | 10.50        |
|          |          | Subtest-4 | 21.50             | 22.50        |                   |              | 9.50                | 10.50        |
|          | HSUPA    | Subtest-1 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-2 | 20.00             | 21.00        |                   |              | 8.00                | 9.00         |
|          |          | Subtest-3 | 21.00             | 22.00        |                   |              | 9.00                | 10.00        |
|          |          | Subtest-4 | 20.00             | 21.00        |                   |              | 8.00                | 9.00         |
|          |          | Subtest-5 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          | DC-HSDPA | Subtest-1 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-2 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-3 | 21.50             | 22.50        |                   |              | 9.50                | 10.50        |
|          |          | Subtest-4 | 21.50             | 22.50        |                   |              | 9.50                | 10.50        |
| WCDMA IV | RMC      |           | 24.00             | 25.00        | Same as $P_{max}$ |              | 12.00               | 13.00        |
|          | AMR      |           | 24.00             | 25.00        |                   |              | 12.00               | 13.00        |
|          | HSDPA    | Subtest-1 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-2 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-3 | 22.50             | 23.50        |                   |              | 10.50               | 11.50        |
|          |          | Subtest-4 | 22.50             | 23.50        |                   |              | 10.50               | 11.50        |
|          | HSUPA    | Subtest-1 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-2 | 21.00             | 22.00        |                   |              | 9.00                | 10.00        |
|          |          | Subtest-3 | 22.00             | 23.00        |                   |              | 10.00               | 11.00        |
|          |          | Subtest-4 | 21.00             | 22.00        |                   |              | 9.00                | 10.00        |
|          |          | Subtest-5 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          | DC-HSDPA | Subtest-1 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-2 | 23.00             | 24.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-3 | 22.50             | 23.50        |                   |              | 10.50               | 11.50        |
|          |          | Subtest-4 | 22.50             | 23.50        |                   |              | 10.50               | 11.50        |
| WCDMA V  | RMC      |           | 24.00             | 25.00        | Same as $P_{max}$ |              | 14.00               | 15.00        |
|          | AMR      |           | 24.00             | 25.00        |                   |              | 14.00               | 15.00        |
|          | HSDPA    | Subtest-1 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          |          | Subtest-2 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          |          | Subtest-3 | 22.50             | 23.50        |                   |              | 12.50               | 13.50        |
|          |          | Subtest-4 | 22.50             | 23.50        |                   |              | 12.50               | 13.50        |
|          | HSUPA    | Subtest-1 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          |          | Subtest-2 | 21.00             | 22.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-3 | 22.00             | 23.00        |                   |              | 12.00               | 13.00        |
|          |          | Subtest-4 | 21.00             | 22.00        |                   |              | 11.00               | 12.00        |
|          |          | Subtest-5 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          | DC-HSDPA | Subtest-1 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          |          | Subtest-2 | 23.00             | 24.00        |                   |              | 13.00               | 14.00        |
|          |          | Subtest-3 | 22.50             | 23.50        |                   |              | 12.50               | 13.50        |
|          |          | Subtest-4 | 22.50             | 23.50        |                   |              | 12.50               | 13.50        |

| Band  |        |        |       | Output Power(dBm) |                   |                 |                 |                        |                 |
|-------|--------|--------|-------|-------------------|-------------------|-----------------|-----------------|------------------------|-----------------|
|       |        |        |       | Max, $P_{max}$    |                   | DSI 0<br>(free) |                 | DSI 1<br>(Grip Sensor) |                 |
|       |        |        |       |                   |                   | Target          | Max.<br>Allowed | Target                 | Max.<br>Allowed |
| LTE   | *2     | (Main) | 23.00 | 24.00             | Same as $P_{max}$ |                 | 11.50           | 12.50                  |                 |
|       |        | (Sub)  | 22.00 | 23.00             |                   |                 | 12.50           | 13.50                  |                 |
|       | *4     | (Main) | 24.00 | 25.00             |                   |                 | 12.50           | 13.50                  |                 |
|       |        | (Sub)  | 22.00 | 23.00             |                   |                 | 13.00           | 14.00                  |                 |
|       | *5     |        | 24.00 | 25.00             |                   |                 | 15.00           | 16.00                  |                 |
|       | 7      | (Main) | 24.00 | 25.00             |                   |                 | 12.00           | 13.00                  |                 |
|       |        | (Sub)  | 22.00 | 23.00             |                   |                 | 13.00           | 14.00                  |                 |
|       | 12     |        | 24.00 | 25.00             |                   |                 | 16.00           | 17.00                  |                 |
|       | 13     |        | 24.00 | 25.00             |                   |                 | 14.00           | 15.00                  |                 |
|       | 14     |        | 24.00 | 25.00             |                   |                 | 16.00           | 17.00                  |                 |
|       | 25     | (Main) | 23.00 | 24.00             |                   |                 | 11.50           | 12.50                  |                 |
|       |        | (Sub)  | 22.00 | 23.00             |                   |                 | 12.50           | 13.50                  |                 |
|       | 26     |        | 23.00 | 24.00             |                   |                 | 16.00           | 17.00                  |                 |
|       | 30     | (Main) | 21.50 | 22.50             |                   |                 | 11.00           | 12.00                  |                 |
|       |        | (Sub)  | 22.00 | 23.00             |                   |                 | 13.00           | 14.00                  |                 |
|       | 41     | (PC2)  | 26.00 | 27.00             |                   |                 | 15.50           | 16.50                  |                 |
|       |        | (PC3)  | 24.00 | 25.00             |                   |                 | 13.50           | 14.50                  |                 |
|       | 48     |        | 22.00 | 23.00             |                   |                 | 9.50            | 10.50                  |                 |
| 66    | (Main) | 24.00  | 25.00 | 12.50             | 13.50             |                 |                 |                        |                 |
|       | (Sub)  | 22.00  | 23.00 | 13.00             | 14.00             |                 |                 |                        |                 |
| 71    |        | 24.00  | 25.00 | 16.00             | 17.00             |                 |                 |                        |                 |
| 5G NR | *n2    |        | 23.00 | 24.00             | Same as $P_{max}$ |                 | 10.00           | 11.00                  |                 |
|       | n5     |        | 24.00 | 25.00             |                   |                 | 16.00           | 17.00                  |                 |
|       | n25    |        | 23.00 | 24.00             |                   |                 | 10.00           | 11.00                  |                 |
|       | n30    |        | 21.50 | 22.50             |                   |                 | 10.00           | 11.00                  |                 |
|       | n41    | (PC2)  | SRS 1 | 26.00             | 27.00             | 20.00           | 21.00           | 10.00                  | 11.00           |
|       |        |        | SRS 2 | 15.00             | 16.00             | 9.00            | 10.00           | N/A                    |                 |
|       |        |        | SRS 3 | 14.00             | 15.00             | 8.00            | 9.00            |                        |                 |
|       |        |        | SRS 4 | 17.00             | 18.00             | 11.00           | 12.00           |                        |                 |
|       |        | (PC3)  | SRS 1 | 24.00             | 25.00             | 18.00           | 19.00           | 10.00                  | 11.00           |
|       |        |        | SRS 2 | 15.00             | 16.00             | 9.00            | 10.00           | N/A                    |                 |
|       |        |        | SRS 3 | 14.00             | 15.00             | 8.00            | 9.00            |                        |                 |
|       |        |        | SRS 4 | 17.00             | 18.00             | 11.00           | 12.00           |                        |                 |
|       | n48    |        | SRS 1 | 22.00             | 23.00             | 16.00           | 17.00           | 8.00                   | 9.00            |
|       |        |        | SRS 2 | 16.00             | 17.00             | 10.00           | 11.00           | N/A                    |                 |
|       |        |        | SRS 3 | 17.00             | 18.00             | 11.00           | 12.00           |                        |                 |
|       |        |        | SRS 4 | 19.00             | 20.00             | 13.00           | 14.00           |                        |                 |
|       | n66    |        | 24.00 | 25.00             | Same as $P_{max}$ |                 | 12.50           | 13.50                  |                 |
|       | n71    |        | 24.00 | 25.00             |                   |                 | 16.00           | 17.00                  |                 |
|       | n77    | (PC2)  | SRS 1 | 25.00             | 26.00             | 19.00           | 20.00           | 8.50                   | 9.50            |
|       |        |        | SRS 2 | 19.00             | 20.00             | 13.00           | 14.00           | N/A                    |                 |
|       |        |        | SRS 3 | 16.50             | 17.50             | 10.50           | 11.50           |                        |                 |
|       |        |        | SRS 4 | 19.00             | 20.00             | 13.00           | 14.00           |                        |                 |
|       |        | (PC3)  | SRS 1 | 24.00             | 25.00             | 18.00           | 19.00           | 8.50                   | 9.50            |
|       |        |        | SRS 2 | 19.00             | 20.00             | 13.00           | 14.00           | N/A                    |                 |
| SRS 3 |        |        | 16.50 | 17.50             | 10.50             | 11.50           |                 |                        |                 |
| SRS 4 |        |        | 19.00 | 20.00             | 13.00             | 14.00           |                 |                        |                 |
| *n78  | (PC2)  | SRS 1  | 25.00 | 26.00             | 19.00             | 20.00           | 8.50            | 9.50                   |                 |
|       |        | SRS 2  | 19.00 | 20.00             | 13.00             | 14.00           | N/A             |                        |                 |
|       |        | SRS 3  | 16.00 | 17.00             | 10.00             | 11.00           |                 |                        |                 |
|       |        | SRS 4  | 16.50 | 17.50             | 10.50             | 11.50           |                 |                        |                 |
|       | (PC3)  | SRS 1  | 24.00 | 25.00             | 18.00             | 19.00           | 8.50            | 9.50                   |                 |
|       |        | SRS 2  | 19.00 | 20.00             | 13.00             | 14.00           | N/A             |                        |                 |
|       |        | SRS 3  | 16.00 | 17.00             | 10.00             | 11.00           |                 |                        |                 |
|       |        | SRS 4  | 16.50 | 17.50             | 10.50             | 11.50           |                 |                        |                 |

**Notes:**

**1) \*Overlapping frequency range bands exemption.**

SAR is exempt from testing because bands with overlapping frequency ranges and same or lower maximum tuning limits have the same channel bandwidth.

| Test band | *Overlapping frequency range band                                | Test Band                                                        |
|-----------|------------------------------------------------------------------|------------------------------------------------------------------|
| LTE       | <b>LTE Band 2 (Main1/Sub1)</b><br>(1 850.7 ~ 1 909.3) MHz        | <b>LTE Band 25 (Main1/Sub1)</b><br>(1 850.7 ~ 1 914.3) MHz       |
|           | <b>LTE Band 4 (Main1/Sub1)</b><br>(1 710.7 ~ 1 754.3) MHz        | <b>LTE Band 66 (Main1/Sub1)</b><br>(1 710.7 ~ 1 779.3) MHz       |
|           | <b>LTE Band 5 (Main1) only Back-off</b><br>(824.7 ~ 848.3) MHz   | <b>LTE Band 26 (Main1) only Back-off</b><br>(814.7 ~ 848.3) MHz  |
| 5G NR     | <b>NR Band n2</b><br>(1 852.5 ~ 1 907.5) MHz                     | <b>NR Band n25</b><br>(1 852.5 ~ 1 912.5) MHz                    |
|           | <b>NR Band n78(PC2) SRS 1,2,3,4</b><br>(3 455.01 ~ 3 544.98) MHz | <b>NR Band n77(PC2) SRS 1,2,3,4</b><br>(3 455.01 ~ 3 975.00) MHz |

**2) NR TDD Band and SRS mode were applied as Frame Power(Duty 100%).**

## 2.5.2 #Maximum WLAN Output Power(Max)

| Mode             | Band                                       | SISO |    |    |    |    |    | MIMO<br>(Ant.1+Ant.2) |   |    |    |    |    |
|------------------|--------------------------------------------|------|----|----|----|----|----|-----------------------|---|----|----|----|----|
|                  |                                            | a    | b  | g  | n  | ac | ax | a                     | b | g  | n  | ac | ax |
| 2.4 GHz (20 MHz) | 1ch                                        |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 2ch                                        |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 3ch                                        |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 4-9ch                                      |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 10ch                                       |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 11ch                                       |      | 19 | 15 | 15 | 15 | 15 |                       |   | 18 | 18 | 18 | 18 |
|                  | 12ch                                       |      | 2  | 2  | 2  | 2  | 2  |                       |   | 5  | 5  | 5  | 5  |
|                  | 13ch                                       |      | -1 | -1 | -1 | -1 | -1 |                       |   | 2  | 2  | 2  | 2  |
| 5 GHz (20 MHz)   | 5200 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5300 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5500 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5520 MHz-5680 MHz                          |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5700 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5720 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5800 MHz                                   |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
|                  | 5900 MHz(include over-lap channel: 169ch.) |      |    |    |    |    |    | 20                    |   |    | 19 | 19 | 19 |
| 5 GHz (40 MHz)   | 5190 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5230 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5300 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5510 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5550 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5670 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5710 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5720 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5800 MHz                                   |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
|                  | 5900 MHz(include over-lap channel: 167ch.) |      |    |    |    |    |    |                       |   |    | 19 | 18 | 19 |
| 5 GHz (80 MHz)   | 5200 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5300 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5530 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5610 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5690 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5800 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5900 MHz(include over-lap channel: 171ch.) |      |    |    |    |    |    |                       |   |    |    | 18 | 18 |
|                  | 5200 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 17 | 17 |
| 5 GHz (160 MHz)  | 5500 MHz                                   |      |    |    |    |    |    |                       |   |    |    | 17 | 17 |
|                  | 5900 MHz(include over-lap channel: 163ch.) |      |    |    |    |    |    |                       |   |    |    | 17 | 17 |

Note:

- 1) Supports 802.11b Ant.1 & Ant.2 / Supports only 802.11g,n,ac,ax Ant.2
- 2) WLAN 5 GHz only support MIMO mode.

### 2.5.3 #Maximum WLAN Output Power(Back off-Grip Sensor)

| Mode            | Band                                       | SISO |    |    |    |    |    | MIMO<br>(Ant.1+Ant.2) |    |    |    |    |    |
|-----------------|--------------------------------------------|------|----|----|----|----|----|-----------------------|----|----|----|----|----|
|                 |                                            | a    | b  | g  | n  | ac | ax | a                     | b  | g  | n  | ac | ax |
| 2.4 GHz         | 1ch                                        |      | 11 | 11 | 11 | 11 | 11 |                       | 14 | 14 | 14 | 14 | 14 |
|                 | 2-10ch                                     |      | 11 | 11 | 11 | 11 | 11 |                       | 14 | 14 | 14 | 14 | 14 |
|                 | 11ch                                       |      | 11 | 11 | 11 | 11 | 11 |                       | 14 | 14 | 14 | 14 | 14 |
|                 | 12ch                                       |      | 2  | 2  | 2  | 2  | 2  |                       | 5  | 5  | 5  | 5  | 5  |
|                 | 13ch                                       |      | -1 | -1 | -1 | -1 | -1 |                       | 2  | 2  | 2  | 2  | 2  |
| 5 GHz (20 MHz)  | 5200 MHz                                   |      |    |    |    |    |    | 10                    |    |    | 10 | 10 | 10 |
|                 | 5300 MHz                                   |      |    |    |    |    |    | 10                    |    |    | 10 | 10 | 10 |
|                 | 5500 MHz                                   |      |    |    |    |    |    | 10                    |    |    | 10 | 10 | 10 |
|                 | 5800 MHz                                   |      |    |    |    |    |    | 10                    |    |    | 10 | 10 | 10 |
|                 | 5900 MHz(include over-lap channel: 169ch.) |      |    |    |    |    |    | 10                    |    |    | 10 | 10 | 10 |
| 5 GHz (40 MHz)  | 5200 MHz                                   |      |    |    |    |    |    |                       |    |    | 10 | 10 | 10 |
|                 | 5300 MHz                                   |      |    |    |    |    |    |                       |    |    | 10 | 10 | 10 |
|                 | 5500 MHz                                   |      |    |    |    |    |    |                       |    |    | 10 | 10 | 10 |
|                 | 5800 MHz                                   |      |    |    |    |    |    |                       |    |    | 10 | 10 | 10 |
|                 | 5900 MHz(include over-lap channel: 167ch.) |      |    |    |    |    |    |                       |    |    | 10 | 10 | 10 |
| 5 GHz (80 MHz)  | 5200 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5300 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5500 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5800 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5900 MHz(include over-lap channel: 171ch.) |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
| 5 GHz (160 MHz) | 5200 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5500 MHz                                   |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |
|                 | 5900 MHz(include over-lap channel: 163ch.) |      |    |    |    |    |    |                       |    |    |    | 10 | 10 |

Note:

- 1) Supports 802.11b Ant.1 & Ant.2 / Supports only 802.11g,n,ac,ax Ant.2
- 2) WLAN 5 GHz only support MIMO mode.

## 2.5.4 #Maximum Bluetooth Output Power

| Band      | Mode                                         | Channel        | Output Power(dBm) |                 |                           |                 |        |                 |                           |                 |
|-----------|----------------------------------------------|----------------|-------------------|-----------------|---------------------------|-----------------|--------|-----------------|---------------------------|-----------------|
|           |                                              |                | Ant.1             |                 |                           |                 | Ant.2  |                 |                           |                 |
|           |                                              |                | Max               |                 | Back-off<br>(Grip Sensor) |                 | Max    |                 | Back-off<br>(Grip Sensor) |                 |
|           |                                              |                | Target            | Max.<br>Allowed | Target                    | Max.<br>Allowed | Target | Max.<br>Allowed | Target                    | Max.<br>Allowed |
| Bluetooth | BDR(GFSK)                                    | Except         | 19.00             | 20.00           | 10.00                     | 11.00           | 18.50  | 19.50           | 10.00                     | 11.00           |
|           |                                              | 39             |                   |                 | 10.40                     | 11.40           |        |                 | 11.20                     | 12.20           |
|           |                                              | 78             |                   |                 | 9.50                      | 10.50           |        |                 | 9.00                      | 9.50            |
|           | EDR (π/4DQPSK)<br>EDR(8DPSK)                 | 0              | 16.00             | 17.00           | 9.00                      | 10.00           | 15.50  | 16.50           | 9.50                      | 10.50           |
|           |                                              | 39             |                   |                 | 10.00                     | 11.00           | 15.00  | 16.00           | 10.50                     | 11.50           |
|           |                                              | 78             |                   |                 | 8.50                      | 9.50            |        |                 | 8.20                      | 9.20            |
|           | LE(GFSK)<br>1 Mbps/2 Mbps<br>(37/255 Packet) | 1M:37<br>2M:0  | 17.00             | 18.00           | 8.50                      | 9.50            | 16.00  | 17.00           | 8.50                      | 9.50            |
|           |                                              | 17             |                   |                 | 7.00                      | 8.00            |        |                 |                           |                 |
|           |                                              | 1M:39<br>2M:36 |                   |                 |                           |                 |        |                 |                           |                 |
|           | LE(GFSK)<br>125/500 Kbps                     | Except         | 8.00              | 9.00            | 8.00                      | 9.00            | N/A    |                 |                           |                 |
|           |                                              | 39             | 7.00              | 8.00            | 7.00                      | 8.00            |        |                 |                           |                 |

Note: This device does not supported Advertising channels (2402 MHz, 2426 MHz, 2480 MHz) at the BLE 2Mbps data rate.

## 2.6 SAR Test Configurations

### 2.6.1 #DUT Antenna Locations

The overall dimensions of this device are > 20 cm. A diagram showing the location of the device antennas. Please refer to Appendix D.

### 2.6.2 SAR Test Exclusion Considerations

Device's each edge positions consider SAR test exclusion according to Appendix B.4 of KDB 447498 D04 Interim General RF exposure guide.

If each antenna operate to between 0.3 GHz to 6GHz, and Antenna to DUT surface's distance are within 0.5cm to 40cm, then below Formula can use for SAR test exclusion.

$$P_{th}(mW) = ERP_{20cm}(mW) = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

$$P_{th}(mW) = \begin{cases} ERP_{20cm}(d/20cm)^x & d \leq 20 \text{ cm} \\ ERP_{20cm} & 20cm < d \leq 40cm \end{cases}$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20cm}\sqrt{f}} \right)$$

And  $f$  is in GHz,  $d$  is the separation distance (cm), and  $ERP_{20cm}$  is per Formula.



### 2.6.2.1 Maximum Tune-up Power

| Antenna | Tx           | frequency<br>(MHz) | Output power |     | ERP<br>[mW] | Worst<br>[mW]    | Separation distances (mm) |                  |                  |                   |      | Exclusion        |                   |                  |                   |                   |
|---------|--------------|--------------------|--------------|-----|-------------|------------------|---------------------------|------------------|------------------|-------------------|------|------------------|-------------------|------------------|-------------------|-------------------|
|         |              |                    | dBm          | mW  |             |                  | Rear                      | Left             | Right            | Top               | Bot. | Rear             | Left              | Right            | Top               | Bot.              |
| Main1   | WCDMA 2      | 1907.6             | 24.0         | 251 | 305         | 305              | 5                         | 185              | 14               | 5                 | 157  | 3 mW<br>Measure  | 2649 mW<br>EXEMPT | 22 mW<br>Measure | 3 mW<br>Measure   | 1956 mW<br>EXEMPT |
|         | WCDMA 4      | 1752.6             | 25.0         | 316 | 335         | 335              |                           |                  |                  |                   |      | 4 mW<br>Measure  | 2653 mW<br>EXEMPT | 24 mW<br>Measure | 4 mW<br>Measure   | 1965 mW<br>EXEMPT |
|         | WCDMA 5      | 846.6              | 25.0         | 316 | 197         | 316              |                           |                  |                  |                   |      | 9 mW<br>Measure  | 1546 mW<br>EXEMPT | 39 mW<br>Measure | 9 mW<br>Measure   | 1224 mW<br>EXEMPT |
|         | LTE 5        | 848.3              | 25.0         | 316 | 197         | 316              |                           |                  |                  |                   |      | 9 mW<br>Measure  | 1549 mW<br>EXEMPT | 39 mW<br>Measure | 9 mW<br>Measure   | 1226 mW<br>EXEMPT |
|         | LTE 12       | 715.3              | 25.0         | 316 | 90          | 316              |                           |                  |                  |                   |      | 11 mW<br>Measure | 1317 mW<br>EXEMPT | 44 mW<br>Measure | 11 mW<br>Measure  | 1062 mW<br>EXEMPT |
|         | LTE 13       | 784.5              | 25.0         | 316 | 133         | 316              |                           |                  |                  |                   |      | 10 mW<br>Measure | 1438 mW<br>EXEMPT | 42 mW<br>Measure | 10 mW<br>Measure  | 1148 mW<br>EXEMPT |
|         | LTE 14       | 795.5              | 25.0         | 316 | 104         | 316              |                           |                  |                  |                   |      | 10 mW<br>Measure | 1457 mW<br>EXEMPT | 41 mW<br>Measure | 10 mW<br>Measure  | 1161 mW<br>EXEMPT |
|         | LTE 25       | 1914.3             | 24.0         | 251 | 305         | 305              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2649 mW<br>EXEMPT | 22 mW<br>Measure | 3 mW<br>Measure   | 1956 mW<br>EXEMPT |
|         | LTE 26       | 848.3              | 24.0         | 251 | 157         | 251              |                           |                  |                  |                   |      | 9 mW<br>Measure  | 1549 mW<br>EXEMPT | 39 mW<br>Measure | 9 mW<br>Measure   | 1226 mW<br>EXEMPT |
|         | LTE 66       | 1779.3             | 25.0         | 316 | 335         | 335              |                           |                  |                  |                   |      | 4 mW<br>Measure  | 2653 mW<br>EXEMPT | 23 mW<br>Measure | 4 mW<br>Measure   | 1964 mW<br>EXEMPT |
|         | LTE 71       | 695.5              | 25.0         | 316 | 77          | 316              |                           |                  |                  |                   |      | 12 mW<br>Measure | 1283 mW<br>EXEMPT | 45 mW<br>Measure | 12 mW<br>Measure  | 1037 mW<br>EXEMPT |
|         | NR n5        | 846.5              | 25.0         | 316 | 197         | 316              |                           |                  |                  |                   |      | 9 mW<br>Measure  | 1546 mW<br>EXEMPT | 39 mW<br>Measure | 9 mW<br>Measure   | 1224 mW<br>EXEMPT |
|         | NR n25       | 1912.5             | 24.0         | 251 | 305         | 305              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2649 mW<br>EXEMPT | 22 mW<br>Measure | 3 mW<br>Measure   | 1956 mW<br>EXEMPT |
|         | NR n66       | 1777.5             | 25.0         | 316 | 335         | 335              |                           |                  |                  |                   |      | 4 mW<br>Measure  | 2653 mW<br>EXEMPT | 23 mW<br>Measure | 4 mW<br>Measure   | 1964 mW<br>EXEMPT |
| NR n71  | 695.5        | 25.0               | 316          | 77  | 316         | 12 mW<br>Measure | 1283 mW<br>EXEMPT         | 45 mW<br>Measure | 12 mW<br>Measure | 1037 mW<br>EXEMPT |      |                  |                   |                  |                   |                   |
| Main2   | LTE 7        | 2567.5             | 25.0         | 316 | 254         | 316              | 5                         | 171              | 63               | 5                 | 157  | 3 mW<br>Measure  | 2268 mW<br>EXEMPT | 336 mW<br>EXEMPT | 3 mW<br>Measure   | 1926 mW<br>EXEMPT |
|         | LTE 30       | 2312.5             | 22.5         | 178 | 140         | 178              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2276 mW<br>EXEMPT | 345 mW<br>EXEMPT | 3 mW<br>Measure   | 1937 mW<br>EXEMPT |
|         | LTE 41       | 2680               | 25.0         | 316 | 254         | 316              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2265 mW<br>EXEMPT | 332 mW<br>EXEMPT | 3 mW<br>Measure   | 1922 mW<br>EXEMPT |
|         | NR n30       | 2312.5             | 22.5         | 178 | 140         | 178              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2276 mW<br>EXEMPT | 345 mW<br>EXEMPT | 3 mW<br>Measure   | 1937 mW<br>EXEMPT |
|         | NR n41 SRS 1 | 2685               | 21.0         | 126 | 101         | 126              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2264 mW<br>EXEMPT | 332 mW<br>EXEMPT | 3 mW<br>Measure   | 1922 mW<br>EXEMPT |
|         | NR n48 SRS 2 | 3694.98            | 11.0         | 13  | 8           | 13               |                           |                  |                  |                   |      | 2 mW<br>Measure  | 2240 mW<br>EXEMPT | 307 mW<br>EXEMPT | 2 mW<br>Measure   | 1890 mW<br>EXEMPT |
|         | NR n77 SRS 1 | 3975               | 20.0         | 100 | 92          | 100              |                           |                  |                  |                   |      | 2 mW<br>Measure  | 2234 mW<br>EXEMPT | 301 mW<br>EXEMPT | 2 mW<br>Measure   | 1882 mW<br>EXEMPT |
| Sub1    | LTE 7 (Sub)  | 2567.5             | 23.0         | 200 | 150         | 200              | 5                         | 166              | 30               | 157               | 5    | 3 mW<br>Measure  | 2143 mW<br>EXEMPT | 81 mW<br>Measure | 1926 mW<br>EXEMPT | 3 mW<br>Measure   |
|         | LTE 25 (Sub) | 1914.3             | 23.0         | 200 | 422         | 422              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2168 mW<br>EXEMPT | 92 mW<br>Measure | 1956 mW<br>EXEMPT | 3 mW<br>Measure   |
|         | LTE 30 (Sub) | 2312.5             | 23.0         | 200 | 116         | 200              |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2152 mW<br>EXEMPT | 85 mW<br>Measure | 1937 mW<br>EXEMPT | 3 mW<br>Measure   |
|         | LTE 66 (Sub) | 1779.3             | 23.0         | 200 | 207         | 207              |                           |                  |                  |                   |      | 4 mW<br>Measure  | 2175 mW<br>EXEMPT | 95 mW<br>Measure | 1964 mW<br>EXEMPT | 4 mW<br>Measure   |
|         | NR n41 SRS 2 | 2685               | 10.0         | 10  | 8           | 10               |                           |                  |                  |                   |      | 3 mW<br>Measure  | 2139 mW<br>EXEMPT | 80 mW<br>EXEMPT  | 1922 mW<br>EXEMPT | 3 mW<br>Measure   |
| Sub2    | NR n48 SRS 3 | 3694.98            | 12.0         | 16  | 13          | 16               | 5                         | 215              | 25               | 158               | 5    | 2 mW<br>Measure  | 3060 mW<br>EXEMPT | 49 mW<br>EXEMPT  | 1914 mW<br>EXEMPT | 2 mW<br>Measure   |
|         | NR n77 SRS 4 | 3975               | 14.0         | 25  | 20          | 25               |                           |                  |                  |                   |      | 2 mW<br>Measure  | 3060 mW<br>EXEMPT | 47 mW<br>EXEMPT  | 1906 mW<br>EXEMPT | 2 mW<br>Measure   |

|                                                                                                                                                                                                         |                                                            |                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eurofins KCTL Co.,Ltd.</b><br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>TEL: 82-70-5008-1021 FAX: 82-505-299-8311<br><a href="http://www.kctl.co.kr">www.kctl.co.kr</a> | Report No.:<br><b>KR25-SPF0015-B</b><br>Page (17) of (714) |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Antenna       | Tx           | Frequency (MHz) | Output power |     | ERP [mW] | Worst [mW] | Separation distances (mm) |      |       |     |      | Exclusion    |                |                |                |                |
|---------------|--------------|-----------------|--------------|-----|----------|------------|---------------------------|------|-------|-----|------|--------------|----------------|----------------|----------------|----------------|
|               |              |                 | dBm          | mW  |          |            | Rear                      | Left | Right | Top | Bot. | Rear         | Left           | Right          | Top            | Bot.           |
| Sub3          | NR n41 SRS 3 | 2685            | 9.0          | 8   | 1        | 8          | 5                         | 36   | 144   | 5   | 148  | 3 mW Measure | 113 mW EXEMPT  | 1627 mW EXEMPT | 3 mW Measure   | 1715 mW EXEMPT |
|               | NR n48 SRS 4 | 3694.98         | 14.0         | 25  | 4        | 25         |                           |      |       |     |      | 2 mW Measure | 101 mW EXEMPT  | 1591 mW EXEMPT | 2 mW Measure   | 1680 mW EXEMPT |
|               | NR n77 SRS 2 | 3975            | 14.0         | 25  | 4        | 25         |                           |      |       |     |      | 2 mW Measure | 98 mW EXEMPT   | 1583 mW EXEMPT | 2 mW Measure   | 1672 mW EXEMPT |
| Sub4          | LTE 48       | 3697.5          | 23.0         | 200 | 62       | 200        | 5                         | 228  | 5     | 133 | 21   | 2 mW Measure | 3060 mW EXEMPT | 2 mW Measure   | 1358 mW EXEMPT | 34 mW Measure  |
|               | NR n41 SRS 4 | 2685            | 12.0         | 16  | 7        | 16         |                           |      |       |     |      | 3 mW Measure | 3060 mW EXEMPT | 3 mW Measure   | 1397 mW EXEMPT | 40 mW Measure  |
|               | NR n48 SRS 1 | 3694.98         | 17.0         | 50  | 16       | 50         |                           |      |       |     |      | 2 mW Measure | 3060 mW EXEMPT | 2 mW Measure   | 1358 mW EXEMPT | 34 mW Measure  |
|               | NR n77 SRS 3 | 3975            | 11.5         | 14  | 7        | 14         |                           |      |       |     |      | 2 mW Measure | 3060 mW EXEMPT | 2 mW Measure   | 1349 mW EXEMPT | 33 mW Measure  |
| WIFI1 (Ant.1) | 2.4 GHz      | 2462            | 20.0         | 100 | 22       | 100        | 5                         | 23   | 204   | 5   | 158  | 3 mW Measure | 50 mW Measure  | 3060 mW EXEMPT | 3 mW Measure   | 1954 mW EXEMPT |
|               | UNII-2A      | 5320            | 18.0         | 63  | 15       | 63         |                           |      |       |     |      | 1 mW Measure | 35 mW Measure  | 3060 mW EXEMPT | 1 mW Measure   | 1878 mW EXEMPT |
|               | UNII-2C      | 5720            | 18.0         | 63  | 15       | 63         |                           |      |       |     |      | 1 mW Measure | 34 mW Measure  | 3060 mW EXEMPT | 1 mW Measure   | 1871 mW EXEMPT |
|               | UNII-3       | 5825            | 18.0         | 63  | 14       | 63         |                           |      |       |     |      | 1 mW Measure | 33 mW Measure  | 3060 mW EXEMPT | 1 mW Measure   | 1870 mW EXEMPT |
|               | UNII-4       | 5885            | 18.0         | 63  | 14       | 63         |                           |      |       |     |      | 1 mW Measure | 33 mW Measure  | 3060 mW EXEMPT | 1 mW Measure   | 1869 mW EXEMPT |
|               | Bluetooth    | 2480            | 20.0         | 100 | 22       | 100        |                           |      |       |     |      | 3 mW Measure | 50 mW Measure  | 3060 mW EXEMPT | 3 mW Measure   | 1953 mW EXEMPT |
| WIFI2 (Ant.2) | 2.4 GHz      | 2462            | 20.0         | 100 | 24       | 100        | 5                         | 12   | 199   | 157 | 5    | 3 mW Measure | 14 mW Measure  | 3031 mW EXEMPT | 1930 mW EXEMPT | 3 mW Measure   |
|               | UNII-2A      | 5320            | 18.0         | 63  | 13       | 63         |                           |      |       |     |      | 1 mW Measure | 9 mW Measure   | 3028 mW EXEMPT | 1854 mW EXEMPT | 1 mW Measure   |
|               | UNII-2C      | 5720            | 18.0         | 63  | 13       | 63         |                           |      |       |     |      | 1 mW Measure | 9 mW Measure   | 3028 mW EXEMPT | 1847 mW EXEMPT | 1 mW Measure   |
|               | UNII-3       | 5825            | 18.0         | 63  | 12       | 63         |                           |      |       |     |      | 1 mW Measure | 9 mW Measure   | 3028 mW EXEMPT | 1845 mW EXEMPT | 1 mW Measure   |
|               | UNII-4       | 5885            | 18.0         | 63  | 12       | 63         |                           |      |       |     |      | 1 mW Measure | 8 mW Measure   | 3028 mW EXEMPT | 1844 mW EXEMPT | 1 mW Measure   |
|               | Bluetooth    | 2480            | 19.5         | 89  | 22       | 89         |                           |      |       |     |      | 3 mW Measure | 14 mW Measure  | 3031 mW EXEMPT | 1930 mW EXEMPT | 3 mW Measure   |

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

Note 2: Output power is the worst of the maximum rated power (including tune-up or manufacturing tolerances) and ERP(E.I.R.P – 2.15 dB).

Note 3: The values listed in "EXEMPT" are the output power thresholds for which SAR measurements are required.

The value is calculated by KDB 447498 D04 and must be less than the threshold for SAR exemption.

Note 4: Formulas round separation distance to nearest mm and power to nearest mW before calculating thresholds or exemption values.

Note 5: In the case of GSM mode, it was Calculated by applying frame power for SAR test conditions.

\*Note 6: Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

## 2.6.2.2 Reduced Tune-up Power

| Antenna | Tx           | Frequency (MHz) | Output power |     | ERP [mW] | Worst [mW] | Separation distances (mm) |      |       |     |      | Exclusion     |                    |                    |                    |                    |
|---------|--------------|-----------------|--------------|-----|----------|------------|---------------------------|------|-------|-----|------|---------------|--------------------|--------------------|--------------------|--------------------|
|         |              |                 | dBm          | mW  |          |            | Rear                      | Left | Right | Top | Bot. | Rear          | Left               | Right              | Top                | Bot.               |
| Main1   | WCDMA 2      | 1907.6          | 12.0         | 16  | 19       | 19         | 5                         | 185  | 14    | 5   | 157  | 3 mW Measure  | Non Power Back-off | Non Power Back-off | 3 mW Measure       | Non Power Back-off |
|         | WCDMA 4      | 1752.6          | 13.0         | 20  | 21       | 21         |                           |      |       |     |      | 4 mW Measure  |                    |                    | 4 mW Measure       |                    |
|         | WCDMA 5      | 846.6           | 15.0         | 32  | 20       | 32         |                           |      |       |     |      | 9 mW Measure  |                    |                    | 9 mW Measure       |                    |
|         | LTE 12       | 715.3           | 17.0         | 50  | 14       | 50         |                           |      |       |     |      | 11 mW Measure |                    |                    | 11 mW Measure      |                    |
|         | LTE 13       | 784.5           | 15.0         | 32  | 13       | 32         |                           |      |       |     |      | 10 mW Measure |                    |                    | 10 mW Measure      |                    |
|         | LTE 14       | 795.5           | 17.0         | 50  | 16       | 50         |                           |      |       |     |      | 10 mW Measure |                    |                    | 10 mW Measure      |                    |
|         | LTE 25       | 1914.3          | 12.5         | 18  | 22       | 22         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | LTE 26       | 848.3           | 17.0         | 50  | 31       | 50         |                           |      |       |     |      | 9 mW Measure  |                    |                    | 9 mW Measure       |                    |
|         | LTE 66       | 1779.3          | 13.5         | 22  | 24       | 24         |                           |      |       |     |      | 4 mW Measure  |                    |                    | 4 mW Measure       |                    |
|         | LTE 71       | 695.5           | 17.0         | 50  | 12       | 50         |                           |      |       |     |      | 12 mW Measure |                    |                    | 12 mW Measure      |                    |
|         | NR n5        | 846.5           | 17.0         | 50  | 31       | 50         |                           |      |       |     |      | 9 mW Measure  |                    |                    | 9 mW Measure       |                    |
|         | NR n25       | 1912.5          | 11.0         | 13  | 15       | 15         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | NR n66       | 1777.5          | 13.5         | 22  | 24       | 24         |                           |      |       |     |      | 4 mW Measure  |                    |                    | 4 mW Measure       |                    |
|         | NR n71       | 695.5           | 17.0         | 50  | 12       | 50         |                           |      |       |     |      | 12 mW Measure |                    |                    | 12 mW Measure      |                    |
| Main2   | LTE 7        | 2567.5          | 13.0         | 20  | 16       | 20         | 5                         | 171  | 63    | 5   | 157  | 3 mW Measure  | Non Power Back-off | Non Power Back-off | 3 mW Measure       | Non Power Back-off |
|         | LTE 30       | 2312.5          | 12.0         | 16  | 12       | 16         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | LTE 41       | 2680            | 14.5         | 28  | 23       | 28         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | NR n30       | 2312.5          | 11.0         | 13  | 10       | 13         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | NR n41 SRS 1 | 2685            | 11.0         | 13  | 10       | 13         |                           |      |       |     |      | 3 mW Measure  |                    |                    | 3 mW Measure       |                    |
|         | NR n77 SRS 1 | 3975            | 9.5          | 9   | 8        | 9          |                           |      |       |     |      | 2 mW Measure  |                    |                    | 2 mW Measure       |                    |
| Sub1    | LTE 7 (Sub)  | 2567.5          | 14.0         | 25  | 19       | 25         | 5                         | 166  | 30    | 157 | 5    | 3 mW Measure  | Non Power Back-off | Non Power Back-off | Non Power Back-off | 3 mW Measure       |
|         | LTE 25 (Sub) | 1914.3          | 13.5         | 22  | 47       | 47         |                           |      |       |     |      | 3 mW Measure  |                    |                    |                    | 3 mW Measure       |
|         | LTE 30 (Sub) | 2312.5          | 14.0         | 25  | 15       | 25         |                           |      |       |     |      | 3 mW Measure  |                    |                    |                    | 3 mW Measure       |
|         | LTE 66 (Sub) | 1779.3          | 14.0         | 25  | 26       | 26         |                           |      |       |     |      | 4 mW Measure  |                    |                    |                    | 4 mW Measure       |
| Sub4    | LTE 48       | 3697.5          | 23.0         | 200 | 62       | 200        | 5                         | 228  | 5     | 133 | 21   | 2 mW Measure  | Non Power Back-off | 2 mW Measure       | Non Power Back-off | Non Power Back-off |
|         | NR n48 SRS 1 | 3694.98         | 9.0          | 8   | 2        | 8          |                           |      |       |     |      | 2 mW Measure  |                    | 2 mW Measure       |                    |                    |

| Antenna       | Tx        | Frequency (MHz) | Output power |    | ERP [mW] | Worst [mW] | Separation distances (mm) |      |       |     |      | Exclusion    |                    |                    |                    |                    |
|---------------|-----------|-----------------|--------------|----|----------|------------|---------------------------|------|-------|-----|------|--------------|--------------------|--------------------|--------------------|--------------------|
|               |           |                 | dBm          | mW |          |            | Rear                      | Left | Right | Top | Bot. | Rear         | Left               | Right              | Top                | Bot.               |
| WiFi1 (Ant.1) | 2.4 GHz   | 2462            | 12.0         | 16 | 3        | 16         | 5                         | 23   | 204   | 5   | 158  | 3 mW Measure | Non Power Back-off | Non Power Back-off | 3 mW Measure       | Non Power Back-off |
|               | UNII-2A   | 5320            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    | 1 mW Measure       |                    |
|               | UNII-2C   | 5720            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    | 1 mW Measure       |                    |
|               | UNII-3    | 5825            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    | 1 mW Measure       |                    |
|               | UNII-4    | 5885            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    | 1 mW Measure       |                    |
|               | Bluetooth | 2480            | 11.4         | 14 | 3        | 14         |                           |      |       |     |      | 3 mW Measure |                    |                    | 3 mW Measure       |                    |
| WiFi2 (Ant.2) | 2.4 GHz   | 2462            | 12.0         | 16 | 4        | 16         | 5                         | 12   | 199   | 157 | 5    | 3 mW Measure | Non Power Back-off | Non Power Back-off | Non Power Back-off | 3 mW Measure       |
|               | UNII-2A   | 5320            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    |                    | 1 mW Measure       |
|               | UNII-2C   | 5720            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    |                    | 1 mW Measure       |
|               | UNII-3    | 5825            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    |                    | 1 mW Measure       |
|               | UNII-4    | 5885            | 8.0          | 6  | 1        | 6          |                           |      |       |     |      | 1 mW Measure |                    |                    |                    | 1 mW Measure       |
|               | Bluetooth | 2480            | 12.2         | 17 | 4        | 17         |                           |      |       |     |      | 3 mW Measure |                    |                    |                    | 3 mW Measure       |

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

Note 2: Output power is the worst of the maximum rated power (including tune-up or manufacturing tolerances) and ERP(E.I.R.P – 2.15 dB).

Note 3: The values listed in "EXEMPT" are the output power thresholds for which SAR measurements are required.

The value is calculated by KDB 447498 D04 and must be less than the threshold for SAR exemption.

Note 4: Formulas round separation distance to nearest mm and power to nearest mW before calculating thresholds or exemption values.

## 2.7 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for the model. Therefore, all SAR test were performed with the device which already incorporates the NFC antenna.

A diagram showing the location of the NFC antenna can be found in Appendix D.

## 2.8 SAR Test Methods and Procedures

The tests documented in this report were performed in accordance with IEEE 1528-2013 and the following published KDB procedures:

- IEEE 1528-2013
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D04 General RF Exposure Guidance v01
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 616217 D04 SAR for laptop and tablets v01r02 (Proximity Sensor)
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
- October 2014 TCB Workshop Notes (Other LTE Considerations)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- November 2017 TCB Workshop Notes (LTE UL/DL Carrier Aggregation SAR)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (Tissue Simulating Liquids)
- November 2019 TCB Workshop Notes (SPLSR Hotspot Combination)
- April 2022 TCB Workshop Notes (5G NR FR1 Measurement Procedures)

### 3. #LTE Information

| LTE Information                               |             |              |                                               |                  |                  |
|-----------------------------------------------|-------------|--------------|-----------------------------------------------|------------------|------------------|
| Form Factor                                   |             | Tablet PC    |                                               |                  |                  |
| Frequency Range of each LTE transmission band |             | LTE Band 2   | (1 850.7 MHz ~ 1 909.3 MHz)                   |                  |                  |
|                                               |             | LTE Band 4   | (1 710.7 MHz ~ 1 754.3 MHz)                   |                  |                  |
|                                               |             | LTE Band 5   | (824.7 MHz ~ 848.3 MHz)                       |                  |                  |
|                                               |             | LTE Band 7   | (2 502.5 MHz ~ 2 567.5 MHz)                   |                  |                  |
|                                               |             | LTE Band 12  | (699.7 MHz ~ 715.3 MHz)                       |                  |                  |
|                                               |             | LTE Band 13  | (779.5 MHz ~ 784.5 MHz)                       |                  |                  |
|                                               |             | LTE Band 14  | (790.5 MHz ~ 795.5 MHz)                       |                  |                  |
|                                               |             | LTE Band 25  | (1 850.7 MHz ~ 1 914.3 MHz)                   |                  |                  |
|                                               |             | LTE Band 26  | (814.7 MHz ~ 848.3 MHz)                       |                  |                  |
|                                               |             | LTE Band 30  | (2 307.5 MHz ~ 2 312.5 MHz)                   |                  |                  |
|                                               |             | LTE Band 41  | (2 498.5 MHz ~ 2 687.5 MHz)                   |                  |                  |
|                                               |             | LTE Band 48  | (3 552.5 MHz ~ 3 697.5 MHz)                   |                  |                  |
|                                               |             | LTE Band 66  | (1 710.7 MHz ~ 1 779.3 MHz)                   |                  |                  |
|                                               |             | LTE Band 71  | (665.5 MHz ~ 695.5 MHz)                       |                  |                  |
| Channel Bandwidths                            |             | LTE Band 2:  | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz |                  |                  |
|                                               |             | LTE Band 4:  | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz |                  |                  |
|                                               |             | LTE Band 5:  | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz                 |                  |                  |
|                                               |             | LTE Band 7:  | 5 MHz, 10 MHz, 15 MHz, 20 MHz                 |                  |                  |
|                                               |             | LTE Band 12: | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz                 |                  |                  |
|                                               |             | LTE Band 13: | 5 MHz, 10 MHz                                 |                  |                  |
|                                               |             | LTE Band 14: | 5 MHz, 10 MHz                                 |                  |                  |
|                                               |             | LTE Band 25: | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz |                  |                  |
|                                               |             | LTE Band 26: | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz         |                  |                  |
|                                               |             | LTE Band 30: | 5 MHz, 10 MHz                                 |                  |                  |
|                                               |             | LTE Band 41: | 5 MHz, 10 MHz, 15 MHz, 20 MHz                 |                  |                  |
|                                               |             | LTE Band 48: | 5 MHz, 10 MHz, 15 MHz, 20 MHz                 |                  |                  |
|                                               |             | LTE Band 66: | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz |                  |                  |
|                                               |             | LTE Band 71: | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz |                  |                  |
| LTE Information                               |             |              |                                               |                  |                  |
| Channel Numbers and Frequencies(MHz)          |             | Low          | Mid                                           | High             |                  |
| Band                                          | Bandwidths  |              |                                               |                  |                  |
| LTE Band 2                                    | (Main, Sub) | 1.4 MHz      | 1 850.7 (18 607)                              | 1 880.0 (18 900) | 1 909.3 (19 193) |
|                                               |             | 3 MHz        | 1 851.5 (18 615)                              | 1 880.0 (18 900) | 1 908.5 (19 185) |
|                                               |             | 5 MHz        | 1 852.5 (18 625)                              | 1 880.0 (18 900) | 1 907.5 (19 175) |
|                                               |             | 10 MHz       | 1 855.0 (18 650)                              | 1 880.0 (18 900) | 1 905.0 (19 150) |
|                                               |             | 15 MHz       | 1 857.5 (18 675)                              | 1 880.0 (18 900) | 1 902.5 (19 125) |
|                                               |             | 20 MHz       | 1 860.0 (18 700)                              | 1 880.0 (18 900) | 1 900.0 (19 100) |
| LTE Band 4                                    | (Main, Sub) | 1.4 MHz      | 1 710.7 (19 957)                              | 1 732.5 (20 175) | 1 754.3 (20 393) |
|                                               |             | 3 MHz        | 1 711.5 (19 965)                              | 1 732.5 (19 965) | 1 753.5 (20 385) |
|                                               |             | 5 MHz        | 1 712.5 (19 975)                              | 1 732.5 (20 175) | 1 752.5 (20 375) |
|                                               |             | 10 MHz       | 1 715.0 (20 000)                              | 1 732.5 (20 175) | 1 750.0 (20 350) |
|                                               |             | 15 MHz       | 1 717.5 (20 025)                              | 1 732.5 (20 175) | 1 747.5 (20 325) |
|                                               |             | 20 MHz       | 1 720.0 (20 050)                              | 1 732.5 (20 175) | 1 745.0 (20 300) |

| LTE Information                      |             |         |                  |                  |                  |                  |                  |
|--------------------------------------|-------------|---------|------------------|------------------|------------------|------------------|------------------|
| Channel Numbers and Frequencies(MHz) |             | Low     |                  | Mid              |                  | High             |                  |
| Band                                 | Bandwidths  |         |                  |                  |                  |                  |                  |
| LTE Band 5                           |             | 1.4 MHz | 824.7 (20 407)   |                  | 836.5 (20 525)   |                  | 848.3 (20 643)   |
|                                      |             | 3 MHz   | 825.5 (20 415)   |                  | 836.5 (20 525)   |                  | 847.5 (20 635)   |
|                                      |             | 5 MHz   | 826.5 (20 425)   |                  | 836.5 (20 525)   |                  | 846.5 (20 625)   |
|                                      |             | 10 MHz  | 829.0 (20 450)   |                  | 836.5 (20 525)   |                  | 844.0 (20 600)   |
| LTE Band 7                           | (Main)      | 5 MHz   | 2 502.5 (20 775) |                  | 2 535.0 (21 100) |                  | 2 567.5 (21 425) |
|                                      |             | 10 MHz  | 2 505.0 (20 800) |                  | 2 535.0 (21 100) |                  | 2 565.0 (21 400) |
|                                      |             | 15 MHz  | 2 507.5 (20 825) |                  | 2 535.0 (21 100) |                  | 2 562.5 (21 375) |
|                                      |             | 20 MHz  | 2 510.0 (20 850) |                  | 2 535.0 (21 100) |                  | 2 560.0 (21 350) |
|                                      | (Sub)       | 5 MHz   | 2 502.5 (20 775) |                  | 2 535.0 (21 100) |                  | 2 567.5 (21 425) |
|                                      |             | 10 MHz  | 2 505.0 (20 800) |                  | 2 535.0 (21 100) |                  | 2 565.0 (21 400) |
|                                      |             | 15 MHz  | 2 507.5 (20 825) |                  | 2 535.0 (21 100) |                  | 2 562.5 (21 375) |
|                                      |             | 20 MHz  | 2 510.0 (20 850) |                  | 2 535.0 (21 100) |                  | 2 560.0 (21 350) |
| LTE Band 12                          |             | 1.4 MHz | 699.7 (23 017)   |                  | 707.5 (23 095)   |                  | 715.3 (23 173)   |
|                                      |             | 3 MHz   | 700.5 (23 025)   |                  | 707.5 (23 095)   |                  | 714.5 (23 655)   |
|                                      |             | 5 MHz   | 701.5 (23 035)   |                  | 707.5 (23 095)   |                  | 713.5 (23 155)   |
|                                      |             | 10 MHz  | 704.0 (23 060)   |                  | 707.5 (23 095)   |                  | 711.0 (23 130)   |
| LTE Band 13                          |             | 5 MHz   | 779.5 (23 205)   |                  | 782.0 (23 230)   |                  | 784.5 (23 255)   |
|                                      |             | 10 MHz  | -                |                  | 782.0 (23 230)   |                  | -                |
| LTE Band 14                          |             | 5 MHz   | 790.5 (23 305)   |                  | 793.0 (23 330)   |                  | 795.5 (23 355)   |
|                                      |             | 10 MHz  | -                |                  | 793.0 (23 330)   |                  | -                |
| LTE Band 25                          | (Main)      | 1.4 MHz | 1 850.7 (26 047) |                  | 1 882.5 (26 365) |                  | 1 914.3 (26 683) |
|                                      |             | 3 MHz   | 1 851.5 (26 055) |                  | 1 882.5 (26 365) |                  | 1 913.5 (26 675) |
|                                      |             | 5 MHz   | 1 852.5 (26 065) |                  | 1 882.5 (26 365) |                  | 1 912.5 (26 665) |
|                                      |             | 10 MHz  | 1 855.0 (26 090) |                  | 1 882.5 (26 365) |                  | 1 910.0 (26 640) |
|                                      |             | 15 MHz  | 1 857.5 (26 115) |                  | 1 882.5 (26 365) |                  | 1 907.5 (26 615) |
|                                      |             | 20 MHz  | 1 860.0 (26 140) |                  | 1 882.5 (26 365) |                  | 1 905.0 (26 590) |
|                                      | (Sub)       | 1.4 MHz | 1 850.7 (26 047) |                  | 1 882.5 (26 365) |                  | 1 914.3 (26 683) |
|                                      |             | 3 MHz   | 1 851.5 (26 055) |                  | 1 882.5 (26 365) |                  | 1 913.5 (26 675) |
|                                      |             | 5 MHz   | 1 852.5 (26 065) |                  | 1 882.5 (26 365) |                  | 1 912.5 (26 665) |
|                                      |             | 10 MHz  | 1 855.0 (26 090) |                  | 1 882.5 (26 365) |                  | 1 910.0 (26 640) |
|                                      |             | 15 MHz  | 1 857.5 (26115)  |                  | 1 882.5 (26 365) |                  | 1 907.5 (26 615) |
|                                      |             | 20 MHz  | 1 860.0 (26 140) |                  | 1 882.5 (26 365) |                  | 1 905.0 (26 590) |
| LTE Band 26                          |             | 1.4 MHz | 814.7 (26 697)   |                  | 831.5 (26 865)   |                  | 848.3 (27 033)   |
|                                      |             | 3 MHz   | 815.5 (26 705)   |                  | 831.5 (26 865)   |                  | 847.5 (27 025)   |
|                                      |             | 5 MHz   | 816.5 (26 715)   |                  | 831.5 (26 865)   |                  | 846.5 (27 015)   |
|                                      |             | 10 MHz  | 819.0 (26 740)   |                  | 831.5 (26 865)   |                  | 844.0 (26 990)   |
|                                      |             | 15 MHz  | 821.5 (26 765)   |                  | 831.5 (26 865)   |                  | 841.5 (26 965)   |
| LTE Band 30                          | (Main, Sub) | 5 MHz   | 2 307.5 (27 685) |                  | 2 310.0 (27 710) |                  | 2 312.5 (27 735) |
|                                      |             | 10 MHz  | -                |                  | 2 310.0 (27 710) |                  | -                |
| LTE Band 41                          |             | 5 MHz   | 2 506.0 (39 750) | 2 549.5 (40 185) | 2 593.0 (40 620) | 2 636.5 (41 055) | 2 680.0 (41 490) |
|                                      |             | 10 MHz  | 2 506.0 (39 750) | 2 549.5 (40 185) | 2 593.0 (40 620) | 2 636.5 (41 055) | 2 680.0 (41 490) |
|                                      |             | 15 MHz  | 2 506.0 (39 750) | 2 549.5 (40 185) | 2 593.0 (40 620) | 2 636.5 (41 055) | 2 680.0 (41 490) |
|                                      |             | 20 MHz  | 2 506.0 (39 750) | 2 549.5 (40 185) | 2 593.0 (40 620) | 2 636.5 (41 055) | 2 680.0 (41 490) |



|                                                                                                                                                                                                         |                                                                   |                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eurofins KCTL Co.,Ltd.</b><br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>TEL: 82-70-5008-1021 FAX: 82-505-299-8311<br><a href="http://www.kctl.co.kr">www.kctl.co.kr</a> | <b>Report No.:</b><br><b>KR25-SPF0015-B</b><br>Page (22) of (714) |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| LTE Information                                                                                                    |             |                                                                                                                                                                                                                                                                                                                                             |                   |                  |                   |                  |                   |
|--------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|-------------------|------------------|-------------------|
| Channel Numbers and Frequencies(MHz)                                                                               |             | Low                                                                                                                                                                                                                                                                                                                                         |                   | Mid              |                   | High             |                   |
| Band                                                                                                               | Bandwidths  |                                                                                                                                                                                                                                                                                                                                             |                   |                  |                   |                  |                   |
| LTE Band 48<br>(PC3, PC2)                                                                                          |             | 5 MHz                                                                                                                                                                                                                                                                                                                                       | 3 552.5 (55 265)  | 3 600.8 (55 748) | 3 625.0 (55 990)  | 3 649.2 (56 232) | 3 697.5 (56 715)  |
|                                                                                                                    |             | 10 MHz                                                                                                                                                                                                                                                                                                                                      | 3 555.0 (55 290)  | 3 601.7 (55 757) | 3 625.0 (55 990)  | 3 648.3 (56 223) | 3 695.0 (56 690)  |
|                                                                                                                    |             | 15 MHz                                                                                                                                                                                                                                                                                                                                      | 3 557.5 (55 315)  | 3 602.5 (55 765) | 3 625.0 (55 990)  | 3 647.5 (56 215) | 3 692.5 (56 665)  |
|                                                                                                                    |             | 20 MHz                                                                                                                                                                                                                                                                                                                                      | 3 560.0 (55 340)  | 3 603.3 (55 773) | 3 625.0 (55 990)  | 3 646.7 (56 207) | 3 690.0 (56 640)  |
| LTE Band 66                                                                                                        | (Main, Sub) | 1.4 MHz                                                                                                                                                                                                                                                                                                                                     | 1 710.7 (131 979) |                  | 1 745.0 (132 322) |                  | 1 779.3 (132 665) |
|                                                                                                                    |             | 3 MHz                                                                                                                                                                                                                                                                                                                                       | 1 711.5 (131 987) |                  | 1 745.0 (132 322) |                  | 1 778.5 (132 657) |
|                                                                                                                    |             | 5 MHz                                                                                                                                                                                                                                                                                                                                       | 1 712.5 (131 997) |                  | 1 745.0 (132 322) |                  | 1 777.5 (132 647) |
|                                                                                                                    |             | 10 MHz                                                                                                                                                                                                                                                                                                                                      | 1 715.0 (132 022) |                  | 1 745.0 (132 322) |                  | 1 775.0 (132 622) |
|                                                                                                                    |             | 15 MHz                                                                                                                                                                                                                                                                                                                                      | 1 717.5 (132 047) |                  | 1 745.0 (132 322) |                  | 1 772.5 (132 597) |
|                                                                                                                    |             | 20 MHz                                                                                                                                                                                                                                                                                                                                      | 1 720.0 (132 072) |                  | 1 745.0 (132 322) |                  | 1 770.0 (132 572) |
| LTE Band 71                                                                                                        |             | 5 MHz                                                                                                                                                                                                                                                                                                                                       | 665.5 (133 147)   |                  | 680.5 (133 297)   |                  | 695.5 (133 447)   |
|                                                                                                                    |             | 10 MHz                                                                                                                                                                                                                                                                                                                                      | 668.0 (133 172)   |                  | 680.5 (133 297)   |                  | 693.0 (133 422)   |
|                                                                                                                    |             | 15 MHz                                                                                                                                                                                                                                                                                                                                      | 670.5 (133 197)   |                  | 680.5 (133 297)   |                  | 690.5 (133 397)   |
|                                                                                                                    |             | 20 MHz                                                                                                                                                                                                                                                                                                                                      | 673.0 (133 222)   |                  | 680.5 (133 297)   |                  | 688.0 (133 372)   |
| UE Category                                                                                                        |             | DL: 16 / UL: 18                                                                                                                                                                                                                                                                                                                             |                   |                  |                   |                  |                   |
| Modulations Supported in UL                                                                                        |             | QPSK, 16QAM, 64QAM, 256QAM                                                                                                                                                                                                                                                                                                                  |                   |                  |                   |                  |                   |
| LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3 ~ 6.2.5?(manufacturer attestation to be provided) |             | YES                                                                                                                                                                                                                                                                                                                                         |                   |                  |                   |                  |                   |
| A-MPR(Additional MPR) disabled for SAR Testing?                                                                    |             | YES                                                                                                                                                                                                                                                                                                                                         |                   |                  |                   |                  |                   |
| LTE Carrier Aggregation Possible Combinations                                                                      |             | This device supports LTE UL/DL CA.                                                                                                                                                                                                                                                                                                          |                   |                  |                   |                  |                   |
| LTE Additional Information                                                                                         |             | This device does not support full CA features on 3GPP Release 16. It supports carrier aggregation as shown in Appendix C. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA. |                   |                  |                   |                  |                   |

## 4. #5G NR Information

| 5G NR Information                               |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                                                 |
|-------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------|
| Form Factor                                     |            | Tablet PC                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                                                 |
| Frequency Range of each 5G NR transmission band |            | 5G NR n2: 1 852.5 MHz ~ 1 907.5 MHz<br>5G NR n5: 826.5 MHz ~ 846.5 MHz<br>5G NR n25: 1 852.5 MHz ~ 1 912.5 MHz<br>5G NR n30: 2 307.5 MHz ~ 2 312.5 MHz<br>5G NR n41: 2 501.01 MHz ~ 2 685.00 MHz<br>5G NR n48: 3 555.00 MHz ~ 3 694.98 MHz<br>5G NR n66: 1712.5 MHz ~ 1775.0 MHz<br>5G NR n71: 665.5 MHz ~ 695.5 MHz<br>5G NR n77 DoD: 3 455.01 MHz ~ 3 544.98 MHz<br>5G NR n77: 3 705.00 MHz ~ 3 975.00 MHz<br>5G NR n78: 3 455.01 MHz ~ 3 544.98 MHz |                   |                                                 |
| Mode                                            | Band       | Duplex                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SCS (kHz)         | Bandwidths (BW)                                 |
| SA, NSA                                         | n2         | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10, 15, 20, 25, 30, 40                       |
|                                                 | n5         | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10, 15, 20                                   |
|                                                 | n25        | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10, 15, 20, 25, 30, 35, 40                   |
|                                                 | n30        | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10                                           |
|                                                 | n41        | TDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30                | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |
|                                                 | n48        | TDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30                | 10, 15, 20, 30, 40                              |
|                                                 | n66        | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10, 15, 20, 25, 30, 35, 40                   |
|                                                 | n71        | FDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                | 5, 10, 15, 20                                   |
|                                                 | n77/78     | TDD                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30                | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |
| Channel Numbers and Frequencies(MHz)            |            | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mid               | High                                            |
| Band                                            | Bandwidths |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                                                 |
| NR Band n2                                      | 5 MHz      | 1 852.5 (370 500)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 907.5 (381 500)                               |
|                                                 | 10 MHz     | 1 855.0 (371 000)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 855.0 (376 000) | 1 905.0 (381 000)                               |
|                                                 | 15 MHz     | 1 857.5 (371 500)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 902.5 (380 500)                               |
|                                                 | 20 MHz     | 1 860.0 (372 000)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 900.0 (380 000)                               |
|                                                 | 25 MHz     | 1 862.5 (372 500)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 897.5 (379 500)                               |
|                                                 | 30 MHz     | 1 865.0 (373 000)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 895.0 (379 000)                               |
|                                                 | 40 MHz     | 1 870.0 (374 000)                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 880.0 (376 000) | 1 890.0 (378 000)                               |
| NR Band n5                                      | 5 MHz      | 826.5 (165 300)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 836.5 (167 300)   | 846.5 (169 300)                                 |
|                                                 | 10 MHz     | 829.0 (165 800)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 836.5 (167 300)   | 844.0 (168 800)                                 |
|                                                 | 15 MHz     | 831.5 (166 300)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 836.5 (167 300)   | 841.5 (168 300)                                 |
|                                                 | 20 MHz     | 834.0 (166 800)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 836.5 (167 300)   | 839.0 (167 800)                                 |



| 5G NR Information                    |                                  |                   |                    |                    |                    |                    |                    |  |  |
|--------------------------------------|----------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|--|
| Channel Numbers and Frequencies(MHz) |                                  | Low               |                    | Mid                |                    | High               |                    |  |  |
| Band                                 | Bandwidths                       |                   |                    |                    |                    |                    |                    |  |  |
| NR Band n25                          | 5 MHz                            | 1 852.5 (370 500) |                    | 1 882.5 (376 500)  |                    | 1 912.5 (382 500)  |                    |  |  |
|                                      | 10 MHz                           | 1 855.0 (371 000) |                    | 1 882.5 (376 500)  |                    | 1 910.0 (382 000)  |                    |  |  |
|                                      | 15 MHz                           | 1 857.5 (371 500) |                    | 1 882.5 (376 500)  |                    | 1 907.5 (381 500)  |                    |  |  |
|                                      | 20 MHz                           | 1 860.0 (372 000) |                    | 1 882.5 (376 500)  |                    | 1 905.0 (381 000)  |                    |  |  |
|                                      | 25 MHz                           | 1 862.5 (372 500) |                    | 1 882.5 (376 500)  |                    | 1 902.5 (380 500)  |                    |  |  |
|                                      | 30 MHz                           | 1 865.0 (373 000) |                    | 1 882.5 (376 500)  |                    | 1 900.0 (380 000)  |                    |  |  |
|                                      | 35 MHz                           | 1 867.5 (373 500) |                    | 1 882.5 (376 500)  |                    | 1 897.5 (379 500)  |                    |  |  |
|                                      | 40 MHz                           | 1 870.0 (374 000) |                    | 1 882.5 (376 500)  |                    | 1 895.0 (379 000)  |                    |  |  |
| NR Band n30                          | 5 MHz                            | 2 307.5 (461 500) |                    | 2 310.0 (462 000)  |                    | 2 312.5 (462 500)  |                    |  |  |
|                                      | 10 MHz                           | -                 |                    | 2 310.0 (462 000)  |                    | -                  |                    |  |  |
| NR Band n41                          | SRS 1<br>SRS 2<br>SRS 3<br>SRS 4 | 10 MHz            | 2 501.01 (500 202) | 2 547.00 (509 400) | 2 592.99 (518 598) | 2 639.01 (527 802) | 2 685.00 (537 000) |  |  |
|                                      |                                  | 15 MHz            | 2 503.50 (500 700) | 2 548.26 (509 652) | 2 592.99 (518 598) | 2 637.75 (527 550) | 2 682.48 (536 496) |  |  |
|                                      |                                  | 20 MHz            | 2 506.02 (501 204) | 2 549.49 (509 898) | 2 592.99 (518 598) | 2 636.49 (527 298) | 2 679.99 (535 998) |  |  |
|                                      |                                  | 25 MHz            | 2 508.51 (501 702) | 2 550.75 (510 150) | 2 592.99 (518 598) | 2 635.26 (527 052) | 2 677.50 (535 500) |  |  |
|                                      |                                  | 30 MHz            | 2 511.00 (502 200) | 2 552.01 (510 402) | 2 592.99 (518 598) | 2 634.00 (526 800) | 2 674.98 (534 996) |  |  |
|                                      |                                  | 40 MHz            | 2 516.01 (503 202) | 2 567.34 (513 468) | 2 592.99 (518 598) | 2 618.67 (523 734) | 2 670.00 (534 000) |  |  |
|                                      |                                  | 50 MHz            | 2 521.02 (504 204) |                    | 2 592.99 (518 598) |                    | 2 664.99 (532 998) |  |  |
|                                      |                                  | 60 MHz            | 2 526.00 (505 200) |                    | 2 592.99 (518 598) |                    | 2 659.98 (531 996) |  |  |
|                                      |                                  | 70 MHz            | 2 531.01 (506 202) |                    | 2 592.99 (518 598) |                    | 2 655.00 (531 000) |  |  |
|                                      |                                  | 80 MHz            | 2 536.02 (507 204) |                    | 2 592.99 (518 598) |                    | 2 649.99 (529 998) |  |  |
|                                      |                                  | 90 MHz            | 2 541.00 (508 200) |                    | 2 592.99 (518 598) |                    | 2 644.98 (528 996) |  |  |
|                                      |                                  | 100 MHz           | 2 546.01 (509 202) |                    | 2 592.99 (518 598) |                    | 2 640.00 (528 000) |  |  |
| NR Band n48                          | SRS 1<br>SRS 2<br>SRS 3<br>SRS 4 | 10 MHz            | 3 555.00 (637 000) | 3 601.65 (640 110) | 3 648.33 (643 222) | 3 694.98 (646 332) |                    |  |  |
|                                      |                                  | 15 MHz            | 3 557.52 (637 168) | 3 602.49 (640 166) | 3 647.49 (643 166) | 3 692.49 (646 166) |                    |  |  |
|                                      |                                  | 20 MHz            | 3 560.01 (637 334) | 3 603.33 (640 222) | 3 646.68 (643 112) | 3 690.00 (646 000) |                    |  |  |
|                                      |                                  | 30 MHz            | 3 565.02 (637 668) | 3 605.01 (640 334) | 3 645.00 (643 000) | 3 684.99 (645 666) |                    |  |  |
|                                      |                                  | 40 MHz            | 3 570.00 (638 000) |                    | 3 624.99 (641 666) |                    | 3 679.98 (645 332) |  |  |
| NR Band n66                          |                                  | 5 MHz             | 1 712.5 (342 500)  |                    | 1 745.0 (349 000)  |                    | 1 777.5 (355 500)  |  |  |
|                                      |                                  | 10 MHz            | 1 715.0 (343 000)  |                    | 1 745.0 (349 000)  |                    | 1 775.0 (355 000)  |  |  |
|                                      |                                  | 15 MHz            | 1 717.5 (343 500)  |                    | 1 745.0 (349 000)  |                    | 1 772.5 (354 500)  |  |  |
|                                      |                                  | 20 MHz            | 1 720.0 (344 000)  |                    | 1 745.0 (349 000)  |                    | 1 770.0 (354 000)  |  |  |
|                                      |                                  | 25 MHz            | 1 722.5 (344 500)  |                    | 1 745.0 (349 000)  |                    | 1 767.5 (353 500)  |  |  |
|                                      |                                  | 30 MHz            | 1 725.0 (345 000)  |                    | 1 745.0 (349 000)  |                    | 1 765.0 (353 000)  |  |  |
|                                      |                                  | 35 MHz            | 1 727.5 (345 500)  |                    | 1 745.0 (349 000)  |                    | 1 762.5 (352 500)  |  |  |
|                                      |                                  | 40 MHz            | 1 730.0 (346 000)  |                    | 1 745.0 (349 000)  |                    | 1 760.0 (352 000)  |  |  |
| NR Band n71                          |                                  | 5 MHz             | 665.5 (133 100)    |                    | 680.5 (136 100)    |                    | 695.5 (139 100)    |  |  |
|                                      |                                  | 10 MHz            | 668.0 (133 600)    |                    | 680.5 (136 100)    |                    | 693.0 (138 600)    |  |  |
|                                      |                                  | 15 MHz            | 670.5 (134 100)    |                    | 680.5 (136 100)    |                    | 690.5 (138 100)    |  |  |
|                                      |                                  | 20 MHz            | 673.0 (134 600)    |                    | 680.5 (136 100)    |                    | 688.0 (137 600)    |  |  |

|                                                                                                                                                                                                         |                                                            |                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| 5G NR Information                    |                                         |         |                                       |                    |                                       |                    |                                       |                    |  |
|--------------------------------------|-----------------------------------------|---------|---------------------------------------|--------------------|---------------------------------------|--------------------|---------------------------------------|--------------------|--|
| Channel Numbers and Frequencies(MHz) |                                         |         | Low                                   |                    | Mid                                   |                    | High                                  |                    |  |
| Band                                 | Bandwidths                              |         |                                       |                    |                                       |                    |                                       |                    |  |
| NR Band n77 (PC2) (PC3)              | DoD<br>SRS 1<br>SRS 2<br>SRS 3<br>SRS 4 | 10 MHz  | 3 455.01 (630 334)                    |                    | 3 500.01 (633 334)                    |                    | 3 544.98 (636 322)                    |                    |  |
|                                      |                                         | 15 MHz  | 3 457.50 (630 500)                    |                    | 3 500.01 (633 334)                    |                    | 3 542.49 (636 166)                    |                    |  |
|                                      |                                         | 20 MHz  | 3 460.02 (630 668)                    |                    | 3 500.01 (633 334)                    |                    | 3 540.00 (636 000)                    |                    |  |
|                                      |                                         | 25 MHz  | 3 462.51 (630 834)                    |                    | 3 500.01 (633 334)                    |                    | 3 537.48 (635 832)                    |                    |  |
|                                      |                                         | 30 MHz  | 3 465.00 (631 000)                    |                    | 3 500.01 (633 334)                    |                    | 3 534.99 (635 666)                    |                    |  |
|                                      |                                         | 40 MHz  | 3 470.01 (631 334)                    |                    | -                                     |                    | 3 529.98 (635 332)                    |                    |  |
|                                      |                                         | 50 MHz  | 3 475.02 (631 668)                    |                    | -                                     |                    | 3 525.00 (635 000)                    |                    |  |
|                                      |                                         | 60 MHz  | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |
|                                      |                                         | 70 MHz  | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |
|                                      |                                         | 80 MHz  | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |
|                                      |                                         | 90 MHz  | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |
|                                      |                                         | 100 MHz | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |
|                                      | SRS 1<br>SRS 2<br>SRS 3<br>SRS 4        | 10 MHz  | 3 705.00 (647 000)                    | 3 759.00 (650 600) | 3 813.00 (654 200)                    | 3 867.00 (657 800) | 3 921.00 (661 400)                    | 3 975.00 (665 000) |  |
|                                      |                                         | 15 MHz  | 3 707.52 (647 168)                    | 3 760.50 (650 700) | 3 813.51 (654 234)                    | 3 866.49 (657 766) | 3 919.50 (661 300)                    | 3 972.48 (664 832) |  |
|                                      |                                         | 20 MHz  | 3 710.01 (647 334)                    | 3 762.00 (650 800) | 3 813.99 (645 266)                    | 3 866.01 (657 734) | 3 918.00 (661 200)                    | 3 969.99 (664 666) |  |
|                                      |                                         | 25 MHz  | 3 712.50 (647 500)                    | 3 763.50 (650 900) | 3 814.50 (654 300)                    | 3 865.50 (657 700) | 3 916.5 (661 100)                     | 3 967.5 (664 500)  |  |
|                                      |                                         | 30 MHz  | 3 715.02 (647 668)                    | 3 765.00 (651 000) | 3 815.01 (654 334)                    | 3 864.99 (657 666) | 3 915.00 (661 000)                    | 3 964.98 (664 332) |  |
|                                      |                                         | 40 MHz  | 3 720.00 (648 000)                    | 3 768.00 (651 200) | 3 816.00 (654 400)                    | 3 864.00 (657 600) | 3 912.00 (660 800)                    | 3 960.00 (664 000) |  |
|                                      |                                         | 50 MHz  | 3 725.01 (648 334) 3 782.49 (652 166) |                    | 3 840.00 (656 000) 3 897.51 (659 834) |                    | 3 954.99 (663 666)                    |                    |  |
|                                      |                                         | 60 MHz  | 3 730.02 (648 668)                    |                    | 3 803.34 (653 556)                    |                    | 3 876.66 (658 444) 3 949.98 (663 332) |                    |  |
|                                      |                                         | 70 MHz  | 3 735.00 (649 000)                    |                    | 3 804.99 (653 666)                    |                    | 3 875.01 (658 334) 3 945.00 (663 000) |                    |  |
|                                      |                                         | 80 MHz  | 3 740.01 (649 334)                    |                    |                                       | 3 840.00 (656 000) |                                       | 3 939.99 (662 666) |  |
|                                      |                                         | 90 MHz  | 3 745.02 (649 668)                    |                    |                                       | 3 840.00 (656 000) |                                       | 3 934.98 (662 332) |  |
|                                      |                                         | 100 MHz | 3 750.00 (650 000)                    |                    |                                       |                    | 3 930.00 (662 000)                    |                    |  |
| NR Band n78 (PC2) (PC3)              | SRS 1<br>SRS 2<br>SRS 3<br>SRS 4        | 10 MHz  | 3 455.01 (630 334)                    |                    | 3 500.01 (633 334)                    |                    | 3 544.98 (636 322)                    |                    |  |
|                                      |                                         | 15 MHz  | 3 457.50 (630 500)                    |                    | 3 500.01 (633 334)                    |                    | 3 542.49 (636 166)                    |                    |  |
|                                      |                                         | 20 MHz  | 3 460.02 (630 668)                    |                    | 3 500.01 (633 334)                    |                    | 3 540.00 (636 000)                    |                    |  |
|                                      |                                         | 25 MHz  | 3 462.51 (630 834)                    |                    | 3 500.01 (633 334)                    |                    | 3 537.48 (635 832)                    |                    |  |
|                                      |                                         | 30 MHz  | 3 465.00 (631 000)                    |                    | 3 500.01 (633 334)                    |                    | 3 534.99 (635 666)                    |                    |  |
|                                      |                                         | 40 MHz  | 3 470.01 (631 334)                    |                    | 3 500.01 (633 334)                    |                    | 3 529.98 (635 332)                    |                    |  |
|                                      |                                         | 50 MHz  | 3 475.02 (631 668)                    |                    | 3 500.01 (633 334)                    |                    | 3 525.00 (635 000)                    |                    |  |
|                                      |                                         | 60 MHz  | 3 480.00 (632 000)                    |                    | 3 500.01 (633 334)                    |                    | 3 519.99 (634 666)                    |                    |  |
|                                      |                                         | 70 MHz  | 3 485.01 (632 334)                    |                    | 3 500.01 (633 334)                    |                    | 3 514.98 (634 332)                    |                    |  |
|                                      |                                         | 80 MHz  | 3 490.02 (632 668)                    |                    | 3 500.01 (633 334)                    |                    | 3 510.00 (634 000)                    |                    |  |
|                                      |                                         | 90 MHz  | 3 495.00 (633 000)                    |                    | 3 500.01 (633 334)                    |                    | 3 504.99 (633 666)                    |                    |  |
|                                      |                                         | 100 MHz | -                                     |                    | 3 500.01 (633 334)                    |                    | -                                     |                    |  |

| EN-DC Carrier Aggregation Possible Combinations (LTE Anchor Bands for NR Band) |                                                                           |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| NR Band                                                                        | LTE Band                                                                  |
| LTE Anchor Bands for NR Band n2                                                | [Main1] LTE Band 5/12/13/14/71<br>[Sub1] LTE Band 4/7/30/66<br>[Sub4] B48 |
| LTE Anchor Bands for NR Band n5                                                | [Main1] LTE Band 2/4/66<br>[Main2] LTE Band 7/30<br>[Sub4] B48            |
| LTE Anchor Bands for NR Band n25                                               | [Main1] LTE Band 5/12/13/71<br>[Sub1] LTE Band 2/7/66                     |
| LTE Anchor Bands for NR Band n66                                               | [Main1] LTE Band 5/12/13/14/71<br>[Sub1] LTE Band 2/7/30 [Sub4] B48       |
| LTE Anchor Bands for NR Band n71                                               | [Main1] LTE Band 2/66<br>[Main2] LTE Band 7<br>[Sub4] B48                 |
| LTE Anchor Bands for NR Band n41                                               | [Main1] LTE Band 5/12/71<br>[Sub1] LTE Band 2/4/25/66                     |
| LTE Anchor Bands for NR Band n77                                               | [Main1] LTE Band 2/5/12/13/14/25/66/71<br>[Main2] LTE Band 7/30/41        |
| LTE Anchor Bands for NR Band n78                                               | [Main1] LTE Band 2/5/12/13/25/66/71<br>[Main2] LTE Band 7/41              |

## 5. Specific Absorption Rate

### 5.1 Introduction

The SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational / controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### 5.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = C \left( \frac{\delta T}{\delta t} \right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

## 6. SAR Measurement Procedures

### 6.1 SAR Scan Procedures

#### Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.

#### Step 2: Area Scan & Zoom Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot and Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly. Area Scan & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.

|                                                                                                                                                                                                                                                                                       |                                      |                                                                           | ≤ 3 GHz                                                                                                                                                                                                                                                           | > 3 GHz                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface                                                                                                                                                                                |                                      |                                                                           | 5 mm ± 1 mm                                                                                                                                                                                                                                                       | $\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm 0.5 mm              |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location                                                                                                                                                                                             |                                      |                                                                           | 30° ± 1°                                                                                                                                                                                                                                                          | 20° ± 1°                                                       |
| Maximum area scan spatial resolution: Δx <sub>Area</sub> , Δy <sub>Area</sub>                                                                                                                                                                                                         |                                      |                                                                           | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm                                                                                                                                                                                                                            | 3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm                       |
|                                                                                                                                                                                                                                                                                       |                                      |                                                                           | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                                |
| Maximum zoom scan spatial resolution: Δx <sub>Zoom</sub> , Δy <sub>Zoom</sub>                                                                                                                                                                                                         |                                      |                                                                           | ≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm*                                                                                                                                                                                                                             | 3 – 4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 4 mm*                       |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                       | uniform grid: Δz <sub>Zoom</sub> (n) |                                                                           | ≤ 5 mm                                                                                                                                                                                                                                                            | 3 – 4 GHz: ≤ 4 mm<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 2 mm    |
|                                                                                                                                                                                                                                                                                       | graded grid                          | Δz <sub>Zoom</sub> (1): between 1st two points closest to phantom surface | ≤ 4 mm                                                                                                                                                                                                                                                            | 3 – 4 GHz: ≤ 3 mm<br>4 – 5 GHz: ≤ 2.5 mm<br>5 – 6 GHz: ≤ 2 mm  |
|                                                                                                                                                                                                                                                                                       |                                      | Δz <sub>Zoom</sub> (n>1): between subsequent points                       | ≤ 1.5 · Δz <sub>Zoom</sub> (n-1) mm                                                                                                                                                                                                                               |                                                                |
| Minimum zoom scan volume                                                                                                                                                                                                                                                              | x, y, z                              |                                                                           | ≥ 30 mm                                                                                                                                                                                                                                                           | 3 – 4 GHz: ≥ 28 mm<br>4 – 5 GHz: ≥ 25 mm<br>5 – 6 GHz: ≥ 22 mm |
| Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.                                                                                                                                                        |                                      |                                                                           |                                                                                                                                                                                                                                                                   |                                                                |
| * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                      |                                                                           |                                                                                                                                                                                                                                                                   |                                                                |

#### Step 3: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

## 7. SAR Measurement Configurations

### 7.1 SAR Testing for Tablet Configurations

Per FCC KDB Publication 616217 D04v01r02, for the back surface and edges of the tablet should be tested touching the phantom.

SAR evaluation for the front surface of tablet display screens are generally not necessary, except for tablets that are designed to require continuous operations with the hand next to the antenna.

The SAR exclusion threshold in KDB 447498 D04v01 can be applied to determine SAR test exclusion for adjacent edge configuration. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

### 7.2 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close to the user's body.

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions.

## 8. RF Exposure Limits

**UNCONTROLLED ENVIRONMENTS** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

**CONTROLLED ENVIRONMENTS** are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

| Human Exposure                                                    | Uncontrolled Environment<br>General Population | Controlled Environment<br>Occupational |
|-------------------------------------------------------------------|------------------------------------------------|----------------------------------------|
| <b>Partial Peak SAR <sup>1)</sup></b><br>(Partial)                | 1.60 mW/g                                      | 8.00 mW/g                              |
| <b>Partial Average SAR <sup>2)</sup></b><br>(Whole Body)          | 0.08 mW/g                                      | 0.40 mW/g                              |
| <b>Partial Peak SAR <sup>3)</sup></b><br>(Hands/Feet/Ankle/Wrist) | 4.00 mW/g                                      | 20.00 mW/g                             |

- 1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- 2) The spatial Average value of the SAR averaged over the whole body.
- 3) The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.



## 9. FCC SAR General Measurement Procedures

### 9.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as reported SAR. Test highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

### 9.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is  $\leq 0.25$  dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is  $\leq 1.2$  W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

### 9.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

### 9.4 SAR Measurement Conditions for UMTS

#### 9.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

|                                                                                                                                                                                                                        |                                                                |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------|
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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------|

#### 9.4.2 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

#### 9.4.3 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

#### 9.4.4 SAR Measurements with Rel. 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

#### 9.4.5 SAR Measurements with Rel. 8 DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable

## 9.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

### 9.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

### 9.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

### 9.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator

### 9.5.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

1. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
  - a. The required channel and offset combination with the highest maximum output power is required for SAR.
  - b. When the reported SAR is  $\leq 0.8$  W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
  - c. When the reported SAR for a required test channel is  $> 1.45$  W/kg, SAR is required for all RB offset configurations for that channel
2. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Sec 4.2.1.
3. Per Sec. 4.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is  $< 0.8$  W/kg.
4. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is  $< 1.45$  W/Kg.

### 9.5.5 LTE(TDD) Considerations

According to KDB 941225 D05v02r05, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special sub-frame configuration 6.

LTE TDD Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame configurations.

**Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

| Special subframe configuration n | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|----------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                  | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                  |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                                | $6592 \cdot T_s$                 | $(1+X) \cdot 2192 \cdot T_s$   | $(1+X) \cdot 2560 \cdot T_s$     | $7680 \cdot T_s$                   | $(1+X) \cdot 2192 \cdot T_s$   | $(1+X) \cdot 2560 \cdot T_s$     |
| 1                                | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                                | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                                | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                                | $26336 \cdot T_s$                |                                |                                  | $7680 \cdot T_s$                   |                                |                                  |
| 5                                | $6592 \cdot T_s$                 | $(2+X) \cdot 2192 \cdot T_s$   | $(2+X) \cdot 2560 \cdot T_s$     | $20480 \cdot T_s$                  | $(2+X) \cdot 2192 \cdot T_s$   | $(2+X) \cdot 2560 \cdot T_s$     |
| 6                                | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                                | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  |                                |                                  |
| 8                                | $24144 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |
| 9                                | $13168 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |
| 10                               | $13168 \cdot T_s$                | $13152 \cdot T_s$              | $12800 \cdot T_s$                | -                                  | -                              | -                                |

**Table 4.2-2: Uplink-downlink configurations**

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x # of S + # of U

Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle =  $(5120 \times [1/(15000 \times 2048)] \times 2 + 0.006)/0.01 = 63.33 \%$

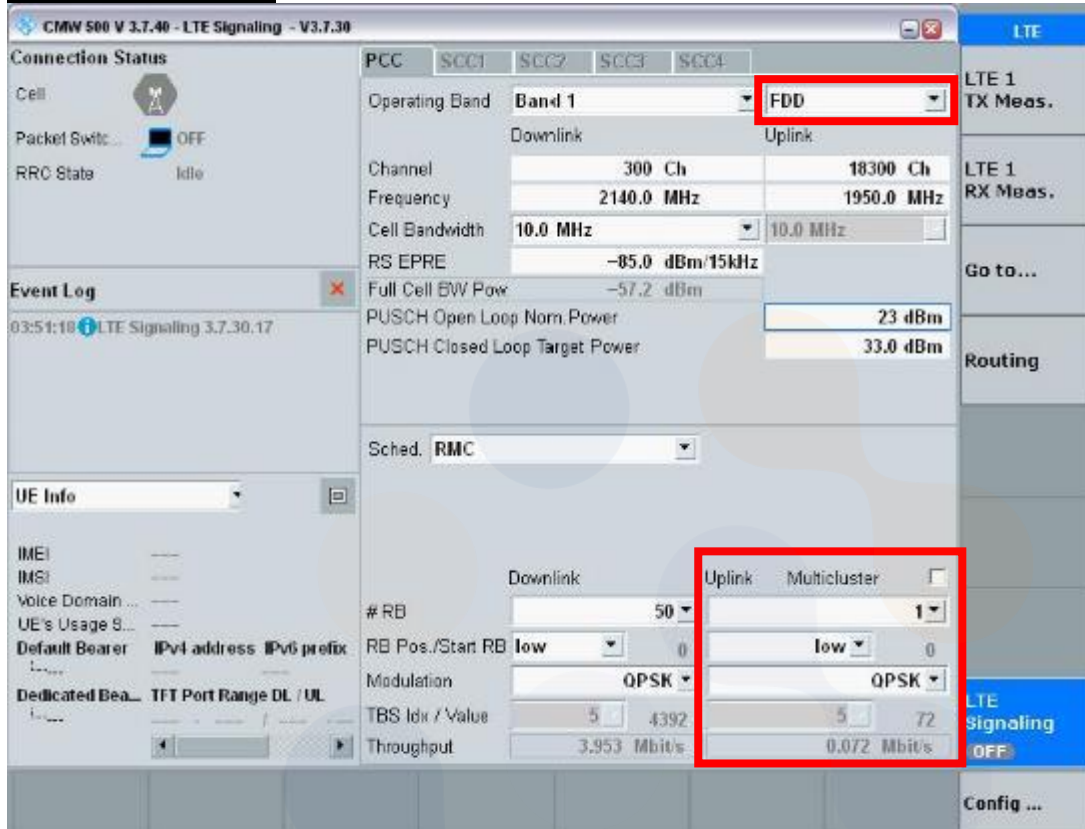
Ts = 1/(15000 x 2048) seconds

Note: This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1.

## 9.5.6 The LTE Call box establishment procedure

This is an explanation of the establishment of LTE FDD/TDD.

### <FDD Configuration>





### <TDD Configuration>

CMW 500 V 3.7.40 - LTE Signaling - V3.7.30

Connection Status

Cell: Packet Switch: OFF RRC State: Idle

Event Log

03:51:10 LTE Signaling 3.7.30.17

UE Info

IMEI: Voice Domain: UE's Usage: Default Bearer: Dedicated Bearer: TFT Port Range DL / UL

PCC SCC1 SCC2 SCC3 SCC4

Operating Band: Band 41 TDD

Channel: 40620 Ch Downlink: 40620 Ch

Frequency: 2593.0 MHz Uplink: 2593.0 MHz

Cell Bandwidth: 10.0 MHz

RS EPRE: -85.0 dBm/15kHz

Full Cell BW Pow: -57.2 dBm

PUSCH Open Loop Norm.Power: 23 dBm

PUSCH Closed Loop Target Power: 33.0 dBm

Sched: RMC

#RB: 50

RB Pos./Start RB: low

Modulation: QPSK

TBS Idx / Value: 5 439

Throughput: 1.966 Mbit/s

Uplink: 0.029 Mbit/s

Multicenter: ☐

LTE 1 TX Meas.

LTE 1 RX Meas.

Go to...

Routing

LTE Signaling OFF

Config...

LTE Signaling - Configuration

PCC SCC1 SCC2 SCC3 SCC4

Path: Physical Cell Setup/TDD/Special Subframe

Duplex Mode: TDD Use Carrier Specific: ☐

Scenario: Search... 1CC - 1x1

SUW1

DL Cell Bandwidth: 10.0 MHz #RB Max: 50

UL Cell Bandwidth: 10.0 MHz

Physical Cell ID: 0

Cyclic Prefix: Normal

Sounding RS (SRS): ☐

SRS

TDD

Use Carrier Specific: ☐

Uplink Downlink Configuration: 0

Subframe Number: 0 1 2 3 4 5 6 7 8 9

Direction: S U U U U S U U U

Special Subframe: 6

PRACH

Network

Connection

COI Reporting

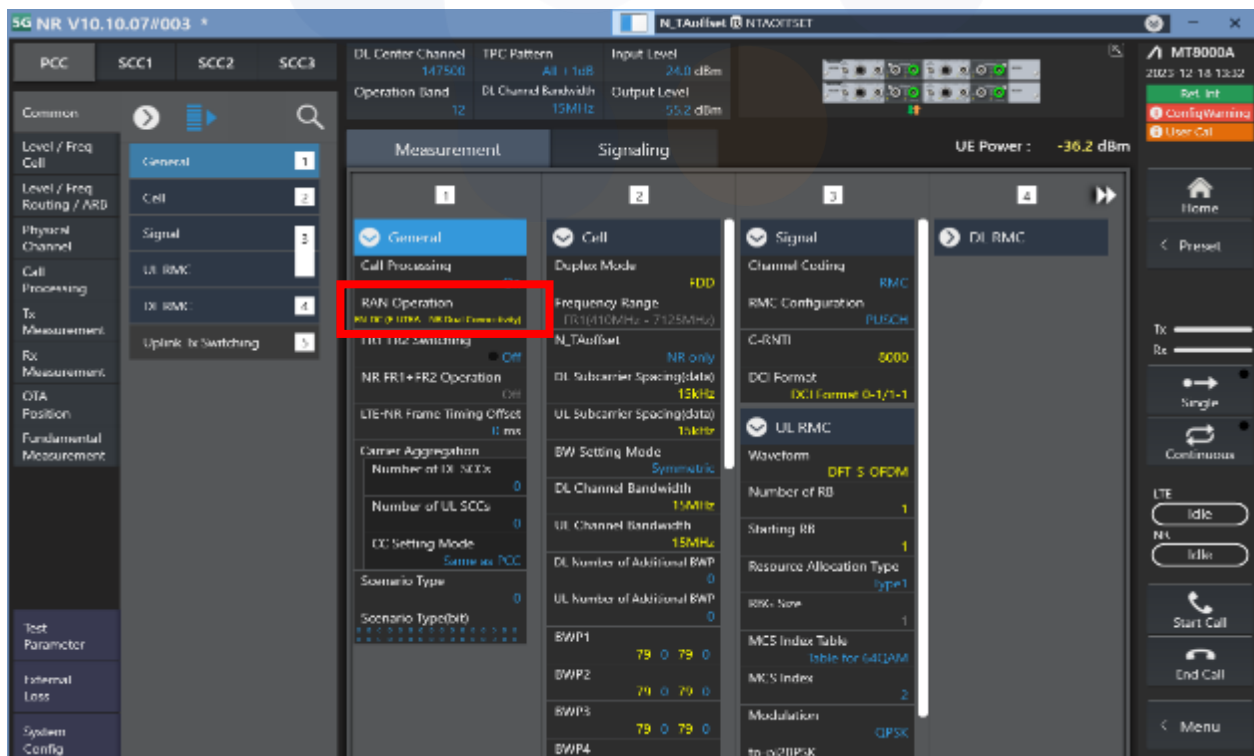
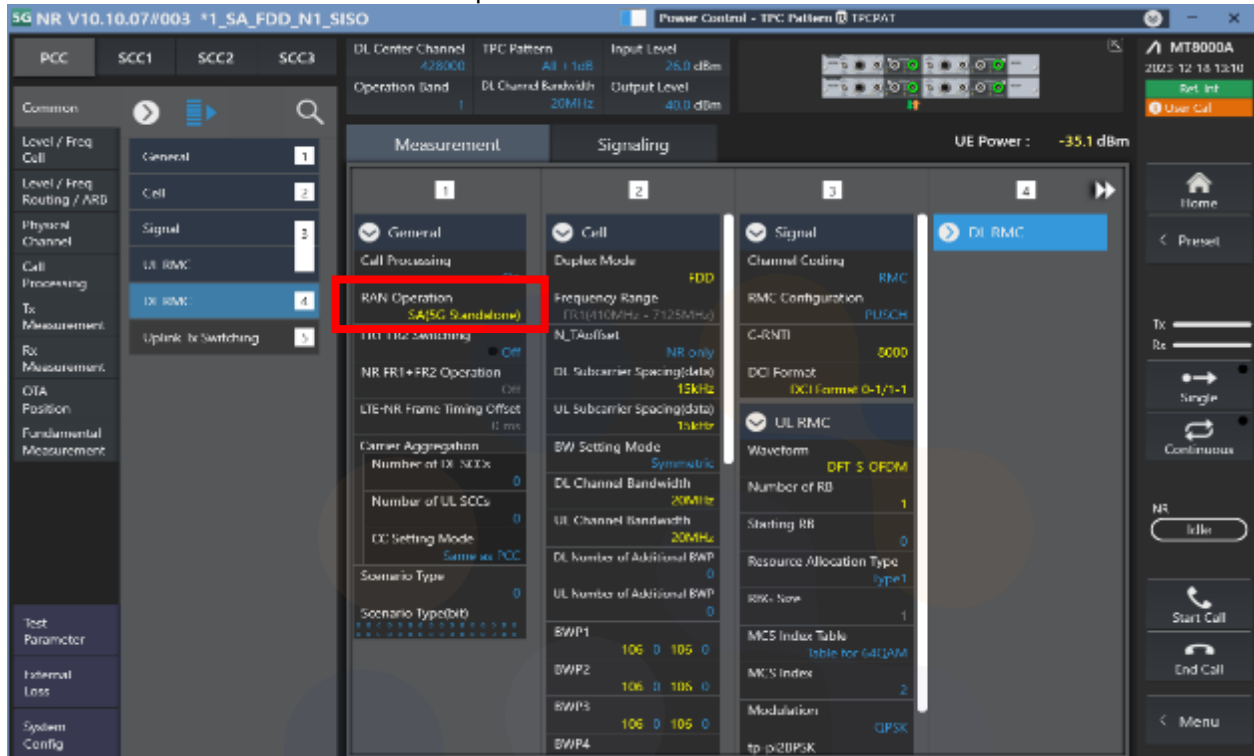
Note: LTE TDD Uplink Downlink configuration 0 and Special subframe Configuration 6.

## 9.5.7 The 5G NR Call box establishment procedure

This is an explanation of the establishment of 5G NR SA & NSA and FDD & TDD.

### Switching to NSA mode or SA Mode

- Common -> General -> RAN Operation -> SA or ENDC





### Switching to FDD mode or TDD Mode

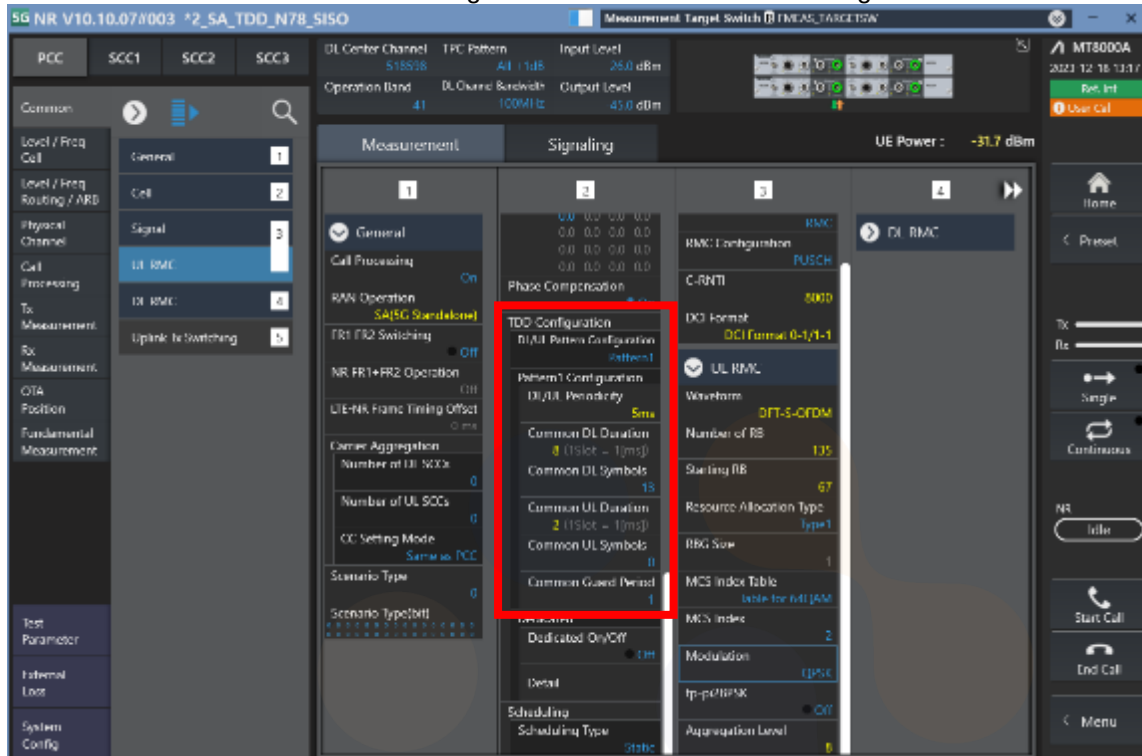
- Common -> Cell -> Duplex Mode -> FDD or TDD

The screenshot shows the '5G NR V10.10.07#003 \*1\_SA\_FDD\_N1\_SISO' interface. The 'Common' tab is selected, and the 'Cell' configuration is visible. The 'Duplex Mode' is set to 'FDD'. The 'Signal' tab is also visible, showing 'Channel Coding' and 'RMC Configuration'.

The screenshot shows the '5G NR V10.10.07#003 \*2\_SA\_TDD\_N78\_SISO' interface. The 'Common' tab is selected, and the 'Cell' configuration is visible. The 'Duplex Mode' is set to 'TDD'. The 'Signal' tab is also visible, showing 'Channel Coding' and 'RMC Configuration'.

### Duty cycle settings in TDD Mode

- Common -> Cell -> TDD Configuration -> UL/DL Duration setting



Note: The 5G NR TDD band of this device was tested at 100% duty in FTM mode provided by the manufacturer.

## 9.5.7 NR (Sub 6 GHz) Considerations

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS 138.521-1 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power

due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1

of the 3GPP TS138.521-1.

| Modulation           | MPR(dB)                                                                                                                                                                                                                                                                                                                          |                     |                     |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
|                      | Edge RB allocation                                                                                                                                                                                                                                                                                                               | Outer RB allocation | Inner RB allocation |
| DFT-s-OFDM PI/2 BPSK | $\leq 3.5^1$                                                                                                                                                                                                                                                                                                                     | $\leq 1.2^1$        | $\leq 0.2^1$        |
|                      | $\leq 0.5^2$                                                                                                                                                                                                                                                                                                                     |                     | $0^2$               |
| DFT-s-OFDM QPSK      | $\leq 1$                                                                                                                                                                                                                                                                                                                         |                     | 0                   |
| DFT-s-OFDM 16QAM     | $\leq 2$                                                                                                                                                                                                                                                                                                                         |                     | $\leq 1$            |
| DFT-s-OFDM 64QAM     | $\leq 2.5$                                                                                                                                                                                                                                                                                                                       |                     |                     |
| DFT-s-OFDM 256QAM    | $\leq 4.5$                                                                                                                                                                                                                                                                                                                       |                     |                     |
| CP-OFDM QPSK         | $\leq 3$                                                                                                                                                                                                                                                                                                                         |                     | $\leq 1.5$          |
| CP-OFDM 16QAM        | $\leq 3$                                                                                                                                                                                                                                                                                                                         |                     | $\leq 2$            |
| CP-OFDM 64QAM        | $\leq 3.5$                                                                                                                                                                                                                                                                                                                       |                     |                     |
| CP-OFDM 256QAM       | $\leq 6.5$                                                                                                                                                                                                                                                                                                                       |                     |                     |
| NOTE 1:              | Applicable for UE operating in TDD mode with PI/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0dB MPR is 26dBm. |                     |                     |
| NOTE 2:              | Applicable for UE operating in FDD mode, or in TDD mode in bands other than 40, n41, n77, n78 and n79 and if The IE powerBoostPi2BPSK is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.                                                                |                     |                     |

The allowed A-MPR values specified below in Table 6.2.3.3.1-1 of 3GPP TS138.521-1 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network

Signaling Value of "NS\_01"

Table 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)

| Network Signalling label | Requirements (subclause) | NR Band     | Channel Bandwidth (MHz)                        | Resources Blocks(NRB) | A-MPR(dB) |
|--------------------------|--------------------------|-------------|------------------------------------------------|-----------------------|-----------|
| NS_01                    |                          | Table 5.2-1 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | Table 5.3.2-1         | N/A       |

Uplink RB allocations were used to Table 6.1-1 of the 3GPP TS 138.521-1.

## 9.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

### 9.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 – 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

### 9.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is  $> 1.2$  W/kg. When different maximum output powers is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is  $> 1.2$  W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

### 9.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. When band gap channels are disabled, each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency point requirements.

#### 9.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4$  W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is  $\leq 0.8$  W/kg or all test positions are measured.

#### 9.6.5 2.4 GHz SAR Test Requirement

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following.

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is  $> 0.8$  W/kg, SAR is required for that position using the next highest measured output power channel; i.e., all channels require testing.

2.4 GHz 802.11g/n OFDM are additionally evaluated for SAR if highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2$  W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

#### 9.6.6 OFDM Transmission Mode and SAR Test Channel Selection

For the 2.4 GHz and 5 GHz band, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

|                                                                                                                                                                                                                        |                                                                       |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p><b>Eurofins KCTL Co.,Ltd.</b><br/> 65, Sinwon-ro, Yeongtong-gu,<br/> Suwon-si, Gyeonggi-do, 16677, Korea<br/> TEL: 82-70-5008-1021 FAX: 82-505-299-8311<br/> <a href="http://www.kctl.co.kr">www.kctl.co.kr</a></p> | <p>Report No.:<br/> <b>KR25-SPF0015-B</b><br/> Page (43) of (714)</p> |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------|

### 9.6.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is  $\leq 0.8$  W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is  $\leq 1.2$  W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

### 9.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is  $\leq 1.2$  W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.



## 10. RF Average Conducted Output Power

### 10.1 WCDMA Average Conducted Output Power

| Band     | Mode               | Max<br>Average Conducted Power (dBm) |             |             | MPR<br>[dB] | Back-off<br>Average Conducted Power (dBm) |             |             | MPR<br>[dB] |
|----------|--------------------|--------------------------------------|-------------|-------------|-------------|-------------------------------------------|-------------|-------------|-------------|
|          |                    | 9 262                                | 9 400       | 9 538       |             | 9 262                                     | 9 400       | 9 538       |             |
|          |                    | 1 852.4 MHz                          | 1 880.0 MHz | 1 907.6 MHz |             | 1 852.4 MHz                               | 1 880.0 MHz | 1 907.6 MHz |             |
| WCDMA II | RMC                | 23.21                                | 23.00       | 23.05       | -           | 11.24                                     | 11.05       | 11.15       | -           |
|          | AMR                | 23.18                                | 22.99       | 22.85       | -           | 11.20                                     | 11.02       | 11.06       | -           |
|          | HSDPA-Subtest 1    | 22.16                                | 21.86       | 21.99       | 0           | 10.84                                     | 10.58       | 10.80       | 0           |
|          | HSDPA-Subtest 2    | 21.38                                | 21.11       | 21.17       | 0           | 10.61                                     | 10.46       | 10.51       | 0           |
|          | HSDPA-Subtest 3    | 20.63                                | 21.56       | 21.54       | 0.5         | 9.99                                      | 9.89        | 9.95        | 0.5         |
|          | HSDPA-Subtest 4    | 20.53                                | 20.57       | 20.56       | 0.5         | 9.97                                      | 9.85        | 10.15       | 0.5         |
|          | HSUPA-Subtest 1    | 22.17                                | 21.94       | 21.99       | 0           | 10.94                                     | 10.67       | 10.77       | 0           |
|          | HSUPA-Subtest 2    | 20.21                                | 20.05       | 20.08       | 2           | 9.00                                      | 8.73        | 8.80        | 2           |
|          | HSUPA-Subtest 3    | 21.18                                | 20.96       | 20.90       | 1           | 9.92                                      | 9.77        | 9.83        | 1           |
|          | HSUPA-Subtest 4    | 20.18                                | 19.96       | 20.00       | 2           | 8.91                                      | 8.74        | 8.86        | 2           |
|          | HSUPA-Subtest 5    | 22.27                                | 21.98       | 22.04       | 0           | 10.99                                     | 10.72       | 10.72       | 0           |
|          | DC-HSDPA-Subtest 1 | 21.88                                | 21.97       | 22.09       | 0           | 10.42                                     | 10.71       | 10.89       | 0           |
|          | DC-HSDPA-Subtest 2 | 22.19                                | 21.96       | 21.99       | 0           | 10.89                                     | 10.68       | 10.80       | 0           |
|          | DC-HSDPA-Subtest 3 | 21.64                                | 21.46       | 21.52       | 0.5         | 10.41                                     | 10.24       | 10.31       | 0.5         |
|          | DC-HSDPA-Subtest 4 | 21.74                                | 21.49       | 21.56       | 0.5         | 10.41                                     | 10.19       | 10.30       | 0.5         |

| Band     | Mode               | Max<br>Average Conducted Power (dBm) |             |             | MPR<br>[dB] | Back-off<br>Average Conducted Power (dBm) |             |             | MPR<br>[dB] |
|----------|--------------------|--------------------------------------|-------------|-------------|-------------|-------------------------------------------|-------------|-------------|-------------|
|          |                    | 1 312                                | 1 412       | 1 513       |             | 1 312                                     | 1 412       | 1 513       |             |
|          |                    | 1 712.4 MHz                          | 1 732.4 MHz | 1 752.6 MHz |             | 1 712.4 MHz                               | 1 732.4 MHz | 1 752.6 MHz |             |
| WCDMA IV | RMC                | 23.92                                | 23.78       | 23.44       | -           | 11.66                                     | 11.51       | 11.72       | -           |
|          | AMR                | 23.88                                | 23.72       | 23.42       | -           | 11.51                                     | 11.42       | 11.48       | -           |
|          | HSDPA-Subtest 1    | 23.79                                | 22.73       | 23.27       | 0           | 10.60                                     | 10.45       | 10.43       | 0           |
|          | HSDPA-Subtest 2    | 22.99                                | 22.04       | 22.55       | 0           | 10.44                                     | 10.51       | 10.52       | 0           |
|          | HSDPA-Subtest 3    | 22.42                                | 22.07       | 21.72       | 0.5         | 10.15                                     | 9.94        | 9.93        | 0.5         |
|          | HSDPA-Subtest 4    | 22.13                                | 22.06       | 21.71       | 0.5         | 9.98                                      | 10.07       | 10.00       | 0.5         |
|          | HSUPA-Subtest 1    | 23.85                                | 22.66       | 23.38       | 0           | 10.52                                     | 10.30       | 10.67       | 0           |
|          | HSUPA-Subtest 2    | 21.79                                | 20.77       | 21.31       | 2           | 8.46                                      | 8.52        | 8.51        | 2           |
|          | HSUPA-Subtest 3    | 22.82                                | 21.71       | 22.27       | 1           | 9.49                                      | 9.54        | 9.60        | 1           |
|          | HSUPA-Subtest 4    | 21.83                                | 20.67       | 21.31       | 2           | 8.58                                      | 8.40        | 8.50        | 2           |
|          | HSUPA-Subtest 5    | 23.90                                | 22.76       | 23.31       | 0           | 10.42                                     | 10.36       | 10.54       | 0           |
|          | DC-HSDPA-Subtest 1 | 22.98                                | 22.77       | 23.35       | 0           | 10.41                                     | 10.47       | 10.66       | 0           |
|          | DC-HSDPA-Subtest 2 | 23.84                                | 22.76       | 23.33       | 0           | 10.66                                     | 10.43       | 10.48       | 0           |
|          | DC-HSDPA-Subtest 3 | 23.34                                | 22.25       | 22.85       | 0.5         | 9.97                                      | 10.00       | 9.97        | 0.5         |
|          | DC-HSDPA-Subtest 4 | 23.33                                | 22.23       | 22.78       | 0.5         | 10.09                                     | 9.91        | 9.99        | 0.5         |



| Band       | Mode               | Max<br>Average Conducted Power (dBm) |           |           | MPR<br>[dB] | Back-off<br>Average Conducted Power (dBm) |           |           | MPR<br>[dB] |
|------------|--------------------|--------------------------------------|-----------|-----------|-------------|-------------------------------------------|-----------|-----------|-------------|
|            |                    | 4 132                                | 4 183     | 4 233     |             | 4 132                                     | 4 183     | 4 233     |             |
|            |                    | 826.4 MHz                            | 836.6 MHz | 846.6 MHz |             | 826.4 MHz                                 | 836.6 MHz | 846.6 MHz |             |
| WCDMA<br>V | RMC                | 23.60                                | 23.74     | 23.25     | -           | 14.05                                     | 14.07     | 13.70     | -           |
|            | AMR                | 23.44                                | 23.72     | 23.21     | -           | 14.02                                     | 14.05     | 13.65     | -           |
|            | HSDPA-Subtest 1    | 23.41                                | 23.39     | 23.05     | 0           | 12.96                                     | 12.96     | 12.61     | 0           |
|            | HSDPA-Subtest 2    | 22.61                                | 22.47     | 22.31     | 0           | 12.22                                     | 12.35     | 12.35     | 0           |
|            | HSDPA-Subtest 3    | 21.92                                | 21.88     | 22.48     | 0.5         | 12.14                                     | 11.63     | 11.57     | 0.5         |
|            | HSDPA-Subtest 4    | 22.06                                | 21.58     | 22.44     | 0.5         | 12.22                                     | 11.72     | 11.51     | 0.5         |
|            | HSUPA-Subtest 1    | 23.49                                | 23.50     | 23.08     | 0           | 13.01                                     | 13.08     | 12.67     | 0           |
|            | HSUPA-Subtest 2    | 21.41                                | 21.45     | 21.16     | 2           | 11.07                                     | 11.05     | 10.64     | 2           |
|            | HSUPA-Subtest 3    | 22.47                                | 22.47     | 22.18     | 1           | 12.05                                     | 12.04     | 11.38     | 1           |
|            | HSUPA-Subtest 4    | 21.55                                | 21.52     | 21.11     | 2           | 11.08                                     | 11.14     | 10.73     | 2           |
|            | HSUPA-Subtest 5    | 23.54                                | 23.50     | 23.10     | 0           | 13.10                                     | 13.06     | 12.68     | 0           |
|            | DC-HSDPA-Subtest 1 | 22.56                                | 22.35     | 23.13     | 0           | 13.06                                     | 13.04     | 12.71     | 0           |
|            | DC-HSDPA-Subtest 2 | 23.51                                | 23.50     | 23.11     | 0           | 13.03                                     | 13.09     | 12.70     | 0           |
|            | DC-HSDPA-Subtest 3 | 23.02                                | 22.99     | 22.36     | 0.5         | 12.60                                     | 12.57     | 12.20     | 0.5         |
|            | DC-HSDPA-Subtest 4 | 23.03                                | 22.98     | 22.62     | 0.5         | 12.55                                     | 12.58     | 12.22     | 0.5         |

## 10.2 LTE Average Conducted Output Power

### 10.2.1 LTE Band 5

| LTE Band 5 |            |         |           |                                   |          |
|------------|------------|---------|-----------|-----------------------------------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] |
|            |            |         |           | 20 525                            |          |
|            |            |         |           | 836.5 MHz                         |          |
| 10 MHz     | QPSK       | 1       | 0         | 23.93                             | 0        |
|            |            | 1       | 25        | 23.98                             | 0        |
|            |            | 1       | 49        | 23.77                             | 0        |
|            |            | 25      | 0         | 22.99                             | 1        |
|            |            | 25      | 12        | 22.80                             | 1        |
|            |            | 25      | 25        | 22.71                             | 1        |
|            |            | 50      | 0         | 22.97                             | 1        |
|            | 16QAM      | 1       | 0         | 23.03                             | 1        |
|            |            | 1       | 25        | 23.09                             | 1        |
|            |            | 1       | 49        | 22.85                             | 1        |
|            |            | 25      | 0         | 21.86                             | 2        |
|            |            | 25      | 12        | 21.83                             | 2        |
|            |            | 25      | 25        | 21.77                             | 2        |
|            |            | 50      | 0         | 21.77                             | 2        |
|            | 64QAM      | 1       | 0         | 22.22                             | 2        |
|            |            | 1       | 25        | 22.15                             | 2        |
|            |            | 1       | 49        | 22.39                             | 2        |
|            |            | 25      | 0         | 21.39                             | 3        |
|            |            | 25      | 12        | 21.24                             | 3        |
|            |            | 25      | 25        | 21.21                             | 3        |
|            |            | 50      | 0         | 21.11                             | 3        |
|            | 256QAM     | 1       | 0         | 19.43                             | 5        |
|            |            | 1       | 25        | 19.34                             | 5        |
|            |            | 1       | 49        | 19.13                             | 5        |
|            |            | 25      | 0         | 19.23                             | 5        |
|            |            | 25      | 12        | 19.18                             | 5        |
|            |            | 25      | 25        | 19.15                             | 5        |
|            |            | 50      | 0         | 19.32                             | 5        |

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

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| LTE Band 5 |            |         |           |                                   |           |           |          |
|------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] |
|            |            |         |           | 20 425                            | 20 525    | 20 625    |          |
|            |            |         |           | 826.5 MHz                         | 836.5 MHz | 846.5 MHz |          |
| 5 MHz      | QPSK       | 1       | 0         | 23.95                             | 23.86     | 23.54     | 0        |
|            |            | 1       | 12        | 23.88                             | 23.95     | 23.61     | 0        |
|            |            | 1       | 24        | 23.91                             | 23.80     | 23.46     | 0        |
|            |            | 12      | 0         | 22.88                             | 22.81     | 22.55     | 1        |
|            |            | 12      | 7         | 23.00                             | 22.81     | 22.58     | 1        |
|            |            | 12      | 13        | 22.95                             | 22.73     | 22.43     | 1        |
|            |            | 25      | 0         | 22.97                             | 22.80     | 22.53     | 1        |
|            | 16QAM      | 1       | 0         | 23.19                             | 22.96     | 22.93     | 1        |
|            |            | 1       | 12        | 23.19                             | 23.03     | 22.80     | 1        |
|            |            | 1       | 24        | 23.12                             | 22.91     | 22.60     | 1        |
|            |            | 12      | 0         | 21.98                             | 21.86     | 21.62     | 2        |
|            |            | 12      | 7         | 22.00                             | 21.86     | 21.56     | 2        |
|            |            | 12      | 13        | 22.02                             | 21.80     | 21.50     | 2        |
|            |            | 25      | 0         | 21.99                             | 21.79     | 21.54     | 2        |
|            | 64QAM      | 1       | 0         | 22.05                             | 21.74     | 21.96     | 2        |
|            |            | 1       | 12        | 21.91                             | 21.93     | 21.74     | 2        |
|            |            | 1       | 24        | 21.96                             | 21.80     | 21.65     | 2        |
|            |            | 12      | 0         | 20.84                             | 20.82     | 20.76     | 3        |
|            |            | 12      | 7         | 20.95                             | 20.92     | 20.74     | 3        |
|            |            | 12      | 13        | 21.03                             | 20.76     | 20.78     | 3        |
|            |            | 25      | 0         | 20.87                             | 21.11     | 20.64     | 3        |
|            | 256QAM     | 1       | 0         | 19.02                             | 18.97     | 18.88     | 5        |
|            |            | 1       | 12        | 18.94                             | 19.11     | 18.80     | 5        |
|            |            | 1       | 24        | 18.89                             | 18.77     | 18.77     | 5        |
|            |            | 12      | 0         | 19.09                             | 19.05     | 18.91     | 5        |
|            |            | 12      | 7         | 19.10                             | 19.09     | 18.88     | 5        |
|            |            | 12      | 13        | 19.01                             | 19.11     | 18.78     | 5        |
|            |            | 25      | 0         | 19.06                             | 18.70     | 18.80     | 5        |

| LTE Band 5 |            |         |           |                                   |           |           |          |
|------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] |
|            |            |         |           | 20 415                            | 20 525    | 20 635    |          |
|            |            |         |           | 825.5 MHz                         | 836.5 MHz | 847.5 MHz |          |
| 3 MHz      | QPSK       | 1       | 0         | 23.93                             | 23.87     | 23.48     | 0        |
|            |            | 1       | 8         | 23.83                             | 23.95     | 23.52     | 0        |
|            |            | 1       | 14        | 23.94                             | 23.81     | 23.47     | 0        |
|            |            | 8       | 0         | 22.94                             | 22.89     | 22.47     | 1        |
|            |            | 8       | 4         | 22.95                             | 22.82     | 22.50     | 1        |
|            |            | 8       | 7         | 22.94                             | 22.77     | 22.50     | 1        |
|            |            | 15      | 0         | 22.98                             | 22.76     | 22.45     | 1        |
|            | 16QAM      | 1       | 0         | 23.15                             | 22.86     | 22.81     | 1        |
|            |            | 1       | 8         | 23.18                             | 23.10     | 22.72     | 1        |
|            |            | 1       | 14        | 23.02                             | 22.98     | 22.58     | 1        |
|            |            | 8       | 0         | 22.09                             | 21.87     | 21.56     | 2        |
|            |            | 8       | 4         | 22.08                             | 21.87     | 21.54     | 2        |
|            |            | 8       | 7         | 22.10                             | 21.80     | 21.50     | 2        |
|            |            | 15      | 0         | 22.03                             | 21.75     | 21.47     | 2        |
|            | 64QAM      | 1       | 0         | 21.75                             | 22.10     | 21.91     | 2        |
|            |            | 1       | 8         | 22.00                             | 21.98     | 21.67     | 2        |
|            |            | 1       | 14        | 22.10                             | 22.01     | 21.66     | 2        |
|            |            | 8       | 0         | 20.92                             | 20.71     | 20.94     | 3        |
|            |            | 8       | 4         | 20.80                             | 20.77     | 20.80     | 3        |
|            |            | 8       | 7         | 21.01                             | 20.93     | 20.76     | 3        |
|            |            | 15      | 0         | 21.15                             | 20.92     | 20.72     | 3        |
|            | 256QAM     | 1       | 0         | 18.86                             | 18.79     | 18.82     | 5        |
|            |            | 1       | 8         | 18.82                             | 18.90     | 18.71     | 5        |
|            |            | 1       | 14        | 19.07                             | 18.85     | 18.93     | 5        |
|            |            | 8       | 0         | 18.95                             | 18.87     | 18.96     | 5        |
|            |            | 8       | 4         | 19.00                             | 19.10     | 18.56     | 5        |
|            |            | 8       | 7         | 18.83                             | 19.03     | 18.92     | 5        |
|            |            | 15      | 0         | 19.07                             | 18.88     | 18.84     | 5        |

| LTE Band 5 |            |         |           |                                   |           |           |          |
|------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] |
|            |            |         |           | 20 407                            | 20 525    | 20 643    |          |
|            |            |         |           | 824.7 MHz                         | 836.5 MHz | 848.3 MHz |          |
| 1.4 MHz    | QPSK       | 1       | 0         | 23.87                             | 23.91     | 23.39     | 0        |
|            |            | 1       | 3         | 23.83                             | 23.88     | 23.47     | 0        |
|            |            | 1       | 5         | 23.88                             | 23.79     | 23.44     | 0        |
|            |            | 3       | 0         | 23.84                             | 23.82     | 23.42     | 0        |
|            |            | 3       | 1         | 23.84                             | 23.87     | 23.43     | 0        |
|            |            | 3       | 3         | 23.82                             | 23.79     | 23.43     | 0        |
|            |            | 6       | 0         | 22.97                             | 22.77     | 22.43     | 1        |
|            | 16QAM      | 1       | 0         | 23.16                             | 23.00     | 22.53     | 1        |
|            |            | 1       | 3         | 23.30                             | 22.93     | 22.65     | 1        |
|            |            | 1       | 5         | 23.18                             | 23.01     | 22.65     | 1        |
|            |            | 3       | 0         | 23.21                             | 22.83     | 22.44     | 1        |
|            |            | 3       | 1         | 23.09                             | 22.84     | 22.57     | 1        |
|            |            | 3       | 3         | 23.02                             | 22.90     | 22.51     | 1        |
|            |            | 6       | 0         | 21.98                             | 21.78     | 21.44     | 2        |
|            | 64QAM      | 1       | 0         | 21.86                             | 22.05     | 21.61     | 2        |
|            |            | 1       | 3         | 21.78                             | 22.08     | 21.75     | 2        |
|            |            | 1       | 5         | 21.76                             | 22.08     | 21.72     | 2        |
|            |            | 3       | 0         | 21.80                             | 21.94     | 21.89     | 2        |
|            |            | 3       | 1         | 22.12                             | 21.86     | 21.68     | 2        |
|            |            | 3       | 3         | 22.03                             | 21.99     | 21.84     | 2        |
|            |            | 6       | 0         | 20.78                             | 20.72     | 20.55     | 3        |
|            | 256QAM     | 1       | 0         | 18.77                             | 18.96     | 18.74     | 5        |
|            |            | 1       | 3         | 18.97                             | 19.01     | 18.59     | 5        |
|            |            | 1       | 5         | 18.79                             | 18.77     | 18.59     | 5        |
|            |            | 3       | 0         | 19.14                             | 19.11     | 18.99     | 5        |
|            |            | 3       | 1         | 18.71                             | 18.75     | 18.62     | 5        |
|            |            | 3       | 3         | 18.76                             | 19.01     | 18.82     | 5        |
|            |            | 6       | 0         | 19.13                             | 18.70     | 18.55     | 5        |

## 10.2.2 LTE Band 7

| LTE Band 7 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|            |            |         |           | 20 850                            | 21 100      | 21 350      |          | 20 850                                 | 21 100      | 21 350      |          |
|            |            |         |           | 2 510.0 MHz                       | 2 535.0 MHz | 2 560.0 MHz |          | 2 510.0 MHz                            | 2 535.0 MHz | 2 560.0 MHz |          |
|            |            |         |           |                                   |             |             |          |                                        |             |             |          |
| 20 MHz     | QPSK       | 1       | 0         | 24.13                             | 24.18       | 24.15       | 0        | 12.06                                  | 12.09       | 11.92       | 0        |
|            |            | 1       | 49        | 24.20                             | 24.21       | 24.06       | 0        | 11.62                                  | 11.62       | 11.58       | 0        |
|            |            | 1       | 99        | 24.15                             | 24.12       | 23.93       | 0        | 11.58                                  | 11.51       | 11.45       | 0        |
|            |            | 50      | 0         | 23.21                             | 23.29       | 23.14       | 1        | 11.71                                  | 12.04       | 11.71       | 0        |
|            |            | 50      | 24        | 23.25                             | 23.25       | 23.20       | 1        | 11.76                                  | 11.75       | 11.71       | 0        |
|            |            | 50      | 50        | 23.17                             | 23.18       | 23.05       | 1        | 11.64                                  | 11.72       | 11.60       | 0        |
|            |            | 100     | 0         | 23.25                             | 23.26       | 23.16       | 1        | 11.74                                  | 11.98       | 11.65       | 0        |
|            | 16QAM      | 1       | 0         | 23.32                             | 23.13       | 23.32       | 1        | 11.68                                  | 11.79       | 11.81       | 0        |
|            |            | 1       | 49        | 23.30                             | 23.32       | 23.34       | 1        | 11.81                                  | 11.81       | 11.83       | 0        |
|            |            | 1       | 99        | 23.24                             | 23.17       | 23.13       | 1        | 11.58                                  | 11.60       | 11.70       | 0        |
|            |            | 50      | 0         | 22.19                             | 22.26       | 22.14       | 2        | 11.74                                  | 11.78       | 11.75       | 0        |
|            |            | 50      | 24        | 22.21                             | 22.18       | 22.16       | 2        | 11.75                                  | 11.74       | 11.72       | 0        |
|            |            | 50      | 50        | 22.14                             | 22.21       | 22.01       | 2        | 11.69                                  | 11.70       | 11.61       | 0        |
|            |            | 100     | 0         | 22.20                             | 22.18       | 22.16       | 2        | 11.73                                  | 11.71       | 11.72       | 0        |
|            | 64QAM      | 1       | 0         | 22.07                             | 21.94       | 21.76       | 2        | 11.52                                  | 11.55       | 11.44       | 0        |
|            |            | 1       | 49        | 21.70                             | 21.71       | 21.69       | 2        | 11.56                                  | 11.30       | 11.44       | 0        |
|            |            | 1       | 99        | 22.00                             | 22.07       | 21.70       | 2        | 11.63                                  | 11.44       | 11.51       | 0        |
|            |            | 50      | 0         | 20.93                             | 21.04       | 20.74       | 3        | 11.50                                  | 11.47       | 11.53       | 0        |
|            |            | 50      | 24        | 20.80                             | 20.88       | 20.60       | 3        | 11.49                                  | 11.38       | 11.65       | 0        |
|            |            | 50      | 50        | 20.71                             | 21.15       | 20.79       | 3        | 11.65                                  | 11.32       | 11.41       | 0        |
|            |            | 100     | 0         | 20.94                             | 20.70       | 20.64       | 3        | 11.49                                  | 11.35       | 11.47       | 0        |
|            | 256QAM     | 1       | 0         | 19.11                             | 19.00       | 18.88       | 5        | 11.48                                  | 11.34       | 11.42       | 0        |
|            |            | 1       | 49        | 19.04                             | 18.76       | 18.90       | 5        | 11.60                                  | 11.38       | 11.51       | 0        |
|            |            | 1       | 99        | 18.77                             | 18.88       | 18.87       | 5        | 11.63                                  | 11.45       | 11.47       | 0        |
|            |            | 50      | 0         | 19.11                             | 18.85       | 18.58       | 5        | 11.55                                  | 11.46       | 11.61       | 0        |
|            |            | 50      | 24        | 18.76                             | 18.84       | 18.65       | 5        | 11.46                                  | 11.52       | 11.65       | 0        |
|            |            | 50      | 50        | 18.91                             | 19.07       | 18.66       | 5        | 11.59                                  | 11.38       | 11.67       | 0        |
|            |            | 100     | 0         | 18.88                             | 19.11       | 18.60       | 5        | 11.66                                  | 11.52       | 11.40       | 0        |

| LTE Band 7 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|            |            |         |           | 20 825                            | 21 100      | 21 375      |          | 20 825                                 | 21 100      | 21 375      |          |
|            |            |         |           | 2 507.5 MHz                       | 2 535.0 MHz | 2 562.5 MHz |          | 2 507.5 MHz                            | 2 535.0 MHz | 2 562.5 MHz |          |
| 15 MHz     | QPSK       | 1       | 0         | 24.02                             | 24.19       | 24.06       | 0        | 11.58                                  | 11.75       | 11.49       | 0        |
|            |            | 1       | 36        | 24.10                             | 24.16       | 24.07       | 0        | 11.59                                  | 11.74       | 11.56       | 0        |
|            |            | 1       | 74        | 24.08                             | 24.15       | 23.83       | 0        | 11.49                                  | 11.60       | 11.44       | 0        |
|            |            | 36      | 0         | 23.16                             | 23.24       | 23.09       | 1        | 11.71                                  | 11.74       | 11.67       | 0        |
|            |            | 36      | 18        | 23.19                             | 23.19       | 23.12       | 1        | 11.71                                  | 11.69       | 11.64       | 0        |
|            |            | 36      | 37        | 23.11                             | 23.16       | 22.99       | 1        | 11.68                                  | 11.64       | 11.53       | 0        |
|            |            | 75      | 0         | 23.19                             | 23.16       | 23.11       | 1        | 11.70                                  | 11.67       | 11.62       | 0        |
|            | 16QAM      | 1       | 0         | 23.46                             | 23.40       | 23.20       | 1        | 11.65                                  | 11.78       | 11.65       | 0        |
|            |            | 1       | 36        | 23.32                             | 23.34       | 23.21       | 1        | 11.84                                  | 11.83       | 11.57       | 0        |
|            |            | 1       | 74        | 23.31                             | 23.23       | 22.96       | 1        | 11.64                                  | 11.66       | 11.50       | 0        |
|            |            | 36      | 0         | 22.18                             | 22.22       | 22.08       | 2        | 11.74                                  | 11.78       | 11.69       | 0        |
|            |            | 36      | 18        | 22.20                             | 22.21       | 22.09       | 2        | 11.77                                  | 11.68       | 11.61       | 0        |
|            |            | 36      | 37        | 22.09                             | 22.15       | 21.99       | 2        | 11.66                                  | 11.68       | 11.58       | 0        |
|            |            | 75      | 0         | 22.16                             | 22.17       | 22.07       | 2        | 11.75                                  | 11.72       | 11.68       | 0        |
|            | 64QAM      | 1       | 0         | 21.75                             | 21.95       | 21.63       | 2        | 11.59                                  | 11.40       | 11.53       | 0        |
|            |            | 1       | 36        | 22.03                             | 21.82       | 21.60       | 2        | 11.51                                  | 11.48       | 11.58       | 0        |
|            |            | 1       | 74        | 22.08                             | 21.82       | 21.91       | 2        | 11.67                                  | 11.41       | 11.57       | 0        |
|            |            | 36      | 0         | 21.04                             | 20.73       | 20.69       | 3        | 11.43                                  | 11.43       | 11.44       | 0        |
|            |            | 36      | 18        | 21.09                             | 20.82       | 20.60       | 3        | 11.56                                  | 11.50       | 11.63       | 0        |
|            |            | 36      | 37        | 20.92                             | 21.10       | 20.74       | 3        | 11.50                                  | 11.47       | 11.60       | 0        |
|            |            | 75      | 0         | 20.73                             | 20.75       | 20.86       | 3        | 11.58                                  | 11.36       | 11.57       | 0        |
|            | 256QAM     | 1       | 0         | 19.12                             | 18.93       | 18.65       | 5        | 11.50                                  | 11.48       | 11.49       | 0        |
|            |            | 1       | 36        | 19.01                             | 18.79       | 18.86       | 5        | 11.50                                  | 11.34       | 11.40       | 0        |
|            |            | 1       | 74        | 19.09                             | 19.00       | 18.91       | 5        | 11.66                                  | 11.51       | 11.47       | 0        |
|            |            | 36      | 0         | 19.07                             | 18.76       | 18.61       | 5        | 11.51                                  | 11.32       | 11.41       | 0        |
|            |            | 36      | 18        | 18.97                             | 19.05       | 18.60       | 5        | 11.50                                  | 11.46       | 11.66       | 0        |
|            |            | 36      | 37        | 18.82                             | 19.14       | 18.95       | 5        | 11.47                                  | 11.36       | 11.60       | 0        |
|            |            | 75      | 0         | 18.90                             | 18.88       | 18.99       | 5        | 11.55                                  | 11.44       | 11.44       | 0        |



| LTE Band 7 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|            |            |         |           | 20 800                            | 21 100      | 21 400      |          | 20 800                                 | 21 100      | 21 400      |          |
|            |            |         |           | 2 505.0 MHz                       | 2 535.0 MHz | 2 565.0 MHz |          | 2 505.0 MHz                            | 2 535.0 MHz | 2 565.0 MHz |          |
| 10 MHz     | QPSK       | 1       | 0         | 24.07                             | 24.16       | 24.16       | 0        | 11.71                                  | 11.81       | 11.65       | 0        |
|            |            | 1       | 25        | 24.06                             | 24.12       | 24.19       | 0        | 11.78                                  | 11.85       | 11.70       | 0        |
|            |            | 1       | 49        | 24.13                             | 24.07       | 24.09       | 0        | 11.74                                  | 11.78       | 11.69       | 0        |
|            |            | 25      | 0         | 23.31                             | 23.36       | 23.20       | 1        | 11.81                                  | 11.91       | 11.77       | 0        |
|            |            | 25      | 12        | 23.31                             | 23.32       | 23.22       | 1        | 11.82                                  | 11.83       | 11.77       | 0        |
|            |            | 25      | 25        | 23.21                             | 23.31       | 23.10       | 1        | 11.75                                  | 11.80       | 11.68       | 0        |
|            |            | 50      | 0         | 23.30                             | 23.29       | 23.16       | 1        | 11.76                                  | 11.80       | 11.70       | 0        |
|            | 16QAM      | 1       | 0         | 23.44                             | 23.56       | 23.35       | 1        | 11.78                                  | 11.71       | 11.89       | 0        |
|            |            | 1       | 25        | 23.46                             | 23.53       | 23.22       | 1        | 11.91                                  | 12.03       | 11.78       | 0        |
|            |            | 1       | 49        | 23.51                             | 23.54       | 23.20       | 1        | 11.89                                  | 12.04       | 11.70       | 0        |
|            |            | 25      | 0         | 22.31                             | 22.34       | 22.14       | 2        | 11.83                                  | 11.90       | 11.80       | 0        |
|            |            | 25      | 12        | 22.32                             | 22.30       | 22.15       | 2        | 11.81                                  | 11.86       | 11.76       | 0        |
|            |            | 25      | 25        | 22.23                             | 22.30       | 22.12       | 2        | 11.86                                  | 11.80       | 11.66       | 0        |
|            |            | 50      | 0         | 22.31                             | 22.25       | 22.18       | 2        | 11.79                                  | 11.79       | 11.74       | 0        |
|            | 64QAM      | 1       | 0         | 21.83                             | 21.88       | 21.92       | 2        | 11.59                                  | 11.50       | 11.62       | 0        |
|            |            | 1       | 25        | 21.84                             | 22.02       | 21.90       | 2        | 11.40                                  | 11.41       | 11.41       | 0        |
|            |            | 1       | 49        | 21.79                             | 21.73       | 21.62       | 2        | 11.67                                  | 11.41       | 11.40       | 0        |
|            |            | 25      | 0         | 21.01                             | 21.08       | 20.55       | 3        | 11.53                                  | 11.42       | 11.67       | 0        |
|            |            | 25      | 12        | 21.09                             | 21.02       | 20.68       | 3        | 11.55                                  | 11.49       | 11.61       | 0        |
|            |            | 25      | 25        | 20.97                             | 20.74       | 20.81       | 3        | 11.61                                  | 11.52       | 11.45       | 0        |
|            |            | 50      | 0         | 21.05                             | 20.70       | 20.64       | 3        | 11.42                                  | 11.47       | 11.54       | 0        |
|            | 256QAM     | 1       | 0         | 19.14                             | 18.89       | 18.97       | 5        | 11.64                                  | 11.30       | 11.62       | 0        |
|            |            | 1       | 25        | 18.80                             | 18.99       | 18.97       | 5        | 11.48                                  | 11.34       | 11.60       | 0        |
|            |            | 1       | 49        | 18.87                             | 18.72       | 18.73       | 5        | 11.48                                  | 11.39       | 11.55       | 0        |
|            |            | 25      | 0         | 19.12                             | 19.04       | 18.82       | 5        | 11.61                                  | 11.32       | 11.44       | 0        |
|            |            | 25      | 12        | 18.85                             | 19.07       | 18.99       | 5        | 11.64                                  | 11.34       | 11.67       | 0        |
|            |            | 25      | 25        | 18.88                             | 18.84       | 18.92       | 5        | 11.57                                  | 11.36       | 11.49       | 0        |
|            |            | 50      | 0         | 18.77                             | 18.76       | 18.72       | 5        | 11.52                                  | 11.37       | 11.54       | 0        |

| LTE Band 7 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|            |            |         |           | 20 775                            | 21 100      | 21 425      |          | 20 775                                 | 21 100      | 21 425      |          |
|            |            |         |           | 2 502.5 MHz                       | 2 535.0 MHz | 2 567.5 MHz |          | 2 502.5 MHz                            | 2 535.0 MHz | 2 567.5 MHz |          |
| 5 MHz      | QPSK       | 1       | 0         | 24.09                             | 24.10       | 24.11       | 0        | 11.46                                  | 11.44       | 11.32       | 0        |
|            |            | 1       | 12        | 24.11                             | 24.09       | 24.16       | 0        | 11.54                                  | 11.54       | 11.37       | 0        |
|            |            | 1       | 24        | 24.00                             | 24.05       | 24.07       | 0        | 11.48                                  | 11.43       | 11.35       | 0        |
|            |            | 12      | 0         | 23.01                             | 23.33       | 23.13       | 1        | 11.53                                  | 11.54       | 11.37       | 0        |
|            |            | 12      | 7         | 23.01                             | 23.28       | 23.17       | 1        | 11.50                                  | 11.51       | 11.40       | 0        |
|            |            | 12      | 13        | 22.96                             | 23.23       | 23.05       | 1        | 11.49                                  | 11.49       | 11.31       | 0        |
|            |            | 25      | 0         | 22.98                             | 23.27       | 23.09       | 1        | 11.47                                  | 11.50       | 11.40       | 0        |
|            | 16QAM      | 1       | 0         | 23.29                             | 23.49       | 23.30       | 1        | 11.66                                  | 11.72       | 11.41       | 0        |
|            |            | 1       | 12        | 23.35                             | 23.55       | 23.21       | 1        | 11.76                                  | 11.79       | 11.62       | 0        |
|            |            | 1       | 24        | 23.24                             | 23.48       | 23.28       | 1        | 11.73                                  | 11.74       | 11.42       | 0        |
|            |            | 12      | 0         | 22.04                             | 22.35       | 22.14       | 2        | 11.59                                  | 11.61       | 11.49       | 0        |
|            |            | 12      | 7         | 22.02                             | 22.30       | 22.19       | 2        | 11.54                                  | 11.56       | 11.50       | 0        |
|            |            | 12      | 13        | 22.01                             | 22.24       | 22.06       | 2        | 11.48                                  | 11.56       | 11.34       | 0        |
|            |            | 25      | 0         | 21.96                             | 22.28       | 22.11       | 2        | 11.53                                  | 11.51       | 11.42       | 0        |
|            | 64QAM      | 1       | 0         | 21.94                             | 21.76       | 21.85       | 2        | 11.45                                  | 11.32       | 11.41       | 0        |
|            |            | 1       | 12        | 22.10                             | 22.01       | 21.77       | 2        | 11.45                                  | 11.43       | 11.60       | 0        |
|            |            | 1       | 24        | 21.91                             | 21.96       | 21.63       | 2        | 11.49                                  | 11.55       | 11.47       | 0        |
|            |            | 12      | 0         | 21.05                             | 21.07       | 20.66       | 3        | 11.60                                  | 11.45       | 11.58       | 0        |
|            |            | 12      | 7         | 21.01                             | 20.98       | 20.55       | 3        | 11.61                                  | 11.46       | 11.48       | 0        |
|            |            | 12      | 13        | 21.03                             | 20.83       | 20.72       | 3        | 11.49                                  | 11.30       | 11.51       | 0        |
|            |            | 25      | 0         | 21.07                             | 21.14       | 20.83       | 3        | 11.43                                  | 11.38       | 11.47       | 0        |
|            | 256QAM     | 1       | 0         | 18.75                             | 18.82       | 18.64       | 5        | 11.50                                  | 11.39       | 11.54       | 0        |
|            |            | 1       | 12        | 19.00                             | 18.96       | 18.87       | 5        | 11.67                                  | 11.44       | 11.57       | 0        |
|            |            | 1       | 24        | 19.05                             | 18.77       | 18.84       | 5        | 11.45                                  | 11.39       | 11.41       | 0        |
|            |            | 12      | 0         | 18.93                             | 18.74       | 18.79       | 5        | 11.49                                  | 11.39       | 11.63       | 0        |
|            |            | 12      | 7         | 18.86                             | 18.97       | 18.96       | 5        | 11.44                                  | 11.49       | 11.52       | 0        |
|            |            | 12      | 13        | 19.08                             | 18.72       | 18.57       | 5        | 11.54                                  | 11.49       | 11.47       | 0        |
|            |            | 25      | 0         | 19.08                             | 19.08       | 18.86       | 5        | 11.64                                  | 11.57       | 11.46       | 0        |

### 10.2.3 LTE Band 7(Sub1)

| LTE Band 7 (Sub1) |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width        | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|                   |            |         |           | 20 850                            | 21 100      | 21 350      |          | 20 850                                 | 21 100      | 21 350      |          |
|                   |            |         |           | 2 510.0 MHz                       | 2 535.0 MHz | 2 560.0 MHz |          | 2 510.0 MHz                            | 2 535.0 MHz | 2 560.0 MHz |          |
|                   |            |         |           |                                   |             |             |          |                                        |             |             |          |
| 20 MHz            | QPSK       | 1       | 0         | 22.43                             | 21.93       | 22.13       | 0        | 13.66                                  | 13.46       | 13.32       | 0        |
|                   |            | 1       | 49        | 22.52                             | 22.05       | 22.09       | 0        | 13.92                                  | 13.72       | 13.23       | 0        |
|                   |            | 1       | 99        | 22.38                             | 21.83       | 21.97       | 0        | 13.68                                  | 13.42       | 13.28       | 0        |
|                   |            | 50      | 0         | 21.28                             | 21.03       | 21.01       | 1        | 13.77                                  | 13.57       | 13.38       | 0        |
|                   |            | 50      | 24        | 21.46                             | 21.01       | 21.11       | 1        | 13.86                                  | 13.42       | 13.41       | 0        |
|                   |            | 50      | 50        | 21.40                             | 21.01       | 21.06       | 1        | 13.76                                  | 13.51       | 13.37       | 0        |
|                   |            | 100     | 0         | 21.27                             | 20.98       | 21.09       | 1        | 13.68                                  | 13.45       | 13.38       | 0        |
|                   | 16QAM      | 1       | 0         | 21.22                             | 21.14       | 21.09       | 1        | 13.61                                  | 13.62       | 13.53       | 0        |
|                   |            | 1       | 49        | 21.45                             | 21.37       | 21.17       | 1        | 13.55                                  | 13.68       | 13.70       | 0        |
|                   |            | 1       | 99        | 21.21                             | 21.22       | 20.97       | 1        | 13.85                                  | 13.65       | 13.45       | 0        |
|                   |            | 50      | 0         | 20.46                             | 20.01       | 20.11       | 2        | 13.83                                  | 13.52       | 13.73       | 0        |
|                   |            | 50      | 24        | 20.39                             | 20.07       | 20.11       | 2        | 13.90                                  | 13.47       | 13.80       | 0        |
|                   |            | 50      | 50        | 20.37                             | 20.01       | 19.96       | 2        | 13.77                                  | 13.53       | 13.65       | 0        |
|                   |            | 100     | 0         | 20.29                             | 19.99       | 20.00       | 2        | 13.63                                  | 13.42       | 13.63       | 0        |
|                   | 64QAM      | 1       | 0         | 20.24                             | 20.03       | 20.06       | 2        | 12.89                                  | 12.90       | 12.96       | 0        |
|                   |            | 1       | 49        | 20.35                             | 20.11       | 20.16       | 2        | 12.85                                  | 12.99       | 12.93       | 0        |
|                   |            | 1       | 99        | 20.27                             | 20.13       | 20.14       | 2        | 13.10                                  | 13.13       | 12.73       | 0        |
|                   |            | 50      | 0         | 19.45                             | 19.03       | 19.02       | 3        | 13.01                                  | 12.72       | 12.63       | 0        |
|                   |            | 50      | 24        | 19.40                             | 19.11       | 19.12       | 3        | 12.85                                  | 12.74       | 12.82       | 0        |
|                   |            | 50      | 50        | 19.40                             | 19.01       | 18.95       | 3        | 12.70                                  | 12.78       | 12.77       | 0        |
|                   |            | 100     | 0         | 19.32                             | 18.97       | 18.96       | 3        | 13.06                                  | 12.94       | 12.66       | 0        |
|                   | 256QAM     | 1       | 0         | 17.27                             | 17.06       | 17.17       | 5        | 12.93                                  | 12.85       | 13.00       | 0        |
|                   |            | 1       | 49        | 17.21                             | 17.12       | 17.15       | 5        | 12.98                                  | 12.87       | 13.00       | 0        |
|                   |            | 1       | 99        | 17.24                             | 17.07       | 17.19       | 5        | 13.15                                  | 12.71       | 12.79       | 0        |
|                   |            | 50      | 0         | 17.26                             | 17.06       | 17.03       | 5        | 12.87                                  | 13.02       | 12.89       | 0        |
|                   |            | 50      | 24        | 17.47                             | 17.03       | 17.01       | 5        | 13.05                                  | 12.96       | 12.95       | 0        |
|                   |            | 50      | 50        | 17.38                             | 17.03       | 17.17       | 5        | 13.00                                  | 13.04       | 12.90       | 0        |
|                   |            | 100     | 0         | 17.32                             | 17.01       | 17.14       | 5        | 12.82                                  | 13.15       | 12.85       | 0        |

| LTE Band 7 (Sub1) |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width        | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|                   |            |         |           | 20 825                            | 21 100      | 21 375      |          | 20 825                                 | 21 100      | 21 375      |          |
|                   |            |         |           | 2 507.5 MHz                       | 2 535.0 MHz | 2 562.5 MHz |          | 2 507.5 MHz                            | 2 535.0 MHz | 2 562.5 MHz |          |
| 15 MHz            | QPSK       | 1       | 0         | 22.21                             | 21.94       | 22.01       | 0        | 13.50                                  | 13.49       | 13.47       | 0        |
|                   |            | 1       | 36        | 22.20                             | 21.86       | 21.89       | 0        | 13.62                                  | 13.36       | 13.61       | 0        |
|                   |            | 1       | 74        | 22.28                             | 21.97       | 22.07       | 0        | 13.54                                  | 13.41       | 13.70       | 0        |
|                   |            | 36      | 0         | 21.21                             | 21.01       | 20.84       | 1        | 13.54                                  | 13.53       | 13.57       | 0        |
|                   |            | 36      | 18        | 21.40                             | 21.07       | 20.99       | 1        | 13.64                                  | 13.68       | 13.60       | 0        |
|                   |            | 36      | 37        | 21.24                             | 20.95       | 20.96       | 1        | 13.76                                  | 13.48       | 13.52       | 0        |
|                   |            | 75      | 0         | 21.29                             | 20.97       | 20.93       | 1        | 13.54                                  | 13.50       | 13.65       | 0        |
|                   | 16QAM      | 1       | 0         | 21.44                             | 20.88       | 20.98       | 1        | 13.76                                  | 13.50       | 13.69       | 0        |
|                   |            | 1       | 36        | 21.28                             | 21.07       | 21.08       | 1        | 13.63                                  | 13.59       | 13.38       | 0        |
|                   |            | 1       | 74        | 21.25                             | 21.09       | 20.93       | 1        | 13.45                                  | 13.60       | 13.59       | 0        |
|                   |            | 36      | 0         | 20.34                             | 20.11       | 19.97       | 2        | 13.55                                  | 13.40       | 13.55       | 0        |
|                   |            | 36      | 18        | 20.22                             | 19.90       | 20.06       | 2        | 13.57                                  | 13.65       | 13.65       | 0        |
|                   |            | 36      | 37        | 20.31                             | 19.99       | 20.06       | 2        | 13.60                                  | 13.44       | 13.49       | 0        |
|                   |            | 75      | 0         | 20.34                             | 20.06       | 19.83       | 2        | 13.60                                  | 13.38       | 13.38       | 0        |
|                   | 64QAM      | 1       | 0         | 20.28                             | 20.10       | 19.90       | 2        | 12.73                                  | 12.96       | 12.66       | 0        |
|                   |            | 1       | 36        | 20.39                             | 19.88       | 19.97       | 2        | 12.89                                  | 12.93       | 12.66       | 0        |
|                   |            | 1       | 74        | 20.41                             | 20.09       | 20.04       | 2        | 12.84                                  | 13.06       | 12.79       | 0        |
|                   |            | 36      | 0         | 19.41                             | 18.92       | 18.95       | 3        | 13.10                                  | 12.82       | 12.76       | 0        |
|                   |            | 36      | 18        | 19.32                             | 19.02       | 18.97       | 3        | 13.14                                  | 13.04       | 12.98       | 0        |
|                   |            | 36      | 37        | 19.36                             | 18.99       | 18.86       | 3        | 13.14                                  | 12.84       | 12.90       | 0        |
|                   |            | 75      | 0         | 19.24                             | 18.93       | 18.87       | 3        | 12.77                                  | 12.85       | 12.98       | 0        |
|                   | 256QAM     | 1       | 0         | 17.23                             | 17.05       | 17.03       | 5        | 13.14                                  | 12.74       | 12.84       | 0        |
|                   |            | 1       | 36        | 17.24                             | 17.02       | 16.92       | 5        | 12.70                                  | 12.78       | 12.73       | 0        |
|                   |            | 1       | 74        | 17.34                             | 16.94       | 16.97       | 5        | 12.87                                  | 12.71       | 12.57       | 0        |
|                   |            | 36      | 0         | 17.44                             | 17.02       | 17.05       | 5        | 12.72                                  | 13.15       | 12.89       | 0        |
|                   |            | 36      | 18        | 17.34                             | 16.95       | 17.02       | 5        | 13.05                                  | 12.97       | 12.82       | 0        |
|                   |            | 36      | 37        | 17.29                             | 16.90       | 16.92       | 5        | 12.94                                  | 12.82       | 12.99       | 0        |
|                   |            | 75      | 0         | 17.42                             | 16.88       | 16.96       | 5        | 13.00                                  | 12.70       | 12.73       | 0        |

| LTE Band 7 (Sub1) |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width        | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|                   |            |         |           | 20 800                            | 21 100      | 21 400      |          | 20 800                                 | 21 100      | 21 400      |          |
|                   |            |         |           | 2 505.0 MHz                       | 2 535.0 MHz | 2 565.0 MHz |          | 2 505.0 MHz                            | 2 535.0 MHz | 2 565.0 MHz |          |
| 10 MHz            | QPSK       | 1       | 0         | 22.17                             | 21.95       | 22.10       | 0        | 13.73                                  | 13.48       | 13.50       | 0        |
|                   |            | 1       | 25        | 22.30                             | 21.79       | 21.98       | 0        | 13.79                                  | 13.67       | 13.70       | 0        |
|                   |            | 1       | 49        | 22.20                             | 21.85       | 22.09       | 0        | 13.68                                  | 13.61       | 13.72       | 0        |
|                   |            | 25      | 0         | 21.24                             | 21.01       | 20.90       | 1        | 13.85                                  | 13.73       | 13.56       | 0        |
|                   |            | 25      | 12        | 21.35                             | 20.77       | 20.87       | 1        | 13.79                                  | 13.64       | 13.53       | 0        |
|                   |            | 25      | 25        | 21.42                             | 20.85       | 20.91       | 1        | 13.70                                  | 13.42       | 13.66       | 0        |
|                   |            | 50      | 0         | 21.31                             | 21.00       | 21.11       | 1        | 13.83                                  | 13.56       | 13.65       | 0        |
|                   | 16QAM      | 1       | 0         | 21.37                             | 20.89       | 21.12       | 1        | 13.65                                  | 13.24       | 13.58       | 0        |
|                   |            | 1       | 25        | 21.19                             | 20.97       | 21.07       | 1        | 13.74                                  | 13.21       | 13.39       | 0        |
|                   |            | 1       | 49        | 21.21                             | 20.76       | 21.07       | 1        | 13.48                                  | 13.30       | 13.37       | 0        |
|                   |            | 25      | 0         | 20.15                             | 19.98       | 20.03       | 2        | 13.61                                  | 13.29       | 13.36       | 0        |
|                   |            | 25      | 12        | 20.23                             | 19.98       | 20.14       | 2        | 13.56                                  | 13.41       | 13.60       | 0        |
|                   |            | 25      | 25        | 20.23                             | 19.78       | 19.91       | 2        | 13.62                                  | 13.22       | 13.36       | 0        |
|                   |            | 50      | 0         | 20.23                             | 19.81       | 20.08       | 2        | 13.50                                  | 13.41       | 13.32       | 0        |
|                   | 64QAM      | 1       | 0         | 20.41                             | 19.83       | 19.88       | 2        | 13.14                                  | 12.73       | 12.63       | 0        |
|                   |            | 1       | 25        | 20.20                             | 19.84       | 19.90       | 2        | 12.90                                  | 13.14       | 12.85       | 0        |
|                   |            | 1       | 49        | 20.17                             | 19.77       | 19.91       | 2        | 12.72                                  | 13.14       | 12.78       | 0        |
|                   |            | 25      | 0         | 19.18                             | 18.77       | 19.13       | 3        | 13.14                                  | 12.96       | 12.77       | 0        |
|                   |            | 25      | 12        | 19.16                             | 18.94       | 18.95       | 3        | 12.85                                  | 12.84       | 12.69       | 0        |
|                   |            | 25      | 25        | 19.31                             | 18.81       | 18.90       | 3        | 12.92                                  | 12.96       | 12.83       | 0        |
|                   |            | 50      | 0         | 19.28                             | 18.88       | 19.12       | 3        | 13.00                                  | 13.03       | 12.55       | 0        |
|                   | 256QAM     | 1       | 0         | 17.27                             | 17.01       | 17.03       | 5        | 13.02                                  | 12.70       | 12.82       | 0        |
|                   |            | 1       | 25        | 17.30                             | 16.90       | 17.10       | 5        | 13.14                                  | 13.11       | 12.81       | 0        |
|                   |            | 1       | 49        | 17.20                             | 16.92       | 17.02       | 5        | 12.77                                  | 12.81       | 13.00       | 0        |
|                   |            | 25      | 0         | 17.26                             | 16.82       | 16.88       | 5        | 12.95                                  | 12.94       | 12.84       | 0        |
|                   |            | 25      | 12        | 17.35                             | 16.92       | 16.95       | 5        | 13.09                                  | 13.05       | 12.58       | 0        |
|                   |            | 25      | 25        | 17.26                             | 16.78       | 17.04       | 5        | 12.89                                  | 12.94       | 12.67       | 0        |
|                   |            | 50      | 0         | 17.27                             | 16.84       | 17.07       | 5        | 12.90                                  | 12.97       | 12.96       | 0        |

| LTE Band 7 (Sub1) |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width        | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|                   |            |         |           | 20 775                            | 21 100      | 21 425      |          | 20 775                                 | 21 100      | 21 425      |          |
|                   |            |         |           | 2 502.5 MHz                       | 2 535.0 MHz | 2 567.5 MHz |          | 2 502.5 MHz                            | 2 535.0 MHz | 2 567.5 MHz |          |
| 5 MHz             | QPSK       | 1       | 0         | 22.31                             | 21.96       | 22.14       | 0        | 13.50                                  | 13.53       | 13.65       | 0        |
|                   |            | 1       | 12        | 22.24                             | 21.98       | 22.01       | 0        | 13.55                                  | 13.66       | 13.46       | 0        |
|                   |            | 1       | 24        | 22.32                             | 21.95       | 22.10       | 0        | 13.61                                  | 13.47       | 13.43       | 0        |
|                   |            | 12      | 0         | 21.16                             | 20.86       | 20.88       | 1        | 13.84                                  | 13.45       | 13.54       | 0        |
|                   |            | 12      | 7         | 21.40                             | 20.87       | 20.89       | 1        | 13.77                                  | 13.54       | 13.62       | 0        |
|                   |            | 12      | 13        | 21.42                             | 20.98       | 21.01       | 1        | 13.81                                  | 13.65       | 13.48       | 0        |
|                   |            | 25      | 0         | 21.36                             | 20.96       | 20.98       | 1        | 13.74                                  | 13.60       | 13.50       | 0        |
|                   | 16QAM      | 1       | 0         | 21.30                             | 21.07       | 20.99       | 1        | 13.53                                  | 13.54       | 13.46       | 0        |
|                   |            | 1       | 12        | 21.42                             | 21.07       | 21.07       | 1        | 13.74                                  | 13.38       | 13.45       | 0        |
|                   |            | 1       | 24        | 21.36                             | 20.93       | 20.92       | 1        | 13.78                                  | 13.35       | 13.40       | 0        |
|                   |            | 12      | 0         | 20.19                             | 20.08       | 19.92       | 2        | 13.58                                  | 13.60       | 13.48       | 0        |
|                   |            | 12      | 7         | 20.31                             | 20.10       | 20.01       | 2        | 13.46                                  | 13.33       | 13.63       | 0        |
|                   |            | 12      | 13        | 20.19                             | 19.88       | 20.04       | 2        | 13.67                                  | 13.56       | 13.56       | 0        |
|                   |            | 25      | 0         | 20.20                             | 19.92       | 20.12       | 2        | 13.47                                  | 13.57       | 13.54       | 0        |
|                   | 64QAM      | 1       | 0         | 20.32                             | 19.98       | 20.09       | 2        | 12.72                                  | 12.97       | 12.90       | 0        |
|                   |            | 1       | 12        | 20.29                             | 20.12       | 20.13       | 2        | 13.05                                  | 12.83       | 12.72       | 0        |
|                   |            | 1       | 24        | 20.33                             | 19.99       | 20.01       | 2        | 12.90                                  | 12.83       | 12.88       | 0        |
|                   |            | 12      | 0         | 19.34                             | 18.98       | 18.94       | 3        | 12.71                                  | 12.92       | 12.93       | 0        |
|                   |            | 12      | 7         | 19.20                             | 19.04       | 19.13       | 3        | 12.74                                  | 12.96       | 12.59       | 0        |
|                   |            | 12      | 13        | 19.23                             | 19.09       | 18.97       | 3        | 13.13                                  | 13.13       | 12.59       | 0        |
|                   |            | 25      | 0         | 19.39                             | 19.03       | 19.09       | 3        | 12.73                                  | 12.92       | 12.84       | 0        |
|                   | 256QAM     | 1       | 0         | 17.32                             | 17.06       | 17.14       | 5        | 13.10                                  | 13.03       | 12.63       | 0        |
|                   |            | 1       | 12        | 17.17                             | 17.09       | 17.11       | 5        | 13.10                                  | 12.75       | 12.75       | 0        |
|                   |            | 1       | 24        | 17.16                             | 16.99       | 16.98       | 5        | 12.79                                  | 12.95       | 12.72       | 0        |
|                   |            | 12      | 0         | 17.20                             | 16.97       | 16.95       | 5        | 12.82                                  | 13.09       | 12.55       | 0        |
|                   |            | 12      | 7         | 17.42                             | 17.05       | 17.01       | 5        | 12.96                                  | 12.90       | 12.64       | 0        |
|                   |            | 12      | 13        | 17.30                             | 17.10       | 17.14       | 5        | 13.04                                  | 12.82       | 12.55       | 0        |
|                   |            | 25      | 0         | 17.16                             | 16.95       | 16.96       | 5        | 12.80                                  | 13.15       | 12.64       | 0        |

## 10.2.4 LTE Band 12

| LTE Band 12 |            |         |           |                                   |          |                                        |          |
|-------------|------------|---------|-----------|-----------------------------------|----------|----------------------------------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] | Back-off Average Conducted Power (dBm) | MPR [dB] |
|             |            |         |           | 23 095                            |          | 23 095                                 |          |
|             |            |         |           | 707.5 MHz                         |          | 707.5 MHz                              |          |
| 10 MHz      | QPSK       | 1       | 0         | 23.56                             | 0        | 15.91                                  | 0        |
|             |            | 1       | 25        | 23.30                             | 0        | 15.36                                  | 0        |
|             |            | 1       | 49        | 23.22                             | 0        | 15.22                                  | 0        |
|             |            | 25      | 0         | 22.56                             | 1        | 15.39                                  | 0        |
|             |            | 25      | 12        | 22.36                             | 1        | 15.64                                  | 0        |
|             |            | 25      | 25        | 22.31                             | 1        | 15.36                                  | 0        |
|             |            | 50      | 0         | 22.51                             | 1        | 15.48                                  | 0        |
|             | 16QAM      | 1       | 0         | 22.51                             | 1        | 15.69                                  | 0        |
|             |            | 1       | 25        | 22.48                             | 1        | 15.49                                  | 0        |
|             |            | 1       | 49        | 22.29                             | 1        | 15.28                                  | 0        |
|             |            | 25      | 0         | 21.39                             | 2        | 15.44                                  | 0        |
|             |            | 25      | 12        | 21.37                             | 2        | 15.37                                  | 0        |
|             |            | 25      | 25        | 21.29                             | 2        | 15.30                                  | 0        |
|             |            | 50      | 0         | 21.33                             | 2        | 15.36                                  | 0        |
|             | 64QAM      | 1       | 0         | 21.83                             | 2        | 15.32                                  | 0        |
|             |            | 1       | 25        | 22.05                             | 2        | 15.29                                  | 0        |
|             |            | 1       | 49        | 21.90                             | 2        | 15.29                                  | 0        |
|             |            | 25      | 0         | 20.76                             | 3        | 15.59                                  | 0        |
|             |            | 25      | 12        | 20.99                             | 3        | 15.28                                  | 0        |
|             |            | 25      | 25        | 20.74                             | 3        | 15.41                                  | 0        |
|             |            | 50      | 0         | 20.96                             | 3        | 15.50                                  | 0        |
|             | 256QAM     | 1       | 0         | 18.78                             | 5        | 15.46                                  | 0        |
|             |            | 1       | 25        | 18.81                             | 5        | 15.45                                  | 0        |
|             |            | 1       | 49        | 18.84                             | 5        | 15.38                                  | 0        |
|             |            | 25      | 0         | 18.82                             | 5        | 15.28                                  | 0        |
|             |            | 25      | 12        | 18.99                             | 5        | 15.61                                  | 0        |
|             |            | 25      | 25        | 18.96                             | 5        | 15.28                                  | 0        |
|             |            | 50      | 0         | 18.75                             | 5        | 15.53                                  | 0        |

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.



| LTE Band 12 |            |         |           |                                   |           |           |          |                                        |           |           |          |
|-------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|----------------------------------------|-----------|-----------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] | Back-off Average Conducted Power (dBm) |           |           | MPR [dB] |
|             |            |         |           | 23 035                            | 23 095    | 23 155    |          | 23 035                                 | 23 095    | 23 155    |          |
|             |            |         |           | 701.5 MHz                         | 707.5 MHz | 713.5 MHz |          | 701.5 MHz                              | 707.5 MHz | 713.5 MHz |          |
| 5 MHz       | QPSK       | 1       | 0         | 23.47                             | 23.30     | 23.24     | 0        | 15.52                                  | 15.29     | 15.26     | 0        |
|             |            | 1       | 12        | 23.46                             | 23.31     | 23.32     | 0        | 15.62                                  | 15.38     | 15.27     | 0        |
|             |            | 1       | 24        | 23.45                             | 23.26     | 23.21     | 0        | 15.41                                  | 15.24     | 15.20     | 0        |
|             |            | 12      | 0         | 22.54                             | 22.31     | 22.19     | 1        | 15.55                                  | 15.33     | 15.16     | 0        |
|             |            | 12      | 7         | 22.45                             | 22.33     | 22.20     | 1        | 15.47                                  | 15.38     | 15.22     | 0        |
|             |            | 12      | 13        | 22.42                             | 22.26     | 22.22     | 1        | 15.43                                  | 15.29     | 15.24     | 0        |
|             |            | 25      | 0         | 22.46                             | 22.33     | 22.21     | 1        | 15.49                                  | 15.29     | 15.19     | 0        |
|             | 16QAM      | 1       | 0         | 22.56                             | 22.36     | 22.45     | 1        | 15.75                                  | 15.45     | 15.35     | 0        |
|             |            | 1       | 12        | 22.71                             | 22.50     | 22.62     | 1        | 15.86                                  | 15.46     | 15.44     | 0        |
|             |            | 1       | 24        | 22.57                             | 22.35     | 22.40     | 1        | 15.61                                  | 15.43     | 15.30     | 0        |
|             |            | 12      | 0         | 21.53                             | 21.29     | 21.19     | 2        | 15.58                                  | 15.36     | 15.21     | 0        |
|             |            | 12      | 7         | 21.48                             | 21.33     | 21.19     | 2        | 15.48                                  | 15.35     | 15.19     | 0        |
|             |            | 12      | 13        | 21.45                             | 21.26     | 21.24     | 2        | 15.44                                  | 15.33     | 15.27     | 0        |
|             |            | 25      | 0         | 21.43                             | 21.30     | 21.17     | 2        | 15.51                                  | 15.36     | 15.17     | 0        |
|             | 64QAM      | 1       | 0         | 21.80                             | 21.76     | 21.93     | 2        | 15.44                                  | 15.59     | 15.41     | 0        |
|             |            | 1       | 12        | 22.15                             | 22.04     | 21.71     | 2        | 15.26                                  | 15.30     | 15.41     | 0        |
|             |            | 1       | 24        | 22.13                             | 22.00     | 21.85     | 2        | 15.55                                  | 15.58     | 15.10     | 0        |
|             |            | 12      | 0         | 21.12                             | 21.11     | 20.71     | 3        | 15.58                                  | 15.26     | 15.20     | 0        |
|             |            | 12      | 7         | 20.90                             | 20.85     | 20.86     | 3        | 15.20                                  | 15.34     | 15.40     | 0        |
|             |            | 12      | 13        | 20.74                             | 21.14     | 20.75     | 3        | 15.30                                  | 15.43     | 15.20     | 0        |
|             |            | 25      | 0         | 21.15                             | 21.11     | 20.61     | 3        | 15.52                                  | 15.28     | 15.40     | 0        |
|             | 256QAM     | 1       | 0         | 18.74                             | 18.77     | 18.84     | 5        | 15.61                                  | 15.23     | 15.17     | 0        |
|             |            | 1       | 12        | 18.86                             | 18.96     | 19.00     | 5        | 15.40                                  | 15.59     | 15.24     | 0        |
|             |            | 1       | 24        | 18.93                             | 19.12     | 18.78     | 5        | 15.49                                  | 15.56     | 15.25     | 0        |
|             |            | 12      | 0         | 18.93                             | 19.00     | 18.85     | 5        | 15.60                                  | 15.42     | 15.30     | 0        |
|             |            | 12      | 7         | 18.78                             | 18.80     | 18.98     | 5        | 15.31                                  | 15.50     | 15.44     | 0        |
|             |            | 12      | 13        | 19.01                             | 18.87     | 18.56     | 5        | 15.54                                  | 15.26     | 15.24     | 0        |
|             |            | 25      | 0         | 19.03                             | 19.07     | 18.71     | 5        | 15.34                                  | 15.64     | 15.07     | 0        |

| LTE Band 12 |            |         |           |                                   |           |           |          |                                        |           |           |          |
|-------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|----------------------------------------|-----------|-----------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] | Back-off Average Conducted Power (dBm) |           |           | MPR [dB] |
|             |            |         |           | 23 025                            | 23 095    | 23 165    |          | 23 025                                 | 23 095    | 23 165    |          |
|             |            |         |           | 700.5 MHz                         | 707.5 MHz | 714.5 MHz |          | 700.5 MHz                              | 707.5 MHz | 714.5 MHz |          |
| 3 MHz       | QPSK       | 1       | 0         | 23.49                             | 23.32     | 23.18     | 0        | 15.54                                  | 15.24     | 15.22     | 0        |
|             |            | 1       | 8         | 23.47                             | 23.34     | 23.31     | 0        | 15.56                                  | 15.38     | 15.26     | 0        |
|             |            | 1       | 14        | 23.40                             | 23.24     | 23.22     | 0        | 15.40                                  | 15.24     | 15.15     | 0        |
|             |            | 8       | 0         | 22.55                             | 22.30     | 22.25     | 1        | 15.59                                  | 15.31     | 15.27     | 0        |
|             |            | 8       | 4         | 22.51                             | 22.29     | 22.24     | 1        | 15.56                                  | 15.36     | 15.27     | 0        |
|             |            | 8       | 7         | 22.46                             | 22.26     | 22.23     | 1        | 15.47                                  | 15.31     | 15.22     | 0        |
|             |            | 15      | 0         | 22.49                             | 22.31     | 22.23     | 1        | 15.54                                  | 15.30     | 15.19     | 0        |
|             | 16QAM      | 1       | 0         | 22.66                             | 22.43     | 22.43     | 1        | 15.68                                  | 15.55     | 15.40     | 0        |
|             |            | 1       | 8         | 22.73                             | 22.58     | 22.41     | 1        | 15.69                                  | 15.42     | 15.36     | 0        |
|             |            | 1       | 14        | 22.49                             | 22.29     | 22.26     | 1        | 15.59                                  | 15.41     | 15.33     | 0        |
|             |            | 8       | 0         | 21.61                             | 21.34     | 21.23     | 2        | 15.62                                  | 15.40     | 15.29     | 0        |
|             |            | 8       | 4         | 21.55                             | 21.34     | 21.31     | 2        | 15.59                                  | 15.35     | 15.23     | 0        |
|             |            | 8       | 7         | 21.50                             | 21.32     | 21.25     | 2        | 15.62                                  | 15.30     | 15.30     | 0        |
|             |            | 15      | 0         | 21.46                             | 21.32     | 21.25     | 2        | 15.50                                  | 15.28     | 15.20     | 0        |
|             | 64QAM      | 1       | 0         | 21.70                             | 22.04     | 21.94     | 2        | 15.63                                  | 15.50     | 15.16     | 0        |
|             |            | 1       | 8         | 21.95                             | 21.73     | 21.56     | 2        | 15.40                                  | 15.41     | 15.39     | 0        |
|             |            | 1       | 14        | 22.08                             | 21.84     | 21.63     | 2        | 15.64                                  | 15.53     | 15.49     | 0        |
|             |            | 8       | 0         | 20.97                             | 20.96     | 20.82     | 3        | 15.23                                  | 15.60     | 15.06     | 0        |
|             |            | 8       | 4         | 21.13                             | 20.98     | 20.57     | 3        | 15.27                                  | 15.60     | 15.26     | 0        |
|             |            | 8       | 7         | 20.88                             | 20.75     | 20.93     | 3        | 15.63                                  | 15.33     | 15.14     | 0        |
|             |            | 15      | 0         | 20.81                             | 20.99     | 20.64     | 3        | 15.63                                  | 15.25     | 15.07     | 0        |
|             | 256QAM     | 1       | 0         | 18.88                             | 18.94     | 18.91     | 5        | 15.20                                  | 15.65     | 15.20     | 0        |
|             |            | 1       | 8         | 19.03                             | 18.73     | 18.94     | 5        | 15.61                                  | 15.46     | 15.38     | 0        |
|             |            | 1       | 14        | 18.88                             | 18.83     | 18.92     | 5        | 15.52                                  | 15.58     | 15.46     | 0        |
|             |            | 8       | 0         | 19.10                             | 18.83     | 18.67     | 5        | 15.39                                  | 15.57     | 15.12     | 0        |
|             |            | 8       | 4         | 19.00                             | 18.86     | 18.69     | 5        | 15.49                                  | 15.42     | 15.44     | 0        |
|             |            | 8       | 7         | 19.03                             | 18.88     | 18.68     | 5        | 15.49                                  | 15.33     | 15.33     | 0        |
|             |            | 15      | 0         | 19.03                             | 18.93     | 18.57     | 5        | 15.34                                  | 15.60     | 15.13     | 0        |

| LTE Band 12 |            |         |           |                                   |           |           |          |                                        |           |           |          |
|-------------|------------|---------|-----------|-----------------------------------|-----------|-----------|----------|----------------------------------------|-----------|-----------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |           |           | MPR [dB] | Back-off Average Conducted Power (dBm) |           |           | MPR [dB] |
|             |            |         |           | 23 017                            | 23 095    | 23 173    |          | 23 017                                 | 23 095    | 23 173    |          |
|             |            |         |           | 699.7 MHz                         | 707.5 MHz | 715.3 MHz |          | 699.7 MHz                              | 707.5 MHz | 715.3 MHz |          |
| 1.4 MHz     | QPSK       | 1       | 0         | 23.40                             | 23.23     | 23.19     | 0        | 15.30                                  | 15.29     | 15.18     | 0        |
|             |            | 1       | 3         | 23.50                             | 23.28     | 23.19     | 0        | 15.34                                  | 15.28     | 15.18     | 0        |
|             |            | 1       | 5         | 23.42                             | 23.19     | 23.16     | 0        | 15.29                                  | 15.20     | 15.17     | 0        |
|             |            | 3       | 0         | 23.44                             | 23.28     | 23.20     | 0        | 15.29                                  | 15.27     | 15.24     | 0        |
|             |            | 3       | 1         | 23.46                             | 23.27     | 23.20     | 0        | 15.29                                  | 15.27     | 15.19     | 0        |
|             |            | 3       | 3         | 23.43                             | 23.27     | 23.20     | 0        | 15.31                                  | 15.25     | 15.19     | 0        |
|             |            | 6       | 0         | 22.55                             | 22.25     | 22.17     | 1        | 15.23                                  | 15.25     | 15.12     | 0        |
|             | 16QAM      | 1       | 0         | 22.69                             | 22.37     | 22.38     | 1        | 15.29                                  | 15.37     | 15.24     | 0        |
|             |            | 1       | 3         | 22.58                             | 22.33     | 22.36     | 1        | 15.37                                  | 15.37     | 15.09     | 0        |
|             |            | 1       | 5         | 22.62                             | 22.32     | 22.28     | 1        | 15.32                                  | 15.26     | 15.30     | 0        |
|             |            | 3       | 0         | 22.63                             | 22.26     | 22.22     | 1        | 15.34                                  | 15.35     | 15.16     | 0        |
|             |            | 3       | 1         | 22.68                             | 22.29     | 22.26     | 1        | 15.42                                  | 15.36     | 15.20     | 0        |
|             |            | 3       | 3         | 22.66                             | 22.26     | 22.24     | 1        | 15.36                                  | 15.43     | 15.22     | 0        |
|             |            | 6       | 0         | 21.58                             | 21.25     | 21.20     | 2        | 15.30                                  | 15.27     | 15.23     | 0        |
|             | 64QAM      | 1       | 0         | 21.96                             | 21.72     | 21.73     | 2        | 15.52                                  | 15.47     | 15.28     | 0        |
|             |            | 1       | 3         | 21.94                             | 22.05     | 21.62     | 2        | 15.29                                  | 15.37     | 15.30     | 0        |
|             |            | 1       | 5         | 21.95                             | 22.00     | 21.59     | 2        | 15.44                                  | 15.55     | 15.40     | 0        |
|             |            | 3       | 0         | 22.13                             | 22.09     | 21.58     | 2        | 15.20                                  | 15.43     | 15.15     | 0        |
|             |            | 3       | 1         | 21.98                             | 22.12     | 21.81     | 2        | 15.52                                  | 15.60     | 15.44     | 0        |
|             |            | 3       | 3         | 21.84                             | 21.74     | 21.93     | 2        | 15.43                                  | 15.62     | 15.28     | 0        |
|             |            | 6       | 0         | 20.97                             | 20.85     | 20.86     | 3        | 15.51                                  | 15.24     | 15.33     | 0        |
|             | 256QAM     | 1       | 0         | 18.87                             | 19.13     | 18.66     | 5        | 15.21                                  | 15.45     | 15.39     | 0        |
|             |            | 1       | 3         | 18.81                             | 18.90     | 18.86     | 5        | 15.62                                  | 15.50     | 15.13     | 0        |
|             |            | 1       | 5         | 18.76                             | 19.13     | 18.97     | 5        | 15.22                                  | 15.48     | 15.35     | 0        |
|             |            | 3       | 0         | 18.85                             | 19.07     | 18.82     | 5        | 15.53                                  | 15.22     | 15.42     | 0        |
|             |            | 3       | 1         | 18.74                             | 18.75     | 18.58     | 5        | 15.22                                  | 15.20     | 15.07     | 0        |
|             |            | 3       | 3         | 18.81                             | 19.00     | 18.98     | 5        | 15.56                                  | 15.57     | 15.45     | 0        |
|             |            | 6       | 0         | 18.99                             | 19.01     | 19.00     | 5        | 15.44                                  | 15.23     | 15.10     | 0        |

## 10.2.5 LTE Band 13

| LTE Band 13 |            |         |           |                                   |          |                                        |          |
|-------------|------------|---------|-----------|-----------------------------------|----------|----------------------------------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] | Back-off Average Conducted Power (dBm) | MPR [dB] |
|             |            |         |           | 23 230                            |          | 23 230                                 |          |
|             |            |         |           | 782.0 MHz                         |          | 782.0 MHz                              |          |
| 10 MHz      | QPSK       | 1       | 0         | 24.58                             | 0        | 14.70                                  | 0        |
|             |            | 1       | 25        | 24.64                             | 0        | 14.44                                  | 0        |
|             |            | 1       | 49        | 24.47                             | 0        | 14.29                                  | 0        |
|             |            | 25      | 0         | 23.59                             | 1        | 14.47                                  | 0        |
|             |            | 25      | 12        | 23.55                             | 1        | 14.52                                  | 0        |
|             |            | 25      | 25        | 23.47                             | 1        | 14.38                                  | 0        |
|             |            | 50      | 0         | 23.58                             | 1        | 14.40                                  | 0        |
|             | 16QAM      | 1       | 0         | 23.83                             | 1        | 14.61                                  | 0        |
|             |            | 1       | 25        | 23.69                             | 1        | 14.66                                  | 0        |
|             |            | 1       | 49        | 23.60                             | 1        | 14.45                                  | 0        |
|             |            | 25      | 0         | 22.55                             | 2        | 14.49                                  | 0        |
|             |            | 25      | 12        | 22.53                             | 2        | 14.46                                  | 0        |
|             |            | 25      | 25        | 22.49                             | 2        | 14.37                                  | 0        |
|             |            | 50      | 0         | 22.56                             | 2        | 14.41                                  | 0        |
|             | 64QAM      | 1       | 0         | 22.01                             | 2        | 14.11                                  | 0        |
|             |            | 1       | 25        | 22.12                             | 2        | 13.93                                  | 0        |
|             |            | 1       | 49        | 21.72                             | 2        | 13.83                                  | 0        |
|             |            | 25      | 0         | 21.05                             | 3        | 13.93                                  | 0        |
|             |            | 25      | 12        | 20.93                             | 3        | 13.98                                  | 0        |
|             |            | 25      | 25        | 20.93                             | 3        | 13.74                                  | 0        |
|             |            | 50      | 0         | 20.78                             | 3        | 14.05                                  | 0        |
|             | 256QAM     | 1       | 0         | 18.79                             | 5        | 13.99                                  | 0        |
|             |            | 1       | 25        | 18.76                             | 5        | 13.93                                  | 0        |
|             |            | 1       | 49        | 19.05                             | 5        | 13.95                                  | 0        |
|             |            | 25      | 0         | 19.03                             | 5        | 13.97                                  | 0        |
|             |            | 25      | 12        | 18.90                             | 5        | 14.02                                  | 0        |
|             |            | 25      | 25        | 18.84                             | 5        | 13.98                                  | 0        |
|             |            | 50      | 0         | 18.71                             | 5        | 13.91                                  | 0        |

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

| LTE Band 13 |            |         |           |                                   |          |                                        |          |
|-------------|------------|---------|-----------|-----------------------------------|----------|----------------------------------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] | Back-off Average Conducted Power (dBm) | MPR [dB] |
|             |            |         |           | 23 230                            |          | 23 230                                 |          |
|             |            |         |           | 782.0 MHz                         |          | 782.0 MHz                              |          |
| 5 MHz       | QPSK       | 1       | 0         | 24.60                             | 0        | 14.47                                  | 0        |
|             |            | 1       | 12        | 24.61                             | 0        | 14.44                                  | 0        |
|             |            | 1       | 24        | 24.54                             | 0        | 14.32                                  | 0        |
|             |            | 12      | 0         | 23.55                             | 1        | 14.39                                  | 0        |
|             |            | 12      | 7         | 23.56                             | 1        | 14.44                                  | 0        |
|             |            | 12      | 13        | 23.48                             | 1        | 14.36                                  | 0        |
|             |            | 25      | 0         | 23.52                             | 1        | 14.40                                  | 0        |
|             | 16QAM      | 1       | 0         | 23.66                             | 1        | 14.62                                  | 0        |
|             |            | 1       | 12        | 23.82                             | 1        | 14.48                                  | 0        |
|             |            | 1       | 24        | 23.52                             | 1        | 14.58                                  | 0        |
|             |            | 12      | 0         | 22.54                             | 2        | 14.38                                  | 0        |
|             |            | 12      | 7         | 22.55                             | 2        | 14.40                                  | 0        |
|             |            | 12      | 13        | 22.51                             | 2        | 14.33                                  | 0        |
|             |            | 25      | 0         | 22.51                             | 2        | 14.36                                  | 0        |
|             | 64QAM      | 1       | 0         | 21.96                             | 2        | 13.93                                  | 0        |
|             |            | 1       | 12        | 21.86                             | 2        | 14.00                                  | 0        |
|             |            | 1       | 24        | 21.83                             | 2        | 13.98                                  | 0        |
|             |            | 12      | 0         | 20.72                             | 3        | 14.07                                  | 0        |
|             |            | 12      | 7         | 20.90                             | 3        | 13.85                                  | 0        |
|             |            | 12      | 13        | 20.80                             | 3        | 14.01                                  | 0        |
|             |            | 25      | 0         | 20.84                             | 3        | 13.84                                  | 0        |
|             | 256QAM     | 1       | 0         | 19.08                             | 5        | 13.97                                  | 0        |
|             |            | 1       | 12        | 19.02                             | 5        | 13.75                                  | 0        |
|             |            | 1       | 24        | 18.74                             | 5        | 13.70                                  | 0        |
|             |            | 12      | 0         | 18.98                             | 5        | 13.97                                  | 0        |
|             |            | 12      | 7         | 18.70                             | 5        | 13.77                                  | 0        |
|             |            | 12      | 13        | 18.97                             | 5        | 13.78                                  | 0        |
|             |            | 25      | 0         | 18.76                             | 5        | 13.75                                  | 0        |

5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

## 10.2.6 LTE Band 14

| LTE Band 14 |            |         |           |                                   |          |                                        |          |
|-------------|------------|---------|-----------|-----------------------------------|----------|----------------------------------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] | Back-off Average Conducted Power (dBm) | MPR [dB] |
|             |            |         |           | 23 330                            |          | 23 330                                 |          |
|             |            |         |           | 793.0 MHz                         |          | 793.0 MHz                              |          |
| 10 MHz      | QPSK       | 1       | 0         | 24.42                             | 0        | 16.42                                  | 0        |
|             |            | 1       | 25        | 24.62                             | 0        | 16.56                                  | 0        |
|             |            | 1       | 49        | 24.60                             | 0        | 16.87                                  | 0        |
|             |            | 25      | 0         | 23.44                             | 1        | 16.44                                  | 0        |
|             |            | 25      | 12        | 23.50                             | 1        | 16.53                                  | 0        |
|             |            | 25      | 25        | 23.55                             | 1        | 16.59                                  | 0        |
|             |            | 50      | 0         | 23.47                             | 1        | 16.51                                  | 0        |
|             | 16QAM      | 1       | 0         | 23.68                             | 1        | 16.52                                  | 0        |
|             |            | 1       | 25        | 23.68                             | 1        | 16.74                                  | 0        |
|             |            | 1       | 49        | 23.78                             | 1        | 16.81                                  | 0        |
|             |            | 25      | 0         | 22.39                             | 2        | 16.42                                  | 0        |
|             |            | 25      | 12        | 22.50                             | 2        | 16.58                                  | 0        |
|             |            | 25      | 25        | 22.55                             | 2        | 16.54                                  | 0        |
|             |            | 50      | 0         | 22.48                             | 2        | 16.49                                  | 0        |
|             | 64QAM      | 1       | 0         | 22.03                             | 2        | 16.46                                  | 0        |
|             |            | 1       | 25        | 22.02                             | 2        | 16.55                                  | 0        |
|             |            | 1       | 49        | 21.73                             | 2        | 16.24                                  | 0        |
|             |            | 25      | 0         | 21.13                             | 3        | 16.65                                  | 0        |
|             |            | 25      | 12        | 20.96                             | 3        | 16.50                                  | 0        |
|             |            | 25      | 25        | 20.95                             | 3        | 16.30                                  | 0        |
|             |            | 50      | 0         | 21.01                             | 3        | 16.65                                  | 0        |
|             | 256QAM     | 1       | 0         | 19.07                             | 5        | 16.20                                  | 0        |
|             |            | 1       | 25        | 18.97                             | 5        | 16.59                                  | 0        |
|             |            | 1       | 49        | 18.90                             | 5        | 16.32                                  | 0        |
|             |            | 25      | 0         | 19.09                             | 5        | 16.26                                  | 0        |
|             |            | 25      | 12        | 19.00                             | 5        | 16.42                                  | 0        |
|             |            | 25      | 25        | 18.98                             | 5        | 16.51                                  | 0        |
|             |            | 50      | 0         | 19.13                             | 5        | 16.56                                  | 0        |

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

| LTE Band 14 |            |         |           |                                   |          |                                        |          |
|-------------|------------|---------|-----------|-----------------------------------|----------|----------------------------------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) | MPR [dB] | Back-off Average Conducted Power (dBm) | MPR [dB] |
|             |            |         |           | 23 330                            |          | 23 330                                 |          |
|             |            |         |           | 793.0 MHz                         |          | 793.0 MHz                              |          |
| 5 MHz       | QPSK       | 1       | 0         | 24.45                             | 0        | 16.50                                  | 0        |
|             |            | 1       | 12        | 24.58                             | 0        | 16.65                                  | 0        |
|             |            | 1       | 24        | 24.56                             | 0        | 16.53                                  | 0        |
|             |            | 12      | 0         | 23.48                             | 1        | 16.47                                  | 0        |
|             |            | 12      | 7         | 23.53                             | 1        | 16.48                                  | 0        |
|             |            | 12      | 13        | 23.58                             | 1        | 16.56                                  | 0        |
|             |            | 25      | 0         | 23.49                             | 1        | 16.49                                  | 0        |
|             | 16QAM      | 1       | 0         | 23.67                             | 1        | 16.58                                  | 0        |
|             |            | 1       | 12        | 23.61                             | 1        | 16.68                                  | 0        |
|             |            | 1       | 24        | 23.60                             | 1        | 16.65                                  | 0        |
|             |            | 12      | 0         | 22.49                             | 2        | 16.48                                  | 0        |
|             |            | 12      | 7         | 22.51                             | 2        | 16.51                                  | 0        |
|             |            | 12      | 13        | 22.53                             | 2        | 16.55                                  | 0        |
|             |            | 25      | 0         | 22.47                             | 2        | 16.49                                  | 0        |
|             | 64QAM      | 1       | 0         | 22.02                             | 2        | 16.48                                  | 0        |
|             |            | 1       | 12        | 21.79                             | 2        | 16.37                                  | 0        |
|             |            | 1       | 24        | 21.82                             | 2        | 16.18                                  | 0        |
|             |            | 12      | 0         | 20.70                             | 3        | 16.40                                  | 0        |
|             |            | 12      | 7         | 21.13                             | 3        | 16.26                                  | 0        |
|             |            | 12      | 13        | 20.84                             | 3        | 16.23                                  | 0        |
|             |            | 25      | 0         | 20.98                             | 3        | 16.51                                  | 0        |
|             | 256QAM     | 1       | 0         | 18.71                             | 5        | 16.45                                  | 0        |
|             |            | 1       | 12        | 19.10                             | 5        | 16.14                                  | 0        |
|             |            | 1       | 24        | 18.92                             | 5        | 16.27                                  | 0        |
|             |            | 12      | 0         | 19.00                             | 5        | 16.54                                  | 0        |
|             |            | 12      | 7         | 19.05                             | 5        | 16.21                                  | 0        |
|             |            | 12      | 13        | 19.13                             | 5        | 16.18                                  | 0        |
|             |            | 25      | 0         | 19.15                             | 5        | 16.44                                  | 0        |

5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.



## 10.2.7 LTE Band 25

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 140                            | 26 365      | 26 590      |          | 26 140                                 | 26 365      | 26 590      |          |
|             |            |         |           | 1 860.0 MHz                       | 1 882.5 MHz | 1 905.0 MHz |          | 1 860.0 MHz                            | 1 882.5 MHz | 1 905.0 MHz |          |
| 20 MHz      | QPSK       | 1       | 0         | 22.91                             | 22.73       | 22.71       | 0        | 11.81                                  | 11.57       | 11.62       | 0        |
|             |            | 1       | 49        | 22.89                             | 22.72       | 22.80       | 0        | 11.50                                  | 11.47       | 11.41       | 0        |
|             |            | 1       | 99        | 22.83                             | 22.68       | 22.78       | 0        | 11.39                                  | 11.41       | 11.34       | 0        |
|             |            | 50      | 0         | 21.87                             | 21.76       | 21.65       | 1        | 11.67                                  | 11.59       | 11.43       | 0        |
|             |            | 50      | 24        | 21.91                             | 21.79       | 21.80       | 1        | 11.66                                  | 11.50       | 11.54       | 0        |
|             |            | 50      | 50        | 21.83                             | 21.77       | 21.74       | 1        | 11.63                                  | 11.49       | 11.47       | 0        |
|             |            | 100     | 0         | 21.86                             | 21.76       | 21.78       | 1        | 11.60                                  | 11.54       | 11.57       | 0        |
|             | 16QAM      | 1       | 0         | 21.68                             | 21.45       | 21.56       | 1        | 11.63                                  | 11.57       | 11.62       | 0        |
|             |            | 1       | 49        | 21.79                             | 21.57       | 21.58       | 1        | 11.70                                  | 11.66       | 11.66       | 0        |
|             |            | 1       | 99        | 21.64                             | 21.61       | 21.51       | 1        | 11.55                                  | 11.54       | 11.50       | 0        |
|             |            | 50      | 0         | 20.56                             | 20.67       | 20.43       | 2        | 11.64                                  | 11.55       | 11.42       | 0        |
|             |            | 50      | 24        | 20.57                             | 20.72       | 20.43       | 2        | 11.67                                  | 11.55       | 11.53       | 0        |
|             |            | 50      | 50        | 20.80                             | 20.61       | 20.44       | 2        | 11.61                                  | 11.50       | 11.52       | 0        |
|             |            | 100     | 0         | 20.63                             | 20.53       | 20.49       | 2        | 11.65                                  | 11.55       | 11.55       | 0        |
|             | 64QAM      | 1       | 0         | 20.51                             | 20.57       | 20.40       | 2        | 11.11                                  | 11.05       | 11.14       | 0        |
|             |            | 1       | 49        | 20.63                             | 20.33       | 20.49       | 2        | 11.08                                  | 10.89       | 11.14       | 0        |
|             |            | 1       | 99        | 20.58                             | 20.45       | 20.53       | 2        | 10.98                                  | 10.99       | 11.08       | 0        |
|             |            | 50      | 0         | 20.52                             | 20.59       | 20.43       | 3        | 11.01                                  | 10.96       | 11.13       | 0        |
|             |            | 50      | 24        | 20.57                             | 20.54       | 20.42       | 3        | 11.15                                  | 10.97       | 11.08       | 0        |
|             |            | 50      | 50        | 20.71                             | 20.35       | 20.39       | 3        | 11.04                                  | 10.94       | 10.99       | 0        |
|             |            | 100     | 0         | 19.56                             | 19.40       | 19.43       | 3        | 10.93                                  | 11.03       | 10.98       | 0        |
|             | 256QAM     | 1       | 0         | 17.65                             | 17.68       | 17.53       | 5        | 11.01                                  | 10.89       | 11.01       | 0        |
|             |            | 1       | 49        | 17.65                             | 17.74       | 17.62       | 5        | 11.02                                  | 11.01       | 11.02       | 0        |
|             |            | 1       | 99        | 17.58                             | 17.65       | 17.51       | 5        | 11.13                                  | 10.90       | 11.08       | 0        |
|             |            | 50      | 0         | 17.49                             | 17.56       | 17.58       | 5        | 10.91                                  | 11.06       | 11.03       | 0        |
|             |            | 50      | 24        | 17.73                             | 17.48       | 17.46       | 5        | 11.02                                  | 11.01       | 11.11       | 0        |
|             |            | 50      | 50        | 17.64                             | 17.59       | 17.50       | 5        | 11.12                                  | 10.99       | 10.96       | 0        |
|             |            | 100     | 0         | 17.58                             | 17.46       | 17.51       | 5        | 11.06                                  | 10.98       | 11.17       | 0        |

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 115                            | 26 365      | 26 615      |          | 26 115                                 | 26 365      | 26 615      |          |
|             |            |         |           | 1 857.5 MHz                       | 1 882.5 MHz | 1 907.5 MHz |          | 1 857.5 MHz                            | 1 882.5 MHz | 1 907.5 MHz |          |
| 15 MHz      | QPSK       | 1       | 0         | 22.63                             | 22.53       | 22.47       | 0        | 11.05                                  | 11.01       | 10.87       | 0        |
|             |            | 1       | 36        | 22.55                             | 22.56       | 22.52       | 0        | 11.04                                  | 10.92       | 10.95       | 0        |
|             |            | 1       | 74        | 22.64                             | 22.45       | 22.45       | 0        | 11.19                                  | 10.86       | 10.83       | 0        |
|             |            | 36      | 0         | 21.70                             | 21.52       | 21.54       | 1        | 11.15                                  | 11.00       | 10.93       | 0        |
|             |            | 36      | 18        | 21.73                             | 21.63       | 21.60       | 1        | 11.12                                  | 10.96       | 10.97       | 0        |
|             |            | 36      | 37        | 21.67                             | 21.57       | 21.63       | 1        | 11.06                                  | 10.96       | 10.98       | 0        |
|             |            | 75      | 0         | 21.70                             | 21.59       | 21.61       | 1        | 11.14                                  | 11.02       | 11.04       | 0        |
|             | 16QAM      | 1       | 0         | 21.88                             | 21.56       | 21.60       | 1        | 11.20                                  | 11.35       | 11.10       | 0        |
|             |            | 1       | 36        | 21.63                             | 21.64       | 21.63       | 1        | 11.30                                  | 11.07       | 10.97       | 0        |
|             |            | 1       | 74        | 21.71                             | 21.61       | 21.57       | 1        | 11.18                                  | 11.06       | 10.91       | 0        |
|             |            | 36      | 0         | 20.69                             | 20.58       | 20.56       | 2        | 11.14                                  | 11.04       | 10.93       | 0        |
|             |            | 36      | 18        | 20.69                             | 20.63       | 20.60       | 2        | 11.12                                  | 11.00       | 10.98       | 0        |
|             |            | 36      | 37        | 20.73                             | 20.62       | 20.63       | 2        | 11.12                                  | 11.02       | 10.99       | 0        |
|             |            | 75      | 0         | 20.69                             | 20.59       | 20.62       | 2        | 11.12                                  | 11.02       | 11.03       | 0        |
|             | 64QAM      | 1       | 0         | 20.73                             | 20.68       | 20.50       | 2        | 11.13                                  | 11.05       | 10.94       | 0        |
|             |            | 1       | 36        | 20.56                             | 20.62       | 20.50       | 2        | 11.05                                  | 10.95       | 11.12       | 0        |
|             |            | 1       | 74        | 20.64                             | 20.49       | 20.46       | 2        | 10.98                                  | 10.96       | 11.15       | 0        |
|             |            | 36      | 0         | 19.56                             | 19.64       | 19.55       | 3        | 10.98                                  | 10.94       | 11.06       | 0        |
|             |            | 36      | 18        | 19.75                             | 19.55       | 19.42       | 3        | 10.90                                  | 10.96       | 11.17       | 0        |
|             |            | 36      | 37        | 19.57                             | 19.47       | 19.49       | 3        | 11.08                                  | 11.05       | 11.05       | 0        |
|             |            | 75      | 0         | 19.71                             | 19.71       | 19.59       | 3        | 10.93                                  | 10.90       | 11.10       | 0        |
|             | 256QAM     | 1       | 0         | 17.76                             | 17.45       | 17.47       | 5        | 11.16                                  | 10.91       | 11.12       | 0        |
|             |            | 1       | 36        | 17.84                             | 17.56       | 17.53       | 5        | 10.91                                  | 10.89       | 11.00       | 0        |
|             |            | 1       | 74        | 17.77                             | 17.66       | 17.54       | 5        | 10.92                                  | 10.80       | 11.00       | 0        |
|             |            | 36      | 0         | 17.65                             | 17.71       | 17.40       | 5        | 11.09                                  | 10.94       | 10.91       | 0        |
|             |            | 36      | 18        | 17.83                             | 17.70       | 17.48       | 5        | 11.17                                  | 10.97       | 10.91       | 0        |
|             |            | 36      | 37        | 17.57                             | 17.66       | 17.40       | 5        | 11.14                                  | 10.93       | 11.07       | 0        |
|             |            | 75      | 0         | 17.80                             | 17.57       | 17.45       | 5        | 11.05                                  | 10.94       | 11.07       | 0        |

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 090                            | 26 365      | 26 640      |          | 26 090                                 | 26 365      | 26 640      |          |
|             |            |         |           | 1 855.0 MHz                       | 1 882.5 MHz | 1 910.0 MHz |          | 1 855.0 MHz                            | 1 882.5 MHz | 1 910.0 MHz |          |
| 10 MHz      | QPSK       | 1       | 0         | 22.79                             | 22.67       | 22.74       | 0        | 11.22                                  | 11.10       | 11.11       | 0        |
|             |            | 1       | 25        | 22.81                             | 22.73       | 22.78       | 0        | 11.26                                  | 11.14       | 11.20       | 0        |
|             |            | 1       | 49        | 22.77                             | 22.68       | 22.69       | 0        | 11.16                                  | 11.02       | 11.04       | 0        |
|             |            | 25      | 0         | 21.80                             | 21.68       | 21.68       | 1        | 11.24                                  | 11.09       | 10.96       | 0        |
|             |            | 25      | 12        | 21.85                             | 21.77       | 21.66       | 1        | 11.21                                  | 11.13       | 11.09       | 0        |
|             |            | 25      | 25        | 21.80                             | 21.73       | 21.71       | 1        | 11.20                                  | 11.09       | 11.05       | 0        |
|             |            | 50      | 0         | 21.83                             | 21.72       | 21.65       | 1        | 11.25                                  | 11.10       | 11.13       | 0        |
|             | 16QAM      | 1       | 0         | 22.00                             | 21.82       | 21.96       | 1        | 11.25                                  | 11.19       | 11.35       | 0        |
|             |            | 1       | 25        | 22.01                             | 21.82       | 21.83       | 1        | 11.36                                  | 11.33       | 11.18       | 0        |
|             |            | 1       | 49        | 21.76                             | 21.78       | 21.73       | 1        | 11.34                                  | 11.27       | 11.13       | 0        |
|             |            | 25      | 0         | 20.84                             | 20.68       | 20.68       | 2        | 11.22                                  | 11.12       | 11.06       | 0        |
|             |            | 25      | 12        | 20.87                             | 20.78       | 20.71       | 2        | 11.21                                  | 11.15       | 11.06       | 0        |
|             |            | 25      | 25        | 20.84                             | 20.78       | 20.72       | 2        | 11.25                                  | 11.10       | 11.08       | 0        |
|             |            | 50      | 0         | 20.85                             | 20.73       | 20.68       | 2        | 11.25                                  | 11.16       | 11.15       | 0        |
|             | 64QAM      | 1       | 0         | 20.70                             | 20.77       | 20.67       | 2        | 11.01                                  | 10.83       | 10.91       | 0        |
|             |            | 1       | 25        | 20.80                             | 20.76       | 20.64       | 2        | 11.15                                  | 10.88       | 11.11       | 0        |
|             |            | 1       | 49        | 20.76                             | 20.55       | 20.56       | 2        | 11.09                                  | 10.80       | 11.15       | 0        |
|             |            | 25      | 0         | 19.73                             | 19.61       | 19.74       | 3        | 10.90                                  | 11.06       | 10.96       | 0        |
|             |            | 25      | 12        | 19.68                             | 19.55       | 19.72       | 3        | 10.91                                  | 11.02       | 11.02       | 0        |
|             |            | 25      | 25        | 19.76                             | 19.66       | 19.70       | 3        | 11.03                                  | 11.05       | 11.15       | 0        |
|             |            | 50      | 0         | 19.74                             | 19.53       | 19.73       | 3        | 10.97                                  | 10.82       | 11.01       | 0        |
|             | 256QAM     | 1       | 0         | 17.83                             | 17.78       | 17.68       | 5        | 10.94                                  | 11.06       | 11.01       | 0        |
|             |            | 1       | 25        | 17.69                             | 17.59       | 17.55       | 5        | 11.07                                  | 11.02       | 11.01       | 0        |
|             |            | 1       | 49        | 17.75                             | 17.68       | 17.63       | 5        | 10.92                                  | 10.97       | 11.00       | 0        |
|             |            | 25      | 0         | 17.70                             | 17.76       | 17.73       | 5        | 10.99                                  | 10.91       | 11.17       | 0        |
|             |            | 25      | 12        | 17.61                             | 17.55       | 17.68       | 5        | 11.01                                  | 11.07       | 11.02       | 0        |
|             |            | 25      | 25        | 17.68                             | 17.60       | 17.55       | 5        | 11.14                                  | 10.97       | 10.90       | 0        |
|             |            | 50      | 0         | 17.73                             | 17.78       | 17.56       | 5        | 10.95                                  | 11.00       | 11.12       | 0        |

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 065                            | 26 365      | 26 665      |          | 26 065                                 | 26 365      | 26 665      |          |
|             |            |         |           | 1 852.5 MHz                       | 1 882.5 MHz | 1 912.5 MHz |          | 1 852.5 MHz                            | 1 882.5 MHz | 1 912.5 MHz |          |
| 5 MHz       | QPSK       | 1       | 0         | 22.86                             | 22.57       | 22.66       | 0        | 11.22                                  | 11.04       | 11.06       | 0        |
|             |            | 1       | 12        | 22.75                             | 22.55       | 22.43       | 0        | 11.30                                  | 11.10       | 11.16       | 0        |
|             |            | 1       | 24        | 22.67                             | 22.50       | 22.53       | 0        | 11.19                                  | 11.06       | 11.08       | 0        |
|             |            | 12      | 0         | 21.70                             | 21.67       | 21.51       | 1        | 11.24                                  | 11.08       | 10.96       | 0        |
|             |            | 12      | 7         | 21.77                             | 21.66       | 21.55       | 1        | 11.22                                  | 11.13       | 11.10       | 0        |
|             |            | 12      | 13        | 21.63                             | 21.67       | 21.55       | 1        | 11.17                                  | 11.10       | 11.11       | 0        |
|             |            | 25      | 0         | 21.76                             | 21.72       | 21.53       | 1        | 11.24                                  | 11.12       | 11.10       | 0        |
|             | 16QAM      | 1       | 0         | 21.77                             | 21.74       | 21.92       | 1        | 11.37                                  | 11.17       | 11.30       | 0        |
|             |            | 1       | 12        | 21.99                             | 21.94       | 21.85       | 1        | 11.46                                  | 11.23       | 11.41       | 0        |
|             |            | 1       | 24        | 21.99                             | 21.77       | 21.90       | 1        | 11.46                                  | 11.15       | 11.23       | 0        |
|             |            | 12      | 0         | 20.78                             | 20.72       | 20.66       | 2        | 11.27                                  | 11.10       | 11.04       | 0        |
|             |            | 12      | 7         | 20.84                             | 20.80       | 20.75       | 2        | 11.29                                  | 11.14       | 11.13       | 0        |
|             |            | 12      | 13        | 20.81                             | 20.73       | 20.73       | 2        | 11.24                                  | 11.09       | 11.06       | 0        |
|             |            | 25      | 0         | 20.86                             | 20.74       | 20.72       | 2        | 11.29                                  | 11.17       | 11.10       | 0        |
|             | 64QAM      | 1       | 0         | 20.86                             | 20.82       | 20.60       | 2        | 10.93                                  | 10.92       | 11.07       | 0        |
|             |            | 1       | 12        | 20.91                             | 20.64       | 20.71       | 2        | 10.91                                  | 10.83       | 11.09       | 0        |
|             |            | 1       | 24        | 20.65                             | 20.55       | 20.71       | 2        | 11.02                                  | 10.90       | 10.94       | 0        |
|             |            | 12      | 0         | 20.81                             | 20.69       | 20.74       | 3        | 11.15                                  | 11.05       | 11.10       | 0        |
|             |            | 12      | 7         | 20.66                             | 20.83       | 20.74       | 3        | 10.91                                  | 11.02       | 10.91       | 0        |
|             |            | 12      | 13        | 20.69                             | 20.60       | 20.60       | 3        | 10.92                                  | 10.87       | 11.14       | 0        |
|             |            | 25      | 0         | 19.78                             | 19.73       | 19.59       | 3        | 11.08                                  | 10.89       | 11.16       | 0        |
|             | 256QAM     | 1       | 0         | 17.94                             | 17.81       | 17.57       | 5        | 11.14                                  | 10.96       | 11.07       | 0        |
|             |            | 1       | 12        | 17.71                             | 17.73       | 17.55       | 5        | 11.16                                  | 10.86       | 10.92       | 0        |
|             |            | 1       | 24        | 17.91                             | 17.75       | 17.74       | 5        | 10.94                                  | 10.89       | 11.16       | 0        |
|             |            | 12      | 0         | 17.75                             | 17.69       | 17.70       | 5        | 11.01                                  | 10.97       | 10.91       | 0        |
|             |            | 12      | 7         | 17.74                             | 17.59       | 17.74       | 5        | 11.14                                  | 11.06       | 11.11       | 0        |
|             |            | 12      | 13        | 17.88                             | 17.67       | 17.55       | 5        | 11.11                                  | 10.89       | 10.97       | 0        |
|             |            | 25      | 0         | 17.93                             | 17.66       | 17.67       | 5        | 11.06                                  | 10.91       | 10.95       | 0        |

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 055                            | 26 365      | 26 675      |          | 26 055                                 | 26 365      | 26 675      |          |
|             |            |         |           | 1 851.5 MHz                       | 1 882.5 MHz | 1 913.5 MHz |          | 1 851.5 MHz                            | 1 882.5 MHz | 1 913.5 MHz |          |
| 3 MHz       | QPSK       | 1       | 0         | 22.76                             | 22.67       | 22.62       | 0        | 11.14                                  | 11.05       | 11.03       | 0        |
|             |            | 1       | 8         | 22.84                             | 22.72       | 22.74       | 0        | 11.25                                  | 11.14       | 11.12       | 0        |
|             |            | 1       | 14        | 22.73                             | 22.66       | 22.69       | 0        | 11.11                                  | 11.07       | 11.02       | 0        |
|             |            | 8       | 0         | 21.84                             | 21.68       | 21.63       | 1        | 11.19                                  | 11.04       | 10.95       | 0        |
|             |            | 8       | 4         | 21.89                             | 21.75       | 21.72       | 1        | 11.23                                  | 11.11       | 11.10       | 0        |
|             |            | 8       | 7         | 21.84                             | 21.70       | 21.70       | 1        | 11.23                                  | 11.05       | 11.01       | 0        |
|             |            | 15      | 0         | 21.80                             | 21.73       | 21.64       | 1        | 11.24                                  | 11.11       | 11.05       | 0        |
|             | 16QAM      | 1       | 0         | 22.04                             | 21.76       | 21.90       | 1        | 11.42                                  | 11.25       | 11.16       | 0        |
|             |            | 1       | 8         | 22.09                             | 21.87       | 21.93       | 1        | 11.47                                  | 11.27       | 11.26       | 0        |
|             |            | 1       | 14        | 21.91                             | 21.82       | 21.68       | 1        | 11.28                                  | 11.21       | 11.11       | 0        |
|             |            | 8       | 0         | 20.86                             | 20.81       | 20.65       | 2        | 11.28                                  | 11.14       | 10.97       | 0        |
|             |            | 8       | 4         | 20.91                             | 20.77       | 20.72       | 2        | 11.31                                  | 11.11       | 11.13       | 0        |
|             |            | 8       | 7         | 20.88                             | 20.77       | 20.75       | 2        | 11.23                                  | 11.13       | 11.11       | 0        |
|             |            | 15      | 0         | 20.87                             | 20.77       | 20.64       | 2        | 11.22                                  | 11.17       | 10.95       | 0        |
|             | 64QAM      | 1       | 0         | 20.68                             | 20.51       | 20.51       | 2        | 11.11                                  | 10.94       | 11.12       | 0        |
|             |            | 1       | 8         | 20.69                             | 20.55       | 20.63       | 2        | 10.94                                  | 10.83       | 10.92       | 0        |
|             |            | 1       | 14        | 20.86                             | 20.68       | 20.52       | 2        | 11.10                                  | 11.02       | 10.90       | 0        |
|             |            | 8       | 0         | 20.67                             | 20.72       | 20.50       | 3        | 10.92                                  | 10.81       | 11.11       | 0        |
|             |            | 8       | 4         | 20.76                             | 20.71       | 20.63       | 3        | 11.00                                  | 11.07       | 10.98       | 0        |
|             |            | 8       | 7         | 20.70                             | 20.60       | 20.68       | 3        | 11.14                                  | 10.88       | 11.10       | 0        |
|             |            | 15      | 0         | 19.65                             | 19.54       | 19.53       | 3        | 10.97                                  | 11.00       | 11.14       | 0        |
|             | 256QAM     | 1       | 0         | 17.90                             | 17.51       | 17.59       | 5        | 11.08                                  | 11.01       | 10.92       | 0        |
|             |            | 1       | 8         | 17.89                             | 17.64       | 17.50       | 5        | 10.91                                  | 10.87       | 11.16       | 0        |
|             |            | 1       | 14        | 17.87                             | 17.76       | 17.65       | 5        | 10.91                                  | 10.95       | 10.98       | 0        |
|             |            | 8       | 0         | 17.64                             | 17.66       | 17.48       | 5        | 10.90                                  | 10.89       | 11.05       | 0        |
|             |            | 8       | 4         | 17.77                             | 17.48       | 17.59       | 5        | 11.11                                  | 10.85       | 10.98       | 0        |
|             |            | 8       | 7         | 17.60                             | 17.74       | 17.60       | 5        | 10.90                                  | 10.87       | 11.12       | 0        |
|             |            | 15      | 0         | 17.89                             | 17.74       | 17.53       | 5        | 11.08                                  | 10.98       | 11.07       | 0        |

| LTE Band 25 |            |         |           |                                   |             |             |          |                                        |             |             |          |
|-------------|------------|---------|-----------|-----------------------------------|-------------|-------------|----------|----------------------------------------|-------------|-------------|----------|
| Band width  | Modulation | RB Size | RB offset | Max Average Conducted Power (dBm) |             |             | MPR [dB] | Back-off Average Conducted Power (dBm) |             |             | MPR [dB] |
|             |            |         |           | 26 047                            | 26 365      | 26 683      |          | 26 047                                 | 26 365      | 26 683      |          |
|             |            |         |           | 1 850.7 MHz                       | 1 882.5 MHz | 1 914.3 MHz |          | 1 850.7 MHz                            | 1 882.5 MHz | 1 914.3 MHz |          |
| 1.4 MHz     | QPSK       | 1       | 0         | 22.78                             | 22.68       | 22.67       | 0        | 11.18                                  | 11.00       | 11.00       | 0        |
|             |            | 1       | 3         | 22.88                             | 22.74       | 22.81       | 0        | 11.19                                  | 11.04       | 11.00       | 0        |
|             |            | 1       | 5         | 22.81                             | 22.69       | 22.68       | 0        | 11.17                                  | 11.03       | 11.07       | 0        |
|             |            | 3       | 0         | 22.81                             | 22.68       | 22.67       | 0        | 11.17                                  | 11.02       | 10.99       | 0        |
|             |            | 3       | 1         | 22.81                             | 22.67       | 22.69       | 0        | 11.15                                  | 11.02       | 11.03       | 0        |
|             |            | 3       | 3         | 22.80                             | 22.66       | 22.72       | 0        | 11.15                                  | 11.01       | 11.03       | 0        |
|             |            | 6       | 0         | 21.77                             | 21.70       | 21.68       | 1        | 11.19                                  | 11.07       | 11.07       | 0        |
|             | 16QAM      | 1       | 0         | 21.90                             | 21.77       | 21.92       | 1        | 11.36                                  | 11.14       | 11.37       | 0        |
|             |            | 1       | 3         | 21.90                             | 21.74       | 21.89       | 1        | 11.49                                  | 11.18       | 11.26       | 0        |
|             |            | 1       | 5         | 21.93                             | 21.90       | 21.89       | 1        | 11.38                                  | 11.22       | 11.18       | 0        |
|             |            | 3       | 0         | 21.80                             | 21.69       | 21.75       | 1        | 11.23                                  | 11.18       | 11.05       | 0        |
|             |            | 3       | 1         | 21.87                             | 21.61       | 21.79       | 1        | 11.32                                  | 11.10       | 11.02       | 0        |
|             |            | 3       | 3         | 21.89                             | 21.75       | 21.73       | 1        | 11.27                                  | 11.15       | 11.08       | 0        |
|             |            | 6       | 0         | 20.87                             | 20.74       | 20.68       | 2        | 11.23                                  | 11.13       | 11.13       | 0        |
|             | 64QAM      | 1       | 0         | 20.51                             | 20.57       | 20.40       | 2        | 10.96                                  | 10.87       | 11.15       | 0        |
|             |            | 1       | 3         | 20.63                             | 20.33       | 20.49       | 2        | 11.12                                  | 10.96       | 11.05       | 0        |
|             |            | 1       | 5         | 20.58                             | 20.45       | 20.53       | 2        | 11.08                                  | 11.04       | 11.08       | 0        |
|             |            | 3       | 0         | 20.52                             | 20.59       | 20.43       | 2        | 10.94                                  | 10.80       | 10.98       | 0        |
|             |            | 3       | 1         | 20.57                             | 20.54       | 20.42       | 2        | 10.90                                  | 10.80       | 10.97       | 0        |
|             |            | 3       | 3         | 20.71                             | 20.35       | 20.39       | 2        | 11.11                                  | 10.88       | 11.10       | 0        |
|             |            | 6       | 0         | 19.56                             | 19.40       | 19.43       | 3        | 11.00                                  | 10.86       | 11.16       | 0        |
|             | 256QAM     | 1       | 0         | 17.65                             | 17.68       | 17.53       | 5        | 11.04                                  | 10.92       | 11.06       | 0        |
|             |            | 1       | 3         | 17.65                             | 17.74       | 17.62       | 5        | 11.11                                  | 11.02       | 10.94       | 0        |
|             |            | 1       | 5         | 17.58                             | 17.65       | 17.51       | 5        | 10.94                                  | 11.03       | 11.11       | 0        |
|             |            | 3       | 0         | 17.49                             | 17.56       | 17.58       | 5        | 11.01                                  | 11.03       | 11.12       | 0        |
|             |            | 3       | 1         | 17.73                             | 17.48       | 17.46       | 5        | 11.14                                  | 11.07       | 11.15       | 0        |
|             |            | 3       | 3         | 17.64                             | 17.59       | 17.50       | 5        | 10.95                                  | 10.81       | 11.03       | 0        |
|             |            | 6       | 0         | 17.58                             | 17.46       | 17.51       | 5        | 10.93                                  | 10.83       | 11.09       | 0        |