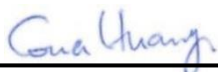


# FCC SAR TEST REPORT

FCC ID : A4RG6GPR  
Equipment : Phone  
Model Name : G6GPR  
Applicant : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Aug. 18, 2023 and testing was started from Aug. 30, 2023 and completed on Nov. 01, 2023. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



**Sporton International Inc. Wensan Laboratory**

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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## History of this test report

| Report No. | Version | Description              | Issued Date   |
|------------|---------|--------------------------|---------------|
| FA380308B  | 01      | Initial issue of report  | Nov. 17, 2023 |
| FA380308B  | 02      | Update section3, 4, 16.1 | Dec. 26, 2023 |
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|            |         |                          |               |



## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Google LLC, Phone, G6GPR, are as follows.

| Equipment Class  | Frequency Band | Highest SAR Summary       |                                |                              |                                      | Highest Simultaneous Transmission<br>1g SAR (W/kg) |
|------------------|----------------|---------------------------|--------------------------------|------------------------------|--------------------------------------|----------------------------------------------------|
|                  |                | Head<br>(Separation 0mm)  | Body-worn<br>(Separation 10mm) | Hotspot<br>(Separation 10mm) | Product Specific<br>(Separation 0mm) |                                                    |
|                  |                | 1g SAR (W/kg)             |                                |                              | 10g SAR (W/kg)                       |                                                    |
| Licensed         | GSM850         | 0.99                      | 0.67                           | 0.75                         |                                      | 1.59                                               |
|                  | GSM1900        | 0.68                      | 0.75                           | 0.69                         |                                      |                                                    |
|                  | WCDMA II       | 0.67                      | 0.74                           | 0.72                         |                                      |                                                    |
|                  | WCDMA IV       | 0.54                      | 0.71                           | 0.59                         |                                      |                                                    |
|                  | WCDMA V        | 0.85                      | 0.43                           | 0.47                         |                                      |                                                    |
|                  | LTE B2         | 0.73                      | 0.64                           | 0.64                         |                                      |                                                    |
|                  | LTE B7         | 0.99                      | 0.78                           | 0.79                         |                                      |                                                    |
|                  | LTE B12/B17    | 0.93                      | 0.45                           | 0.60                         |                                      |                                                    |
|                  | LTE B26/B5     | 0.87                      | 0.51                           | 0.74                         |                                      |                                                    |
|                  | LTE B41/B38    | 0.98                      | 0.96                           | 0.69                         |                                      |                                                    |
|                  | LTE B66/B4     | 0.65                      | 0.74                           | 0.50                         |                                      |                                                    |
|                  | FR1 n2         | 0.76                      | 0.69                           | 0.68                         |                                      |                                                    |
|                  | FR1 n5         | 0.97                      | 0.52                           | 0.67                         |                                      |                                                    |
|                  | FR1 n7         | 0.99                      | 0.84                           | 0.81                         |                                      |                                                    |
|                  | FR1 n12        | 0.99                      | 0.47                           | 0.51                         |                                      |                                                    |
|                  | FR1 n26        | 0.99                      | 0.49                           | 0.65                         |                                      |                                                    |
|                  | FR1 n41/n38    | 0.82                      | 0.99                           | 0.78                         |                                      |                                                    |
|                  | FR1 n66        | 0.66                      | 0.79                           | 0.68                         |                                      |                                                    |
|                  | FR1 n77        | 0.95                      | 0.76                           | 0.61                         |                                      |                                                    |
| DXX              | 13.56 MHz      |                           |                                |                              | 0.07                                 |                                                    |
| DTS              | 2.4GHz WLAN    | 0.80                      | 0.58                           | 0.48                         |                                      | 1.58                                               |
| NII              | 5GHz WLAN      | 1.10                      | 0.39                           | 0.35                         |                                      | 1.59                                               |
| 6CD              | 6GHz WLAN      | 0.56                      | 0.26                           |                              |                                      |                                                    |
| DSS              | Bluetooth      | 0.29                      | 0.37                           | 0.61                         |                                      | 1.59                                               |
|                  |                |                           |                                |                              |                                      |                                                    |
| Equipment Class  | Frequency Band | Head                      |                                | Body                         |                                      | Reported PD<br>(mW/cm^2)                           |
|                  |                | Reported APD<br>(mW/cm^2) |                                | Reported APD<br>(mW/cm^2)    |                                      |                                                    |
| 6CD              | 6GHz WLAN      | 0.32                      |                                | 0.17                         |                                      | 0.73                                               |
| Date of Testing: |                | 2023/8/30-2023/11/1       |                                |                              |                                      |                                                    |

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093), Human Exposure to RF Radiation Limits (1.0 mW/cm<sup>2</sup>=10 W/m<sup>2</sup>) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang

Report Producer: Paula Chen



## **2. Data Reuse Approach**

FCC ID: A4RG8HHN, A4RGKV4X (reference model) and FCC ID: A4RG6GPR (variant model)

- **PCB:** The PCB layout is identical with parent model.
- **Component Positions:** The position of the components on the PCB is not changed
- **Enclosure, Materials, and From Factor:** the Enclosure, Materials, and From Factor are exactly the same

Due to the same design are identical between parent model and variant model, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse.

For variant model 1g SAR and 10g spot check SAR result does not exceed 30% and 1g SAR < 1.2W/kg, 10g SAR < 3.0W/kg of the reference model, the WWAN max SAR summary are identical with parent model.

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: A4RG6GPR

## **3. Model Difference Information**

A4RG8HHN, A4RGKV4X and A4RG6GPR use the identical internal printed circuit board layout, and the major differences which may relate to RF are listed below:

- 5G FR2 related components are depopulated
- Depopulated LTE/NR 13, 14, 25, 30, 71 filter
- Different MHB ENDC module

The details of similarity and difference can be found in the confidential documents.



## 4. Reference detail Section

| Rule Part       | Equipment Class | Wireless Technology | Frequency Band (MHz)                                                    | FCC ID (Reference) | Type Grant/ Permissive Change | Reference Title | FCC ID Filling (Variant) | Test on the variant                                                   |
|-----------------|-----------------|---------------------|-------------------------------------------------------------------------|--------------------|-------------------------------|-----------------|--------------------------|-----------------------------------------------------------------------|
| Part 2.1093 SAR | DXX             | NFC                 | 13.56                                                                   | A4RG8HHN           | Original Grant                | FA380306C       | A4RG6GPR                 | Spot check                                                            |
|                 | DSS             | Bluetooth           | 2400~2483.5                                                             | A4RGKV4X           | Original Grant                | FA380307B       | A4RG6GPR                 | Spot check                                                            |
|                 | DTS             | BLE WiFi            | 2400~2483.5                                                             | A4RGKV4X           | Original Grant                | FA380307B       | A4RG6GPR                 | Spot check                                                            |
|                 | NII             | Wi-Fi               | 5150 ~ 5250<br>5250 ~ 5350<br>5470 ~ 5725<br>5725 ~ 5850<br>5850 ~ 5895 | A4RGKV4X           | Original Grant                | FA380307B       | A4RG6GPR                 | Spot check                                                            |
|                 | 6CD             | Wi-Fi               | 5925 ~ 6425<br>6425 ~ 6525<br>6525 ~ 6875<br>6875 ~ 7125                | A4RGKV4X           | Original Grant                | FA380307B       | A4RG6GPR                 | Spot check 6E SAR,<br>Full Test on 6E PD, per<br>KDB 484596.          |
|                 | PCB CBE         | GSM                 | 850/1900                                                                | A4RG8HHN           | Original Grant                | FA380306C       | A4RG6GPR                 | Spot check GSM850<br>Full Test on GSM1900                             |
|                 |                 | WCDMA               | B2/4/5                                                                  | A4RG8HHN           | Original Grant                | FA380306C       | A4RG6GPR                 | Full Test                                                             |
|                 |                 | LTE                 | B2/4/5/7/12/17/<br>26/38/41/66                                          | A4RG8HHN           | Original Grant                | FA380306C       | A4RG6GPR                 | Spot check /<br>Full Test on B2/4/66 /<br>Additional spot check UL 7C |
|                 |                 | 5G FR1              | n2/5/7/12/26/38/41/<br>66/77                                            | A4RG8HHN           | Original Grant                | FA380306C       | A4RG6GPR                 | Spot check /<br>Full Test on n2/66/77                                 |

## 5. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)



## 6. Equipment Under Test (EUT) Information

### 6.1 General Information

| Product Feature & Specification |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment Name                  | Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Model Name                      | G6GPR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FCC ID                          | A4RG6GPR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| S / N                           | 38011JEKB00116, 38011JEKB00144,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Frequency Band                  | GSM850: 824.2 MHz ~ 848.8 MHz<br>GSM1900: 1850.2 MHz ~ 1909.8 MHz<br>WCDMA Band II: 1850 MHz ~ 1910 MHz<br>WCDMA Band IV: 1710 MHz ~ 1755 MHz<br>WCDMA Band V: 824 MHz ~ 849 MHz<br>LTE Band 2: 1850 MHz ~ 1910 MHz<br>LTE Band 4: 1710 MHz ~ 1755 MHz<br>LTE Band 5: 824 MHz ~ 849 MHz<br>LTE Band 7: 2500 MHz ~ 2570 MHz<br>LTE Band 12: 699 MHz ~ 716 MHz<br>LTE Band 17: 704 MHz ~ 716 MHz<br>LTE Band 26: 814 MHz ~ 849 MHz<br>LTE Band 38: 2570 MHz ~ 2620 MHz<br>LTE Band 41: 2496 MHz ~ 2690 MHz<br>LTE Band 66: 1710 MHz ~ 1780 MHz<br>5G NR n2 : 1850 MHz ~ 1910 MHz<br>5G NR n5 : 824 MHz ~ 849 MHz<br>5G NR n7 : 2500 MHz ~ 2570 MHz<br>5G NR n12 : 699 MHz ~ 716 MHz<br>5G NR n26 : 814 MHz ~ 849 MHz<br>5G NR n38 : 2570 MHz ~ 2620 MHz<br>5G NR n41 : 2496 MHz ~ 2690 MHz<br>5G NR n66 : 1710 MHz ~ 1780 MHz<br>5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz<br>WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz<br>WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz<br>WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz<br>WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz<br>WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz<br>WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz<br>WLAN 6E: 5925 MHz~6425 MHz, 6425 MHz~6525 MHz, 6525MHz~6875MHz, 6875 MHz~7125 MHz<br>Bluetooth: 2400 MHz ~ 2483.5 MHz<br>NFC : 13.56 MHz<br>WPC Rx: 110.1KHz ~ 148.5KHz |
| Mode                            | GSM/GPRS/EGPRS<br>RMC/AMR 12.2Kbps<br>HSDPA<br>HSUPA<br>LTE: QPSK, 16QAM, 64QAM, 256QAM<br>5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM<br>WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/HE20/HE40/HE80<br>Bluetooth BR/EDR/LE/HR/Channel sounding<br>NFC: ASK<br>WPC Rx: ASK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| GSM / (E)GPRS Transfer mode     | Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## 6.2 Maximum Tune-up Limit

### General Note:

1. In the report PC3 as power class3, PC2 as power class2
2. For each cellular band, the device has several WWAN antennas, the antenna selection is based on the connection quality condition.
3. The following table shows maximum output power configurations for various exposure conditions (output power index) with tune-up tolerance accounted. For TAS enabled bands, the values associate with Plimit plus the total uncertainty, or Pmax plus total uncertainty when the derived Plimit is higher than Pmax. In some frequency bands, for some power indexes which associate with the same power level, conducted power measurement for those only need to perform at once. Detail output power measurement refer to appendix D.
4. The index 1 is for the max power conditions, and the use case were evaluated in appendix E.
5. SAR compliance for the scenario, when device in next-to-ear voice call with hotspot enabled, is justified via head SAR test at Power Index 3.
6. The device implements the sensor detection for SAR compliance and the power verification include in appendix E.
7. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot) and the TAS feature will manage to ensure the power level not exceeding the associated power table. And also implement Spatial TAS predefine antenna group to analysis simultaneous transmission include in appendix F.

| Antenna configuration                      |                                                                                                                                                                           |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transmit switching diversity configuration | Support transmit antenna and band                                                                                                                                         |
| TX 0                                       | ANT 0: GSM850, UMTS B5, LTE B5/B12/B17/B26, NR n5/n12/n26<br>ANT 1: NR n77<br>ANT 2: GSM1900, UMTS B2/B4, LTE B2/B4/B7/B38/B41/B66, NR n2/n7/n38/n41/n66<br>ANT 6: NR n77 |
| TX 1                                       | ANT 1: GSM850, UMTS B5, LTE B5/B12/B17/B26, NR n5/n12/n26<br>ANT 5: NR n77<br>ANT 0: GSM1900, UMTS B2/B4, LTE B2/B4/B7/B38/B41/B66, NR n2/n7/n38/n41/n66<br>ANT 2: NR n77 |

| Maximum Transmit Burst Average Power (dBm) |         |            |                         |            |              |              |            |              |
|--------------------------------------------|---------|------------|-------------------------|------------|--------------|--------------|------------|--------------|
| Band                                       | Antenna | Duty cycle | Maximum Power Condition | Head       | Head         | Hotspot      | Body-worn  | Body-worn    |
|                                            |         |            |                         | Standalone | Simultaneous | Simultaneous | Standalone | Simultaneous |
|                                            |         |            | Index 1                 | Index 2    | Index 3      | Index 4      | Index 5    | Index 6      |
| GSM850 GSM/GPRS 1TX                        | 0       | 12.50%     | 33.50                   | 33.50      | 33.50        | 33.50        | 33.50      | 33.50        |
| GSM850 GPRS 2TX                            | 0       | 25.00%     | 32.50                   | 32.50      | 32.50        | 32.30        | 32.50      | 32.30        |
| GSM850 GPRS 3TX                            | 0       | 37.50%     | 31.50                   | 31.50      | 31.00        | 30.60        | 31.50      | 30.60        |
| GSM850 GPRS 4TX                            | 0       | 50.00%     | 30.00                   | 30.00      | 29.70        | 29.30        | 30.00      | 29.30        |
| GSM850 EDGE 1TX                            | 0       | 12.50%     | 28.00                   | 28.00      | 28.00        | 28.00        | 28.00      | 28.00        |
| GSM850 EDGE 2TX                            | 0       | 25.00%     | 27.50                   | 27.50      | 27.50        | 27.50        | 27.50      | 27.50        |
| GSM850 EDGE 3TX                            | 0       | 37.50%     | 27.50                   | 27.50      | 27.50        | 27.50        | 27.50      | 27.50        |
| GSM850 EDGE 4TX                            | 0       | 50.00%     | 25.50                   | 25.50      | 25.50        | 25.50        | 25.50      | 25.50        |
| GSM850 GSM/GPRS 1TX                        | 1       | 12.50%     | 33.00                   | 31.90      | 29.80        | 33.00        | 33.00      | 33.00        |
| GSM850 GPRS 2TX                            | 1       | 25.00%     | 32.50                   | 28.90      | 26.80        | 32.50        | 32.50      | 32.50        |
| GSM850 GPRS 3TX                            | 1       | 37.50%     | 30.50                   | 27.00      | 24.90        | 30.50        | 30.50      | 30.50        |
| GSM850 GPRS 4TX                            | 1       | 50.00%     | 28.00                   | 25.80      | 23.70        | 28.00        | 28.00      | 28.00        |
| GSM850 EDGE 1TX                            | 1       | 12.50%     | 27.50                   | 27.50      | 27.50        | 27.50        | 27.50      | 27.50        |
| GSM850 EDGE 2TX                            | 1       | 25.00%     | 27.00                   | 27.00      | 26.80        | 27.00        | 27.00      | 27.00        |
| GSM850 EDGE 3TX                            | 1       | 37.50%     | 27.00                   | 27.00      | 24.90        | 27.00        | 27.00      | 27.00        |
| GSM850 EDGE 4TX                            | 1       | 50.00%     | 24.00                   | 24.00      | 23.70        | 24.00        | 24.00      | 24.00        |
| GSM1900 GSM/GPRS 1TX                       | 2       | 12.50%     | 30.50                   | 30.50      | 30.50        | 30.30        | 30.50      | 30.30        |
| GSM1900 GPRS 2TX                           | 2       | 25.00%     | 29.50                   | 29.50      | 29.50        | 27.30        | 28.10      | 27.30        |
| GSM1900 GPRS 3TX                           | 2       | 37.50%     | 29.00                   | 29.00      | 28.70        | 25.50        | 26.30      | 25.50        |
| GSM1900 GPRS 4TX                           | 2       | 50.00%     | 28.00                   | 28.00      | 27.50        | 24.30        | 25.10      | 24.30        |
| GSM1900 EDGE 1TX                           | 2       | 12.50%     | 26.00                   | 26.00      | 26.00        | 26.00        | 26.00      | 26.00        |
| GSM1900 EDGE 2TX                           | 2       | 25.00%     | 25.00                   | 25.00      | 25.00        | 25.00        | 25.00      | 25.00        |
| GSM1900 EDGE 3TX                           | 2       | 37.50%     | 25.00                   | 25.00      | 25.00        | 25.00        | 25.00      | 25.00        |
| GSM1900 EDGE 4TX                           | 2       | 50.00%     | 24.00                   | 24.00      | 24.00        | 24.00        | 24.00      | 24.00        |
| GSM1900 GSM/GPRS 1TX                       | 0       | 12.50%     | 30.00                   | 30.00      | 30.00        | 30.00        | 30.00      | 30.00        |
| GSM1900 GPRS 2TX                           | 0       | 25.00%     | 29.50                   | 29.50      | 29.50        | 29.50        | 29.50      | 29.50        |
| GSM1900 GPRS 3TX                           | 0       | 37.50%     | 28.50                   | 28.50      | 28.50        | 28.50        | 28.50      | 28.50        |
| GSM1900 GPRS 4TX                           | 0       | 50.00%     | 27.50                   | 27.50      | 27.50        | 27.40        | 27.50      | 27.50        |
| GSM1900 EDGE 1TX                           | 0       | 12.50%     | 26.00                   | 26.00      | 26.00        | 26.00        | 26.00      | 26.00        |
| GSM1900 EDGE 2TX                           | 0       | 25.00%     | 24.50                   | 24.50      | 24.50        | 24.50        | 24.50      | 24.50        |
| GSM1900 EDGE 3TX                           | 0       | 37.50%     | 24.50                   | 24.50      | 24.50        | 24.50        | 24.50      | 24.50        |
| GSM1900 EDGE 4TX                           | 0       | 50.00%     | 23.50                   | 23.50      | 23.50        | 23.50        | 23.50      | 23.50        |

| Maximum Transmit Burst Average Power (dBm) |         |            |                         |                 |                   |                      |                      |                        |
|--------------------------------------------|---------|------------|-------------------------|-----------------|-------------------|----------------------|----------------------|------------------------|
| Band                                       | Antenna | Duty cycle | Maximum Power Condition | Head Standalone | Head Simultaneous | Hotspot Simultaneous | Body-worn Standalone | Body-worn Simultaneous |
|                                            |         |            | Index 1                 | Index 2         | Index 3           | Index 4              | Index 5              | Index 6                |
| WCDMA B2                                   | 2       | 100.00%    | 25.00                   | 25.00           | 25.00             | 20.50                | 21.30                | 20.50                  |
| WCDMA B2                                   | 0       | 100.00%    | 24.50                   | 24.50           | 23.80             | 24.50                | 24.50                | 24.50                  |
| WCDMA B4                                   | 2       | 100.00%    | 25.70                   | 25.70           | 25.10             | 23.60                | 24.40                | 23.60                  |
| WCDMA B4                                   | 0       | 100.00%    | 25.20                   | 25.20           | 25.20             | 23.80                | 25.20                | 23.80                  |
| WCDMA B5                                   | 0       | 100.00%    | 25.00                   | 25.00           | 25.00             | 25.00                | 25.00                | 25.00                  |
| WCDMA B5                                   | 1       | 100.00%    | 24.50                   | 22.40           | 21.60             | 24.50                | 24.50                | 24.50                  |
| LTE B2                                     | 2       | 100.00%    | 25.00                   | 25.00           | 24.70             | 20.90                | 21.70                | 20.90                  |
| LTE B2                                     | 0       | 100.00%    | 24.50                   | 24.50           | 24.50             | 24.10                | 24.50                | 24.20                  |
| LTE B5                                     | 0       | 100.00%    | 25.70                   | 25.70           | 25.70             | 25.70                | 25.70                | 25.70                  |
| LTE B5                                     | 1       | 100.00%    | 25.20                   | 21.10           | 19.00             | 25.20                | 25.20                | 25.20                  |
| LTE B7                                     | 2       | 100.00%    | 25.70                   | 24.50           | 22.50             | 19.20                | 23.60                | 22.30                  |
| LTE B7                                     | 0       | 100.00%    | 25.20                   | 25.20           | 23.80             | 21.90                | 23.70                | 22.00                  |
| LTE B12                                    | 0       | 100.00%    | 25.70                   | 25.70           | 25.70             | 25.70                | 25.70                | 25.70                  |
| LTE B12                                    | 1       | 100.00%    | 25.30                   | 22.40           | 20.30             | 25.30                | 25.30                | 25.30                  |
| LTE B17                                    | 0       | 100.00%    | 25.70                   | 25.70           | 25.70             | 25.70                | 25.70                | 25.70                  |
| LTE B17                                    | 1       | 100.00%    | 25.20                   | 22.40           | 20.30             | 25.20                | 25.20                | 25.20                  |
| LTE B26                                    | 0       | 100.00%    | 25.70                   | 25.70           | 25.70             | 25.70                | 25.70                | 25.70                  |
| LTE B26                                    | 1       | 100.00%    | 25.20                   | 21.10           | 19.00             | 25.20                | 25.20                | 25.20                  |
| LTE B38 PC3                                | 2       | 63.30%     | 25.00                   | 25.00           | 23.10             | 20.90                | 25.00                | 24.50                  |
| LTE B38 PC3                                | 0       | 63.30%     | 24.50                   | 24.50           | 24.50             | 23.30                | 24.50                | 24.20                  |
| LTE B41 PC3                                | 2       | 63.30%     | 25.70                   | 25.10           | 23.10             | 20.90                | 25.60                | 24.50                  |
| LTE B41 PC3                                | 0       | 63.30%     | 25.20                   | 25.20           | 25.20             | 23.30                | 25.20                | 24.20                  |
| LTE B41/B38 PC2                            | 2       | 43.30%     | 27.50                   | 26.70           | 24.70             | 22.50                | 27.20                | 26.10                  |
| LTE B41/B38 PC2                            | 0       | 43.30%     | 27.00                   | 27.00           | 27.00             | 24.90                | 27.00                | 25.80                  |
| LTE B66/B4                                 | 2       | 100.00%    | 25.70                   | 25.70           | 25.50             | 23.00                | 24.10                | 23.00                  |
| LTE B66/B4                                 | 0       | 100.00%    | 25.20                   | 25.20           | 25.20             | 23.60                | 25.20                | 23.60                  |

| Maximum Transmit Burst Average Power (dBm) |         |            |                         |            |              |              |            |              |
|--------------------------------------------|---------|------------|-------------------------|------------|--------------|--------------|------------|--------------|
| Band                                       | Antenna | Duty cycle | Maximum Power Condition | Head       | Head         | Hotspot      | Body-worn  | Body-worn    |
|                                            |         |            |                         | Standalone | Simultaneous | Simultaneous | Standalone | Simultaneous |
|                                            |         |            | Index 1                 | Index 2    | Index 3      | Index 4      | Index 5    | Index 6      |
| FR1 n2                                     | 2       | 100.00%    | 25.00                   | 25.00      | 24.50        | 20.40        | 21.20      | 20.40        |
| FR1 n2                                     | 0       | 100.00%    | 24.50                   | 24.50      | 24.50        | 24.00        | 24.50      | 24.00        |
| FR1 n5                                     | 0       | 100.00%    | 25.70                   | 25.70      | 25.70        | 25.50        | 25.70      | 25.70        |
| FR1 n5                                     | 1       | 100.00%    | 25.20                   | 22.20      | 20.20        | 25.20        | 25.20      | 25.20        |
| FR1 n7                                     | 2       | 100.00%    | 25.70                   | 25.70      | 24.00        | 20.00        | 23.90      | 23.00        |
| FR1 n7                                     | 0       | 100.00%    | 25.20                   | 25.20      | 23.70        | 21.30        | 23.60      | 21.70        |
| FR1 n12                                    | 0       | 100.00%    | 25.70                   | 25.70      | 25.70        | 25.70        | 25.70      | 25.70        |
| FR1 n12                                    | 1       | 100.00%    | 25.30                   | 23.40      | 21.30        | 25.30        | 25.30      | 25.30        |
| FR1 n26                                    | 0       | 100.00%    | 25.70                   | 25.70      | 25.70        | 25.50        | 25.70      | 25.70        |
| FR1 n26                                    | 1       | 100.00%    | 25.20                   | 22.20      | 20.20        | 25.20        | 25.20      | 25.20        |
| FR1 n41/n38 PC3                            | 2       | 100.00%    | 25.70                   | 24.30      | 23.50        | 20.40        | 23.50      | 22.60        |
| FR1 n41/n38 PC3                            | 0       | 100.00%    | 25.20                   | 25.20      | 24.40        | 21.30        | 25.20      | 24.40        |
| FR1 n66                                    | 2       | 100.00%    | 25.70                   | 25.70      | 25.70        | 23.70        | 24.50      | 23.70        |
| FR1 n66                                    | 0       | 100.00%    | 25.20                   | 25.20      | 25.20        | 22.70        | 25.20      | 22.70        |
| FR1 n77 PC3                                | 6       | 100.00%    | 25.20                   | 23.70      | 22.90        | 18.80        | 21.10      | 20.30        |
| FR1 n77 PC3                                | 2       | 100.00%    | 24.70                   | 24.70      | 23.00        | 19.50        | 21.60      | 20.30        |
| FR1 n77 PC3                                | 1       | 100.00%    | 25.00                   | 19.20      | 18.40        | 24.30        | 25.00      | 25.00        |
| FR1 n77 PC3                                | 5       | 100.00%    | 25.00                   | 16.50      | 12.30        | 19.70        | 24.00      | 21.60        |
| FR1 n77 PC2                                | 6       | 50.00%     | 27.30                   | 26.70      | 25.90        | 21.80        | 24.10      | 23.30        |
| FR1 n77 PC2                                | 2       | 50.00%     | 26.70                   | 26.70      | 26.00        | 22.50        | 24.60      | 23.30        |

### 6.3 General LTE SAR Test and Reporting Considerations

| Summarized necessary items addressed in KDB 941225 D05 v02r05           |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|-------------------------------------------------------------------------|-------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|--------|--|------|--|-----|--|
| FCC ID                                                                  |                   |             | A4RG6GPR                                                                                                                                                                                                                                                           |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Equipment Name                                                          |                   |             | Phone                                                                                                                                                                                                                                                              |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Operating Frequency Range of each LTE transmission band                 |                   |             | LTE Band 2: 1850 MHz ~ 1910 MHz                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 4: 1710 MHz ~ 1755 MHz                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 5: 824 MHz ~ 849 MHz                                                                                                                                                                                                                                      |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 7: 2500 MHz ~ 2570 MHz                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 12: 699 MHz ~ 716 MHz                                                                                                                                                                                                                                     |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 17: 704 MHz ~ 716 MHz                                                                                                                                                                                                                                     |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 26: 814 MHz ~ 849 MHz                                                                                                                                                                                                                                     |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 38: 2570 MHz ~ 2620 MHz                                                                                                                                                                                                                                   |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 41: 2496 MHz ~ 2690 MHz                                                                                                                                                                                                                                   |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Channel Bandwidth                                                       |                   |             | LTE Band 66: 1710 MHz ~ 1780 MHz                                                                                                                                                                                                                                   |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                 |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                 |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz                                                                                                                                                                                                                               |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                              |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz                                                                                                                                                                                                                              |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 17: 5MHz, 10MHz                                                                                                                                                                                                                                           |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz                                                                                                                                                                                                                       |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                             |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| uplink modulations used                                                 |                   |             | LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                             |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| LTE Voice / Data requirements                                           |                   |             | Voice and Data                                                                                                                                                                                                                                                     |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| LTE MPR permanently built-in by design                                  |                   |             | Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3                                                                                                                                                                                            |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | Modulation                                                                                                                                                                                                                                                         |             | Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> ) |             |                  |             |                  |             | MPR (dB)         |             |        |  |      |  |     |  |
|                                                                         |                   |             |                                                                                                                                                                                                                                                                    |             | 1.4 MHz                                                       |             | 3.0 MHz          |             | 5 MHz            |             |                  |             | 10 MHz |  |      |  |     |  |
|                                                                         |                   |             | 15 MHz                                                                                                                                                                                                                                                             |             | 20 MHz                                                        |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         |                   |             | QPSK                                                                                                                                                                                                                                                               |             | > 5                                                           |             | > 4              |             | > 8              |             | > 12             |             | > 16   |  | > 18 |  | ≤ 1 |  |
|                                                                         |                   |             | 16 QAM                                                                                                                                                                                                                                                             |             | ≤ 5                                                           |             | ≤ 4              |             | ≤ 8              |             | ≤ 12             |             | ≤ 16   |  | ≤ 18 |  | ≤ 1 |  |
|                                                                         |                   |             | 16 QAM                                                                                                                                                                                                                                                             |             | > 5                                                           |             | > 4              |             | > 8              |             | > 12             |             | > 16   |  | > 18 |  | ≤ 2 |  |
|                                                                         |                   |             | 64 QAM                                                                                                                                                                                                                                                             |             | ≤ 5                                                           |             | ≤ 4              |             | ≤ 8              |             | ≤ 12             |             | ≤ 16   |  | ≤ 18 |  | ≤ 2 |  |
|                                                                         |                   |             | 64 QAM                                                                                                                                                                                                                                                             |             | > 5                                                           |             | > 4              |             | > 8              |             | > 12             |             | > 16   |  | > 18 |  | ≤ 3 |  |
|                                                                         |                   |             | 256 QAM                                                                                                                                                                                                                                                            |             |                                                               |             |                  |             |                  |             | ≥ 1              |             |        |  |      |  | ≤ 5 |  |
| LTE A-MPR                                                               |                   |             | In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)                                                                      |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Spectrum plots for RB configuration                                     |                   |             | A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.                                                             |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Power reduction applied to satisfy SAR compliance                       |                   |             | The device has several different power modes for each exposure conditions SAR compliance; power selection is determined by the device's positioning and usage scenarios. Detail refer to operational description.                                                  |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| LTE Carrier Aggregation Combinations                                    |                   |             | Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to reference model FCC ID: A4RG8HHN, Part1 SAR report section 13.                                                                                                 |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| LTE Carrier Aggregation Additional Information                          |                   |             | This device supports maximum of 6 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA. |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| Transmission (H, M, L) channel numbers and frequencies in each LTE band |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
| LTE Band 2                                                              |                   |             |                                                                                                                                                                                                                                                                    |             |                                                               |             |                  |             |                  |             |                  |             |        |  |      |  |     |  |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz                                                                                                                                                                                                                                                    |             | Bandwidth 5 MHz                                               |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |        |  |      |  |     |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #                                                                                                                                                                                                                                                              | Freq. (MHz) | Ch. #                                                         | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |        |  |      |  |     |  |
| L                                                                       | 18607             | 1850.7      | 18615                                                                                                                                                                                                                                                              | 1851.5      | 18625                                                         | 1852.5      | 18650            | 1855        | 18675            | 1857.5      | 18700            | 1860        |        |  |      |  |     |  |
| M                                                                       | 18900             | 1880        | 18900                                                                                                                                                                                                                                                              | 1880        | 18900                                                         | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        |        |  |      |  |     |  |
| H                                                                       | 19193             | 1909.3      | 19185                                                                                                                                                                                                                                                              | 1908.5      | 19175                                                         | 1907.5      | 19150            | 1905        | 19125            | 1902.5      | 19100            | 1900        |        |  |      |  |     |  |

| LTE Band 4  |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|-------------|-------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 19957             | 1710.7      | 19965            | 1711.5      | 19975            | 1712.5      | 20000            | 1715        | 20025            | 1717.5      | 20050            | 1720        |
| M           | 20175             | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      |
| H           | 20393             | 1754.3      | 20385            | 1753.5      | 20375            | 1752.5      | 20350            | 1750        | 20325            | 1747.5      | 20300            | 1745        |
| LTE Band 5  |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 20407             | 824.7       | 20415            | 825.5       | 20425            | 826.5       | 20450            | 829         |                  |             |                  |             |
| M           | 20525             | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       |                  |             |
| H           | 20643             | 848.3       | 20635            | 847.5       | 20625            | 846.5       | 20600            | 844         |                  |             |                  |             |
| LTE Band 7  |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 20775             | 2502.5      | 20800            | 2505        | 20825            | 2507.5      | 20850            | 2510        |                  |             |                  |             |
| M           | 21100             | 2535        | 21100            | 2535        | 21100            | 2535        | 21100            | 2535        |                  |             |                  |             |
| H           | 21425             | 2567.5      | 21400            | 2565        | 21375            | 2562.5      | 21350            | 2560        |                  |             |                  |             |
| LTE Band 12 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 23017             | 699.7       | 23025            | 700.5       | 23035            | 701.5       | 23060            | 704         |                  |             |                  |             |
| M           | 23095             | 707.5       | 23095            | 707.5       | 23095            | 707.5       | 23095            | 707.5       |                  |             |                  |             |
| H           | 23173             | 715.3       | 23165            | 714.5       | 23155            | 713.5       | 23130            | 711         |                  |             |                  |             |
| LTE Band 17 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |
|             | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq. (MHz)      |             |                  |             |                  |             |
| L           | 23755             |             | 706.5            |             | 23780            |             | 709              |             |                  |             |                  |             |
| M           | 23790             |             | 710              |             | 23790            |             | 710              |             |                  |             |                  |             |
| H           | 23825             |             | 713.5            |             | 23800            |             | 711              |             |                  |             |                  |             |
| LTE Band 26 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 26697             | 814.7       | 26705            | 815.5       | 26715            | 816.5       | 26740            | 819         | 26765            | 821.5       |                  |             |
| M           | 26865             | 831.5       | 26865            | 831.5       | 26865            | 831.5       | 26865            | 831.5       | 26865            | 831.5       |                  |             |
| H           | 27033             | 848.3       | 27025            | 847.5       | 27015            | 846.5       | 26990            | 844         | 26965            | 841.5       |                  |             |
| LTE Band 38 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 37775             | 2572.5      | 37800            | 2575        | 37825            | 2577.5      | 37850            | 2580        |                  |             |                  |             |
| M           | 38000             | 2595        | 38000            | 2595        | 38000            | 2595        | 38000            | 2595        |                  |             |                  |             |
| H           | 38225             | 2617.5      | 38200            | 2615        | 38175            | 2612.5      | 38150            | 2610        |                  |             |                  |             |
| LTE Band 41 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 39675             | 2498.5      | 39700            | 2501        | 39725            | 2503.5      | 39750            | 2506        |                  |             |                  |             |
| L<br>M      | 40148             | 2545.8      | 40160            | 2547        | 40173            | 2548.3      | 40185            | 2549.5      |                  |             |                  |             |
| M           | 40620             | 2593        | 40620            | 2593        | 40620            | 2593        | 40620            | 2593        |                  |             |                  |             |
| H<br>M      | 41093             | 2640.3      | 41080            | 2639        | 41068            | 2637.8      | 41055            | 2636.5      |                  |             |                  |             |
| H           | 41565             | 2687.5      | 41540            | 2685        | 41515            | 2682.5      | 41490            | 2680        |                  |             |                  |             |
| LTE Band 66 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 131979            | 1710.7      | 131987           | 1711.5      | 131997           | 1712.5      | 132022           | 1715        | 132047           | 1717.5      | 132072           | 1720        |
| M           | 132322            | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        |
| H           | 132665            | 1779.3      | 132657           | 1778.5      | 132647           | 1777.5      | 132622           | 1775        | 132597           | 1772.5      | 132572           | 1770        |

## 6.4 General 5G NR SAR Test and Reporting Considerations

| 5G NR Information                                         |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|-----------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| FCC                                                       |                | A4RG6GPR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| Equipment Name                                            |                | Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| Operating Frequency Range of each 5G NR transmission band |                | 5G NR n2: 1850 MHz ~ 1910 MHz<br>5G NR n5: 824 MHz ~ 849 MHz<br>5G NR n7: 2500 MHz ~ 2570 MHz<br>5G NR n12: 699 MHz ~ 716 MHz<br>5G NR n26 : 814 MHz ~ 849 MHz<br>5G NR n38: 2570 MHz ~ 2620 MHz<br>5G NR n41: 2496 MHz ~ 2690 MHz<br>5G NR n66: 1710 MHz ~ 1780 MHz<br>5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz                                                                                                                                                                                             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | 5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 50MHz<br>5G NR n12: 5MHz, 10MHz, 15MHz<br>5G NR n26: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n38: 10MHz, 15MHz, 20MHz<br>5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz<br>5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz<br>5G NR n77: 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | SCS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | FDD: SCS15KHz, TDD: SCS30KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | uplink modulations used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM<br>CP-OFDM QPSK / 16QAM / 64QAM / 256QAM                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | A-MPR (Additional MPR) disabled for SAR Testing?                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           |                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n2                                   |                | LTE B5/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n5                                   |                | LTE B2/7/66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n7                                   |                | LTE B5/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n12                                  |                | LTE B2/7/66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n26                                  |                | LTE B7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n38                                  |                | LTE B2/5/12/66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n41                                  |                | LTE B2/5/12/26/66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n66                                  |                | LTE B5/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n77                                  |                | LTE B2/5/7/12/26/41/66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
| NR Band 2                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           | Bandwidth 5MHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |             |                 |             | Bandwidth 20MHz |             |                 |             |
|                                                           | Ch. #          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             |
| L                                                         | 370500         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1852.5          |             | 371000          |             | 1855            |             | 371500          |             | 1857.5          |             | 372000          |             | 1860            |             |
| M                                                         | 376000         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1880            |             | 376000          |             | 1880            |             | 376000          |             | 1880            |             | 376000          |             | 1880            |             |
| H                                                         | 381500         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1907.5          |             | 381000          |             | 1905            |             | 380500          |             | 1902.5          |             | 380000          |             | 1900            |             |
| NR Band 5                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           | Bandwidth 5MHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |             |                 |             | Bandwidth 20MHz |             |                 |             |
|                                                           | Ch. #          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             |
| L                                                         | 165300         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 826.5           |             | 165800          |             | 829             |             | 166300          |             | 831.5           |             | 166800          |             | 834             |             |
| M                                                         | 167300         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 836.5           |             | 167300          |             | 836.5           |             | 167300          |             | 836.5           |             | 167300          |             | 836.5           |             |
| H                                                         | 169300         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 846.5           |             | 168800          |             | 844             |             | 168300          |             | 841.5           |             | 167800          |             | 839             |             |
| NR Band 7                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           | Bandwidth 5MHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Bandwidth 10MHz |             | Bandwidth 15MHz |             | Bandwidth 20MHz |             | Bandwidth 25MHz |             | Bandwidth 30MHz |             | Bandwidth 40MHz |             | Bandwidth 50MHz |             |
|                                                           | Ch. #          | Freq. (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |
| L                                                         | 500500         | 2502.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 501000          | 2505        | 501500          | 2507.5      | 502000          | 2510        | 502500          | 2512.5      | 503000          | 2515        | 504000          | 2520        | 505000          | 2525        |
| M                                                         | 507000         | 2535                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        |
| H                                                         | 513500         | 2567.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 513000          | 2565        | 512500          | 2562.5      | 512000          | 2560        | 511500          | 2557.5      | 511000          | 2555        | 510000          | 2550        | 509000          | 2545        |
| NR Band 12                                                |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |
|                                                           | Bandwidth 5MHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |             |                 |             |                 |             |                 |             |
|                                                           | Ch. #          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             |
| L                                                         | 140300         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 701.5           |             | 140800          |             | 704             |             | 141300          |             | 706.5           |             | 141500          |             | 707.5           |             |
| M                                                         | 141500         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 707.5           |             | 141500          |             | 707.5           |             | 141500          |             | 707.5           |             | 141500          |             | 707.5           |             |
| H                                                         | 142700         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 713.5           |             | 142200          |             | 711             |             | 141700          |             | 708.5           |             | 141700          |             | 708.5           |             |



| NR Band 26                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|--------------------------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|---------|
|                                | Bandwidth 5MHz  |             |                 |             | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |             |                 |             | Bandwidth 20MHz |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             |                 |             |                 |             |                 |             |                 |         |
| L                              | 163300          |             | 816.5           |             | 163800          |             | 819             |             | 164300          |             | 821.5           |             | 164800          |             | 824             |             |                 |             |                 |             |                 |             |                 |         |
| M                              | 166300          |             | 831.5           |             | 166300          |             | 831.5           |             | 166300          |             | 831.5           |             | 166300          |             | 831.5           |             |                 |             |                 |             |                 |             |                 |         |
| H                              | 169300          |             | 846.5           |             | 168800          |             | 844             |             | 168300          |             | 841.5           |             | 167800          |             | 839             |             |                 |             |                 |             |                 |             |                 |         |
| NR Band 38                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |             |                 |             | Bandwidth 20MHz |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |             | Freq. (MHz)     |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
| L                              | 515004          |             | 2575.02         |             | 515502          |             | 2577.51         |             | 516000          |             | 2580            |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
| M                              | 519000          |             | 2595            |             | 519000          |             | 2595            |             | 519000          |             | 2595            |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
| H                              | 522996          |             | 2614.98         |             | 522498          |             | 2612.49         |             | 522000          |             | 2610            |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
| NR Band 41                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Bandwidth10MHz  |             | Bandwidth15MHz  |             | Bandwidth20MHz  |             | Bandwidth30MHz  |             | Bandwidth 40MHz |             | Bandwidth 50MHz |             | Bandwidth 60MHz |             | Bandwidth70MHz  |             | Bandwidth 80MHz |             | Bandwidth 90MHz |             | Bandwidth100MHz |             |                 |         |
|                                | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |                 |         |
| L                              | 500202          | 2501.01     | 500700          | 2503.5      | 501204          | 2506.02     | 502200          | 2511        | 503202          | 2516.01     | 504204          | 2521.02     | 505200          | 2526        | 506202          | 2531.01     | 507204          | 2536.02     | 508200          | 2541        | 509202          | 2546.01     |                 |         |
| M                              | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99     |                 |         |
| H                              | 537000          | 2685        | 536496          | 2682.48     | 535998          | 2679.99     | 534996          | 2674.98     | 534000          | 2670        | 532998          | 2664.99     | 531996          | 2659.98     | 531000          | 2655        | 529998          | 2649.99     | 528996          | 2644.98     | 528000          | 2640        |                 |         |
| NR Band 66                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Bandwidth 5MHz  |             | Bandwidth 10MHz |             | Bandwidth 15MHz |             | Bandwidth 20MHz |             | Bandwidth 25MHz |             | Bandwidth 30MHz |             | Bandwidth 40MHz |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |                 |             |                 |             |                 |             |                 |             |                 |         |
| L                              | 342500          | 1712.5      | 343000          | 1715        | 343500          | 1717.5      | 344000          | 1720        | 344500          | 1722.5      | 345000          | 1725        | 346000          | 1730        |                 |             |                 |             |                 |             |                 |             |                 |         |
| M                              | 349000          | 1745        | 349000          | 1745        | 349000          | 1745        | 349000          | 1745        | 349000          | 1745        | 349000          | 1745        | 349000          | 1745        |                 |             |                 |             |                 |             |                 |             |                 |         |
| H                              | 355500          | 1777.5      | 355000          | 1775        | 354500          | 1772.5      | 354000          | 1770        | 353500          | 1767.5      | 353000          | 1765        | 352000          | 1760        |                 |             |                 |             |                 |             |                 |             |                 |         |
| NR Band 77                     |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Bandwidth10MHz  |             | Bandwidth15MHz  |             | Bandwidth 20MHz |             | Bandwidth25MHz  |             | Bandwidth30MHz  |             | Bandwidth 40MHz |             | Bandwidth 50MHz |             | Bandwidth 60MHz |             | Bandwidth 70MHz |             | Bandwidth 80MHz |             | Bandwidth 90MHz |             | Bandwidth100MHz |         |
|                                | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |                 |         |
| L                              | 647000          | 3705        | 647168          | 3707.52     | 647334          | 3710.01     | 647500          | 3712.5      | 647668          | 3715.02     | 648000          | 3720        | 648334          | 3725.01     | 648668          | 3730.02     | 649000          | 3735        | 649334          | 3740.01     | 649668          | 3745.02     | 650000          | 3750    |
| M                              | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840        | 656000          | 3840    |
| H                              | 665000          | 3975        | 664832          | 3972.48     | 664666          | 3969.99     | 664500          | 3967.50     | 664332          | 3964.98     | 664000          | 3960        | 663666          | 3954.99     | 663332          | 3949.98     | 663000          | 3945        | 662666          | 3939.99     | 662332          | 3934.98     | 662000          | 3930    |
| NR Band 77 (3450MHz ~ 3550MHz) |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |             |                 |         |
|                                | Bandwidth10MHz  |             | Bandwidth15MHz  |             | Bandwidth 20MHz |             | Bandwidth25MHz  |             | Bandwidth30MHz  |             | Bandwidth 40MHz |             | Bandwidth 50MHz |             | Bandwidth 60MHz |             | Bandwidth 70MHz |             | Bandwidth 80MHz |             | Bandwidth 90MHz |             | Bandwidth100MHz |         |
|                                | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |                 |         |
| L                              | 630334          | 3455.01     | 630500          | 3457.5      | 630668          | 3460.02     | 630834          | 3462.51     | 631000          | 3465        | 631334          | 3470.01     | 631668          | 3475.02     | 632000          | 3480        | 632334          | 3485.01     | 632668          | 3490.02     | 633000          | 3495        | 633332          | 3499.98 |
| M                              | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     | 633332          | 3499.98     |                 |         |
| H                              | 636332          | 3544.98     | 636166          | 3542.49     | 636000          | 3540        | 635832          | 3537.48     | 635666          | 3534.99     | 635332          | 3529.98     | 635000          | 3525        | 634666          | 3519.99     | 634332          | 3514.98     | 634000          | 3510        | 633666          | 3504.99     |                 |         |

## **7. TAS feature for RF Exposure compliance**

The FCC RF exposure limit is based on time-averaged RF exposure. Both SAR and PD regulatory specifications are defined over certain measurement duration allowing for time-averaging. The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm has been designed to meet the compliance limits over the required duration, while still allowing dynamic control of transmit power for meeting system performance. Under the control of TAS algorithm, the device can transmit at high power up to Pmax for certain interval, but the average power will be maintained not exceeding the pre-defined averaged level (Plimit), and thus maintain the time-averaged RF exposure compliance

The following table shows Plimit and maximum tune up output power Pmax, for all exposure and transmit conditions (output power index).

|               |                                                                                                                                                |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Pmax          | Maximum Tx power that can be transmitted physically from RFIC for a given RAT                                                                  |
| SAR_FCC_limit | SAR limit specified by FCC 1.6 W/kg averaged over 1-gram, for head and body exposure, and 4 W/kg averaged over 10-gram, for extremity exposure |
| Plimit        | The time-averaged RF power that corresponds to SAR_target                                                                                      |

## 7.1 SAR Characterization – Power Table

### General Note:

1. The P<sub>limit</sub> values correspond to SAR<sub>design target</sub>.
2. GSM and WCDMA don't support time average feature of dynamic power varying, the power will be fixed at the static reduce power level at different exposure conditions for RF exposure compliance. For the GSM (TDD) P<sub>limit</sub> power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.

### <P<sub>limit</sub> for supported technologies and bands (P<sub>limit</sub> corresponding to SAR design target)>

| Wireless technology/<br>band (No Accounting<br>duty cycle) | Antenna | Duty<br>cycle | Maximum<br>Power<br>Condition | Head       |              | Hotspot      | Body-worn  |              | P Max Burst<br>average<br>power (dBm) |
|------------------------------------------------------------|---------|---------------|-------------------------------|------------|--------------|--------------|------------|--------------|---------------------------------------|
|                                                            |         |               |                               | Standalone | Simultaneous | Simultaneous | Standalone | Simultaneous |                                       |
|                                                            |         |               | Index 1                       | Index 2    | Index 3      | Index 4      | Index 5    | Index 6      |                                       |
|                                                            |         |               | P limit                       |            |              |              |            |              |                                       |
| Burst average power (dBm)                                  |         |               |                               |            |              |              |            |              |                                       |
| GSM850 GSM/GPRS 1TX                                        | 0       | 12.50%        | 32.50                         | 37.10      | 34.70        | 34.30        | 37.50      | 34.30        | 32.50                                 |
| GSM850 GPRS 2TX                                            | 0       | 25.00%        | 31.50                         | 34.10      | 31.70        | 31.30        | 34.50      | 31.30        | 31.50                                 |
| GSM850 GPRS 3TX                                            | 0       | 37.50%        | 30.50                         | 32.40      | 30.00        | 29.60        | 32.80      | 29.60        | 30.50                                 |
| GSM850 GPRS 4TX                                            | 0       | 50.00%        | 29.00                         | 31.10      | 28.70        | 28.30        | 31.50      | 28.30        | 29.00                                 |
| GSM850 EDGE 1TX                                            | 0       | 12.50%        | 27.00                         | 37.10      | 34.70        | 34.30        | 37.50      | 34.30        | 27.00                                 |
| GSM850 EDGE 2TX                                            | 0       | 25.00%        | 26.50                         | 34.10      | 31.70        | 31.30        | 34.50      | 31.30        | 26.50                                 |
| GSM850 EDGE 3TX                                            | 0       | 37.50%        | 26.50                         | 32.40      | 30.00        | 29.60        | 32.80      | 29.60        | 26.50                                 |
| GSM850 EDGE 4TX                                            | 0       | 50.00%        | 24.50                         | 31.10      | 28.70        | 28.30        | 31.50      | 28.30        | 24.50                                 |
| GSM850 GSM/GPRS 1TX                                        | 1       | 12.50%        | 32.00                         | 30.90      | 28.80        | 38.50        | 39.30      | 38.50        | 32.00                                 |
| GSM850 GPRS 2TX                                            | 1       | 25.00%        | 31.50                         | 27.90      | 25.80        | 35.50        | 36.30      | 35.50        | 31.50                                 |
| GSM850 GPRS 3TX                                            | 1       | 37.50%        | 29.50                         | 26.00      | 23.90        | 33.60        | 34.40      | 33.60        | 29.50                                 |
| GSM850 GPRS 4TX                                            | 1       | 50.00%        | 27.00                         | 24.80      | 22.70        | 32.40        | 33.20      | 32.40        | 27.00                                 |
| GSM850 EDGE 1TX                                            | 1       | 12.50%        | 26.50                         | 30.90      | 28.80        | 38.50        | 39.30      | 38.50        | 26.50                                 |
| GSM850 EDGE 2TX                                            | 1       | 25.00%        | 26.00                         | 27.90      | 25.80        | 35.50        | 36.30      | 35.50        | 26.00                                 |
| GSM850 EDGE 3TX                                            | 1       | 37.50%        | 26.00                         | 26.00      | 23.90        | 33.60        | 34.40      | 33.60        | 26.00                                 |
| GSM850 EDGE 4TX                                            | 1       | 50.00%        | 23.00                         | 24.80      | 22.70        | 32.40        | 33.20      | 32.40        | 23.00                                 |
| GSM1900 GSM/GPRS 1TX                                       | 2       | 12.50%        | 29.50                         | 34.30      | 32.50        | 29.30        | 30.10      | 29.30        | 29.50                                 |
| GSM1900 GPRS 2TX                                           | 2       | 25.00%        | 28.50                         | 31.30      | 29.50        | 26.30        | 27.10      | 26.30        | 28.50                                 |
| GSM1900 GPRS 3TX                                           | 2       | 37.50%        | 28.00                         | 29.50      | 27.70        | 24.50        | 25.30      | 24.50        | 28.00                                 |
| GSM1900 GPRS 4TX                                           | 2       | 50.00%        | 27.00                         | 28.30      | 26.50        | 23.30        | 24.10      | 23.30        | 27.00                                 |
| GSM1900 EDGE 1TX                                           | 2       | 12.50%        | 25.00                         | 34.30      | 32.50        | 29.30        | 30.10      | 29.30        | 25.00                                 |
| GSM1900 EDGE 2TX                                           | 2       | 25.00%        | 24.00                         | 31.30      | 29.50        | 26.30        | 27.10      | 26.30        | 24.00                                 |
| GSM1900 EDGE 3TX                                           | 2       | 37.50%        | 24.00                         | 29.50      | 27.70        | 24.50        | 25.30      | 24.50        | 24.00                                 |
| GSM1900 EDGE 4TX                                           | 2       | 50.00%        | 23.00                         | 28.30      | 26.50        | 23.30        | 24.10      | 23.30        | 23.00                                 |
| GSM1900 GSM/GPRS 1TX                                       | 0       | 12.50%        | 29.00                         | 34.60      | 33.80        | 32.40        | 34.60      | 33.80        | 29.00                                 |
| GSM1900 GPRS 2TX                                           | 0       | 25.00%        | 28.50                         | 31.60      | 30.80        | 29.40        | 31.60      | 30.80        | 28.50                                 |
| GSM1900 GPRS 3TX                                           | 0       | 37.50%        | 27.50                         | 29.80      | 29.00        | 27.60        | 29.80      | 29.00        | 27.50                                 |
| GSM1900 GPRS 4TX                                           | 0       | 50.00%        | 26.50                         | 28.60      | 27.80        | 26.40        | 28.60      | 27.80        | 26.50                                 |
| GSM1900 EDGE 1TX                                           | 0       | 12.50%        | 25.00                         | 34.60      | 33.80        | 32.40        | 34.60      | 33.80        | 25.00                                 |
| GSM1900 EDGE 2TX                                           | 0       | 25.00%        | 23.50                         | 31.60      | 30.80        | 29.40        | 31.60      | 30.80        | 23.50                                 |
| GSM1900 EDGE 3TX                                           | 0       | 37.50%        | 23.50                         | 29.80      | 29.00        | 27.60        | 29.80      | 29.00        | 23.50                                 |
| GSM1900 EDGE 4TX                                           | 0       | 50.00%        | 22.50                         | 28.60      | 27.80        | 26.40        | 28.60      | 27.80        | 22.50                                 |

**<P<sub>limit</sub> for supported technologies and bands (P<sub>limit</sub> corresponding to SAR design target)>**

| Wireless technology/ band<br>(Accounting duty cycle) | Antenna | Duty cycle | Maximum Power Condition  | Head       |              | Hotspot      | Body-worn  |              | P Max Time-average power (dBm) |
|------------------------------------------------------|---------|------------|--------------------------|------------|--------------|--------------|------------|--------------|--------------------------------|
|                                                      |         |            |                          | Standalone | Simultaneous | Simultaneous | Standalone | Simultaneous |                                |
|                                                      |         |            | Index 1                  | Index 2    | Index 3      | Index 4      | Index 5    | Index 6      |                                |
|                                                      |         |            | P limit                  |            |              |              |            |              |                                |
|                                                      |         |            | Time-average power (dBm) |            |              |              |            |              |                                |
| WCDMA B2                                             | 2       | 100.00%    | 24.00                    | 25.90      | 25.10        | 19.50        | 20.30      | 19.50        | 24.00                          |
| WCDMA B2                                             | 0       | 100.00%    | 23.50                    | 25.80      | 22.80        | 23.60        | 25.80      | 25.00        | 23.50                          |
| WCDMA B4                                             | 2       | 100.00%    | 24.70                    | 27.50      | 24.10        | 22.60        | 23.40      | 22.60        | 24.70                          |
| WCDMA B4                                             | 0       | 100.00%    | 24.20                    | 28.40      | 27.60        | 22.80        | 25.80      | 22.80        | 24.20                          |
| WCDMA B5                                             | 0       | 100.00%    | 24.00                    | 28.40      | 27.60        | 25.20        | 28.10      | 27.30        | 24.00                          |
| WCDMA B5                                             | 1       | 100.00%    | 23.50                    | 21.40      | 20.60        | 28.20        | 29.00      | 28.20        | 23.50                          |
| LTE B2                                               | 2       | 100.00%    | 24.00                    | 25.60      | 23.70        | 19.90        | 20.70      | 19.90        | 24.00                          |
| LTE B2                                               | 0       | 100.00%    | 23.50                    | 25.40      | 24.60        | 23.10        | 26.00      | 23.20        | 23.50                          |
| LTE B5                                               | 0       | 100.00%    | 24.70                    | 27.60      | 26.80        | 25.10        | 27.50      | 26.70        | 24.70                          |
| LTE B5                                               | 1       | 100.00%    | 24.20                    | 20.10      | 18.00        | 28.00        | 28.80      | 28.00        | 24.20                          |
| LTE B7                                               | 2       | 100.00%    | 24.70                    | 23.50      | 21.50        | 18.20        | 22.60      | 21.30        | 24.70                          |
| LTE B7                                               | 0       | 100.00%    | 24.20                    | 24.50      | 22.80        | 20.90        | 22.70      | 21.00        | 24.20                          |
| LTE B12                                              | 0       | 100.00%    | 24.80                    | 30.00      | 29.20        | 26.30        | 28.10      | 27.30        | 24.80                          |
| LTE B12                                              | 1       | 100.00%    | 24.30                    | 21.40      | 19.30        | 28.20        | 29.00      | 28.20        | 24.30                          |
| LTE B17                                              | 0       | 100.00%    | 24.70                    | 29.90      | 29.10        | 26.20        | 28.00      | 27.20        | 24.70                          |
| LTE B17                                              | 1       | 100.00%    | 24.20                    | 21.40      | 19.30        | 28.20        | 29.00      | 28.20        | 24.20                          |
| LTE B26                                              | 0       | 100.00%    | 24.70                    | 27.60      | 26.80        | 25.10        | 27.50      | 26.70        | 24.70                          |
| LTE B26                                              | 1       | 100.00%    | 24.20                    | 20.10      | 18.00        | 28.00        | 28.80      | 28.00        | 24.20                          |
| LTE B38 PC3                                          | 2       | 63.30%     | 22.00                    | 22.10      | 20.10        | 17.90        | 22.60      | 21.50        | 22.00                          |
| LTE B38 PC3                                          | 0       | 63.30%     | 21.50                    | 24.40      | 23.60        | 20.30        | 23.90      | 21.20        | 21.50                          |
| LTE B41 PC3                                          | 2       | 63.30%     | 22.70                    | 22.10      | 20.10        | 17.90        | 22.60      | 21.50        | 22.70                          |
| LTE B41 PC3                                          | 0       | 63.30%     | 22.20                    | 24.40      | 23.60        | 20.30        | 23.90      | 21.20        | 22.20                          |
| LTE B41/B38 PC2                                      | 2       | 43.30%     | 22.90                    | 22.10      | 20.10        | 17.90        | 22.60      | 21.50        | 22.90                          |
| LTE B41/B38 PC2                                      | 0       | 43.30%     | 22.40                    | 24.40      | 23.60        | 20.30        | 23.90      | 21.20        | 22.40                          |
| LTE B66/B4                                           | 2       | 100.00%    | 24.70                    | 27.00      | 24.50        | 22.00        | 23.10      | 22.00        | 24.70                          |
| LTE B66/B4                                           | 0       | 100.00%    | 24.20                    | 27.30      | 26.50        | 22.60        | 25.20      | 22.60        | 24.20                          |

1. LTE and 5GNR TDD: P<sub>limit</sub> power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
2. Maximum target power, P<sub>max</sub>, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.

**<P<sub>limit</sub> for supported technologies and bands (P<sub>limit</sub> corresponding to SAR design target)>**

| Wireless technology/ band<br>(Accounting duty cycle) | Antenna | Duty cycle | Maximum Power Condition  | Head       |              | Hotspot      | Body-worn  |              | P Max Time-average power (dBm) |
|------------------------------------------------------|---------|------------|--------------------------|------------|--------------|--------------|------------|--------------|--------------------------------|
|                                                      |         |            |                          | Standalone | Simultaneous | Simultaneous | Standalone | Simultaneous |                                |
|                                                      |         |            | Index 1                  | Index 2    | Index 3      | Index 4      | Index 5    | Index 6      |                                |
|                                                      |         |            | P limit                  |            |              |              |            |              |                                |
|                                                      |         |            | Time-average power (dBm) |            |              |              |            |              |                                |
| FR1 n2                                               | 2       | 100.00%    | 24.00                    | 25.30      | 23.50        | 19.40        | 20.20      | 19.40        | 24.00                          |
| FR1 n2                                               | 0       | 100.00%    | 23.50                    | 27.70      | 26.90        | 23.00        | 25.10      | 23.00        | 23.50                          |
| FR1 n5                                               | 0       | 100.00%    | 24.70                    | 27.70      | 26.90        | 24.50        | 27.40      | 26.60        | 24.70                          |
| FR1 n5                                               | 1       | 100.00%    | 24.20                    | 21.20      | 19.20        | 27.60        | 28.40      | 27.60        | 24.20                          |
| FR1 n7                                               | 2       | 100.00%    | 24.70                    | 25.00      | 23.00        | 19.00        | 22.90      | 22.00        | 24.70                          |
| FR1 n7                                               | 0       | 100.00%    | 24.20                    | 24.20      | 22.70        | 20.30        | 22.60      | 20.70        | 24.20                          |
| FR1 n12                                              | 0       | 100.00%    | 24.80                    | 28.70      | 27.90        | 27.00        | 28.00      | 27.20        | 24.80                          |
| FR1 n12                                              | 1       | 100.00%    | 24.30                    | 22.40      | 20.30        | 29.50        | 30.40      | 29.60        | 24.30                          |
| FR1 n26                                              | 0       | 100.00%    | 24.70                    | 27.70      | 26.90        | 24.50        | 27.40      | 26.60        | 24.70                          |
| FR1 n26                                              | 1       | 100.00%    | 24.20                    | 21.20      | 19.20        | 27.60        | 28.40      | 27.60        | 24.20                          |
| FR1 n41/n38 PC3                                      | 2       | 100.00%    | 24.70                    | 23.30      | 22.50        | 19.40        | 22.50      | 21.60        | 24.70                          |
| FR1 n41/n38 PC3                                      | 0       | 100.00%    | 24.20                    | 24.20      | 23.40        | 20.30        | 24.20      | 23.40        | 24.20                          |
| FR1 n66                                              | 2       | 100.00%    | 24.70                    | 27.00      | 26.20        | 22.70        | 23.50      | 22.70        | 24.70                          |
| FR1 n66                                              | 0       | 100.00%    | 24.20                    | 26.80      | 26.00        | 21.70        | 24.80      | 21.70        | 24.20                          |
| FR1 n77 PC3                                          | 6       | 100.00%    | 24.20                    | 22.70      | 21.90        | 17.80        | 20.10      | 19.30        | 24.20                          |
| FR1 n77 PC3                                          | 2       | 100.00%    | 23.20                    | 23.50      | 21.50        | 18.00        | 20.10      | 18.80        | 23.20                          |
| FR1 n77 PC3                                          | 1       | 100.00%    | 24.00                    | 18.20      | 17.40        | 23.30        | 26.00      | 25.20        | 24.00                          |
| FR1 n77 PC3                                          | 5       | 100.00%    | 24.00                    | 15.50      | 11.30        | 18.70        | 23.00      | 20.60        | 24.00                          |
| FR1 n77 PC2                                          | 6       | 50.00%     | 23.30                    | 22.70      | 21.90        | 17.80        | 20.10      | 19.30        | 23.30                          |
| FR1 n77 PC2                                          | 2       | 50.00%     | 22.20                    | 23.50      | 21.50        | 18.00        | 20.10      | 18.80        | 22.20                          |

1. LTE and 5GNR TDD: P<sub>limit</sub> power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
2. Maximum target power, P<sub>max</sub>, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.

## **8. RF Exposure Limits**

### **8.1 Uncontrolled Environment**

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.

### **8.2 Controlled Environment**

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. The 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.

**Limits for Occupational/Controlled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.4        | 8.0          | 20.0                           |

**Limits for General Population/Uncontrolled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.08       | 1.6          | 4.0                            |

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm<sup>2</sup> per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

| Frequency range (MHz)                                          | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposures</b>        |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *(100)                              | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *(900/f <sup>2</sup> )              | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1500                                                       |                               |                               | f/300                               | 6                        |
| 1500-100,000                                                   |                               |                               | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 0.3-1.34                                                       | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34-30                                                        | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30-300                                                         | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1500                                                       |                               |                               | f/1500                              | 30                       |
| 1500-100,000                                                   |                               |                               | 1.0                                 | 30                       |

## **9. Specific Absorption Rate (SAR)**

### **9.1 Introduction**

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.

### **9.2 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 ( $\rho$ ). The equation description is as below:

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

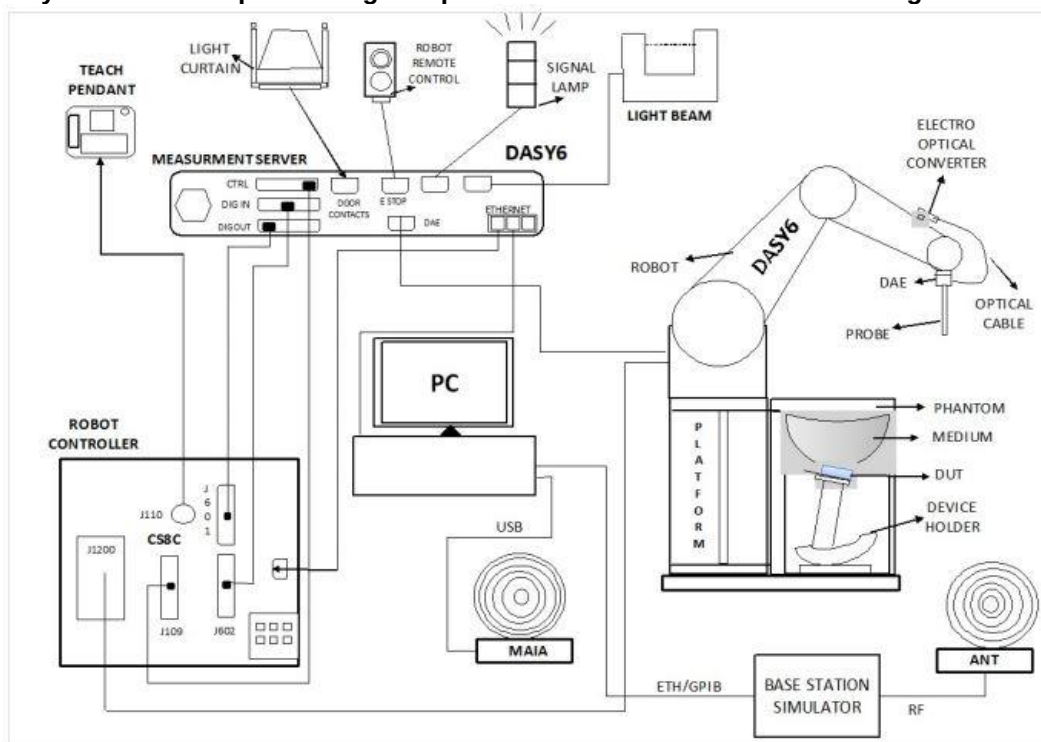
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of the tissue and E is the RMS electrical field strength.

## 10. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- The DASY system in DASY6/DASY5 V5.2 SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY5/DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

### 10.1 Test Site Location

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

| Test Site          | EMC & Wireless Communications Laboratory                                       |          | Wensan Laboratory                                                                                     |          |          |
|--------------------|--------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------|----------|----------|
| Test Site Location | <b>TW1190</b><br>No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan |          | <b>TW3786</b><br>No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan |          |          |
| Test Site No.      | SAR01-HY                                                                       | SAR03-HY | SAR08-HY                                                                                              | SAR09-HY | SAR15-HY |
|                    | SAR04-HY                                                                       | SAR05-HY | SAR11-HY                                                                                              | SAR12-HY | SAR16-HY |
|                    | SAR06-HY                                                                       | SAR10-HY | SAR13-HY                                                                                              | SAR14-HY | SAR17-HY |
|                    |                                                                                |          | SAR18-HY                                                                                              | SAR-20HY |          |

## 10.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

### <ES3DV3 Probe>

|               |                                                                                                                                                                                  |                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Construction  | Symmetric design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| Frequency     | 10 MHz – 4 GHz;<br>Linearity: $\pm 0.2$ dB (30 MHz – 4 GHz)                                                                                                                      |                                                                                    |
| Directivity   | $\pm 0.2$ dB in TSL (rotation around probe axis)<br>$\pm 0.3$ dB in TSL (rotation normal to probe axis)                                                                          |                                                                                    |
| Dynamic Range | 5 $\mu$ W/g – >100 mW/g;<br>Linearity: $\pm 0.2$ dB                                                                                                                              |                                                                                    |
| Dimensions    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 3.9 mm (body: 12 mm)<br>Distance from probe tip to dipole centers: 3.0 mm                                                   |                                                                                    |

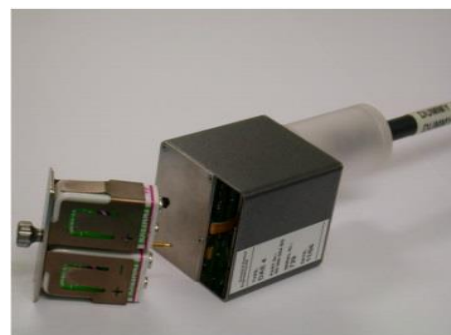
### <EX3DV4 Probe>

|               |                                                                                                                                                           |                                                                                     |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Construction  | Symmetric design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| Frequency     | 10 MHz – >6 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz – 6 GHz)                                                                                               |                                                                                     |
| Directivity   | $\pm 0.3$ dB in TSL (rotation around probe axis)<br>$\pm 0.5$ dB in TSL (rotation normal to probe axis)                                                   |                                                                                     |
| Dynamic Range | 10 $\mu$ W/g – >100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically <1 $\mu$ W/g)                                                                       |                                                                                     |
| Dimensions    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 2.5 mm (body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                      |                                                                                     |

## 10.3 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



**Fig 5.1** Photo of DAE

## 10.4 Phantom

### <SAM Twin Phantom>

|                   |                                                            |
|-------------------|------------------------------------------------------------|
| Shell Thickness   | 2 ± 0.2 mm;<br>Center ear point: 6 ± 0.2 mm                |
| Filling Volume    | Approx. 25 liters                                          |
| Dimensions        | Length: 1000 mm; Width: 500 mm; Height:<br>adjustable feet |
| Measurement Areas | Left Hand, Right Hand, Flat Phantom                        |



The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

### <ELI Phantom>

|                 |                                                  |
|-----------------|--------------------------------------------------|
| Shell Thickness | 2 ± 0.2 mm (sagging: <1%)                        |
| Filling Volume  | Approx. 30 liters                                |
| Dimensions      | Major ellipse axis: 600 mm<br>Minor axis: 400 mm |



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

## **10.5 Device Holder**

### **<Mounting Device for Hand-Held Transmitter>**

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

### **<Mounting Device for Laptops and other Body-Worn Transmitters>**

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

## **11. Measurement Procedures**

The measurement procedures are as follows:

### <Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN power measurement, use engineering software to configure EUT WLAN continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN output power

### <SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix G demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

### **11.1 Spatial Peak SAR Evaluation**

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

### **11.2 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. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### **11.3 Area 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. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), 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 parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                        | $\leq 3$ GHz                                                                                                                                                                                                                                                           | $> 3$ GHz                                              |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | $5 \pm 1$ mm                                                                                                                                                                                                                                                           | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm     |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location              | $30^\circ \pm 1^\circ$                                                                                                                                                                                                                                                 | $20^\circ \pm 1^\circ$                                 |
| Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$                            | $\leq 2$ GHz: $\leq 15$ mm<br>$2 - 3$ GHz: $\leq 12$ mm                                                                                                                                                                                                                | $3 - 4$ GHz: $\leq 12$ mm<br>$4 - 6$ GHz: $\leq 10$ 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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                        |

### **11.4 Zoom Scan**

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                                                                                                                                                                                                                             |                                           |                                                                                             | $\leq 3$ GHz                                         | $> 3$ GHz                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$                                                                                                                                                                                                                      |                                           |                                                                                             | $\leq 2$ GHz: $\leq 8$ mm<br>2 – 3 GHz: $\leq 5$ mm* | 3 – 4 GHz: $\leq 5$ mm*<br>4 – 6 GHz: $\leq 4$ mm*                            |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                                             | uniform grid: $\Delta z_{\text{Zoom}}(n)$ |                                                                                             | $\leq 5$ mm                                          | 3 – 4 GHz: $\leq 4$ mm<br>4 – 5 GHz: $\leq 3$ mm<br>5 – 6 GHz: $\leq 2$ mm    |
|                                                                                                                                                                                                                                                                                                             | graded grid                               | $\Delta z_{\text{Zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | $\leq 4$ mm                                          | 3 – 4 GHz: $\leq 3$ mm<br>4 – 5 GHz: $\leq 2.5$ mm<br>5 – 6 GHz: $\leq 2$ mm  |
|                                                                                                                                                                                                                                                                                                             |                                           | $\Delta z_{\text{Zoom}}(n>1)$ : between subsequent points                                   | $\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$         |                                                                               |
| Minimum zoom scan volume                                                                                                                                                                                                                                                                                    | x, y, z                                   |                                                                                             | $\geq 30$ mm                                         | 3 – 4 GHz: $\geq 28$ mm<br>4 – 5 GHz: $\geq 25$ mm<br>5 – 6 GHz: $\geq 22$ mm |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.                                                                                                                                                           |                                           |                                                                                             |                                                      |                                                                               |
| * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ 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. |                                           |                                                                                             |                                                      |                                                                               |

### **11.5 Volume Scan Procedures**

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

### **11.6 Power Drift Monitoring**

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASy measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

## 12. Test Equipment List

| Manufacturer  | Name of Equipment                            | Type/Model      | Serial Number | Calibration   |               |
|---------------|----------------------------------------------|-----------------|---------------|---------------|---------------|
|               |                                              |                 |               | Last Cal.     | Due Date      |
| SPEAG         | 750MHz System Validation Kit <sup>(2)</sup>  | D750V3          | 1107          | Jun. 22, 2022 | Jun. 20, 2024 |
| SPEAG         | 835MHz System Validation Kit                 | D835V2          | 4d167         | Nov. 24, 2022 | Nov. 23, 2023 |
| SPEAG         | 1750MHz System Validation Kit <sup>(2)</sup> | D1750V2         | 1112          | Jun. 22, 2022 | Jun. 20, 2024 |
| SPEAG         | 1900MHz System Validation Kit <sup>(2)</sup> | D1900V2         | 5d185         | Jun. 17, 2022 | Jun. 15, 2024 |
| SPEAG         | 2300MHz System Validation Kit <sup>(2)</sup> | D2300V2         | 1006          | Jan. 18, 2022 | Jan. 16, 2024 |
| SPEAG         | 2450MHz System Validation Kit                | D2450V2         | 929           | Nov. 21, 2022 | Nov. 20, 2023 |
| SPEAG         | 2600MHz System Validation Kit <sup>(2)</sup> | D2600V2         | 1078          | Jun. 23, 2022 | Jun. 21, 2024 |
| SPEAG         | 3500MHz System Validation Kit <sup>(2)</sup> | D3500V2         | 1014          | Jan. 17, 2022 | Jan. 15, 2024 |
| SPEAG         | 3500MHz System Validation Kit <sup>(2)</sup> | D3500V2         | 1036          | Mar. 23, 2022 | Mar. 21, 2024 |
| SPEAG         | 3700MHz System Validation Kit <sup>(2)</sup> | D3700V2         | 1006          | Jun. 20, 2022 | Jun. 18, 2024 |
| SPEAG         | 3900MHz System Validation Kit <sup>(2)</sup> | D3900V2         | 1017          | Apr. 22, 2022 | Apr. 20, 2024 |
| SPEAG         | 3900MHz System Validation Kit                | D3900V2         | 1092          | May. 15, 2023 | May. 14, 2024 |
| SPEAG         | 5GHz System Validation Kit <sup>(2)</sup>    | D5GHzV2         | 1006          | May. 25, 2023 | May. 23, 2025 |
| SPEAG         | 5GHz System Validation Kit <sup>(2)</sup>    | D5GHzV2         | 1171          | Apr. 20, 2021 | Apr. 17, 2024 |
| SPEAG         | 6500MHz System Validation Kit                | D6.5GHzV2       | 1003          | Mar. 15, 2023 | Mar. 14, 2024 |
| SPEAG         | 13MHz System Validation Kit                  | CLA13           | 1022          | Sep. 01, 2022 | Aug. 30, 2024 |
| SPEAG         | 5G Verification Source                       | 10GHz           | 1020          | Jan. 20, 2023 | Jan. 19, 2024 |
| SPEAG         | EUmmWV Probe Tip Protection                  | EUmmWV4         | 9441          | Nov. 18, 2022 | Nov. 17, 2023 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 656           | Jan. 23, 2023 | Jan. 22, 2024 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 661           | May. 23, 2023 | May. 22, 2024 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 699           | Feb. 22, 2023 | Feb. 21, 2024 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1424          | Jan. 19, 2023 | Jan. 18, 2024 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1696          | Nov. 09, 2022 | Nov. 08, 2023 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1697          | Dec. 15, 2022 | Dec. 14, 2023 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1707          | Dec. 15, 2022 | Dec. 14, 2023 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 3931          | Oct. 31, 2022 | Oct. 30, 2023 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7625          | Jan. 26, 2023 | Jan. 25, 2024 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7692          | Jul. 18, 2023 | Jul. 17, 2024 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7695          | May. 22, 2023 | May. 21, 2024 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7700          | Jan. 24, 2023 | Jan. 23, 2024 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7785          | Jan. 05, 2023 | Jan. 04, 2024 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7791          | Feb. 22, 2023 | Feb. 21, 2024 |
| RCPTWN        | Thermometer                                  | HTC-1           | TM685-1       | Mar. 21, 2023 | Mar. 20, 2024 |
| RCPTWN        | Thermometer                                  | HTC-1           | TM560-2       | Mar. 21, 2023 | Mar. 20, 2024 |
| Anritsu       | Radio Communication Analyzer                 | MT8821C         | 6201074414    | Aug. 23, 2023 | Aug. 22, 2024 |
| R&S           | Wideband Radio Communication Tester          | CMX500          | 101931        | Jul. 20, 2023 | Jul. 19, 2024 |
| R&S           | BT Base Station                              | CBT             | 100815        | Mar. 05, 2023 | Mar. 04, 2024 |
| SPEAG         | Device Holder                                | N/A             | N/A           | N/A           | N/A           |
| Anritsu       | Signal Generator                             | MG3692A         | 212506        | Nov. 14, 2022 | Nov. 13, 2023 |
| Keysight      | ENA Network Analyzer                         | E5071C          | MY46104758    | Sep. 22, 2022 | Sep. 21, 2023 |
| Keysight      | ENA Network Analyzer                         | E5071C          | MY46316648    | Sep. 07, 2023 | Sep. 06, 2024 |
| SPEAG         | Dielectric Probe Kit                         | DAK-3.5         | 1146          | Jul. 11, 2023 | Jul. 10, 2024 |
| SPEAG         | Dielectric Probe Kit                         | DAK-12          | 1156          | Jul. 17, 2023 | Jul. 16, 2024 |
| LINE SEIKI    | Digital Thermometer                          | DTM3000-spezial | 3690          | Aug. 09, 2023 | Aug. 08, 2024 |
| Anritsu       | Power Meter                                  | ML2495A         | 1419002       | Aug. 17, 2023 | Aug. 16, 2024 |
| Anritsu       | Power Sensor                                 | MA2411B         | 1911176       | Aug. 18, 2023 | Aug. 17, 2024 |
| Anritsu       | Spectrum Analyzer                            | MS2830A         | 6201396378    | Jul. 10, 2023 | Jul. 09, 2024 |
| Mini-Circuits | Power Amplifier                              | ZHL-42W+        | 715701915     | May. 19, 2023 | May. 18, 2024 |
| ATM           | Dual Directional Coupler                     | C122H-10        | P610410z-02   | Note 1        |               |
| Warison       | Directional Coupler                          | WCOU-10-50S-10  | WR889BMC4B1   | Note 1        |               |
| Woken         | Attenuator 1                                 | WK0602-XX       | N/A           | Note 1        |               |
| PE            | Attenuator 2                                 | PE7005-10       | N/A           | Note 1        |               |
| PE            | Attenuator 3                                 | PE7005-3        | N/A           | Note 1        |               |

**General Note:**

- Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
- The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

## 13. System Verification

### 13.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18°C to 25°C, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.

The liquid tissue depth was at least 15cm in the phantom for all SAR testing.

#### <Tissue Dielectric Parameter Check Results>

##### <Spot Check>

| Frequency (MHz) | Liquid Temp. (°C) | Conductivity ( $\sigma$ ) | Permittivity ( $\epsilon_r$ ) | Conductivity Target ( $\sigma$ ) | Permittivity Target ( $\epsilon_r$ ) | Delta ( $\sigma$ ) (%) | Delta ( $\epsilon_r$ ) (%) | Limit (%) | Date       |
|-----------------|-------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|------------------------|----------------------------|-----------|------------|
| 13              | 22.3              | 0.728                     | 54.685                        | 0.75                             | 55.00                                | -2.93                  | -0.57                      | $\pm 5$   | 2023/10/13 |
| 750             | 22.6              | 0.895                     | 43.400                        | 0.89                             | 41.90                                | 0.56                   | 3.58                       | $\pm 5$   | 2023/9/12  |
| 750             | 22.4              | 0.890                     | 41.900                        | 0.89                             | 41.90                                | 0.00                   | 0.00                       | $\pm 5$   | 2023/9/14  |
| 750             | 22.3              | 0.887                     | 41.700                        | 0.89                             | 41.90                                | -0.34                  | -0.48                      | $\pm 5$   | 2023/9/16  |
| 750             | 22.4              | 0.883                     | 41.600                        | 0.89                             | 41.90                                | -0.79                  | -0.72                      | $\pm 5$   | 2023/9/18  |
| 750             | 22.3              | 0.895                     | 41.800                        | 0.89                             | 41.90                                | 0.56                   | -0.24                      | $\pm 5$   | 2023/9/23  |
| 750             | 22.6              | 0.878                     | 41.900                        | 0.89                             | 41.90                                | -1.35                  | 0.00                       | $\pm 5$   | 2023/9/12  |
| 750             | 22.6              | 0.889                     | 41.800                        | 0.89                             | 41.90                                | -0.11                  | -0.24                      | $\pm 5$   | 2023/9/25  |
| 750             | 22.8              | 0.896                     | 41.800                        | 0.89                             | 41.90                                | 0.67                   | -0.24                      | $\pm 5$   | 2023/10/16 |
| 835             | 22.8              | 0.926                     | 41.500                        | 0.90                             | 41.50                                | 2.89                   | 0.00                       | $\pm 5$   | 2023/9/13  |
| 835             | 22.3              | 0.921                     | 41.400                        | 0.90                             | 41.50                                | 2.33                   | -0.24                      | $\pm 5$   | 2023/9/16  |
| 835             | 22.1              | 0.930                     | 41.600                        | 0.90                             | 41.50                                | 3.33                   | 0.24                       | $\pm 5$   | 2023/9/19  |
| 835             | 22.6              | 0.892                     | 41.400                        | 0.90                             | 41.50                                | -0.89                  | -0.24                      | $\pm 5$   | 2023/9/24  |
| 835             | 22.2              | 0.920                     | 41.400                        | 0.90                             | 41.50                                | 2.22                   | -0.24                      | $\pm 5$   | 2023/9/25  |
| 835             | 22.6              | 0.911                     | 41.600                        | 0.90                             | 41.50                                | 1.22                   | 0.24                       | $\pm 5$   | 2023/9/13  |
| 835             | 22.3              | 0.924                     | 41.300                        | 0.90                             | 41.50                                | 2.67                   | -0.48                      | $\pm 5$   | 2023/10/13 |
| 1750            | 22.5              | 1.350                     | 40.900                        | 1.37                             | 40.10                                | -1.46                  | 2.00                       | $\pm 5$   | 2023/9/15  |
| 1750            | 22.6              | 1.350                     | 40.800                        | 1.37                             | 40.10                                | -1.46                  | 1.75                       | $\pm 5$   | 2023/9/20  |
| 1750            | 22.6              | 1.360                     | 40.900                        | 1.37                             | 40.10                                | -0.73                  | 2.00                       | $\pm 5$   | 2023/9/24  |
| 1750            | 22.9              | 1.370                     | 41.100                        | 1.37                             | 40.10                                | 0.00                   | 2.49                       | $\pm 5$   | 2023/9/29  |
| 1750            | 22.7              | 1.360                     | 40.600                        | 1.37                             | 40.10                                | -0.73                  | 1.25                       | $\pm 5$   | 2023/10/13 |
| 1900            | 22.8              | 1.460                     | 39.500                        | 1.40                             | 40.00                                | 4.29                   | -1.25                      | $\pm 5$   | 2023/8/30  |
| 1900            | 22.2              | 1.420                     | 39.300                        | 1.40                             | 40.00                                | 1.43                   | -1.75                      | $\pm 5$   | 2023/9/17  |
| 1900            | 22.7              | 1.420                     | 40.800                        | 1.40                             | 40.00                                | 1.43                   | 2.00                       | $\pm 5$   | 2023/9/20  |
| 1900            | 22.6              | 1.430                     | 41.000                        | 1.40                             | 40.00                                | 2.14                   | 2.50                       | $\pm 5$   | 2023/9/21  |
| 1900            | 22.2              | 1.430                     | 39.400                        | 1.40                             | 40.00                                | 2.14                   | -1.50                      | $\pm 5$   | 2023/9/26  |
| 1900            | 22.3              | 1.440                     | 39.400                        | 1.40                             | 40.00                                | 2.86                   | -1.50                      | $\pm 5$   | 2023/10/3  |
| 1900            | 22.7              | 1.440                     | 38.700                        | 1.40                             | 40.00                                | 2.86                   | -3.25                      | $\pm 5$   | 2023/10/11 |
| 2300            | 22.7              | 1.670                     | 39.100                        | 1.67                             | 39.50                                | 0.00                   | -1.01                      | $\pm 5$   | 2023/9/21  |
| 2300            | 22.4              | 1.670                     | 39.000                        | 1.67                             | 39.50                                | 0.00                   | -1.27                      | $\pm 5$   | 2023/9/27  |
| 2450            | 22.3              | 1.770                     | 38.600                        | 1.80                             | 39.20                                | -1.67                  | -1.53                      | $\pm 5$   | 2023/10/7  |
| 2450            | 22.2              | 1.840                     | 39.000                        | 1.80                             | 39.20                                | 2.22                   | -0.51                      | $\pm 5$   | 2023/10/12 |
| 2450            | 22.3              | 1.810                     | 38.800                        | 1.80                             | 39.20                                | 0.56                   | -1.02                      | $\pm 5$   | 2023/10/12 |
| 2450            | 22.5              | 1.780                     | 38.900                        | 1.80                             | 39.20                                | -1.11                  | -0.77                      | $\pm 5$   | 2023/10/13 |
| 2450            | 22.3              | 1.780                     | 38.600                        | 1.80                             | 39.20                                | -1.11                  | -1.53                      | $\pm 5$   | 2023/10/15 |
| 2450            | 22.3              | 1.790                     | 38.700                        | 1.80                             | 39.20                                | -0.56                  | -1.28                      | $\pm 5$   | 2023/10/18 |
| 2450            | 22.9              | 1.790                     | 39.900                        | 1.80                             | 39.20                                | -0.56                  | 1.79                       | $\pm 5$   | 2023/10/19 |
| 2600            | 22.7              | 2.000                     | 37.900                        | 1.96                             | 39.00                                | 2.04                   | -2.82                      | $\pm 5$   | 2023/9/21  |
| 2600            | 22.4              | 1.980                     | 37.800                        | 1.96                             | 39.00                                | 1.02                   | -3.08                      | $\pm 5$   | 2023/9/24  |
| 2600            | 22.6              | 1.980                     | 38.800                        | 1.96                             | 39.00                                | 1.02                   | -0.51                      | $\pm 5$   | 2023/9/26  |
| 2600            | 22.4              | 1.990                     | 37.900                        | 1.96                             | 39.00                                | 1.53                   | -2.82                      | $\pm 5$   | 2023/9/27  |



# FCC SAR TEST REPORT

Report No. : FA380308B

|      |      |       |        |      |       |       |       |    |            |
|------|------|-------|--------|------|-------|-------|-------|----|------------|
| 2600 | 22.2 | 1.980 | 38.000 | 1.96 | 39.00 | 1.02  | -2.56 | ±5 | 2023/9/28  |
| 2600 | 22.3 | 1.970 | 37.800 | 1.96 | 39.00 | 0.51  | -3.08 | ±5 | 2023/10/4  |
| 2600 | 22.8 | 1.920 | 38.000 | 1.96 | 39.00 | -2.04 | -2.56 | ±5 | 2023/10/10 |
| 2600 | 22.5 | 1.930 | 38.200 | 1.96 | 39.00 | -1.53 | -2.05 | ±5 | 2023/10/12 |
| 3500 | 22.5 | 2.970 | 38.400 | 2.91 | 37.90 | 2.06  | 1.32  | ±5 | 2023/9/22  |
| 3500 | 22.6 | 2.920 | 37.600 | 2.91 | 37.90 | 0.34  | -0.79 | ±5 | 2023/9/29  |
| 3500 | 22.7 | 2.920 | 37.800 | 2.91 | 37.90 | 0.34  | -0.26 | ±5 | 2023/10/3  |
| 3500 | 22.5 | 2.950 | 38.200 | 2.91 | 37.90 | 1.37  | 0.79  | ±5 | 2023/10/5  |
| 3500 | 22.6 | 2.960 | 38.100 | 2.91 | 37.90 | 1.72  | 0.53  | ±5 | 2023/10/5  |
| 3500 | 22.7 | 2.950 | 37.400 | 2.91 | 37.90 | 1.37  | -1.32 | ±5 | 2023/10/7  |
| 3500 | 22.7 | 2.950 | 37.900 | 2.91 | 37.90 | 1.37  | 0.00  | ±5 | 2023/10/7  |
| 3500 | 22.8 | 2.930 | 37.300 | 2.91 | 37.90 | 0.69  | -1.58 | ±5 | 2023/10/8  |
| 3500 | 22.6 | 3.010 | 37.900 | 2.91 | 37.90 | 3.44  | 0.00  | ±5 | 2023/10/9  |
| 3500 | 22.7 | 2.950 | 38.100 | 2.91 | 37.90 | 1.37  | 0.53  | ±5 | 2023/10/12 |
| 3500 | 22.3 | 2.920 | 37.600 | 2.91 | 37.90 | 0.34  | -0.79 | ±5 | 2023/10/31 |
| 3500 | 22.2 | 2.930 | 38.200 | 2.91 | 37.90 | 0.69  | 0.79  | ±5 | 2023/11/1  |
| 3700 | 22.5 | 3.130 | 38.200 | 3.12 | 37.70 | 0.32  | 1.33  | ±5 | 2023/9/22  |
| 3700 | 22.6 | 3.080 | 37.400 | 3.12 | 37.70 | -1.28 | -0.80 | ±5 | 2023/9/29  |
| 3700 | 22.7 | 3.110 | 37.700 | 3.12 | 37.70 | -0.32 | 0.00  | ±5 | 2023/10/3  |
| 3700 | 22.5 | 3.110 | 38.000 | 3.12 | 37.70 | -0.32 | 0.80  | ±5 | 2023/10/5  |
| 3700 | 22.6 | 3.120 | 37.800 | 3.12 | 37.70 | 0.00  | 0.27  | ±5 | 2023/10/5  |
| 3700 | 22.7 | 3.140 | 37.100 | 3.12 | 37.70 | 0.64  | -1.59 | ±5 | 2023/10/7  |
| 3700 | 22.8 | 3.120 | 37.000 | 3.12 | 37.70 | 0.00  | -1.86 | ±5 | 2023/10/8  |
| 3700 | 22.7 | 3.160 | 37.900 | 3.12 | 37.70 | 1.28  | 0.53  | ±5 | 2023/10/12 |
| 3700 | 22.3 | 3.080 | 37.400 | 3.12 | 37.70 | -1.28 | -0.80 | ±5 | 2023/10/31 |
| 3700 | 22.2 | 3.140 | 38.000 | 3.12 | 37.70 | 0.64  | 0.80  | ±5 | 2023/11/1  |
| 3900 | 22.6 | 3.250 | 37.100 | 3.33 | 37.51 | -2.40 | -1.09 | ±5 | 2023/9/29  |
| 3900 | 22.7 | 3.250 | 37.300 | 3.33 | 37.51 | -2.40 | -0.56 | ±5 | 2023/10/1  |
| 3900 | 22.7 | 3.280 | 37.400 | 3.33 | 37.51 | -1.50 | -0.29 | ±5 | 2023/10/3  |
| 3900 | 22.6 | 3.290 | 37.600 | 3.33 | 37.51 | -1.20 | 0.24  | ±5 | 2023/10/5  |
| 3900 | 22.5 | 3.380 | 37.000 | 3.33 | 37.51 | 1.50  | -1.36 | ±5 | 2023/10/6  |
| 3900 | 22.7 | 3.340 | 36.900 | 3.33 | 37.51 | 0.30  | -1.63 | ±5 | 2023/10/7  |
| 3900 | 22.7 | 3.280 | 37.300 | 3.33 | 37.51 | -1.50 | -0.56 | ±5 | 2023/10/7  |
| 3900 | 22.8 | 3.320 | 36.700 | 3.33 | 37.51 | -0.30 | -2.16 | ±5 | 2023/10/8  |
| 3900 | 22.3 | 3.250 | 37.100 | 3.33 | 37.51 | -2.40 | -1.09 | ±5 | 2023/10/31 |
| 3900 | 22.2 | 3.350 | 37.800 | 3.33 | 37.51 | 0.60  | 0.77  | ±5 | 2023/11/1  |
| 5250 | 22.3 | 4.600 | 35.400 | 4.71 | 35.95 | -2.34 | -1.53 | ±5 | 2023/10/7  |
| 5250 | 22.3 | 4.750 | 37.000 | 4.71 | 35.95 | 0.85  | 2.92  | ±5 | 2023/10/14 |
| 5250 | 22.3 | 4.820 | 36.900 | 4.71 | 35.95 | 2.34  | 2.64  | ±5 | 2023/10/15 |
| 5250 | 22.3 | 4.680 | 35.700 | 4.71 | 35.95 | -0.64 | -0.70 | ±5 | 2023/10/16 |
| 5250 | 22.6 | 4.820 | 36.500 | 4.71 | 35.95 | 2.34  | 1.53  | ±5 | 2023/10/16 |
| 5250 | 22.3 | 4.680 | 36.000 | 4.71 | 35.95 | -0.64 | 0.14  | ±5 | 2023/10/17 |
| 5250 | 22.6 | 4.700 | 36.800 | 4.71 | 35.95 | -0.21 | 2.36  | ±5 | 2023/10/18 |
| 5250 | 22.8 | 4.570 | 35.400 | 4.71 | 35.95 | -2.97 | -1.53 | ±5 | 2023/10/18 |
| 5250 | 22.5 | 4.670 | 37.200 | 4.71 | 35.95 | -0.85 | 3.48  | ±5 | 2023/10/20 |
| 5600 | 22.3 | 5.000 | 34.800 | 5.07 | 35.50 | -1.38 | -1.97 | ±5 | 2023/10/7  |
| 5600 | 22.3 | 5.120 | 36.500 | 5.07 | 35.50 | 0.99  | 2.82  | ±5 | 2023/10/14 |
| 5600 | 22.3 | 5.210 | 36.300 | 5.07 | 35.50 | 2.76  | 2.25  | ±5 | 2023/10/15 |
| 5600 | 22.3 | 5.080 | 35.100 | 5.07 | 35.50 | 0.20  | -1.13 | ±5 | 2023/10/16 |
| 5600 | 22.3 | 5.080 | 35.400 | 5.07 | 35.50 | 0.20  | -0.28 | ±5 | 2023/10/17 |
| 5600 | 22.6 | 5.060 | 36.300 | 5.07 | 35.50 | -0.20 | 2.25  | ±5 | 2023/10/18 |
| 5600 | 22.8 | 4.960 | 34.800 | 5.07 | 35.50 | -2.17 | -1.97 | ±5 | 2023/10/18 |
| 5750 | 22.3 | 5.180 | 34.500 | 5.22 | 35.35 | -0.77 | -2.40 | ±5 | 2023/10/7  |
| 5750 | 22.3 | 5.290 | 36.300 | 5.22 | 35.35 | 1.34  | 2.69  | ±5 | 2023/10/14 |
| 5750 | 22.3 | 5.360 | 36.200 | 5.22 | 35.35 | 2.68  | 2.40  | ±5 | 2023/10/15 |
| 5750 | 22.3 | 5.260 | 34.800 | 5.22 | 35.35 | 0.77  | -1.56 | ±5 | 2023/10/16 |

|      |      |       |        |      |       |       |       |    |            |
|------|------|-------|--------|------|-------|-------|-------|----|------------|
| 5750 | 22.5 | 5.360 | 35.800 | 5.22 | 35.35 | 2.68  | 1.27  | ±5 | 2023/10/16 |
| 5750 | 22.3 | 5.270 | 35.100 | 5.22 | 35.35 | 0.96  | -0.71 | ±5 | 2023/10/17 |
| 5750 | 22.6 | 5.220 | 36.100 | 5.22 | 35.35 | 0.00  | 2.12  | ±5 | 2023/10/18 |
| 5750 | 22.8 | 5.150 | 34.500 | 5.22 | 35.35 | -1.34 | -2.40 | ±5 | 2023/10/18 |
| 5850 | 22.5 | 5.440 | 35.500 | 5.32 | 35.25 | 2.26  | 0.71  | ±5 | 2023/10/17 |
| 5850 | 22.6 | 5.180 | 36.000 | 5.32 | 35.25 | -2.63 | 2.13  | ±5 | 2023/10/18 |
| 6500 | 22.5 | 6.310 | 35.200 | 6.07 | 34.50 | 3.95  | 2.03  | ±5 | 2023/10/13 |
| 6500 | 22.5 | 5.970 | 34.200 | 6.07 | 34.50 | -1.65 | -0.87 | ±5 | 2023/10/14 |

**<Full Test>**

| Frequency (MHz) | Liquid Temp. (°C) | Conductivity (σ) | Permittivity (ε <sub>r</sub> ) | Conductivity Target (σ) | Permittivity Target (ε <sub>r</sub> ) | Delta (σ) (%) | Delta (ε <sub>r</sub> ) (%) | Limit (%) | Date       |
|-----------------|-------------------|------------------|--------------------------------|-------------------------|---------------------------------------|---------------|-----------------------------|-----------|------------|
| 835             | 22.6              | 0.909            | 40.600                         | 0.90                    | 41.50                                 | 1.00          | -2.17                       | ±5        | 2023/9/18  |
| 835             | 22.6              | 0.934            | 41.800                         | 0.90                    | 41.50                                 | 3.78          | 0.72                        | ±5        | 2023/10/15 |
| 835             | 22.8              | 0.922            | 41.400                         | 0.90                    | 41.50                                 | 2.44          | -0.24                       | ±5        | 2023/10/18 |
| 1750            | 22.6              | 1.360            | 40.500                         | 1.37                    | 40.10                                 | -0.73         | 1.00                        | ±5        | 2023/9/16  |
| 1750            | 22.6              | 1.360            | 40.800                         | 1.37                    | 40.10                                 | -0.73         | 1.75                        | ±5        | 2023/9/21  |
| 1750            | 22.7              | 1.360            | 40.600                         | 1.37                    | 40.10                                 | -0.73         | 1.25                        | ±5        | 2023/10/13 |
| 1750            | 22.4              | 1.370            | 40.200                         | 1.37                    | 40.10                                 | 0.00          | 0.25                        | ±5        | 2023/10/14 |
| 1750            | 22.5              | 1.370            | 40.700                         | 1.37                    | 40.10                                 | 0.00          | 1.50                        | ±5        | 2023/10/25 |
| 1900            | 22.4              | 1.420            | 40.600                         | 1.40                    | 40.00                                 | 1.43          | 1.50                        | ±5        | 2023/9/15  |
| 1900            | 22.7              | 1.420            | 40.800                         | 1.40                    | 40.00                                 | 1.43          | 2.00                        | ±5        | 2023/9/20  |
| 1900            | 22.4              | 1.450            | 38.700                         | 1.40                    | 40.00                                 | 3.57          | -3.25                       | ±5        | 2023/10/14 |
| 1900            | 22.7              | 1.450            | 39.300                         | 1.40                    | 40.00                                 | 3.57          | -1.75                       | ±5        | 2023/10/16 |
| 1900            | 22.8              | 1.430            | 39.000                         | 1.40                    | 40.00                                 | 2.14          | -2.50                       | ±5        | 2023/10/18 |
| 1900            | 22.5              | 1.440            | 39.200                         | 1.40                    | 40.00                                 | 2.86          | -2.00                       | ±5        | 2023/10/25 |
| 3500            | 22.5              | 2.920            | 37.200                         | 2.91                    | 37.90                                 | 0.34          | -1.85                       | ±5        | 2023/10/16 |
| 3500            | 22.7              | 2.920            | 37.100                         | 2.91                    | 37.90                                 | 0.34          | -2.11                       | ±5        | 2023/10/17 |
| 3700            | 22.5              | 3.100            | 36.900                         | 3.12                    | 37.70                                 | -0.64         | -2.12                       | ±5        | 2023/10/16 |
| 3700            | 22.7              | 3.100            | 36.800                         | 3.12                    | 37.70                                 | -0.64         | -2.39                       | ±5        | 2023/10/17 |
| 3900            | 22.5              | 3.310            | 36.600                         | 3.33                    | 37.51                                 | -0.60         | -2.43                       | ±5        | 2023/10/16 |
| 3900            | 22.7              | 3.300            | 36.600                         | 3.33                    | 37.51                                 | -0.90         | -2.43                       | ±5        | 2023/10/17 |

### 13.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

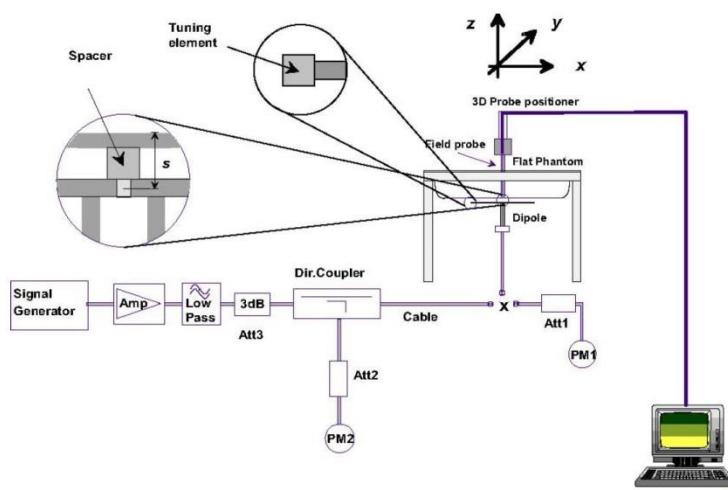
#### <Spot Check>

| Test Site | Date       | Frequency (MHz) | Input Power (mW) | Dipole S/N    | Probe S/N       | DAE S/N     | Measured 10g SAR (W/kg) | Targeted 10g SAR (W/kg) | Normalized 10g SAR (W/kg) | Deviation (%) |
|-----------|------------|-----------------|------------------|---------------|-----------------|-------------|-------------------------|-------------------------|---------------------------|---------------|
| SAR-15    | 2023/10/13 | 13              | 1000             | CLA13-1022    | EX3DV4 - SN7695 | DAE4 Sn656  | 0.335                   | 0.349                   | 0.335                     | -4.29         |
| Test Site | Date       | Frequency (MHz) | Input Power (mW) | Dipole S/N    | Probe S/N       | DAE S/N     | Measured 1g SAR (W/kg)  | Targeted 1g SAR (W/kg)  | Normalized 1g SAR (W/kg)  | Deviation (%) |
| SAR17     | 2023/9/12  | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.403                   | 8.540                   | 8.06                      | -5.62         |
| SAR17     | 2023/9/14  | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.427                   | 8.540                   | 8.54                      | 0.00          |
| SAR17     | 2023/9/16  | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.426                   | 8.540                   | 8.52                      | -0.23         |
| SAR17     | 2023/9/18  | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.388                   | 8.540                   | 7.76                      | -9.13         |
| SAR17     | 2023/9/23  | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.427                   | 8.540                   | 8.54                      | 0.00          |
| SAR16     | 2023/9/12  | 750             | 50               | D750V3-1107   | EX3DV4 - SN3931 | DAE4 Sn1696 | 0.413                   | 8.540                   | 8.26                      | -3.28         |
| SAR18     | 2023/9/25  | 750             | 50               | D750V3-1107   | EX3DV4 - SN3931 | DAE4 Sn1696 | 0.392                   | 8.540                   | 7.84                      | -8.20         |
| SAR17     | 2023/10/16 | 750             | 50               | D750V3-1107   | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.392                   | 8.540                   | 7.84                      | -8.20         |
| SAR17     | 2023/9/13  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.461                   | 9.800                   | 9.22                      | -5.92         |
| SAR17     | 2023/9/16  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.446                   | 9.800                   | 8.92                      | -8.98         |
| SAR17     | 2023/9/19  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.471                   | 9.800                   | 9.42                      | -3.88         |
| SAR18     | 2023/9/24  | 850             | 50               | D835V2-4d167  | EX3DV4 - SN3931 | DAE4 Sn1696 | 0.468                   | 9.800                   | 9.36                      | -4.49         |
| SAR17     | 2023/9/25  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.446                   | 9.800                   | 8.92                      | -8.98         |
| SAR16     | 2023/9/13  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN3931 | DAE4 Sn1696 | 0.523                   | 9.800                   | 10.46                     | 6.73          |
| SAR17     | 2023/10/13 | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.465                   | 9.800                   | 9.3                       | -5.10         |
| SAR17     | 2023/9/15  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.860                   | 36.900                  | 37.2                      | 0.81          |
| SAR17     | 2023/9/20  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.810                   | 36.900                  | 36.2                      | -1.90         |
| SAR18     | 2023/9/24  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.750                   | 36.900                  | 35                        | -5.15         |
| SAR17     | 2023/9/29  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.870                   | 36.900                  | 37.4                      | 1.36          |
| SAR16     | 2023/10/13 | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7692 | DAE4 Sn661  | 1.680                   | 36.900                  | 33.6                      | -8.94         |
| SAR18     | 2023/8/30  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.830                   | 39.000                  | 36.6                      | -6.15         |
| SAR17     | 2023/9/17  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.830                   | 39.000                  | 36.6                      | -6.15         |
| SAR18     | 2023/9/20  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.930                   | 39.000                  | 38.6                      | -1.03         |
| SAR18     | 2023/9/21  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.950                   | 39.000                  | 39                        | 0.00          |
| SAR17     | 2023/9/26  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.870                   | 39.000                  | 37.4                      | -4.10         |
| SAR17     | 2023/10/3  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.840                   | 39.000                  | 36.8                      | -5.64         |
| SAR16     | 2023/10/11 | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7692 | DAE4 Sn661  | 1.840                   | 39.000                  | 36.8                      | -5.64         |
| SAR17     | 2023/9/21  | 2300            | 50               | D2300V2-1006  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.270                   | 48.300                  | 45.4                      | -6.00         |
| SAR17     | 2023/9/27  | 2300            | 50               | D2300V2-1006  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.350                   | 48.300                  | 47                        | -2.69         |
| SAR-15    | 2023/10/7  | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7791 | DAE4 Sn699  | 2.780                   | 52.400                  | 55.6                      | 6.11          |
| SAR-13    | 2023/10/12 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7791 | DAE4 Sn1697 | 2.620                   | 52.400                  | 52.4                      | 0.00          |
| SAR-15    | 2023/10/12 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7785 | DAE4 Sn699  | 2.580                   | 52.400                  | 51.6                      | -1.53         |
| SAR-17    | 2023/10/13 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.370                   | 52.400                  | 47.4                      | -9.54         |
| SAR-15    | 2023/10/15 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7785 | DAE4 Sn699  | 2.510                   | 52.400                  | 50.2                      | -4.20         |
| SAR-15    | 2023/10/18 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7785 | DAE4 Sn699  | 2.540                   | 52.400                  | 50.8                      | -3.05         |
| SAR-15    | 2023/10/19 | 2450            | 50               | D2450V2-929   | EX3DV4 - SN7785 | DAE4 Sn699  | 2.460                   | 52.400                  | 49.2                      | -6.11         |
| SAR17     | 2023/9/21  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.790                   | 55.400                  | 55.8                      | 0.72          |
| SAR17     | 2023/9/24  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.620                   | 55.400                  | 52.4                      | -5.42         |
| SAR18     | 2023/9/26  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN3931 | DAE4 Sn1696 | 2.710                   | 55.400                  | 54.2                      | -2.17         |
| SAR17     | 2023/9/27  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.590                   | 55.400                  | 51.8                      | -6.50         |
| SAR17     | 2023/9/28  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.590                   | 55.400                  | 51.8                      | -6.50         |
| SAR17     | 2023/10/4  | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.600                   | 55.400                  | 52                        | -6.14         |
| SAR17     | 2023/10/10 | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.510                   | 55.400                  | 50.2                      | -9.39         |
| SAR17     | 2023/10/12 | 2600            | 50               | D2600V2-1078  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.530                   | 55.400                  | 50.6                      | -8.66         |
| SAR17     | 2023/9/22  | 3500            | 50               | D3500V2-1014  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.230                   | 67.200                  | 64.6                      | -3.87         |
| SAR18     | 2023/9/29  | 3500            | 50               | D3500V2-1014  | EX3DV4 - SN3931 | DAE4 Sn1696 | 3.400                   | 67.200                  | 68                        | 1.19          |
| SAR16     | 2023/10/3  | 3500            | 50               | D3500V2-1014  | EX3DV4 - SN7692 | DAE4 Sn661  | 3.550                   | 67.200                  | 71                        | 5.65          |
| SAR17     | 2023/10/5  | 3500            | 50               | D3500V2-1014  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.030                   | 67.200                  | 60.6                      | -9.82         |
| SAR16     | 2023/10/5  | 3500            | 50               | D3500V2-1014  | EX3DV4 - SN7692 | DAE4 Sn661  | 3.140                   | 67.200                  | 62.8                      | -6.55         |
| SAR17     | 2023/10/7  | 3500            | 50               | D3500V2-1036  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.180                   | 67.400                  | 63.6                      | -5.64         |
| SAR16     | 2023/10/7  | 3500            | 50               | D3500V2-1036  | EX3DV4 - SN7692 | DAE4 Sn661  | 3.270                   | 67.400                  | 65.4                      | -2.97         |

|        |            |      |     |                   |                 |             |        |         |      |       |
|--------|------------|------|-----|-------------------|-----------------|-------------|--------|---------|------|-------|
| SAR17  | 2023/10/8  | 3500 | 50  | D3500V2-1036      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.080  | 67.400  | 61.6 | -8.61 |
| SAR16  | 2023/10/9  | 3500 | 50  | D3500V2-1036      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.160  | 67.400  | 63.2 | -6.23 |
| SAR16  | 2023/10/12 | 3500 | 50  | D3500V2-1036      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.150  | 67.400  | 63   | -6.53 |
| SAR16  | 2023/10/31 | 3500 | 50  | D3500V2-1036      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.540  | 67.400  | 70.8 | 5.04  |
| SAR16  | 2023/11/1  | 3500 | 50  | D3500V2-1036      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.580  | 67.400  | 71.6 | 6.23  |
| SAR17  | 2023/9/22  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.250  | 65.600  | 65   | -0.91 |
| SAR18  | 2023/9/29  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN3931 | DAE4 Sn1696 | 3.060  | 65.600  | 61.2 | -6.71 |
| SAR16  | 2023/10/3  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.080  | 65.600  | 61.6 | -6.10 |
| SAR17  | 2023/10/5  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.100  | 65.600  | 62   | -5.49 |
| SAR16  | 2023/10/5  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.240  | 65.600  | 64.8 | -1.22 |
| SAR17  | 2023/10/7  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.200  | 65.600  | 64   | -2.44 |
| SAR17  | 2023/10/8  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.160  | 65.600  | 63.2 | -3.66 |
| SAR16  | 2023/10/12 | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.260  | 65.600  | 65.2 | -0.61 |
| SAR16  | 2023/10/31 | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.260  | 65.600  | 65.2 | -0.61 |
| SAR16  | 2023/11/1  | 3700 | 50  | D3700V2-1006      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.150  | 65.600  | 63   | -3.96 |
| SAR18  | 2023/9/29  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN3931 | DAE4 Sn1696 | 3.060  | 67.000  | 61.2 | -8.66 |
| SAR18  | 2023/10/1  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN3931 | DAE4 Sn1696 | 3.370  | 67.000  | 67.4 | 0.60  |
| SAR16  | 2023/10/3  | 3900 | 50  | D3900V2-1017-3900 | EX3DV4 - SN7692 | DAE4 Sn661  | 3.310  | 68.700  | 66.2 | -3.64 |
| SAR16  | 2023/10/5  | 3900 | 50  | D3900V2-1017-3900 | EX3DV4 - SN7692 | DAE4 Sn661  | 3.220  | 68.700  | 64.4 | -6.26 |
| SAR17  | 2023/10/6  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.240  | 67.000  | 64.8 | -3.28 |
| SAR17  | 2023/10/7  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.080  | 67.000  | 61.6 | -8.06 |
| SAR16  | 2023/10/7  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.360  | 67.000  | 67.2 | 0.30  |
| SAR17  | 2023/10/8  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.020  | 67.000  | 60.4 | -9.85 |
| SAR16  | 2023/10/31 | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.570  | 67.000  | 71.4 | 6.57  |
| SAR16  | 2023/11/1  | 3900 | 50  | D3900V2-1092      | EX3DV4 - SN7692 | DAE4 Sn661  | 3.330  | 67.000  | 66.6 | -0.60 |
| SAR-15 | 2023/10/7  | 5250 | 50  | D5GHzV2-1171-5250 | EX3DV4 - SN7791 | DAE4 Sn699  | 3.850  | 80.300  | 77   | -4.11 |
| SAR-15 | 2023/10/14 | 5250 | 100 | D5GHzV2-1171-5250 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.410  | 80.300  | 74.1 | -7.72 |
| SAR-15 | 2023/10/15 | 5250 | 100 | D5GHzV2-1171-5250 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.830  | 80.300  | 78.3 | -2.49 |
| SAR-15 | 2023/10/16 | 5250 | 100 | D5GHzV2-1171-5250 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.780  | 80.300  | 77.8 | -3.11 |
| SAR-13 | 2023/10/16 | 5250 | 50  | D5GHzV2-1171-5250 | EX3DV4 - SN7791 | DAE4 Sn1697 | 3.870  | 80.300  | 77.4 | -3.61 |
| SAR-15 | 2023/10/17 | 5250 | 100 | D5GHzV2-1171-5250 | EX3DV4 - SN7785 | DAE4 Sn699  | 8.340  | 80.300  | 83.4 | 3.86  |
| SAR-16 | 2023/10/18 | 5250 | 50  | D5GHzV2-1171-5250 | EX3DV4 - SN7692 | DAE4 Sn661  | 3.820  | 80.300  | 76.4 | -4.86 |
| SAR-17 | 2023/10/18 | 5250 | 50  | D5GHzV2-1171-5250 | EX3DV4 - SN7700 | DAE4 Sn1707 | 4.160  | 80.300  | 83.2 | 3.61  |
| SAR-13 | 2023/10/20 | 5250 | 50  | D5GHzV2-1171-5250 | EX3DV4 - SN7695 | DAE4 Sn1697 | 3.770  | 80.300  | 75.4 | -6.10 |
| SAR-15 | 2023/10/7  | 5600 | 50  | D5GHzV2-1171-5600 | EX3DV4 - SN7791 | DAE4 Sn699  | 4.120  | 83.400  | 82.4 | -1.20 |
| SAR-15 | 2023/10/14 | 5600 | 100 | D5GHzV2-1171-5600 | EX3DV4 - SN7785 | DAE4 Sn699  | 8.160  | 83.400  | 81.6 | -2.16 |
| SAR-15 | 2023/10/15 | 5600 | 100 | D5GHzV2-1171-5600 | EX3DV4 - SN7785 | DAE4 Sn699  | 8.040  | 83.400  | 80.4 | -3.60 |
| SAR-15 | 2023/10/16 | 5600 | 100 | D5GHzV2-1171-5600 | EX3DV4 - SN7785 | DAE4 Sn699  | 8.160  | 83.400  | 81.6 | -2.16 |
| SAR-15 | 2023/10/17 | 5600 | 100 | D5GHzV2-1171-5600 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.960  | 83.400  | 79.6 | -4.56 |
| SAR-16 | 2023/10/18 | 5600 | 50  | D5GHzV2-1171-5600 | EX3DV4 - SN7692 | DAE4 Sn661  | 4.340  | 83.400  | 86.8 | 4.08  |
| SAR-17 | 2023/10/18 | 5600 | 50  | D5GHzV2-1171-5600 | EX3DV4 - SN7700 | DAE4 Sn1707 | 4.250  | 83.400  | 85   | 1.92  |
| SAR-15 | 2023/10/7  | 5750 | 50  | D5GHzV2-1171-5750 | EX3DV4 - SN7791 | DAE4 Sn699  | 3.790  | 80.400  | 75.8 | -5.72 |
| SAR-15 | 2023/10/14 | 5750 | 100 | D5GHzV2-1171-5750 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.360  | 80.400  | 73.6 | -8.46 |
| SAR-15 | 2023/10/15 | 5750 | 100 | D5GHzV2-1171-5750 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.670  | 80.400  | 76.7 | -4.60 |
| SAR-15 | 2023/10/16 | 5750 | 100 | D5GHzV2-1171-5750 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.350  | 80.400  | 73.5 | -8.58 |
| SAR-13 | 2023/10/16 | 5750 | 100 | D5GHzV2-1171-5750 | EX3DV4 - SN7791 | DAE4 Sn1697 | 8.240  | 80.400  | 82.4 | 2.49  |
| SAR-15 | 2023/10/17 | 5750 | 100 | D5GHzV2-1171-5750 | EX3DV4 - SN7785 | DAE4 Sn699  | 7.320  | 80.400  | 73.2 | -8.96 |
| SAR-16 | 2023/10/18 | 5750 | 50  | D5GHzV2-1171-5750 | EX3DV4 - SN7692 | DAE4 Sn661  | 4.130  | 80.400  | 82.6 | 2.74  |
| SAR-17 | 2023/10/18 | 5750 | 50  | D5GHzV2-1171-5750 | EX3DV4 - SN7700 | DAE4 Sn1707 | 4.040  | 80.400  | 80.8 | 0.50  |
| SAR-13 | 2023/10/17 | 5850 | 50  | D5GHzV2-1006-5850 | EX3DV4 - SN7625 | DAE4 Sn1697 | 3.930  | 81.800  | 78.6 | -3.91 |
| SAR-13 | 2023/10/18 | 5850 | 50  | D5GHzV2-1171-5850 | EX3DV4 - SN7625 | DAE4 Sn1697 | 3.780  | 82.300  | 75.6 | -8.14 |
| SAR-13 | 2023/10/13 | 6500 | 100 | D6.5GHzV2-1003    | EX3DV4 - SN7791 | DAE4 Sn1697 | 27.400 | 297.000 | 274  | -7.74 |
| SAR-13 | 2023/10/14 | 6500 | 100 | D6.5GHzV2-1003    | EX3DV4 - SN7791 | DAE4 Sn1697 | 32.100 | 297.000 | 321  | 8.08  |

**<Full Test>**

| Test Site | Date       | Frequency (MHz) | Input Power (mW) | Dipole S/N    | Probe S/N       | DAE S/N     | Measured 1g SAR (W/kg) | Targeted 1g SAR (W/kg) | Normalized 1g SAR (W/kg) | Deviation (%) |
|-----------|------------|-----------------|------------------|---------------|-----------------|-------------|------------------------|------------------------|--------------------------|---------------|
| SAR16     | 2023/9/18  | 835             | 50               | D835V2-4d167  | EX3DV4 - SN3931 | DAE4 Sn1696 | 0.482                  | 9.800                  | 9.64                     | -1.63         |
| SAR15     | 2023/10/15 | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7692 | DAE4 Sn661  | 0.515                  | 9.800                  | 10.3                     | 5.10          |
| SAR17     | 2023/10/18 | 835             | 50               | D835V2-4d167  | EX3DV4 - SN7700 | DAE4 Sn1707 | 0.471                  | 9.800                  | 9.42                     | -3.88         |
| SAR16     | 2023/9/16  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.720                  | 36.900                 | 34.4                     | -6.78         |
| SAR16     | 2023/9/21  | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.730                  | 36.900                 | 34.6                     | -6.23         |
| SAR15     | 2023/10/13 | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7692 | DAE4 Sn661  | 1.680                  | 36.900                 | 33.6                     | -8.94         |
| SAR17     | 2023/10/14 | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.680                  | 36.900                 | 33.6                     | -8.94         |
| SAR17     | 2023/10/25 | 1750            | 50               | D1750V2-1112  | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.700                  | 36.900                 | 34                       | -7.86         |
| SAR16     | 2023/9/15  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.920                  | 39.000                 | 38.4                     | -1.54         |
| SAR16     | 2023/9/20  | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN3931 | DAE4 Sn1696 | 1.930                  | 39.000                 | 38.6                     | -1.03         |
| SAR17     | 2023/10/14 | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.910                  | 39.000                 | 38.2                     | -2.05         |
| SAR15     | 2023/10/16 | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7692 | DAE4 Sn661  | 1.980                  | 39.000                 | 39.6                     | 1.54          |
| SAR17     | 2023/10/18 | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.960                  | 39.000                 | 39.2                     | 0.51          |
| SAR17     | 2023/10/25 | 1900            | 50               | D1900V2-5d185 | EX3DV4 - SN7700 | DAE4 Sn1707 | 1.900                  | 39.000                 | 38                       | -2.56         |
| SAR17     | 2023/10/16 | 3500            | 50               | D3500V2-1036  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.140                  | 67.400                 | 62.8                     | -6.82         |
| SAR17     | 2023/10/17 | 3500            | 50               | D3500V2-1036  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.300                  | 67.400                 | 66                       | -2.08         |
| SAR17     | 2023/10/16 | 3700            | 50               | D3700V2-1006  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.960                  | 65.600                 | 59.2                     | -9.76         |
| SAR17     | 2023/10/17 | 3700            | 50               | D3700V2-1006  | EX3DV4 - SN7700 | DAE4 Sn1707 | 2.970                  | 65.600                 | 59.4                     | -9.45         |
| SAR17     | 2023/10/16 | 3900            | 50               | D3900V2-1092  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.220                  | 67.000                 | 64.4                     | -3.88         |
| SAR17     | 2023/10/17 | 3900            | 50               | D3900V2-1092  | EX3DV4 - SN7700 | DAE4 Sn1707 | 3.440                  | 67.000                 | 68.8                     | 2.69          |


**Fig 8.3.1 System Performance Check Setup**

**Fig 8.3.2 Setup Photo**

### 13.3 PD System Performance Check Results

The system was verified to be within  $\pm 0.66$  dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes

| Test Site | Frequency (GHz) | 5G Verification Source | Probe S/N | DAE S/N | Distance (mm) | Measured $4 \text{ cm}^2$ (W/m $^2$ ) | Targeted $4 \text{ cm}^2$ (W/m $^2$ ) | Deviation (dB) | Date       |
|-----------|-----------------|------------------------|-----------|---------|---------------|---------------------------------------|---------------------------------------|----------------|------------|
| SAR13     | 10G             | 10GHz_1020             | 9441      | 1424    | 10mm          | 55.4                                  | 54.9                                  | 0.04           | 2023/10/27 |
| SAR13     | 10G             | 10GHz_1020             | 9424      | 656     | 10mm          | 51.3                                  | 54.9                                  | -0.29          | 2023/11/14 |

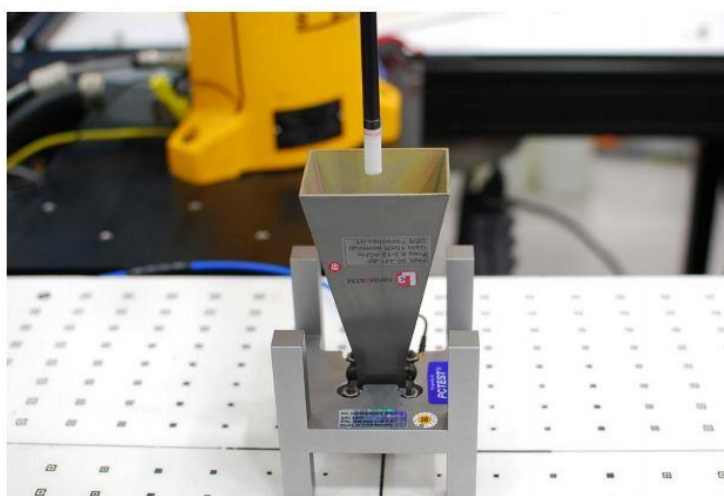


Figure 4-3  
System Verification Setup Photo

System Performance Check Setup



## **14. Measurement procedure for output power and SAR**

Detail output power measurement data is in the appendix D.

### **<GSM Note>**

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode.

### **<WCDMA Note>**

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
4. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA.

A summary of these settings are illustrated below:

**HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - iii. Set RMC 12.2Kbps + HSDPA mode.
  - iv. Set Cell Power = -86 dBm
  - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - vi. Select HSDPA Uplink Parameters
  - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
  - viii. Set Ack-Nack Repetition Factor to 3
  - ix. Set CQI Feedback Cycle (k) to 4 ms
  - x. Set CQI Repetition Factor to 2
  - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | $\beta_c$         | $\beta_d$         | $\beta_d$<br>(SF) | $\beta_c/\beta_d$ | $\beta_{hs}$<br>(Note 1,<br>Note 2) | CM (dB)<br>(Note 3) | MPR (dB)<br>(Note 3) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------------------------|---------------------|----------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2/15              | 15/15             | 64                | 2/15              | 4/15                                | 0.0                 | 0.0                  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12/15<br>(Note 4) | 15/15<br>(Note 4) | 64                | 12/15<br>(Note 4) | 24/15                               | 1.0                 | 0.0                  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15/15             | 8/15              | 64                | 15/8              | 30/15                               | 1.5                 | 0.5                  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15/15             | 4/15              | 64                | 15/4              | 30/15                               | 1.5                 | 0.5                  |
| <p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>.</p> <p>Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, <math>\Delta_{ACK}</math> and <math>\Delta_{NACK} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>, and <math>\Delta_{CQI} = 24/15</math> with <math>\beta_{hs} = 24/15 * \beta_c</math>.</p> <p>Note 3: CM = 1 for <math>\beta_c/\beta_d = 12/15</math>, <math>\beta_{hs}/\beta_c = 24/15</math>. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.</p> <p>Note 4: For subtest 2 the <math>\beta_c/\beta_d</math> ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to <math>\beta_c = 11/15</math> and <math>\beta_d = 15/15</math>.</p> |                   |                   |                   |                   |                                     |                     |                      |

**Setup Configuration**

**HSUPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - iii. Set Cell Power = -86 dBm
  - iv. Set Channel Type = 12.2k + HSPA
  - v. Set UE Target Power
  - vi. Power Ctrl Mode= Alternating bits
  - vii. Set and observe the E-TFCI
  - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

| Sub-test | $\beta_c$      | $\beta_d$      | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note 1) | $\beta_{ec}$ | $\beta_{ed}$ (Note 4) (Note 5)               | $\beta_{ed}$ (SF) | $\beta_{ed}$ (Codes) | CM (dB) (Note 2) | MPR (dB) (Note 2) (Note 6) | AG Index (Note 5) | E-TFCI |
|----------|----------------|----------------|----------------|-------------------|-----------------------|--------------|----------------------------------------------|-------------------|----------------------|------------------|----------------------------|-------------------|--------|
| 1        | 11/15 (Note 3) | 15/15 (Note 3) | 64             | 11/15 (Note 3)    | 22/15                 | 209/25       | 1309/225                                     | 4                 | 1                    | 1.0              | 0.0                        | 20                | 75     |
| 2        | 6/15           | 15/15          | 64             | 6/15              | 12/15                 | 12/15        | 94/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 12                | 67     |
| 3        | 15/15          | 9/15           | 64             | 15/9              | 30/15                 | 30/15        | $\beta_{ed1}: 47/15$<br>$\beta_{ed2}: 47/15$ | 4                 | 2                    | 2.0              | 1.0                        | 15                | 92     |
| 4        | 2/15           | 15/15          | 64             | 2/15              | 4/15                  | 2/15         | 56/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 17                | 71     |
| 5        | 15/15          | 0              | -              | -                 | 5/15                  | 5/15         | 47/15                                        | 4                 | 1                    | 1.0              | 0.0                        | 12                | 67     |

Note 1: For sub-test 1 to 4,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

**Setup Configuration**

**<LTE Note>**

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. LTE band 4 SAR test was covered by Band 66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

**<5G NR Note>**

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
  - a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
  - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is  $\leq 1.45$  W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
  - c. To start SAR test for the largest channel bandwidth for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for Pi/2 BPSK SAR testing using 1RB Pi/2 BPSK allocation procedure
  - d. For Pi/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
  - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR TDD Power class 3 was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. For NR TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission.
3. For NR FDD was establishing connections via a base station simulator to use for output power measurement and SAR testing

**<3GPP 38.101 MPR for EN-DC>**
**Table 6.2.2-1 Maximum power reduction (MPR) for power class 3**

| Modulation |           | MPR (dB)            |                      |                      |
|------------|-----------|---------------------|----------------------|----------------------|
|            |           | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM | Pi/2 BPSK | $\leq 3.5^1$        | $\leq 1.2^1$         | $\leq 0.2^1$         |
|            |           | $\leq 0.5^2$        | $\leq 0.5^2$         | 0 <sup>2</sup>       |
|            | QPSK      | $\leq 1$            |                      | 0                    |
|            | 16 QAM    | $\leq 2$            |                      | $\leq 1$             |
|            | 64 QAM    | $\leq 2.5$          |                      |                      |
| CP-OFDM    | 256 QAM   | $\leq 4.5$          |                      |                      |
|            | QPSK      | $\leq 3$            |                      | $\leq 1.5$           |
|            | 16 QAM    | $\leq 3$            |                      | $\leq 2$             |
|            | 64 QAM    | $\leq 3.5$          |                      |                      |
|            | 256 QAM   | $\leq 6.5$          |                      |                      |

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 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation 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.

**Table 6.2.2-2 Maximum power reduction (MPR) for power class 2**

| Modulation |           | MPR (dB)            |                      |                      |
|------------|-----------|---------------------|----------------------|----------------------|
|            |           | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM | Pi/2 BPSK | $\leq 3.5$          | $\leq 0.5$           | 0                    |
|            | QPSK      | $\leq 3.5$          | $\leq 1$             | 0                    |
|            | 16 QAM    | $\leq 3.5$          | $\leq 2$             | $\leq 1$             |
|            | 64 QAM    | $\leq 3.5$          | $\leq 2.5$           |                      |
|            | 256 QAM   | $\leq 4.5$          |                      |                      |
| CP-OFDM    | QPSK      | $\leq 3.5$          | $\leq 3$             | $\leq 1.5$           |
|            | 16 QAM    | $\leq 3.5$          | $\leq 3$             | $\leq 2$             |
|            | 64 QAM    | $\leq 3.5$          |                      |                      |
|            | 256 QAM   | $\leq 6.5$          |                      |                      |

## 15. RF Exposure position consideration

| Distance of the Antenna to the EUT surface/edge |        |        |          |             |            |           |
|-------------------------------------------------|--------|--------|----------|-------------|------------|-----------|
| Antennas                                        | Front  | Back   | Top Side | Bottom Side | Right Side | Left Side |
| WWAN Ant 0                                      | ≤ 25mm | ≤ 25mm | > 25mm   | ≤ 25mm      | ≤ 25mm     | ≤ 25mm    |
| WWAN Ant 1                                      | ≤ 25mm | ≤ 25mm | ≤ 25mm   | > 25mm      | ≤ 25mm     | ≤ 25mm    |
| WWAN Ant 2                                      | ≤ 25mm | ≤ 25mm | > 25mm   | ≤ 25mm      | ≤ 25mm     | ≤ 25mm    |
| WWAN Ant 5                                      | ≤ 25mm | ≤ 25mm | ≤ 25mm   | > 25mm      | ≤ 25mm     | ≤ 25mm    |
| WWAN Ant 6                                      | ≤ 25mm | ≤ 25mm | > 25mm   | ≤ 25mm      | ≤ 25mm     | ≤ 25mm    |
| WLAN/BT Ant 3 / 4                               | ≤ 25mm | ≤ 25mm | ≤ 25mm   | > 25mm      | ≤ 25mm     | ≤ 25mm    |
| NFC                                             | ≤ 25mm | ≤ 25mm | > 25mm   | > 25mm      | ≤ 25mm     | ≤ 25mm    |

| Positions for SAR / 6E PD tests |       |      |          |             |            |           |
|---------------------------------|-------|------|----------|-------------|------------|-----------|
| Antennas                        | Front | Back | Top Side | Bottom Side | Right Side | Left Side |
| WWAN Ant 0                      | Yes   | Yes  | No       | Yes         | Yes        | Yes       |
| WWAN Ant 1                      | Yes   | Yes  | Yes      | No          | Yes        | Yes       |
| WWAN Ant 2                      | Yes   | Yes  | No       | Yes         | Yes        | Yes       |
| WWAN Ant 5                      | Yes   | Yes  | Yes      | No          | Yes        | Yes       |
| WWAN Ant 6                      | Yes   | Yes  | No       | Yes         | Yes        | Yes       |
| WLAN/BT Ant 3 / 4               | Yes   | Yes  | Yes      | No          | Yes        | Yes       |
| NFC                             | Yes   | Yes  | No       | No          | Yes        | Yes       |

**General Note:**

- Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm\*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge
- The antenna location is illustrated in the Appendix G.



## 16. Spot Check SAR Results

### General Note:

1. SAR spot check verification on the worst cases from the original model was performed to demonstrate the test data from original model remains representative for the variant model.
2. If the 1-g SAR spot check result "does not exceed 30%, but larger than 1.2 W/kg", more spot check on the next-higher exposure position until the spot check result does not exceed 1.2 W/kg.
3. The spot check results don't show the SAR increase more than 30%, therefore referring to the guidance in the KDB inquiry, SAR data reuse is justified.

1st as parent model

2nd as variant model

### 16.1 Head SAR

| Plot No. | No. | Band              | BW (MHz)          | Test Position | Gap (mm) | Power Index | Ch.         | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Deviation (%) |
|----------|-----|-------------------|-------------------|---------------|----------|-------------|-------------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|---------------|
|          | 1st | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Cheek    | 0mm      | Index 2     | 251         | 848.8       | 30.00               | 31.50               | 1.413                  |              |                           | 0.05             | 0.457                  | 0.646                  | -1.55%        |
|          | 2nd | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Cheek    | 0mm      | Index 2     | 251         | 848.8       | 29.90               | 31.50               | 1.445                  |              |                           | -0.06            | 0.440                  | 0.636                  |               |
|          | 1st | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Cheek    | 0mm      | Index 3     | 251         | 848.8       | 30.00               | 31.00               | 1.259                  |              |                           | 0.05             | 0.457                  | 0.575                  | -1.39%        |
|          | 2nd | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Cheek    | 0mm      | Index 3     | 251         | 848.8       | 29.90               | 31.00               | 1.288                  |              |                           | -0.06            | 0.440                  | 0.567                  |               |
| 01       | 1st | GSM850_Ant 1      | GPRS (2 Tx slots) | Right Cheek   | 0mm      | Index 2     | 128         | 824.2       | 27.99               | 28.90               | 1.233                  |              |                           | 0                | 0.800                  | 0.986                  | -0.81%        |
|          | 2nd | GSM850_Ant 1      | GPRS (2 Tx slots) | Right Cheek   | 0mm      | Index 2     | 128         | 824.2       | 27.74               | 28.90               | 1.306                  |              |                           | 0.01             | 0.749                  | 0.978                  |               |
|          | 1st | GSM850_Ant 1      | GPRS (2 Tx slots) | Right Cheek   | 0mm      | Index 3     | 128         | 824.2       | 26.79               | 26.80               | 1.002                  |              |                           | 0                | 0.635                  | 0.636                  | -3.14%        |
|          | 2nd | GSM850_Ant 1      | GPRS (2 Tx slots) | Right Cheek   | 0mm      | Index 3     | 128         | 824.2       | 26.65               | 26.80               | 1.035                  |              |                           | 0.01             | 0.595                  | 0.616                  |               |
| 02       | 1st | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 21350       | 2560        | 22.65               | 24.50               | 1.531                  |              |                           | 0.11             | 0.649                  | 0.994                  | -7.65%        |
|          | 2nd | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 21350       | 2560        | 22.50               | 24.50               | 1.585                  |              |                           | 0.18             | 0.579                  | 0.918                  |               |
|          |     | LTE Band 7C_Ant 2 | 20M+20M_QPSK_1_99 | Right Cheek   | 0mm      | Index 2     | 20850+21048 | 2510        | 20.55               | 22.50               | 1.567                  |              |                           | 0.1              | 0.158                  | 0.248                  | -4.64%        |
|          | 1st | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 21100       | 2535        | 22.13               | 22.50               | 1.089                  |              |                           | -0.05            | 0.555                  | 0.604                  |               |
|          | 2nd | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 21100       | 2535        | 22.02               | 22.50               | 1.117                  |              |                           | 0.09             | 0.516                  | 0.576                  | -2.61%        |
|          |     | LTE Band 7C_Ant 2 | 20M+20M_QPSK_1_99 | Right Cheek   | 0mm      | Index 3     | 20850+21048 | 2510        | 19.89               | 20.50               | 1.151                  |              |                           | -0.12            | 0.149                  | 0.171                  |               |
|          | 1st | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2     | 20850       | 2510        | 24.27               | 25.20               | 1.239                  |              |                           | -0.03            | 0.741                  | 0.918                  | -4.30%        |
|          | 2nd | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2     | 20850       | 2510        | 23.92               | 25.20               | 1.343                  |              |                           | -0.08            | 0.666                  | 0.894                  |               |
|          |     | LTE Band 7C_Ant 0 | 20M+20M_QPSK_1_0  | Left Cheek    | 0mm      | Index 2     | 21100+20902 | 2535        | 23.22               | 23.70               | 1.117                  |              |                           | -0.06            | 0.563                  | 0.629                  | -1.93%        |
|          | 1st | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 3     | 20850       | 2510        | 23.71               | 23.80               | 1.021                  |              |                           | -0.09            | 0.660                  | 0.674                  |               |
|          | 2nd | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 3     | 20850       | 2510        | 23.44               | 23.80               | 1.086                  |              |                           | -0.11            | 0.594                  | 0.645                  | -0.86%        |
|          |     | LTE Band 7C_Ant 0 | 20M+20M_QPSK_1_99 | Left Cheek    | 0mm      | Index 3     | 20850+21048 | 2510        | 21.82               | 22.30               | 1.117                  |              |                           | 0.09             | 0.244                  | 0.273                  |               |
|          | 1st | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 23095       | 707.5       | 24.20               | 25.70               | 1.413                  |              |                           | -0.03            | 0.220                  | 0.311                  | -1.88%        |
|          | 2nd | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 23095       | 707.5       | 23.95               | 25.70               | 1.496                  |              |                           | -0.08            | 0.204                  | 0.305                  |               |
| 03       | 1st | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 23095       | 707.5       | 20.74               | 22.40               | 1.466                  |              |                           | 0.03             | 0.636                  | 0.932                  | -0.65%        |
|          | 2nd | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 23095       | 707.5       | 20.75               | 22.40               | 1.462                  |              |                           | 0.01             | 0.632                  | 0.924                  |               |
|          | 1st | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 23095       | 707.5       | 19.66               | 20.30               | 1.159                  |              |                           | -0.04            | 0.505                  | 0.585                  | -23.88%       |
|          | 2nd | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 23095       | 707.5       | 19.72               | 20.30               | 1.143                  |              |                           | 0.09             | 0.502                  | 0.574                  |               |
|          | 1st | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 26865       | 831.5       | 24.36               | 25.70               | 1.361                  |              |                           | 0.01             | 0.339                  | 0.462                  | -23.98%       |
|          | 2nd | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 26865       | 831.5       | 24.15               | 25.70               | 1.429                  |              |                           | -0.08            | 0.321                  | 0.459                  |               |
|          | 1st | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 26865       | 831.5       | 19.28               | 21.10               | 1.521                  |              |                           | -0.01            | 0.570                  | 0.867                  | -5.60%        |
| 04       | 2nd | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 26865       | 831.5       | 19.32               | 21.10               | 1.507                  |              |                           | -0.03            | 0.438                  | 0.660                  |               |
|          | 1st | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 26865       | 831.5       | 18.36               | 19.00               | 1.159                  |              |                           | -0.04            | 0.464                  | 0.538                  | -5.59%        |
|          | 2nd | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 26865       | 831.5       | 18.40               | 19.00               | 1.148                  |              |                           | -0.05            | 0.356                  | 0.409                  |               |
|          | 1st | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 41490       | 2680        | 23.21               | 25.10               | 1.545                  | 62.9         | 1.006                     | -0.06            | 0.632                  | 0.982                  | -1.38%        |
| 05       | 2nd | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 2     | 41490       | 2680        | 23.31               | 25.10               | 1.510                  | 62.9         | 1.006                     | -0.16            | 0.610                  | 0.927                  |               |
|          | 1st | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 40185       | 2549.5      | 22.81               | 23.10               | 1.069                  | 62.9         | 1.006                     | -0.07            | 0.399                  | 0.429                  | -6.95%        |
|          | 2nd | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Cheek   | 0mm      | Index 3     | 40185       | 2549.5      | 22.86               | 23.10               | 1.057                  | 62.9         | 1.006                     | -0.1             | 0.381                  | 0.405                  |               |
|          | 1st | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 40185       | 2549.5      | 24.16               | 25.20               | 1.271                  | 62.9         | 1.006                     | -0.13            | 0.397                  | 0.507                  |               |
|          | 2nd | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Left Cheek    | 0mm      | Index 2/3   | 40185       | 2549.5      | 24.03               | 25.20               | 1.309                  | 62.9         | 1.006                     | 0.12             | 0.380                  | 0.500                  |               |
| 06       | 1st | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Right Cheek   | 0mm      | Index 2     | 507000      | 2535        | 24.15               | 25.70               | 1.429                  |              |                           | -0.03            | 0.695                  | 0.993                  |               |
|          | 2nd | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Right Cheek   | 0mm      | Index 2     | 507000      | 2535        | 24.09               | 25.70               | 1.449                  |              |                           | 0.04             | 0.638                  | 0.924                  |               |



# FCC SAR TEST REPORT

Report No. : FA380308B

|    |     |               |                 |             |     |           |        |         |       |       |       |  |  |       |       |       |         |
|----|-----|---------------|-----------------|-------------|-----|-----------|--------|---------|-------|-------|-------|--|--|-------|-------|-------|---------|
|    | 1st | FR1 n7_Ant 2  | 50M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 507000 | 2535    | 23.65 | 24.00 | 1.084 |  |  | -0.03 | 0.619 | 0.671 | -6.41%  |
|    | 2nd | FR1 n7_Ant 2  | 50M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 507000 | 2535    | 23.57 | 24.00 | 1.104 |  |  | 0.04  | 0.569 | 0.628 |         |
|    | 1st | FR1 n7_Ant 0  | 50M_BPSK_1_1    | Left Cheek  | 0mm | Index 2   | 507000 | 2535    | 23.52 | 25.20 | 1.472 |  |  | 0.07  | 0.596 | 0.877 | -11.63% |
|    | 2nd | FR1 n7_Ant 0  | 50M_BPSK_1_1    | Left Cheek  | 0mm | Index 2   | 507000 | 2535    | 23.40 | 25.20 | 1.514 |  |  | -0.09 | 0.512 | 0.775 |         |
|    | 1st | FR1 n7_Ant 0  | 50M_BPSK_1_1    | Left Cheek  | 0mm | Index 3   | 507000 | 2535    | 23.52 | 23.70 | 1.042 |  |  | 0.07  | 0.596 | 0.621 | -11.59% |
|    | 2nd | FR1 n7_Ant 0  | 50M_BPSK_1_1    | Left Cheek  | 0mm | Index 3   | 507000 | 2535    | 23.40 | 23.70 | 1.072 |  |  | -0.09 | 0.512 | 0.549 |         |
|    | 1st | FR1 n12_Ant 0 | 15M_BPSK_36_22  | Left Cheek  | 0mm | Index 2/3 | 141500 | 707.5   | 24.23 | 25.70 | 1.403 |  |  | 0.02  | 0.258 | 0.362 | -8.29%  |
|    | 2nd | FR1 n12_Ant 0 | 15M_BPSK_36_22  | Left Cheek  | 0mm | Index 2/3 | 141500 | 707.5   | 24.22 | 25.70 | 1.406 |  |  | 0.14  | 0.236 | 0.332 |         |
|    | 1st | FR1 n12_Ant 1 | 15M_BPSK_1_1    | Right Cheek | 0mm | Index 2   | 141500 | 707.5   | 21.73 | 23.40 | 1.469 |  |  | -0.02 | 0.675 | 0.992 | -6.25%  |
| 07 | 2nd | FR1 n12_Ant 1 | 15M_BPSK_1_1    | Right Cheek | 0mm | Index 2   | 141500 | 707.5   | 21.66 | 23.40 | 1.493 |  |  | 0.01  | 0.623 | 0.930 |         |
|    | 1st | FR1 n12_Ant 1 | 15M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 141500 | 707.5   | 20.72 | 21.30 | 1.143 |  |  | 0.1   | 0.536 | 0.613 | -5.38%  |
|    | 2nd | FR1 n12_Ant 1 | 15M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 141500 | 707.5   | 20.61 | 21.30 | 1.172 |  |  | 0.06  | 0.495 | 0.580 |         |
|    | 1st | FR1 n26_Ant 0 | 20M_BPSK_50_28  | Left Cheek  | 0mm | Index 2/3 | 166300 | 831.5   | 24.27 | 25.70 | 1.390 |  |  | 0.04  | 0.361 | 0.502 | -1.00%  |
|    | 2nd | FR1 n26_Ant 0 | 20M_BPSK_50_28  | Left Cheek  | 0mm | Index 2/3 | 166300 | 831.5   | 24.20 | 25.70 | 1.413 |  |  | 0.12  | 0.352 | 0.497 |         |
|    | 1st | FR1 n26_Ant 1 | 20M_BPSK_1_1    | Right Cheek | 0mm | Index 2   | 166300 | 831.5   | 20.88 | 22.20 | 1.355 |  |  | -0.01 | 0.733 | 0.993 | -2.42%  |
| 08 | 2nd | FR1 n26_Ant 1 | 20M_BPSK_1_1    | Right Cheek | 0mm | Index 2   | 166300 | 831.5   | 20.86 | 22.20 | 1.361 |  |  | -0.15 | 0.712 | 0.969 |         |
|    | 1st | FR1 n26_Ant 1 | 20M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 166300 | 831.5   | 19.85 | 20.20 | 1.084 |  |  | 0.04  | 0.582 | 0.631 | -1.90%  |
|    | 2nd | FR1 n26_Ant 1 | 20M_BPSK_1_1    | Right Cheek | 0mm | Index 3   | 166300 | 831.5   | 19.79 | 20.20 | 1.099 |  |  | 0.04  | 0.563 | 0.619 |         |
|    | 1st | FR1 n41_Ant 2 | 100M_BPSK_135_0 | Right Cheek | 0mm | Index 2   | 518598 | 2592.99 | 22.33 | 24.30 | 1.574 |  |  | -0.16 | 0.520 | 0.818 | -0.49%  |
| 09 | 2nd | FR1 n41_Ant 2 | 100M_BPSK_135_0 | Right Cheek | 0mm | Index 2   | 518598 | 2592.99 | 22.31 | 24.30 | 1.581 |  |  | -0.02 | 0.515 | 0.814 |         |
|    | 1st | FR1 n41_Ant 2 | 100M_BPSK_135_0 | Right Cheek | 0mm | Index 3   | 518598 | 2592.99 | 22.33 | 23.50 | 1.309 |  |  | -0.16 | 0.520 | 0.681 | -0.59%  |
|    | 2nd | FR1 n41_Ant 2 | 100M_BPSK_135_0 | Right Cheek | 0mm | Index 3   | 518598 | 2592.99 | 22.31 | 23.50 | 1.315 |  |  | -0.02 | 0.515 | 0.677 |         |
|    | 1st | FR1 n41_Ant 0 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 518598 | 2592.99 | 23.87 | 25.20 | 1.358 |  |  | 0.14  | 0.604 | 0.820 | -6.46%  |
|    | 2nd | FR1 n41_Ant 0 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 518598 | 2592.99 | 23.77 | 25.20 | 1.390 |  |  | -0.14 | 0.552 | 0.767 |         |
|    | 1st | FR1 n41_Ant 0 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 518598 | 2592.99 | 23.87 | 24.40 | 1.130 |  |  | 0.14  | 0.604 | 0.682 | -6.45%  |
|    | 2nd | FR1 n41_Ant 0 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 518598 | 2592.99 | 23.77 | 24.40 | 1.156 |  |  | -0.14 | 0.552 | 0.638 |         |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 656000 | 3840    | 22.37 | 23.70 | 1.358 |  |  | -0.13 | 0.491 | 0.667 | -15.74% |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 656000 | 3840    | 22.31 | 23.70 | 1.377 |  |  | -0.11 | 0.408 | 0.562 |         |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 656000 | 3840    | 22.37 | 22.90 | 1.130 |  |  | -0.13 | 0.491 | 0.555 | -15.86% |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 656000 | 3840    | 22.31 | 22.90 | 1.146 |  |  | -0.11 | 0.408 | 0.467 |         |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 633332 | 3499.98 | 22.19 | 23.70 | 1.416 |  |  | -0.06 | 0.445 | 0.630 | -10.79% |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 2   | 633332 | 3499.98 | 22.19 | 23.70 | 1.416 |  |  | -0.1  | 0.397 | 0.562 |         |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 633332 | 3499.98 | 22.19 | 22.90 | 1.178 |  |  | -0.06 | 0.445 | 0.524 | -10.69% |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1   | Left Cheek  | 0mm | Index 3   | 633332 | 3499.98 | 22.19 | 22.90 | 1.178 |  |  | -0.1  | 0.397 | 0.468 |         |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 2   | 656000 | 3840    | 23.70 | 24.70 | 1.259 |  |  | 0.04  | 0.391 | 0.492 | -1.02%  |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 2   | 656000 | 3840    | 23.72 | 24.70 | 1.253 |  |  | -0.11 | 0.389 | 0.487 |         |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 3   | 656000 | 3840    | 22.69 | 23.00 | 1.074 |  |  | -0.02 | 0.311 | 0.334 | -1.20%  |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 3   | 656000 | 3840    | 22.71 | 23.00 | 1.069 |  |  | 0.04  | 0.309 | 0.330 |         |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 2   | 633332 | 3499.98 | 23.55 | 24.70 | 1.303 |  |  | -0.14 | 0.724 | 0.943 | -3.39%  |
| 10 | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 2   | 633332 | 3499.98 | 23.53 | 24.70 | 1.309 |  |  | -0.12 | 0.696 | 0.911 |         |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 3   | 633332 | 3499.98 | 22.53 | 23.00 | 1.114 |  |  | 0     | 0.599 | 0.667 | -8.10%  |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1   | Right Cheek | 0mm | Index 3   | 633332 | 3499.98 | 22.55 | 23.00 | 1.109 |  |  | 0.03  | 0.553 | 0.613 |         |



# FCC SAR TEST REPORT

Report No. : FA380308B

| Plot No. | No. | Band       | Mode                | Test Position | Gap (mm) | Antenna    | Power Index | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Measured APD (W/m^2) | Reported APD (W/m^2) | Deviation (%) |
|----------|-----|------------|---------------------|---------------|----------|------------|-------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|----------------------|----------------------|---------------|
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 1     | 12  | 2467        | 12.40               | 12.50               | 1.023                  | 98.85        | 1.012                     | -0.19            | 0.768                  | 0.795                  |                      |                      | -3.52%        |
| 11       | 2nd | WLAN2.4GHz | 802.11b 1Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 1     | 12  | 2467        | 12.40               | 12.50               | 1.023                  | 98.85        | 1.012                     | -0.08            | 0.741                  | 0.767                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 3     | 12  | 2467        | 9.90                | 10.00               | 1.023                  | 98.85        | 1.012                     | 0                | 0.459                  | 0.475                  |                      |                      | -4.63%        |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 3     | 12  | 2467        | 9.90                | 10.00               | 1.023                  | 98.85        | 1.012                     | -0.06            | 0.437                  | 0.453                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps       | Right Cheek   | 0mm      | Ant 3      | Index 1/2   | 11  | 2462        | 12.45               | 12.50               | 1.012                  | 98.85        | 1.012                     | 0.01             | 0.399                  | 0.408                  |                      |                      | -19.85%       |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps       | Right Cheek   | 0mm      | Ant 3      | Index 1/2   | 11  | 2462        | 12.45               | 12.50               | 1.012                  | 98.85        | 1.012                     | -0.07            | 0.319                  | 0.327                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps       | Right Cheek   | 0mm      | Ant 3      | Index 3/4   | 11  | 2462        | 9.95                | 10.00               | 1.012                  | 98.85        | 1.012                     | -0.15            | 0.236                  | 0.242                  |                      |                      | -0.83%        |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps       | Right Cheek   | 0mm      | Ant 3      | Index 3/4   | 11  | 2462        | 9.95                | 10.00               | 1.012                  | 98.85        | 1.012                     | -0.12            | 0.234                  | 0.240                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11g 6Mbps       | Left Cheek    | 0mm      | Ant 4+3(4) | Index 1     | 6   | 2437        | 12.40               | 12.50               | 1.023                  | 93.46        | 1.070                     | -0.06            | 0.641                  | 0.702                  |                      |                      | -10.54%       |
|          |     | WLAN2.4GHz | 802.11g 6Mbps       | Left Cheek    | 0mm      | Ant 4+3(3) | Index 1     | 6   | 2437        | 12.15               | 12.50               | 1.084                  | 93.46        | 1.070                     | -0.06            | 0.134                  | 0.155                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11g 6Mbps       | Left Cheek    | 0mm      | Ant 4+3(4) | Index 1     | 6   | 2437        | 12.40               | 12.50               | 1.023                  | 93.46        | 1.070                     | -0.09            | 0.574                  | 0.628                  |                      |                      |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps       | Left Cheek    | 0mm      | Ant 4+3(3) | Index 1     | 6   | 2437        | 12.15               | 12.50               | 1.084                  | 93.46        | 1.070                     | -0.09            | 0.096                  | 0.111                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11g 6Mbps       | Left Tilted   | 0mm      | Ant 4+3(4) | Index 3     | 1   | 2412        | 9.80                | 10.00               | 1.047                  | 93.46        | 1.070                     | 0.08             | 0.284                  | 0.318                  |                      |                      | -12.58%       |
|          |     | WLAN2.4GHz | 802.11g 6Mbps       | Left Tilted   | 0mm      | Ant 4+3(3) | Index 3     | 1   | 2412        | 9.45                | 10.00               | 1.135                  | 93.46        | 1.070                     | 0.08             | 0.007                  | 0.009                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11g 6Mbps       | Left Tilted   | 0mm      | Ant 4+3(4) | Index 3     | 1   | 2412        | 9.80                | 10.00               | 1.047                  | 93.46        | 1.070                     | 0.16             | 0.248                  | 0.278                  |                      |                      |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps       | Left Tilted   | 0mm      | Ant 4+3(3) | Index 3     | 1   | 2412        | 9.45                | 10.00               | 1.135                  | 93.46        | 1.070                     | 0.16             | 0.053                  | 0.064                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 1/2   | 56  | 5280        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | 0.16             | 0.609                  | 0.667                  |                      |                      | -0.15%        |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps       | Left Cheek    | 0mm      | Ant 4      | Index 1/2   | 56  | 5280        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | 0.09             | 0.608                  | 0.666                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 3     | 58  | 5290        | 11.90               | 12.00               | 1.023                  | 89.9         | 1.112                     | -0.16            | 0.152                  | 0.173                  |                      |                      | -8.67%        |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 3     | 58  | 5290        | 11.90               | 12.00               | 1.023                  | 89.9         | 1.112                     | 0.1              | 0.139                  | 0.158                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11n-HT40 MCS0   | Left Cheek    | 0mm      | Ant 4      | Index 4     | 54  | 5270        | 15.40               | 15.50               | 1.023                  | 86.84        | 1.152                     | 0.18             | 0.292                  | 0.344                  |                      |                      | -0.87%        |
|          | 2nd | WLAN5GHz   | 802.11n-HT40 MCS0   | Left Cheek    | 0mm      | Ant 4      | Index 4     | 54  | 5270        | 15.40               | 15.50               | 1.023                  | 86.84        | 1.152                     | 0.15             | 0.289                  | 0.341                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps       | Right Cheek   | 0mm      | Ant 4+3(4) | Index 1     | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.17            | 0.158                  | 0.173                  |                      |                      | -5.39%        |
|          |     | WLAN5GHz   | 802.11a 6Mbps       | Right Cheek   | 0mm      | Ant 4+3(3) | Index 1     | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.17            | 1.000                  | 1.095                  |                      |                      |               |
| 12       | 2nd | WLAN5GHz   | 802.11a 6Mbps       | Right Cheek   | 0mm      | Ant 4+3(4) | Index 1     | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | 0.14             | 0.171                  | 0.187                  |                      |                      |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps       | Right Cheek   | 0mm      | Ant 4+3(3) | Index 1     | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | 0.14             | 0.946                  | 1.036                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 3     | 58  | 5290        | 11.90               | 12.00               | 1.023                  | 89.9         | 1.112                     | 0.1              | 0.017                  | 0.019                  |                      |                      | -28.13%       |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 3     | 58  | 5290        | 11.50               | 12.00               | 1.122                  | 89.9         | 1.112                     | 0.1              | 0.262                  | 0.327                  |                      |                      |               |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 3     | 58  | 5290        | 11.90               | 12.00               | 1.023                  | 89.9         | 1.112                     | -0.15            | 0.021                  | 0.024                  |                      |                      |               |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 3     | 58  | 5290        | 11.50               | 12.00               | 1.122                  | 89.9         | 1.112                     | -0.15            | 0.188                  | 0.235                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 1     | 122 | 5610        | 15.40               | 15.50               | 1.023                  | 89.9         | 1.112                     | -0.15            | 0.628                  | 0.715                  |                      |                      | -23.92%       |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 1     | 122 | 5610        | 15.40               | 15.50               | 1.023                  | 89.9         | 1.112                     | 0.11             | 0.478                  | 0.544                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 2     | 122 | 5610        | 15.80               | 16.00               | 1.047                  | 89.9         | 1.112                     | 0.15             | 0.497                  | 0.579                  |                      |                      | -9.15%        |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 2     | 122 | 5610        | 15.80               | 16.00               | 1.047                  | 89.9         | 1.112                     | -0.18            | 0.452                  | 0.526                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 3     | 122 | 5610        | 9.30                | 9.50                | 1.047                  | 89.9         | 1.112                     | -0.14            | 0.133                  | 0.155                  |                      |                      | -1.29%        |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 3     | 122 | 5610        | 9.30                | 9.50                | 1.047                  | 89.9         | 1.112                     | -0.15            | 0.131                  | 0.153                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 4     | 106 | 5530        | 12.40               | 12.50               | 1.023                  | 89.9         | 1.112                     | 0.05             | 0.279                  | 0.317                  |                      |                      | -17.67%       |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 4     | 106 | 5530        | 12.40               | 12.50               | 1.023                  | 89.9         | 1.112                     | 0.04             | 0.229                  | 0.261                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 1     | 122 | 5610        | 15.40               | 15.50               | 1.023                  | 89.9         | 1.112                     | -0.18            | 0.168                  | 0.191                  |                      |                      | -22.10%       |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 1     | 122 | 5610        | 15.30               | 15.50               | 1.047                  | 89.9         | 1.112                     | -0.18            | 0.874                  | 1.018                  |                      |                      |               |
| 13       | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 1     | 122 | 5610        | 15.40               | 15.50               | 1.023                  | 89.9         | 1.112                     | -0.02            | 0.124                  | 0.141                  |                      |                      |               |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 1     | 122 | 5610        | 15.30               | 15.50               | 1.047                  | 89.9         | 1.112                     | -0.02            | 0.681                  | 0.793                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 3     | 122 | 5610        | 9.40                | 9.50                | 1.023                  | 89.9         | 1.112                     | -0.17            | 0.024                  | 0.027                  |                      |                      | -22.80%       |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 3     | 122 | 5610        | 9.20                | 9.50                | 1.072                  | 89.9         | 1.112                     | -0.17            | 0.210                  | 0.250                  |                      |                      |               |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(4) | Index 3     | 122 | 5610        | 9.40                | 9.50                | 1.023                  | 89.9         | 1.112                     | 0.01             | 0.026                  | 0.030                  |                      |                      |               |
|          |     | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Right Cheek   | 0mm      | Ant 4+3(3) | Index 3     | 122 | 5610        | 9.20                | 9.50                | 1.072                  | 89.9         | 1.112                     | 0.01             | 0.162                  | 0.193                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 1     | 155 | 5775        | 17.40               | 17.50               | 1.023                  | 89.9         | 1.112                     | 0.06             | 0.572                  | 0.651                  |                      |                      | -15.36%       |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 1     | 155 | 5775        | 17.40               | 17.50               | 1.023                  | 89.9         | 1.112                     | 0.05             | 0.484                  | 0.551                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 2     | 155 | 5775        | 16.40               | 16.50               | 1.023                  | 89.9         | 1.112                     | -0.11            | 0.406                  | 0.462                  |                      |                      | -5.63%        |
|          | 2nd | WLAN5GHz   | 802.11ac-VHT80 MCS0 | Left Cheek    | 0mm      | Ant 4      | Index 2     | 155 | 5775        | 16.40               | 16.50               | 1.023                  | 89.9         | 1.112                     | 0.09             | 0.383                  | 0.436                  |                      |                      |               |



# FCC SAR TEST REPORT

Report No. : FA380308B

|    |     |           |                     |             |     |            |            |     |      |       |       |       |       |       |       |       |       |       |       |         |
|----|-----|-----------|---------------------|-------------|-----|------------|------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 3    | 155 | 5775 | 10.40 | 10.50 | 1.023 | 89.9  | 1.112 | -0.09 | 0.081 | 0.092 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 3    | 155 | 5775 | 10.40 | 10.50 | 1.023 | 89.9  | 1.112 | 0.11  | 0.059 | 0.067 |       |       | -27.17% |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 4    | 155 | 5775 | 13.40 | 13.50 | 1.023 | 89.9  | 1.112 | -0.11 | 0.185 | 0.211 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 4    | 155 | 5775 | 13.40 | 13.50 | 1.023 | 89.9  | 1.112 | -0.13 | 0.135 | 0.154 |       |       | -27.01% |
| 14 | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 155 | 5775 | 17.50 | 17.50 | 1.000 | 89.9  | 1.112 | -0.17 | 0.236 | 0.262 |       |       | -6.41%  |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 155 | 5775 | 16.80 | 17.50 | 1.175 | 89.9  | 1.112 | -0.17 | 0.693 | 0.905 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 155 | 5775 | 17.50 | 17.50 | 1.000 | 89.9  | 1.112 | -0.03 | 0.215 | 0.239 |       |       |         |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 155 | 5775 | 16.80 | 17.50 | 1.175 | 89.9  | 1.112 | -0.03 | 0.648 | 0.847 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 155 | 5775 | 9.70  | 10.50 | 1.202 | 89.9  | 1.112 | 0.11  | 0.024 | 0.032 |       |       | -24.11% |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 155 | 5775 | 10.40 | 10.50 | 1.023 | 89.9  | 1.112 | 0.11  | 0.098 | 0.112 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 155 | 5775 | 9.70  | 10.50 | 1.202 | 89.9  | 1.112 | -0.11 | 0.029 | 0.039 |       |       |         |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 155 | 5775 | 10.40 | 10.50 | 1.023 | 89.9  | 1.112 | -0.11 | 0.075 | 0.085 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 1    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | -0.03 | 0.618 | 0.703 |       |       | -12.23% |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 1    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | 0.12  | 0.542 | 0.617 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 2    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | 0.03  | 0.582 | 0.662 |       |       | -1.96%  |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 2    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | -0.18 | 0.570 | 0.649 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 3    | 171 | 5855 | 9.40  | 9.50  | 1.023 | 89.9  | 1.112 | 0.09  | 0.093 | 0.106 |       |       | -9.43%  |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 3    | 171 | 5855 | 9.40  | 9.50  | 1.023 | 89.9  | 1.112 | 0.01  | 0.084 | 0.096 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 4    | 171 | 5855 | 12.90 | 13.00 | 1.023 | 89.9  | 1.112 | -0.06 | 0.204 | 0.232 |       |       | -6.47%  |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Left Cheek  | 0mm | Ant 4      | Index 4    | 171 | 5855 | 12.90 | 13.00 | 1.023 | 89.9  | 1.112 | -0.02 | 0.191 | 0.217 |       |       |         |
| 15 | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | -0.04 | 0.223 | 0.254 |       |       | -12.35% |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 171 | 5855 | 15.50 | 16.50 | 1.259 | 89.9  | 1.112 | -0.04 | 0.665 | 0.931 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 171 | 5855 | 16.40 | 16.50 | 1.023 | 89.9  | 1.112 | -0.05 | 0.211 | 0.240 |       |       |         |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 171 | 5855 | 15.50 | 16.50 | 1.259 | 89.9  | 1.112 | -0.05 | 0.583 | 0.816 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 171 | 5855 | 9.40  | 9.50  | 1.023 | 89.9  | 1.112 | -0.18 | 0.027 | 0.031 |       |       | -18.52% |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 171 | 5855 | 8.70  | 9.50  | 1.202 | 89.9  | 1.112 | -0.18 | 0.121 | 0.162 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 171 | 5855 | 9.40  | 9.50  | 1.023 | 89.9  | 1.112 | -0.17 | 0.035 | 0.040 |       |       |         |
|    |     | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 171 | 5855 | 8.70  | 9.50  | 1.202 | 89.9  | 1.112 | -0.17 | 0.099 | 0.132 |       |       |         |
|    | 1st | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 1/2  | 119 | 6545 | 14.30 | 14.50 | 1.047 | 87.06 | 1.149 | 0.1   | 0.411 | 0.494 | 1.93  | 2.322 | -10.93% |
|    | 2nd | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 1/2  | 119 | 6545 | 14.30 | 14.50 | 1.047 | 87.06 | 1.149 | -0.17 | 0.366 | 0.440 | 1.73  | 2.081 |         |
|    | 1st | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 3    | 119 | 6545 | 10.80 | 11.00 | 1.047 | 87.06 | 1.149 | -0.04 | 0.140 | 0.168 | 0.718 | 0.864 | -12.50% |
|    | 2nd | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 3    | 119 | 6545 | 10.80 | 11.00 | 1.047 | 87.06 | 1.149 | -0.08 | 0.122 | 0.147 | 0.704 | 0.847 |         |
|    | 1st | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 4    | 119 | 6545 | 13.90 | 14.00 | 1.023 | 87.06 | 1.149 | -0.09 | 0.295 | 0.347 | 1.64  | 1.928 | -25.94% |
|    | 2nd | WLAN6GHz  | 802.11ax-HE80 MCS0  | Left Cheek  | 0mm | Ant 4      | Index 4    | 119 | 6545 | 13.90 | 14.00 | 1.023 | 87.06 | 1.149 | -0.07 | 0.219 | 0.257 | 1.39  | 1.634 |         |
| 16 | 1st | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 71  | 6305 | 14.00 | 14.00 | 1.000 | 87.06 | 1.149 | -0.04 | 0.061 | 0.070 | 0.236 | 0.271 | -17.95% |
|    |     | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 71  | 6305 | 13.00 | 14.00 | 1.259 | 87.06 | 1.149 | -0.04 | 0.385 | 0.557 | 1.53  | 2.213 |         |
|    | 2nd | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(4) | Index 1    | 71  | 6305 | 14.00 | 14.00 | 1.000 | 87.06 | 1.149 | -0.02 | 0.048 | 0.055 | 0.212 | 0.244 |         |
|    |     | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(3) | Index 1    | 71  | 6305 | 13.00 | 14.00 | 1.259 | 87.06 | 1.149 | -0.02 | 0.316 | 0.457 | 1.51  | 2.184 |         |
|    | 1st | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 215 | 7025 | 12.40 | 12.50 | 1.023 | 87.06 | 1.149 | -0.09 | 0.001 | 0.001 | 0.001 | 0.001 | -23.21% |
|    |     | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 215 | 7025 | 12.20 | 12.50 | 1.072 | 87.06 | 1.149 | -0.09 | 0.238 | 0.293 | 0.92  | 1.133 |         |
|    | 2nd | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(4) | Index 3    | 215 | 7025 | 12.40 | 12.50 | 1.023 | 87.06 | 1.149 | 0.03  | 0.025 | 0.029 | 0.064 | 0.075 |         |
|    |     | WLAN6GHz  | 802.11ax-HE80 MCS0  | Right Cheek | 0mm | Ant 4+3(3) | Index 3    | 215 | 7025 | 12.20 | 12.50 | 1.072 | 87.06 | 1.149 | 0.03  | 0.183 | 0.225 | 0.499 | 0.614 |         |
|    | 1st | Bluetooth | 1Mbps               | Left Cheek  | 0mm | Ant 4      | BT Index 1 | 39  | 2441 | 8.95  | 9.50  | 1.135 | 77.07 | 1.081 | -0.06 | 0.236 | 0.290 |       |       | -25.86% |
| 17 | 2nd | Bluetooth | 1Mbps               | Left Cheek  | 0mm | Ant 4      | BT Index 1 | 39  | 2441 | 8.95  | 9.50  | 1.135 | 77.07 | 1.081 | -0.09 | 0.175 | 0.215 |       |       |         |
|    | 1st | Bluetooth | 1Mbps               | Right Cheek | 0mm | Ant 3      | BT Index 1 | 0   | 2402 | 8.75  | 9.50  | 1.189 | 77.07 | 1.081 | 0.06  | 0.084 | 0.108 |       |       | -12.96% |
|    | 2nd | Bluetooth | 1Mbps               | Right Cheek | 0mm | Ant 3      | BT Index 1 | 0   | 2402 | 8.75  | 9.50  | 1.189 | 77.07 | 1.081 | 0.09  | 0.073 | 0.094 |       |       |         |

**16.2 Hotspot SAR**

| Plot No. | No. | Band              | BW (MHz)          | Test Position | Gap (mm) | Power Index | Ch.         | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Deviation (%) |
|----------|-----|-------------------|-------------------|---------------|----------|-------------|-------------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|---------------|
| 18       | 1st | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Side     | 10mm     | Index 4     | 251         | 848.8       | 30.00               | 30.60               | 1.148                  |              |                           | 0                | 0.651                  | 0.747                  | -0.54%        |
|          | 2nd | GSM850_Ant 0      | GPRS (3 Tx slots) | Left Side     | 10mm     | Index 4     | 251         | 848.8       | 29.90               | 30.60               | 1.175                  |              |                           | 0                | 0.632                  | 0.743                  |               |
|          | 1st | GSM850_Ant 1      | GPRS (2 Tx slots) | Back          | 10mm     | Index 4     | 128         | 824.2       | 31.92               | 32.50               | 1.143                  |              |                           | -0.1             | 0.377                  | 0.431                  | -0.23%        |
|          | 2nd | GSM850_Ant 1      | GPRS (2 Tx slots) | Back          | 10mm     | Index 4     | 128         | 824.2       | 31.85               | 32.50               | 1.161                  |              |                           | -0.02            | 0.370                  | 0.430                  |               |
|          | 1st | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Side    | 10mm     | Index 4     | 21100       | 2535        | 18.53               | 19.20               | 1.167                  |              |                           | 0.01             | 0.462                  | 0.539                  | -17.44%       |
|          | 2nd | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Right Side    | 10mm     | Index 4     | 21100       | 2535        | 18.35               | 19.20               | 1.216                  |              |                           | 0.07             | 0.366                  | 0.445                  |               |
|          |     | LTE Band 7C_Ant 2 | 20M+20M_QPSK_1_99 | Right Side    | 10mm     | Index 4     | 20850+21048 | 2510        | 15.66               | 17.20               | 1.426                  |              |                           | 0.11             | 0.312                  | 0.445                  |               |
| 19       | 1st | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 20850       | 2510        | 20.82               | 21.90               | 1.282                  |              |                           | 0                | 0.619                  | 0.794                  | -1.01%        |
|          | 2nd | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Left Side     | 0mm      | Index 4     | 20850       | 2510        | 20.78               | 21.90               | 1.294                  |              |                           | 0.01             | 0.607                  | 0.786                  |               |
|          |     | LTE Band 7C_Ant 0 | 20M+20M_QPSK_1_99 | Left Side     | 0mm      | Index 4     | 20850+21048 | 2510        | 19.05               | 20.40               | 1.365                  |              |                           | 0.11             | 0.522                  | 0.712                  |               |
| 20       | 1st | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 23095       | 707.5       | 24.20               | 25.70               | 1.413                  |              |                           | 0                | 0.422                  | 0.596                  | -6.54%        |
|          | 2nd | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 23095       | 707.5       | 23.95               | 25.70               | 1.496                  |              |                           | 0.03             | 0.372                  | 0.557                  |               |
|          | 1st | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Back          | 10mm     | Index 4     | 23095       | 707.5       | 23.77               | 25.30               | 1.422                  |              |                           | 0.05             | 0.226                  | 0.321                  | -9.66%        |
|          | 2nd | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Back          | 10mm     | Index 4     | 23095       | 707.5       | 24.10               | 25.30               | 1.318                  |              |                           | -0.01            | 0.220                  | 0.290                  |               |
| 21       | 1st | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 26865       | 831.5       | 24.36               | 25.70               | 1.361                  |              |                           | -0.01            | 0.540                  | 0.735                  | -0.14%        |
|          | 2nd | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 26865       | 831.5       | 24.30               | 25.70               | 1.380                  |              |                           | 0                | 0.532                  | 0.734                  |               |
|          | 1st | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Back          | 10mm     | Index 4     | 26865       | 831.5       | 24.33               | 25.20               | 1.222                  |              |                           | 0.03             | 0.267                  | 0.326                  | -8.59%        |
|          | 2nd | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Back          | 10mm     | Index 4     | 26865       | 831.5       | 24.52               | 25.20               | 1.169                  |              |                           | 0                | 0.255                  | 0.298                  |               |
| 22       | 1st | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Side    | 10mm     | Index 4     | 40185       | 2549.5      | 20.50               | 20.90               | 1.096                  | 62.9         | 1.006                     | -0.02            | 0.499                  | 0.550                  | -0.55%        |
|          | 2nd | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Right Side    | 10mm     | Index 4     | 40185       | 2549.5      | 20.30               | 20.90               | 1.148                  | 62.9         | 1.006                     | -0.01            | 0.474                  | 0.547                  |               |
|          | 1st | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 40185       | 2549.5      | 21.89               | 23.30               | 1.384                  | 62.9         | 1.006                     | 0.07             | 0.495                  | 0.689                  | -27.29%       |
|          | 2nd | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Left Side     | 10mm     | Index 4     | 40185       | 2549.5      | 21.90               | 23.30               | 1.380                  | 62.9         | 1.006                     | -0.01            | 0.361                  | 0.501                  |               |
|          | 1st | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Right Side    | 10mm     | Index 4     | 507000      | 2535        | 20.00               | 20.00               | 1.000                  |              |                           | -0.01            | 0.594                  | 0.594                  | -8.75%        |
|          | 2nd | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Right Side    | 10mm     | Index 4     | 507000      | 2535        | 19.92               | 20.00               | 1.019                  |              |                           | -0.01            | 0.532                  | 0.542                  |               |
| 23       | 1st | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 507000      | 2535        | 21.11               | 21.30               | 1.045                  |              |                           | -0.01            | 0.773                  | 0.808                  | -0.99%        |
|          | 2nd | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 507000      | 2535        | 20.95               | 21.30               | 1.084                  |              |                           | 0.03             | 0.738                  | 0.800                  |               |
| 24       | 1st | FR1 n12_Ant 0     | 15M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 141500      | 707.5       | 24.25               | 25.70               | 1.396                  |              |                           | 0.01             | 0.367                  | 0.512                  | -11.33%       |
|          | 2nd | FR1 n12_Ant 0     | 15M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 141500      | 707.5       | 24.22               | 25.70               | 1.406                  |              |                           | -0.01            | 0.323                  | 0.454                  |               |
|          | 1st | FR1 n12_Ant 1     | 15M_BPSK_36_22    | Left Side     | 10mm     | Index 4     | 141500      | 707.5       | 23.86               | 25.30               | 1.393                  |              |                           | -0.01            | 0.236                  | 0.329                  | -0.91%        |
|          | 2nd | FR1 n12_Ant 1     | 15M_BPSK_36_22    | Left Side     | 10mm     | Index 4     | 141500      | 707.5       | 23.77               | 25.30               | 1.422                  |              |                           | 0                | 0.229                  | 0.326                  |               |
| 25       | 1st | FR1 n26_Ant 0     | 20M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 166300      | 831.5       | 24.40               | 25.50               | 1.288                  |              |                           | -0.02            | 0.507                  | 0.653                  | -1.84%        |
|          | 2nd | FR1 n26_Ant 0     | 20M_BPSK_1_1      | Left Side     | 10mm     | Index 4     | 166300      | 831.5       | 24.31               | 25.50               | 1.315                  |              |                           | -0.13            | 0.487                  | 0.641                  |               |
|          | 1st | FR1 n26_Ant 1     | 20M_BPSK_1_1      | Back          | 10mm     | Index 4     | 166300      | 831.5       | 23.84               | 25.20               | 1.368                  |              |                           | 0.03             | 0.254                  | 0.347                  | -7.20%        |
|          | 2nd | FR1 n26_Ant 1     | 20M_BPSK_1_1      | Back          | 10mm     | Index 4     | 166300      | 831.5       | 23.79               | 25.20               | 1.384                  |              |                           | -0.01            | 0.233                  | 0.322                  |               |
|          | 1st | FR1 n41_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 518598      | 2592.99     | 19.51               | 20.40               | 1.227                  |              |                           | -0.05            | 0.587                  | 0.721                  | -5.27%        |
|          | 2nd | FR1 n41_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 518598      | 2592.99     | 19.53               | 20.40               | 1.222                  |              |                           | 0.02             | 0.559                  | 0.683                  |               |
| 26       | 1st | FR1 n41_Ant 0     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 518598      | 2592.99     | 19.62               | 21.30               | 1.472                  |              |                           | -0.02            | 0.527                  | 0.776                  | -1.93%        |
|          | 2nd | FR1 n41_Ant 0     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 518598      | 2592.99     | 19.63               | 21.30               | 1.469                  |              |                           | -0.08            | 0.518                  | 0.761                  |               |
| 27       | 1st | FR1 n77_Ant 6     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 656000      | 3840        | 17.73               | 18.80               | 1.279                  |              |                           | -0.02            | 0.458                  | 0.586                  | -5.46%        |
|          | 2nd | FR1 n77_Ant 6     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 656000      | 3840        | 17.45               | 18.80               | 1.365                  |              |                           | 0.01             | 0.406                  | 0.554                  |               |
|          | 1st | FR1 n77_Ant 6     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 633332      | 3499.98     | 17.72               | 18.80               | 1.282                  |              |                           | -0.01            | 0.440                  | 0.564                  | -3.55%        |
|          | 2nd | FR1 n77_Ant 6     | 100M_BPSK_1_1     | Left Side     | 10mm     | Index 4     | 633332      | 3499.98     | 17.78               | 18.80               | 1.265                  |              |                           | -0.02            | 0.430                  | 0.544                  |               |
|          | 1st | FR1 n77_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 656000      | 3840        | 19.33               | 19.50               | 1.040                  |              |                           | -0.05            | 0.442                  | 0.460                  | -0.65%        |
|          | 2nd | FR1 n77_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 656000      | 3840        | 19.16               | 19.50               | 1.081                  |              |                           | -0.03            | 0.423                  | 0.457                  |               |
|          | 1st | FR1 n77_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 633332      | 3499.98     | 19.08               | 19.50               | 1.102                  |              |                           | -0.02            | 0.530                  | 0.584                  | -5.48%        |
|          | 2nd | FR1 n77_Ant 2     | 100M_BPSK_1_1     | Right Side    | 10mm     | Index 4     | 633332      | 3499.98     | 18.91               | 19.50               | 1.146                  |              |                           | -0.04            | 0.482                  | 0.552                  |               |



# FCC SAR TEST REPORT

Report No. : FA380308B

| Plot No. | No. | Band       | Mode          | Test Position | Gap (mm) | Antenna    | Power Index  | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Deviation (%) |
|----------|-----|------------|---------------|---------------|----------|------------|--------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|---------------|
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps | Top Side      | 10mm     | Ant 4      | Index 7      | 12  | 2467        | 16.40               | 16.50               | 1.023                  | 98.85        | 1.012                     | 0.02             | 0.463                  | 0.479                  | -0.42%        |
| 28       | 2nd | WLAN2.4GHz | 802.11b 1Mbps | Top Side      | 10mm     | Ant 4      | Index 7      | 12  | 2467        | 16.40               | 16.50               | 1.023                  | 98.85        | 1.012                     | -0.07            | 0.461                  | 0.477                  |               |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps | Left Side     | 10mm     | Ant 3      | Index 7      | 6   | 2437        | 16.45               | 16.50               | 1.012                  | 98.85        | 1.012                     | -0.01            | 0.170                  | 0.174                  | -5.75%        |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps | Left Side     | 10mm     | Ant 3      | Index 7      | 6   | 2437        | 16.45               | 16.50               | 1.012                  | 98.85        | 1.012                     | 0                | 0.160                  | 0.164                  |               |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps | Left Side     | 10mm     | Ant 3      | Index 8      | 6   | 2437        | 16.95               | 17.00               | 1.012                  | 98.85        | 1.012                     | 0.11             | 0.221                  | 0.226                  | -17.70%       |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps | Left Side     | 10mm     | Ant 3      | Index 8      | 6   | 2437        | 16.95               | 17.00               | 1.012                  | 98.85        | 1.012                     | -0.14            | 0.182                  | 0.186                  |               |
|          | 1st | WLAN2.4GHz | 802.11g 6Mbps | Top Side      | 10mm     | Ant 4+3(4) | Index 7      | 6   | 2437        | 16.40               | 16.50               | 1.023                  | 93.46        | 1.070                     | -0.06            | 0.375                  | 0.411                  |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps | Top Side      | 10mm     | Ant 4+3(3) | Index 7      | 6   | 2437        | 16.35               | 16.50               | 1.035                  | 93.46        | 1.070                     | -0.06            | 0.001                  | 0.001                  |               |
|          | 2nd | WLAN2.4GHz | 802.11g 6Mbps | Top Side      | 10mm     | Ant 4+3(4) | Index 7      | 6   | 2437        | 16.40               | 16.50               | 1.023                  | 93.46        | 1.070                     | -0.11            | 0.318                  | 0.348                  | -15.33%       |
|          |     | WLAN2.4GHz | 802.11g 6Mbps | Top Side      | 10mm     | Ant 4+3(3) | Index 7      | 6   | 2437        | 16.35               | 16.50               | 1.035                  | 93.46        | 1.070                     | -0.11            | 0.001                  | 0.001                  |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4      | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.18            | 0.316                  | 0.346                  |               |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4      | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.17            | 0.229                  | 0.251                  | -27.46%       |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4      | Index 8      | 48  | 5240        | 19.00               | 19.00               | 1.000                  | 93.46        | 1.070                     | -0.18            | 0.329                  | 0.352                  |               |
| 29       | 2nd | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4      | Index 8      | 48  | 5240        | 19.00               | 19.00               | 1.000                  | 93.46        | 1.070                     | -0.18            | 0.316                  | 0.338                  | -3.98%        |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4+3(4) | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.11            | 0.273                  | 0.299                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4+3(3) | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | 0.01             | 0.001                  | 0.001                  | 0.00%         |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4+3(4) | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.11            | 0.273                  | 0.299                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 10mm     | Ant 4+3(3) | Index 7/9    | 48  | 5240        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | 0.08             | 0.001                  | 0.001                  |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Back          | 10mm     | Ant 4      | Index 7/8    | 157 | 5785        | 19.90               | 20.00               | 1.023                  | 93.45        | 1.070                     | 0.01             | 0.291                  | 0.319                  | -21.32%       |
| 30       | 2nd | WLAN5GHz   | 802.11a 6Mbps | Back          | 10mm     | Ant 4      | Index 7/8    | 157 | 5785        | 19.90               | 20.00               | 1.023                  | 93.45        | 1.070                     | -0.13            | 0.229                  | 0.251                  |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Back          | 10mm     | Ant 4      | Index 9      | 157 | 5785        | 19.40               | 19.50               | 1.023                  | 93.45        | 1.070                     | 0.09             | 0.188                  | 0.206                  | -11.65%       |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps | Back          | 10mm     | Ant 4      | Index 9      | 157 | 5785        | 19.40               | 19.50               | 1.023                  | 93.45        | 1.070                     | 0.15             | 0.166                  | 0.182                  |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(4) | Index 7      | 165 | 5825        | 19.90               | 20.00               | 1.023                  | 93.42        | 1.070                     | -0.09            | 0.001                  | 0.001                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(3) | Index 7      | 165 | 5825        | 19.60               | 20.00               | 1.096                  | 93.42        | 1.070                     | -0.09            | 0.245                  | 0.287                  | -13.24%       |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(4) | Index 7      | 165 | 5825        | 19.90               | 20.00               | 1.023                  | 93.42        | 1.070                     | 0.07             | 0.001                  | 0.001                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(3) | Index 7      | 165 | 5825        | 19.60               | 20.00               | 1.096                  | 93.42        | 1.070                     | 0.07             | 0.212                  | 0.249                  |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(4) | Index 9      | 157 | 5785        | 19.40               | 19.50               | 1.023                  | 93.42        | 1.070                     | -0.17            | 0.001                  | 0.001                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(3) | Index 9      | 157 | 5785        | 19.20               | 19.50               | 1.072                  | 93.42        | 1.070                     | 0.05             | 0.226                  | 0.259                  | -29.34%       |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(4) | Index 9      | 157 | 5785        | 19.40               | 19.50               | 1.023                  | 93.42        | 1.070                     | 0.13             | 0.001                  | 0.001                  |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 10mm     | Ant 4+3(3) | Index 9      | 157 | 5785        | 19.20               | 19.50               | 1.072                  | 93.42        | 1.070                     | 0.13             | 0.160                  | 0.183                  |               |
|          | 1st | Bluetooth  | 1Mbps         | Top Side      | 10mm     | Ant 4      | BT Index 3/4 | 78  | 2480        | 14.90               | 15.00               | 1.023                  | 77.07        | 1.081                     | -0.14            | 0.239                  | 0.264                  | -8.71%        |
|          | 2nd | Bluetooth  | 1Mbps         | Top Side      | 10mm     | Ant 4      | BT Index 3/4 | 78  | 2480        | 14.90               | 15.00               | 1.023                  | 77.07        | 1.081                     | -0.17            | 0.218                  | 0.241                  |               |
|          | 1st | Bluetooth  | 1Mbps         | Left Side     | 10mm     | Ant 3      | BT Index 3   | 78  | 2480        | 20.50               | 21.00               | 1.123                  | 77.07        | 1.081                     | 0.01             | 0.503                  | 0.611                  | -18.66%       |
| 31       | 2nd | Bluetooth  | 1Mbps         | Left Side     | 10mm     | Ant 3      | BT Index 3   | 78  | 2480        | 20.50               | 21.00               | 1.123                  | 77.07        | 1.081                     | -0.04            | 0.409                  | 0.497                  |               |
|          | 1st | Bluetooth  | 1Mbps         | Left Side     | 10mm     | Ant 3      | BT Index 4   | 78  | 2480        | 14.65               | 15.00               | 1.084                  | 77.07        | 1.081                     | -0.12            | 0.121                  | 0.142                  | -19.01%       |
|          | 2nd | Bluetooth  | 1Mbps         | Left Side     | 10mm     | Ant 3      | BT Index 4   | 78  | 2480        | 14.65               | 15.00               | 1.084                  | 77.07        | 1.081                     | -0.02            | 0.098                  | 0.115                  |               |

**16.3 Body-Worn SAR**

| Plot No. | No. | Band              | BW (MHz)          | Test Position | Gap (mm) | Power Index | Ch.         | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Deviation (%) |
|----------|-----|-------------------|-------------------|---------------|----------|-------------|-------------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|---------------|
|          | 1st | GSM850_Ant 0      | GPRS (3 Tx slots) | Front         | 10mm     | Index 5     | 251         | 848.8       | 30.00               | 31.50               | 1.413                  |              |                           | 0.02             | 0.477                  | 0.674                  |               |
| 32       | 2nd | GSM850_Ant 0      | GPRS (3 Tx slots) | Front         | 10mm     | Index 5     | 251         | 848.8       | 29.90               | 31.50               | 1.445                  |              |                           | -0.09            | 0.456                  | 0.659                  | -2.23%        |
|          | 1st | GSM850_Ant 0      | GPRS (3 Tx slots) | Front         | 10mm     | Index 6     | 251         | 848.8       | 30.00               | 30.60               | 1.148                  |              |                           | 0.02             | 0.477                  | 0.548                  |               |
|          | 2nd | GSM850_Ant 0      | GPRS (3 Tx slots) | Front         | 10mm     | Index 6     | 251         | 848.8       | 29.90               | 30.60               | 1.175                  |              |                           | -0.09            | 0.456                  | 0.536                  | -2.19%        |
|          | 1st | GSM850_Ant 1      | GPRS (2 Tx slots) | Back          | 10mm     | Index 5/6   | 128         | 824.2       | 31.92               | 32.50               | 1.143                  |              |                           | -0.1             | 0.377                  | 0.431                  |               |
|          | 2nd | GSM850_Ant 1      | GPRS (2 Tx slots) | Back          | 10mm     | Index 5/6   | 128         | 824.2       | 31.85               | 32.50               | 1.161                  |              |                           | -0.02            | 0.370                  | 0.430                  | -0.23%        |
|          | 1st | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Back          | 10mm     | Index 5     | 21100       | 2535        | 22.91               | 23.60               | 1.172                  |              |                           | -0.03            | 0.655                  | 0.768                  |               |
| 33       | 2nd | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Back          | 10mm     | Index 5     | 21100       | 2535        | 22.92               | 23.60               | 1.169                  |              |                           | 0.01             | 0.622                  | 0.727                  | -5.34%        |
|          |     | LTE Band 7C_Ant 2 | 20M+20M_QPSK_1_99 | Back          | 10mm     | Index 5     | 20850+21048 | 2510        | 20.00               | 21.60               | 1.445                  |              |                           | 0.14             | 0.405                  | 0.585                  |               |
|          | 1st | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Back          | 10mm     | Index 6     | 21100       | 2535        | 21.89               | 22.30               | 1.099                  |              |                           | -0.1             | 0.520                  | 0.571                  |               |
|          | 2nd | LTE Band 7_Ant 2  | 20M_QPSK_1_0      | Back          | 10mm     | Index 6     | 21100       | 2535        | 21.81               | 22.30               | 1.119                  |              |                           | 0.03             | 0.494                  | 0.553                  | -3.15%        |
|          |     | LTE Band 7C_Ant 2 | 20M+20M_QPSK_1_99 | Back          | 10mm     | Index 6     | 20850+21048 | 2510        | 18.44               | 20.30               | 1.535                  |              |                           | 0.11             | 0.319                  | 0.490                  |               |
|          | 1st | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Front         | 10mm     | Index 5     | 20850       | 2510        | 23.34               | 23.70               | 1.086                  |              |                           | 0                | 0.715                  | 0.777                  |               |
|          | 2nd | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Front         | 10mm     | Index 5     | 20850       | 2510        | 23.38               | 23.70               | 1.076                  |              |                           | 0                | 0.632                  | 0.680                  | -12.48%       |
|          |     | LTE Band 7C_Ant 0 | 20M+20M_QPSK_1_99 | Front         | 10mm     | Index 5     | 20850+21048 | 2510        | 21.43               | 22.20               | 1.194                  |              |                           | 0.06             | 0.540                  | 0.645                  |               |
|          | 1st | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Front         | 10mm     | Index 6     | 20850       | 2510        | 21.24               | 22.00               | 1.191                  |              |                           | 0.08             | 0.441                  | 0.525                  |               |
|          | 2nd | LTE Band 7_Ant 0  | 20M_QPSK_1_0      | Front         | 10mm     | Index 6     | 20850       | 2510        | 21.18               | 22.00               | 1.208                  |              |                           | -0.02            | 0.390                  | 0.471                  | -10.29%       |
|          |     | LTE Band 7C_Ant 0 | 20M+20M_QPSK_1_99 | Front         | 10mm     | Index 6     | 20850+21048 | 2510        | 19.33               | 20.50               | 1.309                  |              |                           | 0.12             | 0.350                  | 0.458                  |               |
|          | 1st | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 23095       | 707.5       | 24.20               | 25.70               | 1.413                  |              |                           | -0.01            | 0.321                  | 0.453                  |               |
| 34       | 2nd | LTE Band 12_Ant 0 | 10M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 23095       | 707.5       | 23.95               | 25.70               | 1.496                  |              |                           | 0.02             | 0.297                  | 0.444                  | -1.99%        |
|          | 1st | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 23095       | 707.5       | 23.77               | 25.30               | 1.422                  |              |                           | 0.05             | 0.226                  | 0.321                  |               |
|          | 2nd | LTE Band 12_Ant 1 | 10M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 23095       | 707.5       | 24.10               | 25.30               | 1.318                  |              |                           | -0.01            | 0.220                  | 0.290                  | -9.66%        |
|          | 1st | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Front         | 10mm     | Index 5/6   | 26865       | 831.5       | 24.36               | 25.70               | 1.361                  |              |                           | -0.01            | 0.373                  | 0.508                  |               |
| 35       | 2nd | LTE Band 26_Ant 0 | 15M_QPSK_1_0      | Front         | 10mm     | Index 5/6   | 26865       | 831.5       | 24.30               | 25.70               | 1.380                  |              |                           | -0.01            | 0.341                  | 0.471                  | -7.28%        |
|          | 1st | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 26865       | 831.5       | 24.33               | 25.20               | 1.222                  |              |                           | 0.03             | 0.267                  | 0.326                  |               |
|          | 2nd | LTE Band 26_Ant 1 | 15M_QPSK_1_0      | Back          | 10mm     | Index 5/6   | 26865       | 831.5       | 24.52               | 25.20               | 1.169                  |              |                           | 0                | 0.255                  | 0.298                  | -8.59%        |
|          | 1st | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Back          | 10mm     | Index 5     | 41490       | 2680        | 23.70               | 25.60               | 1.549                  | 62.9         | 1.006                     | -0.04            | 0.616                  | 0.960                  |               |
| 36       | 2nd | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Back          | 10mm     | Index 5     | 41490       | 2680        | 23.72               | 25.60               | 1.542                  | 62.9         | 1.006                     | -0.03            | 0.592                  | 0.918                  | -4.37%        |
|          | 1st | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Back          | 10mm     | Index 6     | 41490       | 2680        | 23.70               | 24.50               | 1.202                  | 62.9         | 1.006                     | -0.04            | 0.616                  | 0.745                  |               |
|          | 2nd | LTE Band 41_Ant 2 | 20M_QPSK_1_0      | Back          | 10mm     | Index 6     | 41490       | 2680        | 23.72               | 24.50               | 1.197                  | 62.9         | 1.006                     | -0.03            | 0.592                  | 0.713                  | -4.30%        |
|          | 1st | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Front         | 10mm     | Index 5     | 40185       | 2549.5      | 24.16               | 25.20               | 1.271                  | 62.9         | 1.006                     | -0.05            | 0.557                  | 0.712                  |               |
|          | 2nd | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Front         | 10mm     | Index 5     | 40185       | 2549.5      | 24.15               | 25.20               | 1.274                  | 62.9         | 1.006                     | -0.05            | 0.517                  | 0.662                  | -7.02%        |
|          | 1st | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Front         | 10mm     | Index 6     | 40185       | 2549.5      | 24.16               | 24.20               | 1.009                  | 62.9         | 1.006                     | -0.05            | 0.557                  | 0.566                  |               |
|          | 2nd | LTE Band 41_Ant 0 | 20M_QPSK_1_0      | Front         | 10mm     | Index 6     | 40185       | 2549.5      | 24.15               | 24.20               | 1.012                  | 62.9         | 1.006                     | -0.05            | 0.517                  | 0.526                  | -7.07%        |
|          | 1st | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Back          | 10mm     | Index 5     | 507000      | 2535        | 23.34               | 23.90               | 1.138                  |              |                           | -0.13            | 0.734                  | 0.835                  |               |
|          | 2nd | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Back          | 10mm     | Index 5     | 507000      | 2535        | 23.41               | 23.90               | 1.119                  |              |                           | 0.04             | 0.687                  | 0.769                  | -7.90%        |
|          | 1st | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Back          | 10mm     | Index 6     | 507000      | 2535        | 22.79               | 23.00               | 1.050                  |              |                           | 0.01             | 0.654                  | 0.686                  |               |
|          | 2nd | FR1 n7_Ant 2      | 50M_BPSK_1_1      | Back          | 10mm     | Index 6     | 507000      | 2535        | 22.93               | 23.00               | 1.016                  |              |                           | -0.06            | 0.612                  | 0.622                  | -9.33%        |
|          | 1st | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Front         | 10mm     | Index 5     | 507000      | 2535        | 23.60               | 23.60               | 1.000                  |              |                           | 0.14             | 0.794                  | 0.794                  |               |
| 37       | 2nd | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Front         | 10mm     | Index 5     | 507000      | 2535        | 23.38               | 23.60               | 1.052                  |              |                           | -0.02            | 0.754                  | 0.793                  | -0.13%        |
|          | 1st | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Front         | 10mm     | Index 6     | 507000      | 2535        | 21.02               | 21.70               | 1.169                  |              |                           | 0.14             | 0.446                  | 0.522                  |               |
|          | 2nd | FR1 n7_Ant 0      | 50M_BPSK_1_1      | Front         | 10mm     | Index 6     | 507000      | 2535        | 20.98               | 21.70               | 1.180                  |              |                           | -0.02            | 0.424                  | 0.500                  | -4.21%        |
|          | 1st | FR1 n12_Ant 0     | 15M_BPSK_36_22    | Back          | 10mm     | Index 5/6   | 141500      | 707.5       | 22.35               | 25.70               | 1.403                  |              |                           | 0.01             | 0.336                  | 0.471                  |               |
| 38       | 2nd | FR1 n12_Ant 0     | 15M_BPSK_36_22    | Back          | 10mm     | Index 5/6   | 141500      | 707.5       | 24.22               | 25.70               | 1.406                  |              |                           | -0.01            | 0.309                  | 0.434                  | -7.86%        |
|          | 1st | FR1 n12_Ant 1     | 15M_BPSK_36_22    | Back          | 10mm     | Index 5/6   | 141500      | 707.5       | 22.35               | 25.30               | 1.393                  |              |                           | -0.02            | 0.228                  | 0.318                  |               |
|          | 2nd | FR1 n12_Ant 1     | 15M_BPSK_36_22    | Back          | 10mm     | Index 5/6   | 141500      | 707.5       | 23.77               | 25.30               | 1.422                  |              |                           | -0.11            | 0.222                  | 0.316                  | -0.63%        |
|          | 1st | FR1 n26_Ant 0     | 20M_BPSK_50_28    | Front         | 10mm     | Index 5/6   | 166300      | 831.5       | 24.27               | 25.70               | 1.390                  |              |                           | -0.02            | 0.351                  | 0.488                  |               |
| 39       | 2nd | FR1 n26_Ant 0     | 20M_BPSK_50_28    | Front         | 10mm     | Index 5/6   | 166300      | 831.5       | 24.20               | 25.70               | 1.413                  |              |                           | 0.11             | 0.344                  | 0.486                  | -0.41%        |
|          | 1st | FR1 n26_Ant 1     | 20M_BPSK_1_1      | Back          | 10mm     | Index 5/6   | 166300      | 831.5       | 23.84               | 25.20               | 1.368                  |              |                           | 0.03             | 0.254                  | 0.347                  |               |
|          | 2nd | FR1 n26_Ant 1     | 20M_BPSK_1_1      | Back          | 10mm     | Index 5/6   | 166300      | 831.5       | 23.79               | 25.20               | 1.384                  |              |                           | -0.01            | 0.233                  | 0.322                  | -7.20%        |
|          | 1st | FR1 n41_Ant 2     | 100M_BPSK_1_1     | Back          | 10mm     | Index 5     | 518598      | 2592.99     | 22.50               | 23.50               | 1.259                  |              |                           | -0.04            | 0.704                  | 0.886                  |               |
|          | 2nd | FR1 n41_Ant 2     | 100M_BPSK_1_1     | Back          | 10mm     | Index 5     | 518598      | 2592.99     | 22.55               | 23.50               | 1.245                  |              |                           | -0.04            | 0.647                  | 0.805                  | -9.14%        |



# FCC SAR TEST REPORT

Report No. : FA380308B

|    |     |               |               |       |      |         |        |         |       |       |       |  |  |       |       |       |  |  |         |
|----|-----|---------------|---------------|-------|------|---------|--------|---------|-------|-------|-------|--|--|-------|-------|-------|--|--|---------|
|    | 1st | FR1 n41_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 518598 | 2592.99 | 22.50 | 22.60 | 1.023 |  |  | -0.04 | 0.704 | 0.720 |  |  |         |
|    | 2nd | FR1 n41_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 518598 | 2592.99 | 22.55 | 22.60 | 1.012 |  |  | -0.04 | 0.647 | 0.654 |  |  | -9.17%  |
|    | 1st | FR1 n41_Ant 0 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 518598 | 2592.99 | 24.40 | 25.20 | 1.202 |  |  | -0.06 | 0.824 | 0.991 |  |  |         |
| 40 | 2nd | FR1 n41_Ant 0 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 518598 | 2592.99 | 24.30 | 25.20 | 1.230 |  |  | -0.05 | 0.737 | 0.907 |  |  | -8.48%  |
|    | 1st | FR1 n41_Ant 0 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 518598 | 2592.99 | 24.40 | 24.40 | 1.000 |  |  | -0.06 | 0.824 | 0.824 |  |  |         |
|    | 2nd | FR1 n41_Ant 0 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 518598 | 2592.99 | 24.30 | 24.40 | 1.023 |  |  | -0.05 | 0.737 | 0.754 |  |  | -8.50%  |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Back  | 10mm | Index 5 | 656000 | 3840    | 20.30 | 21.10 | 1.202 |  |  | 0.05  | 0.455 | 0.547 |  |  |         |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Back  | 10mm | Index 5 | 656000 | 3840    | 20.27 | 21.10 | 1.211 |  |  | 0     | 0.416 | 0.504 |  |  | -7.86%  |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 656000 | 3840    | 20.30 | 20.30 | 1.000 |  |  | 0.05  | 0.455 | 0.455 |  |  |         |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 656000 | 3840    | 20.27 | 20.30 | 1.007 |  |  | 0     | 0.416 | 0.419 |  |  | -7.91%  |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 633332 | 3499.98 | 20.19 | 21.10 | 1.233 |  |  | -0.14 | 0.398 | 0.491 |  |  |         |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 633332 | 3499.98 | 20.21 | 21.10 | 1.227 |  |  | -0.11 | 0.385 | 0.473 |  |  | -3.67%  |
|    | 1st | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 633332 | 3499.98 | 20.19 | 20.30 | 1.026 |  |  | -0.14 | 0.398 | 0.408 |  |  |         |
|    | 2nd | FR1 n77_Ant 6 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 633332 | 3499.98 | 20.21 | 20.30 | 1.021 |  |  | -0.11 | 0.385 | 0.393 |  |  | -3.68%  |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 656000 | 3840    | 21.36 | 21.60 | 1.057 |  |  | -0.13 | 0.343 | 0.362 |  |  |         |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Front | 10mm | Index 5 | 656000 | 3840    | 21.38 | 21.60 | 1.052 |  |  | -0.16 | 0.314 | 0.330 |  |  | -8.84%  |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 656000 | 3840    | 19.33 | 20.30 | 1.250 |  |  | -0.02 | 0.219 | 0.274 |  |  |         |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Front | 10mm | Index 6 | 656000 | 3840    | 19.16 | 20.30 | 1.300 |  |  | 0     | 0.206 | 0.268 |  |  | -2.19%  |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 5 | 633332 | 3499.98 | 21.13 | 21.60 | 1.114 |  |  | -0.17 | 0.580 | 0.646 |  |  |         |
| 41 | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 5 | 633332 | 3499.98 | 21.33 | 21.60 | 1.064 |  |  | 0.11  | 0.533 | 0.567 |  |  | -12.23% |
|    | 1st | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 633332 | 3499.98 | 19.08 | 20.30 | 1.324 |  |  | -0.1  | 0.371 | 0.491 |  |  |         |
|    | 2nd | FR1 n77_Ant 2 | 100M_BPSK_1_1 | Back  | 10mm | Index 6 | 633332 | 3499.98 | 18.79 | 20.30 | 1.416 |  |  | -0.01 | 0.341 | 0.483 |  |  | -1.63%  |

| Plot No. | No. | Band       | Mode              | Test Position | Gap (mm) | Antenna    | Power Index   | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) | Measured APD (W/m^2) | Reported APD (W/m^2) | Deviation (%) |
|----------|-----|------------|-------------------|---------------|----------|------------|---------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|----------------------|----------------------|---------------|
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 4      | Index 5       | 1   | 2412        | 19.40               | 19.50               | 1.023                  | 98.85        | 1.012                     | -0.09            | 0.471                  | 0.488                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 4      | Index 5       | 1   | 2412        | 19.40               | 19.50               | 1.023                  | 98.85        | 1.012                     | -0.13            | 0.394                  | 0.408                  |                      |                      | -16.39%       |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 4      | Index 7       | 12  | 2467        | 16.40               | 16.50               | 1.023                  | 98.85        | 1.012                     | -0.16            | 0.351                  | 0.363                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 4      | Index 7       | 12  | 2467        | 16.40               | 16.50               | 1.023                  | 98.85        | 1.012                     | -0.17            | 0.330                  | 0.342                  |                      |                      | -5.79%        |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 5       | 1   | 2412        | 19.45               | 19.50               | 1.012                  | 98.85        | 1.012                     | -0.09            | 0.280                  | 0.287                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 5       | 1   | 2412        | 19.45               | 19.50               | 1.012                  | 98.85        | 1.012                     | -0.14            | 0.212                  | 0.217                  |                      |                      | -24.39%       |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 6       | 1   | 2412        | 20.95               | 21.00               | 1.012                  | 98.85        | 1.012                     | 0.04             | 0.530                  | 0.543                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 6       | 1   | 2412        | 20.95               | 21.00               | 1.012                  | 98.85        | 1.012                     | 0.1              | 0.425                  | 0.435                  |                      |                      | -19.89%       |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 7       | 6   | 2437        | 16.45               | 16.50               | 1.012                  | 98.85        | 1.012                     | -0.18            | 0.117                  | 0.120                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 7       | 6   | 2437        | 16.45               | 16.50               | 1.012                  | 98.85        | 1.012                     | -0.18            | 0.108                  | 0.111                  |                      |                      | -7.50%        |
|          | 1st | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 8       | 6   | 2437        | 16.95               | 17.00               | 1.012                  | 98.85        | 1.012                     | -0.18            | 0.125                  | 0.128                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11b 1Mbps     | Front         | 10mm     | Ant 3      | Index 8       | 6   | 2437        | 16.95               | 17.00               | 1.012                  | 98.85        | 1.012                     | -0.18            | 0.115                  | 0.118                  |                      |                      | -7.81%        |
|          | 1st | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 5       | 6   | 2437        | 19.40               | 19.50               | 1.023                  | 93.46        | 1.070                     | 0.01             | 0.529                  | 0.579                  |                      |                      |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 5       | 6   | 2437        | 18.65               | 19.50               | 1.216                  | 93.46        | 1.070                     | 0.01             | 0.217                  | 0.282                  |                      |                      |               |
| 42       | 2nd | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 5       | 6   | 2437        | 19.40               | 19.50               | 1.023                  | 93.46        | 1.070                     | -0.05            | 0.491                  | 0.538                  |                      |                      | -7.08%        |
|          |     | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 5       | 6   | 2437        | 18.65               | 19.50               | 1.216                  | 93.46        | 1.070                     | -0.05            | 0.199                  | 0.259                  |                      |                      |               |
|          | 1st | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 7       | 6   | 2437        | 16.40               | 16.50               | 1.023                  | 93.46        | 1.070                     | -0.03            | 0.255                  | 0.279                  |                      |                      |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 7       | 6   | 2437        | 16.35               | 16.50               | 1.035                  | 93.46        | 1.070                     | -0.03            | 0.120                  | 0.133                  |                      |                      |               |
|          | 2nd | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 7       | 6   | 2437        | 16.40               | 16.50               | 1.023                  | 93.46        | 1.070                     | -0.03            | 0.233                  | 0.255                  |                      |                      |               |
|          |     | WLAN2.4GHz | 802.11g 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 7       | 6   | 2437        | 16.35               | 16.50               | 1.035                  | 93.46        | 1.070                     | -0.03            | 0.097                  | 0.107                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps     | Back          | 10mm     | Ant 4      | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.04            | 0.120                  | 0.131                  |                      |                      |               |
|          | 2nd | WLAN5GHz   | 802.11a 6Mbps     | Back          | 10mm     | Ant 4      | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.46        | 1.070                     | -0.1             | 0.091                  | 0.100                  |                      |                      | -23.66%       |
|          | 1st | WLAN5GHz   | 802.11n-HT20 MCS0 | Back          | 10mm     | Ant 4      | Index 6/8     | 52  | 5260        | 18.80               | 19.00               | 1.047                  | 93.46        | 1.070                     | 0.08             | 0.101                  | 0.113                  |                      |                      |               |
|          | 2nd | WLAN5GHz   | 802.11n-HT20 MCS0 | Back          | 10mm     | Ant 4      | Index 6/8     | 52  | 5260        | 18.80               | 19.00               | 1.047                  | 93.46        | 1.070                     | 0.13             | 0.077                  | 0.086                  |                      |                      | -23.89%       |
|          | 1st | WLAN5GHz   | 802.11a 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.04            | 0.094                  | 0.103                  |                      |                      |               |
|          |     | WLAN5GHz   | 802.11a 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.04            | 0.157                  | 0.172                  |                      |                      |               |
| 43       | 2nd | WLAN5GHz   | 802.11a 6Mbps     | Front         | 10mm     | Ant 4+3(4) | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.1             | 0.084                  | 0.092                  |                      |                      | -18.02%       |
|          |     | WLAN5GHz   | 802.11a 6Mbps     | Front         | 10mm     | Ant 4+3(3) | Index 5/7/9   | 52  | 5260        | 17.90               | 18.00               | 1.023                  | 93.42        | 1.070                     | -0.1             | 0.129                  | 0.141                  |                      |                      |               |
|          | 1st | WLAN5GHz   | 802.11n-HT20 MCS0 | Back          | 10mm     | Ant 4      | Index 5/6/7/9 | 116 | 5580        | 18.90               | 19.00               | 1.023                  | 93.06        | 1.075                     | -0.1             | 0.313                  | 0.344                  |                      |                      |               |
| 44       | 2nd | WLAN5GHz   | 802.11n-HT20 MCS0 | Back          | 10mm     | Ant 4      | Index 5/6/7/9 | 116 | 5580        | 18.90               | 19.00               | 1.023                  | 93.06        | 1.075                     | 0.05             | 0.249                  | 0.274                  |                      |                      | -20.35%       |



# FCC SAR TEST REPORT

Report No. : FA380308B

|    |     |           |                     |       |      |            |                 |     |      |       |       |       |       |       |       |       |       |       |       |         |
|----|-----|-----------|---------------------|-------|------|------------|-----------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
|    | 1st | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Back  | 10mm | Ant 4      | Index 8         | 138 | 5690 | 17.90 | 18.00 | 1.023 | 89.9  | 1.112 | 0.01  | 0.227 | 0.258 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11ac-VHT80 MCS0 | Back  | 10mm | Ant 4      | Index 8         | 138 | 5690 | 17.90 | 18.00 | 1.023 | 89.9  | 1.112 | 0.05  | 0.165 | 0.188 |       |       | -27.13% |
|    | 1st | WLAN5GHz  | 802.11n-HT20 MCS0   | Back  | 10mm | Ant 4+3(4) | Index 5/7/9     | 116 | 5580 | 19.00 | 19.00 | 1.000 | 93.06 | 1.075 | 0.13  | 0.358 | 0.385 |       |       |         |
|    |     | WLAN5GHz  | 802.11n-HT20 MCS0   | Back  | 10mm | Ant 4+3(3) | Index 5/7/9     | 116 | 5580 | 18.60 | 19.00 | 1.096 | 93.06 | 1.075 | 0.13  | 0.150 | 0.177 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11n-HT20 MCS0   | Back  | 10mm | Ant 4+3(4) | Index 5/7/9     | 116 | 5580 | 19.00 | 19.00 | 1.000 | 93.06 | 1.075 | -0.06 | 0.249 | 0.268 |       |       | -30.39% |
|    |     | WLAN5GHz  | 802.11n-HT20 MCS0   | Back  | 10mm | Ant 4+3(3) | Index 5/7/9     | 116 | 5580 | 18.60 | 19.00 | 1.096 | 93.06 | 1.075 | -0.06 | 0.181 | 0.213 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/6/7/8   | 157 | 5785 | 19.90 | 20.00 | 1.023 | 93.45 | 1.070 | 0.01  | 0.291 | 0.319 |       |       | -21.32% |
| 45 | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/6/7/8   | 157 | 5785 | 19.90 | 20.00 | 1.023 | 93.45 | 1.070 | -0.13 | 0.229 | 0.251 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 9         | 157 | 5785 | 19.40 | 19.50 | 1.023 | 93.45 | 1.070 | 0.09  | 0.188 | 0.206 |       |       | -11.65% |
|    | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 9         | 157 | 5785 | 19.40 | 19.50 | 1.023 | 93.45 | 1.070 | 0.15  | 0.166 | 0.182 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7       | 165 | 5825 | 19.90 | 20.00 | 1.023 | 93.42 | 1.070 | -0.08 | 0.176 | 0.193 |       |       |         |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7       | 165 | 5825 | 19.60 | 20.00 | 1.096 | 93.42 | 1.070 | -0.08 | 0.243 | 0.285 |       |       | -14.74% |
|    | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7       | 165 | 5825 | 19.90 | 20.00 | 1.023 | 93.42 | 1.070 | -0.04 | 0.197 | 0.216 |       |       |         |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7       | 165 | 5825 | 19.60 | 20.00 | 1.096 | 93.42 | 1.070 | -0.04 | 0.207 | 0.243 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4+3(4) | Index 9         | 157 | 5785 | 19.40 | 19.50 | 1.023 | 93.42 | 1.070 | 0.08  | 0.155 | 0.170 |       |       | -3.88%  |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4+3(3) | Index 9         | 157 | 5785 | 19.20 | 19.50 | 1.072 | 93.42 | 1.070 | 0.08  | 0.202 | 0.232 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4+3(4) | Index 9         | 157 | 5785 | 19.40 | 19.50 | 1.023 | 93.42 | 1.070 | -0.18 | 0.204 | 0.223 |       |       |         |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4+3(3) | Index 9         | 157 | 5785 | 19.20 | 19.50 | 1.072 | 93.42 | 1.070 | -0.18 | 0.146 | 0.167 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/7/9     | 169 | 5845 | 19.40 | 19.50 | 1.023 | 93.46 | 1.070 | 0.09  | 0.173 | 0.189 |       |       | -3.17%  |
|    | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/7/9     | 169 | 5845 | 19.40 | 19.50 | 1.023 | 93.46 | 1.070 | -0.14 | 0.167 | 0.183 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 6/8       | 169 | 5845 | 19.90 | 20.00 | 1.023 | 93.45 | 1.070 | 0.02  | 0.202 | 0.221 |       |       | -7.69%  |
| 46 | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 6/8       | 169 | 5845 | 19.90 | 20.00 | 1.023 | 93.45 | 1.070 | 0.03  | 0.186 | 0.204 |       |       |         |
|    | 1st | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7/9     | 173 | 5865 | 19.40 | 19.50 | 1.023 | 93.42 | 1.070 | -0.14 | 0.145 | 0.159 |       |       | -16.34% |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7/9     | 173 | 5865 | 19.10 | 19.50 | 1.096 | 93.42 | 1.070 | -0.14 | 0.172 | 0.202 |       |       |         |
|    | 2nd | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7/9     | 173 | 5865 | 19.40 | 19.50 | 1.023 | 93.42 | 1.070 | 0.14  | 0.155 | 0.170 |       |       |         |
|    |     | WLAN5GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7/9     | 173 | 5865 | 19.10 | 19.50 | 1.096 | 93.42 | 1.070 | 0.14  | 0.144 | 0.169 |       |       |         |
|    | 1st | WLAN6GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/6/7/8/9 | 57  | 6235 | 19.90 | 20.00 | 1.023 | 93.46 | 1.070 | 0.02  | 0.239 | 0.262 | 1.58  | 1.730 | -27.10% |
| 47 | 2nd | WLAN6GHz  | 802.11a 6Mbps       | Back  | 10mm | Ant 4      | Index 5/6/7/8/9 | 57  | 6235 | 19.90 | 20.00 | 1.023 | 93.46 | 1.070 | 0.09  | 0.174 | 0.191 | 1.22  | 1.336 |         |
|    | 1st | WLAN6GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7/9     | 173 | 6815 | 19.90 | 20.00 | 1.023 | 93.46 | 1.070 | -0.09 | 0.042 | 0.046 | 0.252 | 0.276 | -27.50% |
|    |     | WLAN6GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7/9     | 173 | 6815 | 18.50 | 20.00 | 1.413 | 93.46 | 1.070 | -0.09 | 0.159 | 0.240 | 1.05  | 1.587 |         |
|    | 2nd | WLAN6GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(4) | Index 5/7/9     | 173 | 6815 | 19.90 | 20.00 | 1.023 | 93.46 | 1.070 | -0.06 | 0.046 | 0.050 | 0.295 | 0.323 |         |
|    |     | WLAN6GHz  | 802.11a 6Mbps       | Front | 10mm | Ant 4+3(3) | Index 5/7/9     | 173 | 6815 | 18.50 | 20.00 | 1.413 | 93.46 | 1.070 | -0.06 | 0.115 | 0.174 | 0.62  | 0.937 |         |
|    | 1st | Bluetooth | 1Mbps               | Front | 10mm | Ant 4      | BT Index 2      | 0   | 2402 | 20.90 | 21.00 | 1.024 | 77.07 | 1.081 | -0.18 | 0.261 | 0.289 |       |       | -3.11%  |
|    | 2nd | Bluetooth | 1Mbps               | Front | 10mm | Ant 4      | BT Index 2      | 0   | 2402 | 20.90 | 21.00 | 1.024 | 77.07 | 1.081 | -0.13 | 0.253 | 0.280 |       |       |         |
|    | 1st | Bluetooth | 1Mbps               | Front | 10mm | Ant 4      | BT Index 3/4    | 78  | 2480 | 14.90 | 15.00 | 1.023 | 77.07 | 1.081 | 0.09  | 0.177 | 0.196 |       |       | -13.78% |
|    | 2nd | Bluetooth | 1Mbps               | Front | 10mm | Ant 4      | BT Index 3/4    | 78  | 2480 | 14.90 | 15.00 | 1.023 | 77.07 | 1.081 | -0.18 | 0.153 | 0.169 |       |       |         |
|    | 1st | Bluetooth | 1Mbps               | Front | 10mm | Ant 3      | BT Index 2      | 78  | 2480 | 20.50 | 21.00 | 1.123 | 77.07 | 1.081 | 0.05  | 0.304 | 0.369 |       |       | -18.97% |
| 48 | 2nd | Bluetooth | 1Mbps               | Front | 10mm | Ant 3      | BT Index 2      | 78  | 2480 | 20.50 | 21.00 | 1.123 | 77.07 | 1.081 | -0.1  | 0.246 | 0.299 |       |       |         |
|    | 1st | Bluetooth | 1Mbps               | Front | 10mm | Ant 3      | BT Index 4      | 78  | 2480 | 14.65 | 15.00 | 1.084 | 77.07 | 1.081 | 0.11  | 0.084 | 0.098 |       |       | -21.43% |
|    | 2nd | Bluetooth | 1Mbps               | Front | 10mm | Ant 3      | BT Index 4      | 78  | 2480 | 14.65 | 15.00 | 1.084 | 77.07 | 1.081 | -0.19 | 0.066 | 0.077 |       |       |         |

## 16.4 NFC SAR

| Plot No. | No. | Band | Test Position | Gap (mm) | Freq. (MHz) | Power Drift (dB) | Measured 10g SAR (W/kg) | Deviation (%) |
|----------|-----|------|---------------|----------|-------------|------------------|-------------------------|---------------|
|          | 1st | NFC  | Back          | 0mm      | 13.56       | -0.09            | 0.072                   |               |
| 49       | 2nd | NFC  | Back          | 0mm      | 13.56       | -0.05            | 0.058                   | -19.44%       |

## Conclusion:

The spot check results don't show the SAR increase more than 30%, and all below 1.2W/kg for 1-g SAR, below 3W/kg for 10-g SAR. Referring to the guidance in the KDB inquiry, SAR data reuse is justified.

## 17. SAR Test Results

### General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - $\leq 0.8$  W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
  - $\leq 0.6$  W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - $\leq 0.4$  W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8$ W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is  $\leq 1.2$  W/kg, SAR testing with a headset connected to the handset is not required.

### GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode.

### UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA.

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. LTE band 4 SAR test was covered by Band 66; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if:
  - a. The maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion.
  - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

**5G NR Note:**

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
  - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
  - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
  - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not  $\frac{1}{2}$  dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - d. Smaller bandwidth output power for each RB allocation configuration for this device is not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
  - e. For 5G FR1 n77, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
  - f. Due to test setup limitations, SAR testing for NR TDD Power class 3 was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. For NR TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission.
  - g. For NR FDD was establishing connections via a base station simulator to use for output power measurement and SAR testing

## 17.1 Head SAR

### <GSM SAR>

| Plot No. | Band          | Mode              | Test Position | Gap (mm) | Power Index | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|-------------------|---------------|----------|-------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 50       | GSM1900_Ant 2 | GPRS (4 Tx slots) | Right Cheek   | 0mm      | Index 2     | 810 | 1909.8      | 26.63               | 28.00               | 1.371                  | 0.03             | 0.494                  | 0.677                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Right Tilted  | 0mm      | Index 2     | 810 | 1909.8      | 26.63               | 28.00               | 1.371                  | -0.01            | 0.157                  | 0.215                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Left Cheek    | 0mm      | Index 2     | 810 | 1909.8      | 26.63               | 28.00               | 1.371                  | 0.07             | 0.338                  | 0.463                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Left Tilted   | 0mm      | Index 2     | 810 | 1909.8      | 26.63               | 28.00               | 1.371                  | -0.16            | 0.171                  | 0.234                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Right Cheek   | 0mm      | Index 3     | 810 | 1909.8      | 26.63               | 27.50               | 1.222                  | 0.03             | 0.494                  | 0.604                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Right Tilted  | 0mm      | Index 3     | 810 | 1909.8      | 26.63               | 27.50               | 1.222                  | -0.01            | 0.157                  | 0.192                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Left Cheek    | 0mm      | Index 3     | 810 | 1909.8      | 26.63               | 27.50               | 1.222                  | 0.07             | 0.338                  | 0.413                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Left Tilted   | 0mm      | Index 3     | 810 | 1909.8      | 26.63               | 27.50               | 1.222                  | -0.16            | 0.171                  | 0.209                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Right Cheek   | 0mm      | Index 2/3   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0.08             | 0.227                  | 0.305                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Right Tilted  | 0mm      | Index 2/3   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0.03             | 0.198                  | 0.266                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Left Cheek    | 0mm      | Index 2/3   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0.04             | 0.443                  | 0.595                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Left Tilted   | 0mm      | Index 2/3   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0                | 0.167                  | 0.224                  |

### <WCDMA SAR>

| Plot No. | Band           | Mode         | Test Position | Gap (mm) | Power Index | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------------|--------------|---------------|----------|-------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2/3   | 9538 | 1907.6      | 24.30               | 25.00               | 1.175                  | 0.1              | 0.528                  | 0.620                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2/3   | 9538 | 1907.6      | 24.30               | 25.00               | 1.175                  | -0.01            | 0.164                  | 0.193                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2/3   | 9538 | 1907.6      | 24.30               | 25.00               | 1.175                  | -0.09            | 0.303                  | 0.356                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2/3   | 9538 | 1907.6      | 24.30               | 25.00               | 1.175                  | -0.01            | 0.203                  | 0.239                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.12             | 0.286                  | 0.337                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | -0.01            | 0.273                  | 0.321                  |
| 51       | WCDMA II_Ant 0 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.07             | 0.568                  | 0.669                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | -0.04            | 0.254                  | 0.299                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 3     | 9538 | 1907.6      | 23.79               | 23.80               | 1.002                  | 0.12             | 0.286                  | 0.287                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 3     | 9538 | 1907.6      | 23.79               | 23.80               | 1.002                  | -0.01            | 0.273                  | 0.274                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 3     | 9538 | 1907.6      | 23.79               | 23.80               | 1.002                  | 0.07             | 0.568                  | 0.569                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 3     | 9538 | 1907.6      | 23.79               | 23.80               | 1.002                  | -0.04            | 0.254                  | 0.255                  |
| 52       | WCDMA IV_Ant 2 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2     | 1513 | 1752.6      | 24.71               | 25.70               | 1.256                  | 0.16             | 0.428                  | 0.538                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2     | 1513 | 1752.6      | 24.71               | 25.70               | 1.256                  | -0.01            | 0.202                  | 0.254                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2     | 1513 | 1752.6      | 24.71               | 25.70               | 1.256                  | 0.07             | 0.241                  | 0.303                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2     | 1513 | 1752.6      | 24.71               | 25.70               | 1.256                  | -0.03            | 0.164                  | 0.206                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 3     | 1513 | 1752.6      | 24.71               | 25.10               | 1.094                  | 0.16             | 0.428                  | 0.468                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 3     | 1513 | 1752.6      | 24.71               | 25.10               | 1.094                  | -0.01            | 0.202                  | 0.221                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 3     | 1513 | 1752.6      | 24.71               | 25.10               | 1.094                  | 0.07             | 0.241                  | 0.264                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 3     | 1513 | 1752.6      | 24.71               | 25.10               | 1.094                  | -0.03            | 0.164                  | 0.179                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2/3   | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | 0.02             | 0.182                  | 0.227                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2/3   | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | 0.04             | 0.186                  | 0.231                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2/3   | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | 0.16             | 0.319                  | 0.397                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2/3   | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | -0.05            | 0.183                  | 0.228                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2/3   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.18             | 0.292                  | 0.363                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2/3   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.07             | 0.135                  | 0.168                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2/3   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.17             | 0.369                  | 0.459                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2/3   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.08             | 0.181                  | 0.225                  |
| 53       | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2     | 4182 | 836.4       | 21.24               | 22.40               | 1.306                  | 0                | 0.654                  | 0.854                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2     | 4132 | 826.4       | 21.20               | 22.40               | 1.318                  | 0.02             | 0.645                  | 0.850                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 2     | 4233 | 846.6       | 21.17               | 22.40               | 1.327                  | 0.01             | 0.623                  | 0.827                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 2     | 4182 | 836.4       | 21.24               | 22.40               | 1.306                  | 0.05             | 0.600                  | 0.784                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 2     | 4182 | 836.4       | 21.24               | 22.40               | 1.306                  | 0.01             | 0.403                  | 0.526                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 2     | 4182 | 836.4       | 21.24               | 22.40               | 1.306                  | 0.03             | 0.354                  | 0.462                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Cheek   | 0mm      | Index 3     | 4182 | 836.4       | 21.24               | 21.60               | 1.086                  | 0                | 0.654                  | 0.711                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Tilted  | 0mm      | Index 3     | 4182 | 836.4       | 21.24               | 21.60               | 1.086                  | 0.05             | 0.600                  | 0.652                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Left Cheek    | 0mm      | Index 3     | 4182 | 836.4       | 21.24               | 21.60               | 1.086                  | 0.01             | 0.403                  | 0.438                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Left Tilted   | 0mm      | Index 3     | 4182 | 836.4       | 21.24               | 21.60               | 1.086                  | 0.03             | 0.354                  | 0.385                  |



## &lt;LTE SAR&gt;

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 54       | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 2     | 18900  | 1880        | 23.82               | 25.00               | 1.312                  | 0.02             | 0.557                  | 0.731                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 2     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.06             | 0.426                  | 0.564                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 2     | 18900  | 1880        | 23.82               | 25.00               | 1.312                  | 0.03             | 0.175                  | 0.230                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 2     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.01             | 0.134                  | 0.177                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 2     | 18900  | 1880        | 23.82               | 25.00               | 1.312                  | 0.17             | 0.332                  | 0.436                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 2     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.05             | 0.245                  | 0.324                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 2     | 18900  | 1880        | 23.82               | 25.00               | 1.312                  | -0.08            | 0.231                  | 0.303                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 2     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | -0.02            | 0.173                  | 0.229                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 3     | 18900  | 1880        | 23.82               | 24.70               | 1.225                  | 0.02             | 0.557                  | 0.682                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 3     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.06             | 0.426                  | 0.564                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 3     | 18900  | 1880        | 23.82               | 24.70               | 1.225                  | 0.03             | 0.175                  | 0.214                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 3     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.01             | 0.134                  | 0.177                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 3     | 18900  | 1880        | 23.82               | 24.70               | 1.225                  | 0.17             | 0.332                  | 0.407                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 3     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | 0.05             | 0.245                  | 0.324                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 3     | 18900  | 1880        | 23.82               | 24.70               | 1.225                  | -0.08            | 0.231                  | 0.283                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 3     | 18900  | 1880        | 22.78               | 24.00               | 1.324                  | -0.02            | 0.173                  | 0.229                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 2/3   | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | -0.06            | 0.242                  | 0.313                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 2/3   | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | -0.03            | 0.195                  | 0.257                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 2/3   | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | -0.02            | 0.223                  | 0.289                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 2/3   | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | -0.04            | 0.115                  | 0.152                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 2/3   | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | 0.04             | 0.461                  | 0.597                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 2/3   | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.05             | 0.362                  | 0.477                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 2/3   | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | -0.03            | 0.205                  | 0.265                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 2/3   | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | -0.01            | 0.167                  | 0.220                  |
| 55       | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 2     | 132322 | 1745        | 24.10               | 25.70               | 1.445                  | 0.15             | 0.449                  | 0.649                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 2     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.03             | 0.358                  | 0.522                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 2     | 132322 | 1745        | 24.10               | 25.70               | 1.445                  | -0.02            | 0.192                  | 0.278                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 2     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.02             | 0.151                  | 0.220                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 2     | 132322 | 1745        | 24.10               | 25.70               | 1.445                  | -0.15            | 0.258                  | 0.373                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 2     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | -0.11            | 0.208                  | 0.303                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 2     | 132322 | 1745        | 24.10               | 25.70               | 1.445                  | 0.06             | 0.166                  | 0.240                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 2     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.03             | 0.132                  | 0.193                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 3     | 132322 | 1745        | 24.10               | 25.50               | 1.380                  | 0.15             | 0.449                  | 0.620                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 3     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.03             | 0.358                  | 0.522                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 3     | 132322 | 1745        | 24.10               | 25.50               | 1.380                  | -0.02            | 0.192                  | 0.265                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 3     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.02             | 0.151                  | 0.220                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 3     | 132322 | 1745        | 24.10               | 25.50               | 1.380                  | -0.15            | 0.258                  | 0.356                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 3     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | -0.11            | 0.208                  | 0.303                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 3     | 132322 | 1745        | 24.10               | 25.50               | 1.380                  | 0.06             | 0.166                  | 0.229                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 3     | 132322 | 1745        | 23.06               | 24.70               | 1.459                  | 0.03             | 0.132                  | 0.193                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Right Cheek   | 0mm      | Index 2/3   | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | 0.05             | 0.149                  | 0.215                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | Index 2/3   | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | 0.03             | 0.122                  | 0.178                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Right Tilted  | 0mm      | Index 2/3   | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | -0.01            | 0.147                  | 0.212                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | Index 2/3   | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | 0.03             | 0.116                  | 0.170                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Left Cheek    | 0mm      | Index 2/3   | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | 0.11             | 0.328                  | 0.474                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | Index 2/3   | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | 0.03             | 0.241                  | 0.352                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Left Tilted   | 0mm      | Index 2/3   | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | 0.07             | 0.150                  | 0.217                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | Index 2/3   | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | 0.06             | 0.117                  | 0.171                  |

**<5G NR SAR>**

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 56       | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2     | 376000 | 1880        | 24.32               | 25.00               | 1.169                  | 0.14             | 0.649                  | 0.759                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Right Cheek   | 0mm      | Index 2     | 376000 | 1880        | 24.31               | 25.00               | 1.172                  | -0.03            | 0.599                  | 0.702                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2     | 376000 | 1880        | 24.32               | 25.00               | 1.169                  | -0.06            | 0.217                  | 0.254                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Right Tilted  | 0mm      | Index 2     | 376000 | 1880        | 24.31               | 25.00               | 1.172                  | -0.03            | 0.199                  | 0.233                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2     | 376000 | 1880        | 24.32               | 25.00               | 1.169                  | -0.1             | 0.312                  | 0.365                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Left Cheek    | 0mm      | Index 2     | 376000 | 1880        | 24.31               | 25.00               | 1.172                  | 0.03             | 0.302                  | 0.354                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2     | 376000 | 1880        | 24.32               | 25.00               | 1.169                  | -0.04            | 0.227                  | 0.265                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Left Tilted   | 0mm      | Index 2     | 376000 | 1880        | 24.31               | 25.00               | 1.172                  | 0.03             | 0.215                  | 0.252                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 3     | 376000 | 1880        | 24.32               | 24.50               | 1.042                  | 0.14             | 0.649                  | 0.676                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Right Cheek   | 0mm      | Index 3     | 376000 | 1880        | 24.31               | 24.50               | 1.045                  | -0.03            | 0.599                  | 0.626                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 3     | 376000 | 1880        | 24.32               | 24.50               | 1.042                  | -0.06            | 0.217                  | 0.226                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Right Tilted  | 0mm      | Index 3     | 376000 | 1880        | 24.31               | 24.50               | 1.045                  | -0.03            | 0.199                  | 0.208                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 3     | 376000 | 1880        | 24.32               | 24.50               | 1.042                  | -0.1             | 0.312                  | 0.325                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Left Cheek    | 0mm      | Index 3     | 376000 | 1880        | 24.31               | 24.50               | 1.045                  | 0.03             | 0.302                  | 0.316                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 3     | 376000 | 1880        | 24.32               | 24.50               | 1.042                  | -0.04            | 0.227                  | 0.237                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Left Tilted   | 0mm      | Index 3     | 376000 | 1880        | 24.31               | 24.50               | 1.045                  | 0.03             | 0.215                  | 0.225                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2/3   | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | 0.19             | 0.157                  | 0.192                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Right Cheek   | 0mm      | Index 2/3   | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | -0.11            | 0.150                  | 0.183                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2/3   | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | -0.01            | 0.157                  | 0.192                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Right Tilted  | 0mm      | Index 2/3   | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | -0.09            | 0.148                  | 0.180                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2/3   | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | -0.11            | 0.269                  | 0.329                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Left Cheek    | 0mm      | Index 2/3   | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | -0.18            | 0.260                  | 0.317                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2/3   | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | -0.09            | 0.136                  | 0.166                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Left Tilted   | 0mm      | Index 2/3   | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | 0.03             | 0.134                  | 0.163                  |
| 57       | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2/3   | 349000 | 1745        | 25.56               | 25.70               | 1.033                  | 0.13             | 0.636                  | 0.657                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Right Cheek   | 0mm      | Index 2/3   | 349000 | 1745        | 25.55               | 25.70               | 1.035                  | 0.09             | 0.634                  | 0.656                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2/3   | 349000 | 1745        | 25.56               | 25.70               | 1.033                  | 0                | 0.239                  | 0.247                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Right Tilted  | 0mm      | Index 2/3   | 349000 | 1745        | 25.55               | 25.70               | 1.035                  | 0.01             | 0.242                  | 0.251                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2/3   | 349000 | 1745        | 25.56               | 25.70               | 1.033                  | 0.14             | 0.338                  | 0.349                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Left Cheek    | 0mm      | Index 2/3   | 349000 | 1745        | 25.55               | 25.70               | 1.035                  | 0.03             | 0.325                  | 0.336                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2/3   | 349000 | 1745        | 25.56               | 25.70               | 1.033                  | 0.03             | 0.207                  | 0.214                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Left Tilted   | 0mm      | Index 2/3   | 349000 | 1745        | 25.55               | 25.70               | 1.035                  | -0.02            | 0.205                  | 0.212                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2/3   | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | 0.07             | 0.204                  | 0.248                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Right Cheek   | 0mm      | Index 2/3   | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | 0.06             | 0.184                  | 0.225                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2/3   | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | -0.03            | 0.215                  | 0.261                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Right Tilted  | 0mm      | Index 2/3   | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | -0.04            | 0.208                  | 0.255                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2/3   | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | 0.13             | 0.422                  | 0.513                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Left Cheek    | 0mm      | Index 2/3   | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | 0.08             | 0.398                  | 0.487                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2/3   | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | 0                | 0.220                  | 0.268                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Left Tilted   | 0mm      | Index 2/3   | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | 0.01             | 0.207                  | 0.253                  |



# FCC SAR TEST REPORT

Report No. : FA380308B

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2     | 656000 | 3840        | 18.23               | 19.20               | 1.250                  | 0.16             | 0.444                  | 0.555                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 2     | 656000 | 3840        | 17.90               | 19.20               | 1.349                  | 0.08             | 0.313                  | 0.422                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2     | 656000 | 3840        | 18.23               | 19.20               | 1.250                  | 0.18             | 0.515                  | 0.644                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 2     | 656000 | 3840        | 17.90               | 19.20               | 1.349                  | -0.07            | 0.349                  | 0.471                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2     | 656000 | 3840        | 18.23               | 19.20               | 1.250                  | 0.09             | 0.211                  | 0.264                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 2     | 656000 | 3840        | 17.90               | 19.20               | 1.349                  | -0.02            | 0.134                  | 0.181                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2     | 656000 | 3840        | 18.23               | 19.20               | 1.250                  | -0.1             | 0.239                  | 0.299                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 2     | 656000 | 3840        | 17.90               | 19.20               | 1.349                  | 0.16             | 0.179                  | 0.241                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 3     | 656000 | 3840        | 18.23               | 18.40               | 1.040                  | 0.16             | 0.444                  | 0.462                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 3     | 656000 | 3840        | 17.90               | 18.40               | 1.122                  | 0.08             | 0.313                  | 0.351                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 3     | 656000 | 3840        | 18.23               | 18.40               | 1.040                  | 0.18             | 0.515                  | 0.536                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 3     | 656000 | 3840        | 17.90               | 18.40               | 1.122                  | -0.07            | 0.349                  | 0.392                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 3     | 656000 | 3840        | 18.23               | 18.40               | 1.040                  | 0.09             | 0.211                  | 0.219                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 3     | 656000 | 3840        | 17.90               | 18.40               | 1.122                  | -0.02            | 0.134                  | 0.150                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 3     | 656000 | 3840        | 18.23               | 18.40               | 1.040                  | -0.1             | 0.239                  | 0.249                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 3     | 656000 | 3840        | 17.90               | 18.40               | 1.122                  | 0.16             | 0.179                  | 0.201                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2     | 633332 | 3499.98     | 18.22               | 19.20               | 1.253                  | -0.12            | 0.652                  | 0.817                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | 0.15             | 0.608                  | 0.792                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 270     | 0         | Right Cheek   | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | 0.11             | 0.585                  | 0.762                  |
| 58       | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2     | 633332 | 3499.98     | 18.22               | 19.20               | 1.253                  | 0.19             | 0.757                  | 0.949                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | -0.08            | 0.722                  | 0.941                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 270     | 0         | Right Tilted  | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | 0.05             | 0.720                  | 0.938                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2     | 633332 | 3499.98     | 18.22               | 19.20               | 1.253                  | -0.14            | 0.278                  | 0.348                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | -0.04            | 0.259                  | 0.338                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2     | 633332 | 3499.98     | 18.22               | 19.20               | 1.253                  | -0.1             | 0.331                  | 0.415                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 2     | 633332 | 3499.98     | 18.05               | 19.20               | 1.303                  | 0.06             | 0.316                  | 0.412                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 3     | 633332 | 3499.98     | 18.22               | 18.40               | 1.042                  | -0.12            | 0.652                  | 0.680                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 3     | 633332 | 3499.98     | 18.05               | 18.40               | 1.084                  | 0.15             | 0.608                  | 0.659                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 270     | 0         | Right Cheek   | 0mm      | Index 3     | 633332 | 3499.98     | 18.05               | 18.40               | 1.084                  | 0.11             | 0.585                  | 0.634                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 3     | 633332 | 3499.98     | 18.22               | 18.40               | 1.042                  | 0.19             | 0.757                  | 0.789                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 3     | 633332 | 3499.98     | 18.05               | 18.40               | 1.084                  | -0.08            | 0.722                  | 0.783                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 3     | 633332 | 3499.98     | 18.22               | 18.40               | 1.042                  | -0.14            | 0.278                  | 0.290                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 3     | 633332 | 3499.98     | 18.05               | 18.40               | 1.084                  | -0.04            | 0.259                  | 0.281                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 3     | 633332 | 3499.98     | 18.22               | 18.40               | 1.042                  | -0.1             | 0.331                  | 0.345                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 3     | 633332 | 3499.98     | 18.05               | 18.40               | 1.084                  | 0.06             | 0.316                  | 0.343                  |



# FCC SAR TEST REPORT

Report No. : FA380308B

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2     | 656000 | 3840        | 15.27               | 16.5                | 1.327                  | -0.12            | 0.239                  | 0.317                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 2     | 656000 | 3840        | 14.95               | 16.5                | 1.429                  | 0.05             | 0.192                  | 0.274                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2     | 656000 | 3840        | 15.27               | 16.5                | 1.327                  | 0.09             | 0.086                  | 0.114                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 2     | 656000 | 3840        | 14.95               | 16.5                | 1.429                  | -0.01            | 0.079                  | 0.113                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2     | 656000 | 3840        | 15.27               | 16.5                | 1.327                  | -0.11            | 0.673                  | 0.893                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 2     | 656000 | 3840        | 14.95               | 16.5                | 1.429                  | 0.06             | 0.558                  | 0.797                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 270     | 0         | Left Cheek    | 0mm      | Index 2     | 656000 | 3840        | 15                  | 16.5                | 1.413                  | 0.02             | 0.556                  | 0.785                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2     | 656000 | 3840        | 15.27               | 16.5                | 1.327                  | -0.13            | 0.192                  | 0.255                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 2     | 656000 | 3840        | 14.95               | 16.5                | 1.429                  | 0.04             | 0.172                  | 0.246                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 3     | 656000 | 3840        | 12.25               | 12.3                | 1.012                  | -0.14            | 0.120                  | 0.121                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 3     | 656000 | 3840        | 11.9                | 12.3                | 1.096                  | 0.01             | 0.096                  | 0.105                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 3     | 656000 | 3840        | 12.25               | 12.3                | 1.012                  | 0.05             | 0.043                  | 0.043                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 3     | 656000 | 3840        | 11.9                | 12.3                | 1.096                  | -0.01            | 0.040                  | 0.044                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 3     | 656000 | 3840        | 12.25               | 12.3                | 1.012                  | -0.05            | 0.337                  | 0.341                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 3     | 656000 | 3840        | 11.9                | 12.3                | 1.096                  | 0.06             | 0.280                  | 0.307                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 3     | 656000 | 3840        | 12.25               | 12.3                | 1.012                  | -0.15            | 0.096                  | 0.097                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 3     | 656000 | 3840        | 11.9                | 12.3                | 1.096                  | 0.09             | 0.086                  | 0.094                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 2     | 633332 | 3499.98     | 15.33               | 16.5                | 1.309                  | -0.09            | 0.269                  | 0.352                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 2     | 633332 | 3499.98     | 14.96               | 16.5                | 1.426                  | 0.05             | 0.185                  | 0.264                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 2     | 633332 | 3499.98     | 15.33               | 16.5                | 1.309                  | -0.02            | 0.080                  | 0.105                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 2     | 633332 | 3499.98     | 14.96               | 16.5                | 1.426                  | 0.01             | 0.053                  | 0.076                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 2     | 633332 | 3499.98     | 15.33               | 16.5                | 1.309                  | -0.07            | 0.545                  | 0.714                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 2     | 633332 | 3499.98     | 14.96               | 16.5                | 1.426                  | 0.03             | 0.392                  | 0.559                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 2     | 633332 | 3499.98     | 15.33               | 16.5                | 1.309                  | -0.15            | 0.153                  | 0.200                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 2     | 633332 | 3499.98     | 14.96               | 16.5                | 1.426                  | 0.04             | 0.106                  | 0.151                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Cheek   | 0mm      | Index 3     | 633332 | 3499.98     | 12.26               | 12.3                | 1.009                  | -0.16            | 0.135                  | 0.136                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Cheek   | 0mm      | Index 3     | 633332 | 3499.98     | 11.87               | 12.3                | 1.104                  | 0.06             | 0.093                  | 0.103                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Tilted  | 0mm      | Index 3     | 633332 | 3499.98     | 12.26               | 12.3                | 1.009                  | 0.16             | 0.040                  | 0.040                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Tilted  | 0mm      | Index 3     | 633332 | 3499.98     | 11.87               | 12.3                | 1.104                  | -0.04            | 0.027                  | 0.030                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Cheek    | 0mm      | Index 3     | 633332 | 3499.98     | 12.26               | 12.3                | 1.009                  | -0.02            | 0.273                  | 0.276                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Cheek    | 0mm      | Index 3     | 633332 | 3499.98     | 11.87               | 12.3                | 1.104                  | 0.12             | 0.196                  | 0.216                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Tilted   | 0mm      | Index 3     | 633332 | 3499.98     | 12.26               | 12.3                | 1.009                  | -0.1             | 0.077                  | 0.078                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Tilted   | 0mm      | Index 3     | 633332 | 3499.98     | 11.87               | 12.3                | 1.104                  | 0.02             | 0.053                  | 0.059                  |

## 17.2 Hotspot SAR

### <GSM SAR>

| Plot No. | Band          | Mode              | Test Position | Gap (mm) | Power Index | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|-------------------|---------------|----------|-------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Front         | 10mm     | Index 4     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.04            | 0.607                  | 0.624                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Back          | 10mm     | Index 4     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.07            | 0.530                  | 0.545                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Left Side     | 10mm     | Index 4     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.08            | 0.038                  | 0.039                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Right Side    | 10mm     | Index 4     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.1             | 0.457                  | 0.470                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Bottom Side   | 10mm     | Index 4     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.09            | 0.412                  | 0.424                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Front         | 10mm     | Index 4     | 661 | 1880        | 26.22               | 27.40               | 1.312                  | 0                | 0.333                  | 0.437                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Back          | 10mm     | Index 4     | 661 | 1880        | 26.22               | 27.40               | 1.312                  | 0.05             | 0.370                  | 0.486                  |
| 59       | GSM1900_Ant 0 | GPRS (4 Tx slots) | Left Side     | 10mm     | Index 4     | 661 | 1880        | 26.22               | 27.40               | 1.312                  | 0                | 0.527                  | 0.692                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Right Side    | 10mm     | Index 4     | 661 | 1880        | 26.22               | 27.40               | 1.312                  | -0.12            | 0.023                  | 0.030                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Bottom Side   | 10mm     | Index 4     | 661 | 1880        | 26.22               | 27.40               | 1.312                  | -0.1             | 0.119                  | 0.156                  |

### <WCDMA SAR>

| Plot No. | Band           | Mode         | Test Position | Gap (mm) | Power Index | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------------|--------------|---------------|----------|-------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | -0.1             | 0.528                  | 0.617                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | 0.05             | 0.486                  | 0.568                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | -0.03            | 0.035                  | 0.041                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | 0.05             | 0.412                  | 0.482                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Bottom Side   | 10mm     | Index 4     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | 0.08             | 0.374                  | 0.437                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.01             | 0.420                  | 0.495                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0                | 0.422                  | 0.497                  |
| 60       | WCDMA II_Ant 0 | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | -0.01            | 0.607                  | 0.715                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.01             | 0.041                  | 0.048                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Bottom Side   | 10mm     | Index 4     | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | -0.02            | 0.166                  | 0.195                  |
| 61       | WCDMA IV_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.07            | 0.483                  | 0.589                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.05            | 0.415                  | 0.506                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.07            | 0.068                  | 0.083                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | 0.08             | 0.435                  | 0.530                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Bottom Side   | 10mm     | Index 4     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.07            | 0.227                  | 0.277                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | -0.07            | 0.473                  | 0.500                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | 0.11             | 0.428                  | 0.452                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | 0.01             | 0.258                  | 0.273                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | -0.05            | 0.098                  | 0.104                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Bottom Side   | 10mm     | Index 4     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | -0.11            | 0.315                  | 0.333                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.02             | 0.349                  | 0.434                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.04             | 0.282                  | 0.351                  |
| 62       | WCDMA V_Ant 0  | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | -0.02            | 0.374                  | 0.465                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | -0.02            | 0.206                  | 0.256                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Bottom Side   | 10mm     | Index 4     | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | -0.02            | 0.233                  | 0.290                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Front         | 10mm     | Index 4     | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | 0.01             | 0.197                  | 0.240                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Back          | 10mm     | Index 4     | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | -0.03            | 0.173                  | 0.211                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Left Side     | 10mm     | Index 4     | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | -0.05            | 0.068                  | 0.083                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Right Side    | 10mm     | Index 4     | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | -0.05            | 0.096                  | 0.117                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Top Side      | 10mm     | Index 4     | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | -0.02            | 0.119                  | 0.145                  |

**<LTE SAR>**

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 4     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | -0.01            | 0.458                  | 0.536                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 4     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | -0.04            | 0.423                  | 0.518                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 4     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | 0.02             | 0.445                  | 0.520                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 4     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | -0.09            | 0.427                  | 0.523                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Left Side     | 10mm     | Index 4     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | 0                | 0.034                  | 0.040                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Left Side     | 10mm     | Index 4     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | 0.09             | 0.027                  | 0.033                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Right Side    | 10mm     | Index 4     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | -0.08            | 0.426                  | 0.498                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Right Side    | 10mm     | Index 4     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | 0.05             | 0.403                  | 0.494                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Bottom Side   | 10mm     | Index 4     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | -0.09            | 0.316                  | 0.370                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Bottom Side   | 10mm     | Index 4     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | -0.01            | 0.287                  | 0.351                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 4     | 18900  | 1880        | 23.38               | 24.10               | 1.180                  | -0.02            | 0.402                  | 0.474                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 4     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.04             | 0.293                  | 0.386                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 4     | 18900  | 1880        | 23.38               | 24.10               | 1.180                  | 0.01             | 0.451                  | 0.532                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 4     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.05             | 0.327                  | 0.431                  |
| 63       | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Left Side     | 10mm     | Index 4     | 18900  | 1880        | 23.38               | 24.10               | 1.180                  | -0.01            | 0.543                  | 0.641                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Left Side     | 10mm     | Index 4     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | -0.02            | 0.482                  | 0.635                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Right Side    | 10mm     | Index 4     | 18900  | 1880        | 23.38               | 24.10               | 1.180                  | -0.17            | 0.062                  | 0.073                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Right Side    | 10mm     | Index 4     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | -0.04            | 0.045                  | 0.059                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Bottom Side   | 10mm     | Index 4     | 18900  | 1880        | 23.38               | 24.10               | 1.180                  | -0.03            | 0.094                  | 0.111                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Bottom Side   | 10mm     | Index 4     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.01             | 0.073                  | 0.096                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 4     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.05             | 0.372                  | 0.437                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 4     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | 0.08             | 0.352                  | 0.422                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 4     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.07             | 0.423                  | 0.497                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 4     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | -0.08            | 0.412                  | 0.494                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Left Side     | 10mm     | Index 4     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.02             | 0.062                  | 0.073                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Left Side     | 10mm     | Index 4     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | -0.04            | 0.041                  | 0.049                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Right Side    | 10mm     | Index 4     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.02             | 0.388                  | 0.456                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Right Side    | 10mm     | Index 4     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | -0.06            | 0.367                  | 0.440                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 10mm     | Index 4     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | -0.05            | 0.176                  | 0.207                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 10mm     | Index 4     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | 0.1              | 0.165                  | 0.198                  |
| 64       | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 4     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | 0.06             | 0.504                  | 0.504                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 4     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | -0.01            | 0.370                  | 0.471                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 4     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | -0.07            | 0.442                  | 0.442                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 4     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | 0.05             | 0.341                  | 0.434                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Left Side     | 10mm     | Index 4     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | -0.04            | 0.307                  | 0.307                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Left Side     | 10mm     | Index 4     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | -0.03            | 0.232                  | 0.295                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Right Side    | 10mm     | Index 4     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | -0.03            | 0.111                  | 0.111                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Right Side    | 10mm     | Index 4     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | 0.02             | 0.086                  | 0.110                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 10mm     | Index 4     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | 0.05             | 0.407                  | 0.407                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 10mm     | Index 4     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | 0.02             | 0.344                  | 0.438                  |

**<5G NR SAR>**

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | -0.08            | 0.464                  | 0.543                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 4     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | 0.01             | 0.479                  | 0.579                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | -0.1             | 0.387                  | 0.453                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 4     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | -0.05            | 0.396                  | 0.478                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | 0.02             | 0.024                  | 0.028                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Left Side     | 10mm     | Index 4     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | 0.1              | 0.027                  | 0.033                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | -0.02            | 0.396                  | 0.463                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Right Side    | 10mm     | Index 4     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | 0.02             | 0.413                  | 0.499                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Bottom Side   | 10mm     | Index 4     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | 0.03             | 0.294                  | 0.344                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Bottom Side   | 10mm     | Index 4     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | -0.08            | 0.309                  | 0.373                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.05             | 0.436                  | 0.475                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 4     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.12            | 0.458                  | 0.498                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.04             | 0.485                  | 0.528                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 4     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.02            | 0.522                  | 0.567                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.02             | 0.294                  | 0.320                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Left Side     | 10mm     | Index 4     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.05            | 0.303                  | 0.329                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.07             | 0.104                  | 0.113                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Right Side    | 10mm     | Index 4     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.12            | 0.112                  | 0.122                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Bottom Side   | 10mm     | Index 4     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.08             | 0.560                  | 0.610                  |
| 65       | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Bottom Side   | 10mm     | Index 4     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.1             | 0.626                  | 0.680                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.06             | 0.529                  | 0.567                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 4     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | -0.06            | 0.548                  | 0.593                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.1              | 0.506                  | 0.542                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 4     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | 0.03             | 0.523                  | 0.566                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.02             | 0.104                  | 0.111                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Left Side     | 10mm     | Index 4     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | -0.02            | 0.116                  | 0.125                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.04             | 0.548                  | 0.587                  |
| 66       | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Right Side    | 10mm     | Index 4     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | 0                | 0.629                  | 0.680                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Bottom Side   | 10mm     | Index 4     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.05             | 0.319                  | 0.342                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Bottom Side   | 10mm     | Index 4     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | -0.07            | 0.338                  | 0.366                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | -0.01            | 0.440                  | 0.487                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 4     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.08             | 0.444                  | 0.492                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | 0.01             | 0.386                  | 0.427                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 4     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.03             | 0.392                  | 0.435                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | 0.09             | 0.244                  | 0.270                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Left Side     | 10mm     | Index 4     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.07             | 0.252                  | 0.280                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | 0.08             | 0.083                  | 0.092                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Right Side    | 10mm     | Index 4     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | -0.05            | 0.088                  | 0.098                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Bottom Side   | 10mm     | Index 4     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | 0.03             | 0.375                  | 0.415                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Bottom Side   | 10mm     | Index 4     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.04             | 0.408                  | 0.453                  |



| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 656000 | 3840        | 23.15               | 24.30               | 1.303                  | -0.14            | 0.197                  | 0.257                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 4     | 656000 | 3840        | 23.02               | 24.30               | 1.343                  | -0.02            | 0.116                  | 0.156                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 656000 | 3840        | 23.15               | 24.30               | 1.303                  | -0.13            | 0.255                  | 0.332                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 4     | 656000 | 3840        | 23.02               | 24.30               | 1.343                  | -0.09            | 0.146                  | 0.196                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 656000 | 3840        | 23.15               | 24.30               | 1.303                  | -0.14            | 0.224                  | 0.292                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Side     | 10mm     | Index 4     | 656000 | 3840        | 23.02               | 24.30               | 1.343                  | -0.02            | 0.117                  | 0.157                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 656000 | 3840        | 23.15               | 24.30               | 1.303                  | 0                | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Side    | 10mm     | Index 4     | 656000 | 3840        | 23.02               | 24.30               | 1.343                  | 0                | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Top Side      | 10mm     | Index 4     | 656000 | 3840        | 23.15               | 24.30               | 1.303                  | -0.11            | 0.361                  | 0.470                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Top Side      | 10mm     | Index 4     | 656000 | 3840        | 23.02               | 24.30               | 1.343                  | -0.02            | 0.198                  | 0.266                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 633332 | 3499.98     | 23.11               | 24.30               | 1.315                  | -0.12            | 0.287                  | 0.377                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 4     | 633332 | 3499.98     | 23.04               | 24.30               | 1.337                  | -0.02            | 0.280                  | 0.374                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 633332 | 3499.98     | 23.11               | 24.30               | 1.315                  | -0.16            | 0.353                  | 0.464                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 4     | 633332 | 3499.98     | 23.04               | 24.30               | 1.337                  | -0.08            | 0.329                  | 0.440                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 633332 | 3499.98     | 23.11               | 24.30               | 1.315                  | -0.04            | 0.194                  | 0.255                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Left Side     | 10mm     | Index 4     | 633332 | 3499.98     | 23.04               | 24.30               | 1.337                  | 0.04             | 0.173                  | 0.231                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 633332 | 3499.98     | 23.11               | 24.30               | 1.315                  | 0                | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Right Side    | 10mm     | Index 4     | 633332 | 3499.98     | 23.04               | 24.30               | 1.337                  | 0                | 0.001                  | 0.001                  |
| 67       | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Top Side      | 10mm     | Index 4     | 633332 | 3499.98     | 23.11               | 24.30               | 1.315                  | -0.13            | 0.467                  | 0.614                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Top Side      | 10mm     | Index 4     | 633332 | 3499.98     | 23.04               | 24.30               | 1.337                  | -0.08            | 0.404                  | 0.540                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 656000 | 3840        | 19.16               | 19.7                | 1.132                  | -0.02            | 0.220                  | 0.249                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 4     | 656000 | 3840        | 18.86               | 19.7                | 1.213                  | 0.02             | 0.186                  | 0.226                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 656000 | 3840        | 19.16               | 19.7                | 1.132                  | 0.04             | 0.208                  | 0.236                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 4     | 656000 | 3840        | 18.86               | 19.7                | 1.213                  | 0.07             | 0.170                  | 0.206                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 656000 | 3840        | 19.16               | 19.7                | 1.132                  | 0.03             | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Side     | 10mm     | Index 4     | 656000 | 3840        | 18.86               | 19.7                | 1.213                  | -0.02            | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 656000 | 3840        | 19.16               | 19.7                | 1.132                  | -0.03            | 0.402                  | 0.455                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Side    | 10mm     | Index 4     | 656000 | 3840        | 18.86               | 19.7                | 1.213                  | 0.1              | 0.343                  | 0.416                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Top Side      | 10mm     | Index 4     | 656000 | 3840        | 19.16               | 19.7                | 1.132                  | -0.1             | 0.067                  | 0.076                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Top Side      | 10mm     | Index 4     | 656000 | 3840        | 18.86               | 19.7                | 1.213                  | 0.1              | 0.056                  | 0.068                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 4     | 633332 | 3499.98     | 19.16               | 19.7                | 1.132                  | -0.09            | 0.246                  | 0.279                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 4     | 633332 | 3499.98     | 18.81               | 19.7                | 1.227                  | -0.09            | 0.194                  | 0.238                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 4     | 633332 | 3499.98     | 19.16               | 19.7                | 1.132                  | 0.04             | 0.255                  | 0.289                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 4     | 633332 | 3499.98     | 18.81               | 19.7                | 1.227                  | -0.06            | 0.201                  | 0.247                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Left Side     | 10mm     | Index 4     | 633332 | 3499.98     | 19.16               | 19.7                | 1.132                  | 0.1              | 0.003                  | 0.003                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Left Side     | 10mm     | Index 4     | 633332 | 3499.98     | 18.81               | 19.7                | 1.227                  | -0.04            | 0.001                  | 0.001                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Right Side    | 10mm     | Index 4     | 633332 | 3499.98     | 19.16               | 19.7                | 1.132                  | 0.01             | 0.485                  | 0.549                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Right Side    | 10mm     | Index 4     | 633332 | 3499.98     | 18.81               | 19.7                | 1.227                  | 0.03             | 0.380                  | 0.466                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Top Side      | 10mm     | Index 4     | 633332 | 3499.98     | 19.16               | 19.7                | 1.132                  | -0.05            | 0.036                  | 0.041                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Top Side      | 10mm     | Index 4     | 633332 | 3499.98     | 18.81               | 19.7                | 1.227                  | -0.05            | 0.019                  | 0.023                  |

### 17.3 Body-Worn SAR

#### <GSM SAR>

| Plot No. | Band          | Mode              | Test Position | Gap (mm) | Power Index | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|-------------------|---------------|----------|-------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 68       | GSM1900_Ant 2 | GPRS (4 Tx slots) | Front         | 10mm     | Index 5     | 810 | 1909.8      | 24.49               | 25.10               | 1.151                  | -0.11            | 0.650                  | 0.748                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Back          | 10mm     | Index 5     | 810 | 1909.8      | 24.49               | 25.10               | 1.151                  | 0.14             | 0.568                  | 0.654                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Front         | 10mm     | Index 6     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.04            | 0.607                  | 0.624                  |
|          | GSM1900_Ant 2 | GPRS (4 Tx slots) | Back          | 10mm     | Index 6     | 810 | 1909.8      | 24.18               | 24.30               | 1.028                  | -0.07            | 0.530                  | 0.545                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Front         | 10mm     | Index 5/6   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0                | 0.333                  | 0.447                  |
|          | GSM1900_Ant 0 | GPRS (4 Tx slots) | Back          | 10mm     | Index 5/6   | 661 | 1880        | 26.22               | 27.50               | 1.343                  | 0.05             | 0.370                  | 0.497                  |

#### <WCDMA SAR>

| Plot No. | Band           | Mode         | Test Position | Gap (mm) | Power Index | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------------|--------------|---------------|----------|-------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 69       | WCDMA II_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 5     | 9538 | 1907.6      | 19.82               | 21.30               | 1.406                  | -0.1             | 0.528                  | 0.742                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 5     | 9538 | 1907.6      | 19.82               | 21.30               | 1.406                  | 0.05             | 0.486                  | 0.683                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 6     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | -0.1             | 0.528                  | 0.617                  |
|          | WCDMA II_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 6     | 9538 | 1907.6      | 19.82               | 20.50               | 1.169                  | 0.05             | 0.486                  | 0.568                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Front         | 10mm     | Index 5/6   | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.01             | 0.420                  | 0.495                  |
|          | WCDMA II_Ant 0 | RMC 12.2Kbps | Back          | 10mm     | Index 5/6   | 9538 | 1907.6      | 23.79               | 24.50               | 1.178                  | 0.03             | 0.524                  | 0.617                  |
| 70       | WCDMA IV_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 5     | 1513 | 1752.6      | 22.74               | 24.40               | 1.466                  | -0.07            | 0.483                  | 0.708                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 5     | 1513 | 1752.6      | 22.74               | 24.40               | 1.466                  | -0.05            | 0.415                  | 0.608                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Front         | 10mm     | Index 6     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.07            | 0.483                  | 0.589                  |
|          | WCDMA IV_Ant 2 | RMC 12.2Kbps | Back          | 10mm     | Index 6     | 1513 | 1752.6      | 22.74               | 23.60               | 1.219                  | -0.05            | 0.415                  | 0.506                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Front         | 10mm     | Index 5     | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | -0.11            | 0.555                  | 0.691                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Back          | 10mm     | Index 5     | 1513 | 1752.6      | 24.25               | 25.20               | 1.245                  | 0.05             | 0.491                  | 0.611                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Front         | 10mm     | Index 6     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | -0.07            | 0.473                  | 0.500                  |
|          | WCDMA IV_Ant 0 | RMC 12.2Kbps | Back          | 10mm     | Index 6     | 1513 | 1752.6      | 23.56               | 23.80               | 1.057                  | 0.11             | 0.428                  | 0.452                  |
| 71       | WCDMA V_Ant 0  | RMC 12.2Kbps | Front         | 10mm     | Index 5/6   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.02             | 0.349                  | 0.434                  |
|          | WCDMA V_Ant 0  | RMC 12.2Kbps | Back          | 10mm     | Index 5/6   | 4233 | 846.6       | 24.05               | 25.00               | 1.245                  | 0.04             | 0.282                  | 0.351                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Front         | 10mm     | Index 5/6   | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | 0.01             | 0.197                  | 0.240                  |
|          | WCDMA V_Ant 1  | RMC 12.2Kbps | Back          | 10mm     | Index 5/6   | 4132 | 826.4       | 23.64               | 24.50               | 1.219                  | -0.03            | 0.173                  | 0.211                  |

**<LTE SAR>**

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 72       | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 5     | 18900  | 1880        | 20.22               | 21.70               | 1.406                  | -0.01            | 0.458                  | 0.644                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 5     | 18900  | 1880        | 20.02               | 21.70               | 1.472                  | -0.04            | 0.423                  | 0.623                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 5     | 18900  | 1880        | 20.22               | 21.70               | 1.406                  | 0.02             | 0.445                  | 0.626                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 5     | 18900  | 1880        | 20.02               | 21.70               | 1.472                  | -0.09            | 0.427                  | 0.629                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 6     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | -0.01            | 0.458                  | 0.536                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 6     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | -0.04            | 0.423                  | 0.518                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 6     | 18900  | 1880        | 20.22               | 20.90               | 1.169                  | 0.02             | 0.445                  | 0.520                  |
|          | LTE Band 2_Ant 2  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 6     | 18900  | 1880        | 20.02               | 20.90               | 1.225                  | -0.09            | 0.427                  | 0.523                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 5     | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | -0.02            | 0.402                  | 0.520                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 5     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.04             | 0.293                  | 0.386                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 5     | 18900  | 1880        | 23.38               | 24.50               | 1.294                  | 0.01             | 0.451                  | 0.584                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 5     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.05             | 0.327                  | 0.431                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 6     | 18900  | 1880        | 23.38               | 24.20               | 1.208                  | -0.02            | 0.402                  | 0.486                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 6     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.04             | 0.293                  | 0.386                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 6     | 18900  | 1880        | 23.38               | 24.20               | 1.208                  | 0.01             | 0.451                  | 0.545                  |
|          | LTE Band 2_Ant 0  | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 6     | 18900  | 1880        | 22.30               | 23.50               | 1.318                  | 0.05             | 0.327                  | 0.431                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 5     | 132322 | 1745        | 23.40               | 24.10               | 1.175                  | -0.12            | 0.468                  | 0.550                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 5     | 132322 | 1745        | 23.25               | 24.10               | 1.216                  | -0.13            | 0.443                  | 0.539                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 5     | 132322 | 1745        | 23.40               | 24.10               | 1.175                  | 0                | 0.533                  | 0.626                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 5     | 132322 | 1745        | 23.25               | 24.10               | 1.216                  | -0.05            | 0.512                  | 0.623                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 6     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.05             | 0.372                  | 0.437                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 6     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | 0.08             | 0.352                  | 0.422                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 6     | 132322 | 1745        | 22.30               | 23.00               | 1.175                  | 0.07             | 0.423                  | 0.497                  |
|          | LTE Band 66_Ant 2 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 6     | 132322 | 1745        | 22.21               | 23.00               | 1.199                  | -0.08            | 0.412                  | 0.494                  |
| 73       | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 5     | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | 0.06             | 0.514                  | 0.743                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 5     | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | -0.01            | 0.370                  | 0.541                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 5     | 132322 | 1745        | 23.60               | 25.20               | 1.445                  | -0.07            | 0.442                  | 0.639                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 5     | 132322 | 1745        | 22.55               | 24.20               | 1.462                  | 0.05             | 0.341                  | 0.499                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Front         | 10mm     | Index 6     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | 0.06             | 0.504                  | 0.504                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Front         | 10mm     | Index 6     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | -0.01            | 0.370                  | 0.471                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 1       | 0         | Back          | 10mm     | Index 6     | 132322 | 1745        | 23.60               | 23.60               | 1.000                  | -0.07            | 0.442                  | 0.442                  |
|          | LTE Band 66_Ant 0 | 20M      | QPSK       | 50      | 0         | Back          | 10mm     | Index 6     | 132322 | 1745        | 22.55               | 23.60               | 1.274                  | 0.05             | 0.341                  | 0.434                  |

**<5G NR SAR>**

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 74       | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 376000 | 1880        | 21.20               | 21.20               | 1.000                  | 0.04             | 0.655                  | 0.655                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 5     | 376000 | 1880        | 21.13               | 21.20               | 1.016                  | -0.05            | 0.677                  | 0.688                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 376000 | 1880        | 21.20               | 21.20               | 1.000                  | 0.01             | 0.547                  | 0.547                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 5     | 376000 | 1880        | 21.13               | 21.20               | 1.016                  | -0.15            | 0.560                  | 0.569                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | -0.08            | 0.464                  | 0.543                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 6     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | 0.01             | 0.479                  | 0.579                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 376000 | 1880        | 19.72               | 20.40               | 1.169                  | -0.1             | 0.387                  | 0.453                  |
|          | FR1 n2_Ant 2  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 6     | 376000 | 1880        | 19.58               | 20.40               | 1.208                  | -0.05            | 0.396                  | 0.478                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | 0.05             | 0.436                  | 0.533                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 5     | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | -0.12            | 0.458                  | 0.558                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 372000 | 1860        | 23.63               | 24.50               | 1.222                  | 0.04             | 0.485                  | 0.593                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 5     | 372000 | 1860        | 23.64               | 24.50               | 1.219                  | -0.02            | 0.522                  | 0.636                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.05             | 0.436                  | 0.475                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Front         | 10mm     | Index 6     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.12            | 0.458                  | 0.498                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 372000 | 1860        | 23.63               | 24.00               | 1.089                  | 0.04             | 0.485                  | 0.528                  |
|          | FR1 n2_Ant 0  | 20M      | BPSK       | 50      | 28        | Back          | 10mm     | Index 6     | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | -0.02            | 0.522                  | 0.567                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 349000 | 1745        | 23.90               | 24.50               | 1.148                  | 0.01             | 0.594                  | 0.682                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 5     | 349000 | 1745        | 23.89               | 24.50               | 1.151                  | -0.04            | 0.615                  | 0.708                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 349000 | 1745        | 23.90               | 24.50               | 1.148                  | 0.06             | 0.568                  | 0.652                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 5     | 349000 | 1745        | 23.89               | 24.50               | 1.151                  | -0.02            | 0.587                  | 0.676                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.06             | 0.529                  | 0.567                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 6     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | -0.06            | 0.548                  | 0.593                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 349000 | 1745        | 23.40               | 23.70               | 1.072                  | 0.1              | 0.506                  | 0.542                  |
|          | FR1 n66_Ant 2 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 6     | 349000 | 1745        | 23.36               | 23.70               | 1.081                  | 0.03             | 0.523                  | 0.566                  |
| 75       | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | -0.18            | 0.640                  | 0.778                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 5     | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | 0.05             | 0.641                  | 0.785                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 349000 | 1745        | 24.35               | 25.20               | 1.216                  | 0.12             | 0.612                  | 0.744                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 5     | 349000 | 1745        | 24.32               | 25.20               | 1.225                  | 0                | 0.622                  | 0.762                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | -0.01            | 0.440                  | 0.487                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Front         | 10mm     | Index 6     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.08             | 0.444                  | 0.492                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 349000 | 1745        | 22.26               | 22.70               | 1.107                  | 0.01             | 0.386                  | 0.427                  |
|          | FR1 n66_Ant 0 | 40M      | BPSK       | 108     | 54        | Back          | 10mm     | Index 6     | 349000 | 1745        | 22.25               | 22.70               | 1.109                  | 0.03             | 0.392                  | 0.435                  |

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Index | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|---------------|----------|-------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 5/6   | 656000 | 3840        | 23.15               | 25.00               | 1.531                  | -0.14            | 0.197                  | 0.302                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 5/6   | 656000 | 3840        | 23.02               | 25.00               | 1.578                  | -0.02            | 0.116                  | 0.183                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 5/6   | 656000 | 3840        | 23.15               | 25.00               | 1.531                  | -0.13            | 0.255                  | 0.390                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 5/6   | 656000 | 3840        | 23.02               | 25.00               | 1.578                  | -0.09            | 0.146                  | 0.230                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 5/6   | 633332 | 3499.98     | 23.11               | 25.00               | 1.545                  | -0.12            | 0.287                  | 0.443                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 5/6   | 633332 | 3499.98     | 23.04               | 25.00               | 1.570                  | -0.02            | 0.280                  | 0.440                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 5/6   | 633332 | 3499.98     | 23.11               | 25.00               | 1.545                  | -0.16            | 0.353                  | 0.545                  |
|          | FR1 n77_Ant 1 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 5/6   | 633332 | 3499.98     | 23.04               | 25.00               | 1.570                  | -0.08            | 0.329                  | 0.517                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 656000 | 3840        | 22.18               | 24                  | 1.521                  | -0.02            | 0.453                  | 0.689                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 5     | 656000 | 3840        | 22.05               | 24                  | 1.567                  | -0.08            | 0.386                  | 0.605                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 656000 | 3840        | 22.18               | 24                  | 1.521                  | -0.15            | 0.415                  | 0.631                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 5     | 656000 | 3840        | 22.05               | 24                  | 1.567                  | 0.11             | 0.344                  | 0.539                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 656000 | 3840        | 21.15               | 21.6                | 1.109                  | 0.09             | 0.360                  | 0.399                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 6     | 656000 | 3840        | 21.06               | 21.6                | 1.132                  | 0.04             | 0.307                  | 0.348                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 656000 | 3840        | 21.15               | 21.6                | 1.109                  | 0.05             | 0.330                  | 0.366                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 6     | 656000 | 3840        | 21.06               | 21.6                | 1.132                  | 0.1              | 0.273                  | 0.309                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 5     | 633332 | 3499.98     | 22.16               | 24                  | 1.528                  | 0.08             | 0.486                  | 0.742                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 5     | 633332 | 3499.98     | 22.03               | 24                  | 1.574                  | 0.02             | 0.378                  | 0.595                  |
| 76       | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 5     | 633332 | 3499.98     | 22.16               | 24                  | 1.528                  | -0.14            | 0.498                  | 0.761                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 5     | 633332 | 3499.98     | 22.03               | 24                  | 1.574                  | -0.08            | 0.395                  | 0.622                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Front         | 10mm     | Index 6     | 633332 | 3499.98     | 21.11               | 21.6                | 1.119                  | -0.04            | 0.386                  | 0.432                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Front         | 10mm     | Index 6     | 633332 | 3499.98     | 20.98               | 21.6                | 1.153                  | 0.09             | 0.300                  | 0.346                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 1       | 1         | Back          | 10mm     | Index 6     | 633332 | 3499.98     | 21.11               | 21.6                | 1.119                  | 0.08             | 0.396                  | 0.443                  |
|          | FR1 n77_Ant 5 | 100M     | BPSK       | 135     | 69        | Back          | 10mm     | Index 6     | 633332 | 3499.98     | 20.98               | 21.6                | 1.153                  | 0.1              | 0.314                  | 0.362                  |

**17.4 6GHz PD Test Result**

| Band     | Mode               | Test Position | Gap (mm) | Antenna    | Ch. | Freq. (MHz) | Average Power (dBm) | Grid Step ( $\lambda$ ) | iPDn | iPD ratio ( $\geq -1$ ) | Normal psPD (W/m <sup>2</sup> ) | Total psPD (W/m <sup>2</sup> ) |
|----------|--------------------|---------------|----------|------------|-----|-------------|---------------------|-------------------------|------|-------------------------|---------------------------------|--------------------------------|
| WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 7   | 5985        | 13.30               | 0.0625                  | 1.66 | -0.8738795              | 1.70                            | 1.92                           |
| WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 10mm     | Ant 4+3(4) | 7   | 5985        | 14.00               | 0.25                    | 2.03 |                         | 0.727                           | 0.775                          |
| WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 215 | 7025        | 14.10               | 0.0625                  | 1.15 | -0.88521272             | 0.91                            | 1.22                           |
| WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 8.59mm   | Ant 4+3(3) | 215 | 7025        | 14.10               | 0.25                    | 1.41 |                         | 0.521                           | 0.554                          |

| Plot No. | Band     | Mode               | Test Position | Gap (mm) | Antenna    | Power Index | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Grid Step ( $\lambda$ ) | Scaling Factor for Measurement Uncertainty | Power Drift (dB) | Normal psPD (W/m <sup>2</sup> ) | Scaled Normal psPD (W/m <sup>2</sup> ) | Total psPD (W/m <sup>2</sup> ) | Scaled Total psPD (W/m <sup>2</sup> ) |
|----------|----------|--------------------|---------------|----------|------------|-------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|-------------------------|--------------------------------------------|------------------|---------------------------------|----------------------------------------|--------------------------------|---------------------------------------|
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4      | 1           | 71  | 6305        | 14.00               | 14.00               | 1.000                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.05            | 1.14                            | 2.03                                   | 1.47                           | 2.62                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4      | 1           | 7   | 5985        | 13.90               | 14.00               | 1.023                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.17            | 1.94                            | 3.54                                   | 2.53                           | 4.62                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4      | 1           | 119 | 6545        | 14.30               | 14.50               | 1.047                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.09             | 1.69                            | 3.16                                   | 2.27                           | 4.24                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4      | 1           | 167 | 6785        | 13.90               | 14.00               | 1.023                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.12            | 1.09                            | 1.99                                   | 1.77                           | 3.23                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4      | 1           | 215 | 7025        | 14.30               | 15.00               | 1.175                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.14             | 1.23                            | 2.58                                   | 1.59                           | 3.33                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Front         | 10mm     | Ant 4      | 5           | 57  | 6235        | 19.90               | 20.00               | 1.023                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.07            | 1.37                            | 2.33                                   | 1.62                           | 2.76                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Back          | 10mm     | Ant 4      | 5           | 57  | 6235        | 19.90               | 20.00               | 1.023                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.10            | 1.79                            | 3.04                                   | 1.95                           | 3.32                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Back          | 10mm     | Ant 4      | 5           | 1   | 5955        | 18.90               | 19.00               | 1.023                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | 0.09             | 1.52                            | 2.59                                   | 1.71                           | 2.91                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Back          | 10mm     | Ant 4      | 5           | 119 | 6545        | 14.30               | 14.50               | 1.047                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.16            | 0.452                           | 0.845                                  | 0.514                          | 0.961                                 |
|          | WLAN6GHz | 802.11a 6Mbps      | Back          | 10mm     | Ant 4      | 5           | 173 | 6815        | 19.90               | 20.00               | 1.023                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.18            | 1.55                            | 2.64                                   | 1.79                           | 3.04                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Back          | 10mm     | Ant 4      | 5           | 215 | 7025        | 14.30               | 15.00               | 1.175                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.15             | 0.417                           | 0.875                                  | 0.51                           | 1.07                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 1           | 7   | 5985        | 13.30               | 14.00               | 1.175                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.14            | 1.70                            | 3.57                                   | 1.92                           | 4.03                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 1           | 71  | 6305        | 13.00               | 14.00               | 1.259                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.07             | 2.15                            | 4.83                                   | 2.77                           | 6.22                                  |
| 77       | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 1           | 119 | 6545        | 13.80               | 14.50               | 1.175                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.12             | 3.15                            | 6.61                                   | 3.47                           | 7.28                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 1           | 167 | 6785        | 12.70               | 14.00               | 1.349                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.12             | 1.98                            | 4.77                                   | 2.32                           | 5.59                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Front         | 2mm      | Ant 4+3(3) | 1           | 215 | 7025        | 14.10               | 15.00               | 1.230                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.17            | 0.91                            | 2.00                                   | 1.22                           | 2.68                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Front         | 10mm     | Ant 4+3(3) | 5           | 57  | 6235        | 18.80               | 20.00               | 1.318                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.15            | 1.59                            | 3.48                                   | 1.73                           | 3.79                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Back          | 10mm     | Ant 4+3(3) | 5           | 57  | 6235        | 18.80               | 20.00               | 1.318                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.10            | 1.79                            | 3.92                                   | 2.45                           | 5.37                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Left Side     | 10mm     | Ant 4+3(3) | 5           | 57  | 6235        | 18.80               | 20.00               | 1.318                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.06            | 2.46                            | 5.39                                   | 2.68                           | 5.87                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Left Side     | 10mm     | Ant 4+3(3) | 5           | 1   | 5955        | 18.20               | 19.00               | 1.202                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.02            | 2.26                            | 4.52                                   | 2.62                           | 5.24                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Left Side     | 10mm     | Ant 4+3(3) | 5           | 119 | 6545        | 13.80               | 14.50               | 1.175                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | 0.04             | 0.813                           | 1.70                                   | 0.850                          | 1.78                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Left Side     | 10mm     | Ant 4+3(3) | 5           | 173 | 6815        | 18.50               | 20.00               | 1.413                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.05            | 0.778                           | 1.83                                   | 1.08                           | 2.54                                  |
|          | WLAN6GHz | 802.11ax-HE80 MCS0 | Left Side     | 10mm     | Ant 4+3(3) | 5           | 215 | 7025        | 14.10               | 15.00               | 1.230                  | 87.06        | 1.149                     | 0.0625                  | 1.5535                                     | -0.09            | 0.238                           | 0.52                                   | 0.377                          | 0.83                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Right Side    | 10mm     | Ant 4+3(4) | 5           | 57  | 6235        | 19.80               | 20.00               | 1.047                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | 0.17             | 1.55                            | 2.70                                   | 1.65                           | 2.87                                  |
|          | WLAN6GHz | 802.11a 6Mbps      | Top Side      | 10mm     | Ant 4+3(4) | 5           | 57  | 6235        | 19.80               | 20.00               | 1.047                  | 93.46        | 1.070                     | 0.0625                  | 1.5535                                     | -0.03            | 1.18                            | 2.05                                   | 1.20                           | 2.09                                  |

**Test Engineer :** Jocelyn Huang, Putzie Chen, Ben Huang, Jay Chien, Jimmy Lu, Carter Jhuang, Mood Huang, Rain Chiu, Jacky Chen and Hank Chiang

## **18. Uncertainty Assessment**

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

| Uncertainty Distributions          | Normal      | Rectangular  | Triangular   | U-Shape      |
|------------------------------------|-------------|--------------|--------------|--------------|
| Multi-plying Factor <sup>(a)</sup> | $1/k^{(b)}$ | $1/\sqrt{3}$ | $1/\sqrt{6}$ | $1/\sqrt{2}$ |

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b)  $k$  is the coverage factor

### **Standard Uncertainty for Assumed Distribution**

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

**Applicable for SAR Measurements:**

| Uncertainty Budget<br>(4 MHz - 10 GHz range) |                        |             |         |         |          |                                |                                 |
|----------------------------------------------|------------------------|-------------|---------|---------|----------|--------------------------------|---------------------------------|
| Error Description                            | Uncertainty Value (±%) | Probability | Divisor | (Ci) 1g | (Ci) 10g | Standard Uncertainty (1g) (±%) | Standard Uncertainty (10g) (±%) |
| <b>Measurement System</b>                    |                        |             |         |         |          |                                |                                 |
| Probe Calibration                            | 18.60                  | N           | 2       | 1       | 1        | 9.3                            | 9.3                             |
| Axial Isotropy                               | 4.70                   | R           | 1.732   | 0.7     | 0.7      | 1.9                            | 1.9                             |
| Hemispherical Isotropy                       | 9.60                   | R           | 1.732   | 0.7     | 0.7      | 3.9                            | 3.9                             |
| Linearity                                    | 4.70                   | R           | 1.732   | 1       | 1        | 2.7                            | 2.7                             |
| Modulation Response                          | 4.68                   | R           | 1.732   | 1       | 1        | 2.7                            | 2.7                             |
| System Detection Limits                      | 1.00                   | R           | 1.732   | 1       | 1        | 0.6                            | 0.6                             |
| Boundary Effects                             | 2.00                   | R           | 1.732   | 1       | 1        | 1.2                            | 1.2                             |
| Readout Electronics                          | 0.30                   | N           | 1       | 1       | 1        | 0.3                            | 0.3                             |
| Response Time                                | 0.00                   | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             |
| Integration Time                             | 2.60                   | R           | 1.732   | 1       | 1        | 1.5                            | 1.5                             |
| RF Ambient Noise                             | 3.00                   | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             |
| RF Ambient Reflections                       | 3.00                   | R           | 1.732   | 1       | 1        | 1.7                            | 1.7                             |
| Probe Positioner                             | 0.40                   | R           | 1.732   | 1       | 1        | 0.2                            | 0.2                             |
| Probe Positioning                            | 6.70                   | R           | 1.732   | 1       | 1        | 3.9                            | 3.9                             |
| Post-processing                              | 4.00                   | R           | 1.732   | 1       | 1        | 2.3                            | 2.3                             |
| <b>Test Sample Related</b>                   |                        |             |         |         |          |                                |                                 |
| Device Holder                                | 3.60                   | N           | 1       | 1       | 1        | 3.6                            | 3.6                             |
| Test sample Positioning                      | 3.03                   | N           | 1       | 1       | 1        | 3.0                            | 3.0                             |
| Power Scaling                                | 0.00                   | R           | 1.732   | 1       | 1        | 0.0                            | 0.0                             |
| Power Drift                                  | 5.00                   | R           | 1.732   | 1       | 1        | 2.9                            | 2.9                             |
| <b>Phantom and Setup</b>                     |                        |             |         |         |          |                                |                                 |
| Phantom Uncertainty                          | 7.60                   | R           | 1.732   | 1       | 1        | 4.4                            | 4.4                             |
| SAR correction                               | 0.00                   | R           | 1.732   | 1       | 0.84     | 0.0                            | 0.0                             |
| Liquid Conductivity Repeatability            | 0.03                   | N           | 1       | 0.78    | 0.77     | 0.0                            | 0.0                             |
| Liquid Conductivity (target)                 | 5.00                   | R           | 1.732   | 0.78    | 0.77     | 2.3                            | 2.2                             |
| Liquid Conductivity (mea.)                   | 2.50                   | R           | 1.732   | 0.78    | 0.77     | 1.1                            | 1.1                             |
| Temp. unc. - Conductivity                    | 3.68                   | R           | 1.732   | 0.78    | 0.77     | 1.7                            | 1.6                             |
| Liquid Permittivity Repeatability            | 0.02                   | N           | 1       | 0.23    | 0.26     | 0.0                            | 0.0                             |
| Liquid Permittivity (target)                 | 5.00                   | R           | 1.732   | 0.23    | 0.26     | 0.7                            | 0.8                             |
| Liquid Permittivity (mea.)                   | 2.50                   | R           | 1.732   | 0.23    | 0.26     | 0.3                            | 0.4                             |
| Temp. unc. - Permittivity                    | 0.84                   | R           | 1.732   | 0.23    | 0.26     | 0.1                            | 0.1                             |
| <b>Combined Std. Uncertainty</b>             |                        |             |         |         |          | <b>14.5%</b>                   | <b>14.2%</b>                    |
| <b>Coverage Factor for 95 %</b>              |                        |             |         |         |          | <b>K=2</b>                     | <b>K=2</b>                      |
| <b>Expanded STD Uncertainty</b>              |                        |             |         |         |          | <b>29.0%</b>                   | <b>28.4%</b>                    |

**Applicable for Power Density Measurements:**

| Error Description                                                        | Uncertainty Value (±dB) | Probability | Divisor | (Ci) | Standard Uncertainty (±dB) |
|--------------------------------------------------------------------------|-------------------------|-------------|---------|------|----------------------------|
| Probe Calibration                                                        | 0.49                    | N           | 1       | 1    | 0.49                       |
| Probe correction                                                         | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Frequency response (BW ≤ 1 GHz)                                          | 0.20                    | R           | 1.732   | 1    | 0.12                       |
| Sensor cross coupling                                                    | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Isotropy                                                                 | 0.50                    | R           | 1.732   | 1    | 0.29                       |
| Linearity                                                                | 0.20                    | R           | 1.732   | 1    | 0.12                       |
| Probe scattering                                                         | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Probe positioning offset                                                 | 0.30                    | R           | 1.732   | 1    | 0.17                       |
| Probe positioning repeatability                                          | 0.04                    | R           | 1.732   | 1    | 0.02                       |
| Sensor mechanical offset                                                 | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Probe spatial resolution                                                 | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Field impedance dependance                                               | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Amplitude and phase drift                                                | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Amplitude and phase noise                                                | 0.04                    | R           | 1.732   | 1    | 0.02                       |
| Measurement area truncation                                              | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Data acquisition                                                         | 0.03                    | N           | 1       | 1    | 0.03                       |
| Sampling                                                                 | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Field reconstruction                                                     | 2.00                    | R           | 1.732   | 1    | 1.15                       |
| Forward transformation                                                   | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Power density scaling                                                    | 0.00                    | R           | 1.732   | 1    | 0.00                       |
| Spatial averaging                                                        | 0.10                    | R           | 1.732   | 1    | 0.06                       |
| System detection limit                                                   | 0.04                    | R           | 1.732   | 1    | 0.02                       |
| <b>Uncertainty terms dep endent on the DUT and environmental factors</b> |                         |             |         |      |                            |
| Probe coupling with DUT                                                  | 0.00                    | R           | 1.732   | 1    | 0.0                        |
| Modulation response                                                      | 0.40                    | R           | 1.732   | 1    | 0.2                        |
| Integration time                                                         | 0.00                    | R           | 1.732   | 1    | 0.0                        |
| Response time                                                            | 0.00                    | R           | 1.732   | 1    | 0.0                        |
| Device holder influence                                                  | 0.10                    | R           | 1.732   | 1    | 0.1                        |
| DUT alignment                                                            | 0.00                    | R           | 1.732   | 1    | 0.0                        |
| RF ambient conditions                                                    | 0.04                    | R           | 1.732   | 1    | 0.0                        |
| Ambient reflections                                                      | 0.04                    | R           | 1.732   | 1    | 0.0                        |
| Immunity / secondary reception                                           | 0.00                    | R           | 1.732   | 1    | 0.0                        |
| Drift of the DUT                                                         |                         | R           | 1.732   | 1    |                            |
| <b>Combined Std. Uncertainty</b>                                         |                         |             |         |      | <b>1.34</b>                |
| <b>Expanded STD Uncertainty (95%)</b>                                    |                         |             |         |      | <b>2.68</b>                |

## **19. References**

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