# FCC SAR Test Report

| | |
|---|---|
| **APPLICANT** | **: Motorola Mobility LLC** |
| **EQUIPMENT** | **: Mobile Cellular Phone** |
| **BRAND NAME** | **: Motorola** |
| **MODEL NAME** | **: XT2519-1, XT2519-2, XT2519V** |
| **FCC ID** | **: IHDT56AU6** |
| **STANDARD** | **: FCC 47 CFR Part 2 (2.1093)** |

**We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.**

ilac-MRA ACCREDITED Cert #5145.02

**Approved by: Si Zhang**

***Sporton International Inc. (Kunshan)***
***No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China***

# Table of Contents

# Revision History

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FA510740 | Rev. 01 | Initial issue of report. | Mar. 07, 2025 |
| FA510740 | Rev. 02 | Updated Simultaneous in section 17.5/17.6/17.7. This report is an updated version, replacing the report issued on Mar. 07, 2025. | Mar. 28, 2025 |
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# 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2519-1, XT2519-2, XT2519V,** are as follows.

| Highest 1g SAR Summary | | | | | | |
|---|---|---|---|---|---|---|
| Equipment Class | Frequency Band | | Head (Separation 0mm) | Hotspot (Separation 5mm) | Body-worn (Separation 5mm) | Highest Simultaneous Transmission 1g SAR (W/kg) |
| | | | 1g SAR (W/kg) | | | |
| Licensed | GSM | GSM850 | 0.32 | 1.12 | 1.12 | 1.59 |
| | | GSM1900 | 0.15 | 1.20 | 1.20 | |
| | WCDMA | WCDMA II | 0.84 | 1.29 | 1.29 | |
| | | WCDMA IV | 0.86 | 1.26 | 1.26 | |
| | | WCDMA V | 0.71 | 1.27 | 1.27 | |
| | LTE | LTE Band 7 | 0.18 | 1.16 | 1.16 | |
| | | LTE Band 12/17 | 0.84 | 1.04 | 1.04 | |
| | | LTE Band 13 | 0.91 | 0.89 | 0.89 | |
| | | LTE Band 14 | 0.94 | 1.11 | 1.11 | |
| | | LTE Band 25/2 | 0.87 | 1.13 | 1.13 | |
| | | LTE Band 26/5 | 0.95 | 1.09 | 1.09 | |
| | | LTE Band 30 | 0.88 | **1.30** | 1.29 | |
| | | LTE Band 66/4 | 0.86 | 1.29 | 1.29 | |
| | | LTE Band 71 | 0.68 | 0.84 | 0.84 | |
| | | LTE Band 41/38 | 0.84 | 1.24 | 1.24 | |
| | | LTE Band 42 | 0.91 | 1.08 | 1.20 | |
| | | LTE Band 48 | 0.91 | 1.25 | 1.05 | |
| | 5G NR | FR1 n7 | 0.18 | 1.29 | 1.29 | |
| | | FR1 n12 | 0.50 | 0.70 | 0.70 | |
| | | FR1 n14 | 0.82 | 0.90 | 0.90 | |
| | | FR1 n25/n2 | 0.88 | 1.27 | 1.27 | |
| | | FR1 n26/n5 | 0.82 | 1.20 | 1.28 | |
| | | FR1 n30 | 0.89 | 1.29 | 1.27 | |
| | | FR1 n66 | 0.89 | 1.28 | 1.28 | |
| | | FR1 n70 | 0.89 | 1.25 | 1.25 | |
| | | FR1 n71 | 0.92 | 0.70 | 0.70 | |
| | | FR1 n41/n38 | 0.86 | 1.27 | 1.27 | |
| | | FR1 n48 | 0.88 | 1.29 | 1.29 | |
| | | FR1 n77/78 | 0.93 | 1.08 | 0.96 | |
| DTS | WLAN | 2.4GHz WLAN | **1.29** | 0.61 | **1.42** | 1.59 |
| NII | | 5GHz WLAN | 1.18 | 0.62 | 1.18 | 1.59 |
| DSS | Bluetooth | 2.4GHz Bluetooth | 0.19 | 0.14 | <0.10 | 1.59 |

| Highest 10g SAR Summary | | | | |
|---|---|---|---|---|
| Equipment Class | Frequency Band | | Product Specific 10g SAR (W/kg) (Separation 0mm) | Highest Simultaneous Transmission 10g SAR (W/kg) |
| Licensed | GSM | GSM1900 | 2.32 | 3.85 |
| | WCDMA | WCDMA II | 3.19 | |
| | | WCDMA IV | 3.16 | |
| | | WCDMA V | 1.55 | |
| | LTE | LTE Band 7 | 2.81 | |
| | | LTE Band 25/2 | 2.77 | |
| | | LTE Band 30 | 3.14 | |
| | | LTE Band 66/4 | 3.11 | |
| | | LTE Band 41/38 | 3.12 | |
| | | LTE Band 42 | 2.95 | |
| | | LTE Band 48 | 3.10 | |
| | 5G NR | FR1 n7 | 3.19 | |
| | | FR1 n25/n2 | 3.18 | |
| | | FR1 n30 | 3.12 | |
| | | FR1 n66 | **3.20** | |
| | | FR1 n70 | 3.08 | |
| | | FR1 n41/n38 | **3.20** | |
| | | FR1 n48 | 3.10 | |
| | | FR1 n77/n78 | 2.64 | |
| DTS | WLAN | 2.4GHz WLAN | 2.38 | 3.85 |
| NII | | WLAN5GHz | 2.94 | 3.85 |
| Date of Testing: | | | 2025/1/31 ~ 2025/2/19 | |

**Remark:**
1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 /B4 / B5 / B17 / B38alls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.
2. This device supports 5GNR n38/n5/n78/n2 and n41/n26/n77/n25. Since the supported frequency span for 5GNR n38/n5/n78/n2 falls completely within the supports frequency span for n41/n26/n77/n25, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n41/n26/n77/n25.

| Declaration of Conformity: |
|---|
| The test results with all measurement uncertainty excluded are 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. |

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) 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.

## 2. Administration Data

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

<table>
<tr><th colspan="4">Testing Laboratory</th></tr>
<tr><td>Test Firm</td><td colspan="3">Sporton International Inc. (Kunshan)</td></tr>
<tr><td>Test Site Location</td><td colspan="3">No. 1098, Pengxi North Road, Kunshan Economic Development Zone<br>Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158</td></tr>
<tr><td rowspan="2">Test Site No.</td><td>Sporton Site No.</td><td>FCC Designation No.</td><td>FCC Test Firm Registration No.</td></tr>
<tr><td>SAR01-KS, SAR04-KS</td><td>CN1257</td><td>314309</td></tr>
</table>

| Applicant | |
|---|---|
| Company Name | Motorola Mobility LLC |
| Address | 222 W,Merchandise Mart Plaza, Chicago IL 60654 USA |

| Manufacturer | |
|---|---|
| Company Name | Motorola Mobility LLC |
| Address | 222 W,Merchandise Mart Plaza, Chicago IL 60654 USA |

## 3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- 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 616217 D04 SAR for laptop and tablets v01r02
- 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

# 4. Equipment Under Test (EUT) Information

## 4.1 General Information

| Product Feature & Specification | |
|---|---|
| Equipment Name | Mobile Cellular Phone |
| Brand Name | Motorola |
| Model Name | XT2519-1, XT2519-2, XT2519V |
| FCC ID | IHDT56AU6 |
| IMEI Code | IMEI 1: 355782390035875<br>IMEI 2: 355782390035883 |
| Wireless Technology and Frequency Range | GSM850: 824 MHz ~ 849 MHz<br>GSM1900: 1850 MHz ~ 1910 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 13: 777 MHz ~ 787 MHz<br>LTE Band 14: 788 MHz ~ 798 MHz<br>LTE Band 17: 704 MHz ~ 716 MHz<br>LTE Band 25: 1850 MHz ~ 1915 MHz<br>LTE Band 26: 814 MHz ~ 849 MHz<br>LTE Band 30: 2305 MHz ~ 2315 MHz<br>LTE Band 38: 2570 MHz ~ 2620 MHz<br>LTE Band 41: 2496 MHz ~ 2690 MHz<br>LTE Band 42: 3450 MHz ~ 3550 MHz<br>LTE Band 48: 3550 MHz ~ 3700 MHz<br>LTE Band 66: 1710 MHz ~ 1780 MHz<br>LTE Band 71: 663 MHz ~ 698 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 n14: 788 MHz ~ 798 MHz<br>5G NR n25: 1850 MHz ~ 1915 MHz<br>5G NR n26: 814 MHz ~ 849 MHz<br>5G NR n30: 2305 MHz ~ 2315 MHz<br>5G NR n38: 2570 MHz ~ 2620 MHz<br>5G NR n41: 2496 MHz ~ 2690 MHz<br>5G NR n48: 3550 MHz ~ 3700 MHz<br>5G NR n66: 1710 MHz ~ 1780 MHz<br>5G NR n70: 1695 MHz ~ 1710 MHz<br>5G NR n71: 663 MHz ~ 698 MHz<br>5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz<br>5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz<br>WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz<br>WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz<br>WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz<br>WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz<br>WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz<br>WLAN 6GHz U-NII 5: 5925 MHz ~ 6425 MHz<br>WLAN 6GHz U-NII 6: 6425 MHz ~ 6525 MHz<br>WLAN 6GHz U-NII 7: 6525 MHz ~ 6875 MHz<br>WLAN 6GHz U-NII 8: 6875 MHz ~ 7125 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz<br>NFC : 13.56 MHz |
| Mode | GSM/GPRS/EGPRS |

| | |
|---|---|
| | RMC/AMR 12.2Kbps<br>HSDPA<br>HSUPA<br>DC-HSDPA<br>HSPA+ (16QAM uplink is supported)<br>LTE: QPSK, 16QAM, 64QAM, 256QAM<br>5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM<br>WLAN 2.4GHz 802.11b/g<br>WLAN 2.4GHz 802.11n/ax HT20/HT40/HE20/HE40<br>WLAN 5GHz 802.11a/n HT20/HT40<br>WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/HE20/HE40/HE80<br>WLAN 6GHz 802.11ax HE20/HE40/HE80<br>Bluetooth BR/EDR/LE<br>NFC: ASK |
| **HW Version** | DVT2 |
| **SW Version** | V2VD35.27 |
| **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. |
| **EUT Stage** | Identical Prototype |

**Remark:**

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). WLAN 6GHz has no hotspot function.
4. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO antenna mode.
5. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
6. This device supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active).
7. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
8. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneous with WWAN, power reduction will be activated to head exposure condition. For WLAN when transmit simultaneous with WWAN/BT and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
9. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively.
10. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 18 and appendix G.
11. This device supports HPUE mode for LTE Band41 with higher power. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so power class 3 was chosen to perform full SAR testing and power class 2 verified the worst case of power class 3 SAR.
12. For 5G NR bands, using FTM to perform SAR with default 100% transmission.
13. This device supports HPUE mode for 5GNR n41/n77/n78 HPUE with higher power, so power class 2 was chosen to perform full SAR testing and power class 2 SAR can represent power class 3 SAR.
14. 5G NR n2/n25/n66/n70/n41/n48/n77/n78 supports UL MIMO.
15. The device supports HPUE (power class 2) under SISO mode and HPUE (power class 1.5) under UL MIMO mode for 5G NR n41/n77.
16. The device support DBS (Dual Band Simultaneous) function, when the device WLAN 2.4GHz and WLAN 5GHz or WLAN 6GHz transmit at the same time the device will limit different output power for simultaneous transmission compliance.
17. When the user is talking a call-in head scenario and the receiver detect mechanism trigger, WLAN5GHz/6GHz will be switched from antenna 7 to antenna 10.
18. This device has NFC function and the NFC SAR report will be separately submitted.
19. SAR and Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted. About co-located

SAR with WWAN/Bluetooth always chose higher SAR of WLAN5GHz U-NII-1/2A/2C/3 and WLAN 6GHz U-NII-5/6/7/8.

20. The different model names are only for market segment purpose, there is no other difference.
21. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

**<5G NR>**

| Mode | Band | Duplex | SCS(KHz) | Bandwidths(BW) |
|---|---|---|---|---|
| NSA | n2 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40 |
| | n5 | FDD | 15 | 5, 10, 15, 20 |
| | n7 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40, 50 |
| | n12 | FDD | 15 | 5, 10, 15 |
| | n25 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35 ,40 |
| | n26 | FDD | 15 | 5, 10, 15, 20 |
| | n66 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40 |
| | n71 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35 |
| | n41 | TDD | 30 | 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 |
| | n48 | TDD | 30 | 10, 15, 20, 30, 40 |
| | n77 | TDD | 30 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |
| | n78 | TDD | 30 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |
| SA | n2 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40 |
| | n5 | FDD | 15 | 5, 10, 15, 20 |
| | n7 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40, 50 |
| | n12 | FDD | 15 | 5, 10, 15 |
| | n14 | FDD | 15 | 5, 10 |
| | n25 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35 ,40 |
| | n26 | FDD | 15 | 5, 10, 15, 20 |
| | n30 | FDD | 15 | 5, 10 |
| | n66 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35, 40 |
| | n70 | FDD | 15 | 5, 10, 15 |
| | n71 | FDD | 15 | 5, 10, 15, 20, 25, 30, 35 |
| | n38 | TDD | 30 | 10, 15, 20, 25, 30, 40 |
| | n41 | TDD | 30 | 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 |
| | n48 | TDD | 30 | 10, 15, 20, 30, 40 |
| | n77 | TDD | 30 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |
| | n78 | TDD | 30 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 |

## *4.2 General LTE SAR Test and Reporting Considerations*

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>IHDT56AU6</td></tr>
<tr><td>Equipment Name</td><td>Mobile Cellular Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>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 13: 777 MHz ~ 787 MHz<br>LTE Band 14: 788 MHz ~ 798 MHz<br>LTE Band 17: 704 MHz ~ 716 MHz<br>LTE Band 25: 1850 MHz ~ 1915 MHz<br>LTE Band 26: 814 MHz ~ 849 MHz<br>LTE Band 30: 2305 MHz ~ 2315 MHz<br>LTE Band 38: 2570 MHz ~ 2620 MHz<br>LTE Band 41: 2496 MHz ~ 2690 MHz<br>LTE Band 42: 3450 MHz ~ 3550 MHz<br>LTE Band 48: 3550 MHz ~ 3700 MHz<br>LTE Band 66: 1710 MHz ~ 1780 MHz<br>LTE Band 71: 663 MHz ~ 698 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 13: 5MHz, 10MHz<br>LTE Band 14: 5MHz, 10MHz<br>LTE Band 17: 5MHz, 10MHz<br>LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz<br>LTE Band 30: 5MHz, 10MHz<br>LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM / 256QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>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)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>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.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted</td></tr>
</table>

| | |
|---|---|
| | powers were evaluated per FCC Guidance.<br>2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink. |

**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) |
| 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 |
| 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) |
| 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) |
| 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 13

| | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
|---|---|---|---|---|
| | Channel # | Freq.(MHz) | Channel # | Freq.(MHz) |
| L | 23205 | 779.5 | | |
| M | 23230 | 782 | 23230 | 782 |
| H | 23255 | 784.5 | | |

LTE Band 14

| | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
|---|---|---|---|---|
| | Channel # | Channel # | Channel # | Freq.(MHz) |
| L | 23305 | 790.5 | | |
| M | 23330 | 793 | 23330 | 793 |
| H | 23355 | 795.5 | | |

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 25 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 26047 | 1850.7 | 26055 | 1851.5 | 26065 | 1852.5 | 26090 | 1855 | 26115 | 1857.5 | 26140 | 1860 |
| M | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 | 26340 | 1880 |
| H | 26683 | 1914.3 | 26675 | 1913.5 | 26665 | 1912.5 | 26640 | 1910 | 26615 | 1907.5 | 26590 | 1905 |

| 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) |
| 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 30 | | | | |
|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | |
| | Channel # | Freq.(MHz) | Channel # | Freq.(MHz) |
| L | 27685 | 2307.5 | 27710 | 2310 |
| M | 27710 | 2310 | | |
| H | 27735 | 2312.5 | | |

| 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) |
| 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) |
| L | 39675 | 2498.5 | 39700 | 2501 | 39725 | 2503.5 | 39750 | 2506 |
| LM | 40148 | 2545.8 | 40160 | 2547 | 40173 | 2548.3 | 40185 | 2549.5 |
| M | 40620 | 2593 | 40620 | 2593 | 40620 | 2593 | 40620 | 2593 |
| HM | 41093 | 2640.3 | 41080 | 2639 | 41068 | 2637.8 | 41055 | 2636.5 |
| H | 41565 | 2687.5 | 41540 | 2685 | 41515 | 2682.5 | 41490 | 2680 |

| LTE Band 48 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 55265 | 3552.5 | 55290 | 3555 | 55315 | 3557.5 | 55340 | 3560 |
| LM | 55810 | 3607 | 55815 | 3607.5 | 55820 | 3608 | 55830 | 3609 |
| MH | 56170 | 3643 | 56165 | 3642.5 | 56160 | 3642 | 56150 | 3641 |
| H | 56715 | 3697.5 | 56690 | 3695 | 56665 | 3692.5 | 56640 | 3690 |

| 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 |

| LTE Band 71 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 133147 | 665.5 | 133172 | 668 | 133197 | 670.5 | 133222 | 673 |
| M | 133247 | 675.5 | 133272 | 678 | 133297 | 680.5 | 133322 | 683 |
| H | 133447 | 695.5 | 133422 | 693 | 133397 | 690.5 | 133372 | 688 |

| LTE Band 42 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 42115 | 3452.5 | 42140 | 3455 | 42165 | 3457.5 | 42190 | 3460 |
| M | 42590 | 3500 | 42590 | 3500 | 42590 | 3500 | 42590 | 3500 |
| H | 43065 | 3547.5 | 43040 | 3545 | 43015 | 3542.5 | 42990 | 3540 |

| LTE Band 42 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5 MHz | | Bandwidth 10 MHz | | Bandwidth 15 MHz | | Bandwidth 20 MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 43115 | 3552.5 | 43140 | 3555 | 43165 | 3557.5 | 43190 | 3560 |
| M | 43340 | 3575 | 43340 | 3575 | 43340 | 3575 | 43340 | 3575 |
| H | 43565 | 3597.5 | 43540 | 3595 | 43515 | 3592.5 | 43490 | 3590 |

## <For LTE Overlap Bands Description>

1) LTE Bands BW

| Band | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
|---|---|---|---|---|---|---|
| LTE Band 12 | Yes | Yes | Yes | Yes | | |
| LTE Band 17 | | | Yes | Yes | | |
| LTE Band 4 | Yes | Yes | Yes | Yes | Yes | Yes |
| LTE Band 66 | Yes | Yes | Yes | Yes | Yes | Yes |
| LTE Band 5 | Yes | Yes | Yes | Yes | | |
| LTE Band 26 | Yes | Yes | Yes | Yes | Yes | |
| LTE Band 38 | | | Yes | Yes | Yes | Yes |
| LTE Band 41 | | | Yes | Yes | Yes | Yes |
| LTE Band 25 | Yes | Yes | Yes | Yes | Yes | Yes |
| LTE Band 2 | Yes | Yes | Yes | Yes | Yes | Yes |

2) LTE Bands tune up:

| Band | Antenna | Head ECI 2 Tune-up Limit | Bodyworn ECI 3 Tune-up Limit | Hotspot ECI 7 Tune-up Limit | Extremity ECI 6 Tune-up Limit | Sensor Off ECI 4 Tune-up Limit | Default Tune-up Limit |
|---|---|---|---|---|---|---|---|
| LTE Band 12(17) | Ant 0 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 12(17) | Ant 1 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 66(4) | Ant 0 | 24.00 | 19.20 | 19.20 | 22.60 | 24.00 | 24.00 |
| LTE Band 66(4) | Ant 1 | 17.20 | 18.70 | 16.20 | 21.70 | 24.00 | 24.00 |
| LTE Band 66(4) other PA | Ant 0 | 24.00 | 19.20 | 19.20 | 22.60 | 24.00 | 24.00 |
| LTE Band 66(4) other PA | Ant 1 | 17.20 | 18.70 | 16.20 | 21.70 | 24.00 | 24.00 |
| LTE Band 26(5) | Ant 0 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 26(5) | Ant 1 | 23.70 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 25(2) | Ant 0 | 24.00 | 19.10 | 19.10 | 22.30 | 24.00 | 24.00 |
| LTE Band 25(2) | Ant 1 | 16.10 | 17.90 | 14.70 | 21.00 | 24.00 | 24.00 |
| LTE Band 26(5) other PA | Ant 0 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 26(5) other PA | Ant 1 | 23.70 | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 41(38) | Ant 0 | 24.00 | 20.10 | 20.10 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE | Ant 0 | 26.00 | 21.70 | 21.70 | 26.00 | 26.00 | 26.00 |
| LTE Band 41(38) other PA | Ant 0 | 23.00 | 20.10 | 20.10 | 23.00 | 23.00 | 23.00 |
| LTE Band 41 HPUE other PA | Ant 0 | 26.00 | 21.70 | 21.70 | 26.00 | 26.00 | 26.00 |
| LTE Band 41(38) | Ant 1 | 20.50 | 21.50 | 18.60 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE | Ant 1 | 22.10 | 23.10 | 20.20 | 26.00 | 26.00 | 26.00 |
| LTE Band 41(38) other PA | Ant 1 | 20.50 | 21.50 | 18.60 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE other PA | Ant 1 | 22.10 | 23.10 | 20.20 | 27.00 | 27.00 | 27.00 |
| LTE Band 41(38) | Ant 2 | 24.00 | 23.80 | 21.90 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE | Ant 2 | 27.00 | 25.40 | 23.50 | 27.00 | 27.00 | 27.00 |
| LTE Band 41(38) other PA | Ant 2 | 24.00 | 23.80 | 21.90 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE other PA | Ant 2 | 27.00 | 25.40 | 23.50 | 27.00 | 27.00 | 27.00 |
| LTE Band 41(38) | Ant 10 | 24.00 | 19.50 | 18.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE | Ant 10 | 25.00 | 21.10 | 19.60 | 25.00 | 25.00 | 25.00 |
| LTE Band 41(38) other PA | Ant 10 | 24.00 | 19.50 | 18.00 | 24.00 | 24.00 | 24.00 |
| LTE Band 41 HPUE other PA | Ant 10 | 27.00 | 21.10 | 19.60 | 27.00 | 27.00 | 27.00 |

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

| 5G NR Information | |
|---|---|
| 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 n14: 788 MHz ~ 798 MHz<br>5G NR n25: 1850 MHz ~ 1915 MHz<br>5G NR n26: 814 MHz ~ 849 MHz<br>5G NR n30: 2305 MHz ~ 2315 MHz<br>5G NR n38: 2570 MHz ~ 2620 MHz<br>5G NR n41: 2496 MHz ~ 2690 MHz<br>5G NR n48: 3550 MHz ~ 3700 MHz<br>5G NR n66: 1710 MHz ~ 1780 MHz<br>5G NR n70: 1695 MHz ~ 1710 MHz<br>5G NR n71: 663 MHz ~ 698 MHz<br>5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz<br>5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz |
| Channel Bandwidth | The detail please refers to section 4.1 5GNR FR1 bands table. |
| 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 B4/5/7/12/13/14/30/48/66/71 |
| LTE Anchor Bands for n5 | LTE B2/4/7/30/48/66 |
| LTE Anchor Bands for n7 | LTE B2/4/5/12/66 |
| LTE Anchor Bands for n12 | LTE B2/66 |
| LTE Anchor Bands for n25 | LTE B7/12/66/26 |
| LTE Anchor Bands for n26 | LTE B7/13/26 |
| LTE Anchor Bands for n66 | LTE B2/5/7/12/13/14/25/30/48/71 |
| LTE Anchor Bands for n71 | LTE B2/7/48/66 |
| LTE Anchor Bands for n41 | LTE B2/4/5/12/25/26/66/71 |
| LTE Anchor Bands for n48 | LTE B5/71 |
| LTE Anchor Bands for n77 | LTE B2/5/7/12/13/14/25/26/30/41/66/71 |
| LTE Anchor Bands for n78 | LTE B2/4/5/7/12/13/25/26/38/41/66/71 |

**Transmission (H, M, L) channel numbers and frequencies in each 5G NR band**

NR Band 2

| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 35MHz | | Bandwidth 40MHz | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 370500 | 1852.5 | 371000 | 1855 | 371500 | 1857.5 | 372000 | 1860 | 372500 | 1862.5 | 373000 | 1865 | 373500 | 1867.5 | 374000 | 1870 |
| M | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 | 376000 | 1880 |
| H | 381500 | 1907.5 | 381000 | 1905 | 380500 | 1902.5 | 380000 | 1900 | 379500 | 1897.5 | 379000 | 1895 | 378500 | 1892.5 | 378000 | 1890 |

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 35MHz | | 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) | Ch. # | Freq. (MHz) |
| L | 500500 | 2502.5 | 501000 | 2505 | 501500 | 2507.5 | 502000 | 2510 | 502500 | 2512.5 | 503000 | 2515 | 503500 | 2517.5 | 504000 | 2520 | 505000 | 2525 |
| M | 507000 | 2535 | 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 | 510500 | 2552.5 | 510000 | 2550 | 509000 | 2545 |

NR Band 12

| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | |
|---|---|---|---|---|---|---|
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 140300 | 701.5 | 140800 | 704 | 141300 | 706.5 |
| M | 141500 | 707.5 | 141500 | 707.5 | 141500 | 707.5 |
| H | 142700 | 713.5 | 142200 | 711 | 141700 | 708.5 |

| NR Band 14 | | | | |
|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 158100 | 790.5 | 158600 | 793 |
| M | 158600 | 793 | | |
| H | 159100 | 795.5 | | |

| NR Band 25 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 35MHz | | Bandwidth 40MHz | |
| | 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 | 370500 | 1852.5 | 371000 | 1855 | 371500 | 1857.5 | 372000 | 1860 | 372500 | 1862.5 | 373000 | 1865 | 373500 | 1867.5 | 374000 | 1870 |
| M | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 | 376500 | 1882.5 |
| H | 382500 | 1912.5 | 382000 | 1910 | 381500 | 1907.5 | 381000 | 1905 | 380500 | 1902.5 | 380000 | 1900 | 379500 | 1897.5 | 379000 | 1895 |

| 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 30 | | | | |
|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 461500 | 2307.5 | 462000 | 2310 |
| M | 462000 | 2310 | | |
| H | 462500 | 2312.5 | | |

| NR Band 66 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 35MHz | | Bandwidth 40MHz | |
| | 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 | 342500 | 1712.5 | 343000 | 1715 | 343500 | 1717.5 | 344000 | 1720 | 344500 | 1722.5 | 345000 | 1725 | 345500 | 1727.5 | 346000 | 1730 |
| M | 349000 | 1745 | 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 | 352500 | 1762.5 | 352000 | 1760 |

| NR Band 70 | | | | | | |
|---|---|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 339500 | 1697.5 | 340000 | 1700 | 340500 | 1702.5 |
| M | 340500 | 1702.5 | 340500 | 1702.5 | | |
| H | 341500 | 1707.5 | 341000 | 1705 | | |

| NR Band 71 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 5MHz | | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 35MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 133100 | 665.5 | 133600 | 668 | 134100 | 670.5 | 134600 | 673 | 135100 | 675.5 | 135600 | 678 | | |
| M | 136100 | 680.5 | 136100 | 680.5 | 136100 | 680.5 | 136100 | 680.5 | 136100 | 680.5 | 136100 | 680.5 | 136100 | 680.5 |
| H | 139100 | 695.5 | 138600 | 693 | 138100 | 690.5 | 137600 | 688 | 137100 | 685.5 | 136600 | 683 | | |

| NR Band 38 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth10MHz | | 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) |
| L | 515004 | 2575.02 | 515502 | 2577.51 | 516000 | 2580 | 516504 | 2582.52 | 517002 | 2585.01 | 518004 | 2590.02 |
| M | 519000 | 2595 | 519000 | 2595 | 519000 | 2595 | 519000 | 2595 | 519000 | 2595 | 519000 | 2595 |
| H | 522996 | 2614.98 | 522498 | 2612.49 | 522000 | 2610 | 521496 | 2607.48 | 520998 | 2604.99 | 519996 | 2599.98 |

| NR Band 41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 35MHz | | Bandwidth 40MHz | | Bandwidth 45MHz | | Bandwidth 50MHz | | Bandwidth 60MHz | | Bandwidth 70MHz | | Bandwidth 80MHz | | Bandwidth 90MHz | | Bandwidth 100MHz | |
| | 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) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 500202 | 2501.01 | 500700 | 2503.5 | 501204 | 2506.02 | 501702 | 2508.51 | 502200 | 2511 | 502704 | 2513.52 | 503202 | 2516.01 | 503700 | 2518.5 | 504204 | 2521.02 | 505200 | 2526 | 500202 | 2501.01 | 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 | 518598 | 2592.99 | 518598 | 2592.99 | 518598 | 2592.99 |
| H | 537000 | 2685 | 536496 | 2682.48 | 535998 | 2679.99 | 535500 | 2677.5 | 534996 | 2674.98 | 534498 | 2672.49 | 534000 | 2670 | 533496 | 2667.48 | 532998 | 2664.99 | 531996 | 2659.98 | 531000 | 2655 | 529998 | 2649.99 | 528996 | 2644.98 | 528000 | 2640 |

| NR Band 48 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth15MHz | | Bandwidth 20MHz | | Bandwidth 30MHz | | Bandwidth 40MHz | |
| | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) | Ch. # | Freq. (MHz) |
| L | 637000 | 3555 | 637168 | 3557.52 | 637334 | 3560.01 | 637668 | 3565.02 | 638000 | 3570 |
| M | 641666 | 3624.99 | 641666 | 3624.99 | 641666 | 3624.99 | 641666 | 3624.99 | 641666 | 3624.99 |
| H | 646332 | 3694.98 | 646166 | 3692.49 | 646000 | 3690 | 645666 | 3684.99 | 645332 | 3679.98 |

| NR Band 77 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 40MHz | | Bandwidth 50MHz | | Bandwidth 60MHz | | Bandwidth 70MHz | | Bandwidth 80MHz | | Bandwidth 90MHz | | Bandwidth 100MHz | |
| | 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) | 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 | 3840.00 | 656000 | 3840.00 | 656000 | 3840 | 656000 | 3840 | 656000 | 3840 | 656000 | 3840 | 656000 | 3840 | 656000 | 3840 | 656000 | 3840 |
| H | 665000 | 3975 | 664834 | 3972.51 | 664668 | 3970.02 | 664500 | 3967.50 | 664334 | 3965.01 | 664000 | 3960 | 663668 | 3955.02 | 663334 | 3950.01 | 663000 | 3945 | 662668 | 3940.02 | 662334 | 3935.01 | 662000 | 3930 |

| NR Band 78 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 40MHz | | Bandwidth 50MHz | | Bandwidth 60MHz | | Bandwidth 70MHz | | Bandwidth 80MHz | | Bandwidth 90MHz | | Bandwidth 100MHz | |
| | 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) | 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 | | |
| M | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750.00 | 650000 | 3750.00 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 | 650000 | 3750 |
| H | 653000 | 3795 | 652834 | 3792.51 | 652668 | 3790.02 | 652500 | 3787.5 | 652334 | 3785.01 | 652000 | 3780 | 651668 | 3775.02 | 651334 | 3770.01 | 651000 | 3765 | 650668 | 3760.02 | 650334 | 3755.01 | | |

| NR Band 77 SCS30KHz | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 40MHz | | Bandwidth 50MHz | | Bandwidth 60MHz | | Bandwidth 70MHz | | Bandwidth 80MHz | | Bandwidth 90MHz | | Bandwidth 100MHz | |
| | 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) | 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 | | |
| M | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 |
| H | 636334 | 3545.01 | 636168 | 3542.52 | 636000 | 3540 | 635834 | 3537.51 | 635668 | 3535.02 | 635334 | 3530.01 | 635000 | 3525 | 634668 | 3520.02 | 634334 | 3515.01 | 634000 | 3510 | 633668 | 3505.02 | | |

| NR Band 78 SCS30KHz | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bandwidth 10MHz | | Bandwidth 15MHz | | Bandwidth 20MHz | | Bandwidth 25MHz | | Bandwidth 30MHz | | Bandwidth 40MHz | | Bandwidth 50MHz | | Bandwidth 60MHz | | Bandwidth 70MHz | | Bandwidth 80MHz | | Bandwidth 90MHz | | Bandwidth 100MHz | |
| | 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) | 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 | | |
| M | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 | 633334 | 3500.01 |
| H | 636334 | 3545.01 | 636168 | 3542.52 | 636000 | 3540 | 635834 | 3537.51 | 635668 | 3535.02 | 635334 | 3530.01 | 635000 | 3525 | 634668 | 3520.02 | 634334 | 3515.01 | 634000 | 3510 | 633668 | 3505.02 | | |

## <u><For NR Overlap Bands Description></u>

1) NR Bands BW

| Band | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 35MHz | 40 MHz | 45 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100MHz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FR1 n5 | Yes | Yes | Yes | Yes | | | | | | | | | | | |
| FR1 n26 | Yes | Yes | Yes | Yes | | | | | | | | | | | |
| FR1 n38 | | Yes | Yes | Yes | Yes | Yes | | Yes | | | | | | | |
| FR1 n41 | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| FR1 n2 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | | |
| FR1 n25 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | | |
| FR1 n77 | | Yes | Yes | Yes | Yes | Yes | | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| FR1 n78 | | Yes | Yes | Yes | Yes | Yes | | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |

2) NR Bands Tune up:

| Band | Antenna | Head ECI 2 Tune-up Limit | Bodyworn ECI 3 Tune-up Limit | Hotspot ECI 7 Tune-up Limit | Extremity ECI 6 Tune-up Limit | Sensor Off ECI 4 Tune-up Limit | Default Tune-up Limit |
|---|---|---|---|---|---|---|---|
| FR1 n25(2) | Ant 0 | 24 | 19.6 | 19.6 | 22.1 | 24 | 24 |
| FR1 n25(2) | Ant 1 | 16.4 | 17.6 | 13.1 | 20.6 | 24 | 24 |
| FR1 n25(2) | Ant 5 | 24 | 24 | 24 | 24 | 24 | 24 |
| FR1 n25(2) other PA | Ant 0 | 24 | 19.6 | 19.6 | 22.1 | 24 | 24 |
| FR1 n25(2) other PA | Ant 1 | 16.4 | 17.6 | 13.1 | 20.6 | 24 | 24 |
| FR1 n26(5) | Ant 0 | 24 | 23.6 | 23.6 | 24 | 24 | 24 |
| FR1 n26(5) | Ant 1 | 24 | 24 | 23.1 | 24 | 24 | 24 |
| FR1 n41(38) | Ant 0 | 24 | 17.4 | 17.4 | 20.8 | 24 | 24 |
| FR1 n41(38)HPUE | Ant 0 | 26 | 17.4 | 17.4 | 20.8 | 26 | 26 |
| FR1 n41(38) other PA | Ant 0 | 24 | 17.4 | 17.4 | 20.8 | 24 | 24 |
| FR1 n41(38)HPUE other PA | Ant 0 | 26 | 17.4 | 17.4 | 20.8 | 26 | 26 |
| FR1 n41(38) | Ant 1 | 17.3 | 18.7 | 13.9 | 21.5 | 24 | 24 |
| FR1 n41(38)HPUE | Ant 1 | 17.3 | 18.7 | 13.9 | 21.5 | 26 | 26 |
| FR1 n41(38) other PA | Ant 1 | 17.3 | 18.7 | 13.9 | 21.5 | 24 | 24 |
| FR1 n41(38)HPUE other PA | Ant 1 | 17.3 | 18.7 | 13.9 | 21.5 | 26 | 26 |
| FR1 n41(38) | Ant 2 | 24 | 21.5 | 21.5 | 23.5 | 24 | 24 |
| FR1 n41(38)HPUE | Ant 2 | 27 | 21.5 | 21.5 | 23.5 | 27 | 27 |
| FR1 n41(38) other PA | Ant 2 | 24 | 21.5 | 21.5 | 23.5 | 24 | 24 |
| FR1 n41(38) | Ant 10 | 24 | 18 | 16.4 | 23.7 | 23.7 | 24 |
| FR1 n41(38)HPUE | Ant 10 | 27 | 18 | 16.4 | 23.7 | 23.7 | 27 |
| FR1 n41(38) other PA | Ant 10 | 24 | 18 | 16.4 | 23.7 | 23.7 | 24 |
| FR1 n41(38)HPUE other PA | Ant 10 | 27 | 18 | 16.4 | 23.7 | 23.7 | 27 |
| FR1 n77(78) PC3 | Ant 2 | 24 | 22.8 | 19.3 | 20.8 | 24 | 24 |
| FR1 n77(78) PC2 | Ant 2 | 27 | 22.8 | 19.3 | 20.8 | 27 | 27 |
| FR1 n77(78) PC3 other PA | Ant 2 | 24 | 22.8 | 19.3 | 20.8 | 24 | 24 |
| FR1 n77(78) PC3 | Ant 4 | 16.2 | 15.8 | 13 | 18.7 | 24 | 24 |
| FR1 n77(78) PC2 | Ant 4 | 16.2 | 15.8 | 13 | 18.7 | 27 | 27 |
| FR1 n77(78) PC3 other PA | Ant 4 | 16.2 | 15.8 | 13 | 18.7 | 23 | 23 |
| FR1 n77(78) PC3 | Ant 6 | 17 | 19.7 | 16.5 | 21.6 | 22.5 | 22.5 |
| FR1 n77(78) PC2 other PA | Ant 6 | 17 | 19.7 | 16.5 | 21.6 | 27 | 27 |
| FR1 n77(78) PC3 other PA | Ant 6 | 17 | 19.7 | 16.5 | 21.6 | 24 | 24 |
| FR1 n77(78) PC3 | Ant 7 | 13.5 | 17.5 | 14.1 | 18 | 18 | 22.5 |
| FR1 n77(78) PC2 other PA | Ant 7 | 13.5 | 17.5 | 14.1 | 18 | 18 | 27 |
| FR1 n77(78) PC3 other PA | Ant 7 | 13.5 | 17.5 | 14.1 | 18 | 18 | 24 |

# 5. TA-SAR feature for RF Exposure compliance

WWAN bands are all enabled with MediaTek TA-SAR Gen2 feature to improve antenna performance by applying separate SAR budgets to each predefined antenna group. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time.

Note that WLAN/BT operations are not enabled with TA-SAR Gen2 feature.

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements MediaTek TA-SAR feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

The purpose of this report (Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

The Plimit values correspond to SAR_design_target. The power will be fixed at the static reduce power level at different exposure conditions for RF exposure compliance. For the GSM (TDD) Plimit power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for TA-SAR Gen2 algorithm. SAR char will be entered via the MediaTek's NV suggestion to enable the TA-SAR Gen2 Feature.

**<Terminologies in this report>**

| | |
|---|---|
| $P_{limit}$ | The time-averaged RF power which corresponds to SAR_design_target. |
| $P_{max}$ | Maximum target power level |
| SAR_design_target: | The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty. |
| SAR char | $P_{limit}$ for all the technologies/bands for all applicable ECI |

**<SAR Characterization>**

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for TA-SAR Gen2 algorithm to control and manage RF exposure for f < 6 GHz.

## SPLSR_Group (Antenna Group):

| | |
|---|---|
| Antenna Group 0 (AG0) | ANT0 & ANT2 |
| Antenna Group 1 (AG1) | ANT1 & ANT4 & ANT5 & ANT6 & ANT7& ANT10 |

**<SAR design target and uncertainty>**

| Item | Uncertainty dB (k=2) |
| --- | --- |
| Total uncertainty | 1.5 |

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR\_design\_target < SAR_{regulatory\_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

The TA-SAR Gen2 algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

TA-SAR allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit.

**<Plimit for supported technologies and bands >**

| Band | Antenna | Head ECI2 | Body-worn ECI 3 | Hotspot ECI 7 | Extremity ECI 6 | Sensor off ECI 4 | Pmax* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| GSM850 | Ant 0 | 33.5 | 26.1 | 26.1 | 29.0 | 25.5 | 25.5 |
| GSM1900 | Ant 0 | 32.1 | 20.3 | 20.3 | 23.6 | 22.5 | 22.5 |
| WCDMA II | Ant 0 | 29.7 | 19.2 | 19.2 | 22.9 | 23.0 | 23.0 |
| WCDMA II | Ant 1 | 15.6 | 16.5 | 14.7 | 21.0 | 23.0 | 23.0 |
| WCDMA IV | Ant 0 | 29.9 | 19.2 | 19.2 | 22.4 | 23.0 | 23.0 |
| WCDMA IV | Ant 1 | 17.0 | 19.2 | 16.7 | 21.0 | 23.0 | 23.0 |
| WCDMA V | Ant 0 | 31.4 | 23.4 | 23.4 | 26.1 | 23.0 | 23.0 |
| WCDMA V | Ant 1 | 22.6 | 23.7 | 23.4 | 23.0 | 23.0 | 23.0 |
| LTE Band 71 | Ant 0 | 33.3 | 24.8 | 24.8 | 27.1 | 23.0 | 23.0 |
| LTE Band 71 | Ant 1 | 20.8 | 24.3 | 22.7 | 23.0 | 23.0 | 23.0 |
| LTE Band 7 | Ant 2 | 30.6 | 20.2 | 20.2 | 22.1 | 23.0 | 23.0 |
| LTE Band 12(17) | Ant 0 | 31.6 | 23.9 | 23.9 | 25.4 | 23.0 | 23.0 |
| LTE Band 12(17) | Ant 1 | 23.2 | 27.7 | 25.5 | 23.0 | 23.0 | 23.0 |
| LTE Band 13 | Ant 0 | 31.4 | 24.6 | 24.6 | 23.0 | 23.0 | 23.0 |
| LTE Band 13 | Ant 1 | 22.9 | 25.6 | 24.0 | 23.0 | 23.0 | 23.0 |
| LTE Band 14 | Ant 0 | 30.2 | 23.6 | 23.6 | 23.0 | 23.0 | 23.0 |
| LTE Band 14 | Ant 1 | 22.7 | 25.0 | 23.5 | 23.0 | 23.0 | 23.0 |
| LTE Band 26(5) | Ant 0 | 30.1 | 23.6 | 23.6 | 23.0 | 23.0 | 23.0 |
| LTE Band 26(5) | Ant 1 | 22.7 | 24.5 | 23.0 | 23.0 | 23.0 | 23.0 |
| LTE Band 66(4) | Ant 0 | 28.4 | 18.2 | 18.2 | 21.6 | 23.0 | 23.0 |
| LTE Band 66(4) | Ant 1 | 16.2 | 17.7 | 15.2 | 20.7 | 23.0 | 23.0 |
| LTE Band 66(4) other PA | Ant 0 | 28.4 | 18.2 | 18.2 | 21.6 | 23.0 | 23.0 |
| LTE Band 66(4) other PA | Ant 1 | 16.2 | 17.7 | 15.7 | 20.7 | 23.0 | 23.0 |
| LTE Band 25(2) | Ant 0 | 28.9 | 18.1 | 18.1 | 21.3 | 23.0 | 23.0 |
| LTE Band 25(2) | Ant 1 | 15.1 | 16.9 | 13.7 | 20.0 | 23.0 | 23.0 |
| LTE Band 25(2) other PA | Ant 0 | 28.9 | 18.1 | 18.1 | 21.3 | 23.0 | 23.0 |
| LTE Band 25(2) other PA | Ant 1 | 15.1 | 16.9 | 13.7 | 20.0 | 23.0 | 23.0 |
| LTE Band 30 | Ant 1 | 13.9 | 19.2 | 15.9 | 20.7 | 23.0 | 23.0 |
| LTE Band 30 | Ant 2 | 31.6 | 21.4 | 21.4 | 23.1 | 23.0 | 23.0 |
| LTE Band 41(38) | Ant 0 | 41.1 | 17.1 | 17.1 | 21.4 | 21.4 | 21.0 |
| LTE Band 41 HPUE | Ant 0 | 41.1 | 17.1 | 17.1 | 21.4 | 21.4 | 21.4 |
| LTE Band 41(38) | Ant 1 | 17.5 | 18.5 | 15.6 | 21.4 | 21.4 | 21.0 |
| LTE Band 41 HPUE | Ant 1 | 17.5 | 18.5 | 15.6 | 21.4 | 21.4 | 21.4 |
| LTE Band 41(38) | Ant 2 | 31.0 | 20.8 | 18.9 | 22.4 | 22.4 | 21.0 |
| LTE Band 41 HPUE | Ant 2 | 31.0 | 20.8 | 18.9 | 22.4 | 22.4 | 22.4 |
| LTE Band 41(38) | Ant 10 | 38.8 | 15.9 | 15.0 | 21.0 | 21.0 | 21.0 |
| LTE Band 41 HPUE | Ant 10 | 38.8 | 15.9 | 15.0 | 21.0 | 21.0 | 20.4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LTE Band 41(38) other PA | Ant 0 | 41.1 | 17.1 | 17.1 | 22.4 | 21.4 | 20.0 |
| LTE Band 41 HPUE other PA | Ant 0 | 41.1 | 17.1 | 17.1 | 21.4 | 21.4 | 21.4 |
| LTE Band 41(38) other PA | Ant 1 | 17.5 | 18.5 | 15.6 | 22.4 | 22.4 | 21.0 |
| LTE Band 41 HPUE other PA | Ant 1 | 17.5 | 18.5 | 15.6 | 22.4 | 22.4 | 22.4 |
| LTE Band 41(38) other PA | Ant 2 | 31.0 | 20.8 | 18.9 | 22.4 | 22.4 | 21.0 |
| LTE Band 41 HPUE other PA | Ant 2 | 31.0 | 20.8 | 18.9 | 22.4 | 22.4 | 22.4 |
| LTE Band 41(38) other PA | Ant 10 | 38.8 | 15.9 | 15.0 | 22.4 | 22.4 | 21.0 |
| LTE Band 41 HPUE other PA | Ant 10 | 38.8 | 15.9 | 15.0 | 22.4 | 22.4 | 22.4 |
| LTE Band 42 | Ant 4 | 16.0 | 15.8 | 11.8 | 18.7 | 21.0 | 21.0 |
| LTE Band 42 | Ant 7 | 14.3 | 17.6 | 14.9 | 18.9 | 18.5 | 18.5 |
| LTE Band 42 | Ant 2 | 24.0 | 21.2 | 20.4 | 21.3 | 21.0 | 21.0 |
| LTE Band 42 | Ant 6 | 18.3 | 17.9 | 16.8 | 21.0 | 20.0 | 20.0 |
| LTE Band 48 | Ant 2 | 26.7 | 21.9 | 18.3 | 20.7 | 21.0 | 21.0 |
| LTE Band 48 | Ant 4 | 16.8 | 15.6 | 11.7 | 18.7 | 21.0 | 21.0 |
| LTE Band 48 | Ant 6 | 18.5 | 18.3 | 17.0 | 21.4 | 20.0 | 20.0 |
| LTE Band 48 | Ant 7 | 13.6 | 17.3 | 14.7 | 18.6 | 18.6 | 19.0 |
| FR1 n71 | Ant 0 | 35.4 | 25.6 | 25.6 | 27.6 | 23.0 | 23.0 |
| FR1 n71 | Ant 1 | 23.5 | 26.0 | 24.4 | 23.0 | 23.0 | 23.0 |
| FR1 n7 | Ant 2 | 31.7 | 20.7 | 19.9 | 22.1 | 23.0 | 23.0 |
| FR1 n12 | Ant 0 | 32.6 | 25.4 | 25.4 | 26.1 | 23.0 | 23.0 |
| FR1 n12 | Ant 1 | 25.6 | 27.3 | 25.8 | 23.0 | 23.0 | 23.0 |
| FR1 n14 | Ant 0 | 33.6 | 24.5 | 24.5 | 26.4 | 23.0 | 23.0 |
| FR1 n14 | Ant 1 | 23.4 | 24.6 | 23.1 | 23.0 | 23.0 | 23.0 |
| FR1 n25(2) | Ant 0 | 32.0 | 18.6 | 18.6 | 21.1 | 23.0 | 23.0 |
| FR1 n25(2) | Ant 1 | 15.4 | 16.6 | 12.1 | 19.6 | 23.0 | 23.0 |
| FR1 n25(2) | Ant 5 | 26.0 | 26.3 | 23.1 | 23.0 | 23.0 | 23.0 |
| FR1 n25(2) other PA | Ant 0 | 32.0 | 18.6 | 18.6 | 21.1 | 23.0 | 23.0 |
| FR1 n25(2) other PA | Ant 1 | 15.4 | 16.6 | 13.8 | 19.6 | 23.0 | 23.0 |
| FR1 n26(5) | Ant 0 | 33.7 | 22.6 | 22.6 | 23.0 | 23.0 | 23.0 |
| FR1 n26(5) | Ant 1 | 23.4 | 23.7 | 22.1 | 23.0 | 23.0 | 23.0 |
| FR1 n30 | Ant 1 | 15.3 | 21.7 | 17.1 | 23.8 | 23.0 | 23.0 |
| FR1 n30 | Ant 2 | 25.1 | 19.4 | 18.8 | 21.2 | 23.0 | 23.0 |
| FR1 n66 | Ant 0 | 33.0 | 17.2 | 17.2 | 20.1 | 23.0 | 23.0 |
| FR1 n66 | Ant 1 | 16.8 | 16.9 | 13.8 | 19.5 | 23.0 | 23.0 |
| FR1 n66 | Ant 5 | 32.6 | 34.8 | 29.2 | 23.0 | 23.0 | 23.0 |
| FR1 n66 other PA | Ant 0 | 33.0 | 17.2 | 17.2 | 20.1 | 23.0 | 23.0 |
| FR1 n66 other PA | Ant 1 | 16.8 | 16.9 | 14.9 | 20.4 | 23.0 | 23.0 |
| FR1 n70 | Ant 0 | 33.9 | 18.1 | 18.1 | 20.7 | 23.0 | 23.0 |
| FR1 n70 | Ant 1 | 17.5 | 18.7 | 14.2 | 20.3 | 23.0 | 23.0 |
| FR1 n70 | Ant 5 | 33.7 | 33.9 | 30.5 | 23.0 | 23.0 | 23.0 |
| FR1 n70 other PA | Ant 0 | 33.9 | 18.1 | 18.1 | 20.7 | 23.0 | 23.0 |
| FR1 n70 other PA | Ant 1 | 17.5 | 19.4 | 16.4 | 20.3 | 23.0 | 23.0 |
| FR1 n41(38) | Ant 0 | 38.0 | 16.4 | 16.4 | 19.8 | 25.0 | 23.0 |
| FR1 n41(38) | Ant 1 | 16.3 | 17.7 | 12.9 | 20.5 | 25.0 | 23.0 |
| FR1 n41(38) | Ant 2 | 33.1 | 20.5 | 20.5 | 22.5 | 26.0 | 23.0 |
| FR1 n41(38) | Ant 10 | 35.0 | 17.0 | 15.4 | 22.7 | 22.7 | 23.0 |
| FR1 n41 other PA | Ant 0 | 38.0 | 16.4 | 16.4 | 19.8 | 25.0 | 23.0 |
| FR1 n41 other PA | Ant 1 | 16.3 | 17.7 | 12.9 | 20.5 | 25.0 | 23.0 |
| FR1 n41 other PA | Ant 2 | 33.1 | 20.5 | 20.5 | 22.5 | 26.0 | 23.0 |
| FR1 n41 other PA | Ant 10 | 35.0 | 17.0 | 15.4 | 22.7 | 22.7 | 23.0 |
| FR1 n41(38)HPUE | Ant 0 | 38.0 | 16.4 | 16.4 | 19.8 | 25.0 | 25.0 |
| FR1 n41(38)HPUE | Ant 1 | 16.3 | 17.7 | 12.9 | 20.5 | 25.0 | 25.0 |
| FR1 n41(38)HPUE | Ant 2 | 33.1 | 20.5 | 20.5 | 22.5 | 26.0 | 26.0 |
| FR1 n41(38)HPUE | Ant 10 | 35.0 | 17.0 | 15.4 | 22.7 | 22.7 | 26.0 |
| FR1 n41 HPUE other PA | Ant 0 | 38.0 | 16.4 | 16.4 | 19.8 | 25.0 | 25.0 |
| FR1 n41 HPUE other PA | Ant 1 | 16.3 | 17.7 | 12.9 | 20.5 | 25.0 | 25.0 |

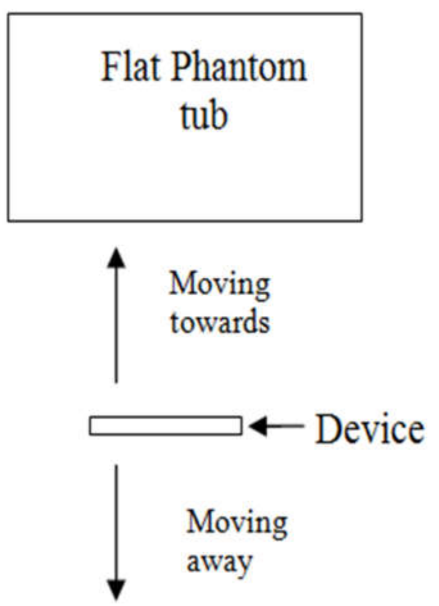
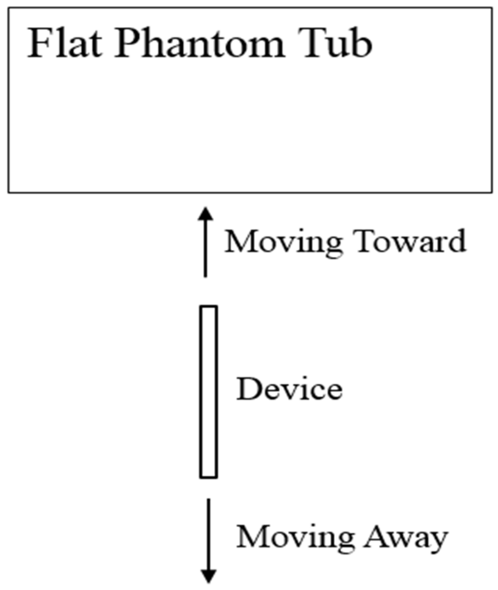
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FR1 n41 HPUE other PA | Ant 10 | 35.0 | 17.0 | 15.4 | 22.7 | 22.7 | 26.0 |
| FR1 n48 | Ant 2 | 27.5 | 20.2 | 15.9 | 18.1 | 23.0 | 23.0 |
| FR1 n48 | Ant 4 | 15.6 | 14.5 | 11.5 | 19.0 | 23.0 | 23.0 |
| FR1 n48 | Ant 6 | 18.2 | 18.7 | 17.3 | 23.3 | 22.0 | 22.0 |
| FR1 n48 | Ant 7 | 10.8 | 18.0 | 13.7 | 19.1 | 19.1 | 22.0 |
| FR1 n77(78) | Ant 2 | 29.1 | 21.8 | 18.3 | 19.8 | 26.0 | 23.0 |
| FR1 n77(78) | Ant 4 | 15.2 | 14.8 | 12.0 | 17.7 | 26.0 | 23.0 |
| FR1 n77(78) | Ant 6 | 16.0 | 18.7 | 15.5 | 20.6 | 26.0 | 21.5 |
| FR1 n77(78) | Ant 7 | 12.5 | 16.5 | 13.1 | 17.0 | 17.0 | 21.5 |
| FR1 n77(78) other PA | Ant 2 | 29.1 | 21.8 | 18.3 | 19.8 | 26.0 | 23.0 |
| FR1 n77(78) other PA | Ant 4 | 15.2 | 14.8 | 12.0 | 17.7 | 26.0 | 22.0 |
| FR1 n77(78) other PA | Ant 6 | 16.0 | 18.7 | 15.5 | 20.6 | 26.0 | 23.0 |
| FR1 n77(78) other PA | Ant 7 | 12.5 | 16.5 | 13.1 | 17.0 | 17.0 | 23.0 |
| FR1 n77(78) HPUE | Ant 2 | 29.1 | 21.8 | 18.3 | 19.8 | 26.0 | 26.0 |
| FR1 n77(78) HPUE | Ant 4 | 15.2 | 14.8 | 12.0 | 17.7 | 26.0 | 26.0 |
| FR1 n77(78) HPUE other PA | Ant 6 | 16.0 | 18.7 | 15.5 | 20.6 | 26.0 | 26.0 |
| FR1 n77(78) HPUE other PA | Ant 7 | 12.5 | 16.5 | 13.1 | 17.0 | 17.0 | 26.0 |

Note:
1) *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1.0 dB device uncertainty.
2) All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.

# 6. Proximity Sensor Triggering Test

**<Proximity Sensor Triggering Distance>:**

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (7125MHz) and lowest frequency (1750MHz) was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:

| | |
|---|---|
|  |  |
| Sensor/Handheld detection test set-up, Front and Back sides | Handheld detection test set-up, Left Side, Right Side, Bottom Side and Top Side |

## <P-Sensor>

| Proximity Sensor Triggering Distance (mm) | | | | |
|---|---|---|---|---|
| Position | Front | | Back | |
| | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 16 | 21 | 19 | 24 |

## <Handheld for ANT 0>

| Proximity Sensor Triggering Distance (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Position | Front | | Back | | Left Side | | Bottom Side | |
| | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 5 | 11 | 14 | 20 | 8 | 13 | 10 | 15 |

## <Handheld for ANT1>

| Proximity Sensor Triggering Distance (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Position | Front | | Back | | Left Side | | Top Side | |
| | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 6 | 12 | 8 | 13 | 3 | 8 | 10 | 15 |

## <Handheld for ANT 2>

| Proximity Sensor Triggering Distance (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Position | Front | | Back | | Right Side | | Bottom Side | |
| | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 10 | 15 | 13 | 19 | 12 | 18 | 11 | 16 |

## <Handheld for ANT 4>

| Proximity Sensor Triggering Distance (mm) | | | | | | |
|---|---|---|---|---|---|---|
| Position | Front | | Back | | Left Side | |
| | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 2 | 6 | 7 | 12 | 9 | 15 |

## <Handheld for ANT3&6>

| Proximity Sensor Triggering Distance (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Position | Front | | Back | | Right Side | | Top Side | |
| | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum | 5 | 11 | 9 | 15 | 9 | 14 | 8 | 13 |

# 7. RF Exposure Limits

## 7.1 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.

## 7.2 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 |

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.

# 8. Specific Absorption Rate (SAR)

## 8.1 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.

## 8.2 SAR Definition

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

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

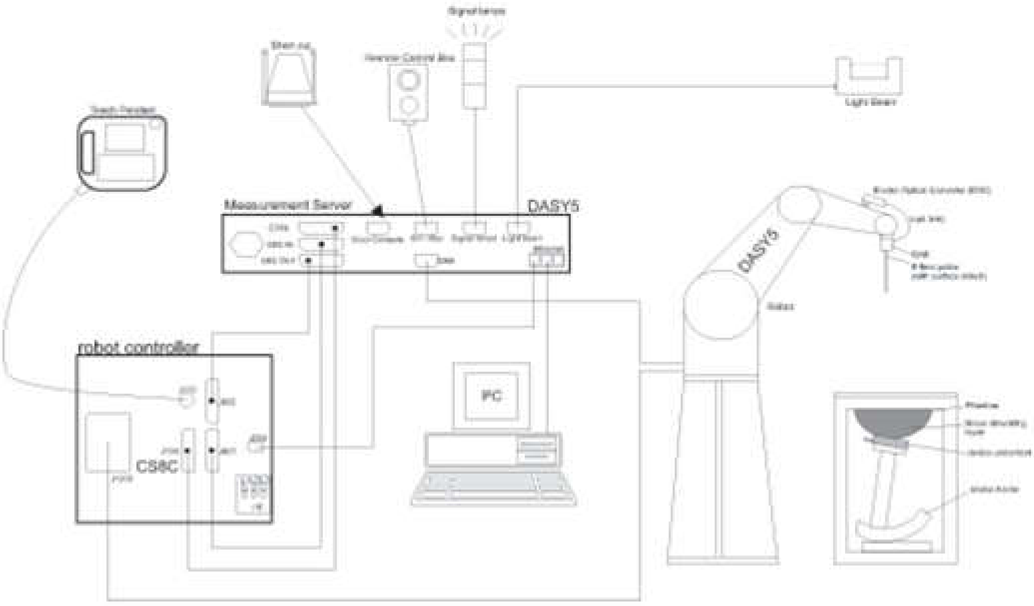
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

# 9. System Description and Setup

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




- 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 WinXP or Win7 and the DASY5 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.

## 9.1 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.

**<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** | 4 MHz – 10 GHz<br>Linearity: ±0.2 dB (30 MHz – 10 GHz) | |
| **Directivity** | ±0.3 dB in TSL (rotation around probe axis)<br>±0.5 dB in TSL (rotation normal to probe axis) | |
| **Dynamic Range** | 10 µW/g – >100 mW/g<br>Linearity: ±0.2 dB (noise: typically <1 µW/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 | |

## 9.2 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.

**Photo of DAE**

## 9.3 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: 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 |

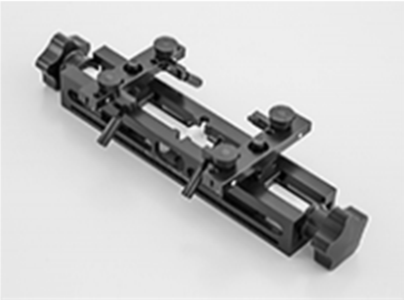
The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

## 9.4 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

# 10. 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/BT power measurement, use engineering software to configure EUT WLAN/BT 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/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D 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

## 10.1 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 form 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

## 10.2 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.

## 10.3 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 dB0 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.

| | ≤ 3 GHz | > 3 GHz |
|---|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | 5 ± 1 mm | ½·δ·ln(2) ± 0.5 mm |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location | 30° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: $\Delta x_{Area}$, $\Delta y_{Area}$ | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm |
| | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. | |

## *10.4 Zoom Scan*

Zoom scans are used 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 shoes 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.

<table>
<tr><th colspan="3"></th><th>$\leq$ 3 GHz</th><th>$>$ 3 GHz</th></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$, $\Delta y_{Zoom}$</td><td>$\leq$ 2 GHz: $\leq$ 8 mm<br>2 – 3 GHz: $\leq$ 5 mm*</td><td>3 – 4 GHz: $\leq$ 5 mm*<br>4 – 6 GHz: $\leq$ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>$\leq$ 5 mm</td><td>3 – 4 GHz: $\leq$ 4 mm<br>4 – 5 GHz: $\leq$ 3 mm<br>5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>$\leq$ 4 mm</td><td>3 – 4 GHz: $\leq$ 3 mm<br>4 – 5 GHz: $\leq$ 2.5 mm<br>5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>$\geq$ 30 mm</td><td>3 – 4 GHz: $\geq$ 28 mm<br>4 – 5 GHz: $\geq$ 25 mm<br>5 – 6 GHz: $\geq$ 22 mm</td></tr>
<tr><td colspan="5">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.<br>* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation 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.</td></tr>
</table>

## *10.5 Volume Scan Procedures*

The volume scan is used for 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.

## *10.6 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.

# 11. Test Equipment List

| Manufacturer | Name of Equipment | Type/Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Last Cal. | Due Date |
| SPEAG | 750MHz System Validation Kit | D750V3 | 1087 | 2022/2/24 | 2025/2/22 |
| SPEAG | 835MHz System Validation Kit | D835V2 | 4d162 | 2024/12/13 | 2025/12/12 |
| SPEAG | 1750MHz System Validation Kit | D1750V2 | 1090 | 2022/2/24 | 2025/2/22 |
| SPEAG | 1900MHz System Validation Kit | D1900V2 | 5d118 | 2022/3/30 | 2025/3/28 |
| SPEAG | 2300MHz System Validation Kit | D2300V2 | 1055 | 2023/8/21 | 2026/8/20 |
| SPEAG | 2450MHz System Validation Kit | D2450V2 | 1095 | 2024/2/8 | 2027/2/7 |
| SPEAG | 2600MHz System Validation Kit | D2600V2 | 1112 | 2023/12/18 | 2026/12/17 |
| SPEAG | 3500MHz System Validation Kit | D3500V2 | 1037 | 2023/11/20 | 2026/11/19 |
| SPEAG | 3700MHz System Validation Kit | D3700V2 | 1008 | 2023/11/20 | 2026/11/19 |
| SPEAG | 3900MHz System Validation Kit | D3900V2 | 1048 | 2023/3/9 | 2026/3/8 |
| SPEAG | 5000MHz System Validation Kit | D5GHzV2 | 1113 | 2022/9/23 | 2025/9/22 |
| SPEAG | Data Acquisition Electronics | DAE4 | 1338 | 2024/3/18 | 2025/3/17 |
| SPEAG | Dosimetric E-Field Probe | EX3DV4 | 7630 | 2024/8/22 | 2025/8/21 |
| SPEAG | Dosimetric E-Field Probe | EX3DV4 | 7764 | 2024/9/2 | 2025/9/1 |
| SPEAG | SAM Twin Phantom | SAM Twin | TP-1754 | NCR | NCR |
| CHIGO | Thermo-Hygrometer | HTC-1 | 1929537 | 2024/5/15 | 2025/5/14 |
| SPEAG | Phone Positioner | N/A | N/A | NCR | NCR |
| Rohde & Schwarz | Signal Generator | SMB100A | 100455 | 2025/1/2 | 2026/1/1 |
| Keysight | Preamplifier | 83017A | MY57280106 | 2024/4/18 | 2025/4/17 |
| Anritsu | Radio Communication Analyzer | MT8821C | 6262306175 | 2024/7/4 | 2025/7/3 |
| Agilent | ENA Series Network Analyzer | E5071C | MY46112129 | 2024/7/4 | 2025/7/3 |
| SPEAG | Dielectric Probe Kit | DAK-3.5 | 1144 | 2024/8/20 | 2025/8/19 |
| Anritsu | Vector Signal Generator | MG3710A | 6201682672 | 2025/1/3 | 2026/1/2 |
| Rohde & Schwarz | Power Meter | NRVD | 102081 | 2024/7/4 | 2025/7/3 |
| Rohde & Schwarz | Power Sensor | NRV-Z5 | 100538 | 2024/7/4 | 2025/7/3 |
| Rohde & Schwarz | Power Sensor | NRV-Z5 | 100539 | 2024/7/4 | 2025/7/3 |
| Rohde & Schwarz | Power Sensor | NRP50S | 101385 | 2024/10/15 | 2025/10/14 |
| R&S | BLUETOOTH TESTER | CBT | 101246 | 2024/7/4 | 2025/7/3 |
| Rohde & Schwarz | Spectrum Analyzer | FSV7 | 101631 | 2024/10/11 | 2025/10/10 |
| TES | DIGITAC THERMOMETER | TYPE-K | 220305411 | 2025/1/2 | 2026/1/1 |
| ARRA | Power Divider | A3200-2 | N/A | Note 1 | |
| MCL | Attenuation1 | BW-S10W5+ | N/A | Note 1 | |
| MCL | Attenuation2 | BW-S10W5+ | N/A | Note 1 | |
| MCL | Attenuation3 | BW-S10W5+ | N/A | Note 1 | |
| BONN | POWER AMPLIFIER | BLMA 0830-3 | 087193A | Note 1 | |
| BONN | POWER AMPLIFIER | BLMA 2060-2 | 087193B | Note 1 | |
| Agilent | Dual Directional Coupler | 778D | 20500 | Note 1 | |
| Agilent | Dual Directional Coupler | 11691D | MY48151020 | Note 1 | |

**Note:**
1. 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.
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

# 12. System Verification

## 12.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.

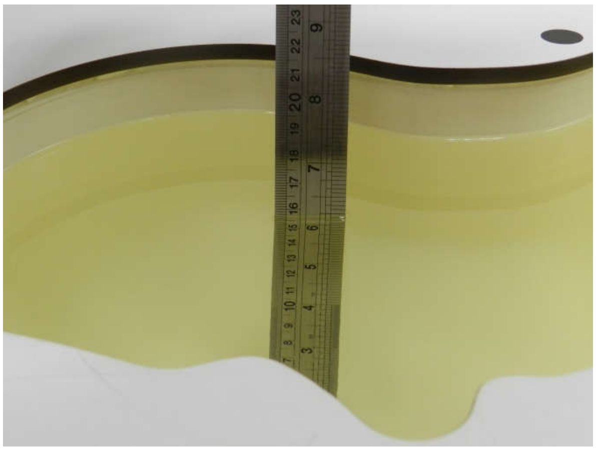


Fig 11.1 Photo of Liquid Height for Head SAR

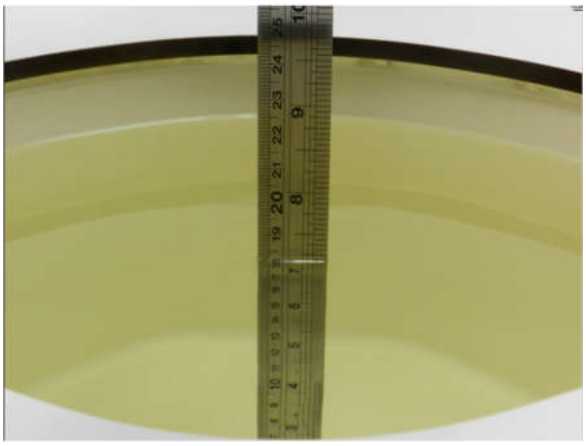


Fig 11.2 Photo of Liquid Height for Body SAR

## 12.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

| Frequency (MHz) | Water (%) | Sugar (%) | Cellulose (%) | Salt (%) | Preventol (%) | DGBE (%) | Conductivity (σ) | Permittivity (εr) |
|---|---|---|---|---|---|---|---|---|
| For Head | | | | | | | | |
| 750 | 41.1 | 57.0 | 0.2 | 1.4 | 0.2 | 0 | 0.89 | 41.9 |
| 835 | 40.3 | 57.9 | 0.2 | 1.4 | 0.2 | 0 | 0.90 | 41.5 |
| 1800, 1900, 2000 | 55.2 | 0 | 0 | 0.3 | 0 | 44.5 | 1.40 | 40.0 |
| 2450 | 55.0 | 0 | 0 | 0 | 0 | 45.0 | 1.80 | 39.2 |
| 2600 | 54.8 | 0 | 0 | 0.1 | 0 | 45.1 | 1.96 | 39.0 |

Simulating Liquid for 5GHz, Manufactured by SPEAG

| Ingredients | (% by weight) |
|---|---|
| Water | 64~78% |
| Mineral oil | 11~18% |
| Emulsifiers | 9~15% |
| Additives and Salt | 2~3% |

## <Tissue Dielectric Parameter Check Results>

| Frequency (MHz) | Tissue Type | Liquid Temp. (℃) | Conductivity (σ) | Permittivity ($\varepsilon_r$) | Conductivity Target (σ) | Permittivity Target ($\varepsilon_r$) | Delta (σ) (%) | Delta ($\varepsilon_r$) (%) | Limit (%) | Date |
|---|---|---|---|---|---|---|---|---|---|---|
| 750 | Head | 22.6 | 0.900 | 41.184 | 0.89 | 41.90 | 1.12 | -1.71 | ±5 | 2025/1/31 |
| 835 | Head | 22.9 | 0.924 | 42.865 | 0.90 | 41.50 | 2.67 | 3.29 | ±5 | 2025/2/1 |
| 1750 | Head | 22.8 | 1.409 | 40.669 | 1.37 | 40.10 | 2.85 | 1.42 | ±5 | 2025/2/2 |
| 1900 | Head | 22.6 | 1.397 | 39.035 | 1.40 | 40.00 | -0.21 | -2.41 | ±5 | 2025/2/3 |
| 2300 | Head | 22.7 | 1.719 | 38.785 | 1.67 | 39.50 | 2.93 | -1.81 | ±5 | 2025/2/4 |
| 2600 | Head | 22.9 | 1.927 | 38.322 | 1.96 | 39.00 | -1.68 | -1.74 | ±5 | 2025/2/5 |
| 3500 | Head | 22.6 | 2.826 | 39.043 | 2.91 | 37.90 | -2.89 | 3.02 | ±5 | 2025/2/6 |
| 3700 | Head | 22.9 | 3.117 | 38.038 | 3.12 | 37.70 | -0.10 | 0.90 | ±5 | 2025/2/7 |
| 3900 | Head | 22.7 | 3.219 | 38.416 | 3.32 | 37.50 | -3.04 | 2.44 | ±5 | 2025/2/8 |
| 750 | Head | 22.8 | 0.898 | 42.323 | 0.89 | 41.90 | 0.90 | 1.01 | ±5 | 2025/2/9 |
| 835 | Head | 22.9 | 0.928 | 42.060 | 0.90 | 41.50 | 3.11 | 1.35 | ±5 | 2025/2/10 |
| 1750 | Head | 22.9 | 1.317 | 40.224 | 1.37 | 40.10 | -3.87 | 0.31 | ±5 | 2025/2/11 |
| 1900 | Head | 22.8 | 1.407 | 40.215 | 1.40 | 40.00 | 0.50 | 0.54 | ±5 | 2025/2/12 |
| 2300 | Head | 22.9 | 1.708 | 39.365 | 1.67 | 39.50 | 2.28 | -0.34 | ±5 | 2025/2/13 |
| 2600 | Head | 22.7 | 2.008 | 40.561 | 1.96 | 39.00 | 2.45 | 4.00 | ±5 | 2025/2/14 |
| 3500 | Head | 22.6 | 2.881 | 38.499 | 2.91 | 37.90 | -1.00 | 1.58 | ±5 | 2025/2/15 |
| 3700 | Head | 22.8 | 3.077 | 38.039 | 3.12 | 37.70 | -1.38 | 0.90 | ±5 | 2025/2/16 |
| 3900 | Head | 22.9 | 3.281 | 37.612 | 3.32 | 37.50 | -1.17 | 0.30 | ±5 | 2025/2/17 |
| 2450 | Head | 22.8 | 1.831 | 37.489 | 1.80 | 39.20 | 1.72 | -4.36 | ±5 | 2025/2/18 |
| 5250 | Head | 22.7 | 4.640 | 36.528 | 4.71 | 35.90 | -1.49 | 1.75 | ±5 | 2025/2/18 |
| 5600 | Head | 22.6 | 4.989 | 35.907 | 5.07 | 35.50 | -1.60 | 1.15 | ±5 | 2025/2/19 |
| 5750 | Head | 22.7 | 5.215 | 35.594 | 5.22 | 35.40 | -0.10 | 0.55 | ±5 | 2025/2/19 |

## 12.3 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.

**<1g SAR>**

| Date | Frequency (MHz) | Tissue Type | 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 (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2025/1/31 | 750 | Head | 50 | 1087 | 7630 | 1338 | 0.416 | 8.58 | 8.32 | -3.03 |
| 2025/2/1 | 835 | Head | 50 | 4d162 | 7630 | 1338 | 0.485 | 9.08 | 9.7 | 6.83 |
| 2025/2/2 | 1750 | Head | 50 | 1090 | 7630 | 1338 | 1.910 | 37.00 | 38.2 | 3.24 |
| 2025/2/3 | 1900 | Head | 50 | 5d118 | 7630 | 1338 | 2.020 | 39.30 | 40.4 | 2.80 |
| 2025/2/4 | 2300 | Head | 50 | 1055 | 7630 | 1338 | 2.460 | 48.40 | 49.2 | 1.65 |
| 2025/2/5 | 2600 | Head | 50 | 1112 | 7630 | 1338 | 2.690 | 55.10 | 53.8 | -2.36 |
| 2025/2/6 | 3500 | Head | 50 | 1037 | 7630 | 1338 | 3.240 | 65.40 | 64.8 | -0.92 |
| 2025/2/7 | 3700 | Head | 50 | 1008 | 7630 | 1338 | 3.240 | 67.20 | 64.8 | -3.57 |
| 2025/2/8 | 3900 | Head | 50 | 1048 | 7764 | 1338 | 3.350 | 69.10 | 67 | -3.04 |
| 2025/2/9 | 750 | Head | 50 | 1087 | 7630 | 1338 | 0.436 | 8.58 | 8.72 | 1.63 |
| 2025/2/10 | 835 | Head | 50 | 4d162 | 7630 | 1338 | 0.467 | 9.08 | 9.34 | 2.86 |
| 2025/2/11 | 1750 | Head | 50 | 1090 | 7630 | 1338 | 1.930 | 37.00 | 38.6 | 4.32 |
| 2025/2/12 | 1900 | Head | 50 | 5d118 | 7630 | 1338 | 1.970 | 39.30 | 39.4 | 0.25 |
| 2025/2/13 | 2300 | Head | 50 | 1055 | 7630 | 1338 | 2.510 | 48.40 | 50.2 | 3.72 |
| 2025/2/14 | 2600 | Head | 50 | 1112 | 7630 | 1338 | 2.750 | 55.10 | 55 | -0.18 |
| 2025/2/15 | 3500 | Head | 50 | 1037 | 7630 | 1338 | 3.300 | 65.40 | 66 | 0.92 |
| 2025/2/16 | 3700 | Head | 50 | 1008 | 7630 | 1338 | 3.200 | 67.20 | 64 | -4.76 |
| 2025/2/17 | 3900 | Head | 50 | 1048 | 7764 | 1338 | 3.420 | 69.10 | 68.4 | -1.01 |
| 2025/2/18 | 2450 | Head | 50 | 1095 | 7764 | 1338 | 2.570 | 52.60 | 51.4 | -2.28 |
| 2025/2/18 | 5250 | Head | 50 | 1113 | 7764 | 1338 | 3.760 | 81.50 | 75.2 | -7.73 |
| 2025/2/19 | 5600 | Head | 50 | 1113 | 7764 | 1338 | 4.080 | 82.60 | 81.6 | -1.21 |
| 2025/2/19 | 5750 | Head | 50 | 1113 | 7764 | 1338 | 3.790 | 80.80 | 75.8 | -6.19 |

<10g SAR>

| Date | Frequency (MHz) | Tissue Type | 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 (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2025/1/31 | 750 | Head | 50 | 1087 | 7630 | 1338 | 0.278 | 5.65 | 5.56 | -1.59 |
| 2025/2/1 | 835 | Head | 50 | 4d162 | 7630 | 1338 | 0.303 | 5.85 | 6.06 | 3.59 |
| 2025/2/2 | 1750 | Head | 50 | 1090 | 7630 | 1338 | 0.998 | 19.50 | 19.96 | 2.36 |
| 2025/2/3 | 1900 | Head | 50 | 5d118 | 7630 | 1338 | 1.070 | 20.40 | 21.4 | 4.90 |
| 2025/2/4 | 2300 | Head | 50 | 1055 | 7630 | 1338 | 1.210 | 23.70 | 24.2 | 2.11 |
| 2025/2/5 | 2600 | Head | 50 | 1112 | 7630 | 1338 | 1.240 | 24.80 | 24.8 | 0.00 |
| 2025/2/6 | 3500 | Head | 50 | 1037 | 7630 | 1338 | 1.270 | 24.70 | 25.4 | 2.83 |
| 2025/2/7 | 3700 | Head | 50 | 1008 | 7630 | 1338 | 1.240 | 24.40 | 24.8 | 1.64 |
| 2025/2/8 | 3900 | Head | 50 | 1048 | 7764 | 1338 | 1.190 | 24.10 | 23.8 | -1.24 |
| 2025/2/9 | 750 | Head | 50 | 1087 | 7630 | 1338 | 0.293 | 5.65 | 5.86 | 3.72 |
| 2025/2/10 | 835 | Head | 50 | 4d162 | 7630 | 1338 | 0.298 | 5.85 | 5.96 | 1.88 |
| 2025/2/11 | 1750 | Head | 50 | 1090 | 7630 | 1338 | 1.050 | 19.50 | 21 | 7.69 |
| 2025/2/12 | 1900 | Head | 50 | 5d118 | 7630 | 1338 | 1.060 | 20.40 | 21.2 | 3.92 |
| 2025/2/13 | 2300 | Head | 50 | 1055 | 7630 | 1338 | 1.220 | 23.70 | 24.4 | 2.95 |
| 2025/2/14 | 2600 | Head | 50 | 1112 | 7630 | 1338 | 1.270 | 24.80 | 25.4 | 2.42 |
| 2025/2/15 | 3500 | Head | 50 | 1037 | 7630 | 1338 | 1.300 | 24.70 | 26 | 5.26 |
| 2025/2/16 | 3700 | Head | 50 | 1008 | 7630 | 1338 | 1.230 | 24.40 | 24.6 | 0.82 |
| 2025/2/17 | 3900 | Head | 50 | 1048 | 7764 | 1338 | 1.210 | 24.10 | 24.2 | 0.41 |
| 2025/2/18 | 2450 | Head | 50 | 1095 | 7764 | 1338 | 1.230 | 24.70 | 24.6 | -0.40 |
| 2025/2/18 | 5250 | Head | 50 | 1113 | 7764 | 1338 | 1.120 | 23.30 | 22.4 | -3.86 |
| 2025/2/19 | 5600 | Head | 50 | 1113 | 7764 | 1338 | 1.170 | 23.70 | 23.4 | -1.27 |
| 2025/2/19 | 5750 | Head | 50 | 1113 | 7764 | 1338 | 1.140 | 23.00 | 22.8 | -0.87 |

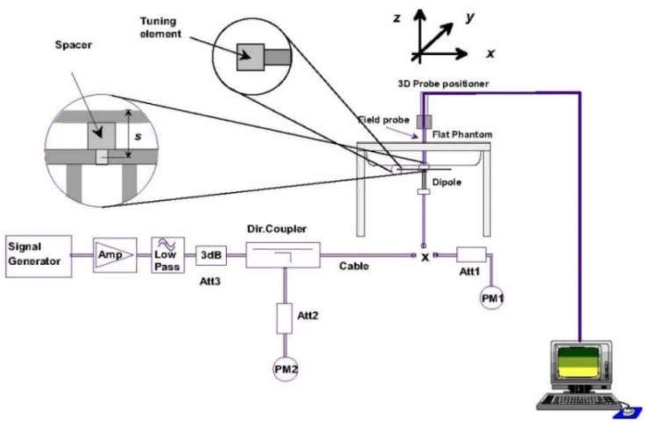



Fig 11.3.1 System Performance Check Setup

Fig 11.3.2 Setup Photo

# 13. RF Exposure Positions

## 13.1 Ear and handset reference point

Figure 12.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 12.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 12.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

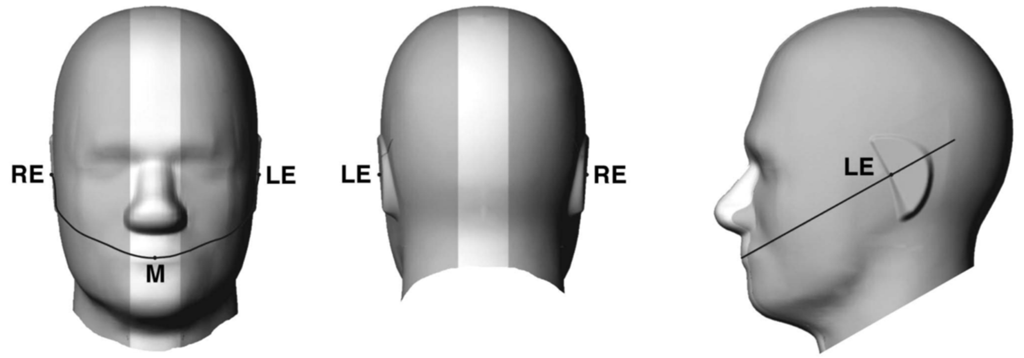



**Fig 12.1.1 Front, back, and side views of SAM twin phantom**

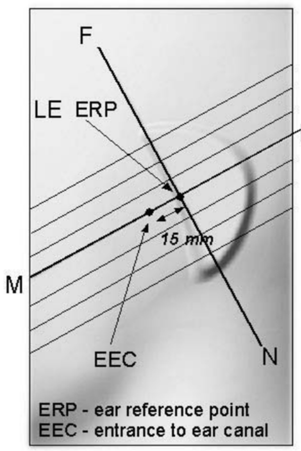



**Fig 12.1.2 Close-up side view of phantom showing the ear region.**

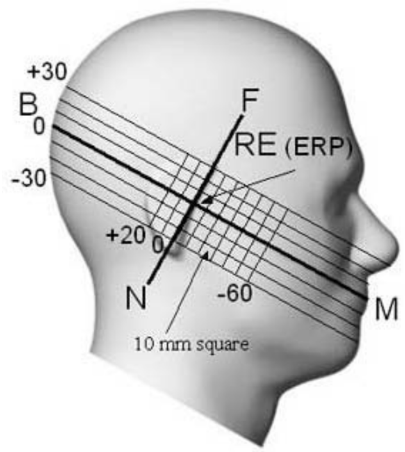



**Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations**

## 13.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 12.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 12.2.3. The actual rotation angles should be documented in the test report.

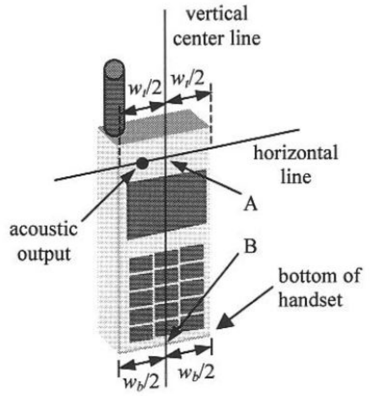



**Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case**

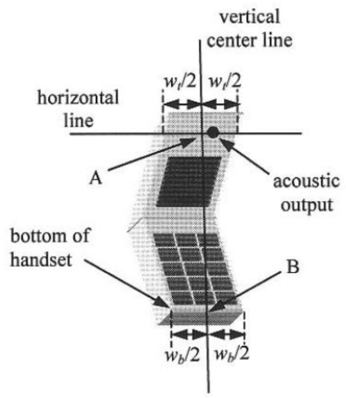



**Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"**

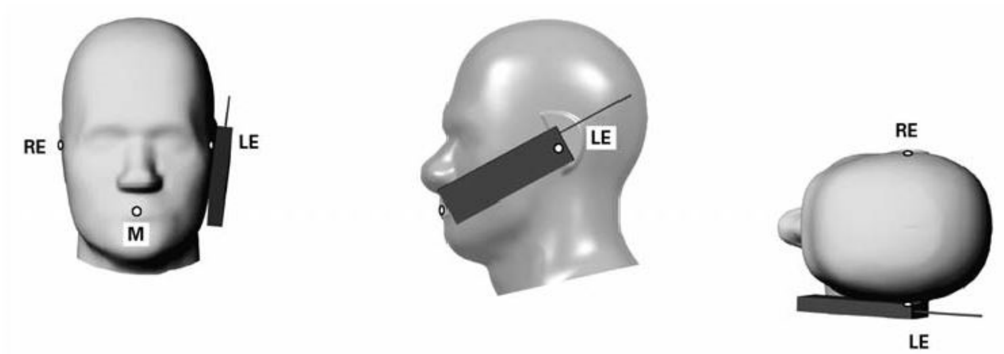



**Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.**

### 13.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 12.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

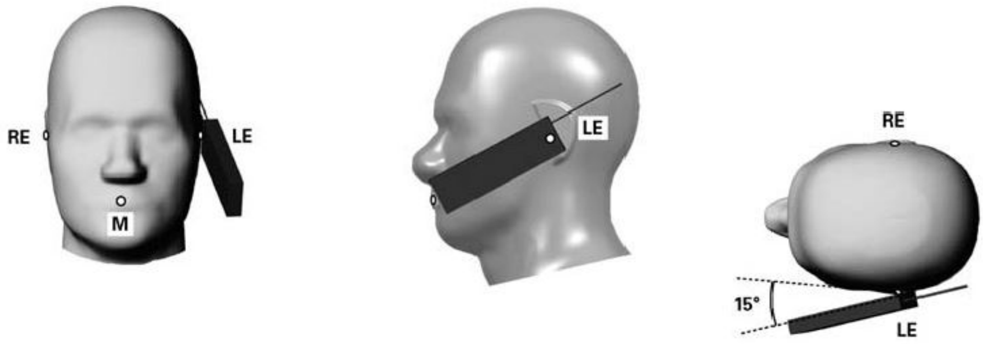



**Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.**

## 13.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

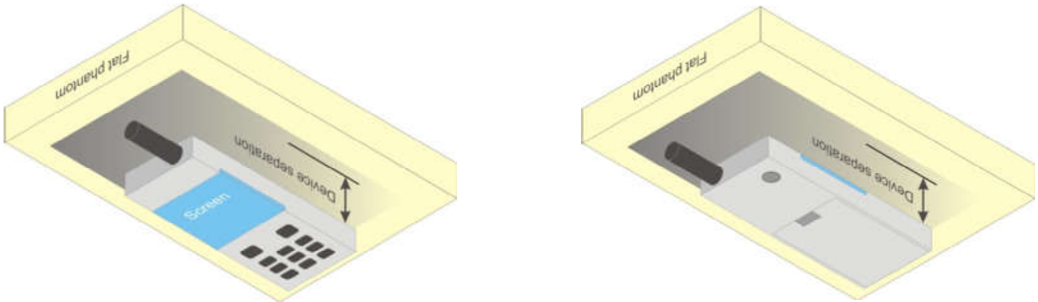



**Fig 12.4 Body Worn Position**

## 13.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

## 13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

# 14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

**<GSM Conducted Power>**

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.
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 ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

**<WCDMA Conducted Power>**

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. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

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: β values for transmitter characteristics tests with HS-DPCCH**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note1, Note 2) | CM (dB) (Note 3) | MPR (dB) (Note 3) |
|---|---|---|---|---|---|---|---|
| 1 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 0.0 | 0.0 |
| 2 | 12/15 (Note 4) | 15/15 (Note 4) | 64 | 12/15 (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 |

Note 1: $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

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, $\Delta_{ACK}$ and $\Delta_{NACK}$ = 30/15 with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI}$ = 24/15 with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d$ =12/15, $\beta_{hs}/\beta_c$=24/15. 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.

Note 4: For subtest 2 the $\beta_c/\beta_d$ 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 $\beta_c$ = 11/15 and $\beta_d$ = 15/15.

**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: β values for transmitter characteristics tests with HS-DPCCH and E-DCH**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note1) | $\beta_{ec}$ | $\beta_{ed}$ (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 | 209/225 | 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_{ed}$1: 47/15<br>$\beta_{ed}$2: 47/15 | 4<br>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**

**DC-HSDPA 3GPP release 8 Setup Configuration:**

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
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 RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors ($\beta_c$ and $\beta_d$) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: $\beta_c/\beta_d$=2/15
      b). Subtest 2: $\beta_c/\beta_d$=12/15
      c). Subtest 3: $\beta_c/\beta_d$=15/8
      d). Subtest 4: $\beta_c/\beta_d$=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

**Table C.8.1.12: Fixed Reference Channel H-Set 12**

| Parameter | Unit | Value |
|---|---|---|
| Nominal Avg. Inf. Bit Rate | kbps | 60 |
| Inter-TTI Distance | TTI's | 1 |
| Number of HARQ Processes | Proces ses | 6 |
| Information Bit Payload ( $N_{INF}$ ) | Bits | 120 |
| Number Code Blocks | Blocks | 1 |
| Binary Channel Bits Per TTI | Bits | 960 |
| Total Available SML's in UE | SML's | 19200 |
| Number of SML's per HARQ Proc. | SML's | 3200 |
| Coding Rate | | 0.15 |
| Number of Physical Channel Codes | Codes | 1 |
| Modulation | | QPSK |
| Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.<br>Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used. | | |

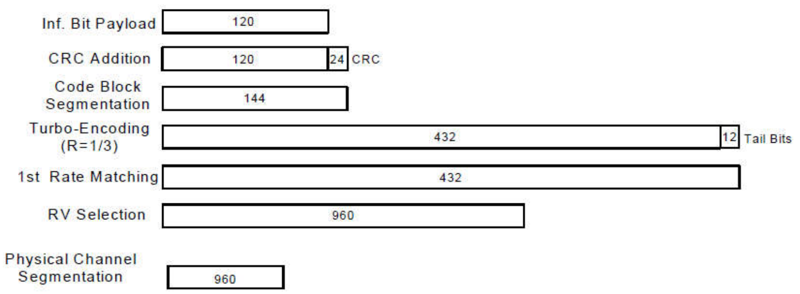



**Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)**

**Setup Configuration**

**HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:**

i. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
ii. The RF path losses were compensated into the measurements.
iii. A call was established between EUT and Base Station with following setting * :
   4. Call Configs = 5.2E:HSPA+:UL with 16QAM
   5. 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, C11.1.4, quoted from the TS 34.121-1 s5.2E
   6. Set Channel Parms
   7. Set Cell Power = -86 dBm
   8. Set Channel Type = HSPA
   9. Set UE Target Power =21 dBm
   10. Power Ctrl Mode= All Up Bits
   11. Set Manual Uplink DPCH Bc/Bd = Manual
   12. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   13. Set HSPA Conn DL Channel Levels
   14. Set HS-SCCH Configs
   15. Set RB Test Mode Setup
   16. Set Common HSUPA Parameters
   17. Set Serving Grant
   18. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
iv. The transmitted maximum output power was recorded.

**Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

| Sub-test | $\beta_c$ (Note3) | $\beta_d$ | $\beta_{HS}$ (Note1) | $\beta_{ec}$ | $\beta_{ed}$ (2xSF2) (Note 4) | $\beta_{ed}$ (2xSF4) (Note 4) | CM (dB) (Note 2) | MPR (dB) (Note 2) | AG Index (Note 4) | E-TFCI (Note 5) | E-TFCI (boost) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0 | 30/15 | 30/15 | $\beta_{ed}$1: 30/15<br>$\beta_{ed}$2: 30/15 | $\beta_{ed}$3: 24/15<br>$\beta_{ed}$4: 24/15 | 3.5 | 2.5 | 14 | 105 | 105 |

Note 1: $\Delta_{ACK}$, $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs}$ = 30/15 * $\beta_c$.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the $\beta_c$ is set to 1 and $\beta_d$ = 0 by default.
Note 4: $\beta_{ed}$ can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

**Setup Configuration**

## <WCDMA Conducted Power>

**General Note:**

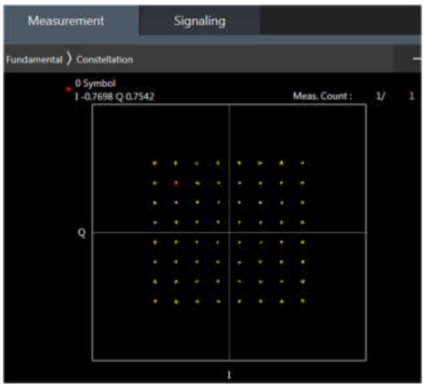
1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is ≤ ¼ 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 / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

## <LTE Conducted Power>

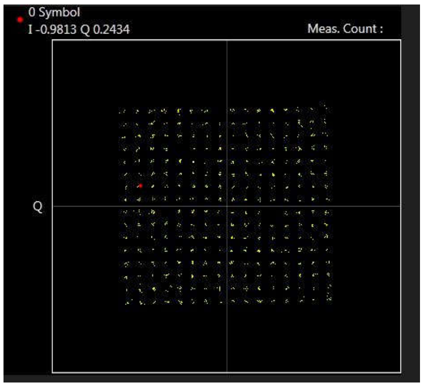
**General Note:**

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 ≤ 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/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B17 / B4 / B5 / B38 SAR test was covered by B12 / B66 / B26 / B41; 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 ≤ 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
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.


16QAM




64QAM




256QAM

**<TDD LTE SAR Measurement>**

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
b. “special subframe S” contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

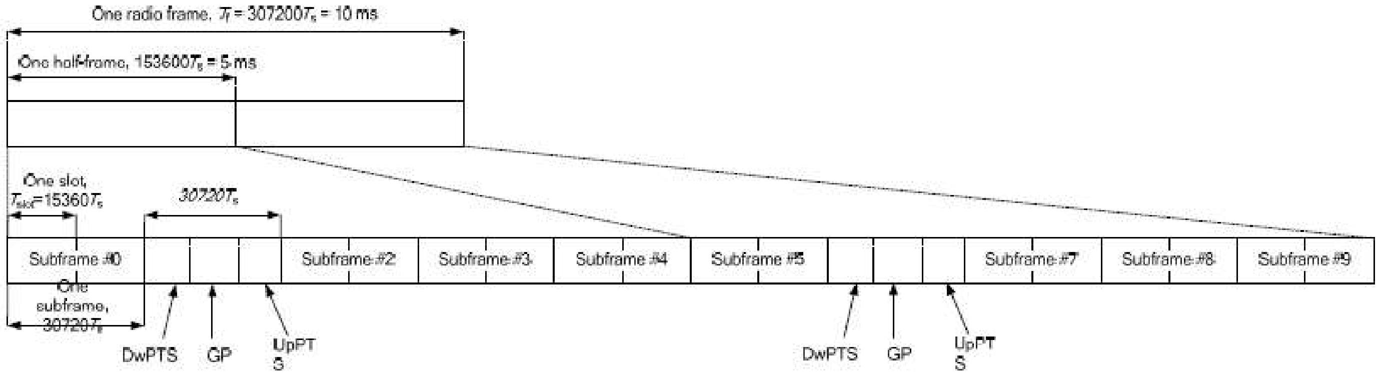



**Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).**

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

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

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

<table>
<tr><th rowspan="3">Special subframe configuration</th><th colspan="3">Normal cyclic prefix in downlink</th><th colspan="3">Extended cyclic prefix in downlink</th></tr>
<tr><th rowspan="2">DwPTS</th><th colspan="2">UpPTS</th><th rowspan="2">DwPTS</th><th colspan="2">UpPTS</th></tr>
<tr><th>Normal cyclic prefix in uplink</th><th>Extended cyclic prefix in uplink</th><th>Normal cyclic prefix in uplink</th><th>Extended cyclic prefix in uplink</th></tr>
<tr><td>0</td><td>$6592 \cdot T_s$</td><td rowspan="5">$2192 \cdot T_s$</td><td rowspan="5">$2560 \cdot T_s$</td><td>$7680 \cdot T_s$</td><td rowspan="4">$2192 \cdot T_s$</td><td rowspan="4">$2560 \cdot T_s$</td></tr>
<tr><td>1</td><td>$19760 \cdot T_s$</td><td>$20480 \cdot T_s$</td></tr>
<tr><td>2</td><td>$21952 \cdot T_s$</td><td>$23040 \cdot T_s$</td></tr>
<tr><td>3</td><td>$24144 \cdot T_s$</td><td>$25600 \cdot T_s$</td></tr>
<tr><td>4</td><td>$26336 \cdot T_s$</td><td>$7680 \cdot T_s$</td><td rowspan="4">$4384 \cdot T_s$</td><td rowspan="4">$5120 \cdot T_s$</td></tr>
<tr><td>5</td><td>$6592 \cdot T_s$</td><td rowspan="5">$4384 \cdot T_s$</td><td rowspan="5">$5120 \cdot T_s$</td><td>$20480 \cdot T_s$</td></tr>
<tr><td>6</td><td>$19760 \cdot T_s$</td><td>$23040 \cdot T_s$</td></tr>
<tr><td>7</td><td>$21952 \cdot T_s$</td><td>$12800 \cdot T_s$</td></tr>
<tr><td>8</td><td>$24144 \cdot T_s$</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>9</td><td>$13168 \cdot T_s$</td><td>-</td><td>-</td><td>-</td></tr>
</table>

| Special subframe (30720·$T_s$): Normal cyclic prefix in downlink (UpPTS) | | | |
|---|---|---|---|
| | **Special subframe configuration** | **Normal cyclic prefix in uplink** | **Extended cyclic prefix in uplink** |
| **Uplink duty factor in one special subframe** | **0~4** | 7.13% | 8.33% |
| | **5~9** | 14.3% | 16.7% |

| Special subframe(30720·$T_s$): Extended cyclic prefix in downlink (UpPTS) | | | |
|---|---|---|---|
| | **Special subframe configuration** | **Normal cyclic prefix in uplink** | **Extended cyclic prefix in uplink** |
| **Uplink duty factor in one special subframe** | **0~3** | 7.13% | 8.33% |
| | **4~7** | 14.3% | 16.7% |

The highest duty factor is resulted from:

For LTE TDD Power class 2

i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subfames, uplink operation is in 2 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.167)/5 = 43.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.143)/5 = 42.9%
v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

For LTE TDD Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%
v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

| LTE TDD Band | Power Class level | support uplink/downlink configuration |
|---|---|---|
| LTE Band 41 | > 23 | 1,2,3,4,5 |
| | =23 | 0,1,2,3,4,5,6 |
| | < 23 | 0,1,2,3,4,5,6 |

**<LTE Carrier Aggregation>**

The detailed LTE Carrier Aggregation conducted power table can refer to Appendix F.

**General Note:**

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. All permutations exist. No restrictions on Pcell & Scell combinations.
4. Per Oct. 2024 TCB workshop, Manufacturer declares that TX power measurement for multiple DL CA configurations is deemed not required as the DL CA has no impact on the TX power according to preliminary scan. TX power measured in LTE standalone operation represents the worst case.

| 2CC Downlink Carrier Aggregation | | | 3CC Downlink Carrier Aggregation | | |
|---|---|---|---|---|---|
| Number | Combination | 4X4 MIMO | Number | Combination | 4X4 MIMO |
| 1 | CA_12A-30A | 30A | 1 | CA_12A-30A-66A | 30A-66A, 66A, 30A |
| 2 | CA_12A-48A | 48A | 2 | CA_12A-48C | 48C, 48A |
| 3 | CA_12A-66A | 66A | 3 | CA_12A-66A-66A | 66A-66A, 66A |
| 4 | CA_12B | | 4 | CA_12A-66C | 66C, 66A |
| 5 | CA_13A-48A | 48A | 5 | CA_12B-66A | 66A |
| 6 | CA_13A-66A | 66A | 6 | CA_13A-48A-66A | 48A-66A, 66A, 48A |
| 7 | CA_14A-30A | 30A | 7 | CA_13A-48C | 48C, 48A |
| 8 | CA_14A-66A | 66A | 8 | CA_13A-66A-66A | 66A-66A, 66A |
| 9 | CA_17A-30A | 30A | 9 | CA_14A-30A-66A | 30A-66A, 66A, 30A |
| 10 | CA_25A-25A | 25A-25A, 25A | 10 | CA_14A-66A-66A | 66A-66A, 66A |
| 11 | CA_25A-26A | 25A | 11 | CA_25A-25A-26A | 25A-25A, 25A |
| 12 | CA_25A-41A | 25A-41A, 41A, 25A | 12 | CA_25A-25A-66A | 25A-66A, 25A-25A, 66A, 25A |
| 13 | CA_25A-66A | 25A-66A, 66A, 25A | 13 | CA_25A-41C | 41C, 41A, 25A |
| 14 | CA_26A-41A | 41A | 14 | CA_26A-41C | 41C, 41A |
| 15 | CA_2A-12A | 2A | 15 | CA_2A-12A-30A | 2A-30A, 30A, 2A |
| 16 | CA_2A-13A | 2A | 16 | CA_2A-12A-66A | 2A-66A, 66A, 2A |
| 17 | CA_2A-14A | 2A | 17 | CA_2A-12B | 2A |
| 18 | CA_2A-17A | 2A | 18 | CA_2A-13A-48A | 2A-48A, 48A, 2A |
| 19 | CA_2A-2A | 2A-2A, 2A | 19 | CA_2A-13A-66A | 2A-66A, 66A, 2A |
| 20 | CA_2A-30A | 2A-30A, 30A, 2A | 20 | CA_2A-14A-30A | 2A-30A, 30A, 2A |
| 21 | CA_2A-48A | 2A-48A, 48A, 2A | 21 | CA_2A-14A-66A | 2A-66A, 66A, 2A |
| 22 | CA_2A-4A | 2A-4A, 4A, 2A | 22 | CA_2A-2A-12A | 2A-2A, 2A |
| 23 | CA_2A-5A | 2A | 23 | CA_2A-2A-13A | 2A-2A, 2A |
| 24 | CA_2A-66A | 2A-66A, 66A, 2A | 24 | CA_2A-2A-14A | 2A-2A, 2A |
| 25 | CA_2A-71A | 2A | 25 | CA_2A-2A-17A | 2A-2A, 2A |
| 26 | CA_2A-7A | 2A-7A, 7A, 2A | 26 | CA_2A-2A-30A | 2A-30A, 2A-2A, 30A, 2A |
| 27 | CA_2C | 2C, 2A | 27 | CA_2A-2A-4A | 2A-4A, 2A-2A, 4A, 2A |
| 28 | CA_30A-66A | 30A-66A, 66A, 30A | 28 | CA_2A-2A-5A | 2A-2A, 2A |
| 29 | CA_38C | 38C, 38A | 29 | CA_2A-2A-66A | 2A-66A, 2A-2A, 66A, 2A |
| 30 | CA_41A-41A | 41A-41A, 41A | 30 | CA_2A-2A-71A | 2A-2A, 2A |
| 31 | CA_41A-48A | 41A-48A, 48A, 41A | 31 | CA_2A-2A-7A | 2A-7A, 2A-2A, 7A, 2A |
| 32 | CA_41C | 41C, 41A | 32 | CA_2A-30A-66A | 30A-66A, 2A-66A, 2A-30A, 66A, 30A, 2A |
| 33 | CA_48A-48A | 48A-48A, 48A | 33 | CA_2A-48A-48A | 48A-48A, 2A-48A, 48A, 2A |
| 34 | CA_48A-66A | 48A-66A, 66A, 48A | 34 | CA_2A-48A-66A | 48A-66A, 2A-66A, 2A-48A, 66A, 48A, 2A |
| 35 | CA_48A-71A | 48A | 35 | CA_2A-48C | 48C, 48A, 2A |
| 36 | CA_48B | 48B, 48A | 36 | CA_2A-4A-12A | 2A-4A, 4A, 2A |
| 37 | CA_48C | 48C, 48A | 37 | CA_2A-4A-13A | 2A-4A, 4A, 2A |
| 38 | CA_4A-12A | 4A | 38 | CA_2A-4A-17A | 2A-4A, 4A, 2A |

| | | | | | |
|---|---|---|---|---|---|
| 39 | CA_4A-13A | 4A | 39 | CA_2A-4A-30A | 4A-30A, 2A-4A, 2A-30A, 4A, 30A, 2A |
| 40 | CA_4A-17A | 4A | 40 | CA_2A-4A-4A | 4A-4A, 2A-4A, 4A, 2A |
| 41 | CA_4A-30A | 4A-30A, 4A, 30A | 41 | CA_2A-4A-5A | 2A-4A, 4A, 2A |
| 42 | CA_4A-48A | 4A-48A, 4A, 48A | 42 | CA_2A-4A-71A | 2A-4A, 4A, 2A |
| 43 | CA_4A-4A | 4A-4A, 4A | 43 | CA_2A-4A-7A | 4A-7A, 2A-7A, 2A-4A, 7A, 4A, 2A |
| 44 | CA_4A-5A | 4A | 44 | CA_2A-5A-30A | 2A-30A, 30A, 2A |
| 45 | CA_4A-71A | 4A | 45 | CA_2A-5A-48A | 2A-48A, 48A, 2A |
| 46 | CA_4A-7A | 4A-7A, 7A, 4A | 46 | CA_2A-5A-66A | 2A-66A, 66A, 2A |
| 47 | CA_5A-30A | 30A | 47 | CA_2A-5A-7A | 2A-7A, 7A, 2A |
| 48 | CA_5A-41A | 41A | 48 | CA_2A-5B | 2A |
| 49 | CA_5A-48A | 48A | 49 | CA_2A-66A-66A | 66A-66A, 2A-66A, 66A, 2A |
| 50 | CA_5A-66A | 66A | 50 | CA_2A-66A-71A | 2A-66A, 66A, 2A |
| 51 | CA_5A-7A | 7A | 51 | CA_2A-66B | 66B, 66A, 2A |
| 52 | CA_5B | | 52 | CA_2A-66C | 66C, 66A, 2A |
| 53 | CA_66A-66A | 66A-66A, 66A | 53 | CA_2A-7A-12A | 2A-7A, 7A, 2A |
| 54 | CA_66A-71A | 66A | 54 | CA_2A-7A-13A | 2A-7A, 7A, 2A |
| 55 | CA_66B | 66B, 66A | 55 | CA_2A-7A-66A | 7A-66A, 2A-7A, 2A-66A, 7A, 66A, 2A |
| 56 | CA_66C | 66C, 66A | 56 | CA_2A-7A-7A | 7A-7A, 2A-7A, 7A, 2A |
| 57 | CA_7A-12A | 7A | 57 | CA_2A-7C | 7C, 7A, 2A |
| 58 | CA_7A-13A | 7A | 58 | CA_2C-12A | 2C, 2A |
| 59 | CA_7A-25A | 7A-25A, 7A, 25A | 59 | CA_2C-66A | 2C, 66A, 2A |
| 60 | CA_7A-66A | 7A-66A, 7A, 66A | 60 | CA_30A-66A-66A | 66A-66A, 30A-66A, 66A, 30A |
| 61 | CA_7A-7A | 7A-7A, 7A | 61 | CA_41A-41C | 41C, 41A |
| 62 | CA_7B | 7B, 7A | 62 | CA_41D | |
| 63 | CA_7C | 7C, 7A | 63 | CA_48A-48A-66A | 48A-66A, 48A-48A, 66A, 48A |
| | | | 64 | CA_48A-48A-71A | 48A-48A, 48A |
| | | | 65 | CA_48A-48C | 48C, 48A |
| | | | 66 | CA_48A-66A-66A | 66A-66A, 48A-66A, 66A, 48A |
| | | | 67 | CA_48C-66A | 48C, 66A, 48A |
| | | | 68 | CA_48C-71A | 48C, 48A |
| | | | 69 | CA_48D | |
| | | | 70 | CA_4A-12A-30A | 4A-30A, 4A, 30A |
| | | | 71 | CA_4A-12B | 4A |
| | | | 72 | CA_4A-48C | 48C, 4A, 48A |
| | | | 73 | CA_4A-4A-12A | 4A-4A, 4A |
| | | | 74 | CA_4A-4A-13A | 4A-4A, 4A |
| | | | 75 | CA_4A-4A-17A | 4A-4A, 4A |
| | | | 76 | CA_4A-4A-5A | 4A-4A, 4A |
| | | | 77 | CA_4A-4A-71A | 4A-4A,4A |
| | | | 78 | CA_4A-4A-7A | 4A-7A, 4A-4A, 7A, 4A |
| | | | 79 | CA_4A-5A-30A | 4A-30A, 4A, 30A |
| | | | 80 | CA_4A-7A-12A | 4A-7A, 7A, 4A |
| | | | 81 | CA_4A-7A-71A | 4A-7A, 7A, 4A |
| | | | 82 | CA_4A-7A-7A | 7A-7A, 4A-7A, 7A, 4A |
| | | | 83 | CA_4A-7C | 7C, 7A, 4A |
| | | | 84 | CA_5A-30A-66A | 30A-66A, 66A, 30A |
| | | | 85 | CA_5A-48A-48A | 48A-48A, 48A |
| | | | 86 | CA_5A-48A-66A | 48A-66A, 66A, 48A |
| | | | 87 | CA_5A-48C | 48C, 48A |
| | | | 88 | CA_5A-66A-66A | 66A-66A, 66A |
| | | | 89 | CA_5A-7A-66A | 7A-66A, 7A, 66A |
| | | | 90 | CA_5A-7A-7A | 7A-7A, 7A |
| | | | 91 | CA_5A-7C | 7C, 7A |
| | | | 92 | CA_5B-30A | 30A |
| | | | 93 | CA_5B-66A | 66A |
| | | | 94 | CA_66A-66A-66A | 66A-66A, 66A |

| | | | | | |
|---|---|---|---|---|---|
| | | | 95 | CA_66A-66A-71A | 66A-66A, 66A |
| | | | 96 | CA_66A-66B | 66B, 66A |
| | | | 97 | CA_66A-66C | 66C, 66A |
| | | | 98 | CA_66C-71A | 66C, 66A |
| | | | 99 | CA_7A-12A-66A | 7A-66A, 7A, 66A |
| | | | 100 | CA_7A-13A-66A | 7A-66A, 7A, 66A |
| | | | 101 | CA_7A-25A-25A | 7A-25A, 25A-25A, 7A, 25A |
| | | | 102 | CA_7A-25A-66A | 7A-66A, 7A-25A, 25A-66A, 7A, 66A, 25A |
| | | | 103 | CA_7A-66A-66A | 7A-66A, 66A-66A, 7A, 66A |
| | | | 104 | CA_7A-7A-13A | 7A-7A, 7A |
| | | | 105 | CA_7A-7A-25A | 7A-7A, 7A-25A, 7A, 25A |
| | | | 106 | CA_7A-7A-66A | 7A-7A, 7A-66A, 7A, 66A |
| | | | 107 | CA_7C-13A | 7C, 7A |
| | | | 108 | CA_7C-66A | 7C, 7A, 66A |

## LTE Carrier Aggregation Conducted Power (Downlink)

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink three carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \ \ [\text{MHz}]$$

## LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Band 2/4/7/25/30/38/41/42/48/66 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

| 4X4 MIMO | Band |
|---|---|
| | LTE Band 2/4/7/25/30/38/41/42/48/66 |

## LTE Carrier Aggregation Conducted Power (Uplink)

| LTE Uplink CA | 2CC Uplink Carrier Aggregation |
|---|---|
| Intra-band | Antenna Tx |
| CA_5B | Ant0/1 |
| CA_41C | Ant2/1/0/10 |
| CA_48B | Ant4/7/2/6 |
| CA_48C | Ant4/7/2/6 |

### <Intra-band>

**General Note:**

i. The device supports intra-band uplink carrier aggregation for LTE B5/41/48 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

iii. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

iv. LTE CA_48B test was covered by LTE CA_48C; therefore, SAR was only assessed for LTE CA_48C.

**<Inter-band uplink carrier aggregation consideration>**

| LTE Uplink CA | 2CC Uplink Carrier Aggregation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inter-band | Main Antenna Tx | ASDiv-1 Tx | ASDiv-2 Tx | ASDiv-3 Tx | ASDiv-4 Tx | ASDiv-5 Tx | ASDiv-6 Tx | ASDiv-7 Tx |
| CA_12A-66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_13A-66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_14A-66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_2A-12A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-13A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-14A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-48A | Ant 0 + Ant 4 | Ant 0 + Ant 7 | Ant 0 + Ant 2 | Ant 0 + Ant 6 | Ant 1 + Ant 4 | Ant 1 + Ant 7 | Ant 1 + Ant 2 | Ant 1 + Ant 6 |
| CA_2A-4A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-5A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-66A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_2A-71A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_48A-66A | ANT4+ANT0 | ANT7+ANT0 | ANT2+ANT0 | ANT6+ANT0 | ANT4+ANT1 | ANT7+ANT1 | ANT2+ANT1 | ANT6+ANT1 |
| CA_4A-12A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_4A-13A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_4A-5A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_5A-66A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |

**General Note:**

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements MediaTek TA-SAR Gen2 feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter-band CA mode, MediaTek TA-SAR Gen2 algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. TA-SAR Gen2 algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

## 5G NR Output Power (Unit: dBm)

**General Note:**

1. 5G NR n2/n5/n7/n12/n25/n26/n41/n48/n66/n71/n77/n78 is NSA mode.
2. 5G NR n2/n5/n7/n12/n14/n25/n26/n30/n38/n41/n48/n66/n70/n71/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing 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
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. 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 ≤ 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
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. For 5G NR bands, using FTM to perform SAR with default 100% transmission.
5. For 5GNR, the simultaneous transmission analysis is used standalone SAR at total power level to show compliance.
6. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
7. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
8. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
9. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
10. For 5GNR inter-band CA mode, MediaTek TA-SAR Gen2 algorithm in WWAN adds directly the time-averaged RF exposure between two 5GNR bands. MediaTek TA-SAR Gen2 algorithm controls the total RF exposure base on 5GNR inter CA bands to not exceed FCC limit.

## <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 | ≤ 3.5[1] | ≤ 1.2[1] | ≤ 0.2[1] |
| | | ≤ 0.5[2] | ≤ 0.5[2] | 0[2] |
| | QPSK | ≤ 1 | | 0 |
| | 16 QAM | ≤ 2 | | ≤ 1 |
| | 64 QAM | ≤ 2.5 | | |
| | 256 QAM | ≤ 4.5 | | |
| CP-OFDM | QPSK | ≤ 3 | | ≤ 1.5 |
| | 16 QAM | ≤ 3 | | ≤ 2 |
| | 64 QAM | ≤ 3.5 | | |
| | 256 QAM | ≤ 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 | ≤ 3.5 | ≤ 0.5 | 0 |
| | QPSK | ≤ 3.5 | ≤ 1 | 0 |
| | 16 QAM | ≤ 3.5 | ≤ 2 | ≤ 1 |
| | 64 QAM | ≤ 3.5 | ≤ 2.5 | |
| | 256 QAM | ≤ 4.5 | | |
| CP-OFDM | QPSK | ≤ 3.5 | ≤ 3 | ≤ 1.5 |
| | 16 QAM | ≤ 3.5 | ≤ 3 | ≤ 2 |
| | 64 QAM | ≤ 3.5 | | |
| | 256 QAM | ≤ 6.5 | | |

## <EN-DC combination>

| ENDC | Main Antenna Tx | ASDiv-1 Tx | ASDiv-2 Tx | ASDiv-3 Tx | ASDiv-4 Tx | ASDiv-5 Tx | ASDiv-6 Tx | ASDiv-7 Tx |
|---|---|---|---|---|---|---|---|---|
| | LTE+NR | LTE+NR | LTE+NR | LTE+NR | LTE+NR | LTE+NR | LTE+NR | LTE+NR |
| DC_12A_n25A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_12A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_12A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_12A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_12A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_12A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_12A_n7A | Ant 1 + Ant 2 | Ant 0 + Ant 2 | | | | | | |
| DC_13A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_13A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_13A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_13A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_14A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_14A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_14A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_25A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_25A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_25A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_25A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_26A_n25A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_26A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_26A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_26A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_2A_n12A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| DC_2A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_2A_n5A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_2A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_2A_n71A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DC_2A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_2A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_2A_n7A | Ant 1 + Ant 2 | Ant 0 + Ant 2 | | | | | | |
| DC_30A_n2A | ANT2 + ANT1 | ANT2 + ANT0 | ANT1 + ANT0 | | | | | |
| DC_30A_n5A | ANT2 + ANT1 | ANT2 + ANT0 | ANT1 + ANT0 | | | | | |
| DC_30A_n66A | ANT2 + ANT1 | ANT2 + ANT0 | ANT1 + ANT0 | | | | | |
| DC_30A_n77A | ANT2 + ANT7 | ANT2+ ANT4 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_38A_n78A | ANT2 + ANT7 | ANT2+ ANT4 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_41A_n77A | ANT2 + ANT7 | ANT2+ ANT4 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_41A_n78A | ANT2 + ANT7 | ANT2+ ANT4 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_48A_n2A | ANT4 + ANT1 | ANT7 + ANT1 | ANT2 + ANT1 | ANT6 + ANT1 | ANT4 + ANT1 | ANT7 + ANT0 | ANT2 + ANT0 | ANT6 + ANT0 |
| DC_48A_n5A | ANT4 + ANT1 | ANT7 + ANT1 | ANT2 + ANT1 | ANT6 + ANT1 | ANT4 + ANT0 | ANT7 + ANT0 | ANT2 + ANT0 | ANT6 + ANT0 |
| DC_48A_n66A | ANT4 + ANT1 | ANT7 + ANT1 | ANT2 + ANT1 | ANT6 + ANT1 | ANT4 + ANT0 | ANT7 + ANT0 | ANT2 + ANT0 | ANT6 + ANT0 |
| DC_48A_n71A | ANT4 + ANT1 | ANT7 + ANT1 | ANT2 + ANT1 | ANT6 + ANT1 | ANT4 + ANT0 | ANT7 + ANT0 | ANT2 + ANT0 | ANT6 + ANT0 |
| DC_4A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_4A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_4A_n5A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_4A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_4A_n7A | Ant 1 + Ant 2 | Ant 0 + Ant 2 | | | | | | |
| DC_5A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_5A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_5A_n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_5A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_5A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_5A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_5A_n7A | Ant 1 + Ant 2 | Ant 0 + Ant 2 | | | | | | |
| DC_66A_n12A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| DC_66A_n25A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_66A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_66A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_66A_n5A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_66A_n71A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_66A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_66A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_66A_n7A | Ant 1 + Ant 2 | Ant 0 + Ant 2 | | | | | | |
| DC_71A_n2A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_71A_n41A | Ant 0 + Ant 1 | Ant 0 + Ant 2 | Ant 0 + Ant 10 | Ant 1 + Ant 0 | Ant 1 + Ant 2 | Ant 1 + Ant 10 | | |
| DC_71A_n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_71A_n66A | ANT0 + ANT1 | ANT1 + ANT0 | | | | | | |
| DC_71A_n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_71A_n78A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| DC_7A_n25A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n26A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n2A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n5A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n66A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n71A | ANT2 + ANT1 | ANT2 + ANT0 | | | | | | |
| DC_7A_n77A | ANT2 + ANT7 | ANT2+ ANT4 | ANT2 + ANT6 | | | | | |
| DC_7A_n78A | ANT2 + ANT7 | ANT2+ ANT4 | ANT2 + ANT6 | | | | | |
| DC_66A_n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |

## Inter-Band CA Configuration:

| NR Uplink CA | 2CC Uplink Carrier Aggregation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inter-band | Main Antenna Tx | ASDiv-1 Tx | ASDiv-2 Tx | ASDiv-3 Tx | ASDiv-4 Tx | ASDiv-5 Tx | ASDiv-6 Tx | ASDiv-7 Tx |
| CA_n12A-n66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n12A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n14A-n30A | Ant 1 + Ant 2 | Ant 0 + Ant 1 | ANT0 + ANT2 | | | | | |
| CA_n14A-n66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n14A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n25A-n41A | Ant 1 + Ant 2 | Ant 1 + Ant 0 | Ant 1 + Ant 10 | Ant 0 + Ant 2 | Ant 0 + Ant 1 | Ant 0 + Ant 10 | | |
| CA_n25A-n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n25A-n66A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n25A-n71A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n25A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n26A-n66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n26A-n70A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n26A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n2A-n12A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n2A-n14A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n2A-n30A | Ant 1 + Ant 2 | Ant 0 + Ant 1 | ANT0 + ANT2 | | | | | |
| CA_n2A-n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n2A-n5A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n2A-n66A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n2A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n30A-n66A | Ant 2 + Ant 1 | Ant 1 + Ant 0 | Ant 2 + Ant 0 | | | | | |
| CA_n30A-n77A | ANT2 + ANT4 | ANT2 + ANT7 | | | | | | |
| CA_n41A-n48A | ANT2 + ANT4 | ANT2+ ANT7 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n41A-n66A | Ant 2 + Ant 1 | Ant 0 + Ant 1 | Ant 10 + Ant 1 | Ant 2 + Ant 0 | Ant 1 + Ant 0 | Ant 10 + Ant 0 | | |
| CA_n41A-n71A | Ant 2 + Ant 1 | Ant 0 + Ant 1 | Ant 10 + Ant 1 | Ant 2 + Ant 0 | Ant 1 + Ant 0 | Ant 10 + Ant 0 | | |
| CA_n41A-n77A | ANT2 + ANT4 | ANT2 + ANT7 | | ANT2 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n48A-n66A | ANT4+ANT0 | ANT7+ANT0 | ANT2+ANT0 | ANT6+ANT0 | ANT4+ANT1 | ANT7+ANT1 | ANT2+ANT1 | ANT6+ANT1 |
| CA_n48A-n70A | ANT4+ANT0 | ANT7+ANT0 | ANT2+ANT0 | ANT6+ANT0 | ANT4+ANT1 | ANT7+ANT1 | ANT2+ANT1 | ANT6+ANT1 |
| CA_n48A-n71A | ANT4+ANT0 | ANT7+ANT0 | ANT2+ANT0 | ANT6+ANT0 | ANT4+ANT1 | ANT7+ANT1 | ANT2+ANT1 | ANT6+ANT1 |
| CA_n5A-n30A | Ant 1 + Ant 2 | Ant 0 + Ant 1 | ANT0 + ANT2 | | | | | |
| CA_n5A-n48A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n5A-n66A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n5A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n66A-n71A | Ant 1 + Ant 0 | Ant 0 + Ant 1 | | | | | | |
| CA_n66A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n70A-n71A | Ant 0 + Ant 1 | Ant 1 + Ant 0 | | | | | | |
| CA_n70A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |
| CA_n71A-n77A | ANT0 + ANT4 | ANT0 + ANT7 | ANT0 + ANT2 | ANT0 + ANT6 | ANT1 + ANT4 | ANT1 + ANT7 | ANT1 + ANT2 | ANT1 + ANT6 |

## NR UL MIMO Bands Configuration:

| ULMIMO Mode | Default | ASDIV | ASDIV | ASDIV |
|---|---|---|---|---|
| 5G NR n2 | Ant 0 + ANT1 | Ant 5 +ANT1 | / | / |
| 5G NR n25 | Ant 0 + ANT1 | Ant 5 +ANT1 | / | / |
| 5G NR n66 | Ant 0 + ANT1 | Ant 5 +ANT1 | / | / |
| 5G NR n70 | Ant 0 + ANT1 | Ant 5 +ANT1 | / | / |
| 5G NR n41 | Ant 2 + ANT1 | Ant 0 + ANT1 | Ant 2 + ANT10 | Ant 0 + ANT10 |
| 5G NR n48 | Ant 4 + ANT7 | Ant 2 + ANT7 | Ant 4 + ANT6 | Ant 2 + ANT6 |
| 5G NR n77 | Ant 4 + ANT7 | Ant 2 + ANT7 | Ant 4 + ANT6 | Ant 2 + ANT6 |
| 5G NR n78 | Ant 4 + ANT7 | Ant 2 + ANT7 | Ant 4 + ANT6 | Ant 2 + ANT6 |

**<WLAN Conducted Power>**

**General Note:**

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration. Additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. 802.11 ax supports both full tone size mode and partial tone size mode, after verification on partial tone size mode that partial size tone mode power will not be higher than full tone size mode, therefore, full tone mode power was chosen to be measured in this report.
7. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO antenna mode.
8. When the user is talking a call-in head scenario and the receiver detect mechanism trigger, WLAN5GHz will be switched from antenna 7 to antenna 10, so WLAN5GHz at Antenna 10 was performed SAR testing for Head SAR only and WLAN5GHz at Antenna 7 was performed SAR testing for Body-worn, hostspot and extremity SAR only.
9. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.
10. For WLAN 2.4GHz SAR testing was performed on dual antenna, due to RF power in MIMO mode is larger to the single antenna RF power in MIMO mode.
11. For WLAN 5GHz SAR testing was performed on single antenna at head exposure condition, due to RF power in SISO mode is larger or equal to per single antenna RF power in MIMO mode, and for RF exposure assessment of

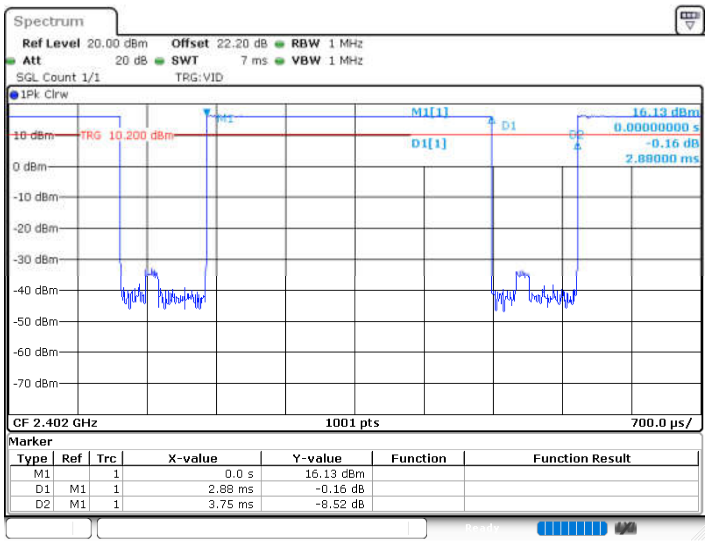
MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode. For WLAN 5GHz SAR testing was performed on dual antenna at Body-worn, hostspot and extremity exposure condition, due to RF power in MIMO mode is larger to the single antenna RF power in MIMO mode.

## <2.4GHz Bluetooth>

**General Note:**

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 76.8% as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.

Bluetooth time-domain plot



# 15. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

# 16. 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 SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
   d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   e. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   f. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
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:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 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
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
   a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV/V, LTE Band 2/4/7/25/30/66/38/41/42/48, 5GNR n2/n7 /n25/n30/n66/n70/n38/n41/n48/n77/n78, WLAN 2.4/5.2/5.8GHz, therefore product specific 10g SAR is necessary.
   b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
   c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
6. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
7. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
8. LTE B2/4/25/66 and 5GNR n2/n25/n66/n70 at Ant 0/1, LTE Band 38/41 and 5GNR n38/41 at Ant 2/0/1/10, and 5GNR n48/n77/n78 at Ant 4/7/2/6 support different PAs for same antennas. And some LTE/NR bands support Other PA only under ENDC& UL CA. Some LTE/NR bands support different PAs for some antennas, whether it is the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, so the worst-case PA was chosen to perform full SAR testing to ensure the RF exposure is compliance and another PA verified the worst case.
9. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
10. For Phablet devices, when hotspot mode is not supported, Product specific 10-g SAR is required for all surfaces and

edges with an antenna located at ≤ 25mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.

**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.
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 ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

**WCDMA 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 / DC-HSDPA / HSPA+ is ≤ ¼ 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 / DC-HSDPA/ HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA/ HSPA+ .

**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 ≤ 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/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B17 / B4 / B5 / B38 SAR test was covered by B12 / B66 / B26 / B41; 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 ≤ 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. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. SAR testing 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.
   b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   c. 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 ≤ 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.
   d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
   f. For 5G FR1 n2/n5/n7/n12/n25/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**WLAN/Bluetooth Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.

**ECI status description：**

The device has the following ECI state which used at different exposure condition.

This WWAN bands enabled with MediaTek TA-SAR Gen2 feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

| Exposure Condition | ECI | Trigger conditions |
|---|---|---|
| Head SAR | ECI2 | Earpiece On |
| Hotspot SAR | ECI7 | Hotspot On |
| Body worn SAR | ECI3 | Sensor On |
| Extremity SAR | ECI6 | Sensor On |
| Body worn/ Extremity SAR | ECI4 | Sensor Off |

## 16.1 Head SAR

| Plot No. | Band | BW (MHz) | Modulation | RB Size | RB offset | Mode | Test Position | Gap (mm) | Antenna | Power State | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 750MHz | | | | | | | | | | | | | | | | | | | | |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | -0.18 | 0.096 | 0.105 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0.02 | 0.058 | 0.062 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.16 | 0.046 | 0.050 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | -0.03 | 0.000 | 0.000 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.07 | 0.110 | 0.121 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0 | 0.068 | 0.073 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.01 | 0.060 | 0.066 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | -0.01 | 0.000 | 0.000 |
| 01 | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.75 | 21.80 | 1.012 | - | - | -0.05 | 0.671 | 0.679 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.61 | 21.80 | 1.045 | - | - | -0.06 | 0.397 | 0.415 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.75 | 21.80 | 1.012 | - | - | -0.09 | 0.628 | 0.635 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.61 | 21.80 | 1.045 | - | - | -0.17 | 0.369 | 0.386 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.75 | 21.80 | 1.012 | - | - | 0.18 | 0.354 | 0.358 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.61 | 21.80 | 1.045 | - | - | -0.17 | 0.206 | 0.215 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.75 | 21.80 | 1.012 | - | - | -0.05 | 0.384 | 0.388 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 133297 | 680.5 | 21.61 | 21.80 | 1.045 | - | - | 0 | 0.230 | 0.240 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | -0.01 | 0.136 | 0.168 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | -0.09 | 0.083 | 0.102 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | 0.05 | 0.067 | 0.083 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0.02 | 0.043 | 0.053 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | -0.13 | 0.145 | 0.179 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0.17 | 0.097 | 0.119 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | 0.06 | 0.085 | 0.105 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0 | 0.054 | 0.066 |
| 02 | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | 0.15 | 0.649 | 0.840 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | -0.04 | 0.474 | 0.604 |
| | LTE Band 12 | 10M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 21.86 | 23.00 | 1.300 | - | - | -0.15 | 0.382 | 0.497 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | 0.11 | 0.568 | 0.735 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | -0.02 | 0.362 | 0.461 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | 0.04 | 0.304 | 0.393 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | 0.13 | 0.185 | 0.236 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | -0.18 | 0.340 | 0.440 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | -0.11 | 0.223 | 0.284 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | -0.16 | 0.120 | 0.152 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | -0.15 | 0.074 | 0.093 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | -0.06 | 0.053 | 0.067 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | -0.14 | 0.000 | 0.000 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | -0.19 | 0.145 | 0.184 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | 0.01 | 0.091 | 0.115 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | 0.06 | 0.082 | 0.104 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | 0.02 | 0.051 | 0.064 |
| 03 | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 22.85 | 24.00 | 1.303 | - | - | 0.05 | 0.699 | 0.911 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.84 | 23.00 | 1.306 | - | - | 0.12 | 0.435 | 0.568 |
| | LTE Band 13 | 10M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.88 | 23.00 | 1.294 | - | - | -0.16 | 0.418 | 0.541 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 22.85 | 24.00 | 1.303 | - | - | -0.12 | 0.624 | 0.813 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.84 | 23.00 | 1.306 | - | - | 0.07 | 0.381 | 0.498 |
| | LTE Band 13 | 10M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.88 | 23.00 | 1.294 | - | - | -0.02 | 0.362 | 0.468 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 22.85 | 24.00 | 1.303 | - | - | -0.05 | 0.377 | 0.491 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.84 | 23.00 | 1.306 | - | - | -0.13 | 0.240 | 0.313 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 22.85 | 24.00 | 1.303 | - | - | 0.08 | 0.373 | 0.486 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23230 | 782 | 21.84 | 23.00 | 1.306 | - | - | 0.16 | 0.229 | 0.299 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 22.74 | 24.00 | 1.337 | - | - | 0.01 | 0.148 | 0.198 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 21.79 | 23.00 | 1.321 | - | - | -0.16 | 0.097 | 0.128 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 22.74 | 24.00 | 1.337 | - | - | 0.1 | 0.073 | 0.098 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 21.79 | 23.00 | 1.321 | - | - | -0.04 | 0.050 | 0.066 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 22.74 | 24.00 | 1.337 | - | - | -0.01 | 0.182 | 0.243 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 21.79 | 23.00 | 1.321 | - | - | 0 | 0.126 | 0.166 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 22.74 | 24.00 | 1.337 | - | - | -0.11 | 0.109 | 0.146 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 23330 | 793 | 21.79 | 23.00 | 1.321 | - | - | -0.06 | 0.074 | 0.098 |
| 04 | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 22.69 | 24.00 | 1.352 | - | - | 0.05 | 0.693 | **0.937** |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.72 | 23.00 | 1.343 | - | - | -0.15 | 0.456 | 0.612 |
| | LTE Band 14 | 10M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.62 | 23.00 | 1.374 | - | - | 0.03 | 0.437 | 0.600 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 22.69 | 24.00 | 1.352 | - | - | -0.13 | 0.624 | 0.844 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.72 | 23.00 | 1.343 | - | - | 0.16 | 0.383 | 0.514 |
| | LTE Band 14 | 10M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.62 | 23.00 | 1.374 | - | - | -0.15 | 0.369 | 0.507 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 22.69 | 24.00 | 1.352 | - | - | -0.02 | 0.393 | 0.531 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.72 | 23.00 | 1.343 | - | - | -0.09 | 0.254 | 0.341 |
| | LTE Band 14 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 22.69 | 24.00 | 1.352 | - | - | 0.14 | 0.377 | 0.510 |
| | LTE Band 14 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 23330 | 793 | 21.72 | 23.00 | 1.343 | - | - | 0.1 | 0.236 | 0.317 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.21 | 24.00 | 1.199 | - | - | -0.09 | 0.001 | 0.001 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.16 | 24.00 | 1.213 | - | - | 0.07 | 0.000 | 0.000 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.21 | 24.00 | 1.199 | - | - | -0.09 | 0.001 | 0.001 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.16 | 24.00 | 1.213 | - | - | -0.16 | 0.000 | 0.000 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.21 | 24.00 | 1.199 | - | - | -0.1 | 0.061 | 0.073 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.16 | 24.00 | 1.213 | - | - | -0.07 | 0.042 | 0.051 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.21 | 24.00 | 1.199 | - | - | 0.11 | 0.000 | 0.000 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 136100 | 680.5 | 23.16 | 24.00 | 1.213 | - | - | -0.08 | 0.000 | 0.000 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.33 | 18.50 | 1.309 | - | - | -0.01 | 0.552 | 0.723 |
| 05 | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.16 | 18.50 | 1.361 | - | - | -0.01 | 0.675 | **0.919** |
| | FR1 n71 | 35M | QPSK | 188 | 0 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 16.96 | 18.50 | 1.426 | - | - | -0.06 | 0.366 | 0.522 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.33 | 18.50 | 1.309 | - | - | -0.17 | 0.538 | 0.704 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.16 | 18.50 | 1.361 | - | - | -0.01 | 0.572 | 0.779 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.33 | 18.50 | 1.309 | - | - | 0.14 | 0.312 | 0.408 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.16 | 18.50 | 1.361 | - | - | 0.03 | 0.358 | 0.487 |
| | FR1 n71 | 35M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.33 | 18.50 | 1.309 | - | - | 0.1 | 0.322 | 0.422 |
| | FR1 n71 | 35M | QPSK | 94 | 47 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 136100 | 680.5 | 17.16 | 18.50 | 1.361 | - | - | 0.16 | 0.370 | 0.504 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 23.00 | 24.00 | 1.259 | - | - | -0.06 | 0.049 | 0.062 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 22.94 | 24.00 | 1.276 | - | - | 0.02 | 0.049 | 0.063 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 23.00 | 24.00 | 1.259 | - | - | -0.16 | 0.001 | 0.001 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 22.94 | 24.00 | 1.276 | - | - | 0.05 | 0.000 | 0.000 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 23.00 | 24.00 | 1.259 | - | - | -0.03 | 0.057 | 0.072 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 22.94 | 24.00 | 1.276 | - | - | 0.05 | 0.105 | 0.134 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 23.00 | 24.00 | 1.259 | - | - | -0.15 | 0.000 | 0.000 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 141500 | 707.5 | 22.94 | 24.00 | 1.276 | - | - | 0.16 | 0.050 | 0.064 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 23.16 | 24.00 | 1.213 | - | - | -0.06 | 0.334 | 0.405 |
| 06 | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 22.99 | 24.00 | 1.262 | - | - | -0.11 | 0.396 | **0.500** |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 23.16 | 24.00 | 1.213 | - | - | -0.01 | 0.317 | 0.385 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 22.99 | 24.00 | 1.262 | - | - | -0.11 | 0.337 | 0.425 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 23.16 | 24.00 | 1.213 | - | - | 0.19 | 0.191 | 0.232 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 22.99 | 24.00 | 1.262 | - | - | -0.14 | 0.205 | 0.259 |
| | FR1 n12 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 23.16 | 24.00 | 1.213 | - | - | -0.18 | 0.195 | 0.237 |
| | FR1 n12 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 141500 | 707.5 | 22.99 | 24.00 | 1.262 | - | - | -0.06 | 0.211 | 0.266 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.07 | 24.00 | 1.239 | - | - | 0.02 | 0.001 | 0.001 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.03 | 24.00 | 1.250 | - | - | 0.16 | 0.000 | 0.000 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.07 | 24.00 | 1.239 | - | - | 0.01 | 0.001 | 0.001 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.03 | 24.00 | 1.250 | - | - | -0.04 | 0.000 | 0.000 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.07 | 24.00 | 1.239 | - | - | 0.13 | 0.043 | 0.053 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.03 | 24.00 | 1.250 | - | - | 0.19 | 0.090 | 0.113 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.07 | 24.00 | 1.239 | - | - | 0.07 | 0.000 | 0.000 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 158600 | 793 | 23.03 | 24.00 | 1.250 | - | - | 0.08 | 0.000 | 0.000 |
| 07 | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.17 | 24.00 | 1.211 | - | - | -0.12 | 0.673 | **0.815** |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.02 | 24.00 | 1.253 | - | - | -0.06 | 0.645 | 0.808 |
| | FR1 n14 | 10M | QPSK | 50 | 0 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 22.07 | 23.00 | 1.239 | - | - | 0 | 0.423 | 0.524 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.17 | 24.00 | 1.211 | - | - | -0.03 | 0.531 | 0.643 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.02 | 24.00 | 1.253 | - | - | 0.07 | 0.527 | 0.660 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.17 | 24.00 | 1.211 | - | - | -0.03 | 0.401 | 0.485 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.02 | 24.00 | 1.253 | - | - | 0.02 | 0.383 | 0.480 |
| | FR1 n14 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.17 | 24.00 | 1.211 | - | - | 0.12 | 0.374 | 0.453 |
| | FR1 n14 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 158600 | 793 | 23.02 | 24.00 | 1.253 | - | - | 0.02 | 0.371 | 0.465 |
| **835MHz** | | | | | | | | | | | | | | | | | | | | |
| | GSM850 | - | - | - | - | GPRS (4 Tx slots) | Right Cheek | 0mm | Ant 0 | ECI 2 | 189 | 836.4 | 28.25 | 29.50 | 1.334 | - | - | 0 | 0.191 | 0.255 |
| | GSM850 | - | - | - | - | GPRS (4 Tx slots) | Right Tilted | 0mm | Ant 0 | ECI 2 | 189 | 836.4 | 28.25 | 29.50 | 1.334 | - | - | -0.1 | 0.093 | 0.124 |
| 08 | GSM850 | - | - | - | - | GPRS (4 Tx slots) | Left Cheek | 0mm | Ant 0 | ECI 2 | 189 | 836.4 | 28.25 | 29.50 | 1.334 | - | - | 0.05 | 0.237 | **0.316** |
| | GSM850 | - | - | - | - | GPRS (4 Tx slots) | Left Tilted | 0mm | Ant 0 | ECI 2 | 189 | 836.4 | 28.25 | 29.50 | 1.334 | - | - | 0 | 0.115 | 0.153 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 0 | ECI 2 | 4182 | 836.4 | 23.53 | 24.00 | 1.114 | - | - | 0.07 | 0.124 | 0.138 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 0 | ECI 2 | 4182 | 836.4 | 23.53 | 24.00 | 1.114 | - | - | 0.15 | 0.067 | 0.075 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 0 | ECI 2 | 4182 | 836.4 | 23.53 | 24.00 | 1.114 | - | - | -0.05 | 0.165 | 0.184 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 0 | ECI 2 | 4182 | 836.4 | 23.53 | 24.00 | 1.114 | - | - | -0.08 | 0.088 | 0.098 |
| 09 | WCDMA V | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 1 | ECI 2 | 4182 | 836.4 | 23.37 | 23.60 | 1.054 | - | - | 0.09 | 0.673 | **0.710** |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 4182 | 836.4 | 23.37 | 23.60 | 1.054 | - | - | -0.13 | 0.544 | 0.574 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 1 | ECI 2 | 4182 | 836.4 | 23.37 | 23.60 | 1.054 | - | - | 0.03 | 0.349 | 0.368 |
| | WCDMA V | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 1 | ECI 2 | 4182 | 836.4 | 23.37 | 23.60 | 1.054 | - | - | -0.01 | 0.335 | 0.353 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 22.64 | 24.00 | 1.368 | - | - | 0.04 | 0.144 | 0.197 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | 0.11 | 0.090 | 0.121 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 22.64 | 24.00 | 1.368 | - | - | -0.13 | 0.071 | 0.097 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | 0.12 | 0.048 | 0.064 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 22.64 | 24.00 | 1.368 | - | - | -0.11 | 0.179 | 0.245 |
| | LTE Band 5B | 10M | QPSK | 1 | 49 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 20476+ 20575 | 831.6+841.5 | 22.45 | 24.00 | 1.429 | - | - | 0.07 | 0.154 | 0.220 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | 0.17 | 0.112 | 0.150 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 22.64 | 24.00 | 1.368 | - | - | -0.16 | 0.094 | 0.129 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | -0.17 | 0.059 | 0.079 |
| 10 | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 22.62 | 24.00 | 1.374 | - | - | 0.01 | 0.692 | **0.951** |
| | LTE Band 5B | 10M | QPSK | 1 | 49 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 20476+ 20575 | 831.6+841.5 | 22.41 | 23.70 | 1.346 | - | - | 0.09 | 0.657 | 0.884 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | 0.11 | 0.457 | 0.612 |
| | LTE Band 26 | 15M | QPSK | 75 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.65 | 23.00 | 1.365 | - | - | -0.05 | 0.452 | 0.617 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 22.62 | 24.00 | 1.374 | - | - | -0.01 | 0.604 | 0.830 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | -0.14 | 0.400 | 0.536 |
| | LTE Band 26 | 15M | QPSK | 75 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.65 | 23.00 | 1.365 | - | - | -0.15 | 0.395 | 0.539 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 22.62 | 24.00 | 1.374 | - | - | -0.12 | 0.392 | 0.539 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | -0.17 | 0.253 | 0.339 |
| | LTE Band 26 | 15M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 22.62 | 24.00 | 1.374 | - | - | 0.01 | 0.398 | 0.547 |
| | LTE Band 26 | 15M | QPSK | 36 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 26865 | 831.5 | 21.73 | 23.00 | 1.340 | - | - | 0.02 | 0.264 | 0.354 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.38 | 24.00 | 1.452 | - | - | -0.01 | 0.061 | 0.089 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.30 | 24.00 | 1.479 | - | - | 0.09 | 0.072 | 0.106 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.38 | 24.00 | 1.452 | - | - | 0.1 | 0.001 | 0.001 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.30 | 24.00 | 1.479 | - | - | -0.04 | 0.000 | 0.000 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.38 | 24.00 | 1.452 | - | - | 0.15 | 0.077 | 0.112 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.30 | 24.00 | 1.479 | - | - | 0.08 | 0.084 | 0.124 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.38 | 24.00 | 1.452 | - | - | -0.16 | 0.046 | 0.067 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 166300 | 831.5 | 22.30 | 24.00 | 1.479 | - | - | 0.05 | 0.048 | 0.071 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.14 | 24.00 | 1.219 | - | - | -0.18 | 0.652 | 0.795 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.03 | 24.00 | 1.250 | - | - | -0.02 | 0.656 | **0.820** |
| | FR1 n26 | 20M | QPSK | 100 | 0 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 22.13 | 23.00 | 1.222 | - | - | -0.03 | 0.448 | 0.547 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.14 | 24.00 | 1.219 | - | - | -0.04 | 0.550 | 0.670 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.03 | 24.00 | 1.250 | - | - | -0.09 | 0.591 | 0.739 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.14 | 24.00 | 1.219 | - | - | 0.11 | 0.403 | 0.491 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.03 | 24.00 | 1.250 | - | - | 0.07 | 0.419 | 0.524 |
| | FR1 n26 | 20M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.14 | 24.00 | 1.219 | - | - | -0.03 | 0.393 | 0.479 |
| | FR1 n26 | 20M | QPSK | 50 | 28 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 166300 | 831.5 | 23.03 | 24.00 | 1.250 | - | - | 0.09 | 0.398 | 0.498 |
| 1750MHz | | | | | | | | | | | | | | | | | | | | |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 0 | ECI 2 | 1413 | 1732.6 | 23.23 | 24.00 | 1.194 | - | - | -0.08 | 0.163 | 0.195 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 0 | ECI 2 | 1413 | 1732.6 | 23.23 | 24.00 | 1.194 | - | - | -0.05 | 0.072 | 0.086 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 0 | ECI 2 | 1413 | 1732.6 | 23.23 | 24.00 | 1.194 | - | - | -0.03 | 0.130 | 0.155 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 0 | ECI 2 | 1413 | 1732.6 | 23.23 | 24.00 | 1.194 | - | - | 0.17 | 0.067 | 0.080 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 1 | ECI 2 | 1413 | 1732.6 | 16.97 | 18.00 | 1.268 | - | - | -0.14 | 0.442 | 0.560 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 1413 | 1732.6 | 16.97 | 18.00 | 1.268 | - | - | -0.15 | 0.637 | 0.807 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 1312 | 1712.4 | 16.70 | 18.00 | 1.349 | - | - | -0.12 | 0.596 | 0.804 |
| 12 | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 1513 | 1752.6 | 16.83 | 18.00 | 1.309 | - | - | 0.06 | 0.656 | **0.859** |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 1 | ECI 2 | 1413 | 1732.6 | 16.97 | 18.00 | 1.268 | - | - | -0.16 | 0.238 | 0.302 |
| | WCDMA IV | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 1 | ECI 2 | 1413 | 1732.6 | 16.97 | 18.00 | 1.268 | - | - | 0.02 | 0.310 | 0.393 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 22.43 | 24.00 | 1.435 | - | - | 0.01 | 0.200 | 0.287 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 21.42 | 23.00 | 1.439 | - | - | -0.11 | 0.121 | 0.174 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 22.43 | 24.00 | 1.435 | - | - | -0.05 | 0.097 | 0.139 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 21.42 | 23.00 | 1.439 | - | - | -0.04 | 0.067 | 0.096 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 22.43 | 24.00 | 1.435 | - | - | -0.08 | 0.116 | 0.167 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 21.42 | 23.00 | 1.439 | - | - | 0 | 0.072 | 0.104 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 22.43 | 24.00 | 1.435 | - | - | -0.14 | 0.084 | 0.121 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 21.42 | 23.00 | 1.439 | - | - | 0.01 | 0.070 | 0.101 |
| | LTE Band 66 Other PA | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 132322 | 1745 | 22.43 | 24.00 | 1.435 | - | - | -0.18 | 0.185 | 0.266 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.23 | 17.20 | 1.250 | - | - | 0.18 | 0.639 | 0.799 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.13 | 17.20 | 1.279 | - | - | 0.06 | 0.449 | 0.574 |
| 13 | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.23 | 17.20 | 1.250 | - | - | -0.11 | 0.686 | **0.858** |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132072 | 1720 | 16.06 | 17.20 | 1.300 | - | - | 0.1 | 0.526 | 0.684 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132572 | 1770 | 16.08 | 17.20 | 1.294 | - | - | 0.08 | 0.429 | 0.555 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.13 | 17.20 | 1.279 | - | - | 0 | 0.455 | 0.582 |
| | LTE Band 66 | 20M | QPSK | 100 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.00 | 17.20 | 1.318 | - | - | -0.07 | 0.455 | 0.600 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.23 | 17.20 | 1.250 | - | - | 0.11 | 0.298 | 0.373 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.13 | 17.20 | 1.279 | - | - | 0.1 | 0.195 | 0.249 |
| | LTE Band 66 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.23 | 17.20 | 1.250 | - | - | 0.12 | 0.416 | 0.520 |
| | LTE Band 66 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.13 | 17.20 | 1.279 | - | - | 0.14 | 0.280 | 0.358 |
| | LTE Band 66 Other PA | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 132322 | 1745 | 16.23 | 17.20 | 1.250 | - | - | 0.07 | 0.643 | 0.804 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.97 | 24.00 | 1.268 | - | - | 0.11 | 0.076 | 0.096 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.88 | 24.00 | 1.294 | - | - | 0.07 | 0.082 | 0.106 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.97 | 24.00 | 1.268 | - | - | -0.04 | 0.001 | 0.001 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.88 | 24.00 | 1.294 | - | - | -0.18 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.97 | 24.00 | 1.268 | - | - | -0.13 | 0.049 | 0.062 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.88 | 24.00 | 1.294 | - | - | -0.13 | 0.046 | 0.060 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.97 | 24.00 | 1.268 | - | - | 0 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.88 | 24.00 | 1.294 | - | - | -0.04 | 0.000 | 0.000 |
| | FR1 n70 Other PA | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 340500 | 1702.5 | 22.88 | 24.00 | 1.294 | - | - | 0.19 | 0.077 | 0.100 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.33 | 18.50 | 1.309 | - | - | -0.15 | 0.540 | 0.707 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.16 | 18.50 | 1.361 | - | - | -0.09 | 0.615 | 0.837 |
| | FR1 n70 | 15M | QPSK | 75 | 0 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 16.96 | 18.50 | 1.426 | - | - | 0.05 | 0.383 | 0.546 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.33 | 18.50 | 1.309 | - | - | 0.13 | 0.601 | 0.787 |
| 14 | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.16 | 18.50 | 1.361 | - | - | -0.12 | 0.656 | **0.893** |
| | FR1 n70 | 15M | QPSK | 75 | 0 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 16.96 | 18.50 | 1.426 | - | - | 0 | 0.420 | 0.599 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.33 | 18.50 | 1.309 | - | - | -0.12 | 0.317 | 0.415 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.16 | 18.50 | 1.361 | - | - | 0.15 | 0.341 | 0.464 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.33 | 18.50 | 1.309 | - | - | -0.07 | 0.441 | 0.577 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.16 | 18.50 | 1.361 | - | - | 0.1 | 0.475 | 0.647 |
| | FR1 n70 Other PA | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 340500 | 1702.5 | 17.16 | 18.50 | 1.361 | - | - | -0.15 | 0.621 | 0.845 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.27 | 24.00 | 1.183 | - | - | -0.02 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.06 | 24.00 | 1.242 | - | - | -0.1 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.27 | 24.00 | 1.183 | - | - | 0.14 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.06 | 24.00 | 1.242 | - | - | 0.04 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.27 | 24.00 | 1.183 | - | - | -0.05 | 0.063 | 0.075 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.06 | 24.00 | 1.242 | - | - | -0.04 | 0.064 | 0.079 |
| | FR1 n70 | 15M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.27 | 24.00 | 1.183 | - | - | 0.14 | 0.000 | 0.000 |
| | FR1 n70 | 15M | QPSK | 36 | 22 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 340500 | 1702.5 | 23.06 | 24.00 | 1.242 | - | - | 0.03 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.66 | 24.00 | 1.361 | - | - | 0.16 | 0.071 | 0.097 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.64 | 24.00 | 1.368 | - | - | 0.01 | 0.093 | 0.127 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.66 | 24.00 | 1.361 | - | - | -0.06 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.64 | 24.00 | 1.368 | - | - | 0.14 | 0.041 | 0.056 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.66 | 24.00 | 1.361 | - | - | -0.09 | 0.048 | 0.065 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.64 | 24.00 | 1.368 | - | - | -0.09 | 0.055 | 0.075 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.66 | 24.00 | 1.361 | - | - | -0.12 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.64 | 24.00 | 1.368 | - | - | -0.06 | 0.042 | 0.057 |
| | FR1 n66 Other PA | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 349000 | 1745 | 22.64 | 24.00 | 1.368 | - | - | 0.05 | 0.081 | 0.111 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.97 | 17.80 | 1.211 | - | - | -0.19 | 0.593 | 0.718 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.92 | 17.80 | 1.225 | - | - | 0.09 | 0.688 | 0.843 |
| | FR1 n66 | 40M | QPSK | 216 | 0 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.74 | 17.80 | 1.276 | - | - | 0.13 | 0.420 | 0.536 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.97 | 17.80 | 1.211 | - | - | -0.08 | 0.629 | 0.761 |
| 15 | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.92 | 17.80 | 1.225 | - | - | 0.09 | 0.725 | **0.888** |
| | FR1 n66 | 40M | QPSK | 216 | 0 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.74 | 17.80 | 1.276 | - | - | 0.08 | 0.442 | 0.564 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.97 | 17.80 | 1.211 | - | - | -0.04 | 0.353 | 0.427 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.92 | 17.80 | 1.225 | - | - | 0.12 | 0.386 | 0.473 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.97 | 17.80 | 1.211 | - | - | -0.02 | 0.456 | 0.552 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.92 | 17.80 | 1.225 | - | - | -0.16 | 0.489 | 0.599 |
| | FR1 n66 Other PA | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 349000 | 1745 | 16.92 | 17.80 | 1.225 | - | - | 0.01 | 0.698 | 0.855 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 23.14 | 24.00 | 1.219 | - | - | -0.06 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 22.97 | 24.00 | 1.268 | - | - | 0.08 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 23.14 | 24.00 | 1.219 | - | - | -0.07 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 22.97 | 24.00 | 1.268 | - | - | 0.11 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 23.14 | 24.00 | 1.219 | - | - | -0.13 | 0.069 | 0.084 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 22.97 | 24.00 | 1.268 | - | - | 0.04 | 0.080 | 0.101 |
| | FR1 n66 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 23.14 | 24.00 | 1.219 | - | - | 0.17 | 0.000 | 0.000 |
| | FR1 n66 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 349000 | 1745 | 22.97 | 24.00 | 1.268 | - | - | -0.1 | 0.030 | 0.038 |
| **1900MHz** | | | | | | | | | | | | | | | | | | | | |
| 16 | GSM1900 | - | - | - | - | GPRS (4 Tx slots) | Right Cheek | 0mm | Ant 0 | ECI 2 | 661 | 1880 | 25.66 | 26.50 | 1.213 | - | - | 0.17 | 0.120 | **0.146** |
| | GSM1900 | - | - | - | - | GPRS (4 Tx slots) | Right Tilted | 0mm | Ant 0 | ECI 2 | 661 | 1880 | 25.66 | 26.50 | 1.213 | - | - | -0.15 | 0.050 | 0.061 |
| | GSM1900 | - | - | - | - | GPRS (4 Tx slots) | Left Cheek | 0mm | Ant 0 | ECI 2 | 661 | 1880 | 25.66 | 26.50 | 1.213 | - | - | 0.18 | 0.080 | 0.097 |
| | GSM1900 | - | - | - | - | GPRS (4 Tx slots) | Left Tilted | 0mm | Ant 0 | ECI 2 | 661 | 1880 | 25.66 | 26.50 | 1.213 | - | - | 0.05 | 0.059 | 0.072 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 0 | ECI 2 | 9400 | 1880 | 23.42 | 24.00 | 1.143 | - | - | 0.04 | 0.196 | 0.224 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 0 | ECI 2 | 9400 | 1880 | 23.42 | 24.00 | 1.143 | - | - | 0.15 | 0.100 | 0.114 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 0 | ECI 2 | 9400 | 1880 | 23.42 | 24.00 | 1.143 | - | - | 0.03 | 0.159 | 0.182 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 0 | ECI 2 | 9400 | 1880 | 23.42 | 24.00 | 1.143 | - | - | -0.1 | 0.112 | 0.128 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Cheek | 0mm | Ant 1 | ECI 2 | 9400 | 1880 | 15.96 | 16.60 | 1.159 | - | - | 0.14 | 0.666 | 0.772 |
| 17 | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 9400 | 1880 | 15.96 | 16.60 | 1.159 | - | - | 0.09 | 0.726 | **0.841** |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 9262 | 1852.4 | 15.64 | 16.60 | 1.247 | - | - | 0.1 | 0.668 | 0.833 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Right Tilted | 0mm | Ant 1 | ECI 2 | 9538 | 1907.6 | 15.89 | 16.60 | 1.178 | - | - | -0.1 | 0.543 | 0.639 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Left Cheek | 0mm | Ant 1 | ECI 2 | 9400 | 1880 | 15.96 | 16.60 | 1.159 | - | - | -0.05 | 0.309 | 0.358 |
| | WCDMA II | - | - | - | - | RMC 12.2Kbps | Left Tilted | 0mm | Ant 1 | ECI 2 | 9400 | 1880 | 15.96 | 16.60 | 1.159 | - | - | -0.09 | 0.402 | 0.466 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 22.59 | 24.00 | 1.384 | - | - | -0.16 | 0.193 | 0.267 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 21.61 | 23.00 | 1.377 | - | - | 0.15 | 0.155 | 0.213 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 22.59 | 24.00 | 1.384 | - | - | -0.15 | 0.081 | 0.112 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 21.61 | 23.00 | 1.377 | - | - | 0.06 | 0.065 | 0.090 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 22.59 | 24.00 | 1.384 | - | - | 0.15 | 0.120 | 0.166 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 21.61 | 23.00 | 1.377 | - | - | -0.1 | 0.102 | 0.140 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 22.59 | 24.00 | 1.384 | - | - | 0.17 | 0.088 | 0.122 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 21.61 | 23.00 | 1.377 | - | - | 0.13 | 0.083 | 0.114 |
| | LTE Band 25 Other PA | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 26340 | 1880 | 22.59 | 24.00 | 1.384 | - | - | -0.1 | 0.175 | 0.242 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.97 | 16.10 | 1.297 | - | - | -0.02 | 0.540 | 0.700 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.89 | 16.10 | 1.321 | - | - | 0.13 | 0.448 | 0.592 |
| 18 | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.97 | 16.10 | 1.297 | - | - | -0.09 | 0.669 | **0.868** |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26140 | 1860 | 14.86 | 16.10 | 1.330 | - | - | -0.03 | 0.582 | 0.774 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26590 | 1905 | 14.83 | 16.10 | 1.340 | - | - | -0.13 | 0.579 | 0.776 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.89 | 16.10 | 1.321 | - | - | 0.05 | 0.554 | 0.732 |
| | LTE Band 25 | 20M | QPSK | 100 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.63 | 16.10 | 1.403 | - | - | 0.07 | 0.559 | 0.784 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.97 | 16.10 | 1.297 | - | - | 0 | 0.299 | 0.388 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.89 | 16.10 | 1.321 | - | - | -0.01 | 0.239 | 0.316 |
| | LTE Band 25 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.97 | 16.10 | 1.297 | - | - | 0.1 | 0.373 | 0.484 |
| | LTE Band 25 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.89 | 16.10 | 1.321 | - | - | -0.12 | 0.304 | 0.402 |
| | LTE Band 25 Other PA | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 26340 | 1880 | 14.97 | 16.10 | 1.297 | - | - | 0.18 | 0.603 | 0.782 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.79 | 24.00 | 1.321 | - | - | -0.05 | 0.102 | 0.135 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.70 | 24.00 | 1.349 | - | - | -0.12 | 0.110 | 0.148 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.79 | 24.00 | 1.321 | - | - | 0.18 | 0.048 | 0.063 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.70 | 24.00 | 1.349 | - | - | 0.14 | 0.058 | 0.078 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.79 | 24.00 | 1.321 | - | - | 0.03 | 0.118 | 0.156 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.70 | 24.00 | 1.349 | - | - | 0.09 | 0.090 | 0.121 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.79 | 24.00 | 1.321 | - | - | -0.13 | 0.058 | 0.077 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.70 | 24.00 | 1.349 | - | - | -0.09 | 0.058 | 0.078 |
| | FR1 n25 Other PA | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 376500 | 1882.5 | 22.79 | 24.00 | 1.321 | - | - | 0.07 | 0.105 | 0.139 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.57 | 16.40 | 1.211 | - | - | -0.18 | 0.652 | 0.789 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.52 | 16.40 | 1.225 | - | - | 0.12 | 0.624 | 0.764 |
| 19 | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.57 | 16.40 | 1.211 | - | - | -0.05 | 0.727 | **0.880** |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.52 | 16.40 | 1.225 | - | - | 0.11 | 0.701 | 0.858 |
| | FR1 n25 | 40M | QPSK | 216 | 0 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.29 | 16.40 | 1.291 | - | - | -0.06 | 0.556 | 0.718 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.57 | 16.40 | 1.211 | - | - | -0.02 | 0.360 | 0.436 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.52 | 16.40 | 1.225 | - | - | 0.02 | 0.341 | 0.418 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.57 | 16.40 | 1.211 | - | - | 0.02 | 0.458 | 0.554 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.52 | 16.40 | 1.225 | - | - | -0.11 | 0.451 | 0.552 |
| | FR1 n25 Other PA | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 376500 | 1882.5 | 15.57 | 16.40 | 1.211 | - | - | -0.1 | 0.684 | 0.828 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.20 | 24.00 | 1.202 | - | - | -0.05 | 0.097 | 0.117 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.11 | 24.00 | 1.227 | - | - | 0.03 | 0.102 | 0.125 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.20 | 24.00 | 1.202 | - | - | -0.06 | 0.000 | 0.000 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.11 | 24.00 | 1.227 | - | - | 0.01 | 0.043 | 0.053 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.20 | 24.00 | 1.202 | - | - | -0.03 | 0.331 | 0.398 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.11 | 24.00 | 1.227 | - | - | 0.03 | 0.364 | 0.447 |
| | FR1 n25 | 40M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.20 | 24.00 | 1.202 | - | - | -0.17 | 0.062 | 0.075 |
| | FR1 n25 | 40M | QPSK | 108 | 54 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 5 | ECI 2 | 376500 | 1882.5 | 23.11 | 24.00 | 1.227 | - | - | 0.02 | 0.072 | 0.088 |
| **2300MHz** | | | | | | | | | | | | | | | | | | | | |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 23.09 | 24.00 | 1.233 | - | - | -0.11 | 0.147 | 0.181 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 22.09 | 23.00 | 1.233 | - | - | 0.18 | 0.110 | 0.136 |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 23.09 | 24.00 | 1.233 | - | - | 0.16 | 0.044 | 0.054 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 22.09 | 23.00 | 1.233 | - | - | 0.19 | 0.000 | 0.000 |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 23.09 | 24.00 | 1.233 | - | - | 0.13 | 0.114 | 0.141 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 22.09 | 23.00 | 1.233 | - | - | -0.03 | 0.087 | 0.107 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 23.09 | 24.00 | 1.233 | - | - | 0.12 | 0.075 | 0.092 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 27710 | 2310 | 22.09 | 23.00 | 1.233 | - | - | 0.19 | 0.057 | 0.070 |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.18 | 14.90 | 1.180 | - | - | -0.09 | 0.639 | 0.754 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.15 | 14.90 | 1.189 | - | - | -0.12 | 0.520 | 0.618 |
| 20 | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.18 | 14.90 | 1.180 | - | - | -0.08 | 0.741 | **0.875** |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.15 | 14.90 | 1.189 | - | - | -0.18 | 0.611 | 0.726 |
| | LTE Band 30 | 10M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 13.93 | 14.90 | 1.250 | - | - | -0.06 | 0.593 | 0.741 |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.18 | 14.90 | 1.180 | - | - | 0.07 | 0.214 | 0.253 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.15 | 14.90 | 1.189 | - | - | -0.15 | 0.180 | 0.214 |
| | LTE Band 30 | 10M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.18 | 14.90 | 1.180 | - | - | -0.08 | 0.301 | 0.355 |
| | LTE Band 30 | 10M | QPSK | 25 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 27710 | 2310 | 14.15 | 14.90 | 1.189 | - | - | -0.04 | 0.235 | 0.279 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.41 | 24.00 | 1.146 | - | - | -0.07 | 0.152 | 0.174 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.24 | 24.00 | 1.191 | - | - | -0.08 | 0.148 | 0.176 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.41 | 24.00 | 1.146 | - | - | 0.12 | 0.054 | 0.062 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.24 | 24.00 | 1.191 | - | - | -0.07 | 0.050 | 0.060 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.41 | 24.00 | 1.146 | - | - | -0.05 | 0.112 | 0.128 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.24 | 24.00 | 1.191 | - | - | -0.04 | 0.104 | 0.124 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.41 | 24.00 | 1.146 | - | - | 0.13 | 0.059 | 0.068 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 462000 | 2310 | 23.24 | 24.00 | 1.191 | - | - | -0.03 | 0.062 | 0.074 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.34 | 16.30 | 1.247 | - | - | 0.09 | 0.602 | 0.751 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.24 | 16.30 | 1.276 | - | - | 0.06 | 0.578 | 0.738 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.34 | 16.30 | 1.247 | - | - | 0.17 | 0.691 | 0.862 |
| 21 | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.24 | 16.30 | 1.276 | - | - | -0.05 | 0.693 | **0.885** |
| | FR1 n30 | 10M | QPSK | 50 | 0 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.05 | 16.30 | 1.334 | - | - | 0.06 | 0.438 | 0.584 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.34 | 16.30 | 1.247 | - | - | 0.01 | 0.197 | 0.246 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.24 | 16.30 | 1.276 | - | - | -0.11 | 0.204 | 0.260 |
| | FR1 n30 | 10M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.34 | 16.30 | 1.247 | - | - | 0.09 | 0.258 | 0.322 |
| | FR1 n30 | 10M | QPSK | 25 | 14 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 462000 | 2310 | 15.24 | 16.30 | 1.276 | - | - | -0.02 | 0.267 | 0.341 |
| 2600MHz | | | | | | | | | | | | | | | | | | | | |
| 22 | LTE Band 7 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 23.08 | 24.00 | 1.236 | - | - | 0.02 | 0.143 | **0.177** |
| | LTE Band 7 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 22.11 | 23.00 | 1.227 | - | - | -0.08 | 0.112 | 0.137 |
| | LTE Band 7 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 23.08 | 24.00 | 1.236 | - | - | 0.06 | 0.048 | 0.059 |
| | LTE Band 7 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 22.11 | 23.00 | 1.227 | - | - | 0.15 | 0.000 | 0.000 |
| | LTE Band 7 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 23.08 | 24.00 | 1.236 | - | - | -0.08 | 0.102 | 0.126 |
| | LTE Band 7 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 22.11 | 23.00 | 1.227 | - | - | -0.05 | 0.081 | 0.099 |
| | LTE Band 7 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 23.08 | 24.00 | 1.236 | - | - | -0.18 | 0.079 | 0.098 |
| | LTE Band 7 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 21100 | 2535 | 22.11 | 23.00 | 1.227 | - | - | -0.08 | 0.067 | 0.082 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 22.82 | 24.00 | 1.312 | 62.9 | 1.006 | 0.18 | 0.098 | 0.129 |
| | LTE Band 41C | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 22.61 | 24.00 | 1.377 | 62.9 | 1.006 | 0.06 | 0.086 | 0.119 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 21.81 | 23.00 | 1.315 | 62.9 | 1.006 | 0.1 | 0.079 | 0.105 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 22.82 | 24.00 | 1.312 | 62.9 | 1.006 | 0.03 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 21.81 | 23.00 | 1.315 | 62.9 | 1.006 | 0.04 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 22.82 | 24.00 | 1.312 | 62.9 | 1.006 | -0.09 | 0.065 | 0.086 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 21.81 | 23.00 | 1.315 | 62.9 | 1.006 | 0 | 0.050 | 0.066 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 22.82 | 24.00 | 1.312 | 62.9 | 1.006 | 0.11 | 0.056 | 0.074 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 21.81 | 23.00 | 1.315 | 62.9 | 1.006 | 0.14 | 0.048 | 0.064 |
| | LTE Band 41 HPUE | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 25.67 | 27.00 | 1.358 | 42.9 | 1.009 | -0.15 | 0.123 | 0.169 |
| | LTE Band 41C HPUE | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 25.64 | 27.00 | 1.368 | 42.9 | 1.009 | -0.11 | 0.110 | 0.152 |
| | LTE Band 41 HPUE Other PA | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 40620 | 2593 | 25.67 | 27.00 | 1.358 | 42.9 | 1.009 | 0.02 | 0.109 | 0.149 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.89 | 20.50 | 1.151 | 62.9 | 1.006 | -0.03 | 0.513 | 0.594 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.82 | 20.50 | 1.169 | 62.9 | 1.006 | 0.17 | 0.443 | 0.521 |
| 23 | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.89 | 20.50 | 1.151 | 62.9 | 1.006 | -0.08 | 0.724 | **0.838** |
| | LTE Band 41C | 20M | QPSK | 1 | 99 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 19.80 | 20.50 | 1.175 | 62.9 | 1.006 | -0.08 | 0.703 | 0.831 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 39750 | 2506 | 19.86 | 20.50 | 1.159 | 62.9 | 1.006 | 0.01 | 0.689 | 0.803 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40185 | 2549.5 | 19.98 | 20.50 | 1.127 | 62.9 | 1.006 | -0.13 | 0.649 | 0.736 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 41055 | 2636.5 | 19.86 | 20.50 | 1.159 | 62.9 | 1.006 | -0.03 | 0.467 | 0.544 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 41490 | 2680 | 19.78 | 20.50 | 1.180 | 62.9 | 1.006 | 0.02 | 0.443 | 0.526 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.82 | 20.50 | 1.169 | 62.9 | 1.006 | 0.02 | 0.491 | 0.578 |
| | LTE Band 41 | 20M | QPSK | 100 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.51 | 20.50 | 1.256 | 62.9 | 1.006 | 0.02 | 0.486 | 0.614 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.89 | 20.50 | 1.151 | 62.9 | 1.006 | 0.01 | 0.178 | 0.206 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.82 | 20.50 | 1.169 | 62.9 | 1.006 | -0.03 | 0.138 | 0.162 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.89 | 20.50 | 1.151 | 62.9 | 1.006 | -0.13 | 0.247 | 0.286 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.82 | 20.50 | 1.169 | 62.9 | 1.006 | 0.07 | 0.190 | 0.224 |
| | LTE Band 41 HPUE | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 21.88 | 22.10 | 1.052 | 42.9 | 1.009 | 0.02 | 0.756 | 0.802 |
| | LTE Band 41C HPUE | 20M | QPSK | 1 | 99 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 21.78 | 22.10 | 1.076 | 42.9 | 1.009 | 0.02 | 0.722 | 0.784 |
| | LTE Band 41 Other PA | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 1 | ECI 2 | 40620 | 2593 | 19.89 | 20.50 | 1.151 | 62.9 | 1.006 | 0.16 | 0.695 | 0.805 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 23.05 | 24.00 | 1.245 | 62.9 | 1.006 | 0.17 | 0.008 | 0.010 |
| | LTE Band 41C | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 22.95 | 24.00 | 1.274 | 62.9 | 1.006 | 0.03 | 0.004 | 0.005 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 22.05 | 23.00 | 1.245 | 62.9 | 1.006 | 0.06 | 0.005 | 0.006 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 23.05 | 24.00 | 1.245 | 62.9 | 1.006 | -0.18 | 0.001 | 0.001 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 22.05 | 23.00 | 1.245 | 62.9 | 1.006 | 0.06 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 23.05 | 24.00 | 1.245 | 62.9 | 1.006 | 0.18 | 0.001 | 0.001 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 22.05 | 23.00 | 1.245 | 62.9 | 1.006 | -0.19 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 23.05 | 24.00 | 1.245 | 62.9 | 1.006 | 0.17 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 22.05 | 23.00 | 1.245 | 62.9 | 1.006 | -0.16 | 0.000 | 0.000 |
| | LTE Band 41 HPUE | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 24.54 | 26.00 | 1.400 | 42.9 | 1.009 | -0.08 | 0.009 | 0.013 |
| | LTE Band 41C HPUE | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 24.61 | 26.00 | 1.377 | 42.9 | 1.009 | 0.07 | 0.006 | 0.008 |
| | LTE Band 41 Other PA | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 0 | ECI 2 | 40620 | 2593 | 21.96 | 23.00 | 1.271 | 62.9 | 1.006 | 0.03 | 0.002 | 0.003 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 23.21 | 24.00 | 1.199 | 62.9 | 1.006 | 0.12 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 22.17 | 23.00 | 1.211 | 62.9 | 1.006 | -0.17 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 23.21 | 24.00 | 1.199 | 62.9 | 1.006 | -0.17 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 22.17 | 23.00 | 1.211 | 62.9 | 1.006 | 0.02 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 23.21 | 24.00 | 1.199 | 62.9 | 1.006 | -0.07 | 0.008 | 0.010 |
| | LTE Band 41C | 20M | QPSK | 1 | 99 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 23.36 | 24.00 | 1.159 | 62.9 | 1.006 | -0.07 | 0.007 | 0.008 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 22.17 | 23.00 | 1.211 | 62.9 | 1.006 | -0.03 | 0.001 | 0.001 |
| | LTE Band 41 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 23.21 | 24.00 | 1.199 | 62.9 | 1.006 | 0 | 0.000 | 0.000 |
| | LTE Band 41 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 22.17 | 23.00 | 1.211 | 62.9 | 1.006 | 0.09 | 0.000 | 0.000 |
| | LTE Band 41 HPUE | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 24.11 | 25.00 | 1.227 | 42.9 | 1.009 | -0.02 | 0.007 | 0.009 |
| | LTE Band 41C HPUE | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620+ 40818 | 2593+ 2612.8 | 24.27 | 25.00 | 1.183 | 42.9 | 1.009 | -0.02 | 0.005 | 0.006 |
| | LTE Band 41 Other PA | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 10 | ECI 2 | 40620 | 2593 | 23.21 | 24.00 | 1.199 | 62.9 | 1.006 | -0.07 | 0.001 | 0.001 |
| | FR1 n7 | 50M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.81 | 24.00 | 1.315 | - | - | 0.09 | 0.131 | 0.172 |
| 24 | FR1 n7 | 50M | QPSK | 135 | 68 | DFT-SCS-15KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.65 | 24.00 | 1.365 | - | - | -0.16 | 0.128 | 0.175 |
| | FR1 n7 | 50M | QPSK | 1 | 1 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.81 | 24.00 | 1.315 | - | - | -0.03 | 0.043 | 0.057 |
| | FR1 n7 | 50M | QPSK | 135 | 68 | DFT-SCS-15KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.65 | 24.00 | 1.365 | - | - | 0.03 | 0.040 | 0.055 |
| | FR1 n7 | 50M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.81 | 24.00 | 1.315 | - | - | 0.1 | 0.085 | 0.112 |
| | FR1 n7 | 50M | QPSK | 135 | 68 | DFT-SCS-15KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.65 | 24.00 | 1.365 | - | - | 0.03 | 0.081 | 0.111 |
| | FR1 n7 | 50M | QPSK | 1 | 1 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.81 | 24.00 | 1.315 | - | - | 0.06 | 0.063 | 0.083 |
| | FR1 n7 | 50M | QPSK | 135 | 68 | DFT-SCS-15KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 507000 | 2535 | 22.65 | 24.00 | 1.365 | - | - | 0.12 | 0.068 | 0.093 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.22 | 27.00 | 1.197 | - | - | -0.03 | 0.210 | 0.251 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.10 | 27.00 | 1.230 | - | - | 0.11 | 0.181 | 0.223 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.22 | 27.00 | 1.197 | - | - | 0.08 | 0.077 | 0.092 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.10 | 27.00 | 1.230 | - | - | 0.07 | 0.052 | 0.064 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.22 | 27.00 | 1.197 | - | - | 0.09 | 0.137 | 0.164 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.10 | 27.00 | 1.230 | - | - | -0.12 | 0.121 | 0.149 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.22 | 27.00 | 1.197 | - | - | 0.1 | 0.105 | 0.126 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 26.10 | 27.00 | 1.230 | - | - | -0.16 | 0.095 | 0.117 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 518598 | 2592.99 | 23.33 | 24.00 | 1.167 | - | - | 0.18 | 0.192 | 0.224 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Other PA | | | | | | | | | | | | | | | | | | | |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.45 | 17.30 | 1.216 | - | - | 0.17 | 0.600 | 0.730 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.24 | 17.30 | 1.276 | - | - | 0.12 | 0.546 | 0.697 |
| 25 | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.45 | 17.30 | 1.216 | - | - | 0.06 | 0.706 | 0.859 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.24 | 17.30 | 1.276 | - | - | -0.12 | 0.608 | 0.776 |
| | FR1 n41 HPUE | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.12 | 17.30 | 1.312 | - | - | -0.1 | 0.605 | 0.794 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.45 | 17.30 | 1.216 | - | - | 0.16 | 0.107 | 0.130 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.24 | 17.30 | 1.276 | - | - | -0.09 | 0.124 | 0.158 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.45 | 17.30 | 1.216 | - | - | 0.08 | 0.149 | 0.181 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.24 | 17.30 | 1.276 | - | - | 0.06 | 0.161 | 0.206 |
| | FR1 n41 HPUE Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 1 | ECI 2 | 518598 | 2592.99 | 16.45 | 17.30 | 1.216 | - | - | 0.03 | 0.654 | 0.795 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.63 | 26.00 | 1.371 | - | - | -0.07 | 0.042 | 0.058 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.41 | 26.00 | 1.442 | - | - | 0.12 | 0.047 | 0.068 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.63 | 26.00 | 1.371 | - | - | 0.08 | 0.040 | 0.055 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.41 | 26.00 | 1.442 | - | - | 0.15 | 0.044 | 0.063 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.63 | 26.00 | 1.371 | - | - | -0.11 | 0.039 | 0.053 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.41 | 26.00 | 1.442 | - | - | -0.05 | 0.000 | 0.000 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.63 | 26.00 | 1.371 | - | - | 0.02 | 0.000 | 0.000 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 24.41 | 26.00 | 1.442 | - | - | -0.05 | 0.000 | 0.000 |
| | FR1 n41 HPUE Other PA | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 0 | ECI 2 | 518598 | 2592.99 | 22.90 | 24.00 | 1.288 | - | - | 0.12 | 0.036 | 0.046 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.74 | 27.00 | 1.337 | - | - | 0.03 | 0.000 | 0.000 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.61 | 27.00 | 1.377 | - | - | 0.05 | 0.045 | 0.062 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.74 | 27.00 | 1.337 | - | - | -0.14 | 0.044 | 0.059 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.61 | 27.00 | 1.377 | - | - | -0.17 | 0.052 | 0.072 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.74 | 27.00 | 1.337 | - | - | 0.05 | 0.064 | 0.086 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.61 | 27.00 | 1.377 | - | - | 0.13 | 0.080 | 0.110 |
| | FR1 n41 HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.74 | 27.00 | 1.337 | - | - | 0.05 | 0.050 | 0.067 |
| | FR1 n41 HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.61 | 27.00 | 1.377 | - | - | -0.03 | 0.052 | 0.072 |
| | FR1 n41 HPUE Main PA | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 10 | ECI 2 | 518598 | 2592.99 | 25.39 | 27.00 | 1.449 | - | - | 0.13 | 0.074 | 0.107 |
| 3500MHz | | | | | | | | | | | | | | | | | | | | |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.29 | 19.00 | 1.178 | 62.9 | 1.006 | 0 | 0.594 | 0.704 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 42190 | 3460 | 18.28 | 19.00 | 1.180 | 62.9 | 1.006 | 0.08 | 0.564 | 0.670 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 42990 | 3540 | 18.22 | 19.00 | 1.197 | 62.9 | 1.006 | 0.01 | 0.581 | 0.699 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.27 | 19.00 | 1.183 | 62.9 | 1.006 | 0.1 | 0.481 | 0.572 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 100 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.03 | 19.00 | 1.250 | 62.9 | 1.006 | 0.1 | 0.467 | 0.587 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.29 | 19.00 | 1.178 | 62.9 | 1.006 | 0.07 | 0.157 | 0.186 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.27 | 19.00 | 1.183 | 62.9 | 1.006 | 0.15 | 0.125 | 0.149 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.29 | 19.00 | 1.178 | 62.9 | 1.006 | 0.1 | 0.204 | 0.242 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.27 | 19.00 | 1.183 | 62.9 | 1.006 | 0.09 | 0.162 | 0.193 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.29 | 19.00 | 1.178 | 62.9 | 1.006 | -0.12 | 0.058 | 0.069 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 4 | ECI 2 | 42590 | 3500 | 18.27 | 19.00 | 1.183 | 62.9 | 1.006 | -0.08 | 0.049 | 0.058 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.72 | 17.30 | 1.143 | 62.9 | 1.006 | 0.18 | 0.420 | 0.483 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.64 | 17.30 | 1.164 | 62.9 | 1.006 | -0.07 | 0.329 | 0.385 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.72 | 17.30 | 1.143 | 62.9 | 1.006 | -0.12 | 0.461 | 0.530 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.64 | 17.30 | 1.164 | 62.9 | 1.006 | 0 | 0.364 | 0.426 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.72 | 17.30 | 1.143 | 62.9 | 1.006 | -0.02 | 0.724 | 0.832 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42190 | 3460 | 16.69 | 17.30 | 1.151 | 62.9 | 1.006 | -0.07 | 0.696 | 0.806 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42990 | 3540 | 16.61 | 17.30 | 1.172 | 62.9 | 1.006 | -0.14 | 0.690 | 0.814 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42680 | 3509 | 16.60 | 17.30 | 1.175 | 62.9 | 1.006 | -0.06 | 0.688 | 0.813 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 43000 | 3541 | 16.53 | 17.30 | 1.194 | 62.9 | 1.006 | -0.08 | 0.624 | 0.750 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 43490 | 3590 | 16.58 | 17.30 | 1.180 | 62.9 | 1.006 | 0.05 | 0.633 | 0.752 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.64 | 17.30 | 1.164 | 62.9 | 1.006 | -0.07 | 0.577 | 0.676 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42190 | 3460 | 16.59 | 17.30 | 1.178 | 62.9 | 1.006 | 0.03 | 0.553 | 0.655 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42990 | 3540 | 16.57 | 17.30 | 1.183 | 62.9 | 1.006 | -0.08 | 0.561 | 0.668 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42680 | 3509 | 16.52 | 17.30 | 1.197 | 62.9 | 1.006 | 0.04 | 0.558 | 0.672 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 43000 | 3541 | 16.52 | 17.30 | 1.197 | 62.9 | 1.006 | -0.08 | 0.563 | 0.678 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 100 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.41 | 17.30 | 1.227 | 62.9 | 1.006 | -0.02 | 0.622 | 0.768 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.72 | 17.30 | 1.143 | 62.9 | 1.006 | 0.12 | 0.516 | 0.593 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 42590 | 3500 | 16.64 | 17.30 | 1.164 | 62.9 | 1.006 | -0.12 | 0.410 | 0.480 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 23.15 | 24.00 | 1.216 | 62.9 | 1.006 | 0.1 | 0.456 | 0.558 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 22.19 | 23.00 | 1.205 | 62.9 | 1.006 | 0.1 | 0.362 | 0.439 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 23.15 | 24.00 | 1.216 | 62.9 | 1.006 | 0.02 | 0.175 | 0.214 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 22.19 | 23.00 | 1.205 | 62.9 | 1.006 | 0 | 0.138 | 0.167 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 23.15 | 24.00 | 1.216 | 62.9 | 1.006 | 0.02 | 0.296 | 0.362 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 22.19 | 23.00 | 1.205 | 62.9 | 1.006 | -0.08 | 0.232 | 0.281 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 23.15 | 24.00 | 1.216 | 62.9 | 1.006 | -0.03 | 0.368 | 0.450 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 42590 | 3500 | 22.19 | 23.00 | 1.205 | 62.9 | 1.006 | -0.06 | 0.287 | 0.348 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.75 | 21.40 | 1.161 | 62.9 | 1.006 | 0.01 | 0.225 | 0.263 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.68 | 21.40 | 1.180 | 62.9 | 1.006 | 0.03 | 0.176 | 0.209 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.75 | 21.40 | 1.161 | 62.9 | 1.006 | -0.01 | 0.202 | 0.236 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.68 | 21.40 | 1.180 | 62.9 | 1.006 | -0.18 | 0.159 | 0.189 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.75 | 21.40 | 1.161 | 62.9 | 1.006 | -0.05 | 0.698 | 0.816 |
| 26 | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42190 | 3460 | 20.69 | 21.40 | 1.178 | 62.9 | 1.006 | -0.02 | 0.768 | **0.910** |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42990 | 3540 | 20.65 | 21.40 | 1.189 | 62.9 | 1.006 | -0.14 | 0.603 | 0.721 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.68 | 21.40 | 1.180 | 62.9 | 1.006 | 0.06 | 0.552 | 0.655 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42190 | 3460 | 20.64 | 21.40 | 1.191 | 62.9 | 1.006 | -0.08 | 0.532 | 0.638 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42990 | 3540 | 20.62 | 21.40 | 1.197 | 62.9 | 1.006 | 0.1 | 0.524 | 0.631 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 100 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.50 | 21.40 | 1.230 | 62.9 | 1.006 | -0.05 | 0.534 | 0.661 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.75 | 21.40 | 1.161 | 62.9 | 1.006 | -0.15 | 0.531 | 0.620 |
| | LTE Band 42 Part 27Q | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 6 | ECI 2 | 42590 | 3500 | 20.68 | 21.40 | 1.180 | 62.9 | 1.006 | -0.02 | 0.411 | 0.488 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.64 | 19.90 | 1.337 | 62.9 | 1.006 | -0.17 | 0.644 | 0.866 |
| 27 | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55340 | 3560 | 18.46 | 19.90 | 1.393 | 62.9 | 1.006 | 0.02 | 0.651 | **0.912** |
| | LTE Band 48C | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55340+ 55538 | 3560+ 3579.8 | 18.53 | 19.80 | 1.340 | 62.9 | 1.006 | -0.09 | 0.632 | 0.852 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 56150 | 3641 | 18.57 | 19.90 | 1.358 | 62.9 | 1.006 | 0.15 | 0.587 | 0.802 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 56640 | 3690 | 18.41 | 19.90 | 1.409 | 62.9 | 1.006 | -0.17 | 0.494 | 0.700 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.55 | 19.90 | 1.365 | 62.9 | 1.006 | -0.02 | 0.519 | 0.712 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55340 | 3560 | 18.43 | 19.90 | 1.403 | 62.9 | 1.006 | 0.06 | 0.525 | 0.741 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 56150 | 3641 | 18.47 | 19.90 | 1.390 | 62.9 | 1.006 | -0.09 | 0.473 | 0.661 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 56640 | 3690 | 18.31 | 19.90 | 1.442 | 62.9 | 1.006 | -0.08 | 0.398 | 0.577 |
| | LTE Band 48 | 20M | QPSK | 100 | 0 | - | Right Cheek | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.29 | 19.90 | 1.449 | 62.9 | 1.006 | -0.11 | 0.508 | 0.740 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.64 | 19.90 | 1.337 | 62.9 | 1.006 | -0.01 | 0.168 | 0.226 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.55 | 19.90 | 1.365 | 62.9 | 1.006 | -0.01 | 0.135 | 0.185 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.64 | 19.90 | 1.337 | 62.9 | 1.006 | 0.01 | 0.182 | 0.245 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.55 | 19.90 | 1.365 | 62.9 | 1.006 | -0.09 | 0.146 | 0.200 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.64 | 19.90 | 1.337 | 62.9 | 1.006 | 0.06 | 0.058 | 0.078 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 4 | ECI 2 | 55830 | 3609 | 18.55 | 19.90 | 1.365 | 62.9 | 1.006 | -0.05 | 0.049 | 0.067 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.62 | 16.60 | 1.253 | 62.9 | 1.006 | -0.07 | 0.361 | 0.455 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | 0.04 | 0.294 | 0.371 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.62 | 16.60 | 1.253 | 62.9 | 1.006 | -0.16 | 0.395 | 0.498 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | -0.04 | 0.319 | 0.403 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.62 | 16.60 | 1.253 | 62.9 | 1.006 | 0.01 | 0.613 | 0.773 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55340 | 3560 | 15.71 | 16.60 | 1.227 | 62.9 | 1.006 | 0.130 | 0.725 | 0.895 |
| | LTE Band 48C | 20M | QPSK | 1 | 99 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55340+<br>55538 | 3560+<br>3579.8 | 15.40 | 16.60 | 1.318 | 62.9 | 1.006 | 0.100 | 0.668 | 0.886 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 56150 | 3641 | 15.51 | 16.60 | 1.285 | 62.9 | 1.006 | -0.04 | 0.571 | 0.738 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 56640 | 3690 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | -0.19 | 0.515 | 0.651 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | -0.09 | 0.493 | 0.623 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55340 | 3560 | 15.66 | 16.60 | 1.242 | 62.9 | 1.006 | -0.01 | 0.583 | 0.728 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 56150 | 3641 | 15.53 | 16.60 | 1.279 | 62.9 | 1.006 | -0.08 | 0.459 | 0.591 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 56640 | 3690 | 15.46 | 16.60 | 1.300 | 62.9 | 1.006 | 0.05 | 0.414 | 0.541 |
| | LTE Band 48 | 20M | QPSK | 100 | 0 | - | Left Cheek | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.39 | 16.60 | 1.321 | 62.9 | 1.006 | -0.07 | 0.477 | 0.634 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.62 | 16.60 | 1.253 | 62.9 | 1.006 | -0.1 | 0.576 | 0.726 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 55340 | 3560 | 15.71 | 16.60 | 1.227 | 62.9 | 1.006 | 0.14 | 0.678 | 0.837 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 56150 | 3641 | 15.51 | 16.60 | 1.285 | 62.9 | 1.006 | -0.14 | 0.547 | 0.707 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 56640 | 3690 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | 0.03 | 0.509 | 0.643 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.61 | 16.60 | 1.256 | 62.9 | 1.006 | 0.04 | 0.468 | 0.591 |
| | LTE Band 48 | 20M | QPSK | 100 | 0 | - | Left Tilted | 0mm | Ant 7 | ECI 2 | 55830 | 3609 | 15.39 | 16.60 | 1.321 | 62.9 | 1.006 | -0.15 | 0.457 | 0.607 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 23.77 | 24.00 | 1.054 | 62.9 | 1.006 | 0.12 | 0.250 | 0.265 |
| | LTE Band 48C | 20M | QPSK | 1 | 99 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 55830+<br>56028 | 3609+<br>3628.8 | 23.64 | 24.00 | 1.086 | 62.9 | 1.006 | 0.02 | 0.237 | 0.259 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 22.73 | 23.00 | 1.064 | 62.9 | 1.006 | -0.09 | 0.227 | 0.243 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 23.77 | 24.00 | 1.054 | 62.9 | 1.006 | 0.07 | 0.103 | 0.109 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 22.73 | 23.00 | 1.064 | 62.9 | 1.006 | -0.04 | 0.091 | 0.097 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 23.77 | 24.00 | 1.054 | 62.9 | 1.006 | 0.13 | 0.144 | 0.153 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 22.73 | 23.00 | 1.064 | 62.9 | 1.006 | -0.03 | 0.129 | 0.138 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 23.77 | 24.00 | 1.054 | 62.9 | 1.006 | 0.13 | 0.189 | 0.200 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 2 | ECI 2 | 55830 | 3609 | 22.73 | 23.00 | 1.064 | 62.9 | 1.006 | -0.11 | 0.176 | 0.188 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Cheek | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.81 | 21.60 | 1.199 | 62.9 | 1.006 | 0.15 | 0.196 | 0.237 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Cheek | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.75 | 21.60 | 1.216 | 62.9 | 1.006 | -0.11 | 0.161 | 0.197 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Right Tilted | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.81 | 21.60 | 1.199 | 62.9 | 1.006 | 0.18 | 0.172 | 0.208 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Right Tilted | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.75 | 21.60 | 1.216 | 62.9 | 1.006 | 0.18 | 0.138 | 0.169 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.81 | 21.60 | 1.199 | 62.9 | 1.006 | 0.14 | 0.649 | 0.783 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55340 | 3560 | 20.73 | 21.60 | 1.222 | 62.9 | 1.006 | 0.01 | 0.740 | 0.910 |
| | LTE Band 48C | 20M | QPSK | 1 | 99 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55340+<br>55538 | 3560+<br>3579.8 | 20.81 | 21.50 | 1.172 | 62.9 | 1.006 | -0.07 | 0.718 | 0.847 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 56150 | 3641 | 21.01 | 21.60 | 1.146 | 62.9 | 1.006 | 0.06 | 0.647 | 0.746 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 56640 | 3690 | 20.97 | 21.60 | 1.156 | 62.9 | 1.006 | -0.02 | 0.626 | 0.728 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.75 | 21.60 | 1.216 | 62.9 | 1.006 | -0.13 | 0.524 | 0.641 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55340 | 3560 | 20.61 | 21.60 | 1.256 | 62.9 | 1.006 | 0.1 | 0.597 | 0.754 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 56150 | 3641 | 20.88 | 21.60 | 1.180 | 62.9 | 1.006 | -0.17 | 0.522 | 0.620 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 56640 | 3690 | 20.82 | 21.60 | 1.197 | 62.9 | 1.006 | 0.04 | 0.505 | 0.608 |
| | LTE Band 48 | 20M | QPSK | 100 | 0 | - | Left Cheek | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.63 | 21.60 | 1.250 | 62.9 | 1.006 | -0.05 | 0.533 | 0.670 |
| | LTE Band 48 | 20M | QPSK | 1 | 0 | - | Left Tilted | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.81 | 21.60 | 1.199 | 62.9 | 1.006 | -0.17 | 0.450 | 0.543 |
| | LTE Band 48 | 20M | QPSK | 50 | 0 | - | Left Tilted | 0mm | Ant 6 | ECI 2 | 55830 | 3609 | 20.75 | 21.60 | 1.216 | 62.9 | 1.006 | -0.02 | 0.369 | 0.451 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.63 | 16.60 | 1.250 | - | - | -0.09 | 0.690 | 0.863 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 638000 | 3570 | 15.54 | 16.60 | 1.276 | - | - | 0.08 | 0.662 | 0.845 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 645332 | 3679.98 | 15.52 | 16.60 | 1.282 | - | - | 0.01 | 0.673 | 0.863 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.48 | 16.60 | 1.294 | - | - | 0.04 | 0.637 | 0.824 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 638000 | 3570 | 15.36 | 16.60 | 1.330 | - | - | 0.03 | 0.602 | 0.801 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 645332 | 3679.98 | 15.33 | 16.60 | 1.340 | - | - | -0.08 | 0.611 | 0.819 |
| | FR1 n48 | 40M | QPSK | 216 | 0 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.22 | 16.60 | 1.374 | - | - | 0.01 | 0.523 | 0.719 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.63 | 16.60 | 1.250 | - | - | -0.18 | 0.177 | 0.221 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.48 | 16.60 | 1.294 | - | - | 0.08 | 0.164 | 0.212 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.63 | 16.60 | 1.250 | - | - | 0.18 | 0.228 | 0.285 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.48 | 16.60 | 1.294 | - | - | -0.08 | 0.177 | 0.229 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.63 | 16.60 | 1.250 | - | - | -0.07 | 0.072 | 0.090 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.48 | 16.60 | 1.294 | - | - | -0.06 | 0.059 | 0.076 |
| | FR1 n48 Other PA | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 641666 | 3624.99 | 15.63 | 16.60 | 1.250 | - | - | 0.01 | 0.653 | 0.816 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.76 | 11.80 | 1.271 | - | - | -0.1 | 0.403 | 0.512 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.60 | 11.80 | 1.318 | - | - | 0.04 | 0.375 | 0.494 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.76 | 11.80 | 1.271 | - | - | -0.09 | 0.410 | 0.521 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.60 | 11.80 | 1.318 | - | - | 0.03 | 0.394 | 0.519 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.76 | 11.80 | 1.271 | - | - | -0.04 | 0.674 | 0.856 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 638000 | 3570 | 10.68 | 11.80 | 1.294 | - | - | -0.08 | 0.628 | 0.813 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 645332 | 3679.98 | 10.74 | 11.80 | 1.276 | - | - | 0.1 | 0.649 | 0.828 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.60 | 11.80 | 1.318 | - | - | 0.19 | 0.632 | 0.833 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 638000 | 3570 | 10.43 | 11.80 | 1.371 | - | - | -0.18 | 0.602 | 0.825 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 645332 | 3679.98 | 10.45 | 11.80 | 1.365 | - | - | 0.1 | 0.597 | 0.815 |
| | FR1 n48 | 40M | QPSK | 216 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.42 | 11.80 | 1.374 | - | - | 0.16 | 0.532 | 0.731 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.76 | 11.80 | 1.271 | - | - | -0.1 | 0.638 | 0.811 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 638000 | 3570 | 10.68 | 11.80 | 1.294 | - | - | 0.12 | 0.613 | 0.793 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 645332 | 3679.98 | 10.74 | 11.80 | 1.276 | - | - | 0.08 | 0.624 | 0.796 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.60 | 11.80 | 1.318 | - | - | 0.12 | 0.597 | 0.787 |
| | FR1 n48 | 40M | QPSK | 216 | 0 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.42 | 11.80 | 1.374 | - | - | 0.1 | 0.482 | 0.662 |
| | FR1 n48 Main PA | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 641666 | 3624.99 | 10.72 | 11.80 | 1.282 | - | - | -0.05 | 0.633 | 0.812 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.47 | 24.00 | 1.130 | - | - | 0.05 | 0.407 | 0.460 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.29 | 24.00 | 1.178 | - | - | 0 | 0.366 | 0.431 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.47 | 24.00 | 1.130 | - | - | 0 | 0.168 | 0.190 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.29 | 24.00 | 1.178 | - | - | -0.14 | 0.142 | 0.167 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.47 | 24.00 | 1.130 | - | - | 0.18 | 0.253 | 0.286 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.29 | 24.00 | 1.178 | - | - | -0.12 | 0.225 | 0.265 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.47 | 24.00 | 1.130 | - | - | 0.03 | 0.306 | 0.346 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.29 | 24.00 | 1.178 | - | - | 0.07 | 0.259 | 0.305 |
| | FR1 n48 Other PA | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 641666 | 3624.99 | 23.20 | 24.00 | 1.202 | - | - | 0.17 | 0.364 | 0.438 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 18.10 | 19.20 | 1.288 | - | - | -0.15 | 0.208 | 0.268 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 17.96 | 19.20 | 1.330 | - | - | 0.06 | 0.176 | 0.234 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 18.10 | 19.20 | 1.288 | - | - | 0.09 | 0.182 | 0.234 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 17.96 | 19.20 | 1.330 | - | - | 0.11 | 0.150 | 0.200 |
| 28 | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 18.10 | 19.20 | 1.288 | - | - | -0.05 | 0.681 | 0.877 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 638000 | 3570 | 18.09 | 19.20 | 1.291 | - | - | -0.17 | 0.672 | 0.868 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 645332 | 3679.98 | 17.95 | 19.20 | 1.334 | - | - | -0.03 | 0.631 | 0.841 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 17.96 | 19.20 | 1.330 | - | - | -0.16 | 0.596 | 0.793 |
| | FR1 n48 | 40M | QPSK | 216 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 17.76 | 19.20 | 1.393 | - | - | 0 | 0.463 | 0.645 |
| | FR1 n48 | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 18.10 | 19.20 | 1.288 | - | - | 0.03 | 0.480 | 0.618 |
| | FR1 n48 | 40M | QPSK | 108 | 54 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 17.96 | 19.20 | 1.330 | - | - | -0.17 | 0.385 | 0.512 |
| | FR1 n48 Other PA | 40M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 641666 | 3624.99 | 18.12 | 19.20 | 1.282 | - | - | -0.17 | 0.645 | 0.827 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.29 | 16.50 | 1.321 | - | - | 0.07 | 0.418 | 0.552 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.24 | 16.50 | 1.337 | - | - | -0.15 | 0.353 | 0.472 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.29 | 16.50 | 1.321 | - | - | -0.07 | 0.091 | 0.120 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.24 | 16.50 | 1.337 | - | - | 0.19 | 0.091 | 0.122 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.02 | 16.50 | 1.406 | - | - | 0.04 | 0.092 | 0.129 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.29 | 16.50 | 1.321 | - | - | -0.09 | 0.087 | 0.115 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.24 | 16.50 | 1.337 | - | - | -0.03 | 0.035 | 0.047 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.02 | 16.50 | 1.406 | - | - | -0.01 | 0.034 | 0.048 |
| | FR1 n77 Part 27O Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 656000 | 3840 | 15.35 | 16.50 | 1.303 | - | - | -0.02 | 0.356 | 0.464 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.35 | 16.50 | 1.303 | - | - | -0.02 | 0.459 | 0.598 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.28 | 16.50 | 1.324 | - | - | 0.17 | 0.646 | 0.856 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.07 | 16.50 | 1.390 | - | - | -0.02 | 0.662 | 0.920 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.35 | 16.50 | 1.303 | - | - | -0.12 | 0.119 | 0.155 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.28 | 16.50 | 1.324 | - | - | 0 | 0.167 | 0.221 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.35 | 16.50 | 1.303 | - | - | 0 | 0.170 | 0.222 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.28 | 16.50 | 1.324 | - | - | -0.04 | 0.233 | 0.309 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.35 | 16.50 | 1.303 | - | - | -0.16 | 0.051 | 0.066 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.28 | 16.50 | 1.324 | - | - | 0.05 | 0.065 | 0.086 |
| | FR1 n77 Part 27Q Other PA | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 4 | ECI 2 | 633334 | 3500.01 | 15.02 | 16.50 | 1.406 | - | - | 0.14 | 0.652 | 0.917 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.81 | 13.70 | 1.227 | - | - | 0.02 | 0.329 | 0.404 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.61 | 13.70 | 1.285 | - | - | 0.15 | 0.375 | 0.482 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.81 | 13.70 | 1.227 | - | - | 0.04 | 0.370 | 0.454 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.61 | 13.70 | 1.285 | - | - | -0.05 | 0.444 | 0.571 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.81 | 13.70 | 1.227 | - | - | -0.15 | 0.529 | 0.649 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.61 | 13.70 | 1.285 | - | - | 0.11 | 0.654 | 0.841 |
| | FR1 n77 Part 27O | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.49 | 13.70 | 1.321 | - | - | -0.13 | 0.632 | 0.835 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.81 | 13.70 | 1.227 | - | - | 0.1 | 0.524 | 0.643 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.61 | 13.70 | 1.285 | - | - | -0.09 | 0.645 | 0.829 |
| | FR1 n77 Part 27O | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.49 | 13.70 | 1.321 | - | - | -0.14 | 0.619 | 0.818 |
| | FR1 n77 Part 27O HPUE Other PA | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 656000 | 3840 | 12.67 | 13.70 | 1.268 | - | - | 0.18 | 0.635 | 0.805 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.51 | 13.70 | 1.315 | - | - | 0.13 | 0.382 | 0.502 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.41 | 13.70 | 1.346 | - | - | 0.01 | 0.356 | 0.479 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.51 | 13.70 | 1.315 | - | - | 0.18 | 0.389 | 0.512 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.41 | 13.70 | 1.346 | - | - | 0.01 | 0.361 | 0.486 |
| 29 | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.51 | 13.70 | 1.315 | - | - | 0.14 | 0.703 | **0.925** |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.41 | 13.70 | 1.346 | - | - | -0.06 | 0.642 | 0.864 |
| | FR1 n77 Part 27Q | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.15 | 13.70 | 1.429 | - | - | -0.08 | 0.640 | 0.914 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.51 | 13.70 | 1.315 | - | - | 0.07 | 0.611 | 0.804 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.41 | 13.70 | 1.346 | - | - | -0.04 | 0.567 | 0.763 |
| | FR1 n77 Part 27Q | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.15 | 13.70 | 1.429 | - | - | -0.04 | 0.591 | 0.844 |
| | FR1 n77 Part 27Q HPUE Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 7 | ECI 2 | 633334 | 3500.01 | 12.55 | 13.70 | 1.303 | - | - | -0.05 | 0.675 | 0.880 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.37 | 27.00 | 1.156 | - | - | -0.07 | 0.539 | 0.623 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.24 | 27.00 | 1.191 | - | - | 0.14 | 0.455 | 0.542 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.37 | 27.00 | 1.156 | - | - | -0.13 | 0.181 | 0.209 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.24 | 27.00 | 1.191 | - | - | -0.04 | 0.149 | 0.177 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.37 | 27.00 | 1.156 | - | - | 0.04 | 0.351 | 0.406 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.24 | 27.00 | 1.191 | - | - | 0.02 | 0.271 | 0.323 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.37 | 27.00 | 1.156 | - | - | 0.09 | 0.366 | 0.423 |
| | FR1 n77 Part 27O HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 26.24 | 27.00 | 1.191 | - | - | -0.14 | 0.300 | 0.357 |
| | FR1 n77 Part 27O Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 656000 | 3840 | 23.31 | 24.00 | 1.172 | - | - | 0.11 | 0.511 | 0.599 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.49 | 27.00 | 1.125 | - | - | -0.19 | 0.257 | 0.289 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.32 | 27.00 | 1.169 | - | - | 0.11 | 0.188 | 0.220 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.49 | 27.00 | 1.125 | - | - | 0.16 | 0.092 | 0.103 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.32 | 27.00 | 1.169 | - | - | -0.08 | 0.079 | 0.092 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.49 | 27.00 | 1.125 | - | - | -0.1 | 0.150 | 0.169 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.32 | 27.00 | 1.169 | - | - | 0.17 | 0.105 | 0.123 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.49 | 27.00 | 1.125 | - | - | -0.12 | 0.164 | 0.184 |
| | FR1 n77 Part 27Q HPUE | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 26.32 | 27.00 | 1.169 | - | - | -0.03 | 0.145 | 0.170 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR1 n77 Part 27Q Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 2 | ECI 2 | 633334 | 3500.01 | 23.43 | 24.00 | 1.140 | - | - | 0.14 | 0.235 | 0.268 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.93 | 17.00 | 1.279 | - | - | -0.07 | 0.150 | 0.192 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.78 | 17.00 | 1.324 | - | - | 0.18 | 0.167 | 0.221 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.93 | 17.00 | 1.279 | - | - | 0.03 | 0.124 | 0.159 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.78 | 17.00 | 1.324 | - | - | 0.01 | 0.138 | 0.183 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.93 | 17.00 | 1.279 | - | - | -0.14 | 0.672 | 0.860 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.78 | 17.00 | 1.324 | - | - | 0.15 | 0.650 | 0.861 |
| | FR1 n77 Part 27O | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.64 | 17.00 | 1.368 | - | - | -0.01 | 0.548 | 0.750 |
| | FR1 n77 Part 27O | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.93 | 17.00 | 1.279 | - | - | 0.11 | 0.336 | 0.430 |
| | FR1 n77 Part 27O | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.78 | 17.00 | 1.324 | - | - | 0.08 | 0.389 | 0.515 |
| | FR1 n77 Part 27Q HPUE Other PA | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 656000 | 3840 | 15.96 | 17.00 | 1.271 | - | - | -0.03 | 0.624 | 0.793 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.92 | 17.00 | 1.282 | - | - | -0.01 | 0.213 | 0.273 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Cheek | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.78 | 17.00 | 1.324 | - | - | 0.09 | 0.188 | 0.249 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.92 | 17.00 | 1.282 | - | - | -0.04 | 0.199 | 0.255 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Right Tilted | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.78 | 17.00 | 1.324 | - | - | -0.1 | 0.179 | 0.237 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.92 | 17.00 | 1.282 | - | - | -0.07 | 0.696 | 0.893 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.78 | 17.00 | 1.324 | - | - | 0.02 | 0.614 | 0.813 |
| | FR1 n77 Part 27Q | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Cheek | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.92 | 17.00 | 1.282 | - | - | -0.01 | 0.610 | 0.782 |
| | FR1 n77 Part 27Q | 100M | QPSK | 1 | 1 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.78 | 17.00 | 1.324 | - | - | 0.06 | 0.555 | 0.735 |
| | FR1 n77 Part 27Q | 100M | QPSK | 135 | 69 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.92 | 17.00 | 1.282 | - | - | 0.1 | 0.500 | 0.641 |
| | FR1 n77 Part 27Q HPUE Other PA | 100M | QPSK | 270 | 0 | DFT-SCS-30KHz | Left Tilted | 0mm | Ant 6 | ECI 2 | 633334 | 3500.01 | 15.60 | 17.00 | 1.380 | - | - | -0.17 | 0.598 | 0.825 |

| Plot No. | Band | Mode | Test Position | Gap (mm) | Antenna | Power State | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **WLAN/BT** | | | | | | | | |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Cheek | 0mm | Ant 3+5(3) | Standalone | 6 | 2437 | 17.36 | 18.50 | 1.300 | 99.52 | 1.005 | 0.08 | 0.457 | 0.597 |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Tilted | 0mm | Ant 3+5(3) | Standalone | 6 | 2437 | 17.36 | 18.50 | 1.300 | 99.52 | 1.005 | 0.01 | 0.535 | 0.699 |
| 30 | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek | 0mm | Ant 3+5(3) | Standalone | 6 | 2437 | 17.36 | 18.50 | 1.300 | 99.52 | 1.005 | 0.12 | 0.986 | 1.288 |
| | WLAN2.4GHz | 802.11n-HT40 MCS0 | Left Cheek | 0mm | Ant 3+5(3) | Standalone | 6 | 2437 | 17.30 | 18.50 | 1.318 | 94.2 | 1.062 | 0.01 | 0.850 | 1.190 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek | 0mm | Ant 3+5(3) | Standalone | 1 | 2412 | 17.02 | 18.50 | 1.406 | 99.52 | 1.005 | 0.03 | 0.782 | 1.105 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek | 0mm | Ant 3+5(3) | Standalone | 11 | 2462 | 16.86 | 18.50 | 1.459 | 99.52 | 1.005 | -0.08 | 0.622 | 0.912 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Tilted | 0mm | Ant 3+5(3) | Standalone | 6 | 2437 | 17.36 | 18.50 | 1.300 | 99.52 | 1.005 | -0.08 | 0.558 | 0.729 |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Cheek | 0mm | Ant 3+5(3) | Simultaneous | 6 | 2437 | 11.87 | 13.00 | 1.297 | 99.52 | 1.005 | 0.02 | 0.124 | 0.162 |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Tilted | 0mm | Ant 3+5(3) | Simultaneous | 6 | 2437 | 11.87 | 13.00 | 1.297 | 99.52 | 1.005 | 0.06 | 0.145 | 0.189 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek | 0mm | Ant 3+5(3) | Simultaneous | 6 | 2437 | 11.87 | 13.00 | 1.297 | 99.52 | 1.005 | 0.1 | 0.268 | 0.349 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Tilted | 0mm | Ant 3+5(3) | Simultaneous | 6 | 2437 | 11.87 | 13.00 | 1.297 | 99.52 | 1.005 | 0.06 | 0.152 | 0.198 |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Cheek | 0mm | Ant 3+5(3) | DBS Simultaneous | 6 | 2437 | 8.91 | 10.00 | 1.285 | 99.52 | 1.005 | -0.05 | 0.068 | 0.088 |
| | WLAN2.4GHz | 802.11b 1Mbps | Right Tilted | 0mm | Ant 3+5(3) | DBS Simultaneous | 6 | 2437 | 8.91 | 10.00 | 1.285 | 99.52 | 1.005 | 0.06 | 0.079 | 0.102 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek | 0mm | Ant 3+5(3) | DBS Simultaneous | 6 | 2437 | 8.91 | 10.00 | 1.285 | 99.52 | 1.005 | 0.05 | 0.146 | 0.189 |
| | WLAN2.4GHz | 802.11b 1Mbps | Left Tilted | 0mm | Ant 3+5(3) | DBS Simultaneous | 6 | 2437 | 8.91 | 10.00 | 1.285 | 99.52 | 1.005 | 0.01 | 0.083 | 0.107 |
| | Bluetooth | 1Mbps | Right Cheek | 0mm | Ant3 | Full power | 39 | 2441 | 16.65 | 18.00 | 1.365 | 76.8 | 1.085 | 0.1 | 0.058 | 0.086 |
| | Bluetooth | 1Mbps | Right Tilted | 0mm | Ant3 | Full power | 39 | 2441 | 16.65 | 18.00 | 1.365 | 76.8 | 1.085 | 0.12 | 0.074 | 0.110 |
| 31 | Bluetooth | 1Mbps | Left Cheek | 0mm | Ant3 | Full power | 39 | 2441 | 16.65 | 18.00 | 1.365 | 76.8 | 1.085 | -0.01 | 0.129 | 0.191 |
| | Bluetooth | 1Mbps | Left Tilted | 0mm | Ant3 | Full power | 39 | 2441 | 16.65 | 18.00 | 1.365 | 76.8 | 1.085 | 0.08 | 0.084 | 0.124 |
| | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Right Cheek | 0mm | Ant 6 | Standalone | 58 | 5290 | 15.10 | 16.50 | 1.380 | 86.49 | 1.156 | -0.03 | 0.222 | 0.354 |
| | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Right Tilted | 0mm | Ant 6 | Standalone | 58 | 5290 | 15.10 | 16.50 | 1.380 | 86.49 | 1.156 | 0.14 | 0.223 | 0.356 |
| 32 | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Standalone | 58 | 5290 | 15.10 | 16.50 | 1.380 | 86.49 | 1.156 | -0.13 | 0.737 | 1.176 |
| | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Standalone | 58 | 5290 | 15.10 | 16.50 | 1.380 | 86.49 | 1.156 | 0.11 | 0.478 | 0.763 |
| | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Simultaneous | 58 | 5290 | 10.10 | 11.50 | 1.380 | 86.49 | 1.156 | -0.13 | 0.236 | 0.377 |
| | WLAN5.3GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Simultaneous | 58 | 5290 | 10.10 | 11.50 | 1.380 | 86.49 | 1.156 | -0.02 | 0.153 | 0.244 |
| | WLAN5.3GHz | 802.11n-HT40 MCS0 | Right Cheek | 0mm | Ant 10 | Full power | 54 | 5270 | 19.86 | 21.50 | 1.458 | 94.12 | 1.062 | 0.18 | 0.046 | 0.071 |
| | WLAN5.3GHz | 802.11n-HT40 MCS0 | Right Tilted | 0mm | Ant 10 | Full power | 54 | 5270 | 19.86 | 21.50 | 1.458 | 94.12 | 1.062 | 0.14 | 0.050 | 0.077 |
| | WLAN5.3GHz | 802.11n-HT40 MCS0 | Left Cheek | 0mm | Ant 10 | Full power | 54 | 5270 | 19.86 | 21.50 | 1.458 | 94.12 | 1.062 | -0.17 | 0.044 | 0.068 |
| | WLAN5.3GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 54 | 5270 | 19.86 | 21.50 | 1.458 | 94.12 | 1.062 | 0.17 | 0.086 | 0.133 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WLAN5.3GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 62 | 5310 | 19.27 | 21.00 | 1.488 | 94.12 | 1.062 | -0.05 | 0.082 | 0.130 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Right Cheek | 0mm | Ant 6 | Standalone | 138 | 5690 | 15.50 | 17.00 | 1.412 | 86.49 | 1.156 | 0.1 | 0.234 | 0.382 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Right Tilted | 0mm | Ant 6 | Standalone | 138 | 5690 | 15.50 | 17.00 | 1.412 | 86.49 | 1.156 | -0.17 | 0.227 | 0.371 |
| 33 | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Standalone | 138 | 5690 | 15.50 | 17.00 | 1.412 | 86.49 | 1.156 | 0.12 | 0.702 | **1.146** |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Standalone | 106 | 5530 | 15.46 | 17.00 | 1.425 | 86.49 | 1.156 | 0.04 | 0.530 | 0.873 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Standalone | 122 | 5610 | 15.21 | 16.50 | 1.346 | 86.49 | 1.156 | -0.01 | 0.495 | 0.770 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Standalone | 138 | 5690 | 15.50 | 17.00 | 1.412 | 86.49 | 1.156 | -0.08 | 0.400 | 0.653 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Simultaneous | 138 | 5690 | 10.50 | 12.00 | 1.412 | 86.49 | 1.156 | 0.05 | 0.241 | 0.393 |
| | WLAN5.5GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Simultaneous | 138 | 5690 | 10.50 | 12.00 | 1.412 | 86.49 | 1.156 | -0.06 | 0.137 | 0.224 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Right Cheek | 0mm | Ant 10 | Full power | 110 | 5550 | 19.30 | 21.00 | 1.478 | 94.12 | 1.062 | -0.09 | 0.040 | 0.063 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Right Tilted | 0mm | Ant 10 | Full power | 110 | 5550 | 19.30 | 21.00 | 1.478 | 94.12 | 1.062 | -0.08 | 0.054 | 0.085 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Left Cheek | 0mm | Ant 10 | Full power | 110 | 5550 | 19.30 | 21.00 | 1.478 | 94.12 | 1.062 | 0.13 | 0.083 | 0.130 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 110 | 5550 | 19.30 | 21.00 | 1.478 | 94.12 | 1.062 | 0.12 | 0.088 | 0.138 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 102 | 5510 | 18.94 | 20.50 | 1.431 | 94.12 | 1.062 | 0.03 | 0.076 | 0.116 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 134 | 5670 | 18.81 | 20.50 | 1.475 | 94.12 | 1.062 | 0.18 | 0.068 | 0.106 |
| | WLAN5.5GHz | 802.11n-HT40 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 142 | 5710 | 18.72 | 20.00 | 1.342 | 94.12 | 1.062 | 0.16 | 0.079 | 0.113 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Right Cheek | 0mm | Ant 6 | Standalone | 155 | 5775 | 16.42 | 18.00 | 1.439 | 86.49 | 1.156 | 0.07 | 0.239 | 0.397 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Right Tilted | 0mm | Ant 6 | Standalone | 155 | 5775 | 16.42 | 18.00 | 1.439 | 86.49 | 1.156 | 0.18 | 0.231 | 0.384 |
| 34 | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Standalone | 155 | 5775 | 16.42 | 18.00 | 1.439 | 86.49 | 1.156 | 0.07 | 0.703 | **1.169** |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Standalone | 155 | 5775 | 16.42 | 18.00 | 1.439 | 86.49 | 1.156 | -0.1 | 0.437 | 0.727 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 6 | Simultaneous | 155 | 5775 | 11.32 | 13.00 | 1.472 | 86.49 | 1.156 | 0.01 | 0.234 | 0.398 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 6 | Simultaneous | 155 | 5775 | 11.32 | 13.00 | 1.472 | 86.49 | 1.156 | -0.05 | 0.145 | 0.247 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Right Cheek | 0mm | Ant 10 | Full power | 155 | 5775 | 19.40 | 21.00 | 1.445 | 86.49 | 1.156 | 0.19 | 0.043 | 0.072 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Right Tilted | 0mm | Ant 10 | Full power | 155 | 5775 | 19.40 | 21.00 | 1.445 | 86.49 | 1.156 | 0.07 | 0.046 | 0.077 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Cheek | 0mm | Ant 10 | Full power | 155 | 5775 | 19.40 | 21.00 | 1.445 | 86.49 | 1.156 | -0.18 | 0.072 | 0.120 |
| | WLAN5.8GHz | 802.11ac VHT80 MCS0 | Left Tilted | 0mm | Ant 10 | Full power | 155 | 5775 | 19.40 | 21.00 | 1.445 | 86.49 | 1.156 | 0.03 | 0.131 | 0.219 |

## 16.2 Hotspot SAR

| Plot No. | Band | BW (MHz) | Modulation | RB Size | RB offset | Mode | Test Position | Gap (mm) | Antenna | Power State | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 750MHz | | | | | | | | | | | |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.08 | 0.132 | 0.145 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0.01 | 0.090 | 0.097 |
| 35 | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | -0.05 | 0.770 | **0.844** |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0.03 | 0.523 | 0.563 |
| | LTE Band 71 | 20M | QPSK | 100 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.66 | 23.00 | 1.081 | - | - | -0.08 | 0.246 | 0.266 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | -0.08 | 0.483 | 0.530 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0.1 | 0.286 | 0.308 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.1 | 0.109 | 0.120 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | 0.12 | 0.073 | 0.079 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Bottom Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 23.60 | 24.00 | 1.096 | - | - | 0.08 | 0.440 | 0.482 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Bottom Side | 5mm | Ant 0 | ECI 7 | 133297 | 680.5 | 22.68 | 23.00 | 1.076 | - | - | -0.17 | 0.230 | 0.248 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Front | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 22.61 | 23.70 | 1.285 | - | - | 0.11 | 0.235 | 0.302 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Front | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 21.65 | 23.00 | 1.365 | - | - | -0.05 | 0.146 | 0.199 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Back | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 22.61 | 23.70 | 1.285 | - | - | -0.1 | 0.480 | 0.617 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Back | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 21.65 | 23.00 | 1.365 | - | - | 0.18 | 0.263 | 0.359 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Left Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 22.61 | 23.70 | 1.285 | - | - | -0.17 | 0.168 | 0.216 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Left Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 21.65 | 23.00 | 1.365 | - | - | 0.17 | 0.113 | 0.154 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Right Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 22.61 | 23.70 | 1.285 | - | - | -0.05 | 0.091 | 0.117 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Right Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 21.65 | 23.00 | 1.365 | - | - | 0.01 | 0.059 | 0.081 |
| | LTE Band 71 | 20M | QPSK | 1 | 0 | - | Top Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 22.61 | 23.70 | 1.285 | - | - | 0.1 | 0.364 | 0.468 |
| | LTE Band 71 | 20M | QPSK | 50 | 0 | - | Top Side | 5mm | Ant 1 | ECI 7 | 133297 | 680.5 | 21.65 | 23.00 | 1.365 | - | - | -0.17 | 0.155 | 0.212 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | -0.01 | 0.267 | 0.329 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | -0.08 | 0.189 | 0.233 |
| 36 | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | -0.02 | 0.844 | **1.041** |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0.05 | 0.545 | 0.670 |
| | LTE Band 12 | 10M | QPSK | 50 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.12 | 23.00 | 1.225 | - | - | 0.06 | 0.553 | 0.677 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | -0.09 | 0.642 | 0.792 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | -0.08 | 0.361 | 0.444 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | 0.12 | 0.177 | 0.218 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0.03 | 0.106 | 0.130 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Bottom Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 23.09 | 24.00 | 1.233 | - | - | 0.18 | 0.434 | 0.535 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Bottom Side | 5mm | Ant 0 | ECI 7 | 23095 | 707.5 | 22.10 | 23.00 | 1.230 | - | - | 0.16 | 0.265 | 0.326 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Front | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | -0.1 | 0.145 | 0.188 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Front | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | 0.01 | 0.092 | 0.117 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Back | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | -0.05 | 0.231 | 0.299 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Back | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | -0.15 | 0.189 | 0.241 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Left Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | 0.19 | 0.097 | 0.126 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Left Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | 0.07 | 0.059 | 0.075 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Right Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | -0.18 | 0.070 | 0.091 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Right Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | 0.03 | 0.045 | 0.057 |
| | LTE Band 12 | 10M | QPSK | 1 | 0 | - | Top Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 22.88 | 24.00 | 1.294 | - | - | -0.02 | 0.268 | 0.347 |
| | LTE Band 12 | 10M | QPSK | 25 | 0 | - | Top Side | 5mm | Ant 1 | ECI 7 | 23095 | 707.5 | 21.95 | 23.00 | 1.274 | - | - | -0.15 | 0.163 | 0.208 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | 0.11 | 0.276 | 0.351 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Front | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | -0.08 | 0.163 | 0.205 |
| 37 | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | -0.05 | 0.704 | **0.894** |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | -0.17 | 0.473 | 0.595 |
| | LTE Band 13 | 10M | QPSK | 50 | 0 | - | Back | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 21.93 | 23.00 | 1.279 | - | - | -0.08 | 0.386 | 0.494 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | -0.04 | 0.384 | 0.488 |
| | LTE Band 13 | 10M | QPSK | 25 | 0 | - | Left Side | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.00 | 23.00 | 1.259 | - | - | -0.08 | 0.214 | 0.269 |
| | LTE Band 13 | 10M | QPSK | 1 | 0 | - | Right Side | 5mm | Ant 0 | ECI 7 | 23230 | 782 | 22.96 | 24.00 | 1.271 | - | - | 0.17 | 0.132 | 0.168 |