# SAR TEST REPORT

## No. I22Z61294-SEM01

**For**

**TCL Communication Ltd.**

**Tablet PC**

**Model Name: 9183G**

**with**

**Hardware Version: 05**

**Software Version: 9H5D**

**FCC ID: 2ACCJB185**

**Issued Date: 2022-09-04**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

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# REPORT HISTORY

| Report Number | Revision | Issue Date | Description |
|---|---|---|---|
| I22Z61294-SEM01 | Rev.0 | 2022-08-23 | Initial creation of test report |
| I22Z61294-SEM01 | Rev.1 | 2022-09-04 | Update the information on section 4.1.<br>Update the information on section 5.2.<br>Update the information on page 70.<br>Update the information for n78. |

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# 1 Test Laboratory

## 1.1 Testing Location

| | |
|---|---|
| Company Name: | CTTL(Shouxiang) |
| Address: | No. 51, Xueyuan Road, Haidian District, Beijing, P. R. China 100191. |

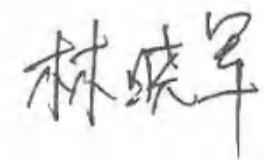
## 1.2 Testing Environment

| | |
|---|---|
| Temperature: | 18°C~25°C, |
| Relative humidity: | 30%~ 70% |
| Ground system resistance: | < 0.5 Ω |
| Ambient noise & Reflection: | < 0.012 W/kg |

## 1.3 Project Data

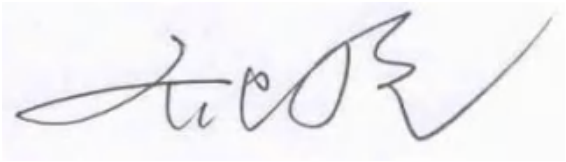
| | |
|---|---|
| Project Leader: | Qi Dianyuan |
| Test Engineer: | Lin Xiaojun |
| Testing Start Date: | July 26, 2022 |
| Testing End Date: | September 4, 2022 |

## 1.4 Signature



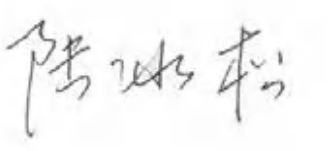
**Yao Juming**

**(Prepared this test report)**



**Qi Dianyuan**

**(Reviewed this test report)**



**Lu Bingsong**

**Deputy Director of the laboratory**

**(Approved this test report)**

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for TCL Communication Ltd. Tablet PC 9183G are as follows:

**Table 2.1: Highest Reported SAR (1g)**

| Technology Band | Body SAR 1g (W/kg) | Equipment Class |
|---|---|---|
| GSM850 | 0.96 | PCT |
| GSM1900 | 1.14 | |
| WCDMA1900 | **1.33** | |
| WCDMA 850 | 0.99 | |
| LTE Band5 | 0.95 | |
| LTE Band7-ANT0 | 1.30 | |
| LTE Band7-ANT5 | 0.58 | |
| LTE Band41-PC2 | 1.03 | |
| LTE Band41-PC3 | 0.70 | |
| N41 | 0.97 | |
| N78 | 0.97 | |
| WLAN 2.4GHz | 1.12 | DTS |
| WLAN 5GHz | 1.08 | NII |
| Bluetooth | 0.45 | DSS |

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 0mm/14mm/17mm/19mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of **(Table 2.1),** and the values are**:**

**Body: 1.33 W/kg(1g)**

**Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G**

| | Position | Main antenna | WiFi-2.4G | Sum |
|---|---|---|---|---|
| **Highest SAR value for Body** | Top 0mm (GSM1900) | 1.00 | 0.42 | **1.42** |

**Table 2.4: The sum of SAR values for Main antenna + WiFi-5G + BT**

| | Position | Main antenna | WiFi-5G | BT | Sum |
|---|---|---|---|---|---|
| **Highest SAR value for Body** | Top 0mm (LTE B5) | 0.27 | 1.08 | 0.20 | **1.55** |
| | Rear 19mm (LTE B41_PC2) | 0.64 | 0.46 | 0.45 | **1.55** |

According to the above tables, the highest sum of reported SAR values is **1.55 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 15.

**Conclusion:**

According to the above tables, the sum of reported SAR values is<1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

# 3 Client Information

## 3.1 Applicant Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address/Post: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| Contact Person: | Peter yang |
| E-mail: | peter.yang@tcl.com |
| Telephone: | +86 755 3664 5759 |
| Fax: | +86 755 3661 2000-81722 |

## 3.2 Manufacturer Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address/Post: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| Contact Person: | Peter yang |
| E-mail: | peter.yang@tcl.com |
| Telephone: | +86 755 3664 5759 |
| Fax: | +86 755 3661 2000-81722 |

# 4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

## 4.1 About EUT

| | |
|---|---|
| Description: | Tablet PC |
| Model name: | 9183G |
| Operating mode(s): | GSM850/900/1800/1900, WCDMA850/900/1900/2100<br>LTEBand1/3/5/7/8/20/28/38/40/41,n1/3/7/8/28/41/78<br>BT, Wi-Fi(2.4G&5G) |
| Tested Tx Frequency: | 824 – 849 MHz (GSM 850) |
| | 1850 – 1910 MHz (GSM 1900) |
| | 824 – 849 MHz (WCDMA 850 Band V) |
| | 1850–1910 MHz (WCDMA1900 Band II) |
| | 824.7 – 848.3 MHz (LTE Band 5) |
| | 2500 – 2570 MHz (LTE Band 7) |
| | 2498.5 – 2687.5 MHz (LTE Band41) |
| | 2496 – 2690 MHz (n41) |
| | 3450 – 3550 MHz (n78) |
| | 2412 – 2462 MHz (Wi-Fi 2.4G) |
| | 2400 – 2483.5 MHz (Bluetooth) |
| | 5150 – 5250 MHz (U-NII-1) |
| | 5250 – 5350 MHz (U-NII-2A) |
| | 5500 – 5720 MHz (U-NII-2C) |
| | 5725 – 5850 MHz (U-NII-3) |
| GPRS/EGPRS Multislot Class: | 12 |
| Test device production information: | Production unit |
| Device type: | Portable device |
| Antenna type: | Integrated antenna |
| Hotspot mode: | Support |

## 4.2 Internal Identification of EUT used during the test

| EUT ID* | IMEI/SN | HW Version | SW Version |
|---|---|---|---|
| EUT1 | 352506670201797 | 05 | 9H5D |
| EUT2 | 352506670201771 | 05 | 9H5D |
| EUT3 | 352506670201730 | 05 | 9H5D |
| EUT4 | 352506670201722 | 05 | 9H5D |

*EUT ID: is used to identify the test sample in the lab internally.

**Note:** It is performed to test SAR with the EUT1-2 and conducted power with the EUT3-4.

## 4.3 Internal Identification of AE used during the test

| AE ID* | Description | Model | SN | Manufacturer |
|---|---|---|---|---|
| AE1 | Battery | TLp078C1 | / | BYD |

*AE ID: is used to identify the test sample in the lab internally.

# 5 TEST METHODOLOGY

## 5.1 Applicable Limit Regulations

**ANSI C95.1–1992:**IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

## 5.2 Applicable Measurement Standards

**IEEE 1528–2013:** Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

**KDB447498 D01: General RF Exposure Guidance v06:** Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

**KDB616217 D04 SAR for laptop and tablets v01r02** SAR Evaluation Considerations for Laptop, Notebook, Notebook and Tablet Computers.

**KDB941225 D01 SAR test for 3G devices v03r01:** SAR Measurement Procedures for 3G Devices

**KDB941225 D05 SAR for LTE Devices v02r05:** SAR Evaluation Considerations for LTE Devices

**KDB941225 D06 Hotspot Mode SAR v02r01:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

**KDB248227 D01 802.11 Wi-Fi SAR v02r02:** SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

**KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04:** SAR Measurement Requirements for 100 MHz to 6 GHz.

**KDB865664 D02 RF Exposure Reporting v01r02:** RF Exposure Compliance Reporting and Documentation Considerations

# 6 Specific Absorption Rate (SAR)

## 6.1 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.

## 6.2 SAR Definition

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

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

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

Where: C is the specific head capacity, $\delta T$ is the temperature rise and $\delta t$ is the exposure duration, or related to the electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

# 7 Tissue Simulating Liquids

## 7.1 Targets for tissue simulating liquid

**Table 7.1: Targets for tissue simulating liquid**

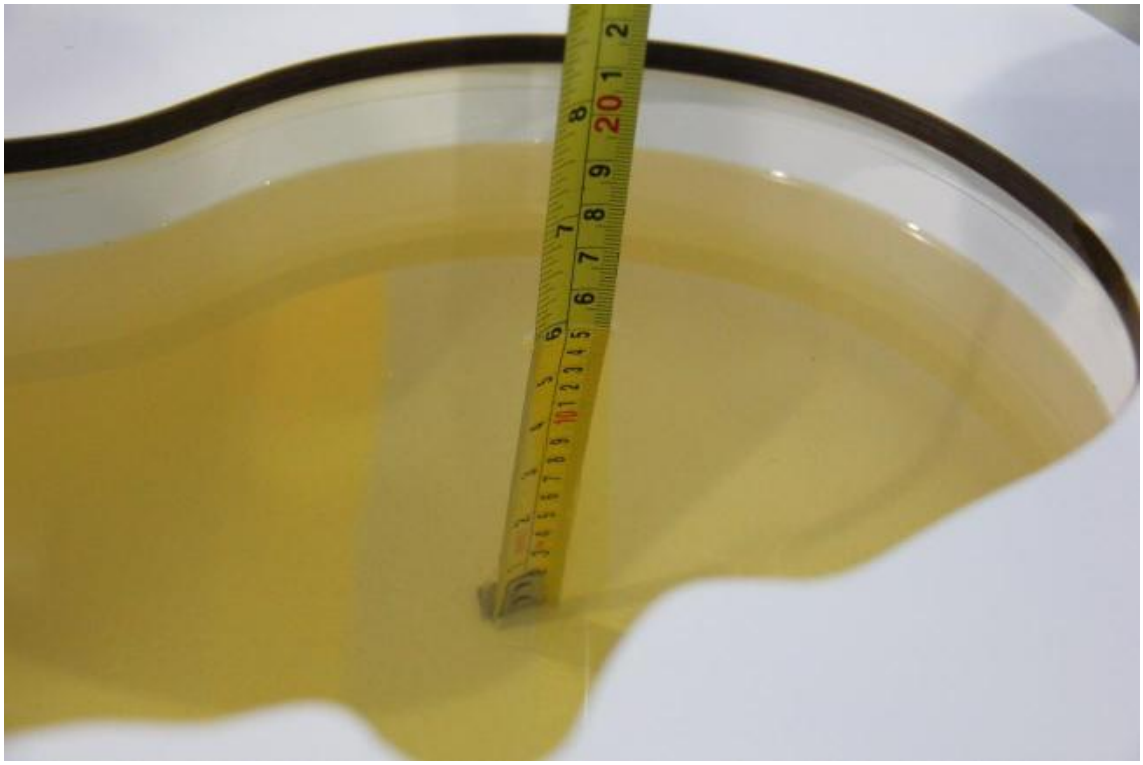
| Frequency(MHz) | Liquid Type | Conductivity(σ) | ± 5% Range | Permittivity(ε) | ± 5% Range |
|---|---|---|---|---|---|
| 835 | Head | 0.90 | 0.86～0.95 | 41.5 | 39.4～43.6 |
| 1900 | Head | 1.40 | 1.33～1.47 | 40.0 | 38.0～42.0 |
| 2450 | Head | 1.67 | 1.59～1.75 | 39.47 | 37.5～41.4 |
| 2600 | Head | 1.96 | 1.86～2.06 | 39.01 | 37.1～41.0 |
| 5250 | Head | 4.71 | 4.47～4.95 | 35.93 | 34.13～37.73 |
| 5600 | Head | 5.07 | 4.82～5.32 | 35.53 | 33.8～37.3 |
| 5750 | Head | 5.22 | 4.96～5.48 | 35.36 | 33.59～37.13 |

## 7.2 Dielectric Performance

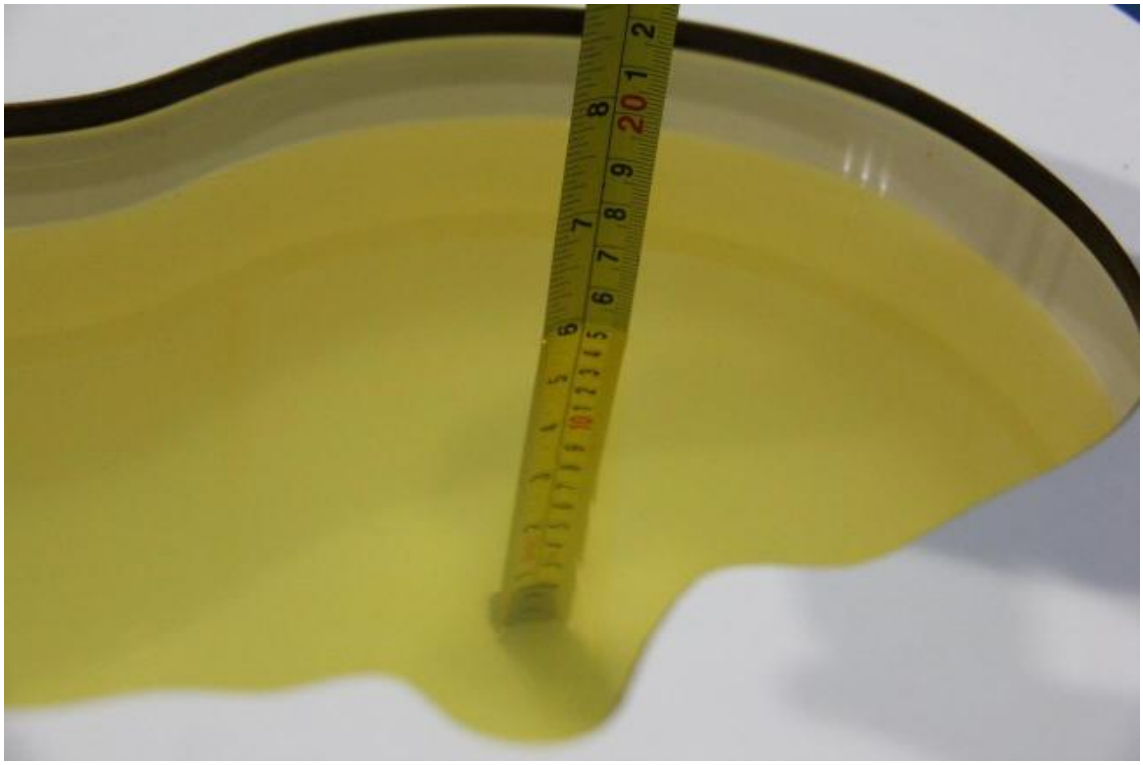
**Table 7.2: Dielectric Performance of Tissue Simulating Liquid**

| Measurement Date (yyyy-mm-dd) | Type | Frequency | Permittivity ε | Drift (%) | Conductivity σ (S/m) | Drift (%) |
|---|---|---|---|---|---|---|
| 2022-7-28 | Head | 835 MHz | 42.96 | 3.52 | 0.927 | 3.00 |
| 2022-7-29 | Head | 1900 MHz | 41.7 | 4.25 | 1.372 | -2.00 |
| 2022-7-26 | Head | 2450 MHz | 40.91 | 4.36 | 1.809 | 0.50 |
| 2022-8-18 | Head | 2600 MHz | 40.95 | 4.97 | 1.907 | -2.70 |
| 2022-9-4 | Head | 3500 MHz | 39.23 | 3.43 | 2.866 | -1.51 |
| 2022-8-10 | Head | 5250 MHz | 37.47 | 4.29 | 4.752 | 0.89 |
| 2022-8-10 | Head | 5600 MHz | 36.93 | 3.94 | 5.308 | 4.69 |
| 2022-8-10 | Head | 5750 MHz | 36.93 | 4.44 | 5.402 | 3.49 |

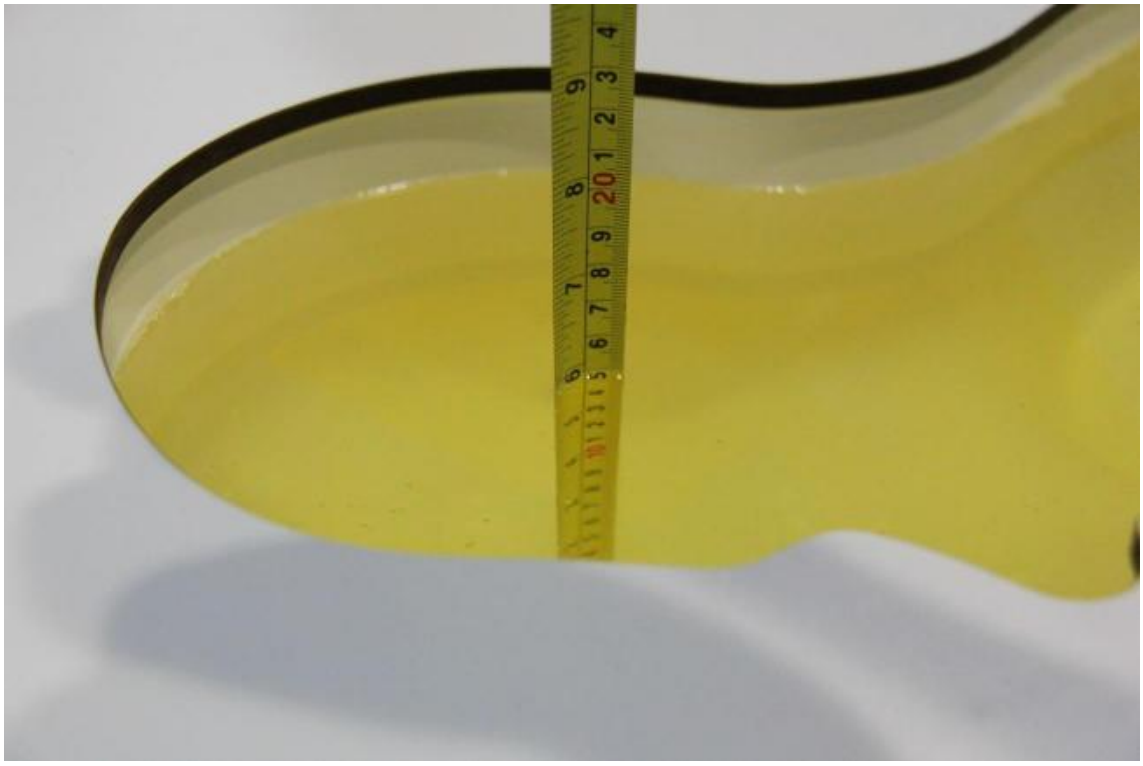
Note: The liquid temperature is 22.0℃



**Picture 7-1 Liquid depth in the Head Phantom (835 MHz)**

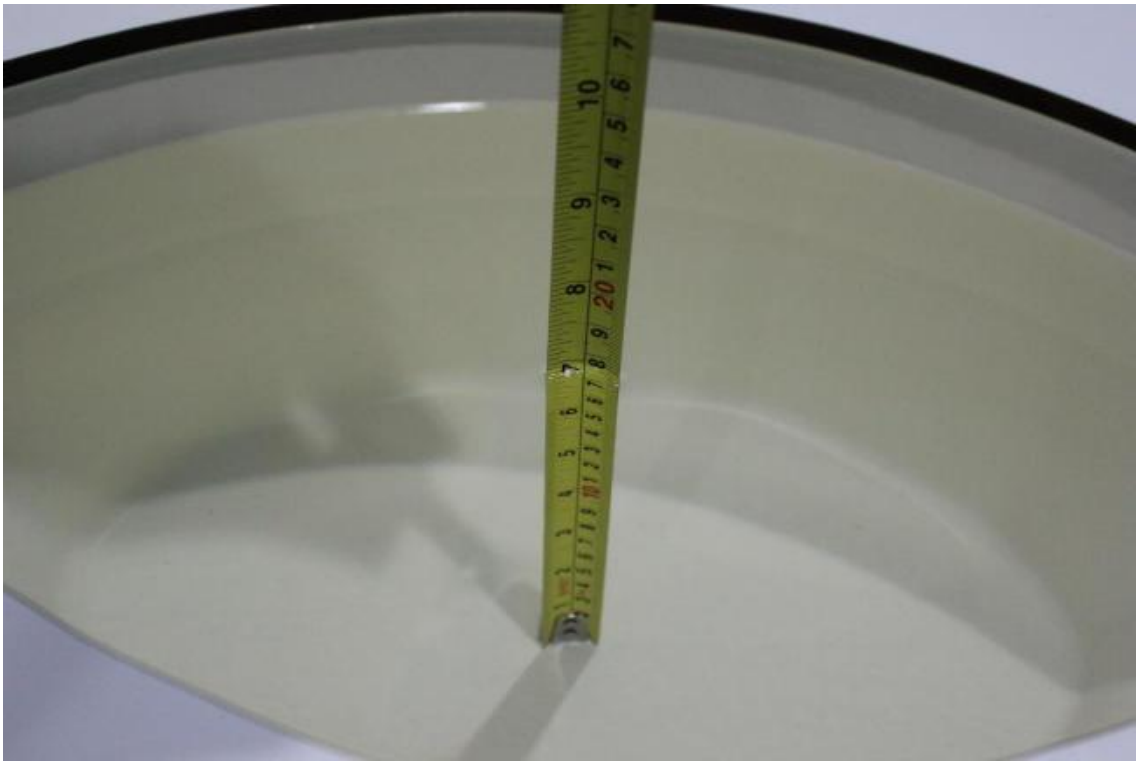


**Picture 7-2 Liquid depth in the Head Phantom (1900 MHz)**



**Picture 7-3 Liquid depth in the Head Phantom (2450MHz)**

**Picture 7-4 Liquid depth in the Head Phantom (2600 MHz)**



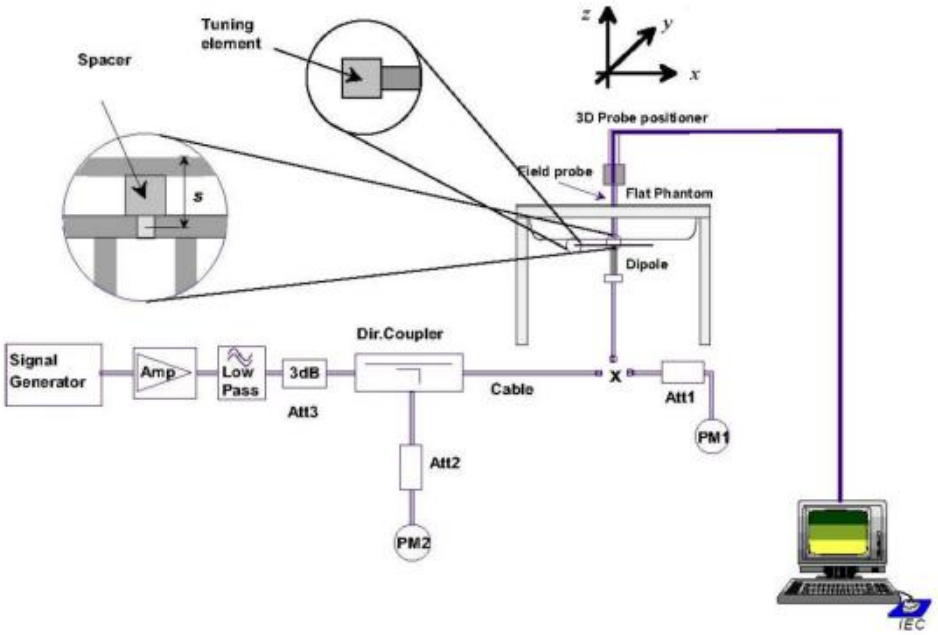
**Picture 7-5 Liquid depth in the Head Phantom (3GHz)**

**Picture 7-6 Liquid depth in the Head Phantom (5GHz)**

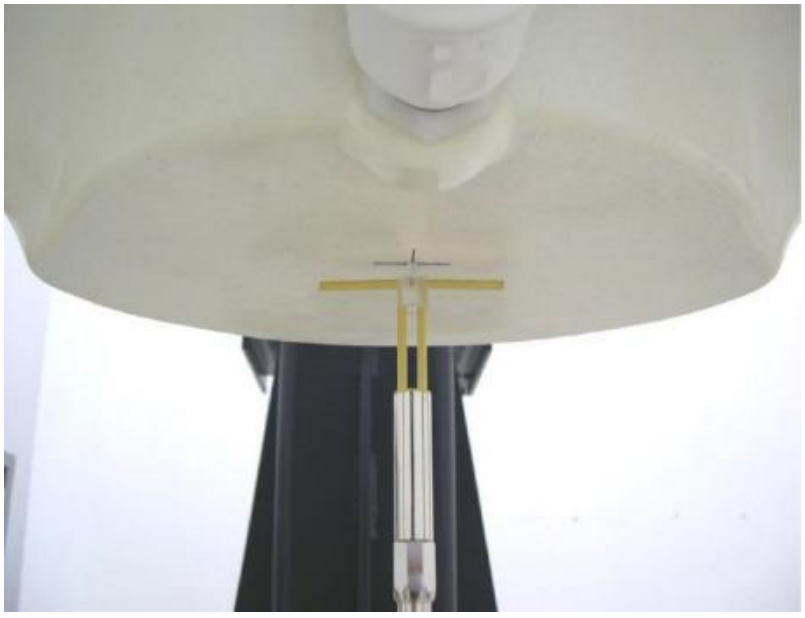
# 8 System verification

## 8.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:




**Picture 8.1 System Setup for System Evaluation**



**Picture 8.2 Photo of Dipole Setup**

## 8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

**Table 8.1: System Verification of Head**

| Measurement Date (yyyy-mm-dd) | Frequency | Target value (W/kg) | | Measured value(W/kg) | | Deviation | |
|---|---|---|---|---|---|---|---|
| | | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average |
| 2022-7-28 | 835 MHz | 6.21 | 9.65 | 6.36 | 9.64 | 2.42% | -0.10% |
| 2022-7-29 | 1900 MHz | 20.6 | 39.9 | 20.6 | 40.0 | 0.00% | 0.15% |
| 2022-7-26 | 2450 MHz | 24.9 | 53.3 | 24.5 | 53.2 | -1.53% | -0.19% |
| 2022-8-18 | 2600 MHz | 25.0 | 65.3 | 25.2 | 56.8 | 0.64% | -13.02% |
| 2022-9-4 | 3500 MHz | 25.3 | 67.5 | 25.2 | 66.1 | -0.40% | -2.07% |
| 2022-8-10 | 5250 MHz | 22.3 | 78.1 | 22.1 | 78.4 | -0.90% | 0.38% |
| 2022-8-10 | 5600 MHz | 23.7 | 83.2 | 22.7 | 80.8 | -4.22% | -2.88% |
| 2022-8-10 | 5750 MHz | 22.8 | 80.4 | 21.7 | 77.7 | -4.82% | -3.36% |

# 9 Measurement Procedures

## 9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

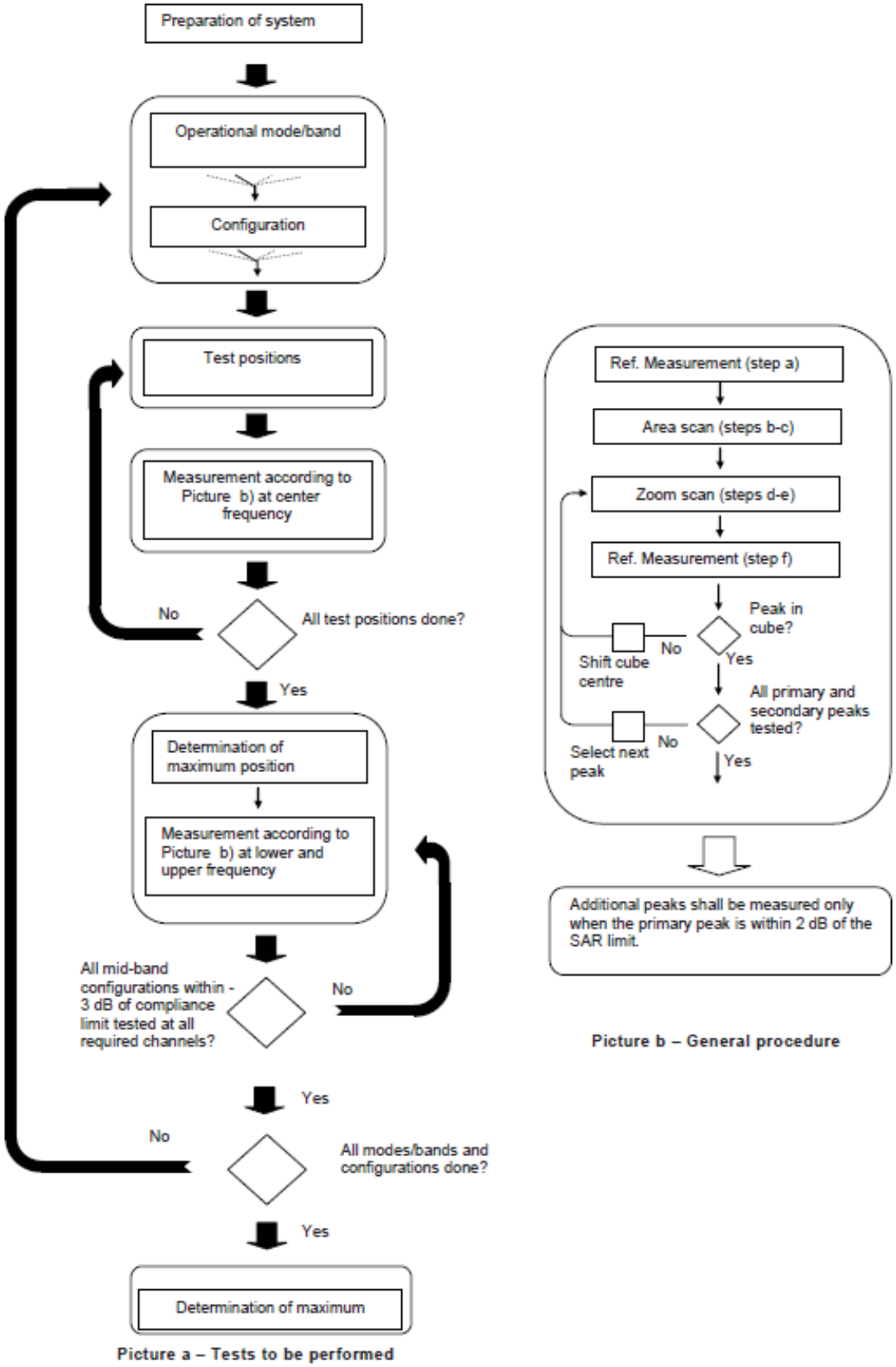
**Step 1**: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band ( $f_c$ ) for:

a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
b) all configurations for each device position in a), e.g., antenna extended and retracted, and
c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

**Step 2**: For the condition providing highest peak spatial-average SAR determined in Step 1,perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

**Step 3**: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.




**Picture 9.1Block diagram of the tests to be performed**

## 9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: $\Delta x_{Area}$, $\Delta y_{Area}$</td><td>≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$, $\Delta y_{Zoom}$</td><td>≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 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>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 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>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm<br>4 – 5 GHz: ≤ 2.5 mm<br>5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td colspan="2">Minimum zoom scan volume</td><td>x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm<br>4 – 5 GHz: ≥ 25 mm<br>5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ 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 ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

## 9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & $DPDCH_n$), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

**For Release 5 HSDPA Data Devices:**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ （SF） | $\beta_c/\beta_d$ | $\beta_{hs}$ | CM/dB |
|---|---|---|---|---|---|---|
| 1 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 0.0 |
| 2 | 12/15 | 15/15 | 64 | 12/15 | 24/25 | 1.0 |
| 3 | 15/15 | 8/15 | 64 | 15/8 | 30/15 | 1.5 |
| 4 | 15/15 | 4/15 | 64 | 15/4 | 30/15 | 1.5 |

**For Release 6 HSPA Data Devices**

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ （SF） | $\beta_c/\beta_d$ | $\beta_{hs}$ | $\beta_{ec}$ | $\beta_{ed}$ | $\beta_{ed}$ （SF） | $\beta_{ed}$ （codes） | CM (dB) | MPR (dB) | AG Index | E-TFCI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11/15 | 15/15 | 64 | 11/15 | 22/15 | 209/225 | 1039/225 | 4 | 1 | 1.5 | 1.5 | 20 | 75 |
| 2 | 6/15 | 15/15 | 64 | 6/15 | 12/15 | 12/15 | 12/15 | 4 | 1 | 1.5 | 1.5 | 12 | 67 |
| 3 | 15/15 | 9/15 | 64 | 15/9 | 30/15 | 30/15 | $\beta_{ed1}$:47/15<br>$\beta_{ed2}$:47/15 | 4 | 2 | 1.5 | 1.5 | 15 | 92 |
| 4 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 4/15 | 56/75 | 4 | 1 | 1.5 | 1.5 | 17 | 71 |
| 5 | 15/15 | 15/15 | 64 | 15/15 | 24/15 | 30/15 | 134/15 | 4 | 1 | 1.5 | 1.5 | 21 | 81 |

**Rel.8 DC-HSDPA (Cat 24)**

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

## 9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Rchwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.
It is performed for conducted power and SAR based on the KDB941225 D05.
SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation
   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 among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2) QPSK with 50% RB allocation
   The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.
3) QPSK with 100% RB allocation
   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 in 1) and 2) 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.

## TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

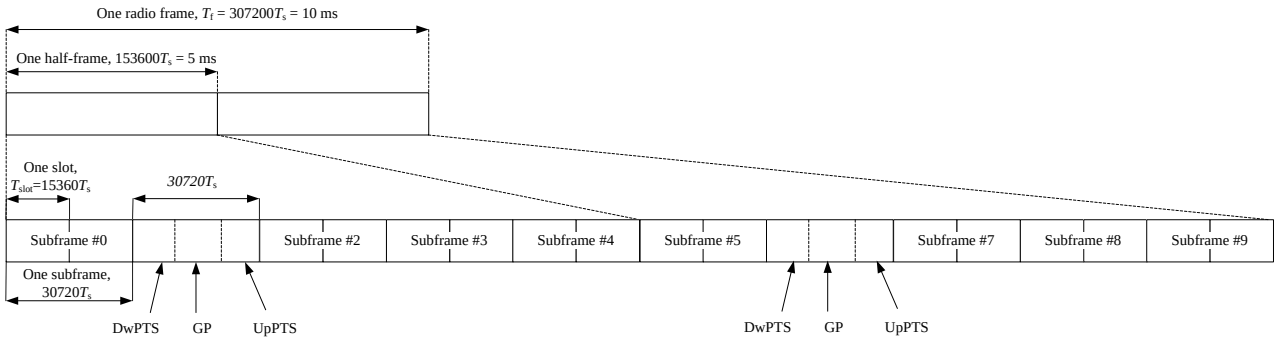



**Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)**

**Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

| Special subframe configuration | Normal cyclic prefix in downlink | | | Extended cyclic prefix in downlink | | |
|---|---|---|---|---|---|---|
| | DwPTS | UpPTS | | DwPTS | UpPTS | |
| | | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink | | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0 | $6592\cdot T_s$ | $2192\cdot T_s$ | $2560\cdot T_s$ | $7680\cdot T_s$ | $2192\cdot T_s$ | $2560\cdot T_s$ |
| 1 | $19760\cdot T_s$ | | | $20480\cdot T_s$ | | |
| 2 | $21952\cdot T_s$ | | | $23040\cdot T_s$ | | |
| 3 | $24144\cdot T_s$ | | | $25600\cdot T_s$ | | |
| 4 | $26336\cdot T_s$ | | | $7680\cdot T_s$ | $4384\cdot T_s$ | $5120\cdot T_s$ |
| 5 | $6592\cdot T_s$ | $4384\cdot T_s$ | $5120\cdot T_s$ | $20480\cdot T_s$ | | |
| 6 | $19760\cdot T_s$ | | | $23040\cdot T_s$ | | |
| 7 | $21952\cdot T_s$ | | | $12800\cdot T_s$ | | |
| 8 | $24144\cdot T_s$ | | | - | - | - |
| 9 | $13168\cdot T_s$ | | | - | - | - |

**Table 9.2: 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 |

Duty factor is calculated by:

Duty factor = uplink frame*6+UpPTS*2/one frame length

= (30720.$T_s$ * 6+5120. $T_s$*2)/307200.$T_s$

= 0.633

## 9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

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

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

## 9.6 Power Drift

To control the output power stability during the SAR test, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

# 10 Area Scan Based 1-g SAR

## 10.1 Requirement of KDB

According to the KDB447498 D01, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

## 10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz)and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm mare 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

# 11 Conducted Output Power

There are two sets of tune-up power, Normal power and Low power, for all bands by proximity sensor. The detail of proximity sensor is presented in Annex I.

## 11.1 GSM Measurement result

**Table 11.1-1: The conducted power for GSM – Normal power**

| GSM 850 | Measured Power (dBm) | | | **Tune up** | calculation | Averaged Power (dBm) | | |
|---|---|---|---|---|---|---|---|---|
| GPRS (GMSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 31.93 | 31.73 | 31.87 | 33.00 | -9.03 | 22.90 | 22.70 | 22.84 |
| 2 Txslots | 31.44 | 31.21 | 31.37 | 32.50 | -6.02 | 25.42 | 25.19 | 25.35 |
| **3 Txslots** | **29.92** | **29.61** | **29.81** | **31.00** | **-4.26** | **25.66** | **25.35** | **25.55** |
| 4 Txslots | 28.62 | 28.33 | 28.51 | 29.50 | -3.01 | 25.61 | 25.32 | 25.50 |
| GSM 850 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (GMSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 31.93 | 31.74 | 31.87 | 33.00 | -9.03 | 22.90 | 22.71 | 22.84 |
| 2 Txslots | 31.45 | 31.22 | 31.37 | 32.50 | -6.02 | 25.43 | 25.20 | 25.35 |
| **3 Txslots** | **29.94** | **29.62** | **29.82** | **31.00** | **-4.26** | **25.68** | **25.36** | **25.56** |
| 4 Txslots | 28.64 | 28.35 | 28.52 | 29.50 | -3.01 | 25.63 | 25.34 | 25.51 |
| GSM 850 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (8PSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 25.93 | 26.83 | 25.90 | 27.00 | -9.03 | 16.90 | 17.80 | 16.87 |
| 2 Txslots | 24.99 | 24.84 | 25.04 | 26.00 | -6.02 | 18.97 | 18.82 | 19.02 |
| 3Txslots | 24.52 | 23.69 | 23.78 | 25.50 | -4.26 | 20.26 | 19.43 | 19.52 |
| 4 Txslots | 22.06 | 21.70 | 21.91 | 23.00 | -3.01 | 19.05 | 18.69 | 18.90 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| GPRS (GMSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 29.38 | 29.34 | 29.20 | 30.50 | -9.03 | 20.35 | 20.31 | 20.17 |
| 2 Txslots | 29.07 | 28.86 | 28.48 | 30.00 | -6.02 | 23.05 | 22.84 | 22.46 |
| **3 Txslots** | **28.00** | **27.34** | **26.97** | **28.50** | **-4.26** | **23.74** | **23.08** | **22.71** |
| 4 Txslots | 26.74 | 26.07 | 25.42 | 27.00 | -3.01 | 23.73 | 23.06 | 22.41 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (GMSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 29.24 | 29.25 | 29.13 | 30.50 | -9.03 | 20.21 | 20.22 | 20.10 |
| 2 Txslots | 28.94 | 28.78 | 28.41 | 30.00 | -6.02 | 22.92 | 22.76 | 22.39 |
| **3Txslots** | **27.88** | **27.26** | **29.91** | **28.50** | **-4.26** | **23.62** | **23.00** | **25.65** |
| 4 Txslots | 26.62 | 26.00 | 25.35 | 27.00 | -3.01 | 23.61 | 22.99 | 22.34 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (8PSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 25.39 | 25.35 | 25.15 | 26.50 | -9.03 | 16.36 | 16.32 | 16.12 |
| 2 Txslots | 24.59 | 24.49 | 24.32 | 25.50 | -6.02 | 18.57 | 18.47 | 18.30 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3Txslots | 22.82 | 22.69 | 22.23 | 24.00 | -4.26 | 18.56 | 18.43 | 17.97 |
| 4 Txslots | 21.69 | 21.52 | 21.94 | 23.00 | -3.01 | 18.68 | 18.51 | 18.93 |

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 3Txslots for GSM850/1900.**

**Table 11.1-2: The conducted power for GSM – Low power**

| GSM 850 | Measured Power (dBm) | | | **Tune up** | calculation | Averaged Power (dBm) | | |
|---|---|---|---|---|---|---|---|---|
| GPRS (GMSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 26.49 | 26.02 | 26.40 | 27.00 | -9.03 | 17.46 | 16.99 | 17.37 |
| **2 Txslots** | **25.29** | **24.84** | **25.31** | **26.50** | **-6.02** | **19.27** | **18.82** | **19.29** |
| 3 Txslots | 23.22 | 22.77 | 23.33 | 24.50 | -4.26 | 18.96 | 18.51 | 19.07 |
| 4 Txslots | 21.24 | 20.75 | 21.31 | 22.00 | -3.01 | 18.23 | 17.74 | 18.30 |
| GSM 850 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (GMSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 26.46 | 26.00 | 26.38 | 27.00 | -9.03 | 17.43 | 16.97 | 17.35 |
| 2 Txslots | 25.26 | 24.81 | 25.29 | 26.50 | -6.02 | 19.24 | 18.79 | 19.27 |
| 3 Txslots | 23.20 | 22.74 | 23.32 | 24.50 | -4.26 | 18.94 | 18.48 | 19.06 |
| 4 Txslots | 21.24 | 20.73 | 21.30 | 22.00 | -3.01 | 18.23 | 17.72 | 18.29 |
| GSM 850 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (8PSK) | 251 | 190 | 128 | | | 251 | 190 | 128 |
| 1 Txslot | 21.82 | 21.48 | 21.48 | 22.00 | -9.03 | 12.79 | 12.45 | 12.45 |
| 2 Txslots | 20.36 | 20.14 | 20.43 | 21.00 | -6.02 | 14.34 | 14.12 | 14.41 |
| 3Txslots | 18.23 | 17.87 | 18.16 | 19.00 | -4.26 | 13.97 | 13.61 | 13.90 |
| 4 Txslots | 16.00 | 15.84 | 16.16 | 17.00 | -3.01 | 12.99 | 12.83 | 13.15 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| GPRS (GMSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 20.81 | 20.53 | 20.20 | 21.50 | -9.03 | 11.78 | 11.50 | 11.17 |
| **2 Txslots** | **19.77** | **19.50** | **19.30** | **20.00** | **-6.02** | **13.75** | **13.48** | **13.28** |
| 3 Txslots | 17.77 | 17.50 | 17.12 | 18.50 | -4.26 | 13.51 | 13.24 | 12.86 |
| 4 Txslots | 15.73 | 15.46 | 15.13 | 17.00 | -3.01 | 12.72 | 12.45 | 12.12 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (GMSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 20.73 | 20.50 | 20.18 | 21.50 | -9.03 | 11.70 | 11.47 | 11.15 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 Txslots | 19.71 | 19.47 | 19.29 | 20.00 | -6.02 | 13.69 | 13.45 | 13.27 |
| 3Txslots | 17.72 | 17.48 | 17.10 | 18.50 | -4.26 | 13.46 | 13.22 | 12.84 |
| 4 Txslots | 15.69 | 15.44 | 15.11 | 17.00 | -3.01 | 12.68 | 12.43 | 12.10 |
| PCS1900 | Measured Power (dBm) | | | | calculation | Averaged Power (dBm) | | |
| EGPRS (8PSK) | 810 | 661 | 512 | | | 810 | 661 | 512 |
| 1 Txslot | 16.02 | 15.60 | 15.19 | 16.50 | -9.03 | 6.99 | 6.57 | 6.16 |
| 2 Txslots | 14.75 | 14.45 | 14.10 | 15.50 | -6.02 | 8.73 | 8.43 | 8.08 |
| 3Txslots | 12.56 | 12.33 | 12.33 | 14.00 | -4.26 | 8.30 | 8.07 | 8.07 |
| 4 Txslots | 10.46 | 10.17 | 9.89 | 11.00 | -3.01 | 7.45 | 7.16 | 6.88 |

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 2Txslot for GSM850/1900.**

## 11.2 WCDMA Measurement result

**Table 11.2-1: The conducted Power for WCDMA – Normal power**

| | | | | |
|---|---|---|---|---|
| **WCDMA850** | **FDDV result (dBm)** | | | **Tune up** |
| | **4233/4458** | **4183/4408** | **4132/4357** | |
| | **(846.6MHz)** | **(836.6MHz)** | **(826.4MHz)** | |
| | 23.18 | 23.24 | 23.31 | 24.50 |
| **HSUPA** | 20.85 | 20.86 | 20.47 | 22.00 |
| | 20.34 | 20.35 | 20.46 | 21.50 |
| | 20.56 | 20.59 | 20.67 | 22.50 |
| | 19.86 | 19.89 | 19.99 | 21.50 |
| | 21.34 | 21.35 | 21.44 | 22.50 |
| **HSPA+** | 22 | 21.99 | 22.03 | 23.00 |
| **DC-HSDPA** | 21.67 | 21.67 | 21.83 | 23.50 |
| | 21.66 | 21.66 | 21.73 | 23.50 |
| | 21.01 | 21.05 | 21.14 | 23.00 |
| | 21.05 | 21.09 | 21.12 | 23.00 |
| **WCDMA1900** | **FDDII result (dBm)** | | | **Tune up** |
| | **9538/9938** | **9400/9800** | **9262/9662** | |
| | **(1907.6MHz)** | **(1880MHz)** | **(1852.4MHz)** | |
| | 22.46 | 22.28 | 22.39 | 23.00 |
| **HSUPA** | 20.7 | 20.70 | 20.73 | 22.00 |
| | 20.3 | 20.29 | 20.26 | 21.50 |
| | 20.58 | 20.57 | 20.57 | 21.50 |
| | 19.78 | 19.76 | 20.73 | 21.00 |
| | 21.13 | 21.11 | 21.10 | 22.50 |
| **HSPA+** | 21.78 | 21.67 | 21.64 | 23.00 |
| **DC-HSDPA** | 21.55 | 21.58 | 21.60 | 23.00 |
| | 21.59 | 21.51 | 21.63 | 23.00 |
| | 21.09 | 21.12 | 21.16 | 22.50 |
| | 21.11 | 21.11 | 21.12 | 22.50 |

**Table 11.2-2: The conducted Power for WCDMA – Low power**

| | | | | |
|---|---|---|---|---|
| **WCDMA850** | **FDDV result (dBm)** | | | **Tune up** |
| | **4233/4458** | **4183/4408** | **4132/4357** | |
| | **(846.6MHz)** | **(836.6MHz)** | **(826.4MHz)** | |
| | 16.56 | 16.57 | 16.59 | 17.50 |
| **HSUPA** | 14.07 | 14.19 | 14.23 | 15.00 |
| | 13.63 | 13.71 | 13.78 | 14.50 |
| | 13.64 | 14.68 | 14.73 | 15.50 |
| | 13.18 | 13.28 | 13.33 | 14.50 |
| | 14.53 | 14.65 | 14.71 | 15.50 |
| **HSPA+** | 15.14 | 15.34 | 15.29 | 16.00 |
| **DC-HSDPA** | 15.52 | 15.89 | 15.96 | 16.50 |
| | 15.31 | 15.54 | 15.49 | 16.50 |
| | 15.01 | 15.15 | 15.18 | 16.00 |
| | 14.96 | 15.11 | 15.14 | 16.00 |
| **WCDMA1900** | **FDDII result (dBm)** | | | **Tune up** |
| | **9538/9938** | **9400/9800** | **9262/9662** | |
| | **(1907.6MHz)** | **(1880MHz)** | **(1852.4MHz)** | |
| | 10.39 | 10.37 | 10.35 | 12.00 |
| **HSUPA** | 8.83 | 8.83 | 8.82 | 10.00 |
| | 8.42 | 8.41 | 8.40 | 9.50 |
| | 8.43 | 8.41 | 8.40 | 9.50 |
| | 7.93 | 7.94 | 7.93 | 9.00 |
| | 9.33 | 9.30 | 9.29 | 10.50 |
| **HSPA+** | 10.02 | 9.98 | 10.03 | 11.00 |
| **DC-HSDPA** | 10.29 | 10.51 | 10.48 | 11.00 |
| | 10.27 | 10.23 | 10.41 | 11.00 |
| | 9.91 | 9.89 | 9.87 | 10.50 |
| | 9.86 | 9.85 | 9.83 | 10.50 |

## 11.3 LTE Measurement result

**Table 11.3-1: Maximum Power Reduction (MPR) for LTE- Normal power**

| Modulation | Channel bandwidth / Transmission bandwidth configuration [RB] | | | | | | MPR (dB) |
|---|---|---|---|---|---|---|---|
| | 1.4 | 3 | 5 | 10 | 15 | 20 | |
| | MHz | MHz | MHz | MHz | MHz | MHz | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 1 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 1 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 2 |
| 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 2 |
| 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 3 |

**Table 11.3-2: Maximum Power Reduction (MPR) for LTE-Low power**

| Modulation | Channel bandwidth / Transmission bandwidth configuration [RB] | | | | | | MPR (dB) |
|---|---|---|---|---|---|---|---|
| | 1.4 | 3 | 5 | 10 | 15 | 20 | |
| | MHz | MHz | MHz | MHz | MHz | MHz | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 0 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 0 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 0 |
| 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 0 |
| 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | 0 |

**Table 11.3-3: The tune up for LTE**

| Band | Tune up | |
|---|---|---|
| | Normal power | Low power |
| LTE Band 5-Standalone | 24 | 20 |
| LTE Band 5-ENDC | 24 | 16 |
| LTE Band 7-ANT0 | 24.5 | 15.5 |
| LTE Band 7-ANT5 | 24 | 14 |
| LTE Band 41-PC2 | 27 | 13 |
| LTE Band 41-PC3 | 24 | 10 |

**LTE Band5-Standalone/ENDC Normal Power**

| | | | | | |
|---|---|---|---|---|---|
| 1.4MHz | 1RB-High (5) | 848.3 (20643) | 23.52 | 22.68 | 21.61 |
| | | 836.5 (20525) | 23.57 | 22.80 | 21.65 |
| | | 824.7 (20407) | 23.62 | 22.82 | 21.69 |
| | 1RB-Middle (3) | 848.3 (20643) | 23.53 | 22.63 | 21.68 |
| | | 836.5 (20525) | 23.61 | 22.80 | 21.68 |
| | | 824.7 (20407) | 23.60 | 22.73 | 21.66 |
| | 1RB-Low (0) | 848.3 (20643) | 23.52 | 22.75 | 21.65 |
| | | 836.5 (20525) | 23.58 | 22.82 | 21.68 |
| | | 824.7 (20407) | 23.57 | 22.78 | 21.64 |
| | 3RB-High (3) | 848.3 (20643) | 23.55 | 22.48 | 21.56 |
| | | 836.5 (20525) | 23.58 | 22.62 | 21.65 |
| | | 824.7 (20407) | 23.67 | 22.53 | 21.68 |
| | 3RB-Middle (1) | 848.3 (20643) | 23.55 | 22.53 | 21.64 |
| | | 836.5 (20525) | 23.56 | 22.57 | 21.60 |
| | | 824.7 (20407) | 23.62 | 22.60 | 21.69 |
| | 3RB-Low (0) | 848.3 (20643) | 23.54 | 22.58 | 21.60 |
| | | 836.5 (20525) | 23.58 | 22.61 | 21.64 |
| | | 824.7 (20407) | 23.60 | 22.60 | 21.65 |
| | 6RB (0) | 848.3 (20643) | 22.56 | 21.61 | 20.48 |
| | | 836.5 (20525) | 22.58 | 21.63 | 20.51 |
| | | 824.7 (20407) | 22.62 | 21.64 | 20.52 |
| | | | | | |
| 3MHz | 1RB-High (14) | 847.5 (20635) | 23.53 | 22.67 | 21.63 |
| | | 836.5 (20525) | 23.57 | 22.80 | 21.70 |
| | | 825.5 (20415) | 23.59 | 22.82 | 21.71 |
| | 1RB-Middle (7) | 847.5 (20635) | 23.49 | 22.67 | 21.60 |
| | | 836.5 (20525) | 23.63 | 22.78 | 21.70 |
| | | 825.5 (20415) | 23.64 | 22.69 | 21.73 |
| | 1RB-Low (0) | 847.5 (20635) | 23.54 | 22.75 | 21.61 |
| | | 836.5 (20525) | 23.52 | 22.67 | 21.68 |
| | | 825.5 (20415) | 23.60 | 22.85 | 21.65 |
| | 8RB-High (7) | 847.5 (20635) | 22.51 | 21.57 | 20.52 |
| | | 836.5 (20525) | 22.56 | 21.63 | 20.58 |
| | | 825.5 (20415) | 22.54 | 21.57 | 20.58 |
| | 8RB-Middle (4) | 847.5 (20635) | 22.50 | 21.58 | 20.55 |
| | | 836.5 (20525) | 22.58 | 21.62 | 20.56 |
| | | 825.5 (20415) | 22.55 | 21.67 | 20.57 |
| | 8RB-Low (0) | 847.5 (20635) | 22.56 | 21.62 | 20.52 |
| | | 836.5 (20525) | 22.49 | 21.56 | 20.55 |
| | | 825.5 (20415) | 22.59 | 21.64 | 20.61 |
| | 15RB (0) | 847.5 (20635) | 22.50 | 21.56 | 20.50 |
| | | 836.5 (20525) | 22.54 | 21.58 | 20.51 |
| | | 825.5 (20415) | 22.54 | 21.58 | 20.53 |

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 846.5 (20625) | 23.57 | 22.64 | 21.62 |
| | | 836.5 (20525) | 23.61 | 22.70 | 21.67 |
| | | 826.5 (20425) | 23.62 | 22.90 | 21.73 |
| | 1RB-Middle (12) | 846.5 (20625) | 23.62 | 22.72 | 21.68 |
| | | 836.5 (20525) | 23.67 | 22.78 | 21.75 |
| | | 826.5 (20425) | 23.60 | 22.73 | 21.71 |
| | 1RB-Low (0) | 846.5 (20625) | 23.60 | 22.75 | 21.69 |
| | | 836.5 (20525) | 23.68 | 22.80 | 21.76 |
| | | 826.5 (20425) | 23.64 | 22.77 | 21.68 |
| | 12RB-High (13) | 846.5 (20625) | 22.53 | 21.51 | 20.55 |
| | | 836.5 (20525) | 22.52 | 21.49 | 20.50 |
| | | 826.5 (20425) | 22.60 | 21.54 | 20.61 |
| | 12RB-Middle (6) | 846.5 (20625) | 22.52 | 21.54 | 20.55 |
| | | 836.5 (20525) | 22.56 | 21.59 | 20.58 |
| | | 826.5 (20425) | 22.63 | 21.59 | 20.60 |
| | 12RB-Low (0) | 846.5 (20625) | 22.60 | 21.61 | 20.63 |
| | | 836.5 (20525) | 22.57 | 21.58 | 20.60 |
| | | 826.5 (20425) | 22.59 | 21.58 | 20.59 |
| | 25RB (0) | 846.5 (20625) | 22.55 | 21.55 | 20.54 |
| | | 836.5 (20525) | 22.60 | 21.61 | 20.60 |
| | | 826.5 (20425) | 22.56 | 21.59 | 20.56 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 844 (20600) | 23.61 | 22.69 | 21.63 |
| | | 836.5 (20525) | 23.61 | 22.68 | 21.63 |
| | | 829 (20450) | 23.61 | 22.76 | 21.68 |
| | 1RB-Middle (24) | 844 (20600) | 23.60 | 22.69 | 21.72 |
| | | 836.5 (20525) | 23.71 | 22.82 | 21.78 |
| | | 829 (20450) | 23.69 | 22.90 | 21.76 |
| | 1RB-Low (0) | 844 (20600) | 23.64 | 22.86 | 21.63 |
| | | 836.5 (20525) | 23.67 | 22.83 | 21.75 |
| | | 829 (20450) | 23.65 | 22.83 | 21.73 |
| | 25RB-High (25) | 844 (20600) | 22.56 | 21.58 | 20.52 |
| | | 836.5 (20525) | 22.58 | 21.58 | 20.55 |
| | | 829 (20450) | 22.63 | 21.61 | 20.55 |
| | 25RB-Middle (12) | 844 (20600) | 22.64 | 21.62 | 20.61 |
| | | 836.5 (20525) | 22.59 | 21.59 | 20.55 |
| | | 829 (20450) | 22.61 | 21.61 | 20.58 |
| | 25RB-Low (0) | 844 (20600) | 22.65 | 21.71 | 20.63 |
| | | 836.5 (20525) | 22.65 | 21.64 | 20.62 |
| | | 829 (20450) | 22.56 | 21.59 | 20.52 |
| | 50RB (0) | 844 (20600) | 22.61 | 21.63 | 20.58 |
| | | 836.5 (20525) | 22.62 | 21.61 | 20.63 |
| | | 829 (20450) | 22.61 | 21.55 | 20.57 |

**LTE Band5-Standalone Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 1.4MHz | 1RB-High (5) | 848.3 (20643) | 19.34 | 19.63 | 19.49 |
| | | 836.5 (20525) | 19.40 | 19.65 | 19.51 |
| | | 824.7 (20407) | 19.44 | 19.72 | 19.58 |
| | 1RB-Middle (3) | 848.3 (20643) | 19.34 | 19.60 | 19.45 |
| | | 836.5 (20525) | 19.46 | 19.58 | 19.51 |
| | | 824.7 (20407) | 19.46 | 19.71 | 19.55 |
| | 1RB-Low (0) | 848.3 (20643) | 19.36 | 19.68 | 19.55 |
| | | 836.5 (20525) | 19.45 | 19.62 | 19.58 |
| | | 824.7 (20407) | 19.44 | 19.61 | 19.53 |
| | 3RB-High (3) | 848.3 (20643) | 19.35 | 19.42 | 19.47 |
| | | 836.5 (20525) | 19.44 | 19.42 | 19.52 |
| | | 824.7 (20407) | 19.45 | 19.45 | 19.52 |
| | 3RB-Middle (1) | 848.3 (20643) | 19.39 | 19.44 | 19.45 |
| | | 836.5 (20525) | 19.43 | 19.42 | 19.49 |
| | | 824.7 (20407) | 19.43 | 19.42 | 19.51 |
| | 3RB-Low (0) | 848.3 (20643) | 19.40 | 19.33 | 19.41 |
| | | 836.5 (20525) | 19.45 | 19.46 | 19.53 |
| | | 824.7 (20407) | 19.48 | 19.49 | 19.54 |
| | 6RB (0) | 848.3 (20643) | 19.41 | 19.46 | 19.37 |
| | | 836.5 (20525) | 19.42 | 19.54 | 19.37 |
| | | 824.7 (20407) | 19.48 | 19.54 | 19.40 |
| | | | | | |
| 3MHz | 1RB-High (14) | 847.5 (20635) | 19.36 | 19.63 | 19.53 |
| | | 836.5 (20525) | 19.41 | 19.61 | 19.56 |
| | | 825.5 (20415) | 19.43 | 19.72 | 19.51 |
| | 1RB-Middle (7) | 847.5 (20635) | 19.34 | 19.50 | 19.53 |
| | | 836.5 (20525) | 19.44 | 19.74 | 19.67 |
| | | 825.5 (20415) | 19.45 | 19.70 | 19.63 |
| | 1RB-Low (0) | 847.5 (20635) | 19.42 | 19.64 | 19.60 |
| | | 836.5 (20525) | 19.38 | 19.52 | 19.54 |
| | | 825.5 (20415) | 19.42 | 19.62 | 19.60 |
| | 8RB-High (7) | 847.5 (20635) | 19.39 | 19.45 | 19.47 |
| | | 836.5 (20525) | 19.44 | 19.51 | 19.49 |
| | | 825.5 (20415) | 19.44 | 19.49 | 19.48 |
| | 8RB-Middle (4) | 847.5 (20635) | 19.39 | 19.49 | 19.47 |
| | | 836.5 (20525) | 19.45 | 19.52 | 19.52 |
| | | 825.5 (20415) | 19.43 | 19.52 | 19.50 |
| | 8RB-Low (0) | 847.5 (20635) | 19.38 | 19.48 | 19.46 |
| | | 836.5 (20525) | 19.40 | 19.45 | 19.42 |
| | | 825.5 (20415) | 19.43 | 19.48 | 19.47 |
| | 15RB (0) | 847.5 (20635) | 19.38 | 19.44 | 19.42 |
| | | 836.5 (20525) | 19.43 | 19.46 | 19.42 |
| | | 825.5 (20415) | 19.43 | 19.46 | 19.46 |

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 846.5 (20625) | 19.43 | 19.68 | 19.51 |
| | | 836.5 (20525) | 19.50 | 19.67 | 19.55 |
| | | 826.5 (20425) | 19.49 | 19.80 | 19.64 |
| | 1RB-Middle (12) | 846.5 (20625) | 19.49 | 19.59 | 19.53 |
| | | 836.5 (20525) | 19.53 | 19.74 | 19.73 |
| | | 826.5 (20425) | 19.46 | 19.74 | 19.60 |
| | 1RB-Low (0) | 846.5 (20625) | 19.49 | 19.62 | 19.58 |
| | | 836.5 (20525) | 19.52 | 19.74 | 19.63 |
| | | 826.5 (20425) | 19.49 | 19.69 | 19.60 |
| | 12RB-High (13) | 846.5 (20625) | 19.40 | 19.39 | 19.47 |
| | | 836.5 (20525) | 19.43 | 19.39 | 19.49 |
| | | 826.5 (20425) | 19.46 | 19.44 | 19.53 |
| | 12RB-Middle (6) | 846.5 (20625) | 19.41 | 19.42 | 19.46 |
| | | 836.5 (20525) | 19.46 | 19.45 | 19.46 |
| | | 826.5 (20425) | 19.44 | 19.47 | 19.49 |
| | 12RB-Low (0) | 846.5 (20625) | 19.50 | 19.50 | 19.56 |
| | | 836.5 (20525) | 19.47 | 19.49 | 19.49 |
| | | 826.5 (20425) | 19.48 | 19.46 | 19.48 |
| | 25RB (0) | 846.5 (20625) | 19.42 | 19.48 | 19.43 |
| | | 836.5 (20525) | 19.48 | 19.48 | 19.46 |
| | | 826.5 (20425) | 19.47 | 19.49 | 19.48 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 844 (20600) | 19.40 | 19.58 | 19.56 |
| | | 836.5 (20525) | 19.44 | 19.68 | 19.56 |
| | | 829 (20450) | 19.44 | 19.71 | 19.54 |
| | 1RB-Middle (24) | 844 (20600) | 19.43 | 19.73 | 19.57 |
| | | 836.5 (20525) | 19.57 | 19.73 | 19.67 |
| | | 829 (20450) | 19.54 | 19.67 | 19.70 |
| | 1RB-Low (0) | 844 (20600) | 19.48 | 19.71 | 19.59 |
| | | 836.5 (20525) | 19.55 | 19.78 | 19.67 |
| | | 829 (20450) | 19.50 | 19.77 | 19.66 |
| | 25RB-High (25) | 844 (20600) | 19.39 | 19.44 | 19.46 |
| | | 836.5 (20525) | 19.48 | 19.44 | 19.49 |
| | | 829 (20450) | 19.50 | 19.56 | 19.55 |
| | 25RB-Middle (12) | 844 (20600) | 19.49 | 19.52 | 19.50 |
| | | 836.5 (20525) | 19.43 | 19.50 | 19.50 |
| | | 829 (20450) | 19.53 | 19.51 | 19.51 |
| | 25RB-Low (0) | 844 (20600) | 19.53 | 19.54 | 19.56 |
| | | 836.5 (20525) | 19.54 | 19.53 | 19.55 |
| | | 829 (20450) | 19.42 | 19.51 | 19.50 |
| | 50RB (0) | 844 (20600) | 19.44 | 19.47 | 19.51 |
| | | 836.5 (20525) | 19.50 | 19.52 | 19.51 |
| | | 829 (20450) | 19.48 | 19.46 | 19.47 |

**LTE Band5- ENDC Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 1.4MHz | 1RB-High (5) | 848.3 (20643) | 15.51 | 15.78 | 15.61 |
| | | 836.5 (20525) | 15.55 | 15.78 | 15.71 |
| | | 824.7 (20407) | 15.61 | 15.78 | 15.70 |
| | 1RB-Middle (3) | 848.3 (20643) | 15.54 | 15.79 | 15.70 |
| | | 836.5 (20525) | 15.62 | 15.82 | 15.74 |
| | | 824.7 (20407) | 15.60 | 15.78 | 15.66 |
| | 1RB-Low (0) | 848.3 (20643) | 15.49 | 15.73 | 15.63 |
| | | 836.5 (20525) | 15.57 | 15.76 | 15.79 |
| | | 824.7 (20407) | 15.60 | 15.72 | 15.72 |
| | 3RB-High (3) | 848.3 (20643) | 15.57 | 15.59 | 15.61 |
| | | 836.5 (20525) | 15.61 | 15.63 | 15.61 |
| | | 824.7 (20407) | 15.60 | 15.65 | 15.68 |
| | 3RB-Middle (1) | 848.3 (20643) | 15.54 | 15.61 | 15.65 |
| | | 836.5 (20525) | 15.61 | 15.60 | 15.69 |
| | | 824.7 (20407) | 15.65 | 15.61 | 15.69 |
| | 3RB-Low (0) | 848.3 (20643) | 15.56 | 15.62 | 15.65 |
| | | 836.5 (20525) | 15.63 | 15.65 | 15.66 |
| | | 824.7 (20407) | 15.66 | 15.57 | 15.73 |
| | 6RB (0) | 848.3 (20643) | 15.60 | 15.62 | 15.54 |
| | | 836.5 (20525) | 15.59 | 15.64 | 15.54 |
| | | 824.7 (20407) | 15.64 | 15.71 | 15.60 |
| | | | | | |
| 3MHz | 1RB-High (14) | 847.5 (20635) | 15.52 | 15.64 | 15.60 |
| | | 836.5 (20525) | 15.56 | 15.82 | 15.68 |
| | | 825.5 (20415) | 15.57 | 15.82 | 15.71 |
| | 1RB-Middle (7) | 847.5 (20635) | 15.54 | 15.71 | 15.73 |
| | | 836.5 (20525) | 15.64 | 15.84 | 15.82 |
| | | 825.5 (20415) | 15.63 | 15.83 | 15.83 |
| | 1RB-Low (0) | 847.5 (20635) | 15.54 | 15.74 | 15.72 |
| | | 836.5 (20525) | 15.55 | 15.77 | 15.65 |
| | | 825.5 (20415) | 15.59 | 15.85 | 15.74 |
| | 8RB-High (7) | 847.5 (20635) | 15.52 | 15.64 | 15.58 |
| | | 836.5 (20525) | 15.61 | 15.66 | 15.63 |
| | | 825.5 (20415) | 15.58 | 15.66 | 15.68 |
| | 8RB-Middle (4) | 847.5 (20635) | 15.54 | 15.64 | 15.58 |
| | | 836.5 (20525) | 15.60 | 15.67 | 15.63 |
| | | 825.5 (20415) | 15.56 | 15.65 | 15.64 |
| | 8RB-Low (0) | 847.5 (20635) | 15.54 | 15.67 | 15.62 |
| | | 836.5 (20525) | 15.53 | 15.64 | 15.60 |
| | | 825.5 (20415) | 15.56 | 15.69 | 15.67 |
| | 15RB (0) | 847.5 (20635) | 15.51 | 15.60 | 15.58 |
| | | 836.5 (20525) | 15.58 | 15.60 | 15.57 |
| | | 825.5 (20415) | 15.58 | 15.61 | 15.60 |

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 846.5 (20625) | 15.62 | 15.76 | 15.69 |
| | | 836.5 (20525) | 15.64 | 15.77 | 15.75 |
| | | 826.5 (20425) | 15.65 | 15.92 | 15.83 |
| | 1RB-Middle (12) | 846.5 (20625) | 15.61 | 15.76 | 15.76 |
| | | 836.5 (20525) | 15.68 | 15.88 | 15.82 |
| | | 826.5 (20425) | 15.61 | 15.85 | 15.73 |
| | 1RB-Low (0) | 846.5 (20625) | 15.62 | 15.89 | 15.75 |
| | | 836.5 (20525) | 15.65 | 15.79 | 15.74 |
| | | 826.5 (20425) | 15.66 | 15.81 | 15.72 |
| | 12RB-High (13) | 846.5 (20625) | 15.58 | 15.55 | 15.61 |
| | | 836.5 (20525) | 15.56 | 15.57 | 15.60 |
| | | 826.5 (20425) | 15.62 | 15.63 | 15.68 |
| | 12RB-Middle (6) | 846.5 (20625) | 15.54 | 15.56 | 15.60 |
| | | 836.5 (20525) | 15.58 | 15.63 | 15.62 |
| | | 826.5 (20425) | 15.57 | 15.58 | 15.62 |
| | 12RB-Low (0) | 846.5 (20625) | 15.63 | 15.64 | 15.69 |
| | | 836.5 (20525) | 15.62 | 15.61 | 15.65 |
| | | 826.5 (20425) | 15.58 | 15.62 | 15.65 |
| | 25RB (0) | 846.5 (20625) | 15.55 | 15.56 | 15.59 |
| | | 836.5 (20525) | 15.61 | 15.64 | 15.61 |
| | | 826.5 (20425) | 15.59 | 15.65 | 15.59 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 844 (20600) | 15.56 | 15.77 | 15.70 |
| | | 836.5 (20525) | 15.54 | 15.85 | 15.76 |
| | | 829 (20450) | 15.58 | 15.85 | 15.70 |
| | 1RB-Middle (24) | 844 (20600) | 15.54 | 15.77 | 15.72 |
| | | 836.5 (20525) | 15.69 | 15.76 | 15.80 |
| | | 829 (20450) | 15.63 | 15.85 | 15.75 |
| | 1RB-Low (0) | 844 (20600) | 15.70 | 15.84 | 15.78 |
| | | 836.5 (20525) | 15.66 | 15.81 | 15.80 |
| | | 829 (20450) | 15.65 | 15.88 | 15.79 |
| | 25RB-High (25) | 844 (20600) | 15.55 | 15.56 | 15.59 |
| | | 836.5 (20525) | 15.57 | 15.56 | 15.57 |
| | | 829 (20450) | 15.62 | 15.64 | 15.63 |
| | 25RB-Middle (12) | 844 (20600) | 15.63 | 15.63 | 15.60 |
| | | 836.5 (20525) | 15.56 | 15.58 | 15.57 |
| | | 829 (20450) | 15.57 | 15.63 | 15.61 |
| | 25RB-Low (0) | 844 (20600) | 15.64 | 15.69 | 15.64 |
| | | 836.5 (20525) | 15.68 | 15.64 | 15.62 |
| | | 829 (20450) | 15.56 | 15.58 | 15.57 |
| | 50RB (0) | 844 (20600) | 15.62 | 15.62 | 15.63 |
| | | 836.5 (20525) | 15.62 | 15.62 | 15.59 |
| | | 829 (20450) | 15.61 | 15.59 | 15.60 |

**LTE Band7- ANT0 Normal Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2567.5 (21425) | 23.79 | 23.06 | 21.98 |
| | | 2535 (21100) | 23.71 | 22.86 | 21.96 |
| | | 2502.5 (20775) | 23.68 | 22.86 | 21.90 |
| | 1RB-Middle (12) | 2567.5 (21425) | 23.79 | 22.97 | 22.05 |
| | | 2535 (21100) | 23.72 | 23.05 | 21.92 |
| | | 2502.5 (20775) | 23.64 | 22.98 | 21.96 |
| | 1RB-Low (0) | 2567.5 (21425) | 23.84 | 23.07 | 22.17 |
| | | 2535 (21100) | 23.70 | 22.93 | 21.95 |
| | | 2502.5 (20775) | 23.64 | 22.81 | 21.92 |
| | 12RB-High (13) | 2567.5 (21425) | 22.67 | 21.80 | 20.82 |
| | | 2535 (21100) | 22.59 | 21.71 | 20.73 |
| | | 2502.5 (20775) | 22.62 | 21.72 | 20.73 |
| | 12RB-Middle (6) | 2567.5 (21425) | 22.73 | 21.86 | 20.90 |
| | | 2535 (21100) | 22.64 | 21.76 | 20.77 |
| | | 2502.5 (20775) | 22.64 | 21.75 | 20.74 |
| | 12RB-Low (0) | 2567.5 (21425) | 22.80 | 21.96 | 20.96 |
| | | 2535 (21100) | 22.67 | 21.85 | 20.80 |
| | | 2502.5 (20775) | 22.61 | 21.73 | 20.75 |
| | 25RB (0) | 2567.5 (21425) | 22.78 | 21.91 | 20.89 |
| | | 2535 (21100) | 22.63 | 21.79 | 20.74 |
| | | 2502.5 (20775) | 22.64 | 21.77 | 20.75 |
| | | | | | |
| 10MHz | 1RB-High (49) | 2565 (21400) | 23.71 | 22.99 | 21.98 |
| | | 2535 (21100) | 23.72 | 22.97 | 21.95 |
| | | 2505 (20800) | 23.65 | 22.77 | 21.83 |
| | 1RB-Middle (24) | 2565 (21400) | 23.79 | 22.95 | 22.05 |
| | | 2535 (21100) | 23.63 | 22.86 | 21.93 |
| | | 2505 (20800) | 23.63 | 22.77 | 21.81 |
| | 1RB-Low (0) | 2565 (21400) | 23.85 | 23.08 | 22.08 |
| | | 2535 (21100) | 23.68 | 22.98 | 21.87 |
| | | 2505 (20800) | 23.65 | 22.88 | 21.79 |
| | 25RB-High (25) | 2565 (21400) | 22.65 | 21.80 | 20.75 |
| | | 2535 (21100) | 22.60 | 21.74 | 20.69 |
| | | 2505 (20800) | 22.61 | 21.77 | 20.71 |
| | 25RB-Middle (12) | 2565 (21400) | 22.79 | 21.98 | 20.92 |
| | | 2535 (21100) | 22.60 | 21.78 | 20.74 |
| | | 2505 (20800) | 22.63 | 21.77 | 20.68 |
| | 25RB-Low (0) | 2565 (21400) | 22.84 | 22.03 | 20.99 |
| | | 2535 (21100) | 22.67 | 21.79 | 20.78 |
| | | 2505 (20800) | 22.63 | 21.78 | 20.75 |
| | 50RB (0) | 2565 (21400) | 22.73 | 21.88 | 20.84 |
| | | 2535 (21100) | 22.64 | 21.75 | 20.69 |
| | | 2505 (20800) | 22.62 | 21.69 | 20.67 |

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|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2562.5 (21375) | 23.62 | 22.91 | 21.88 |
| | | 2535 (21100) | 23.55 | 22.88 | 21.83 |
| | | 2507.5 (20825) | 23.53 | 22.76 | 21.82 |
| | 1RB-Middle (37) | 2562.5 (21375) | 23.73 | 22.91 | 22.02 |
| | | 2535 (21100) | 23.59 | 22.89 | 21.86 |
| | | 2507.5 (20825) | 23.57 | 22.72 | 21.86 |
| | 1RB-Low (0) | 2562.5 (21375) | 23.72 | 22.98 | 21.98 |
| | | 2535 (21100) | 23.60 | 22.82 | 21.86 |
| | | 2507.5 (20825) | 23.53 | 22.73 | 21.76 |
| | 36RB-High (38) | 2562.5 (21375) | 22.63 | 21.76 | 20.82 |
| | | 2535 (21100) | 22.51 | 21.64 | 20.66 |
| | | 2507.5 (20825) | 22.59 | 21.74 | 20.72 |
| | 36RB-Middle (19) | 2562.5 (21375) | 22.68 | 21.85 | 20.86 |
| | | 2535 (21100) | 22.58 | 21.71 | 20.76 |
| | | 2507.5 (20825) | 22.56 | 21.64 | 20.65 |
| | 36RB-Low (0) | 2562.5 (21375) | 22.70 | 21.85 | 20.85 |
| | | 2535 (21100) | 22.61 | 21.73 | 20.72 |
| | | 2507.5 (20825) | 22.57 | 21.66 | 20.66 |
| | 75RB (0) | 2562.5 (21375) | 22.73 | 21.80 | 20.80 |
| | | 2535 (21100) | 22.57 | 21.72 | 20.64 |
| | | 2507.5 (20825) | 22.60 | 21.67 | 20.64 |

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|---|---|---|---|---|---|
| 20MHz | 1RB-High (99) | 2560 (21350) | 23.58 | 22.80 | 21.93 |
| | | 2535 (21100) | 23.51 | 22.82 | 21.76 |
| | | 2510 (20850) | 23.51 | 22.71 | 21.81 |
| | 1RB-Middle (50) | 2560 (21350) | 23.72 | 23.03 | 21.92 |
| | | 2535 (21100) | 23.56 | 22.74 | 21.81 |
| | | 2510 (20850) | 23.51 | 22.64 | 21.83 |
| | 1RB-Low (0) | 2560 (21350) | 23.68 | 22.94 | 21.93 |
| | | 2535 (21100) | 23.53 | 22.88 | 21.84 |
| | | 2510 (20850) | 23.58 | 22.62 | 21.73 |
| | 50RB-High (50) | 2560 (21350) | 22.56 | 21.72 | 20.70 |
| | | 2535 (21100) | 22.48 | 21.61 | 20.60 |
| | | 2510 (20850) | 22.55 | 21.72 | 20.69 |
| | 50RB-Middle (25) | 2560 (21350) | 22.75 | 21.88 | 20.86 |
| | | 2535 (21100) | 22.62 | 21.76 | 20.69 |
| | | 2510 (20850) | 22.55 | 21.68 | 20.68 |
| | 50RB-Low (0) | 2560 (21350) | 22.74 | 21.88 | 20.88 |
| | | 2535 (21100) | 22.63 | 21.75 | 20.74 |
| | | 2510 (20850) | 22.56 | 21.74 | 20.66 |
| | 100RB (0) | 2560 (21350) | 22.63 | 21.73 | 20.75 |
| | | 2535 (21100) | 22.54 | 21.66 | 20.61 |
| | | 2510 (20850) | 22.69 | 21.67 | 20.72 |

**LTE Band7- ANT0 Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2567.5 (21425) | 14.57 | 14.77 | 14.76 |
| | | 2535 (21100) | 14.49 | 14.66 | 14.72 |
| | | 2502.5 (20775) | 14.45 | 14.71 | 14.60 |
| | 1RB-Middle (12) | 2567.5 (21425) | 14.63 | 14.77 | 14.73 |
| | | 2535 (21100) | 14.55 | 14.70 | 14.73 |
| | | 2502.5 (20775) | 14.46 | 14.68 | 14.60 |
| | 1RB-Low (0) | 2567.5 (21425) | 14.65 | 14.90 | 14.78 |
| | | 2535 (21100) | 14.53 | 14.72 | 14.68 |
| | | 2502.5 (20775) | 14.42 | 14.69 | 14.57 |
| | 12RB-High (13) | 2567.5 (21425) | 14.53 | 14.55 | 14.59 |
| | | 2535 (21100) | 14.44 | 14.43 | 14.49 |
| | | 2502.5 (20775) | 14.45 | 14.44 | 14.48 |
| | 12RB-Middle (6) | 2567.5 (21425) | 14.58 | 14.56 | 14.64 |
| | | 2535 (21100) | 14.51 | 14.50 | 14.52 |
| | | 2502.5 (20775) | 14.48 | 14.47 | 14.53 |
| | 12RB-Low (0) | 2567.5 (21425) | 14.65 | 14.67 | 14.68 |
| | | 2535 (21100) | 14.56 | 14.54 | 14.60 |
| | | 2502.5 (20775) | 14.45 | 14.46 | 14.51 |
| | 25RB (0) | 2567.5 (21425) | 14.59 | 14.64 | 14.64 |
| | | 2535 (21100) | 14.47 | 14.48 | 14.50 |
| | | 2502.5 (20775) | 14.50 | 14.51 | 14.53 |
| | | | | | |
| 10MHz | 1RB-High (49) | 2565 (21400) | 14.59 | 14.80 | 14.74 |
| | | 2535 (21100) | 14.49 | 14.76 | 14.57 |
| | | 2505 (20800) | 14.42 | 14.76 | 14.53 |
| | 1RB-Middle (24) | 2565 (21400) | 14.66 | 14.93 | 14.84 |
| | | 2535 (21100) | 14.51 | 14.73 | 14.67 |
| | | 2505 (20800) | 14.49 | 14.71 | 14.60 |
| | 1RB-Low (0) | 2565 (21400) | 14.63 | 14.89 | 14.82 |
| | | 2535 (21100) | 14.49 | 14.75 | 14.68 |
| | | 2505 (20800) | 14.40 | 14.69 | 14.56 |
| | 25RB-High (25) | 2565 (21400) | 14.51 | 14.49 | 14.54 |
| | | 2535 (21100) | 14.50 | 14.49 | 14.46 |
| | | 2505 (20800) | 14.44 | 14.49 | 14.48 |
| | 25RB-Middle (12) | 2565 (21400) | 14.68 | 14.68 | 14.67 |
| | | 2535 (21100) | 14.52 | 14.52 | 14.56 |
| | | 2505 (20800) | 14.44 | 14.50 | 14.45 |
| | 25RB-Low (0) | 2565 (21400) | 14.72 | 14.76 | 14.70 |
| | | 2535 (21100) | 14.53 | 14.57 | 14.60 |
| | | 2505 (20800) | 14.47 | 14.54 | 14.51 |
| | 50RB (0) | 2565 (21400) | 14.54 | 14.62 | 14.63 |
| | | 2535 (21100) | 14.53 | 14.50 | 14.52 |
| | | 2505 (20800) | 14.45 | 14.47 | 14.47 |

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|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2562.5 (21375) | 14.50 | 14.74 | 14.73 |
| | | 2535 (21100) | 14.43 | 14.71 | 14.62 |
| | | 2507.5 (20825) | 14.39 | 14.71 | 14.50 |
| | 1RB-Middle (37) | 2562.5 (21375) | 14.60 | 14.78 | 14.77 |
| | | 2535 (21100) | 14.48 | 14.78 | 14.61 |
| | | 2507.5 (20825) | 14.41 | 14.66 | 14.66 |
| | 1RB-Low (0) | 2562.5 (21375) | 14.54 | 14.76 | 14.74 |
| | | 2535 (21100) | 14.39 | 14.62 | 14.56 |
| | | 2507.5 (20825) | 14.34 | 14.69 | 14.55 |
| | 36RB-High (38) | 2562.5 (21375) | 14.49 | 14.55 | 14.54 |
| | | 2535 (21100) | 14.44 | 14.45 | 14.42 |
| | | 2507.5 (20825) | 14.42 | 14.47 | 14.51 |
| | 36RB-Middle (19) | 2562.5 (21375) | 14.61 | 14.59 | 14.62 |
| | | 2535 (21100) | 14.50 | 14.53 | 14.49 |
| | | 2507.5 (20825) | 14.42 | 14.42 | 14.45 |
| | 36RB-Low (0) | 2562.5 (21375) | 14.60 | 14.59 | 14.67 |
| | | 2535 (21100) | 14.50 | 14.55 | 14.54 |
| | | 2507.5 (20825) | 14.40 | 14.43 | 14.50 |
| | 75RB (0) | 2562.5 (21375) | 14.53 | 14.59 | 14.60 |
| | | 2535 (21100) | 14.46 | 14.49 | 14.44 |
| | | 2507.5 (20825) | 14.47 | 14.48 | 14.41 |

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|---|---|---|---|---|---|
| 20MHz | 1RB-High (99) | 2560 (21350) | 14.46 | 14.76 | 14.66 |
| | | 2535 (21100) | 14.53 | 14.72 | 14.60 |
| | | 2510 (20850) | 14.44 | 14.59 | 14.53 |
| | 1RB-Middle (50) | 2560 (21350) | 14.62 | 14.90 | 14.68 |
| | | 2535 (21100) | 14.51 | 14.80 | 14.72 |
| | | 2510 (20850) | 14.38 | 14.62 | 14.55 |
| | 1RB-Low (0) | 2560 (21350) | 14.65 | 14.79 | 14.70 |
| | | 2535 (21100) | 14.38 | 14.60 | 14.47 |
| | | 2510 (20850) | 14.31 | 14.62 | 14.60 |
| | 50RB-High (50) | 2560 (21350) | 14.45 | 14.48 | 14.49 |
| | | 2535 (21100) | 14.41 | 14.37 | 14.38 |
| | | 2510 (20850) | 14.57 | 14.53 | 14.49 |
| | 50RB-Middle (25) | 2560 (21350) | 14.65 | 14.66 | 14.66 |
| | | 2535 (21100) | 14.50 | 14.53 | 14.52 |
| | | 2510 (20850) | 14.39 | 14.39 | 14.48 |
| | 50RB-Low (0) | 2560 (21350) | 14.62 | 14.60 | 14.62 |
| | | 2535 (21100) | 14.52 | 14.56 | 14.59 |
| | | 2510 (20850) | 14.49 | 14.47 | 14.52 |
| | 100RB (0) | 2560 (21350) | 14.48 | 14.53 | 14.54 |
| | | 2535 (21100) | 14.44 | 14.42 | 14.47 |
| | | 2510 (20850) | 14.49 | 14.45 | 14.47 |

**LTE Band7- ANT5 Normal Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2567.5 (21425) | 23.69 | 22.66 | 21.73 |
| | | 2535 (21100) | 23.61 | 22.76 | 21.62 |
| | | 2502.5 (20775) | 23.54 | 22.72 | 21.55 |
| | 1RB-Middle (12) | 2567.5 (21425) | 23.69 | 22.68 | 21.61 |
| | | 2535 (21100) | 23.57 | 22.62 | 21.62 |
| | | 2502.5 (20775) | 23.56 | 22.60 | 21.58 |
| | 1RB-Low (0) | 2567.5 (21425) | 23.72 | 22.88 | 21.76 |
| | | 2535 (21100) | 23.62 | 22.68 | 21.59 |
| | | 2502.5 (20775) | 23.55 | 22.62 | 21.61 |
| | 12RB-High (13) | 2567.5 (21425) | 22.64 | 21.55 | 20.66 |
| | | 2535 (21100) | 22.53 | 21.44 | 20.53 |
| | | 2502.5 (20775) | 22.56 | 21.42 | 20.57 |
| | 12RB-Middle (6) | 2567.5 (21425) | 22.65 | 21.64 | 20.74 |
| | | 2535 (21100) | 22.58 | 21.51 | 20.61 |
| | | 2502.5 (20775) | 22.58 | 21.46 | 20.61 |
| | 12RB-Low (0) | 2567.5 (21425) | 22.77 | 21.65 | 20.80 |
| | | 2535 (21100) | 22.63 | 21.52 | 20.66 |
| | | 2502.5 (20775) | 22.58 | 21.48 | 20.64 |
| | 25RB (0) | 2567.5 (21425) | 22.70 | 21.70 | 20.72 |
| | | 2535 (21100) | 22.54 | 21.50 | 20.54 |
| | | 2502.5 (20775) | 22.54 | 21.50 | 20.58 |
| | | | | | |
| 10MHz | 1RB-High (49) | 2565 (21400) | 23.67 | 22.74 | 21.64 |
| | | 2535 (21100) | 23.56 | 22.65 | 21.54 |
| | | 2505 (20800) | 23.53 | 22.63 | 21.55 |
| | 1RB-Middle (24) | 2565 (21400) | 23.70 | 22.87 | 21.68 |
| | | 2535 (21100) | 23.55 | 22.68 | 21.56 |
| | | 2505 (20800) | 23.56 | 22.63 | 21.55 |
| | 1RB-Low (0) | 2565 (21400) | 23.72 | 22.80 | 21.77 |
| | | 2535 (21100) | 23.57 | 22.61 | 21.51 |
| | | 2505 (20800) | 23.49 | 22.66 | 21.55 |
| | 25RB-High (25) | 2565 (21400) | 22.58 | 21.52 | 20.59 |
| | | 2535 (21100) | 22.51 | 21.47 | 20.57 |
| | | 2505 (20800) | 22.58 | 21.50 | 20.59 |
| | 25RB-Middle (12) | 2565 (21400) | 22.69 | 21.68 | 20.74 |
| | | 2535 (21100) | 22.58 | 21.52 | 20.57 |
| | | 2505 (20800) | 22.58 | 21.51 | 20.60 |
| | 25RB-Low (0) | 2565 (21400) | 22.80 | 21.75 | 20.81 |
| | | 2535 (21100) | 22.64 | 21.53 | 20.59 |
| | | 2505 (20800) | 22.57 | 21.52 | 20.56 |
| | 50RB (0) | 2565 (21400) | 22.65 | 21.60 | 20.68 |
| | | 2535 (21100) | 22.56 | 21.50 | 20.61 |
| | | 2505 (20800) | 22.57 | 21.48 | 20.57 |

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| 15MHz | 1RB-High (74) | 2562.5 (21375) | 23.54 | 22.61 | 21.56 |
| | | 2535 (21100) | 23.45 | 22.61 | 21.52 |
| | | 2507.5 (20825) | 23.44 | 22.57 | 21.46 |
| | 1RB-Middle (37) | 2562.5 (21375) | 23.64 | 22.72 | 21.62 |
| | | 2535 (21100) | 23.53 | 22.59 | 21.50 |
| | | 2507.5 (20825) | 23.45 | 22.61 | 21.46 |
| | 1RB-Low (0) | 2562.5 (21375) | 23.61 | 22.68 | 21.63 |
| | | 2535 (21100) | 23.49 | 22.50 | 21.41 |
| | | 2507.5 (20825) | 23.43 | 22.53 | 21.46 |
| | 36RB-High (38) | 2562.5 (21375) | 22.53 | 21.51 | 20.61 |
| | | 2535 (21100) | 22.45 | 21.38 | 20.50 |
| | | 2507.5 (20825) | 22.54 | 21.47 | 20.56 |
| | 36RB-Middle (19) | 2562.5 (21375) | 22.63 | 21.57 | 20.70 |
| | | 2535 (21100) | 22.53 | 21.42 | 20.55 |
| | | 2507.5 (20825) | 22.49 | 21.42 | 20.55 |
| | 36RB-Low (0) | 2562.5 (21375) | 22.65 | 21.58 | 20.73 |
| | | 2535 (21100) | 22.53 | 21.46 | 20.61 |
| | | 2507.5 (20825) | 22.48 | 21.43 | 20.53 |
| | 75RB (0) | 2562.5 (21375) | 22.66 | 21.57 | 20.65 |
| | | 2535 (21100) | 22.48 | 21.48 | 20.53 |
| | | 2507.5 (20825) | 22.53 | 21.42 | 20.53 |

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| 20MHz | 1RB-High (99) | 2560 (21350) | 23.61 | 22.72 | 21.59 |
| | | 2535 (21100) | 23.61 | 22.55 | 21.55 |
| | | 2510 (20850) | 23.55 | 22.65 | 21.49 |
| | 1RB-Middle (50) | 2560 (21350) | 23.68 | 22.74 | 21.62 |
| | | 2535 (21100) | 23.65 | 22.58 | 21.55 |
| | | 2510 (20850) | 23.62 | 22.65 | 21.55 |
| | 1RB-Low (0) | 2560 (21350) | 23.69 | 22.68 | 21.56 |
| | | 2535 (21100) | 23.57 | 22.55 | 21.51 |
| | | 2510 (20850) | 23.59 | 22.53 | 21.42 |
| | 50RB-High (50) | 2560 (21350) | 22.63 | 21.48 | 20.56 |
| | | 2535 (21100) | 22.69 | 21.43 | 20.51 |
| | | 2510 (20850) | 22.53 | 21.57 | 20.66 |
| | 50RB-Middle (25) | 2560 (21350) | 22.67 | 21.65 | 20.75 |
| | | 2535 (21100) | 22.68 | 21.52 | 20.65 |
| | | 2510 (20850) | 22.62 | 21.52 | 20.63 |
| | 50RB-Low (0) | 2560 (21350) | 22.78 | 21.65 | 20.70 |
| | | 2535 (21100) | 22.71 | 21.58 | 20.69 |
| | | 2510 (20850) | 22.47 | 21.57 | 20.66 |
| | 100RB (0) | 2560 (21350) | 22.68 | 21.53 | 20.60 |
| | | 2535 (21100) | 22.69 | 21.48 | 20.55 |
| | | 2510 (20850) | 22.46 | 21.55 | 20.62 |

**LTE Band7- ANT5 Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2567.5 (21425) | 13.39 | 13.61 | 13.58 |
| | | 2535 (21100) | 13.32 | 13.51 | 13.54 |
| | | 2502.5 (20775) | 13.28 | 13.56 | 13.43 |
| | 1RB-Middle (12) | 2567.5 (21425) | 13.45 | 13.61 | 13.55 |
| | | 2535 (21100) | 13.38 | 13.55 | 13.55 |
| | | 2502.5 (20775) | 13.29 | 13.53 | 13.43 |
| | 1RB-Low (0) | 2567.5 (21425) | 13.47 | 13.73 | 13.60 |
| | | 2535 (21100) | 13.36 | 13.57 | 13.50 |
| | | 2502.5 (20775) | 13.26 | 13.54 | 13.40 |
| | 12RB-High (13) | 2567.5 (21425) | 13.36 | 13.41 | 13.42 |
| | | 2535 (21100) | 13.27 | 13.30 | 13.33 |
| | | 2502.5 (20775) | 13.28 | 13.31 | 13.32 |
| | 12RB-Middle (6) | 2567.5 (21425) | 13.40 | 13.42 | 13.47 |
| | | 2535 (21100) | 13.34 | 13.37 | 13.36 |
| | | 2502.5 (20775) | 13.31 | 13.34 | 13.37 |
| | 12RB-Low (0) | 2567.5 (21425) | 13.47 | 13.52 | 13.50 |
| | | 2535 (21100) | 13.38 | 13.40 | 13.43 |
| | | 2502.5 (20775) | 13.28 | 13.33 | 13.35 |
| | 25RB (0) | 2567.5 (21425) | 13.41 | 13.50 | 13.47 |
| | | 2535 (21100) | 13.30 | 13.35 | 13.34 |
| | | 2502.5 (20775) | 13.33 | 13.38 | 13.37 |
| | | | | | |
| 10MHz | 1RB-High (49) | 2565 (21400) | 13.41 | 13.64 | 13.56 |
| | | 2535 (21100) | 13.32 | 13.61 | 13.40 |
| | | 2505 (20800) | 13.26 | 13.61 | 13.37 |
| | 1RB-Middle (24) | 2565 (21400) | 13.48 | 13.76 | 13.65 |
| | | 2535 (21100) | 13.34 | 13.58 | 13.49 |
| | | 2505 (20800) | 13.32 | 13.56 | 13.43 |
| | 1RB-Low (0) | 2565 (21400) | 13.45 | 13.73 | 13.63 |
| | | 2535 (21100) | 13.32 | 13.60 | 13.50 |
| | | 2505 (20800) | 13.24 | 13.54 | 13.39 |
| | 25RB-High (25) | 2565 (21400) | 13.34 | 13.36 | 13.37 |
| | | 2535 (21100) | 13.33 | 13.36 | 13.30 |
| | | 2505 (20800) | 13.27 | 13.36 | 13.32 |
| | 25RB-Middle (12) | 2565 (21400) | 13.49 | 13.53 | 13.49 |
| | | 2535 (21100) | 13.35 | 13.38 | 13.39 |
| | | 2505 (20800) | 13.27 | 13.37 | 13.29 |
| | 25RB-Low (0) | 2565 (21400) | 13.53 | 13.61 | 13.52 |
| | | 2535 (21100) | 13.36 | 13.43 | 13.43 |
| | | 2505 (20800) | 13.30 | 13.40 | 13.35 |
| | 50RB (0) | 2565 (21400) | 13.37 | 13.48 | 13.46 |
| | | 2535 (21100) | 13.36 | 13.37 | 13.36 |
| | | 2505 (20800) | 13.28 | 13.34 | 13.31 |

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| 15MHz | 1RB-High (74) | 2562.5 (21375) | 13.33 | 13.59 | 13.55 |
| | | 2535 (21100) | 13.26 | 13.56 | 13.45 |
| | | 2507.5 (20825) | 13.23 | 13.56 | 13.34 |
| | 1RB-Middle (37) | 2562.5 (21375) | 13.42 | 13.62 | 13.59 |
| | | 2535 (21100) | 13.31 | 13.62 | 13.44 |
| | | 2507.5 (20825) | 13.25 | 13.51 | 13.48 |
| | 1RB-Low (0) | 2562.5 (21375) | 13.37 | 13.61 | 13.56 |
| | | 2535 (21100) | 13.23 | 13.48 | 13.39 |
| | | 2507.5 (20825) | 13.18 | 13.54 | 13.38 |
| | 36RB-High (38) | 2562.5 (21375) | 13.32 | 13.41 | 13.37 |
| | | 2535 (21100) | 13.27 | 13.32 | 13.26 |
| | | 2507.5 (20825) | 13.26 | 13.34 | 13.35 |
| | 36RB-Middle (19) | 2562.5 (21375) | 13.43 | 13.45 | 13.45 |
| | | 2535 (21100) | 13.33 | 13.39 | 13.33 |
| | | 2507.5 (20825) | 13.26 | 13.29 | 13.29 |
| | 36RB-Low (0) | 2562.5 (21375) | 13.42 | 13.45 | 13.49 |
| | | 2535 (21100) | 13.33 | 13.41 | 13.37 |
| | | 2507.5 (20825) | 13.24 | 13.30 | 13.34 |
| | 75RB (0) | 2562.5 (21375) | 13.36 | 13.45 | 13.43 |
| | | 2535 (21100) | 13.29 | 13.36 | 13.28 |
| | | 2507.5 (20825) | 13.30 | 13.35 | 13.25 |

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| 20MHz | 1RB-High (99) | 2560 (21350) | 13.28 | 13.61 | 13.48 |
| | | 2535 (21100) | 13.27 | 13.57 | 13.43 |
| | | 2510 (20850) | 13.24 | 13.45 | 13.37 |
| | 1RB-Middle (50) | 2560 (21350) | 13.37 | 13.73 | 13.50 |
| | | 2535 (21100) | 13.39 | 13.64 | 13.54 |
| | | 2510 (20850) | 13.31 | 13.48 | 13.38 |
| | 1RB-Low (0) | 2560 (21350) | 13.29 | 13.63 | 13.52 |
| | | 2535 (21100) | 13.22 | 13.46 | 13.31 |
| | | 2510 (20850) | 13.30 | 13.48 | 13.43 |
| | 50RB-High (50) | 2560 (21350) | 13.31 | 13.35 | 13.33 |
| | | 2535 (21100) | 13.35 | 13.25 | 13.23 |
| | | 2510 (20850) | 13.34 | 13.39 | 13.33 |
| | 50RB-Middle (25) | 2560 (21350) | 13.41 | 13.51 | 13.48 |
| | | 2535 (21100) | 13.38 | 13.39 | 13.36 |
| | | 2510 (20850) | 13.35 | 13.26 | 13.32 |
| | 50RB-Low (0) | 2560 (21350) | 13.49 | 13.46 | 13.45 |
| | | 2535 (21100) | 13.46 | 13.42 | 13.42 |
| | | 2510 (20850) | 13.36 | 13.34 | 13.36 |
| | 100RB (0) | 2560 (21350) | 13.41 | 13.39 | 13.37 |
| | | 2535 (21100) | 13.40 | 13.29 | 13.31 |
| | | 2510 (20850) | 13.32 | 13.32 | 13.31 |

**LTE Band41 PC2 Normal Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2687.5 (41565) | 26.62 | 25.67 | 24.45 |
| | | 2640.3(41093) | 26.67 | 25.73 | 24.51 |
| | | 2593 (40620) | 26.78 | 25.85 | 24.63 |
| | | 2545.8(40148) | 26.61 | 25.65 | 24.49 |
| | | 2498.5 (39675) | 26.65 | 25.72 | 24.49 |
| | 1RB-Middle (12) | 2687.5 (41565) | 26.52 | 25.68 | 24.50 |
| | | 2640.3(41093) | 26.68 | 25.70 | 24.53 |
| | | 2593 (40620) | 26.78 | 25.86 | 24.69 |
| | | 2545.8(40148) | 26.70 | 25.70 | 24.51 |
| | | 2498.5 (39675) | 26.68 | 25.68 | 24.50 |
| | 1RB-Low (0) | 2687.5 (41565) | 26.59 | 25.71 | 24.51 |
| | | 2640.3(41093) | 26.67 | 25.72 | 24.52 |
| | | 2593 (40620) | 26.85 | 25.87 | 24.67 |
| | | 2545.8(40148) | 26.62 | 25.66 | 24.46 |
| | | 2498.5 (39675) | 26.66 | 25.69 | 24.48 |
| | 12RB-High (13) | 2687.5 (41565) | 25.55 | 24.57 | 23.57 |
| | | 2640.3(41093) | 25.59 | 24.58 | 23.61 |
| | | 2593 (40620) | 25.68 | 24.66 | 23.69 |
| | | 2545.8(40148) | 25.55 | 24.53 | 23.57 |
| | | 2498.5 (39675) | 25.55 | 24.54 | 23.56 |
| | 12RB-Middle (6) | 2687.5 (41565) | 25.57 | 24.60 | 23.60 |
| | | 2640.3(41093) | 25.58 | 24.56 | 23.57 |
| | | 2593 (40620) | 25.70 | 24.69 | 23.72 |
| | | 2545.8(40148) | 25.55 | 24.55 | 23.58 |
| | | 2498.5 (39675) | 25.55 | 24.55 | 23.57 |
| | 12RB-Low (0) | 2687.5 (41565) | 25.63 | 24.65 | 23.66 |
| | | 2640.3(41093) | 25.60 | 24.61 | 23.61 |
| | | 2593 (40620) | 25.74 | 24.73 | 23.76 |
| | | 2545.8(40148) | 25.56 | 24.53 | 23.57 |
| | | 2498.5 (39675) | 25.58 | 24.58 | 23.58 |
| | 25RB (0) | 2687.5 (41565) | 25.58 | 24.65 | 23.61 |
| | | 2640.3(41093) | 25.61 | 24.65 | 23.64 |
| | | 2593 (40620) | 25.69 | 24.75 | 23.73 |
| | | 2545.8(40148) | 25.52 | 24.57 | 23.57 |
| | | 2498.5 (39675) | 25.56 | 24.60 | 23.61 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 2685 (41540) | 26.65 | 25.61 | 24.40 |
| | | 2639(41080) | 26.62 | 25.69 | 24.47 |
| | | 2593 (40620) | 26.72 | 25.81 | 24.55 |
| | | 2547(40160) | 26.60 | 25.69 | 24.45 |
| | | 2501 (39700) | 26.58 | 25.70 | 24.46 |
| | 1RB-Middle (24) | 2685 (41540) | 26.63 | 25.70 | 24.47 |
| | | 2639(41080) | 26.61 | 25.69 | 24.47 |
| | | 2593 (40620) | 26.76 | 25.86 | 24.63 |
| | | 2547(40160) | 26.60 | 25.67 | 24.45 |
| | | 2501 (39700) | 26.58 | 25.68 | 24.43 |
| | 1RB-Low (0) | 2685 (41540) | 26.64 | 25.71 | 24.49 |
| | | 2639(41080) | 26.67 | 25.74 | 24.51 |
| | | 2593 (40620) | 26.76 | 25.85 | 24.58 |
| | | 2547(40160) | 26.57 | 25.66 | 24.44 |
| | | 2501 (39700) | 26.62 | 25.67 | 24.44 |
| | 25RB-High (25) | 2685 (41540) | 25.53 | 24.59 | 23.59 |
| | | 2639(41080) | 25.57 | 24.63 | 23.63 |
| | | 2593 (40620) | 25.63 | 24.70 | 23.71 |
| | | 2547(40160) | 25.52 | 24.56 | 23.57 |
| | | 2501 (39700) | 25.57 | 24.59 | 23.60 |
| | 25RB-Middle (12) | 2685 (41540) | 25.57 | 24.64 | 23.64 |
| | | 2639(41080) | 25.55 | 24.59 | 23.59 |
| | | 2593 (40620) | 25.65 | 24.68 | 23.72 |
| | | 2547(40160) | 25.53 | 24.58 | 23.59 |
| | | 2501 (39700) | 25.52 | 24.59 | 23.57 |
| | 25RB-Low (0) | 2685 (41540) | 25.62 | 24.70 | 23.68 |
| | | 2639(41080) | 25.55 | 24.61 | 23.61 |
| | | 2593 (40620) | 25.69 | 24.75 | 23.73 |
| | | 2547(40160) | 25.52 | 24.57 | 23.57 |
| | | 2501 (39700) | 25.50 | 24.56 | 23.56 |
| | 50RB (0) | 2685 (41540) | 25.63 | 24.66 | 23.60 |
| | | 2639(41080) | 25.62 | 24.64 | 23.58 |
| | | 2593 (40620) | 25.68 | 24.71 | 23.65 |
| | | 2547(40160) | 25.57 | 24.58 | 23.55 |
| | | 2501 (39700) | 25.58 | 24.57 | 23.53 |

| | | | | | |
|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2682.5 (41515) | 26.48 | 25.56 | 24.34 |
| | | 2637.8(41068) | 26.53 | 25.65 | 24.39 |
| | | 2593 (40620) | 26.64 | 25.73 | 24.50 |
| | | 2548.3(40173) | 26.52 | 25.64 | 24.41 |
| | | 2503.5 (39725) | 26.48 | 25.60 | 24.38 |
| | 1RB-Middle (37) | 2682.5 (41515) | 26.59 | 25.64 | 24.43 |
| | | 2637.8(41068) | 26.59 | 25.69 | 24.46 |
| | | 2593 (40620) | 26.75 | 25.83 | 24.61 |
| | | 2548.3(40173) | 26.60 | 25.66 | 24.45 |
| | | 2503.5 (39725) | 26.57 | 25.67 | 24.46 |
| | 1RB-Low (0) | 2682.5 (41515) | 26.58 | 25.67 | 24.46 |
| | | 2637.8(41068) | 26.59 | 25.71 | 24.48 |
| | | 2593 (40620) | 26.69 | 25.81 | 24.55 |
| | | 2548.3(40173) | 26.51 | 25.61 | 24.41 |
| | | 2503.5 (39725) | 26.53 | 25.60 | 24.38 |
| | 36RB-High (38) | 2682.5 (41515) | 25.51 | 24.51 | 23.50 |
| | | 2637.8(41068) | 25.54 | 24.54 | 23.51 |
| | | 2593 (40620) | 25.60 | 24.60 | 23.62 |
| | | 2548.3(40173) | 25.51 | 24.49 | 23.51 |
| | | 2503.5 (39725) | 25.50 | 24.50 | 23.50 |
| | 36RB-Middle (19) | 2682.5 (41515) | 25.56 | 24.57 | 23.55 |
| | | 2637.8(41068) | 25.54 | 24.52 | 23.51 |
| | | 2593 (40620) | 25.63 | 24.61 | 23.61 |
| | | 2548.3(40173) | 25.50 | 24.49 | 23.49 |
| | | 2503.5 (39725) | 25.49 | 24.48 | 23.45 |
| | 36RB-Low (0) | 2682.5 (41515) | 25.60 | 24.59 | 23.59 |
| | | 2637.8(41068) | 25.57 | 24.55 | 23.54 |
| | | 2593 (40620) | 25.67 | 24.64 | 23.64 |
| | | 2548.3(40173) | 25.49 | 24.47 | 23.49 |
| | | 2503.5 (39725) | 25.49 | 24.46 | 23.46 |
| | 75RB (0) | 2682.5 (41515) | 25.60 | 24.61 | 23.58 |
| | | 2637.8(41068) | 25.60 | 24.58 | 23.56 |
| | | 2593 (40620) | 25.68 | 24.67 | 23.65 |
| | | 2548.3(40173) | 25.53 | 24.54 | 23.51 |
| | | 2503.5 (39725) | 25.53 | 24.52 | 23.47 |

| | | | | | |
|---|---|---|---|---|---|
| 20MHz | 1RB-High (99) | 2680 (41490) | 26.47 | 25.53 | 24.34 |
| | | 2636.5(41055) | 26.55 | 25.66 | 24.40 |
| | | 2593 (40620) | 26.67 | 25.74 | 24.52 |
| | | 2549.5(40185) | 26.52 | 25.61 | 24.38 |
| | | 2506 (39750) | 26.55 | 25.65 | 24.41 |
| | 1RB-Middle (50) | 2680 (41490) | 26.57 | 25.65 | 24.43 |
| | | 2636.5(41055) | 26.67 | 25.74 | 24.54 |
| | | 2593 (40620) | 26.77 | 25.88 | 24.64 |
| | | 2549.5(40185) | 26.64 | 25.70 | 24.49 |
| | | 2506 (39750) | 26.66 | 25.74 | 24.51 |
| | 1RB-Low (0) | 2680 (41490) | 26.59 | 25.65 | 24.44 |
| | | 2636.5(41055) | 26.66 | 25.76 | 24.54 |
| | | 2593 (40620) | 26.68 | 25.76 | 24.54 |
| | | 2549.5(40185) | 26.58 | 25.65 | 24.42 |
| | | 2506 (39750) | 26.59 | 25.63 | 24.42 |
| | 50RB-High (50) | 2680 (41490) | 25.53 | 24.56 | 23.51 |
| | | 2636.5(41055) | 25.65 | 24.68 | 23.62 |
| | | 2593 (40620) | 25.70 | 24.74 | 23.69 |
| | | 2549.5(40185) | 25.58 | 24.60 | 23.52 |
| | | 2506 (39750) | 25.63 | 24.64 | 23.60 |
| | 50RB-Middle (25) | 2680 (41490) | 25.62 | 24.68 | 23.63 |
| | | 2636.5(41055) | 25.67 | 24.69 | 23.64 |
| | | 2593 (40620) | 25.73 | 24.75 | 23.70 |
| | | 2549.5(40185) | 25.61 | 24.62 | 23.56 |
| | | 2506 (39750) | 25.62 | 24.64 | 23.58 |
| | 50RB-Low (0) | 2680 (41490) | 25.70 | 24.72 | 23.66 |
| | | 2636.5(41055) | 25.71 | 24.73 | 23.67 |
| | | 2593 (40620) | 25.79 | 24.81 | 23.74 |
| | | 2549.5(40185) | 25.61 | 24.65 | 23.59 |
| | | 2506 (39750) | 25.59 | 24.60 | 23.54 |
| | 100RB (0) | 2680 (41490) | 25.61 | 24.63 | 23.60 |
| | | 2636.5(41055) | 25.68 | 24.69 | 23.67 |
| | | 2593 (40620) | 25.74 | 24.75 | 23.72 |
| | | 2549.5(40185) | 25.57 | 24.58 | 23.55 |
| | | 2506 (39750) | 25.60 | 24.59 | 23.56 |

**LTE Band41 PC2 Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2687.5 (41565) | 12.46 | 12.61 | 12.37 |
| | | 2640.3(41093) | 12.76 | 12.92 | 12.67 |
| | | 2593 (40620) | 12.76 | 12.92 | 12.68 |
| | | 2545.8(40148) | 12.69 | 12.86 | 12.61 |
| | | 2498.5 (39675) | 12.63 | 12.79 | 12.55 |
| | 1RB-Middle (12) | 2687.5 (41565) | 12.52 | 12.68 | 12.43 |
| | | 2640.3(41093) | 12.79 | 12.89 | 12.67 |
| | | 2593 (40620) | 12.83 | 12.95 | 12.76 |
| | | 2545.8(40148) | 12.75 | 12.89 | 12.68 |
| | | 2498.5 (39675) | 12.66 | 12.80 | 12.57 |
| | 1RB-Low (0) | 2687.5 (41565) | 12.55 | 12.67 | 12.46 |
| | | 2640.3(41093) | 12.73 | 12.89 | 12.67 |
| | | 2593 (40620) | 12.83 | 12.97 | 12.74 |
| | | 2545.8(40148) | 12.68 | 12.82 | 12.59 |
| | | 2498.5 (39675) | 12.65 | 12.80 | 12.56 |
| | 12RB-High (13) | 2687.5 (41565) | 12.39 | 12.40 | 12.49 |
| | | 2640.3(41093) | 12.66 | 12.72 | 12.76 |
| | | 2593 (40620) | 12.67 | 12.68 | 12.75 |
| | | 2545.8(40148) | 12.59 | 12.63 | 12.71 |
| | | 2498.5 (39675) | 12.57 | 12.57 | 12.66 |
| | 12RB-Middle (6) | 2687.5 (41565) | 12.39 | 12.43 | 12.51 |
| | | 2640.3(41093) | 12.65 | 12.67 | 12.73 |
| | | 2593 (40620) | 12.67 | 12.70 | 12.75 |
| | | 2545.8(40148) | 12.62 | 12.63 | 12.71 |
| | | 2498.5 (39675) | 12.56 | 12.57 | 12.62 |
| | 12RB-Low (0) | 2687.5 (41565) | 12.46 | 12.51 | 12.57 |
| | | 2640.3(41093) | 12.69 | 12.70 | 12.75 |
| | | 2593 (40620) | 12.72 | 12.74 | 12.80 |
| | | 2545.8(40148) | 12.60 | 12.63 | 12.69 |
| | | 2498.5 (39675) | 12.57 | 12.59 | 12.64 |
| | 25RB (0) | 2687.5 (41565) | 12.46 | 12.48 | 12.50 |
| | | 2640.3(41093) | 12.69 | 12.75 | 12.77 |
| | | 2593 (40620) | 12.70 | 12.74 | 12.77 |
| | | 2545.8(40148) | 12.62 | 12.66 | 12.68 |
| | | 2498.5 (39675) | 12.58 | 12.62 | 12.65 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 2685 (41540) | 12.60 | 12.69 | 12.41 |
| | | 2639(41080) | 12.74 | 12.95 | 12.69 |
| | | 2593 (40620) | 12.75 | 12.93 | 12.68 |
| | | 2547(40160) | 12.73 | 12.93 | 12.69 |
| | | 2501 (39700) | 12.64 | 12.88 | 12.60 |
| | 1RB-Middle (24) | 2685 (41540) | 12.51 | 12.67 | 12.41 |
| | | 2639(41080) | 12.68 | 12.89 | 12.63 |
| | | 2593 (40620) | 12.76 | 12.92 | 12.70 |
| | | 2547(40160) | 12.67 | 12.87 | 12.59 |
| | | 2501 (39700) | 12.58 | 12.80 | 12.52 |
| | 1RB-Low (0) | 2685 (41540) | 12.60 | 12.78 | 12.52 |
| | | 2639(41080) | 12.77 | 12.95 | 12.68 |
| | | 2593 (40620) | 12.81 | 12.99 | 12.74 |
| | | 2547(40160) | 12.69 | 12.87 | 12.63 |
| | | 2501 (39700) | 12.64 | 12.84 | 12.61 |
| | 25RB-High (25) | 2685 (41540) | 12.39 | 12.44 | 12.49 |
| | | 2639(41080) | 12.68 | 12.71 | 12.78 |
| | | 2593 (40620) | 12.66 | 12.69 | 12.73 |
| | | 2547(40160) | 12.61 | 12.67 | 12.69 |
| | | 2501 (39700) | 12.55 | 12.61 | 12.65 |
| | 25RB-Middle (12) | 2685 (41540) | 12.47 | 12.51 | 12.57 |
| | | 2639(41080) | 12.66 | 12.70 | 12.74 |
| | | 2593 (40620) | 12.66 | 12.70 | 12.74 |
| | | 2547(40160) | 12.63 | 12.68 | 12.72 |
| | | 2501 (39700) | 12.53 | 12.58 | 12.63 |
| | 25RB-Low (0) | 2685 (41540) | 12.54 | 12.61 | 12.62 |
| | | 2639(41080) | 12.64 | 12.73 | 12.74 |
| | | 2593 (40620) | 12.70 | 12.76 | 12.77 |
| | | 2547(40160) | 12.61 | 12.67 | 12.70 |
| | | 2501 (39700) | 12.51 | 12.58 | 12.61 |
| | 50RB (0) | 2685 (41540) | 12.49 | 12.54 | 12.50 |
| | | 2639(41080) | 12.72 | 12.75 | 12.71 |
| | | 2593 (40620) | 12.69 | 12.73 | 12.71 |
| | | 2547(40160) | 12.64 | 12.70 | 12.69 |
| | | 2501 (39700) | 12.56 | 12.60 | 12.60 |

| | | | | | |
|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2682.5 (41515) | 12.57 | 12.57 | 12.30 |
| | | 2637.8(41068) | 12.66 | 12.85 | 12.60 |
| | | 2593 (40620) | 12.63 | 12.84 | 12.58 |
| | | 2548.3(40173) | 12.65 | 12.85 | 12.61 |
| | | 2503.5 (39725) | 12.52 | 12.70 | 12.44 |
| | 1RB-Middle (37) | 2682.5 (41515) | 12.47 | 12.67 | 12.41 |
| | | 2637.8(41068) | 12.67 | 12.87 | 12.61 |
| | | 2593 (40620) | 12.74 | 12.91 | 12.66 |
| | | 2548.3(40173) | 12.64 | 12.82 | 12.60 |
| | | 2503.5 (39725) | 12.58 | 12.77 | 12.53 |
| | 1RB-Low (0) | 2682.5 (41515) | 12.55 | 12.76 | 12.52 |
| | | 2637.8(41068) | 12.69 | 12.89 | 12.63 |
| | | 2593 (40620) | 12.73 | 12.92 | 12.67 |
| | | 2548.3(40173) | 12.62 | 12.80 | 12.56 |
| | | 2503.5 (39725) | 12.54 | 12.74 | 12.52 |
| | 36RB-High (38) | 2682.5 (41515) | 12.40 | 12.38 | 12.42 |
| | | 2637.8(41068) | 12.67 | 12.68 | 12.71 |
| | | 2593 (40620) | 12.64 | 12.62 | 12.65 |
| | | 2548.3(40173) | 12.63 | 12.64 | 12.66 |
| | | 2503.5 (39725) | 12.51 | 12.53 | 12.55 |
| | 36RB-Middle (19) | 2682.5 (41515) | 12.49 | 12.48 | 12.51 |
| | | 2637.8(41068) | 12.63 | 12.65 | 12.67 |
| | | 2593 (40620) | 12.64 | 12.64 | 12.67 |
| | | 2548.3(40173) | 12.59 | 12.60 | 12.65 |
| | | 2503.5 (39725) | 12.48 | 12.52 | 12.53 |
| | 36RB-Low (0) | 2682.5 (41515) | 12.53 | 12.56 | 12.55 |
| | | 2637.8(41068) | 12.66 | 12.66 | 12.70 |
| | | 2593 (40620) | 12.70 | 12.70 | 12.73 |
| | | 2548.3(40173) | 12.60 | 12.62 | 12.64 |
| | | 2503.5 (39725) | 12.50 | 12.50 | 12.53 |
| | 75RB (0) | 2682.5 (41515) | 12.50 | 12.53 | 12.51 |
| | | 2637.8(41068) | 12.69 | 12.71 | 12.71 |
| | | 2593 (40620) | 12.70 | 12.73 | 12.72 |
| | | 2548.3(40173) | 12.62 | 12.65 | 12.68 |
| | | 2503.5 (39725) | 12.53 | 12.55 | 12.55 |

| | | | | | |
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| 20MHz | 1RB-High (99) | 2680 (41490) | 12.46 | 12.60 | 12.35 |
| | | 2636.5(41055) | 12.72 | 12.91 | 12.64 |
| | | 2593 (40620) | 12.66 | 12.85 | 12.57 |
| | | 2549.5(40185) | 12.70 | 12.89 | 12.63 |
| | | 2506 (39750) | 12.54 | 12.74 | 12.48 |
| | 1RB-Middle (50) | 2680 (41490) | 12.69 | 12.71 | 12.42 |
| | | 2636.5(41055) | 12.75 | 12.90 | 12.61 |
| | | 2593 (40620) | 12.80 | 12.95 | 12.66 |
| | | 2549.5(40185) | 12.73 | 12.88 | 12.59 |
| | | 2506 (39750) | 12.63 | 12.77 | 12.51 |
| | 1RB-Low (0) | 2680 (41490) | 12.60 | 12.87 | 12.58 |
| | | 2636.5(41055) | 12.74 | 12.93 | 12.65 |
| | | 2593 (40620) | 12.76 | 12.97 | 12.67 |
| | | 2549.5(40185) | 12.66 | 12.85 | 12.59 |
| | | 2506 (39750) | 12.62 | 12.73 | 12.52 |
| | 50RB-High (50) | 2680 (41490) | 12.44 | 12.44 | 12.42 |
| | | 2636.5(41055) | 12.74 | 12.75 | 12.72 |
| | | 2593 (40620) | 12.70 | 12.74 | 12.68 |
| | | 2549.5(40185) | 12.66 | 12.69 | 12.66 |
| | | 2506 (39750) | 12.59 | 12.61 | 12.58 |
| | 50RB-Middle (25) | 2680 (41490) | 12.56 | 12.63 | 12.58 |
| | | 2636.5(41055) | 12.73 | 12.77 | 12.74 |
| | | 2593 (40620) | 12.71 | 12.75 | 12.72 |
| | | 2549.5(40185) | 12.68 | 12.73 | 12.70 |
| | | 2506 (39750) | 12.56 | 12.60 | 12.59 |
| | 50RB-Low (0) | 2680 (41490) | 12.67 | 12.73 | 12.67 |
| | | 2636.5(41055) | 12.75 | 12.78 | 12.74 |
| | | 2593 (40620) | 12.78 | 12.83 | 12.79 |
| | | 2549.5(40185) | 12.69 | 12.76 | 12.72 |
| | | 2506 (39750) | 12.62 | 12.58 | 12.53 |
| | 100RB (0) | 2680 (41490) | 12.77 | 12.59 | 12.55 |
| | | 2636.5(41055) | 12.73 | 12.74 | 12.73 |
| | | 2593 (40620) | 12.73 | 12.75 | 12.73 |
| | | 2549.5(40185) | 12.65 | 12.68 | 12.66 |
| | | 2506 (39750) | 12.55 | 12.56 | 12.55 |

**LTE Band41 PC3 Normal Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2687.5 (41565) | 23.79 | 22.72 | 21.29 |
| | | 2640.3(41093) | 23.74 | 22.76 | 21.30 |
| | | 2593 (40620) | 23.88 | 22.89 | 21.44 |
| | | 2545.8(40148) | 23.73 | 22.73 | 21.28 |
| | | 2498.5 (39675) | 23.73 | 22.74 | 21.28 |
| | 1RB-Middle (12) | 2687.5 (41565) | 23.78 | 22.73 | 21.33 |
| | | 2640.3(41093) | 23.74 | 22.72 | 21.31 |
| | | 2593 (40620) | 23.92 | 22.89 | 21.46 |
| | | 2545.8(40148) | 23.77 | 22.72 | 21.30 |
| | | 2498.5 (39675) | 23.76 | 22.73 | 21.30 |
| | 1RB-Low (0) | 2687.5 (41565) | 23.79 | 22.77 | 21.35 |
| | | 2640.3(41093) | 23.75 | 22.75 | 21.33 |
| | | 2593 (40620) | 23.93 | 22.92 | 21.49 |
| | | 2545.8(40148) | 23.71 | 22.71 | 21.28 |
| | | 2498.5 (39675) | 23.75 | 22.74 | 21.31 |
| | 12RB-High (13) | 2687.5 (41565) | 22.62 | 21.52 | 20.60 |
| | | 2640.3(41093) | 22.64 | 21.56 | 20.65 |
| | | 2593 (40620) | 22.74 | 21.67 | 20.74 |
| | | 2545.8(40148) | 22.61 | 21.54 | 20.60 |
| | | 2498.5 (39675) | 22.63 | 21.56 | 20.61 |
| | 12RB-Middle (6) | 2687.5 (41565) | 22.64 | 21.56 | 20.65 |
| | | 2640.3(41093) | 22.62 | 21.58 | 20.64 |
| | | 2593 (40620) | 22.74 | 21.70 | 20.75 |
| | | 2545.8(40148) | 22.63 | 21.56 | 20.63 |
| | | 2498.5 (39675) | 22.64 | 21.57 | 20.61 |
| | 12RB-Low (0) | 2687.5 (41565) | 22.70 | 21.61 | 20.69 |
| | | 2640.3(41093) | 22.66 | 21.61 | 20.65 |
| | | 2593 (40620) | 22.80 | 21.73 | 20.80 |
| | | 2545.8(40148) | 22.62 | 21.55 | 20.62 |
| | | 2498.5 (39675) | 22.65 | 21.58 | 20.63 |
| | 25RB (0) | 2687.5 (41565) | 22.67 | 21.68 | 20.70 |
| | | 2640.3(41093) | 22.67 | 21.65 | 20.71 |
| | | 2593 (40620) | 22.79 | 21.75 | 20.79 |
| | | 2545.8(40148) | 22.62 | 21.61 | 20.63 |
| | | 2498.5 (39675) | 22.67 | 21.66 | 20.64 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 2685 (41540) | 23.74 | 22.68 | 21.23 |
| | | 2639(41080) | 23.70 | 22.73 | 21.27 |
| | | 2593 (40620) | 23.82 | 22.84 | 21.40 |
| | | 2547(40160) | 23.71 | 22.72 | 21.29 |
| | | 2501 (39700) | 23.70 | 22.73 | 21.26 |
| | 1RB-Middle (24) | 2685 (41540) | 23.75 | 22.71 | 21.31 |
| | | 2639(41080) | 23.69 | 22.71 | 21.27 |
| | | 2593 (40620) | 23.86 | 22.87 | 21.43 |
| | | 2547(40160) | 23.69 | 22.69 | 21.27 |
| | | 2501 (39700) | 23.69 | 22.69 | 21.25 |
| | 1RB-Low (0) | 2685 (41540) | 23.76 | 22.75 | 21.33 |
| | | 2639(41080) | 23.73 | 22.76 | 21.30 |
| | | 2593 (40620) | 23.85 | 22.86 | 21.43 |
| | | 2547(40160) | 23.69 | 22.71 | 21.26 |
| | | 2501 (39700) | 23.69 | 22.69 | 21.27 |
| | 25RB-High (25) | 2685 (41540) | 22.62 | 21.58 | 20.65 |
| | | 2639(41080) | 22.64 | 21.67 | 20.70 |
| | | 2593 (40620) | 22.73 | 21.74 | 20.74 |
| | | 2547(40160) | 22.59 | 21.60 | 20.63 |
| | | 2501 (39700) | 22.64 | 21.65 | 20.67 |
| | 25RB-Middle (12) | 2685 (41540) | 22.64 | 21.64 | 20.70 |
| | | 2639(41080) | 22.63 | 21.61 | 20.67 |
| | | 2593 (40620) | 22.74 | 21.74 | 20.76 |
| | | 2547(40160) | 22.62 | 21.62 | 20.65 |
| | | 2501 (39700) | 22.61 | 21.61 | 20.64 |
| | 25RB-Low (0) | 2685 (41540) | 22.71 | 21.70 | 20.75 |
| | | 2639(41080) | 22.64 | 21.62 | 20.65 |
| | | 2593 (40620) | 22.77 | 21.77 | 20.78 |
| | | 2547(40160) | 22.61 | 21.61 | 20.63 |
| | | 2501 (39700) | 22.58 | 21.61 | 20.61 |
| | 50RB (0) | 2685 (41540) | 22.68 | 21.70 | 20.64 |
| | | 2639(41080) | 22.69 | 21.70 | 20.65 |
| | | 2593 (40620) | 22.75 | 21.78 | 20.71 |
| | | 2547(40160) | 22.66 | 21.64 | 20.62 |
| | | 2501 (39700) | 22.66 | 21.64 | 20.58 |

| | | | | | |
|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2682.5 (41515) | 23.63 | 22.63 | 21.20 |
| | | 2637.8(41068) | 23.64 | 22.67 | 21.21 |
| | | 2593 (40620) | 23.76 | 22.77 | 21.35 |
| | | 2548.3(40173) | 23.65 | 22.66 | 21.22 |
| | | 2503.5 (39725) | 23.59 | 22.64 | 21.18 |
| | 1RB-Middle (37) | 2682.5 (41515) | 23.71 | 22.70 | 21.29 |
| | | 2637.8(41068) | 23.70 | 22.72 | 21.28 |
| | | 2593 (40620) | 23.86 | 22.88 | 21.44 |
| | | 2548.3(40173) | 23.71 | 22.71 | 21.26 |
| | | 2503.5 (39725) | 23.68 | 22.71 | 21.27 |
| | 1RB-Low (0) | 2682.5 (41515) | 23.74 | 22.72 | 21.30 |
| | | 2637.8(41068) | 23.74 | 22.73 | 21.29 |
| | | 2593 (40620) | 23.81 | 22.83 | 21.38 |
| | | 2548.3(40173) | 23.64 | 22.67 | 21.22 |
| | | 2503.5 (39725) | 23.64 | 22.63 | 21.20 |
| | 36RB-High (38) | 2682.5 (41515) | 22.58 | 21.55 | 20.55 |
| | | 2637.8(41068) | 22.65 | 21.62 | 20.62 |
| | | 2593 (40620) | 22.71 | 21.69 | 20.67 |
| | | 2548.3(40173) | 22.61 | 21.58 | 20.60 |
| | | 2503.5 (39725) | 22.60 | 21.55 | 20.55 |
| | 36RB-Middle (19) | 2682.5 (41515) | 22.66 | 21.63 | 20.63 |
| | | 2637.8(41068) | 22.61 | 21.58 | 20.58 |
| | | 2593 (40620) | 22.73 | 21.68 | 20.67 |
| | | 2548.3(40173) | 22.60 | 21.55 | 20.58 |
| | | 2503.5 (39725) | 22.59 | 21.54 | 20.55 |
| | 36RB-Low (0) | 2682.5 (41515) | 22.69 | 21.66 | 20.65 |
| | | 2637.8(41068) | 22.66 | 21.61 | 20.60 |
| | | 2593 (40620) | 22.76 | 21.73 | 20.70 |
| | | 2548.3(40173) | 22.59 | 21.54 | 20.57 |
| | | 2503.5 (39725) | 22.57 | 21.53 | 20.53 |
| | 75RB (0) | 2682.5 (41515) | 22.70 | 21.70 | 20.67 |
| | | 2637.8(41068) | 22.70 | 21.70 | 20.66 |
| | | 2593 (40620) | 22.79 | 21.78 | 20.75 |
| | | 2548.3(40173) | 22.63 | 21.61 | 20.61 |
| | | 2503.5 (39725) | 22.62 | 21.61 | 20.58 |

| | | | | | |
|---|---|---|---|---|---|
| 20MHz | 1RB-High (99) | 2680 (41490) | 23.50 | 22.50 | 21.09 |
| | | 2636.5(41055) | 23.54 | 22.57 | 21.14 |
| | | 2593 (40620) | 23.68 | 22.70 | 21.26 |
| | | 2549.5(40185) | 23.54 | 22.57 | 21.11 |
| | | 2506 (39750) | 23.55 | 22.58 | 21.12 |
| | 1RB-Middle (50) | 2680 (41490) | 23.62 | 22.62 | 21.20 |
| | | 2636.5(41055) | 23.68 | 22.69 | 21.27 |
| | | 2593 (40620) | 23.80 | 22.82 | 21.39 |
| | | 2549.5(40185) | 23.65 | 22.69 | 21.23 |
| | | 2506 (39750) | 23.67 | 22.69 | 21.25 |
| | 1RB-Low (0) | 2680 (41490) | 23.63 | 22.61 | 21.18 |
| | | 2636.5(41055) | 23.68 | 22.71 | 21.28 |
| | | 2593 (40620) | 23.69 | 22.70 | 21.29 |
| | | 2549.5(40185) | 23.58 | 22.62 | 21.18 |
| | | 2506 (39750) | 23.58 | 22.60 | 21.14 |
| | 50RB-High (50) | 2680 (41490) | 22.49 | 21.53 | 20.48 |
| | | 2636.5(41055) | 22.63 | 21.65 | 20.61 |
| | | 2593 (40620) | 22.69 | 21.72 | 20.69 |
| | | 2549.5(40185) | 22.57 | 21.60 | 20.54 |
| | | 2506 (39750) | 22.63 | 21.65 | 20.62 |
| | 50RB-Middle (25) | 2680 (41490) | 22.59 | 21.62 | 20.60 |
| | | 2636.5(41055) | 22.64 | 21.65 | 20.63 |
| | | 2593 (40620) | 22.70 | 21.74 | 20.71 |
| | | 2549.5(40185) | 22.59 | 21.62 | 20.56 |
| | | 2506 (39750) | 22.62 | 21.62 | 20.59 |
| | 50RB-Low (0) | 2680 (41490) | 22.67 | 21.68 | 20.62 |
| | | 2636.5(41055) | 22.68 | 21.72 | 20.66 |
| | | 2593 (40620) | 22.75 | 21.79 | 20.74 |
| | | 2549.5(40185) | 22.61 | 21.63 | 20.60 |
| | | 2506 (39750) | 22.56 | 21.58 | 20.53 |
| | 100RB (0) | 2680 (41490) | 22.60 | 21.63 | 20.60 |
| | | 2636.5(41055) | 22.67 | 21.67 | 20.65 |
| | | 2593 (40620) | 22.74 | 21.72 | 20.70 |
| | | 2549.5(40185) | 22.57 | 21.59 | 20.56 |
| | | 2506 (39750) | 22.57 | 21.59 | 20.58 |

**LTE Band41 PC3 Low Power**

| | | | | | |
|---|---|---|---|---|---|
| 5MHz | 1RB-High (24) | 2687.5 (41565) | 9.49 | 9.39 | 9.08 |
| | | 2640.3(41093) | 9.70 | 9.70 | 9.39 |
| | | 2593 (40620) | 9.71 | 9.71 | 9.40 |
| | | 2545.8(40148) | 9.65 | 9.67 | 9.37 |
| | | 2498.5 (39675) | 9.60 | 9.61 | 9.28 |
| | 1RB-Middle (12) | 2687.5 (41565) | 9.48 | 9.46 | 9.16 |
| | | 2640.3(41093) | 9.75 | 9.70 | 9.40 |
| | | 2593 (40620) | 9.81 | 9.76 | 9.42 |
| | | 2545.8(40148) | 9.73 | 9.72 | 9.42 |
| | | 2498.5 (39675) | 9.68 | 9.65 | 9.32 |
| | 1RB-Low (0) | 2687.5 (41565) | 9.49 | 9.46 | 9.16 |
| | | 2640.3(41093) | 9.72 | 9.69 | 9.38 |
| | | 2593 (40620) | 9.79 | 9.77 | 9.45 |
| | | 2545.8(40148) | 9.65 | 9.64 | 9.35 |
| | | 2498.5 (39675) | 9.61 | 9.62 | 9.30 |
| | 12RB-High (13) | 2687.5 (41565) | 9.38 | 9.33 | 9.41 |
| | | 2640.3(41093) | 9.69 | 9.64 | 9.73 |
| | | 2593 (40620) | 9.71 | 9.66 | 9.75 |
| | | 2545.8(40148) | 9.63 | 9.58 | 9.68 |
| | | 2498.5 (39675) | 9.61 | 9.55 | 9.65 |
| | 12RB-Middle (6) | 2687.5 (41565) | 9.41 | 9.38 | 9.46 |
| | | 2640.3(41093) | 9.66 | 9.58 | 9.70 |
| | | 2593 (40620) | 9.69 | 9.69 | 9.79 |
| | | 2545.8(40148) | 9.63 | 9.60 | 9.69 |
| | | 2498.5 (39675) | 9.65 | 9.55 | 9.63 |
| | 12RB-Low (0) | 2687.5 (41565) | 9.45 | 9.41 | 9.52 |
| | | 2640.3(41093) | 9.67 | 9.61 | 9.73 |
| | | 2593 (40620) | 9.79 | 9.72 | 9.81 |
| | | 2545.8(40148) | 9.64 | 9.59 | 9.69 |
| | | 2498.5 (39675) | 9.59 | 9.53 | 9.65 |
| | 25RB (0) | 2687.5 (41565) | 9.44 | 9.46 | 9.47 |
| | | 2640.3(41093) | 9.71 | 9.73 | 9.75 |
| | | 2593 (40620) | 9.73 | 9.78 | 9.78 |
| | | 2545.8(40148) | 9.61 | 9.66 | 9.67 |
| | | 2498.5 (39675) | 9.63 | 9.62 | 9.63 |

| | | | | | |
|---|---|---|---|---|---|
| 10MHz | 1RB-High (49) | 2685 (41540) | 9.50 | 9.37 | 9.06 |
| | | 2639(41080) | 9.66 | 9.66 | 9.35 |
| | | 2593 (40620) | 9.66 | 9.68 | 9.36 |
| | | 2547(40160) | 9.66 | 9.69 | 9.40 |
| | | 2501 (39700) | 9.58 | 9.59 | 9.26 |
| | 1RB-Middle (24) | 2685 (41540) | 9.47 | 9.49 | 9.17 |
| | | 2639(41080) | 9.67 | 9.69 | 9.36 |
| | | 2593 (40620) | 9.73 | 9.75 | 9.44 |
| | | 2547(40160) | 9.67 | 9.70 | 9.41 |
| | | 2501 (39700) | 9.58 | 9.60 | 9.26 |
| | 1RB-Low (0) | 2685 (41540) | 9.50 | 9.52 | 9.19 |
| | | 2639(41080) | 9.68 | 9.68 | 9.38 |
| | | 2593 (40620) | 9.73 | 9.72 | 9.42 |
| | | 2547(40160) | 9.63 | 9.65 | 9.34 |
| | | 2501 (39700) | 9.59 | 9.59 | 9.26 |
| | 25RB-High (25) | 2685 (41540) | 9.38 | 9.42 | 9.44 |
| | | 2639(41080) | 9.69 | 9.69 | 9.75 |
| | | 2593 (40620) | 9.68 | 9.72 | 9.76 |
| | | 2547(40160) | 9.61 | 9.64 | 9.68 |
| | | 2501 (39700) | 9.58 | 9.67 | 9.68 |
| | 25RB-Middle (12) | 2685 (41540) | 9.45 | 9.47 | 9.51 |
| | | 2639(41080) | 9.67 | 9.68 | 9.73 |
| | | 2593 (40620) | 9.70 | 9.73 | 9.75 |
| | | 2547(40160) | 9.64 | 9.69 | 9.70 |
| | | 2501 (39700) | 9.58 | 9.60 | 9.66 |
| | 25RB-Low (0) | 2685 (41540) | 9.52 | 9.57 | 9.57 |
| | | 2639(41080) | 9.67 | 9.71 | 9.73 |
| | | 2593 (40620) | 9.71 | 9.79 | 9.77 |
| | | 2547(40160) | 9.65 | 9.67 | 9.68 |
| | | 2501 (39700) | 9.57 | 9.59 | 9.62 |
| | 50RB (0) | 2685 (41540) | 9.47 | 9.53 | 9.50 |
| | | 2639(41080) | 9.72 | 9.73 | 9.74 |
| | | 2593 (40620) | 9.72 | 9.74 | 9.73 |
| | | 2547(40160) | 9.67 | 9.71 | 9.68 |
| | | 2501 (39700) | 9.61 | 9.64 | 9.64 |

| | | | | | |
|---|---|---|---|---|---|
| 15MHz | 1RB-High (74) | 2682.5 (41515) | 9.32 | 9.34 | 9.03 |
| | | 2637.8(41068) | 9.62 | 9.64 | 9.32 |
| | | 2593 (40620) | 9.59 | 9.62 | 9.30 |
| | | 2548.3(40173) | 9.62 | 9.64 | 9.45 |
| | | 2503.5 (39725) | 9.48 | 9.52 | 9.19 |
| | 1RB-Middle (37) | 2682.5 (41515) | 9.45 | 9.47 | 9.16 |
| | | 2637.8(41068) | 9.66 | 9.68 | 9.36 |
| | | 2593 (40620) | 9.72 | 9.74 | 9.43 |
| | | 2548.3(40173) | 9.64 | 9.71 | 9.37 |
| | | 2503.5 (39725) | 9.58 | 9.61 | 9.28 |
| | 1RB-Low (0) | 2682.5 (41515) | 9.50 | 9.51 | 9.21 |
| | | 2637.8(41068) | 9.64 | 9.67 | 9.34 |
| | | 2593 (40620) | 9.70 | 9.71 | 9.40 |
| | | 2548.3(40173) | 9.60 | 9.62 | 9.31 |
| | | 2503.5 (39725) | 9.52 | 9.56 | 9.23 |
| | 36RB-High (38) | 2682.5 (41515) | 9.37 | 9.36 | 9.40 |
| | | 2637.8(41068) | 9.66 | 9.65 | 9.68 |
| | | 2593 (40620) | 9.63 | 9.62 | 9.66 |
| | | 2548.3(40173) | 9.62 | 9.62 | 9.64 |
| | | 2503.5 (39725) | 9.55 | 9.55 | 9.57 |
| | 36RB-Middle (19) | 2682.5 (41515) | 9.45 | 9.46 | 9.49 |
| | | 2637.8(41068) | 9.65 | 9.64 | 9.65 |
| | | 2593 (40620) | 9.63 | 9.63 | 9.68 |
| | | 2548.3(40173) | 9.62 | 9.62 | 9.64 |
| | | 2503.5 (39725) | 9.57 | 9.52 | 9.57 |
| | 36RB-Low (0) | 2682.5 (41515) | 9.51 | 9.49 | 9.52 |
| | | 2637.8(41068) | 9.65 | 9.65 | 9.68 |
| | | 2593 (40620) | 9.67 | 9.67 | 9.74 |
| | | 2548.3(40173) | 9.61 | 9.59 | 9.62 |
| | | 2503.5 (39725) | 9.53 | 9.54 | 9.55 |
| | 75RB (0) | 2682.5 (41515) | 9.48 | 9.50 | 9.51 |
| | | 2637.8(41068) | 9.70 | 9.71 | 9.73 |
| | | 2593 (40620) | 9.71 | 9.72 | 9.75 |
| | | 2548.3(40173) | 9.65 | 9.66 | 9.67 |
| | | 2503.5 (39725) | 9.61 | 9.58 | 9.60 |

| | | | | | |
|---|---|---|---|---|---|
| 20MHz | 1RB-High (99) | 2680 (41490) | 9.31 | 9.29 | 8.99 |
| | | 2636.5(41055) | 9.59 | 9.61 | 9.28 |
| | | 2593 (40620) | 9.56 | 9.56 | 9.24 |
| | | 2549.5(40185) | 9.60 | 9.64 | 9.32 |
| | | 2506 (39750) | 9.47 | 9.46 | 9.16 |
| | 1RB-Middle (50) | 2680 (41490) | 9.81 | 9.49 | 9.17 |
| | | 2636.5(41055) | 9.69 | 9.69 | 9.36 |
| | | 2593 (40620) | 9.73 | 9.74 | 9.40 |
| | | 2549.5(40185) | 9.70 | 9.74 | 9.37 |
| | | 2506 (39750) | 9.59 | 9.61 | 9.25 |
| | 1RB-Low (0) | 2680 (41490) | 9.58 | 9.56 | 9.23 |
| | | 2636.5(41055) | 9.62 | 9.61 | 9.29 |
| | | 2593 (40620) | 9.68 | 9.68 | 9.36 |
| | | 2549.5(40185) | 9.58 | 9.59 | 9.30 |
| | | 2506 (39750) | 9.52 | 9.53 | 9.20 |
| | 50RB-High (50) | 2680 (41490) | 9.37 | 9.41 | 9.40 |
| | | 2636.5(41055) | 9.69 | 9.73 | 9.72 |
| | | 2593 (40620) | 9.71 | 9.71 | 9.69 |
| | | 2549.5(40185) | 9.64 | 9.63 | 9.59 |
| | | 2506 (39750) | 9.61 | 9.66 | 9.63 |
| | 50RB-Middle (25) | 2680 (41490) | 9.53 | 9.56 | 9.57 |
| | | 2636.5(41055) | 9.70 | 9.74 | 9.74 |
| | | 2593 (40620) | 9.74 | 9.75 | 9.71 |
| | | 2549.5(40185) | 9.66 | 9.71 | 9.70 |
| | | 2506 (39750) | 9.61 | 9.63 | 9.61 |
| | 50RB-Low (0) | 2680 (41490) | 9.84 | 9.67 | 9.66 |
| | | 2636.5(41055) | 9.71 | 9.75 | 9.72 |
| | | 2593 (40620) | 9.78 | 9.80 | 9.79 |
| | | 2549.5(40185) | 9.68 | 9.75 | 9.73 |
| | | 2506 (39750) | 9.63 | 9.57 | 9.55 |
| | 100RB (0) | 2680 (41490) | 9.73 | 9.56 | 9.55 |
| | | 2636.5(41055) | 9.71 | 9.73 | 9.73 |
| | | 2593 (40620) | 9.71 | 9.74 | 9.74 |
| | | 2549.5(40185) | 9.65 | 9.69 | 9.67 |
| | | 2506 (39750) | 9.57 | 9.58 | 9.56 |

## LTE Carrier Aggregation Conducted Power (Uplink)

| Normal Power | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UL LTE CA Class | PCC | | | | | SCC | | | | Power |
| | PCC Bandwidth | UL channel | DL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power (dBm) |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 20M | 3048 | 1 | 0 | 22.65 |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 15M | 3021 | 1 | 0 | 22.70 |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 10M | 2994 | 1 | 0 | 22.60 |
| CA_7C | 15M | 20825 | 2825 | 1 | 74 | 15M | 2975 | 1 | 0 | 22.84 |
| CA_7C | 15M | 20825 | 2825 | 1 | 74 | 10M | 2945 | 1 | 0 | 22.80 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 20M | 3152 | 1 | 99 | 22.82 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 15M | 3179 | 1 | 74 | 22.79 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 10M | 3206 | 1 | 49 | 22.54 |
| CA_7C | 15M | 21375 | 3375 | 1 | 0 | 15M | 3225 | 1 | 74 | 22.93 |

| Low Power | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UL LTE CA Class | PCC | | | | | SCC | | | | Power |
| | PCC Bandwidth | UL channel | DL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power (dBm) |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 20M | 3048 | 1 | 0 | 13.64 |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 15M | 3021 | 1 | 0 | 13.66 |
| CA_7C | 20M | 20850 | 2850 | 1 | 99 | 10M | 2994 | 1 | 0 | 13.59 |
| CA_7C | 15M | 20825 | 2825 | 1 | 74 | 15M | 2975 | 1 | 0 | 13.80 |
| CA_7C | 15M | 20825 | 2825 | 1 | 74 | 10M | 2945 | 1 | 0 | 13.73 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 20M | 3152 | 1 | 99 | 13.77 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 15M | 3179 | 1 | 74 | 13.78 |
| CA_7C | 20M | 21350 | 3350 | 1 | 0 | 10M | 3206 | 1 | 49 | 13.74 |
| CA_7C | 15M | 21375 | 3375 | 1 | 0 | 15M | 3225 | 1 | 74 | 13.90 |
| CA_7C | 15M | 20825 | 2825 | 1 | 0 | 10M | 2945 | 1 | 49 | 13.53 |

## 11.4 Wi-Fi and BT Measurement result

The maximum output power of BT is 4.43dBm.
The maximum tune up of BT is 6dBm.

The average conducted power of Wi-Fi for normal power is as following:

| 802.11b | Channel\data | 1Mbps |
|---|---|---|
| WLAN2450 | 11(2462MHz) | 17.71 |
| | 6(2437(MHz) | 17.88 |
| | 1(2412MHz) | 17.94 |
| Tune up | | 18.00 |
| 802.11g | Channel\data | 6Mbps |
| WLAN2450 | 11(2462MHz) | 17.21 |
| | 6(2437(MHz) | 17.39 |
| | 1(2412MHz) | 17.47 |
| Tune up | | 18.00 |
| 802.11n-20MHz | Channel\data | MCS0 |
| WLAN2450 | 11(2462MHz) | 16.09 |
| | 6(2437(MHz) | 16.22 |
| | 1(2412MHz) | 16.36 |
| Tune up | | 17.00 |
| 802.11n-40MHz | Channel\data | MCS0 |
| WLAN2450 | 9(2452MHz) | 15.19 |
| | 6(2437MHz) | 15.26 |
| | 3(2422MHz) | 15.62 |
| Tune up | | 16.00 |

| 802.11a(dBm) | |
|---|---|
| Channel\data rate | 6Mbps |
| 36(5180 MHz) | 16.75 |
| 40(5200 MHz) | 16.81 |
| 44(5220 MHz) | 16.77 |
| 48(5240 MHz) | 16.64 |
| 52(5260 MHz) | 16.56 |
| 56(5280 MHz) | 16.59 |
| 60(5300 MHz) | 16.76 |
| 64(5320 MHz) | **16.89** |
| 100(5500 MHz) | 16.67 |
| 104(5520 MHz) | 16.58 |
| 108(5540 MHz) | 16.80 |
| 112(5560 MHz) | 17.07 |
| 116(5580 MHz) | 17.60 |
| 120(5600 MHz) | 17.12 |
| 124(5620 MHz) | 17.22 |
| 128(5640 MHz) | **17.77** |
| 132(5660 MHz) | 17.32 |
| 136(5680 MHz) | 17.51 |
| Tune up | 18.00 |
| 140(5700 MHz) | 15.59 |
| 144(5720 MHz) | 15.61 |
| Tune up | 16.00 |
| 149(5745 MHz) | 11.35 |
| 153(5765 MHz) | 11.34 |
| 157(5785 MHz) | **11.42** |
| 161(5805 MHz) | 11.34 |
| 165(5825 MHz) | 11.27 |
| Tune up | 13.00 |

The average conducted power of Wi-Fi for Low power is as following:

| 802.11b | Channel\data | 1Mbps |
|---|---|---|
| WLAN2450 | 11(2462MHz) | 14.07 |
| | 6(2437(MHz) | 14.40 |
| | 1(2412MHz) | 14.61 |
| Tune up | | 15.00 |
| 802.11g | Channel\data | 6Mbps |
| WLAN2450 | 11(2462MHz) | 13.96 |
| | 6(2437(MHz) | 14.22 |
| | 1(2412MHz) | 14.47 |
| Tune up | | 15.00 |
| 802.11n-20MHz | Channel\data | MCS0 |
| WLAN2450 | 11(2462MHz) | 12.81 |
| | 6(2437(MHz) | 13.04 |
| | 1(2412MHz) | 13.20 |
| Tune up | | 14.00 |
| 802.11n-40MHz | Channel\data | MCS0 |
| WLAN2450 | 9(2452MHz) | 12.09 |
| | 6(2437MHz) | 12.27 |
| | 3(2422MHz) | 12.76 |
| Tune up | | 13.00 |

| 802.11a(dBm) | |
|---|---|
| Channel\data rate | 6Mbps |
| 36(5180 MHz) | 9.17 |
| 40(5200 MHz) | 9.31 |
| 44(5220 MHz) | 9.19 |
| 48(5240 MHz) | 9.05 |
| 52(5260 MHz) | 9.10 |
| 56(5280 MHz) | 9.16 |
| 60(5300 MHz) | 9.20 |
| 64(5320 MHz) | **9.29** |
| 100(5500 MHz) | 9.63 |
| 104(5520 MHz) | 9.68 |
| 108(5540 MHz) | 9.65 |
| 112(5560 MHz) | 9.85 |
| 116(5580 MHz) | 9.93 |
| 120(5600 MHz) | 9.95 |
| 124(5620 MHz) | 10.05 |
| 128(5640 MHz) | **10.10** |
| 132(5660 MHz) | 10.00 |
| 136(5680 MHz) | 10.05 |
| 140(5700 MHz) | 10.08 |
| 144(5720 MHz) | 10.08 |
| 149(5745 MHz) | 10.06 |
| 153(5765 MHz) | 9.86 |
| 157(5785 MHz) | **10.16** |
| 161(5805 MHz) | 10.00 |
| 165(5825 MHz) | 10.04 |
| Tune up | 10.50 |

# 11.5 NR 5G Measurement result

## N41 Normal Power

| No. | Test Freq Description | 5G-n41 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n41 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2685 | 537000 | 25 | 24.62 |
| 2 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2639 | 527799 | 25 | 24.74 |
| 3 | Middle2 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2592.99 | 518598 | 25 | 24.67 |
| 4 | Middle3 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2455.02 | 509406 | 25 | 24.70 |
| 5 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2501.01 | 500205 | 25 | 24.67 |
| 6 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2640 | 528000 | 25 | 24.61 |
| 7 | Middle1 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2616.495 | 523299 | 25 | 24.58 |
| 8 | Middle2 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2592.99 | 518598 | 25 | 24.59 |
| 9 | Middle3 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2569.5 | 513900 | 25 | 24.55 |
| 10 | Low | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2546.01 | 509202 | 25 | 24.53 |

According to the table above, the maximum power configuration is selected as the default test configuration

| No. | Test Freq Description | 5G-n41 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n41 |
| 1 | Middle1 | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 2639 | 527799 | 25 | 24.73 |
| 2 | Middle1 | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 2639 | 527799 | 24 | 23.86 |
| 3 | Middle1 | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 2639 | 527799 | 22.5 | 22.21 |
| 4 | Middle1 | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 2639 | 527799 | 20.5 | 20.24 |
| 5 | Middle1 | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 2639 | 527799 | 23.5 | 23.15 |
| 6 | Middle1 | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 2639 | 527799 | 23 | 22.83 |
| 7 | Middle1 | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 2639 | 527799 | 21.5 | 21.20 |
| 8 | Middle1 | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 2639 | 527799 | 18.5 | 18.13 |
| 9 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 2639 | 527799 | 21.5 | 21.13 |
| 10 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 2639 | 527799 | 21.5 | 21.12 |
| 11 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 2639 | 527799 | 21.5 | 21.14 |
| 12 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 2639 | 527799 | 21.5 | 21.10 |
| 13 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 2639 | 527799 | 25 | 24.61 |
| 14 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 2639 | 527799 | 25 | 24.60 |
| 15 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 2639 | 527799 | 24 | 23.67 |
| 16 | Middle1 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 2592.99 | 518598 | 25 | 24.70 |
| 17 | Middle1 | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 2592.99 | 518598 | 25 | 24.67 |
| 19 | Middle1 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 2592.99 | 518598 | 25 | 24.67 |
| 20 | Middle1 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 2592.99 | 518598 | 25 | 24.66 |
| 21 | Middle1 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 2592.99 | 518598 | 25 | 24.60 |
| 23 | Middle1 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 2592.99 | 518598 | 25 | 24.64 |
| 24 | Middle1 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 2592.99 | 518598 | 25 | 24.61 |

## N41 Low Power

| No. | Test Freq Description | 5G-n41 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n41 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2685 | 537000 | 14 | 13.73 |
| 2 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.81 |
| 3 | Middle2 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2592.99 | 518598 | 14 | 13.74 |
| 4 | Middle3 | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2555.02 | 509406 | 14 | 13.66 |
| 5 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 2501.01 | 500205 | 14 | 13.59 |
| 6 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2640 | 528000 | 14 | 13.71 |
| 7 | Middle1 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2616.495 | 523299 | 14 | 13.69 |
| 8 | Middle2 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2592.99 | 518598 | 14 | 13.66 |
| 9 | Middle3 | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2569.5 | 513900 | 14 | 13.63 |
| 10 | Low | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 2546.01 | 509202 | 14 | 13.57 |

According to the table above, the maximum power configuration is selected as the default test configuration

| No. | Test Freq Description | 5G-n41 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n41 |
| 1 | Middle1 | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.79 |
| 2 | Middle1 | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.80 |
| 3 | Middle1 | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.78 |
| 4 | Middle1 | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.80 |
| 5 | Middle1 | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.73 |
| 6 | Middle1 | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.80 |
| 7 | Middle1 | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.74 |
| 8 | Middle1 | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 2639 | 527799 | 14 | 13.80 |
| 9 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 2639 | 527799 | 14 | 13.76 |
| 10 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 2639 | 527799 | 14 | 13.80 |
| 11 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 2639 | 527799 | 14 | 13.74 |
| 12 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 2639 | 527799 | 14 | 13.79 |
| 13 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 2639 | 527799 | 14 | 13.77 |
| 14 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 2639 | 527799 | 14 | 13.73 |
| 15 | Middle1 | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 2639 | 527799 | 14 | 13.78 |
| 16 | Middle1 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 2592.99 | 518598 | 14 | 13.68 |
| 17 | Middle1 | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 2592.99 | 518598 | 14 | 13.68 |
| 19 | Middle1 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 2592.99 | 518598 | 14 | 13.68 |
| 20 | Middle1 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 2592.99 | 518598 | 14 | 13.67 |
| 21 | Middle1 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 2592.99 | 518598 | 14 | 13.64 |
| 23 | Middle1 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 2592.99 | 518598 | 14 | 13.66 |
| 24 | Middle1 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 2592.99 | 518598 | 14 | 13.64 |

**N78_ Standalone Normal Power**

| No. | Test Freq Description | 5G-n77 | | | | | | | Power Results (dBm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 25.00 | 24.69 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3500.01 | 633334 | 25.00 | 24.48 |
| 6 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3455.01 | 630334 | 25.00 | 24.39 |
| 7 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3499.98 | 633332 | 25.00 | 23.44 |
| 8 | Middle | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3500.01 | 633334 | 25.00 | 23.42 |
| According to the table above, the maximum power configuration is selected as the default test configuration | | | | | | | | | | |

| No. | Test Freq Description | 5G-n77 | | | | | | | Power Results (dBm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 3544.98 | 636332 | 25.00 | 24.64 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 24.00 | 23.69 |
| 3 | Middle | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 22.50 | 22.16 |
| 4 | Middle | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 20.50 | 20.15 |
| 5 | Middle | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 23.50 | 23.13 |
| 6 | Middle | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 22.73 |
| 7 | Middle | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 21.50 | 21.17 |
| 8 | Middle | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 18.50 | 18.20 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 3544.98 | 636332 | 21.50 | 21.03 |
| 6 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 3544.98 | 636332 | 21.50 | 21.00 |
| 9 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 3544.98 | 636332 | 21.50 | 21.11 |
| 10 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 3544.98 | 636332 | 21.50 | 21.08 |
| 11 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 3544.98 | 636332 | 25.00 | 24.55 |
| 12 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 3544.98 | 636332 | 25.00 | 24.53 |
| 13 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 3544.98 | 636332 | 24.00 | 23.66 |
| 17 | Middle-5 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 3500.01 | 633334 | 25.00 | 24.54 |
| 2 | Middle | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 3500.01 | 633334 | 25.00 | 24.48 |
| 18 | Middle-5 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 3500.01 | 633334 | 25.00 | 24.47 |
| 19 | Middle-5 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 3500.01 | 633334 | 25.00 | 24.52 |
| 20 | Middle-5 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 3500.01 | 633334 | 25.00 | 24.44 |
| 22 | Middle-5 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 3500.01 | 633334 | 25.00 | 24.45 |
| 23 | Middle-5 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 3500.01 | 633334 | 25.00 | 24.50 |

**N78_ Standalone Low Power**

| No. | Test Freq Description | 5G-n77 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.10 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3500.01 | 633334 | 10.50 | 10.02 |
| 6 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3455.01 | 630334 | 10.50 | 9.99 |
| 7 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3499.98 | 633332 | 10.50 | 9.89 |
| 8 | Middle | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3500.01 | 633334 | 10.50 | 9.85 |

According to the table above, the maximum power configuration is selected as the default test configuration

| No. | Test Freq Description | 5G-n77 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.01 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.05 |
| 3 | Middle | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.99 |
| 4 | Middle | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.04 |
| 5 | Middle | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.01 |
| 6 | Middle | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.07 |
| 7 | Middle | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.03 |
| 8 | Middle | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 10.00 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 3544.98 | 636332 | 10.50 | 9.95 |
| 6 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 3544.98 | 636332 | 10.50 | 9.89 |
| 9 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 3544.98 | 636332 | 10.50 | 9.97 |
| 10 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 3544.98 | 636332 | 10.50 | 9.95 |
| 11 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 3544.98 | 636332 | 10.50 | 9.93 |
| 12 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 3544.98 | 636332 | 10.50 | 9.87 |
| 13 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 3544.98 | 636332 | 10.50 | 10.01 |
| 17 | Middle-5 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 3500.01 | 633334 | 10.50 | 9.85 |
| 2 | Middle | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 3500.01 | 633334 | 10.50 | 9.83 |
| 18 | Middle-5 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 3500.01 | 633334 | 10.50 | 9.82 |
| 19 | Middle-5 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 3500.01 | 633334 | 10.50 | 9.84 |
| 20 | Middle-5 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 3500.01 | 633334 | 10.50 | 9.81 |
| 22 | Middle-5 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 3500.01 | 633334 | 10.50 | 9.79 |
| 23 | Middle-5 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 3500.01 | 633334 | 10.50 | 9.83 |

**N78_ENDC Normal Power**

| No. | Test Freq Description | 5G-n77 | | | | | | | Power Results (dBm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 21.77 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3500.01 | 633334 | 23.00 | 21.46 |
| 6 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3455.01 | 630334 | 23.00 | 21.43 |
| 7 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3499.98 | 633332 | 23.00 | 21.47 |
| 8 | Middle | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3500.01 | 633334 | 23.00 | 21.44 |
| According to the table above, the maximum power configuration is selected as the default test configuration | | | | | | | | | | |

| No. | Test Freq Description | 5G-n77 | | | | | | | Power Results (dBm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 21.59 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 21.58 |
| 3 | Middle | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 22.50 | 21.62 |
| 4 | Middle | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 20.50 | 20.18 |
| 5 | Middle | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 21.63 |
| 6 | Middle | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 23.00 | 21.74 |
| 7 | Middle | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 21.50 | 21.19 |
| 8 | Middle | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 18.50 | 18.27 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 3544.98 | 636332 | 21.50 | 21.10 |
| 6 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 3544.98 | 636332 | 21.50 | 21.03 |
| 9 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 3544.98 | 636332 | 21.50 | 21.14 |
| 10 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 3544.98 | 636332 | 21.50 | 21.09 |
| 11 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 3544.98 | 636332 | 23.00 | 21.57 |
| 12 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 3544.98 | 636332 | 23.00 | 21.54 |
| 13 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 3544.98 | 636332 | 23.00 | 21.59 |
| 17 | Middle-5 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 3500.01 | 633334 | 23.00 | 21.45 |
| 2 | Middle | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 3500.01 | 633334 | 23.00 | 21.40 |
| 18 | Middle-5 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 3500.01 | 633334 | 23.00 | 21.38 |
| 19 | Middle-5 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 3500.01 | 633334 | 23.00 | 21.43 |
| 20 | Middle-5 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 3500.01 | 633334 | 23.00 | 21.35 |
| 22 | Middle-5 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 3500.01 | 633334 | 23.00 | 21.30 |
| 23 | Middle-5 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 3500.01 | 633334 | 23.00 | 21.40 |

**N78_ENDC Low Power**

| No. | Test Freq Description | 5G-n77 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | High | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.19 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3500.01 | 633334 | 10.50 | 9.12 |
| 6 | Low | 30 | 10 | DFT-s-OFDM QPSK | Inner_Full | 12_6 | 3455.01 | 630334 | 10.50 | 9.09 |
| 7 | High | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3499.98 | 633332 | 10.50 | 9.00 |
| 8 | Middle | 30 | 100 | DFT-s-OFDM QPSK | Inner_Full | 135_67 | 3500.01 | 633334 | 10.50 | 8.97 |
| According to the table above, the maximum power configuration is selected as the default test configuration | | | | | | | | | | |

| No. | Test Freq Description | 5G-n77 | | | | | | | | Power Results (dBm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCS (kHz) | NR BW (MHz) | Modulation | RB allocation | | NR Test Freq. (MHz) | NR Test CH. | Tune up | n77 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM PI/2 BPSK1 | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.11 |
| 2 | Middle | 30 | 10 | DFT-s-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.15 |
| 3 | Middle | 30 | 10 | DFT-s-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.09 |
| 4 | Middle | 30 | 10 | DFT-s-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.14 |
| 5 | Middle | 30 | 10 | CP-OFDM QPSK | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.11 |
| 6 | Middle | 30 | 10 | CP-OFDM 16QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.16 |
| 7 | Middle | 30 | 10 | CP-OFDM 64QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.13 |
| 8 | Middle | 30 | 10 | CP-OFDM 256QAM | Inner_Full | 12_6 | 3544.98 | 636332 | 10.50 | 9.10 |
| 1 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Right | 1_23 | 3544.98 | 636332 | 10.50 | 9.06 |
| 6 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_1RB_Left | 1_0 | 3544.98 | 636332 | 10.50 | 9.00 |
| 9 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Right | 2_22 | 3544.98 | 636332 | 10.50 | 9.07 |
| 10 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Edge_Full_Left | 2_0 | 3544.98 | 636332 | 10.50 | 9.06 |
| 11 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Right | 1_22 | 3544.98 | 636332 | 10.50 | 9.04 |
| 12 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Inner_1RB_Left | 1_1 | 3544.98 | 636332 | 10.50 | 8.99 |
| 13 | Middle | 30 | 10 | DFT-s-OFDM QPSK | Outer_Full | 24_0 | 3544.98 | 636332 | 10.50 | 9.11 |
| 17 | Middle-5 | 30 | 15 | DFT-s-OFDM QPSK | Inner_Full | 18_9 | 3500.01 | 633334 | 10.50 | 8.97 |
| 2 | Middle | 30 | 20 | DFT-s-OFDM QPSK | Inner_Full | 25_12 | 3500.01 | 633334 | 10.50 | 8.95 |
| 18 | Middle-5 | 30 | 40 | DFT-s-OFDM QPSK | Inner_Full | 50_25 | 3500.01 | 633334 | 10.50 | 8.94 |
| 19 | Middle-5 | 30 | 50 | DFT-s-OFDM QPSK | Inner_Full | 64_32 | 3500.01 | 633334 | 10.50 | 8.96 |
| 20 | Middle-5 | 30 | 60 | DFT-s-OFDM QPSK | Inner_Full | 81_40 | 3500.01 | 633334 | 10.50 | 8.93 |
| 22 | Middle-5 | 30 | 80 | DFT-s-OFDM QPSK | Inner_Full | 108_54 | 3500.01 | 633334 | 10.50 | 8.91 |
| 23 | Middle-5 | 30 | 90 | DFT-s-OFDM QPSK | Inner_Full | 120_60 | 3500.01 | 633334 | 10.50 | 8.95 |

# 12 Antenna Location

## 12.1 Transmit Antenna Separation Distances

The detail for transmit antenna separation distance is described in the additional document:
Appendix to test report No.I22Z61294-SEM01
The photos of SAR test

## 12.2 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

| SAR measurement positions | | | | | | |
|---|---|---|---|---|---|---|
| Mode | Front | Rear | Left edge | Right edge | Top edge | Bottom edge |
| ANT0 | No | Yes | No | Yes | Yes | No |
| ANT3 | No | Yes | No | No | Yes | No |
| ANT5 | No | Yes | No | Yes | No | No |
| ANT6 | No | Yes | No | No | Yes | No |

# 13 SAR Test Result

**Note:**

**KDB 447498 D01 General RF Exposure Guidance:**

For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor

For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor

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

**KDB 648474 D04 Handset SAR:**

With headset attached, 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 headset attached to the handset.

**KDB 941225 D01 SAR test for 3G devices:**

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 or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

**KDB 941225 D05 SAR for LTE Devices:**

SAR test reduction is applied using the following criteria:

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.

When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.

Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low,Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.

Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.

Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is <1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. 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; therefore, the requirement for H, M and L channels may not fully apply.

**KDB 248227 D01 SAR meas for 802.11:**

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions.An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the initial test position(s) by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The initial test position(s) is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s).

When the reported SAR for 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 wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.

> 0.4 W/kg, SAR is repeated using the same wireless mode test 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 reported SAR is ≤ 0.8 W/kg or all required test positions are tested.

- For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
- When it is unclear, all equivalent conditions must be tested.

For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required test channels are considered.

- The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

**Table 13.1: Duty Cycle**

| Mode | Duty Cycle |
|---|---|
| GPRS/EGPRS 850/1900 | 1:2.67 or 1:4 |
| WCDMA&LTE FDD | 1:1 |
| LTE TDD_PC3 | 1:1.58 |
| LTE TDD_PC2 | 1:2.309 |

## 13.1 SAR results for 2G/3G/4G

| ANT | RF Exposure Conditions | Frequency Band | Channel Number | Frequency (MHz) | Mode/RB | Test setup | Distance | Figure No. | EUT Measured Power (dBm) | Tune up (dBm) | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Power Drift |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Body | GSM850 | 251 | 848.8 | GPRS(2TX) | Rear | 0mm | FIG A.1 | 25.29 | 26.50 | 0.728 | **0.96** | 0.267 | **0.35** | 0.16 |
| 0 | Body | GSM850 | 190 | 836.6 | GPRS(2TX) | Rear | 0mm | / | 24.84 | 26.50 | 0.615 | **0.90** | 0.248 | **0.36** | 0.11 |
| 0 | Body | GSM850 | 128 | 824.2 | GPRS(2TX) | Rear | 0mm | / | 25.31 | 26.50 | 0.692 | **0.91** | 0.272 | **0.36** | -0.08 |
| 0 | Body | GSM850 | 190 | 836.6 | GPRS(2TX) | Top | 0mm | / | 24.84 | 26.50 | 0.256 | **0.38** | 0.097 | **0.14** | -0.05 |
| 0 | Body | GSM850 | 251 | 848.8 | EGPRS(2TX) | Rear | 0mm | / | 25.26 | 26.50 | 0.599 | **0.80** | 0.254 | **0.34** | -0.04 |
| 0 | Body | GSM850 | 190 | 836.6 | GPRS(3TX) | Rear | 19mm | / | 29.61 | 31.00 | 0.348 | **0.48** | 0.247 | **0.34** | 0.03 |
| 0 | Body | GSM850 | 128 | 824.2 | GPRS(3TX) | Right | 0mm | / | 29.61 | 31.00 | 0.514 | **0.71** | 0.230 | **0.32** | 0.16 |
| 0 | Body | GSM850 | 190 | 836.6 | GPRS(3TX) | Top | 19mm | / | 29.61 | 31.00 | 0.251 | **0.35** | 0.123 | **0.17** | 0.18 |
| | | | | | | | | | | | | | | | |
| 0 | Body | GSM1900 | 810 | 1909.8 | GPRS(2TX) | Rear | 0mm | / | 19.77 | 20.00 | 1.070 | **1.13** | 0.440 | **0.46** | 0.16 |
| 0 | Body | GSM1900 | 661 | 1880 | GPRS(2TX) | Rear | 0mm | / | 19.50 | 20.00 | 0.690 | **0.77** | 0.276 | **0.31** | -0.08 |
| 0 | Body | GSM1900 | 512 | 1850.2 | GPRS(2TX) | Rear | 0mm | / | 19.30 | 20.00 | 0.481 | **0.57** | 0.203 | **0.24** | 0.09 |
| 0 | Body | GSM1900 | 810 | 1909.8 | GPRS(2TX) | Top | 0mm | / | 19.77 | 20.00 | 0.946 | **1.00** | 0.369 | **0.39** | -0.05 |
| 0 | Body | GSM1900 | 661 | 1880 | GPRS(2TX) | Top | 0mm | / | 19.50 | 20.00 | 0.775 | **0.87** | 0.298 | **0.33** | 0.02 |
| 0 | Body | GSM1900 | 512 | 1850.2 | GPRS(2TX) | Top | 0mm | / | 19.30 | 20.00 | 0.477 | **0.56** | 0.200 | **0.23** | 0.08 |
| 0 | Body | GSM1900 | 810 | 1909.8 | EGPRS(2TX) | Rear | 0mm | / | 19.71 | 20.00 | 1.010 | **1.08** | 0.421 | **0.45** | -0.04 |
| 0 | Body | GSM1900 | 810 | 1909.8 | GPRS(3TX) | Rear | 19mm | / | 28.00 | 28.50 | 0.458 | **0.51** | 0.266 | **0.30** | 0.09 |
| 0 | Body | GSM1900 | 810 | 1909.8 | GPRS(3TX) | Right | 0mm | / | 28.00 | 28.50 | 0.759 | **0.85** | 0.387 | **0.43** | 0.15 |
| 0 | Body | GSM1900 | 661 | 1880 | GPRS(3TX) | Right | 0mm | / | 27.34 | 28.50 | 0.748 | **0.98** | 0.379 | **0.50** | 0.09 |
| 0 | Body | GSM1900 | 512 | 1850.2 | GPRS(3TX) | Right | 0mm | FIG A.2 | 26.97 | 28.50 | 0.801 | **1.14** | 0.391 | **0.56** | -0.18 |
| 0 | Body | GSM1900 | 810 | 1909.8 | GPRS(3TX) | Top | 19mm | / | 28.00 | 28.50 | 0.503 | **0.56** | 0.285 | **0.32** | 0.17 |
| | | | | | | | | | | | | | | | |
| 0 | Body | WCDMA 850 | 4233 | 846.6 | RMC | Rear | 0mm | / | 16.56 | 17.50 | 0.762 | **0.95** | 0.291 | **0.36** | 0.03 |
| 0 | Body | WCDMA 850 | 4183 | 836.6 | RMC | Rear | 0mm | / | 16.57 | 17.50 | 0.777 | **0.96** | 0.298 | **0.37** | 0.06 |
| 0 | Body | WCDMA 850 | 4132 | 826.4 | RMC | Rear | 0mm | FIG A.3 | 16.59 | 17.50 | 0.806 | **0.99** | 0.305 | **0.38** | 0.12 |
| 0 | Body | WCDMA 850 | 4183 | 836.6 | RMC | Top | 0mm | / | 16.57 | 17.50 | 0.371 | **0.46** | 0.145 | **0.18** | -0.12 |
| 0 | Body | WCDMA 850 | 4183 | 836.6 | RMC | Rear | 19mm | / | 23.24 | 24.50 | 0.212 | **0.28** | 0.151 | **0.20** | 0.16 |
| 0 | Body | WCDMA 850 | 4183 | 836.6 | RMC | Right | 0mm | / | 23.24 | 24.50 | 0.579 | **0.77** | 0.269 | **0.36** | 0.13 |
| 0 | Body | WCDMA 850 | 4183 | 836.6 | RMC | Top | 19mm | / | 23.24 | 24.50 | 0.161 | **0.22** | 0.095 | **0.13** | -0.06 |
| | | | | | | | | | | | | | | | |
| 0 | Body | WCDMA1900 | 9538 | 1907.6 | RMC | Rear | 0mm | FIG A.4 | 10.39 | 12.00 | 0.915 | **1.33** | 0.377 | **0.55** | 0.05 |
| 0 | Body | WCDMA1900 | 9400 | 1880 | RMC | Rear | 0mm | / | 10.37 | 12.00 | 0.679 | **0.99** | 0.291 | **0.42** | 0.06 |
| 0 | Body | WCDMA1900 | 9262 | 1852.4 | RMC | Rear | 0mm | / | 10.35 | 12.00 | 0.760 | **1.11** | 0.304 | **0.44** | 0.15 |
| 0 | Body | WCDMA1900 | 9538 | 1907.6 | RMC | Top | 0mm | / | 10.39 | 12.00 | 0.570 | **0.83** | 0.253 | **0.37** | 0.09 |
| 0 | Body | WCDMA1900 | 9400 | 1880 | RMC | Top | 0mm | / | 10.37 | 12.00 | 0.596 | **0.87** | 0.229 | **0.33** | -0.11 |
| 0 | Body | WCDMA1900 | 9262 | 1852.4 | RMC | Top | 0mm | / | 10.35 | 12.00 | 0.547 | **0.80** | 0.207 | **0.30** | 0.14 |
| 0 | Body | WCDMA1900 | 9400 | 1880 | RMC | Rear | 19mm | / | 22.28 | 23.00 | 0.453 | **0.53** | 0.252 | **0.30** | 0.07 |
| 0 | Body | WCDMA1900 | 9538 | 1907.6 | RMC | Right | 0mm | / | 22.46 | 23.00 | 1.040 | **1.18** | 0.527 | **0.60** | 0.06 |
| 0 | Body | WCDMA1900 | 9400 | 1880 | RMC | Right | 0mm | / | 22.28 | 23.00 | 1.050 | **1.24** | 0.528 | **0.62** | 0.05 |
| 0 | Body | WCDMA1900 | 9262 | 1852.4 | RMC | Right | 0mm | / | 22.39 | 23.00 | 1.010 | **1.16** | 0.521 | **0.60** | 0.09 |
| 0 | Body | WCDMA1900 | 9400 | 1880 | RMC | Top | 19mm | / | 22.28 | 23.00 | 0.241 | **0.28** | 0.140 | **0.17** | 0.16 |
| | | | | | | | | | | | | | | | |
| 0 | Body | LTE Band5 | 20600 | 844 | 1RB_Low | Rear | 0mm | / | 19.48 | 20.00 | 0.827 | **0.93** | 0.305 | **0.34** | 0.05 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Rear | 0mm | / | 19.57 | 20.00 | 0.709 | **0.78** | 0.271 | **0.30** | -0.12 |
| 0 | Body | LTE Band5 | 20450 | 829 | 1RB_Middle | Rear | 0mm | FIG A.5 | 19.54 | 20.00 | 0.853 | **0.95** | 0.313 | **0.35** | 0.06 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Top | 0mm | / | 19.57 | 20.00 | 0.241 | **0.27** | 0.101 | **0.11** | -0.13 |
| 0 | Body | LTE Band5 | 20600 | 844 | 25RB_Low | Rear | 0mm | / | 19.53 | 20.00 | 0.806 | **0.90** | 0.298 | **0.33** | -0.15 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Rear | 0mm | / | 19.54 | 20.00 | 0.696 | **0.77** | 0.262 | **0.29** | 0.04 |
| 0 | Body | LTE Band5 | 20450 | 829 | 25RB_Middle | Rear | 0mm | / | 19.53 | 20.00 | 0.842 | **0.94** | 0.311 | **0.35** | 0.06 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Top | 0mm | / | 19.54 | 20.00 | 0.235 | **0.26** | 0.096 | **0.11** | 0.05 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 100RB | Rear | 0mm | / | 19.54 | 20.00 | 0.845 | **0.94** | 0.312 | **0.35** | -0.07 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Rear | 19mm | / | 23.71 | 24.00 | 0.218 | **0.23** | 0.149 | **0.16** | -0.05 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Right | 0mm | / | 23.71 | 24.00 | 0.503 | **0.54** | 0.246 | **0.26** | 0.17 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Top | 19mm | / | 23.71 | 24.00 | 0.176 | **0.19** | 0.102 | **0.11** | -0.08 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Rear | 19mm | / | 22.65 | 23.00 | 0.185 | **0.20** | 0.119 | **0.13** | 0.16 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Right | 0mm | / | 22.65 | 23.00 | 0.345 | **0.37** | 0.176 | **0.19** | -0.09 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Top | 19mm | / | 22.65 | 23.00 | 0.152 | **0.16** | 0.087 | **0.09** | 0.05 |
| | | | | | | | | | | | | | | | |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Rear | 0mm | ENDC | 15.69 | 16.00 | 0.539 | **0.58** | 0.218 | **0.23** | 0.19 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 1RB_Middle | Top | 0mm | ENDC | 15.69 | 16.00 | 0.350 | **0.38** | 0.145 | **0.16** | -0.14 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Rear | 0mm | ENDC | 15.68 | 16.00 | 0.538 | **0.58** | 0.224 | **0.24** | 0.12 |
| 0 | Body | LTE Band5 | 20525 | 836.5 | 25RB_Low | Top | 0mm | ENDC | 15.68 | 16.00 | 0.179 | **0.19** | 0.077 | **0.08** | -0.09 |

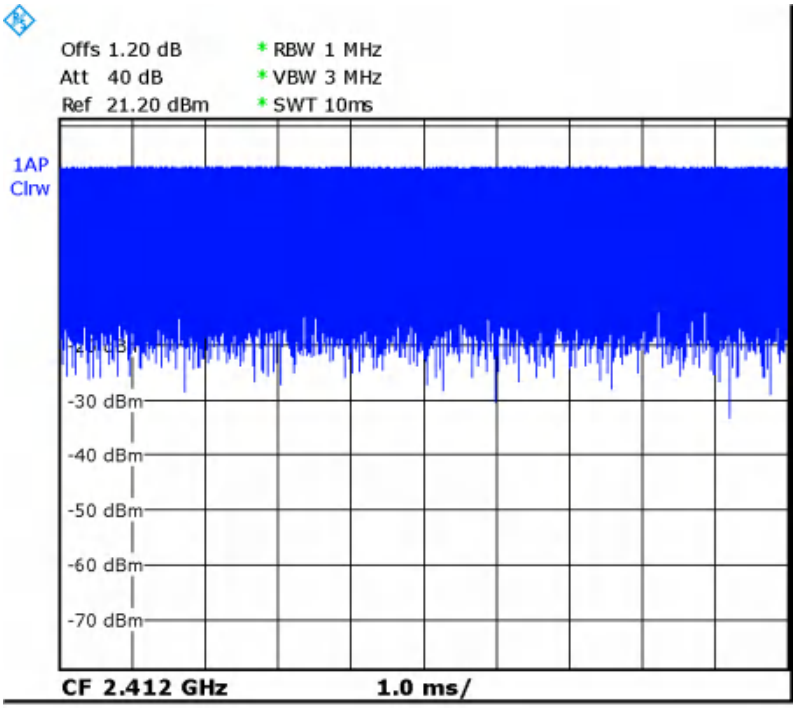
| ANT | RF Exposure Conditions | Frequency Band | Channel Number | Frequency (MHz) | Mode/RB | Test setup | Distance | Figure No. | EUT Measured Power (dBm) | Tune up (dBm) | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Power Drift |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Body | LTE Band7 | 21350 | 2560 | 1RB_Low | Rear | 0mm | / | 14.62 | 15.50 | 0.760 | **0.93** | 0.216 | **0.26** | 0.09 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 1RB_High | Rear | 0mm | / | 14.53 | 15.50 | 0.683 | **0.85** | 0.228 | **0.29** | 0.00 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 1RB_High | Rear | 0mm | / | 14.44 | 15.50 | 0.683 | **0.87** | 0.210 | **0.27** | 0.00 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 1RB_Low | Top | 0mm | / | 14.62 | 15.50 | 0.326 | **0.40** | 0.110 | **0.13** | 0.10 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Rear | 0mm | / | 14.62 | 15.50 | 0.753 | **0.92** | 0.205 | **0.25** | 0.16 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 50RB_Low | Rear | 0mm | / | 14.52 | 15.50 | 0.671 | **0.84** | 0.204 | **0.26** | 0.08 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 50RB_High | Rear | 0mm | / | 14.57 | 15.50 | 0.659 | **0.82** | 0.196 | **0.24** | -0.02 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Top | 0mm | / | 14.62 | 15.50 | 0.322 | **0.39** | 0.108 | **0.13** | 0.06 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 100RB | Rear | 0mm | / | 14.49 | 15.50 | 0.714 | **0.90** | 0.220 | **0.28** | 0.18 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 1RB_Middle | Rear | 19mm | / | 23.72 | 24.50 | 0.789 | **0.94** | 0.404 | **0.48** | 0.01 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 1RB_Middle | Rear | 19mm | / | 23.56 | 24.50 | 0.928 | **1.15** | 0.478 | **0.59** | -0.08 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 1RB_Low | Rear | 19mm | / | 23.58 | 24.50 | 0.806 | **1.00** | 0.392 | **0.48** | 0.18 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 1RB_Middle | Right | 0mm | FIG A.6 | 23.72 | 24.50 | 1.090 | **1.30** | 0.443 | **0.53** | -0.17 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 1RB_Middle | Right | 0mm | / | 23.56 | 24.50 | 1.020 | **1.27** | 0.419 | **0.52** | 0.06 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 1RB_Low | Right | 0mm | / | 23.58 | 24.50 | 0.755 | **0.93** | 0.308 | **0.38** | -0.09 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 1RB_Middle | Top | 19mm | / | 23.72 | 24.50 | 0.838 | **1.00** | 0.435 | **0.52** | -0.15 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 1RB_Middle | Top | 19mm | / | 23.56 | 24.50 | 0.964 | **1.20** | 0.501 | **0.62** | 0.17 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 1RB_Low | Top | 19mm | / | 23.58 | 24.50 | 0.862 | **1.07** | 0.428 | **0.53** | -0.09 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Rear | 19mm | / | 22.74 | 23.50 | 0.625 | **0.74** | 0.321 | **0.38** | 0.04 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Right | 0mm | / | 22.74 | 23.50 | 0.996 | **1.19** | 0.406 | **0.48** | 0.05 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 50RB_Low | Right | 0mm | / | 22.63 | 23.50 | 0.783 | **0.96** | 0.317 | **0.39** | 0.11 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 50RB_Low | Right | 0mm | / | 22.56 | 23.50 | 0.564 | **0.70** | 0.231 | **0.29** | -0.16 |
| 0 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Top | 19mm | / | 22.74 | 23.50 | 0.687 | **0.82** | 0.356 | **0.42** | -0.16 |
| 0 | Body | LTE Band7 | 21100 | 2535 | 50RB_Low | Top | 19mm | / | 22.63 | 23.50 | 0.790 | **0.97** | 0.410 | **0.50** | 0.06 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 50RB_Low | Top | 19mm | / | 22.56 | 23.50 | 0.707 | **0.88** | 0.350 | **0.43** | 0.07 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 100RB | Right | 0mm | / | 22.69 | 23.50 | 0.613 | **0.74** | 0.251 | **0.30** | 0.09 |
| 0 | Body | LTE Band7 | 20850 | 2510 | 100RB | Top | 19mm | / | 22.69 | 23.50 | 0.671 | **0.81** | 0.351 | **0.42** | -0.09 |
| 0 | Body | LTE Band7 | 21375 | 2562.5 | 1_Low | Right | 0mm | ULCA | 22.93 | 24.50 | 0.711 | **1.02** | 0.283 | **0.41** | 0.11 |
| | | | | | | | | | | | | | | | |
| 5 | Body | LTE Band7 | 21100 | 2535 | 1RB_Middle | Rear | 0mm | ENDC | 13.39 | 14.00 | 0.487 | **0.56** | 0.176 | **0.20** | 0.13 |
| 5 | Body | LTE Band7 | 21100 | 2535 | 1RB_Middle | Right | 0mm | ENDC | 13.39 | 14.00 | 0.265 | **0.30** | 0.095 | **0.11** | 0.14 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Rear | 0mm | ENDC | 13.49 | 14.00 | 0.482 | **0.54** | 0.166 | **0.19** | 0.09 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Right | 0mm | ENDC | 13.49 | 14.00 | 0.261 | **0.29** | 0.092 | **0.10** | 0.18 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 1RB_Middle | Rear | 14mm | FIG A.7 | 23.69 | 24.00 | 0.541 | **0.58** | 0.271 | **0.29** | 0.02 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 1RB_Middle | Right | 14mm | ENDC | 23.69 | 24.00 | 0.352 | **0.38** | 0.186 | **0.20** | 0.08 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Rear | 14mm | ENDC | 22.78 | 23.00 | 0.414 | **0.44** | 0.221 | **0.23** | -0.15 |
| 5 | Body | LTE Band7 | 21350 | 2560 | 50RB_Low | Right | 14mm | ENDC | 22.78 | 23.00 | 0.334 | **0.35** | 0.171 | **0.18** | 0.01 |
| | | | | | | | | | | | | | | | |
| 5 | Body | LTE Band41_PC3 | 41490 | 2680 | 1RB_Middle | Rear | 0mm | FIG A.8 | 9.81 | 10.00 | 0.673 | **0.70** | 0.203 | **0.21** | -0.14 |
| 5 | Body | LTE Band41_PC3 | 41490 | 2680 | 1RB_Middle | Right | 0mm | / | 9.81 | 10.00 | 0.592 | **0.62** | 0.180 | **0.19** | -0.11 |
| 5 | Body | LTE Band41_PC3 | 41490 | 2680 | 50RB_Low | Rear | 0mm | / | 9.84 | 10.00 | 0.669 | **0.69** | 0.198 | **0.21** | 0.12 |
| 5 | Body | LTE Band41_PC3 | 41490 | 2680 | 50RB_Low | Right | 0mm | / | 9.84 | 10.00 | 0.587 | **0.61** | 0.172 | **0.18** | 0.15 |
| 5 | Body | LTE Band41_PC3 | 40620 | 2593 | 1RB_Middle | Rear | 14mm | / | 23.80 | 24.00 | 0.368 | **0.39** | 0.188 | **0.20** | 0.04 |
| 5 | Body | LTE Band41_PC3 | 40620 | 2593 | 1RB_Middle | Right | 14mm | / | 23.80 | 24.00 | 0.287 | **0.30** | 0.143 | **0.15** | -0.13 |
| 5 | Body | LTE Band41_PC3 | 40620 | 2593 | 50RB_Low | Rear | 14mm | / | 22.75 | 23.00 | 0.283 | **0.30** | 0.145 | **0.15** | 0.04 |
| 5 | Body | LTE Band41_PC3 | 40620 | 2593 | 50RB_Low | Right | 14mm | / | 22.75 | 23.00 | 0.226 | **0.24** | 0.113 | **0.12** | -0.05 |
| | | | | | | | | | | | | | | | |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 1RB_Middle | Rear | 0mm | / | 12.69 | 13.00 | 0.899 | **0.97** | 0.278 | **0.30** | 0.09 |
| 5 | Body | LTE Band41_PC2 | 41055 | 2636.5 | 1RB_Middle | Rear | 0mm | / | 12.75 | 13.00 | 0.845 | **0.90** | 0.261 | **0.28** | -0.08 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 1RB_Middle | Rear | 0mm | / | 12.80 | 13.00 | 0.777 | **0.81** | 0.240 | **0.25** | -0.02 |
| 5 | Body | LTE Band41_PC2 | 40185 | 2549.5 | 1RB_Middle | Rear | 0mm | / | 12.73 | 13.00 | 0.742 | **0.79** | 0.230 | **0.24** | -0.05 |
| 5 | Body | LTE Band41_PC2 | 39750 | 2506 | 1RB_Middle | Rear | 0mm | / | 12.63 | 13.00 | 0.755 | **0.82** | 0.233 | **0.25** | 0.13 |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 1RB_Middle | Right | 0mm | FIG A.9 | 12.69 | 13.00 | 0.958 | **1.03** | 0.318 | **0.34** | 0.04 |
| 5 | Body | LTE Band41_PC2 | 41055 | 2636.5 | 1RB_Middle | Right | 0mm | / | 12.75 | 13.00 | 0.852 | **0.90** | 0.282 | **0.30** | 0.00 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 1RB_Middle | Right | 0mm | / | 12.80 | 13.00 | 0.647 | **0.68** | 0.224 | **0.23** | -0.06 |
| 5 | Body | LTE Band41_PC2 | 40185 | 2549.5 | 1RB_Middle | Right | 0mm | / | 12.73 | 13.00 | 0.694 | **0.74** | 0.230 | **0.24** | 0.04 |
| 5 | Body | LTE Band41_PC2 | 39750 | 2506 | 1RB_Middle | Right | 0mm | / | 12.63 | 13.00 | 0.705 | **0.77** | 0.234 | **0.25** | 0.13 |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 50RB_Low | Rear | 0mm | / | 12.67 | 13.00 | 0.886 | **0.96** | 0.271 | **0.29** | 0.02 |
| 5 | Body | LTE Band41_PC2 | 41055 | 2636.5 | 50RB_Low | Rear | 0mm | / | 12.75 | 13.00 | 0.840 | **0.89** | 0.259 | **0.27** | -0.10 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 50RB_Low | Rear | 0mm | / | 12.78 | 13.00 | 0.785 | **0.83** | 0.242 | **0.25** | 0.05 |
| 5 | Body | LTE Band41_PC2 | 40185 | 2549.5 | 50RB_Low | Rear | 0mm | / | 12.69 | 13.00 | 0.746 | **0.80** | 0.229 | **0.25** | -0.11 |
| 5 | Body | LTE Band41_PC2 | 39750 | 2506 | 50RB_Low | Rear | 0mm | / | 12.62 | 13.00 | 0.742 | **0.81** | 0.228 | **0.25** | 0.15 |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 50RB_Low | Right | 0mm | / | 12.67 | 13.00 | 0.847 | **0.91** | 0.258 | **0.28** | -0.16 |
| 5 | Body | LTE Band41_PC2 | 41055 | 2636.5 | 50RB_Low | Right | 0mm | / | 12.75 | 13.00 | 0.730 | **0.77** | 0.222 | **0.24** | 0.05 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 50RB_Low | Right | 0mm | / | 12.78 | 13.00 | 0.602 | **0.63** | 0.190 | **0.20** | 0.11 |
| 5 | Body | LTE Band41_PC2 | 40185 | 2549.5 | 50RB_Low | Right | 0mm | / | 12.69 | 13.00 | 0.607 | **0.65** | 0.185 | **0.20** | -0.08 |
| 5 | Body | LTE Band41_PC2 | 39750 | 2506 | 50RB_Low | Right | 0mm | / | 12.62 | 13.00 | 0.597 | **0.65** | 0.182 | **0.20** | -0.05 |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 100RB | Rear | 0mm | / | 12.77 | 13.00 | 0.739 | **0.78** | 0.225 | **0.24** | 0.11 |
| 5 | Body | LTE Band41_PC2 | 41490 | 2680 | 100RB | Right | 0mm | / | 12.77 | 13.00 | 0.701 | **0.74** | 0.209 | **0.22** | -0.03 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 1RB_Middle | Rear | 14mm | / | 26.77 | 27.00 | 0.606 | **0.64** | 0.303 | **0.32** | -0.11 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 1RB_Middle | Right | 14mm | / | 26.77 | 27.00 | 0.382 | **0.40** | 0.193 | **0.20** | -0.14 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 50RB_Low | Rear | 14mm | / | 25.79 | 26.00 | 0.485 | **0.51** | 0.241 | **0.25** | -0.12 |
| 5 | Body | LTE Band41_PC2 | 40620 | 2593 | 50RB_Low | Right | 14mm | / | 25.79 | 26.00 | 0.306 | **0.32** | 0.154 | **0.16** | -0.09 |

## 13.2 SAR results for WLAN

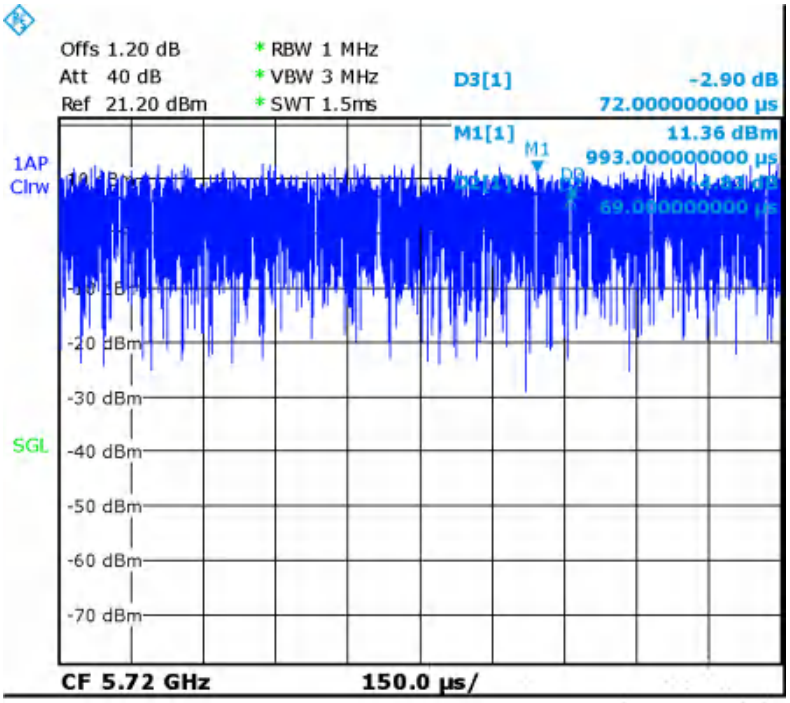
The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.
When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.
SAR Test reduction was applied from KDB 248227 guidance, 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, for each frequency band. Additional output power measurements were not deemed necessary.

## Duty factor plot

**CH1**



**CH144**




| ANT | RF Exposure Conditions | Frequency Band | Channel Number | Frequency (MHz) | Mode/RB | Test setup | Distance | Figure No. | EUT Measured Power (dBm) | Tune up (dBm) | Duty Cycle | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Power Drift |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Body | WLAN2.4G | 11 | 2462 | 11b | Rear | 0mm | / | 14.07 | 15.00 | 100.00% | 0.885 | **1.10** | 0.362 | **0.45** | 0.17 |
| 6 | Body | WLAN2.4G | 6 | 2437 | 11b | Rear | 0mm | / | 14.40 | 15.00 | 100.00% | 0.976 | **1.12** | 0.404 | **0.46** | -0.11 |
| 6 | Body | WLAN2.4G | 1 | 2412 | 11b | Rear | 0mm | FIG A.12 | 14.61 | 15.00 | 100.00% | 1.020 | **1.12** | 0.409 | **0.45** | 0.09 |
| 6 | Body | WLAN2.4G | 1 | 2412 | 11b | Top | 0mm | / | 14.61 | 15.00 | 100.00% | 0.380 | **0.42** | 0.167 | **0.18** | 0.08 |
| 6 | Body | WLAN2.4G | 1 | 2412 | 11b | Rear | 17mm | / | 17.94 | 18.00 | 100.00% | 0.108 | **0.11** | 0.062 | **0.06** | 0.03 |
| 6 | Body | WLAN2.4G | 1 | 2412 | 11b | Top | 17mm | / | 17.94 | 18.00 | 100.00% | 0.093 | **0.09** | 0.052 | **0.05** | 0.19 |
| | | | | | | | | | | | | | | | | |
| 6 | Body | WLAN5G | 64 | 5320 | 11a | Rear | 0mm | / | 9.29 | 10.50 | 95.83% | 0.418 | **0.58** | 0.113 | **0.15** | 0.11 |
| 6 | Body | WLAN5G | 64 | 5320 | 11a | Top | 0mm | / | 9.29 | 10.50 | 95.83% | 0.564 | **0.78** | 0.136 | **0.18** | 0.03 |
| 6 | Body | WLAN5G | 128 | 5640 | 11a | Rear | 0mm | / | 10.10 | 10.50 | 95.83% | 0.814 | **0.93** | 0.150 | **0.16** | 0.12 |
| 6 | Body | WLAN5G | 140 | 5700 | 11a | Rear | 0mm | / | 10.08 | 10.50 | 95.83% | 0.863 | **0.99** | 0.174 | **0.19** | 0.00 |
| 6 | Body | WLAN5G | 144 | 5720 | 11a | Rear | 0mm | / | 10.08 | 10.50 | 95.83% | 0.933 | **1.07** | 0.173 | **0.19** | 0.00 |
| 6 | Body | WLAN5G | 128 | 5640 | 11a | Top | 0mm | / | 10.10 | 10.50 | 95.83% | 0.807 | **0.92** | 0.081 | **0.09** | 0.15 |
| 6 | Body | WLAN5G | 140 | 5700 | 11a | Top | 0mm | / | 10.08 | 10.50 | 95.83% | 0.843 | **0.97** | 0.184 | **0.20** | 0.07 |
| 6 | Body | WLAN5G | 144 | 5720 | 11a | Top | 0mm | FIG A.13 | 10.08 | 10.50 | 95.83% | 0.938 | **1.08** | 0.197 | **0.22** | 0.10 |
| 6 | Body | WLAN5G | 149 | 5745 | 11a | Rear | 0mm | / | 10.06 | 10.50 | 95.83% | 0.866 | **1.00** | 0.168 | **0.19** | 0.14 |
| 6 | Body | WLAN5G | 157 | 5785 | 11a | Rear | 0mm | / | 10.16 | 10.50 | 95.83% | 0.911 | **1.03** | 0.149 | **0.16** | 0.12 |
| 6 | Body | WLAN5G | 149 | 5745 | 11a | Top | 0mm | / | 10.06 | 10.50 | 95.83% | 0.724 | **0.84** | 0.152 | **0.17** | -0.12 |
| 6 | Body | WLAN5G | 157 | 5785 | 11a | Top | 0mm | / | 10.16 | 10.50 | 95.83% | 0.783 | **0.88** | 0.169 | **0.18** | 0.16 |
| 6 | Body | WLAN5G | 64 | 5320 | 11a | Rear | 17mm | / | 16.89 | 18.00 | 95.83% | 0.286 | **0.39** | 0.103 | **0.13** | 0.07 |
| 6 | Body | WLAN5G | 64 | 5320 | 11a | Top | 17mm | / | 16.89 | 18.00 | 95.83% | 0.174 | **0.23** | 0.069 | **0.09** | 0.16 |
| 6 | Body | WLAN5G | 128 | 5640 | 11a | Rear | 17mm | / | 17.77 | 18.00 | 95.83% | 0.415 | **0.46** | 0.149 | **0.16** | 0.04 |
| 6 | Body | WLAN5G | 128 | 5640 | 11a | Top | 17mm | / | 17.77 | 18.00 | 95.83% | 0.216 | **0.24** | 0.089 | **0.09** | 0.17 |
| 6 | Body | WLAN5G | 157 | 5785 | 11a | Rear | 17mm | / | 11.42 | 13.00 | 95.83% | 0.220 | **0.33** | 0.074 | **0.11** | 0.14 |
| 6 | Body | WLAN5G | 157 | 5785 | 11a | Top | 17mm | / | 11.42 | 13.00 | 95.83% | 0.079 | **0.12** | 0.033 | **0.05** | -0.01 |

## 13.3 SAR results for BT

| ANT | RF Exposure Conditions | Frequency Band | Channel Number | Frequency (MHz) | Mode/RB | Test setup | Distance | Figure No. | EUT Measured Power (dBm) | Tune up (dBm) | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Power Drift |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Body | BT | 39 | 2441 | GFSK | Rear | 0mm | FIG A.14 | 4.43 | 6.00 | 0.316 | **0.45** | 0.119 | **0.17** | 0.00 |
| 6 | Body | BT | 39 | 2441 | GFSK | Top | 0mm | / | 4.43 | 6.00 | 0.138 | **0.20** | 0.045 | **0.06** | -0.13 |

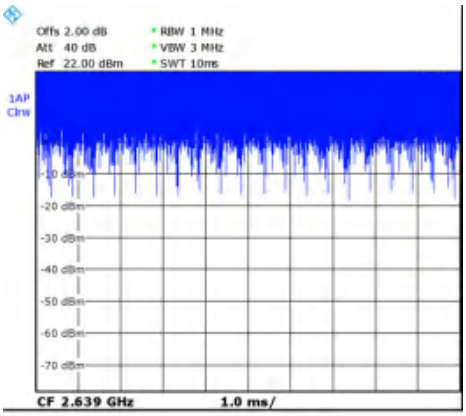
## 13.4 SAR results for NR

| ANT | RF Exposure Conditions | Frequency Band | Channel Number | Frequency (MHz) | Mode/RB | Test setup | Distance | Figure No. | EUT Measured Power (dBm) | Tune up (dBm) | Duty Cycle | Measured SAR 1g (W/kg) | Calculated SAR 1g (W/kg) | Measured SAR 10g (W/kg) | Calculated SAR 10g (W/kg) | Power Drift |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Body | n41 | 537000 | 2685 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 13.73 | 14.00 | 100.00% | 0.871 | **0.93** | 0.274 | **0.29** | -0.02 |
| 5 | Body | n41 | 527799 | 2639 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | FIG A.10 | 13.81 | 14.00 | 100.00% | 0.931 | **0.97** | 0.303 | **0.32** | 0.01 |
| 5 | Body | n41 | 518598 | 2592.99 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 13.74 | 14.00 | 100.00% | 0.905 | **0.96** | 0.295 | **0.31** | 0.01 |
| 5 | Body | n41 | 509406 | 2455.02 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 13.66 | 14.00 | 100.00% | 0.888 | **0.96** | 0.285 | **0.31** | -0.02 |
| 5 | Body | n41 | 500205 | 2501.01 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 13.59 | 14.00 | 100.00% | 0.871 | **0.96** | 0.277 | **0.30** | 0.00 |
| 5 | Body | n41 | 537000 | 2685 | 30K 10M DFT QPSK 12-6 | Right | 0mm | / | 13.73 | 14.00 | 100.00% | 0.748 | **0.80** | 0.235 | **0.25** | -0.09 |
| 5 | Body | n41 | 527799 | 2639 | 30K 10M DFT QPSK 12-6 | Right | 0mm | / | 13.81 | 14.00 | 100.00% | 0.775 | **0.81** | 0.258 | **0.27** | 0.16 |
| 5 | Body | n41 | 518598 | 2592.99 | 30K 10M DFT QPSK 12-6 | Right | 0mm | / | 13.74 | 14.00 | 100.00% | 0.768 | **0.82** | 0.248 | **0.26** | 0.04 |
| 5 | Body | n41 | 509406 | 2455.02 | 30K 10M DFT QPSK 12-6 | Right | 0mm | / | 13.66 | 14.00 | 100.00% | 0.753 | **0.81** | 0.239 | **0.26** | 0.05 |
| 5 | Body | n41 | 500205 | 2501.01 | 30K 10M DFT QPSK 12-6 | Right | 0mm | / | 13.59 | 14.00 | 100.00% | 0.738 | **0.81** | 0.233 | **0.26** | -0.13 |
| 5 | Body | n41 | 537000 | 2685 | 30K 10M DFT QPSK 12-6 | Rear | 14mm | / | 24.62 | 25.00 | 100.00% | 0.868 | **0.95** | 0.415 | **0.45** | -0.18 |
| 5 | Body | n41 | 527799 | 2639 | 30K 10M DFT QPSK 12-6 | Rear | 14mm | / | 24.74 | 25.00 | 100.00% | 0.783 | **0.83** | 0.373 | **0.40** | -0.14 |
| 5 | Body | n41 | 518598 | 2592.99 | 30K 10M DFT QPSK 12-6 | Rear | 14mm | / | 24.67 | 25.00 | 100.00% | 0.693 | **0.75** | 0.337 | **0.36** | -0.03 |
| 5 | Body | n41 | 509406 | 2455.02 | 30K 10M DFT QPSK 12-6 | Rear | 14mm | / | 24.70 | 25.00 | 100.00% | 0.649 | **0.70** | 0.316 | **0.34** | -0.08 |
| 5 | Body | n41 | 500205 | 2501.01 | 30K 10M DFT QPSK 12-6 | Rear | 14mm | / | 24.67 | 25.00 | 100.00% | 0.665 | **0.72** | 0.324 | **0.35** | 0.05 |
| 5 | Body | n41 | 527799 | 2639 | 30K 10M DFT QPSK 12-6 | Right | 14mm | / | 24.74 | 25.00 | 100.00% | 0.502 | **0.53** | 0.253 | **0.27** | 0.10 |
| | | | | | | | | | | | | | | | | |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 10.10 | 10.50 | 85.71% | 0.586 | **0.75** | 0.183 | **0.20** | 0.18 |
| 3 | Body | n78 | 633334 | 3500.01 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | FIG A.11 | 10.02 | 10.50 | 85.71% | 0.743 | **0.97** | 0.230 | **0.26** | 0.18 |
| 3 | Body | n78 | 630334 | 3455.01 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | / | 9.99 | 10.50 | 85.71% | 0.601 | **0.79** | 0.190 | **0.21** | 0.03 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Top | 0mm | / | 9.55 | 10.50 | 85.71% | 0.500 | **0.73** | 0.174 | **0.22** | -0.15 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Rear | 19mm | / | 24.69 | 25.00 | 85.71% | 0.558 | **0.70** | 0.278 | **0.30** | -0.14 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Top | 19mm | | 24.69 | 25.00 | 85.71% | 0.494 | **0.62** | 0.233 | **0.25** | -0.12 |
| | | | | | | | | | | | | | | | | |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Rear | 0mm | ENDC | 9.19 | 10.50 | 85.71% | 0.495 | **0.78** | 0.161 | **0.22** | 0.12 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Top | 0mm | ENDC | 9.19 | 10.50 | 85.71% | 0.397 | **0.63** | 0.136 | **0.18** | -0.15 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Rear | 19mm | ENDC | 21.77 | 23.00 | 85.71% | 0.269 | **0.42** | 0.134 | **0.18** | -0.18 |
| 3 | Body | n78 | 636332 | 3544.98 | 30K 10M DFT QPSK 12-6 | Top | 19mm | ENDC | 21.77 | 23.00 | 85.71% | 0.269 | **0.42** | 0.127 | **0.17** | -0.15 |

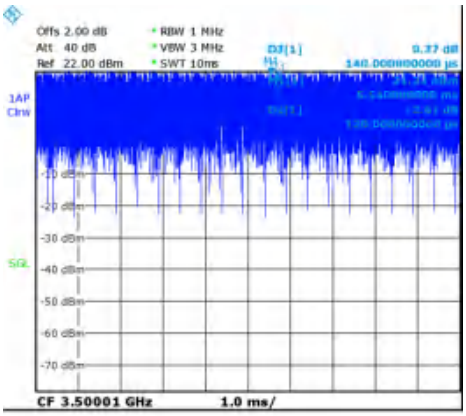
Note：The maximum duty cycle of PC3 and PC2 is the same. The tune up of PC2 was higher, so only PC2 was tested.

## Duty factor plot

### CH527799




### CH633334



## 14 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

**Table 14.1: SAR Measurement Variability for Body (1g)**

| Band | Frequency | | Mode | Test Position | Spacing (mm) | Original SAR (W/kg) | First Repeated SAR (W/kg) | The Ratio | Second Repeated SAR (W/kg) |
|---|---|---|---|---|---|---|---|---|---|
| | Ch. | MHz | | | | | | | |
| GSM1900 | 810 | 1909.8 | GPRS(2) | Rear | 0 | 1.07 | 0.996 | 1.07 | / |
| GSM1900 | 512 | 1850.2 | GPRS(3) | Right | 0 | 0.801 | 0.783 | 1.02 | / |
| WCDMA850 | 4132 | 826.4 | RMC | Rear | 0 | 0.806 | 0.771 | 1.05 | / |
| WCDMA1900 | 9538 | 1907.6 | RMC | Rear | 0 | 0.915 | 0.907 | 1.01 | |
| WCDMA1900 | 9400 | 1880 | RMC | Right | 0 | 1.05 | 0.993 | 1.06 | / |
| LTE B5 | 20450 | 829 | 1RB-Mid | Rear | 0 | 0.853 | 0.832 | 1.03 | / |
| LTE B7 | 21100 | 2535 | 1RB-Mid | Rear | 19 | 0.928 | 0.911 | 1.02 | / |
| LTE B7 | 21350 | 2560 | 1RB-Mid | Right | 0 | 1.09 | 1.02 | 1.07 | / |
| LTE B7 | 21100 | 2535 | 1RB-Mid | Top | 19 | 0.964 | 0.952 | 1.01 | / |
| LTE B41_PC2 | 41490 | 2680 | 1RB-Mid | Rear | 0 | 0.899 | 0.876 | 1.03 | / |
| LTE B41_PC2 | 41490 | 2680 | 1RB-Mid | Right | 0 | 0.958 | 0.925 | 1.04 | / |
| N41 | 527799 | 2639 | 30K 10M 12-6 | Rear | 0 | 0.931 | 0.917 | 1.02 | / |
| N41 | 537000 | 2685 | 30K 10M 12-6 | Rear | 14 | 0.868 | 0.842 | 1.03 | / |
| WLAN2.4G | 1 | 2412 | 11b | Rear | 0 | 1.02 | 0.986 | 1.03 | / |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WLAN5G | 144 | 5720 | 11a | Rear | 0 | 0.933 | 0.919 | 1.02 | / |
| WLAN5G | 144 | 5720 | 11a | Top | 0 | 0.938 | 0.915 | 1.03 | / |

# 15 Evaluation of Simultaneous

## 15.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as WLAN and Bluetooth devices which may simultaneously transmit with the licensed transmitter. KDB 447498 D01 provides two procedures for determining simultaneous transmission SAR test exclusion: Sum of SAR and SAR to Peak Location Ratio (SPLSR)

### 15.1.1 Sum of SAR

To qualify for simultaneous transmission SAR test exclusion based upon Sum of SAR the sum of the reported standalone SARs for all simultaneously transmitting antennas shall be below the applicable standalone SAR limit. If the sum of the SARs is above the applicable limit then simultaneous transmission SAR test exclusion may still apply if the requirements of the SAR to Peak Location Ratio (SPLSR) evaluation are met.

### 15.1.2 SAR to Peak Location Ratio (SPLSR)

KDB 447498 D01 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$SPLSR = (SAR1 + SAR2)^{1.5} / Ri$

Where:

*SAR1* is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition.

*SAR2* is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first .

*Ri* is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of

$[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$(SAR1 + SAR2)^{1.5} / Ri \leqslant 0.04$

When an individual antenna transmits at on two bands simultaneously, the sum of the highest reported SAR for the frequency bands should be used to determine SAR1 or SAR2. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

## 15.2 Simultaneous Transmission Capabilities

The simultaneous transmission possibilities for this device are listed as below:

| NO | If support: WWAN*1TX and WLAN*1TX | Y or N |
|---|---|---|
| 1 | WWAN + WLAN 2.4GHz | Y |
| 2 | WWAN + WLAN 2.4GHz +BT | N |
| 3 | WWAN + WLAN 5GHz | Y |
| 4 | WWAN + WLAN 5GHz +BT | Y |

**Note:**

1. The reported SAR summation is calculated based on the same configuration and test position.
2. For the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR, we determined the SAR of this edges were less than 0.01. For the convenience of simultaneous transmission calculation, all SAR values less than or equal to 0.01 are uniformly written as 0.00

## 15.3 Evaluation of Simultaneous

| Position | WWAN (W/kg) | | WLAN2.4G (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|
| Rear (0mm) | GSM850 | 0.96 | 1.16 | 2.12 | Yes |
| | GSM1900 | 1.13 | 1.16 | 2.29 | Yes |
| | WCDMA850 | 0.99 | 1.16 | 2.15 | Yes |
| | WCDMA1900 | 1.33 | 1.16 | 2.49 | Yes |
| | LTE B5 | 0.95 | 1.16 | 2.11 | Yes |
| | LTE B7 | 0.93 | 1.16 | 2.09 | Yes |
| | LTE B41(PC2) | 0.97 | 1.16 | 2.13 | Yes |
| | LTE B41(PC3) | 0.70 | 1.16 | 1.86 | Yes |
| | n41 | 0.97 | 1.16 | 2.13 | Yes |
| | n78 | 0.97 | 1.16 | 2.13 | Yes |
| Top (0mm) | GSM850 | 0.38 | 0.42 | 0.80 | / |
| | GSM1900 | 1.00 | 0.42 | 1.42 | / |
| | WCDMA850 | 0.46 | 0.42 | 0.88 | / |
| | WCDMA1900 | 0.87 | 0.42 | 1.29 | / |
| | LTE B5 | 0.27 | 0.42 | 0.69 | / |
| | LTE B7 | 0.40 | 0.42 | 0.82 | / |
| | n78 | 0.73 | 0.42 | 1.15 | / |

| Position | WWAN (W/kg) | | WLAN5G (W/kg) | BT (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|---|
| Rear (0mm) | GSM850 | 0.96 | 1.07 | 0.45 | 2.48 | Yes |
| | GSM1900 | 1.13 | 1.07 | 0.45 | 2.65 | Yes |
| | WCDMA850 | 0.99 | 1.07 | 0.45 | 2.51 | Yes |
| | WCDMA1900 | 1.33 | 1.07 | 0.45 | 2.85 | Yes |
| | LTE B5 | 0.95 | 1.07 | 0.45 | 2.47 | Yes |
| | LTE B7 | 0.93 | 1.07 | 0.45 | 2.45 | Yes |
| | LTE B41(PC2) | 0.97 | 1.07 | 0.45 | 2.49 | Yes |
| | LTE B41(PC3) | 0.70 | 1.07 | 0.45 | 2.22 | Yes |
| | n41 | 0.97 | 1.07 | 0.45 | 2.49 | Yes |
| | n78 | 0.97 | 1.07 | 0.45 | 2.49 | Yes |
| Top | GSM850 | 0.38 | 1.08 | 0.20 | 1.66 | Yes |
| | GSM1900 | 1.00 | 1.08 | 0.20 | 2.28 | Yes |
| | WCDMA850 | 0.46 | 1.08 | 0.20 | 1.74 | Yes |
| | WCDMA1900 | 0.87 | 1.08 | 0.20 | 2.15 | Yes |
| | LTE B5 | 0.27 | 1.08 | 0.20 | 1.55 | / |
| | LTE B7 | 0.40 | 1.08 | 0.20 | 1.68 | Yes |
| | n78 | 0.73 | 1.08 | 0.20 | 2.01 | Yes |

| Position | WWAN (W/kg) | | WLAN2.4G (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|
| Rear (19mm) | GSM850 | 0.48 | 0.11 | 0.59 | / |
| | GSM1900 | 0.51 | 0.11 | 0.62 | / |
| | WCDMA850 | 0.28 | 0.11 | 0.39 | / |
| | WCDMA1900 | 0.53 | 0.11 | 0.64 | / |
| | LTE B5 | 0.23 | 0.11 | 0.34 | / |
| | LTE B7 | 1.15 | 0.11 | 1.26 | / |
| | LTE B41(PC2) | 0.64 | 0.11 | 0.75 | / |
| | LTE B41(PC3) | 0.39 | 0.11 | 0.50 | / |
| | n41 | 0.95 | 0.11 | 1.06 | / |
| | n78 | 0.70 | 0.11 | 0.81 | / |
| Top (19mm) | GSM850 | 0.35 | 0.09 | 0.44 | / |
| | GSM1900 | 0.56 | 0.09 | 0.65 | / |
| | WCDMA850 | 0.22 | 0.09 | 0.31 | / |
| | WCDMA1900 | 0.28 | 0.09 | 0.37 | / |
| | LTE B5 | 0.19 | 0.09 | 0.28 | / |
| | LTE B7 | 1.20 | 0.09 | 1.29 | / |
| | n78 | 0.62 | 0.09 | 0.71 | / |

| Position | WWAN (W/kg) | | WLAN5G (W/kg) | BT (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|---|
| Rear (19mm) | GSM850 | 0.48 | 0.46 | 0.45 | 1.39 | / |
| | GSM1900 | 0.51 | 0.46 | 0.45 | 1.42 | / |
| | WCDMA850 | 0.28 | 0.46 | 0.45 | 1.19 | / |
| | WCDMA1900 | 0.53 | 0.46 | 0.45 | 1.44 | / |
| | LTE B5 | 0.23 | 0.46 | 0.45 | 1.14 | / |
| | LTE B7 | 1.15 | 0.46 | 0.45 | 2.06 | Yes |
| | LTE B41(PC2) | 0.64 | 0.46 | 0.45 | 1.55 | / |
| | LTE B41(PC3) | 0.39 | 0.46 | 0.45 | 1.30 | / |
| | n41 | 0.95 | 0.46 | 0.45 | 1.86 | Yes |
| | n78 | 0.70 | 0.46 | 0.45 | 1.61 | Yes |
| Top (19mm) | GSM850 | 0.35 | 0.24 | 0.20 | 0.79 | / |
| | GSM1900 | 0.56 | 0.24 | 0.20 | 1.00 | / |
| | WCDMA850 | 0.22 | 0.24 | 0.20 | 0.66 | / |
| | WCDMA1900 | 0.28 | 0.24 | 0.20 | 0.72 | / |
| | LTE B5 | 0.19 | 0.24 | 0.20 | 0.63 | / |
| | LTE B7 | 1.20 | 0.24 | 0.20 | 1.64 | Yes |
| | n78 | 0.60 | 0.24 | 0.20 | 1.04 | / |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| GSM850 | Rear 0mm | 0.96 | 107.62 | 2.12 | 0.029 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| GSM1900 | Rear 0mm | 1.13 | 158.73 | 2.29 | 0.022 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| WCDMA850 | Rear 0mm | 1.13 | 110.63 | 2.29 | 0.031 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| WCDMA1900 | Rear 0mm | 1.33 | 159.33 | 2.49 | 0.025 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| LTE B5 | Rear 0mm | 0.95 | 115.1 | 2.11 | 0.027 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| LTE B7 | Rear 0mm | 0.93 | 160.86 | 2.09 | 0.019 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| LTE B41(PC2) | Rear 0mm | 0.97 | 184.96 | 2.13 | 0.017 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| LTE B41(PC3) | Rear 0mm | 0.70 | 184.96 | 1.86 | 0.014 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| n41 | Rear 0mm | 0.97 | 199.04 | 2.13 | 0.016 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| n78 | Rear 0mm | 0.97 | 102.25 | 2.13 | 0.030 | Not required |
| WLAN 2.4G | | 1.16 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| GSM850 | Rear 0mm | 0.96 | 114.31 | 2.48 | 0.034 | Not required |
| WLAN 5G | | 1.52 | | | | |
| GSM1900 | Rear 0mm | 1.13 | 160.86 | 2.65 | 0.027 | Not required |
| WLAN 5G | | 1.52 | | | | |
| WCDMA850 | Rear 0mm | 0.99 | 106.13 | 2.51 | 0.037 | Not required |
| WLAN 5G | | 1.52 | | | | |
| WCDMA1900 | Rear 0mm | 1.33 | 161.78 | 2.85 | 0.030 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B5 | Rear 0mm | 0.95 | 116.47 | 2.47 | 0.033 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B7 | Rear 0mm | 0.93 | 162.23 | 2.45 | 0.024 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B41(PC2) | Rear 0mm | 0.97 | 181.17 | 2.49 | 0.022 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B41(PC3) | Rear 0mm | 0.70 | 181.17 | 2.22 | 0.018 | Not required |
| WLAN 5G | | 1.52 | | | | |
| n41 | Rear 0mm | 0.97 | 188.52 | 2.49 | 0.021 | Not required |
| WLAN 5G | | 1.52 | | | | |
| n78 | Rear 0mm | 0.97 | 107.29 | 2.49 | 0.037 | Not required |
| WLAN 5G | | 1.52 | | | | |
| GSM850 | Top 0mm | 0.38 | 104.55 | 1.66 | 0.020 | Not required |
| WLAN 5G | | 1.28 | | | | |
| GSM1900 | Top 0mm | 0.40 | 160.47 | 1.68 | 0.014 | Not required |
| WLAN 5G | | 1.28 | | | | |
| WCDMA850 | Top 0mm | 0.52 | 107.64 | 1.8 | 0.022 | Not required |
| WLAN 5G | | 1.28 | | | | |
| WCDMA1900 | Top 0mm | 0.87 | 161.97 | 2.15 | 0.019 | Not required |
| WLAN 5G | | 1.28 | | | | |
| LTE B5 | Top 0mm | 0.27 | 98.94 | 1.55 | 0.020 | Not required |
| WLAN 5G | | 1.28 | | | | |
| LTE B7 | Top 0mm | 0.40 | 168.41 | 1.68 | 0.013 | Not required |
| WLAN 5G | | 1.28 | | | | |
| n78 | Top 0mm | 0.73 | 73.63 | 2.01 | 0.039 | Not required |
| WLAN 5G | | 1.28 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| GSM850 | Rear 0mm | 0.96 | 109.91 | 2.48 | 0.036 | Not required |
| BT | | 1.52 | | | | |
| GSM1900 | Rear 0mm | 1.13 | 161.14 | 2.65 | 0.027 | Not required |
| BT | | 1.52 | | | | |
| WCDMA850 | Rear 0mm | 0.99 | 113.02 | 2.51 | 0.035 | Not required |
| BT | | 1.52 | | | | |
| WCDMA1900 | Rear 0mm | 1.33 | 161.72 | 2.85 | 0.030 | Not required |
| BT | | 1.52 | | | | |
| LTE B5 | Rear 0mm | 0.95 | 117.61 | 2.47 | 0.033 | Not required |
| BT | | 1.52 | | | | |
| LTE B7 | Rear 0mm | 0.93 | 163.3 | 2.45 | 0.023 | Not required |
| BT | | 1.52 | | | | |
| LTE B41(PC2) | Rear 0mm | 0.97 | 187.77 | 2.49 | 0.021 | Not required |
| BT | | 1.52 | | | | |
| LTE B41(PC3) | Rear 0mm | 0.70 | 187.77 | 2.22 | 0.018 | Not required |
| BT | | 1.52 | | | | |
| n41 | Rear 0mm | 0.97 | 201.84 | 2.49 | 0.019 | Not required |
| BT | | 1.52 | | | | |
| n78 | Rear 0mm | 0.97 | 104.63 | 2.49 | 0.038 | Not required |
| BT | | 1.52 | | | | |
| GSM850 | Top 0mm | 0.38 | 106.78 | 1.66 | 0.020 | Not required |
| BT | | 1.28 | | | | |
| GSM1900 | Top 0mm | 0.40 | 162.05 | 1.68 | 0.013 | Not required |
| BT | | 1.28 | | | | |
| WCDMA850 | Top 0mm | 0.52 | 109.01 | 1.8 | 0.022 | Not required |
| BT | | 1.28 | | | | |
| WCDMA1900 | Top 0mm | 0.87 | 163.55 | 2.15 | 0.019 | Not required |
| BT | | 1.28 | | | | |
| LTE B5 | Top 0mm | 0.27 | 100.68 | 1.55 | 0.019 | Not required |
| BT | | 1.28 | | | | |
| LTE B7 | Top 0mm | 0.40 | 166.98 | 1.68 | 0.013 | Not required |
| BT | | 1.28 | | | | |
| n78 | Top 0mm | 0.73 | 76.24 | 2.01 | 0.037 | Not required |
| BT | | 1.28 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B7 | Rear 19mm | 1.15 | 117.18 | 2.06 | 0.025 | Not required |
| WLAN 5G | | 0.91 | | | | |
| LTE B41(PC2) | Rear 19mm | 0.64 | 193.89 | 1.55 | 0.010 | Not required |
| WLAN 5G | | 0.91 | | | | |
| n41 | Rear 19mm | 0.95 | 181.11 | 1.86 | 0.014 | Not required |
| WLAN 5G | | 0.91 | | | | |
| n78 | Rear 19mm | 0.70 | 70.64 | 1.61 | 0.029 | Not required |
| WLAN 5G | | 0.91 | | | | |
| LTE B7 | Top 19mm | 1.2 | 119.94 | 1.64 | 0.018 | Not required |
| WLAN 5G | | 0.44 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B7 | Rear 19mm | 1.15 | 128.44 | 2.06 | 0.023 | Not required |
| BT | | 0.91 | | | | |
| LTE B41(PC2) | Rear 19mm | 0.64 | 201.32 | 1.55 | 0.010 | Not required |
| BT | | 0.91 | | | | |
| n41 | Rear 19mm | 0.95 | 191.33 | 1.86 | 0.013 | Not required |
| BT | | 0.91 | | | | |
| n78 | Rear 19mm | 0.70 | 88.7 | 1.61 | 0.023 | Not required |
| BT | | 0.91 | | | | |
| LTE B7 | Top 19mm | 1.2 | 120.13 | 1.64 | 0.017 | Not required |
| BT | | 0.44 | | | | |

| Position | WWAN (W/kg) | | WLAN2.4G (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|
| Rear (0mm) | DC_5A_n78A | 1.36 | 1.16 | 2.52 | Yes |
| | DC_7A_n78A | 1.34 | 1.16 | 2.50 | Yes |
| Top (0mm) | DC_5A_n78A | 0.83 | 0.42 | 1.25 | / |

| Position | WWAN (W/kg) | | WLAN2.4G (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|
| Rear (19mm) | DC_5A_n78A | 0.65 | 0.11 | 0.76 | / |
| | DC_7A_n78A | 0.95 | 0.11 | 1.06 | / |
| Top (19mm) | DC_5A_n78A | 0.61 | 0.09 | 0.70 | / |

| Position | WWAN (W/kg) | | WLAN5G (W/kg) | BT (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|---|
| Rear (0mm) | DC_5A_n78A | 1.36 | 1.07 | 0.45 | 2.88 | Yes |
| | DC_7A_n78A | 1.34 | 1.07 | 0.45 | 2.86 | Yes |
| Top (0mm) | DC_5A_n78A | 0.83 | 1.08 | 0.20 | 2.11 | Yes |

| Position | WWAN (W/kg) | | WLAN5G (W/kg) | BT (W/kg) | Sum (W/kg) | SPLSR |
|---|---|---|---|---|---|---|
| Rear (19mm) | DC_5A_n78A | 0.65 | 0.46 | 0.45 | 1.56 | / |
| | DC_7A_n78A | 0.95 | 0.46 | 0.45 | 1.86 | Yes |
| Top (19mm) | DC_5A_n78A | 0.61 | 0.24 | 0.20 | 1.05 | / |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B5 | Rear 0mm | 0.58 | 113.99 | 1.74 | 0.020 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| NR n78 | | 0.78 | 103.56 | 1.94 | 0.026 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| LTE B7 | Rear 0mm | 0.56 | 206.43 | 1.72 | 0.011 | Not required |
| WLAN 2.4G | | 1.16 | | | | |
| NR n78 | | 0.78 | 103.56 | 1.94 | 0.026 | Not required |
| WLAN 2.4G | | 1.16 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B5 | Rear 0mm | 0.58 | 109.46 | 2.1 | 0.028 | Not required |
| WLAN 5G | | 1.52 | | | | |
| NR n78 | | 0.78 | 99.12 | 2.3 | 0.035 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B7 | Rear 0mm | 0.56 | 98.29 | 2.08 | 0.031 | Not required |
| WLAN 5G | | 1.52 | | | | |
| NR n78 | | 0.78 | 99.12 | 2.3 | 0.035 | Not required |
| WLAN 5G | | 1.52 | | | | |
| LTE B5 | Top 0mm | 0.20 | 107.41 | 1.48 | 0.017 | Not required |
| WLAN 5G | | 1.28 | | | | |
| NR n78 | | 0.63 | 78.21 | 1.91 | 0.034 | Not required |
| WLAN 5G | | 1.28 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B5 | Rear 0mm | 0.58 | 116.36 | 2.1 | 0.026 | Not required |
| BT | | 1.52 | | | | |
| NR n78 | | 0.78 | 106.02 | 2.3 | 0.033 | Not required |
| BT | | 1.52 | | | | |
| LTE B7 | Rear 0mm | 0.56 | 97.58 | 2.08 | 0.031 | Not required |
| BT | | 1.52 | | | | |
| NR n78 | | 0.78 | 106.02 | 2.3 | 0.033 | Not required |
| BT | | 1.52 | | | | |
| LTE B5 | Top 0mm | 0.20 | 109.23 | 1.48 | 0.016 | Not required |
| BT | | 1.28 | | | | |
| NR n78 | | 0.63 | 76.64 | 1.91 | 0.034 | Not required |
| BT | | 1.28 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B7 | Rear 19mm | 0.53 | 192.57 | 0.99 | 0.005 | Not required |
| WLAN 5G | | 0.46 | | | | |
| NR n78 | | 0.42 | 70.64 | 0.88 | 0.012 | Not required |
| WLAN 5G | | 0.46 | | | | |

| Band | Position | SAR(W/kg) | distance | Pair SAR sum(W/kg) | SPLSR | Simultaneous SAR |
|---|---|---|---|---|---|---|
| LTE B7 | Rear 19mm | 0.53 | 199.46 | 0.98 | 0.005 | Not required |
| BT | | 0.45 | | | | |
| NR n78 | | 0.42 | 83.12 | 0.87 | 0.010 | Not required |
| BT | | 0.45 | | | | |

## 15.4 Conclusion

According to the above tables, the highest simultaneous transmission reported SAR values is **1.55W/kg (10g).** The sum of reported SAR values is < 1.6W/kg.

# 16 Measurement Uncertainty

## 16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

| No. | Error Description | Type | Uncertainty value | Probably Distribution | Div. | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|---|---|---|---|---|---|---|---|---|---|---|
| **Measurement system** | | | | | | | | | | |
| 1 | Probe calibration | B | 6.0 | N | 1 | 1 | 1 | 6.0 | 6.0 | ∞ |
| 2 | Isotropy | B | 4.7 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.9 | 1.9 | ∞ |
| 3 | Boundary effect | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 4 | Linearity | B | 4.7 | R | $\sqrt{3}$ | 1 | 1 | 2.7 | 2.7 | ∞ |
| 5 | Detection limit | B | 1.0 | N | 1 | 1 | 1 | 0.6 | 0.6 | ∞ |
| 6 | Readout electronics | B | 0.3 | R | $\sqrt{3}$ | 1 | 1 | 0.3 | 0.3 | ∞ |
| 7 | Response time | B | 0.8 | R | $\sqrt{3}$ | 1 | 1 | 0.5 | 0.5 | ∞ |
| 8 | Integration time | B | 2.6 | R | $\sqrt{3}$ | 1 | 1 | 1.5 | 1.5 | ∞ |
| 9 | RF ambient conditions-noise | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 10 | RFambient conditions-reflection | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 11 | Probe positioned mech. restrictions | B | 0.4 | R | $\sqrt{3}$ | 1 | 1 | 0.2 | 0.2 | ∞ |
| 12 | Probe positioning with respect to phantom shell | B | 2.9 | R | $\sqrt{3}$ | 1 | 1 | 1.7 | 1.7 | ∞ |
| 13 | Post-processing | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| **Test sample related** | | | | | | | | | | |
| 14 | Test sample positioning | A | 3.3 | N | 1 | 1 | 1 | 3.3 | 3.3 | 71 |
| 15 | Device holder uncertainty | A | 3.4 | N | 1 | 1 | 1 | 3.4 | 3.4 | 5 |
| 16 | Drift of output power | B | 5.0 | R | $\sqrt{3}$ | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and set-up** | | | | | | | | | | |
| 17 | Phantom uncertainty | B | 4.0 | R | $\sqrt{3}$ | 1 | 1 | 2.3 | 2.3 | ∞ |
| 18 | Liquid conductivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| 19 | Liquid conductivity (meas.) | A | 2.06 | N | 1 | 0.64 | 0.43 | 1.32 | 0.89 | 43 |
| 20 | Liquid permittivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| 21 | Liquid permittivity (meas.) | A | 1.6 | N | 1 | 0.6 | 0.49 | 1.0 | 0.8 | 521 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Combined standard uncertainty | $u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ | | | | | 9.55 | 9.43 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | $u_e = 2u_c$ | | | | | 19.1 | 18.9 | |

## 16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

| No. | Error Description | Type | Uncertainty value | Probably Distribution | Div. | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|---|---|---|---|---|---|---|---|---|---|---|
| **Measurement system** | | | | | | | | | | |
| 1 | Probe calibration | B | 6.55 | N | 1 | 1 | 1 | 6.55 | 6.55 | ∞ |
| 2 | Isotropy | B | 4.7 | R | √3 | 0.7 | 0.7 | 1.9 | 1.9 | ∞ |
| 3 | Boundary effect | B | 2.0 | R | √3 | 1 | 1 | 1.2 | 1.2 | ∞ |
| 4 | Linearity | B | 4.7 | R | √3 | 1 | 1 | 2.7 | 2.7 | ∞ |
| 5 | Detection limit | B | 1.0 | R | √3 | 1 | 1 | 0.6 | 0.6 | ∞ |
| 6 | Readout electronics | B | 0.3 | R | √3 | 1 | 1 | 0.3 | 0.3 | ∞ |
| 7 | Response time | B | 0.8 | R | √3 | 1 | 1 | 0.5 | 0.5 | ∞ |
| 8 | Integration time | B | 2.6 | R | √3 | 1 | 1 | 1.5 | 1.5 | ∞ |
| 9 | RF ambient conditions-noise | B | 0 | R | √3 | 1 | 1 | 0 | 0 | ∞ |
| 10 | RFambient conditions-reflection | B | 0 | R | √3 | 1 | 1 | 0 | 0 | ∞ |
| 11 | Probe positioned mech. restrictions | B | 0.8 | R | √3 | 1 | 1 | 0.5 | 0.5 | ∞ |
| 12 | Probe positioning with respect to phantom shell | B | 6.7 | R | √3 | 1 | 1 | 3.9 | 3.9 | ∞ |
| 13 | Post-processing | B | 4.0 | R | √3 | 1 | 1 | 2.3 | 2.3 | ∞ |
| **Test sample related** | | | | | | | | | | |
| 14 | Test sample positioning | A | 3.3 | N | 1 | 1 | 1 | 3.3 | 3.3 | 71 |
| 15 | Device holder uncertainty | A | 3.4 | N | 1 | 1 | 1 | 3.4 | 3.4 | 5 |
| 16 | Drift of output power | B | 5.0 | R | √3 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and set-up** | | | | | | | | | | |
| 17 | Phantom uncertainty | B | 4.0 | R | √3 | 1 | 1 | 2.3 | 2.3 | ∞ |
| 18 | Liquid conductivity (target) | B | 5.0 | R | √3 | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| 19 | Liquid conductivity (meas.) | A | 2.06 | N | 1 | 0.64 | 0.43 | 1.32 | 0.89 | 43 |
| 20 | Liquid permittivity (target) | B | 5.0 | R | √3 | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Liquid permittivity (meas.) | A | 1.6 | N | 1 | 0.6 | 0.49 | 1.0 | 0.8 | 521 |
| Combined standard uncertainty | | $u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ | | | | | | 10.7 | 10.6 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | | $u_e = 2u_c$ | | | | | | 21.4 | 21.1 | |

## 16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

| No. | Error Description | Type | Uncertainty value | Probably Distribution | Div. | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|---|---|---|---|---|---|---|---|---|---|---|
| **Measurement system** | | | | | | | | | | |
| 1 | Probe calibration | B | 6.0 | N | 1 | 1 | 1 | 6.0 | 6.0 | ∞ |
| 2 | Isotropy | B | 4.7 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.9 | 1.9 | ∞ |
| 3 | Boundary effect | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 4 | Linearity | B | 4.7 | R | $\sqrt{3}$ | 1 | 1 | 2.7 | 2.7 | ∞ |
| 5 | Detection limit | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 6 | Readout electronics | B | 0.3 | R | $\sqrt{3}$ | 1 | 1 | 0.3 | 0.3 | ∞ |
| 7 | Response time | B | 0.8 | R | $\sqrt{3}$ | 1 | 1 | 0.5 | 0.5 | ∞ |
| 8 | Integration time | B | 2.6 | R | $\sqrt{3}$ | 1 | 1 | 1.5 | 1.5 | ∞ |
| 9 | RF ambient conditions-noise | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 10 | RFambient conditions-reflection | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 11 | Probe positioned mech. Restrictions | B | 0.4 | R | $\sqrt{3}$ | 1 | 1 | 0.2 | 0.2 | ∞ |
| 12 | Probe positioning with respect to phantom shell | B | 2.9 | R | $\sqrt{3}$ | 1 | 1 | 1.7 | 1.7 | ∞ |
| 13 | Post-processing | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 14 | Fast SAR z-Approximation | B | 7.0 | R | $\sqrt{3}$ | 1 | 1 | 4.0 | 4.0 | ∞ |
| **Test sample related** | | | | | | | | | | |
| 15 | Test sample positioning | A | 3.3 | N | 1 | 1 | 1 | 3.3 | 3.3 | 71 |
| 16 | Device holder uncertainty | A | 3.4 | N | 1 | 1 | 1 | 3.4 | 3.4 | 5 |
| 17 | Drift of output power | B | 5.0 | R | $\sqrt{3}$ | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and set-up** | | | | | | | | | | |
| 18 | Phantom uncertainty | B | 4.0 | R | $\sqrt{3}$ | 1 | 1 | 2.3 | 2.3 | ∞ |
| 19 | Liquid conductivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | Liquid conductivity (meas.) | A | 2.06 | N | 1 | 0.64 | 0.43 | 1.32 | 0.89 | 43 |
| 21 | Liquid permittivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| 22 | Liquid permittivity (meas.) | A | 1.6 | N | 1 | 0.6 | 0.49 | 1.0 | 0.8 | 521 |
| Combined standard uncertainty | | $u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$ | | | | | | 10.4 | 10.3 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | | $u_e = 2u_c$ | | | | | | 20.8 | 20.6 | |

## 16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

| No. | Error Description | Type | Uncertainty value | Probably Distribution | Div. | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|---|---|---|---|---|---|---|---|---|---|---|
| **Measurement system** | | | | | | | | | | |
| 1 | Probe calibration | B | 6.55 | N | 1 | 1 | 1 | 6.55 | 6.55 | ∞ |
| 2 | Isotropy | B | 4.7 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.9 | 1.9 | ∞ |
| 3 | Boundary effect | B | 2.0 | R | $\sqrt{3}$ | 1 | 1 | 1.2 | 1.2 | ∞ |
| 4 | Linearity | B | 4.7 | R | $\sqrt{3}$ | 1 | 1 | 2.7 | 2.7 | ∞ |
| 5 | Detection limit | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 6 | Readout electronics | B | 0.3 | R | $\sqrt{3}$ | 1 | 1 | 0.3 | 0.3 | ∞ |
| 7 | Response time | B | 0.8 | R | $\sqrt{3}$ | 1 | 1 | 0.5 | 0.5 | ∞ |
| 8 | Integration time | B | 2.6 | R | $\sqrt{3}$ | 1 | 1 | 1.5 | 1.5 | ∞ |
| 9 | RF ambient conditions-noise | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 10 | RFambient conditions-reflection | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 11 | Probe positioned mech. Restrictions | B | 0.8 | R | $\sqrt{3}$ | 1 | 1 | 0.5 | 0.5 | ∞ |
| 12 | Probe positioning with respect to phantom shell | B | 6.7 | R | $\sqrt{3}$ | 1 | 1 | 3.9 | 3.9 | ∞ |
| 13 | Post-processing | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 14 | Fast SAR z-Approximation | B | 14.0 | R | $\sqrt{3}$ | 1 | 1 | 8.1 | 8.1 | ∞ |
| **Test sample related** | | | | | | | | | | |
| 15 | Test sample positioning | A | 3.3 | N | 1 | 1 | 1 | 3.3 | 3.3 | 71 |
| 16 | Device holder uncertainty | A | 3.4 | N | 1 | 1 | 1 | 3.4 | 3.4 | 5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 | Drift of output power | B | 5.0 | R | $\sqrt{3}$ | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and set-up** | | | | | | | | | | |
| 18 | Phantom uncertainty | B | 4.0 | R | $\sqrt{3}$ | 1 | 1 | 2.3 | 2.3 | ∞ |
| 19 | Liquid conductivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| 20 | Liquid conductivity (meas.) | A | 2.06 | N | 1 | 0.64 | 0.43 | 1.32 | 0.89 | 43 |
| 21 | Liquid permittivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| 22 | Liquid permittivity (meas.) | A | 1.6 | N | 1 | 0.6 | 0.49 | 1.0 | 0.8 | 521 |
| Combined standard uncertainty | | $u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$ | | | | | | 13.5 | 13.4 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | | $u_e = 2u_c$ | | | | | | 27.0 | 26.8 | |

# 17 MAIN TEST INSTRUMENTS

**Table 17.1: List of Main Instruments**

| No. | Name | Type | Serial Number | Calibration Date | Valid Period |
|---|---|---|---|---|---|
| 01 | Network analyzer | E5071C | MY46110673 | January 14, 2022 | One year |
| 02 | Power sensor | NRP110T | 101139 | January 13, 2022 | One year |
| 03 | Power sensor | NRP110T | 101159 | | |
| 04 | Signal Generator | E4438C | MY49071430 | January 13, 2022 | One Year |
| 05 | Amplifier | 60S1G4 | 0331848 | No Calibration Requested | |
| 06 | BTS | CMW500 | 159890 | January 24, 2022 | One year |
| 07 | E-field Probe | SPEAG EX3DV4 | 7600 | December 29，2021 | One year |
| 08 | DAE | SPEAG DAE4 | 777 | January 07, 2022 | One year |
| 09 | E-field Probe | SPEAG EX3DV4 | 3617 | March 11，2022 | One year |
| 10 | DAE | SPEAG DAE4 | 1588 | September 01,2021 | One year |
| 11 | Dipole Validation Kit | SPEAG D835V2 | 4d062 | July 5,2022 | One year |
| 12 | Dipole Validation Kit | SPEAG D1900V2 | 5d142 | July 6,2022 | One year |
| 13 | Dipole Validation Kit | SPEAG D2450V2 | 853 | July 26,2021 | Three year |
| 14 | Dipole Validation Kit | SPEAG D2600V2 | 1012 | July 20,2022 | One year |
| 15 | Dipole Validation Kit | SPEAG D3500V2 | 1016 | July 01,2022 | One year |
| 16 | Dipole Validation Kit | SPEAG D5GHzV2 | 1060 | July 05,2022 | One year |

***END OF REPORT BODY***

# ANNEX A Graph Results

## GSM850 Rear 0mm

Date: 7/28/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.932 S/m; εr = 42.99; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: GSM850 2TX (0) Frequency: 848.8 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 - SN3617 ConvF(9.91, 9.91, 9.91)

Area Scan (171x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.02 W/kg

Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.751 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 3.71 W/kg

SAR(1 g) = 0.728 W/kg; SAR(10 g) = 0.267 W/kg

Maximum value of SAR (measured) = 1.75 W/kg

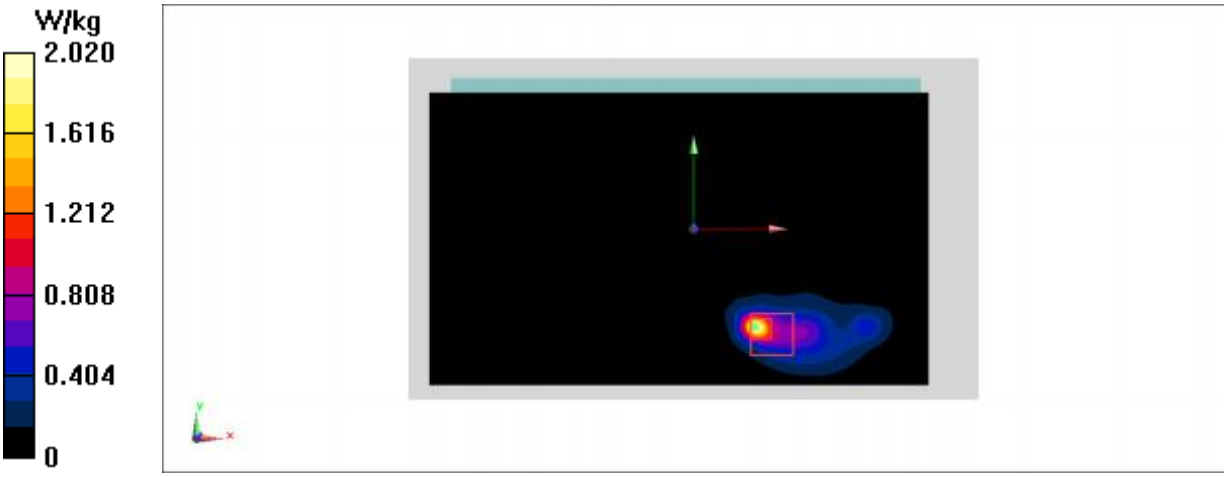



**Fig A.1**

**PCS1900 Rear 0mm**

Date: 7/29/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.317 S/m; εr = 41.653; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: GSM1900 3TX (0) Frequency: 1850.2 MHz Duty Cycle: 1:2.66993

Probe: EX3DV4 - SN3617 ConvF(8.08, 8.08, 8.08)

Area Scan (181x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.31 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.80 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.801 W/kg; SAR(10 g) = 0.391 W/kg

Maximum value of SAR (measured) = 1.18 W/kg

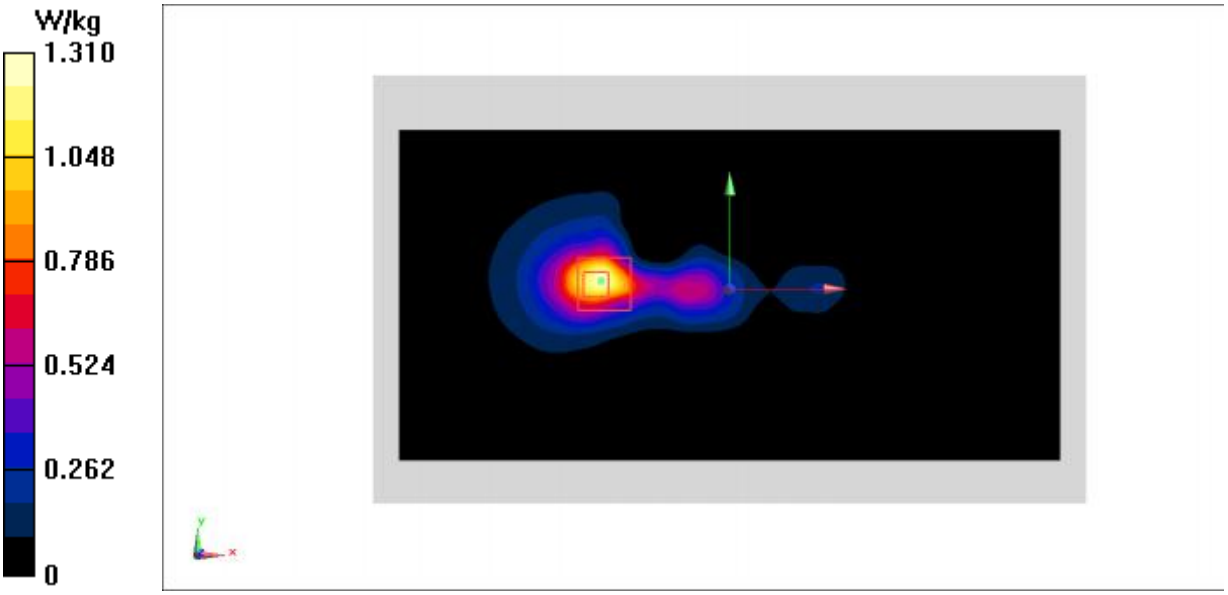



**Fig A.2**

**WCDMA1900 Rear 0mm**

Date: 7/29/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.3756 S/m; εr = 41.71; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: WCDMA1900(B2) (0) Frequency: 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(8.08, 8.08, 8.08)

Area Scan (171x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.85 W/kg

Zoom Scan (7x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.632 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.47 W/kg

SAR(1 g) = 0.915 W/kg; SAR(10 g) = 0.377 W/kg

Maximum value of SAR (measured) = 1.95 W/kg

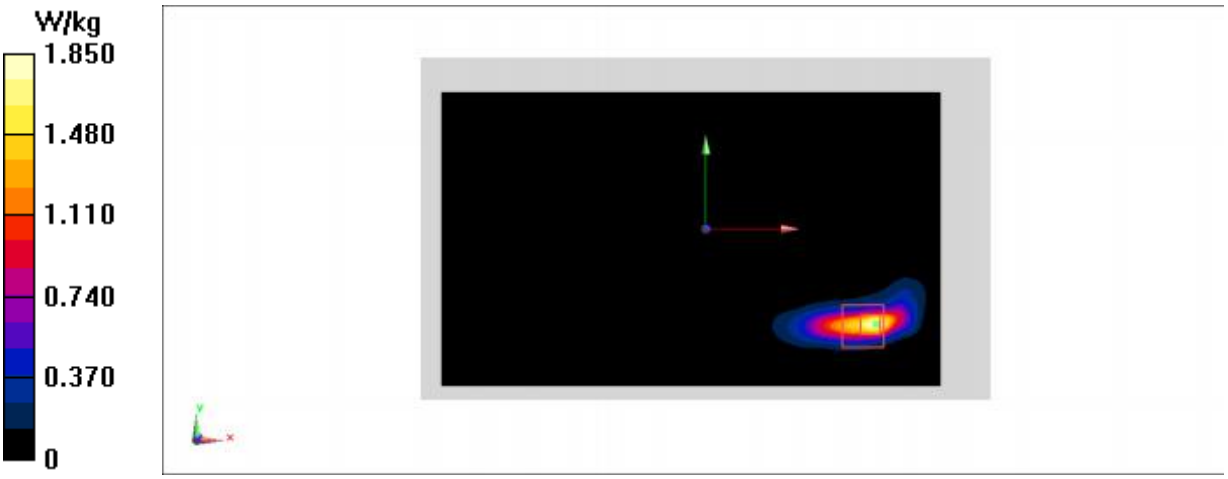



**Fig A.3**

**WCDMA850 Rear 0mm**

Date: 7/28/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.92 S/m; εr = 42.919; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: WCDMA850(B5) (0) Frequency: 826.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(9.91, 9.91, 9.91)

Area Scan (181x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.29 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.274 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.95 W/kg

SAR(1 g) = 0.806 W/kg; SAR(10 g) = 0.305 W/kg

Maximum value of SAR (measured) = 2.24 W/kg

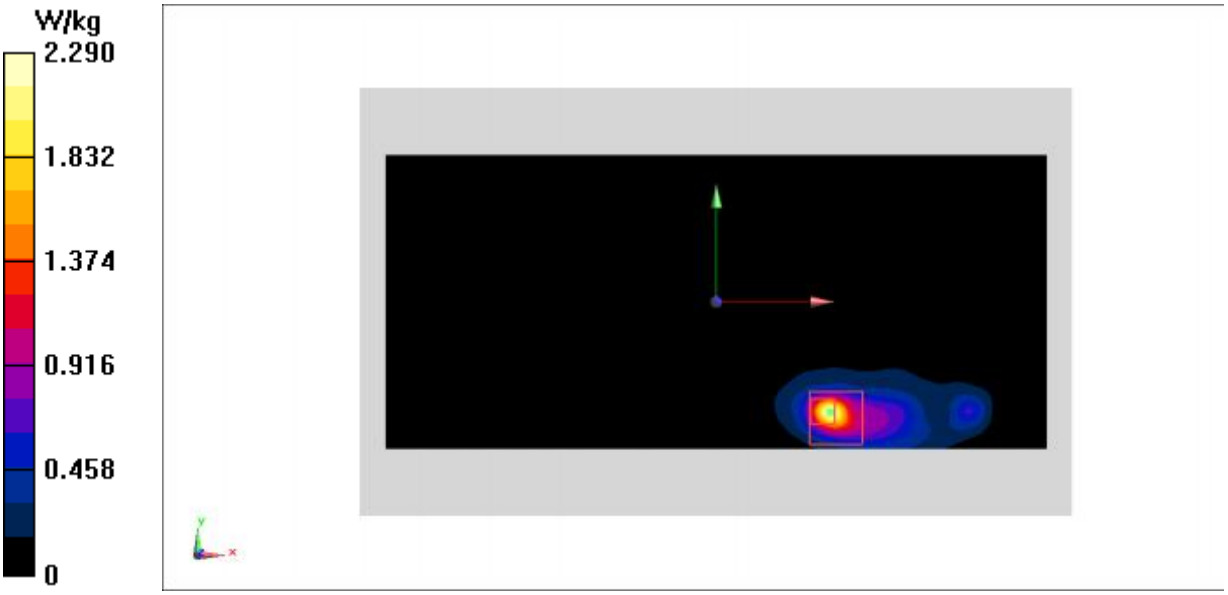



**Fig A.4**

## LTE B5 Rear 0mm

Date: 7/28/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used (interpolated): f = 829 MHz; σ = 0.923 S/m; εr = 42.94; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: LTE Band5 (0) Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(9.91, 9.91, 9.91)

Area Scan (181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.13 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.678 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 3.81 W/kg

SAR(1 g) = 0.853 W/kg; SAR(10 g) = 0.313 W/kg

Maximum value of SAR (measured) = 1.62 W/kg

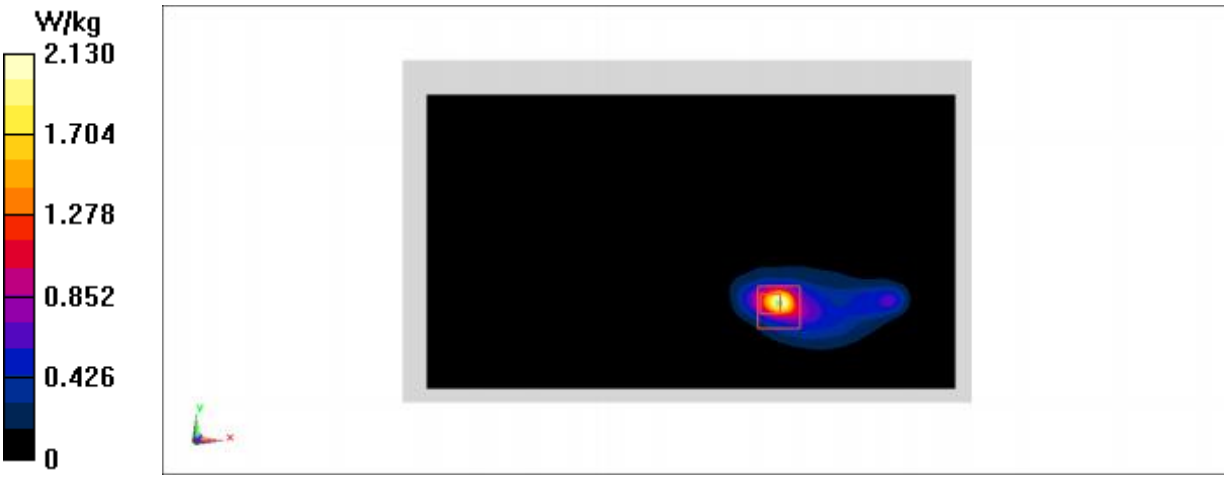



**Fig A.5**

**LTE B7 ANT0 Right 0mm**

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used: f = 2560 MHz; σ = 1.877 S/m; εr = 40.98; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: LTE Band7 (0) Frequency: 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (181x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.39 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.225 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 2.53 W/kg

SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.443 W/kg

Maximum value of SAR (measured) = 2.01 W/kg

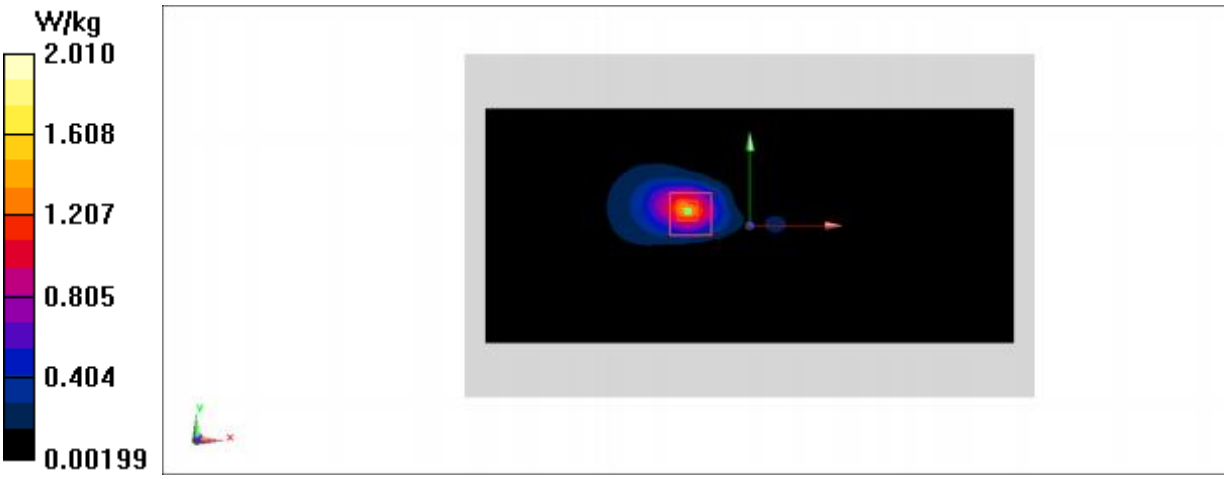



**Fig A.6**

## LTE B7 ANT5 Rear 14mm

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used: f = 2560 MHz; σ = 1.877 S/m; εr = 40.98; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: LTE Band7 (0) Frequency: 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (181x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.742 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.348 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.541 W/kg; SAR(10 g) = 0.271 W/kg

Maximum value of SAR (measured) = 0.840 W/kg

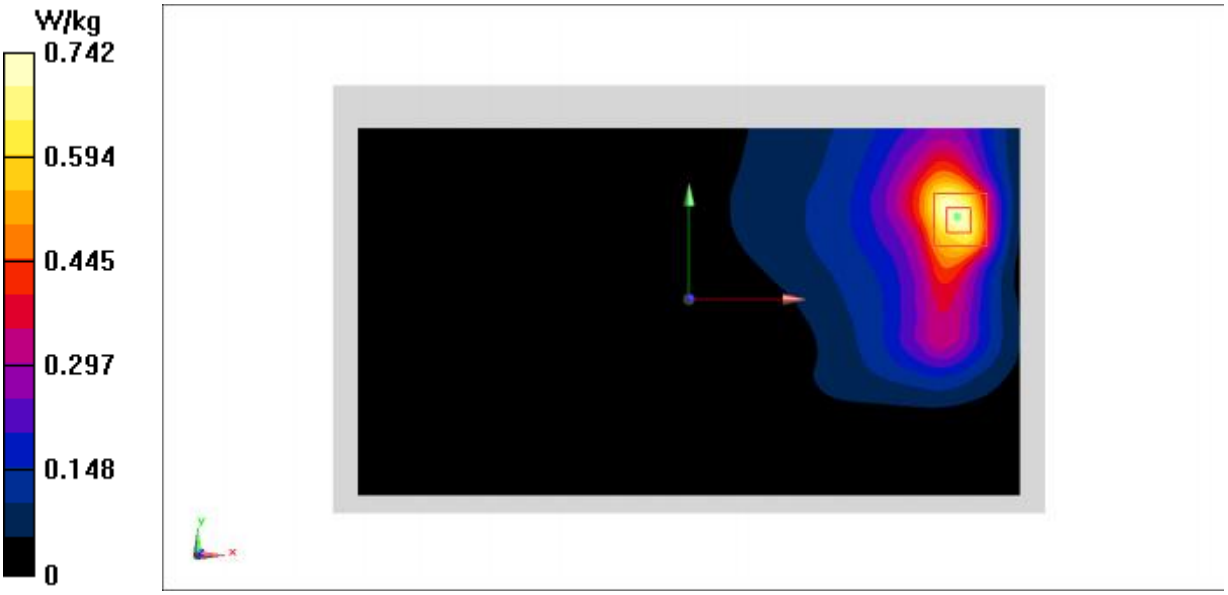



**Fig A.7**

**LTE B41 PC3 Rear 0mm**

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used: f = 2680 MHz; σ = 1.963 S/m; εr = 41.02; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: LTE Band41 (0) Frequency: 2680 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 – SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (181x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.72 W/kg

Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.222 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 2.19 W/kg

SAR(1 g) = 0.673 W/kg; SAR(10 g) = 0.203 W/kg

Maximum value of SAR (measured) = 1.39 W/kg

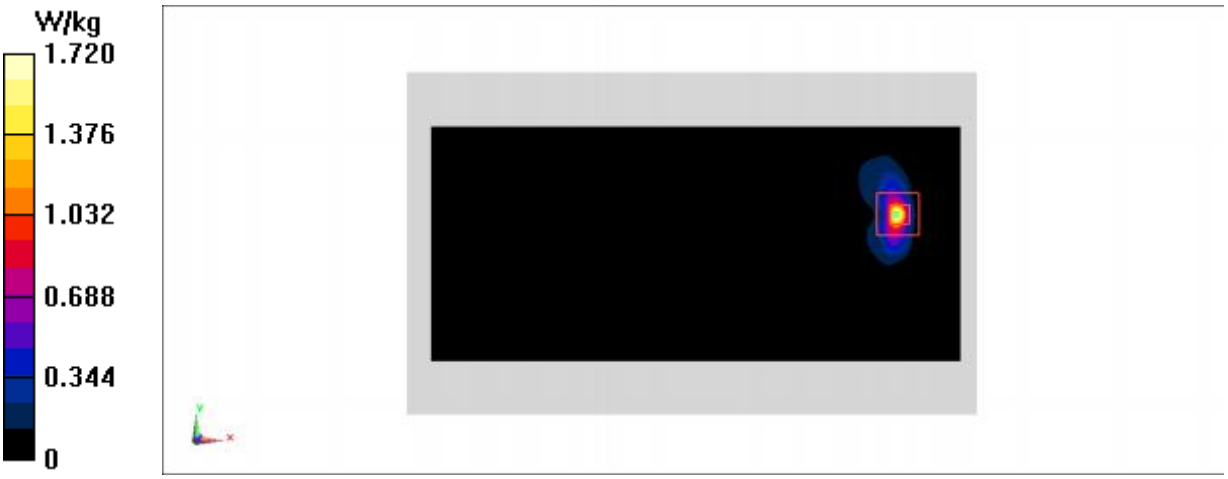



**Fig A.8**

## LTE B41 PC2 Right 0mm

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used: f = 2680 MHz; σ = 1.963 S/m; εr = 41.02; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: LTE Band41 (0) Frequency: 2680 MHz Duty Cycle: 1:2.309

Probe: EX3DV4 – SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (231x111x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.70 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.805 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.82 W/kg

SAR(1 g) = 0.958 W/kg; SAR(10 g) = 0.318 W/kg

Maximum value of SAR (measured) = 2.06 W/kg

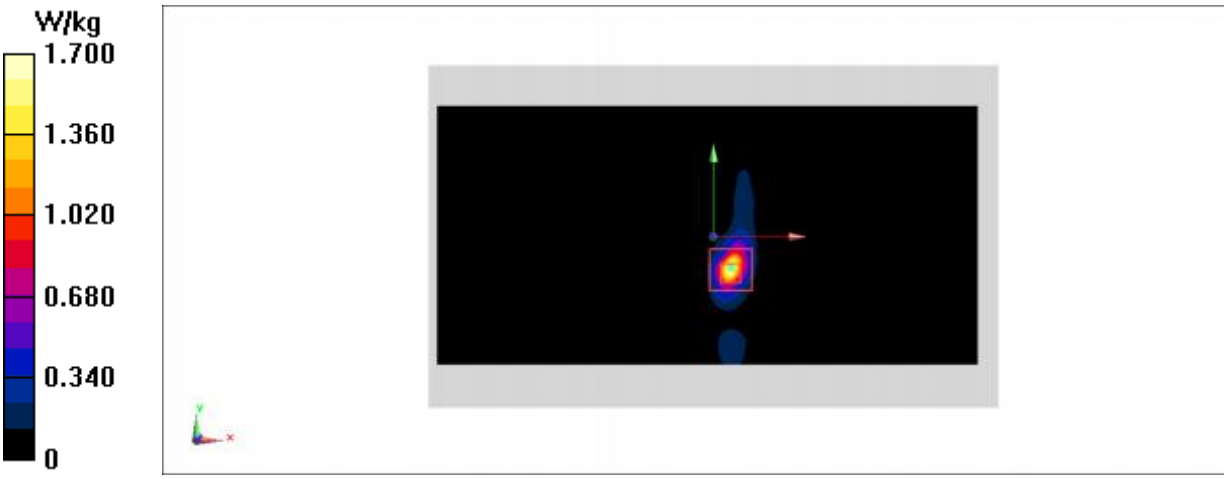



**Fig A.9**

**5G N41 Rear 0mm**

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used (interpolated): f = 2639 MHz; σ = 1.959 S/m; εr = 40.96; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: 5G N41 (0) Frequency: 2639 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (231x111x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.66 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.539 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.97 W/kg

SAR(1 g) = 0.931 W/kg; SAR(10 g) = 0.303 W/kg

Maximum value of SAR (measured) = 1.98 W/kg

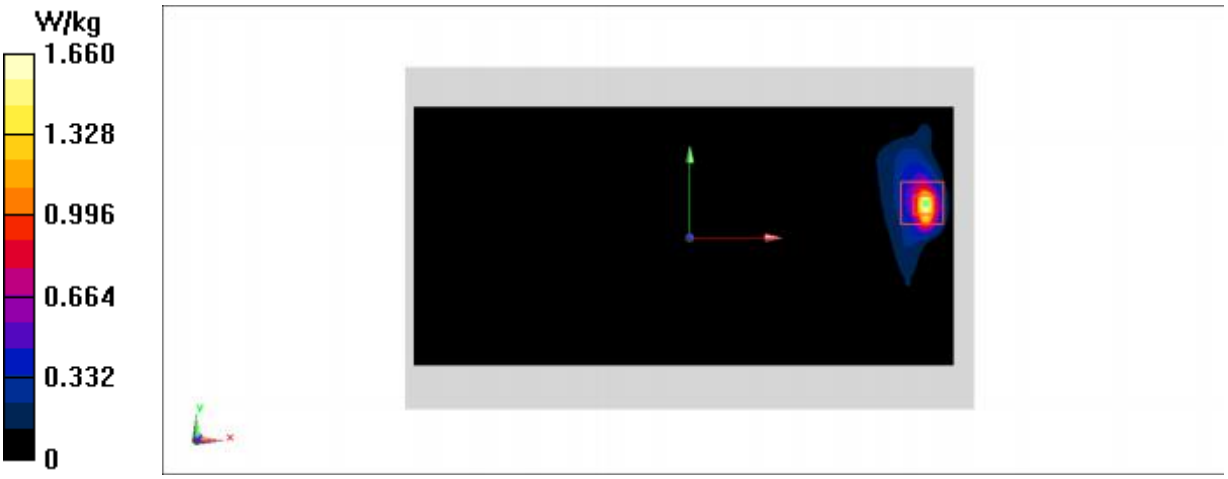



**Fig A.10**

**5G N78 Top 19mm**

Date: 9/4/2022

Electronics: DAE4 Sn777

Medium: H700-6000

Medium parameters used: f = 3500.01 MHz; σ = 2.866 S/m; εr = 39.23; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: UID 0, N77 3500.01 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7600 ConvF(7.05, 7.05, 7.05)

Area Scan (181x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.368 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 2.90 W/kg

SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.230 W/kg

Maximum value of SAR (measured) = 1.97 W/kg

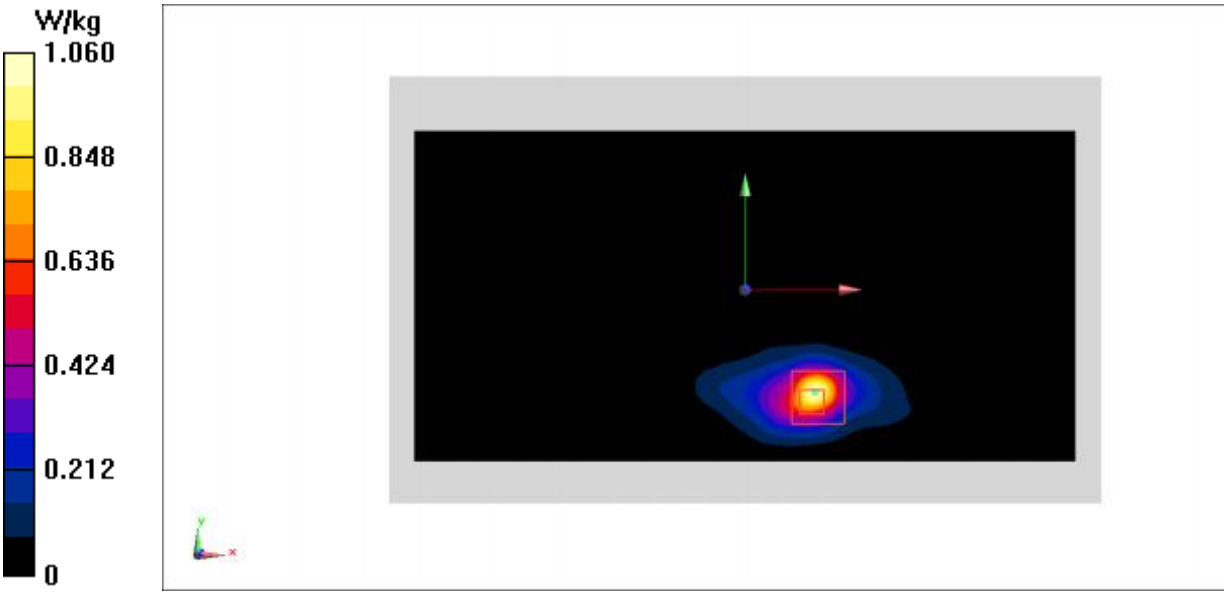



**Fig A.11**

**WLAN2450 Rear 0mm**

Date: 7/26/2022

Electronics: DAE4 Sn1588

Medium: H700-6000M

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.806 S/m; εr = 40.88; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: WIFI 2450 (0) Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.55, 7.55, 7.55)

Area Scan (171x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.42 W/kg

Zoom Scan (8x6x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.697 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.409 W/kg

Maximum value of SAR (measured) = 1.94 W/kg

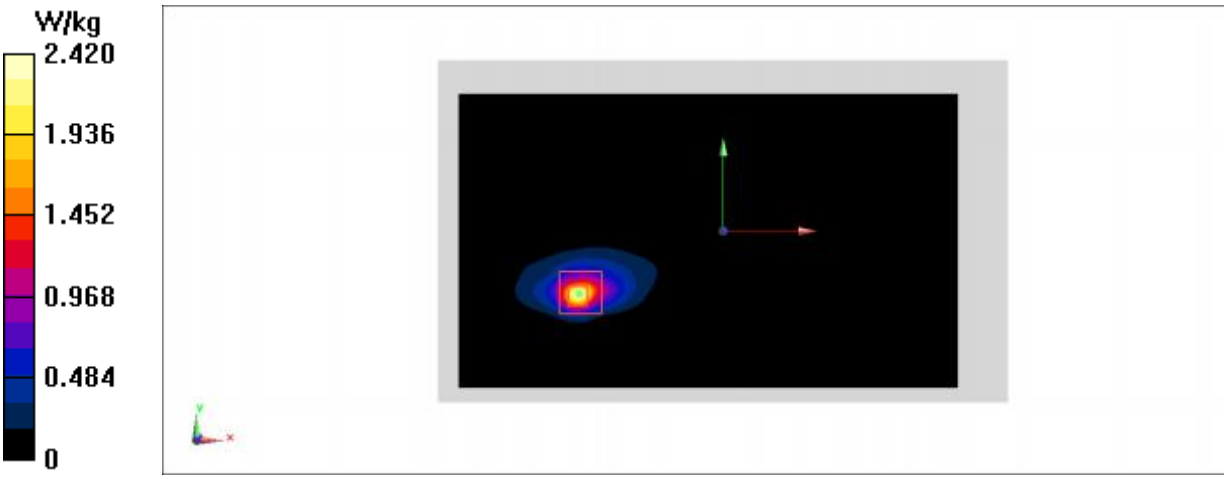



**Fig A.12**

**WLAN5G Top 0mm**

Date: 8/10/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 5720 MHz; σ = 5.478 S/m; εr = 36.83; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: WLan 11a (0) Frequency: 5720 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(5.2, 5.2, 5.2)

Area Scan (91x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.50 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 4.843 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 7.77 W/kg

SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.197 W/kg

Maximum value of SAR (measured) = 1.83 W/kg

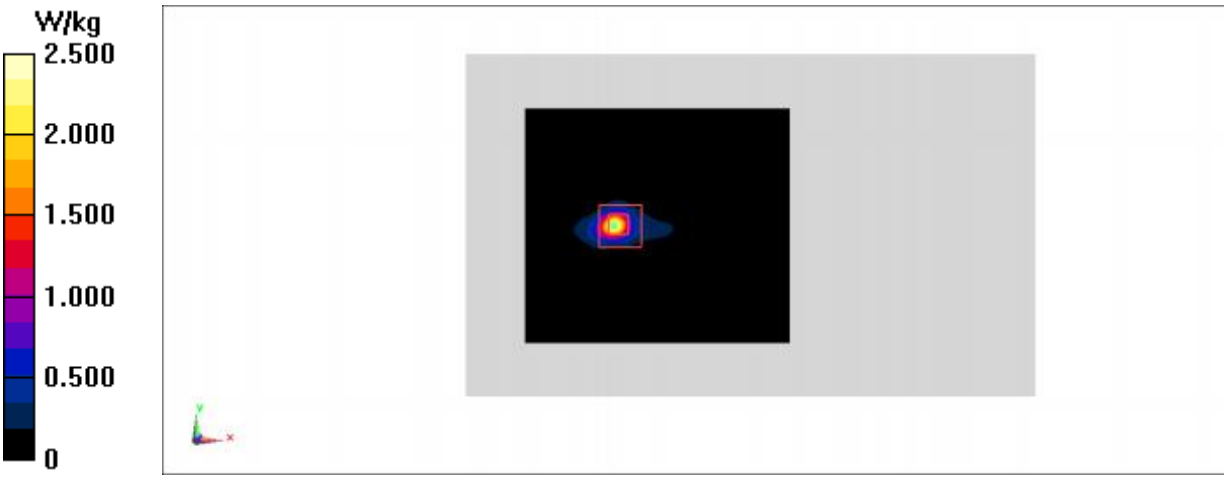



**Fig A.13**

**BT Rear 0mm**

Date: 7/26/2022

Electronics: DAE4 Sn1588

Medium: H700-6000M

Medium parameters used: f = 2441 MHz; σ = 1.812 S/m; εr = 40.89; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: Bluetooth (0) Frequency: 2441 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.55, 7.55, 7.55)

Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.443 W/kg

Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.161 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.893 W/kg

SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.119 W/kg

Maximum value of SAR (measured) = 0.570 W/kg

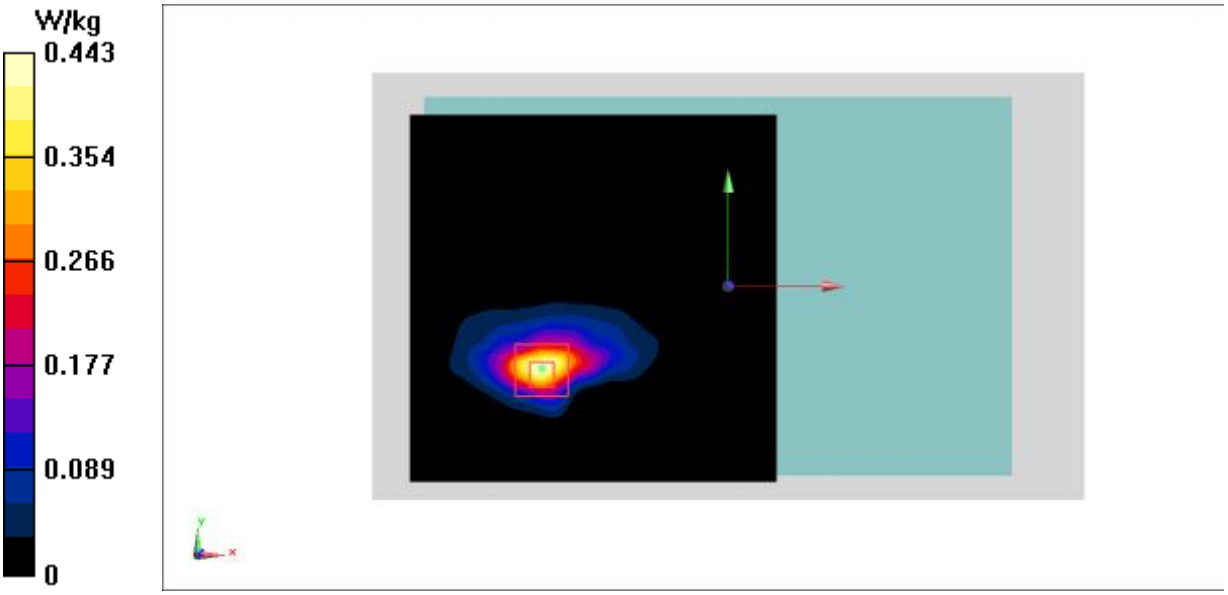
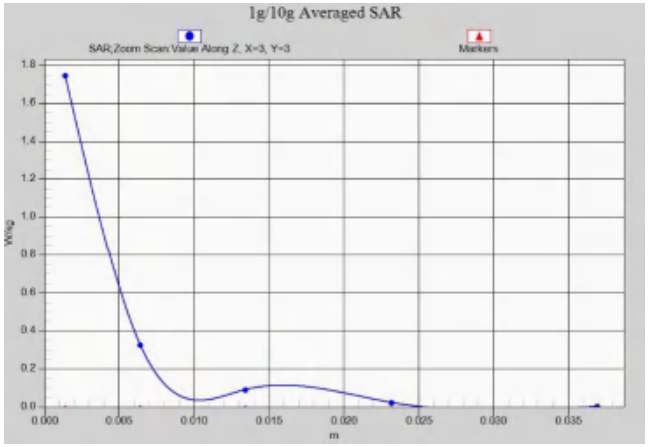
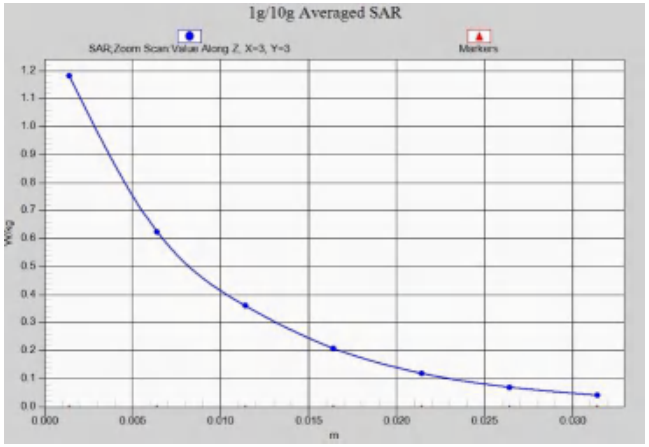


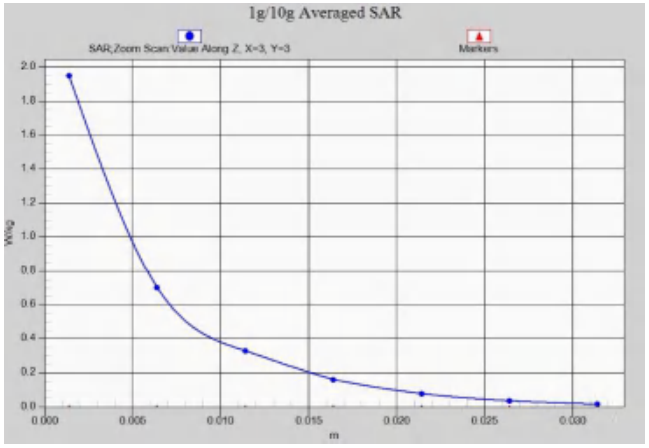

**Fig A.14**



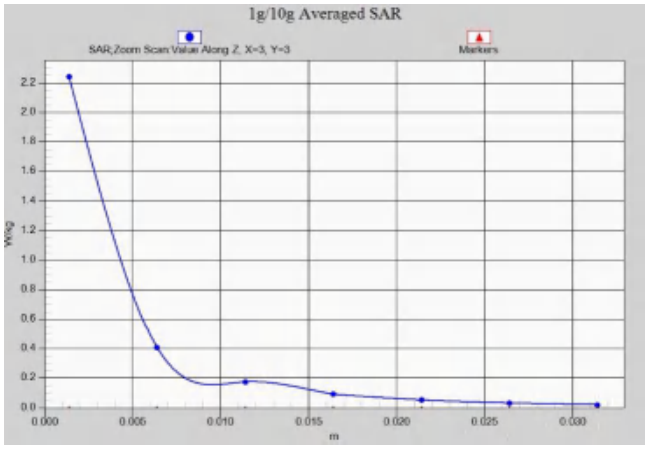

**Z-Scan at power reference point (GSM850)**



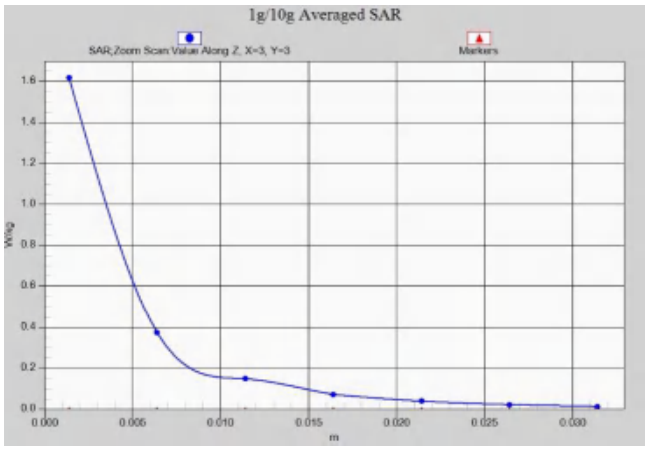

**Z-Scan at power reference point (GSM1900)**



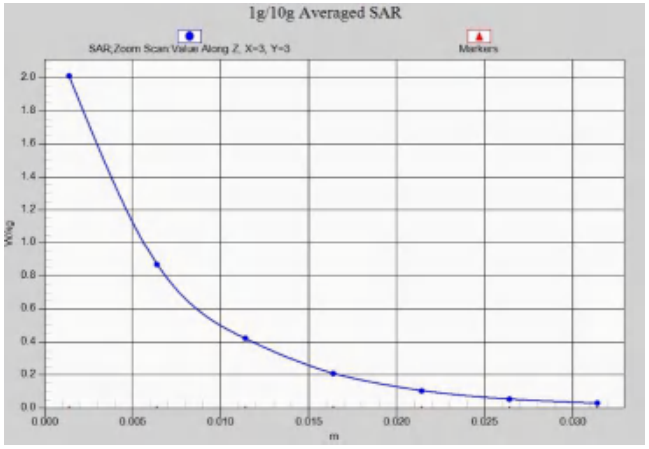

**Z-Scan at power reference point (WCDMA1900)**



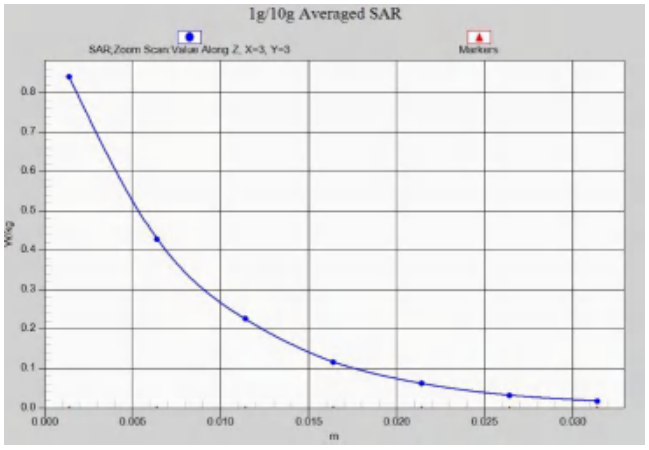

**Z-Scan at power reference point (WCDMA850)**



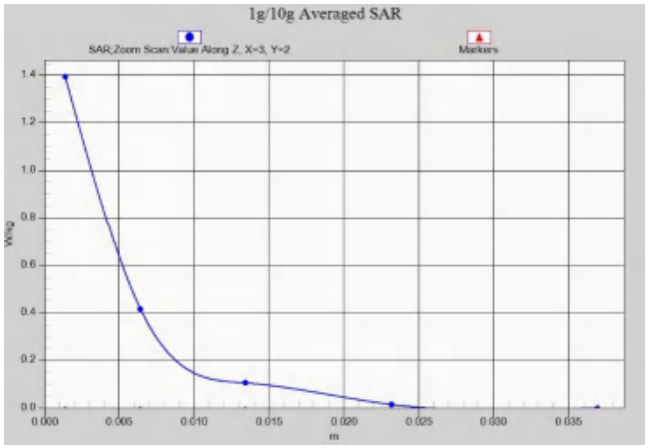

**Z-Scan at power reference point (LTEB5)**



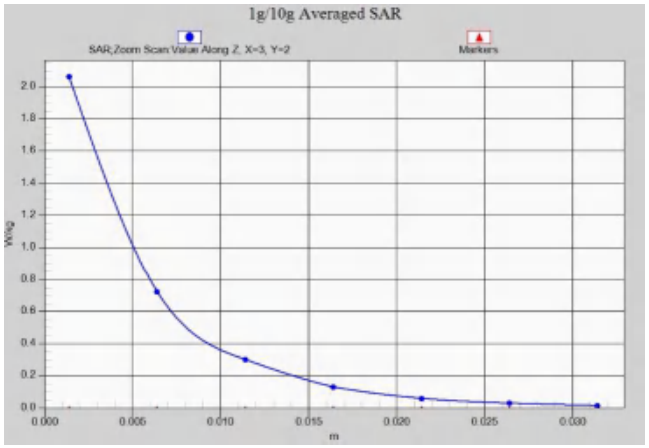

**Z-Scan at power reference point (LTEB7)**



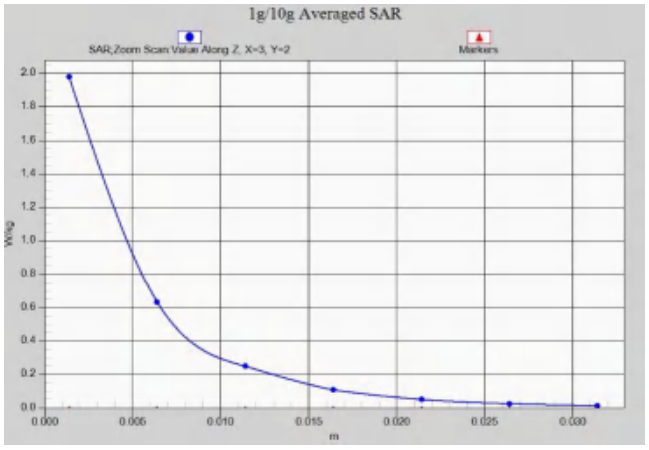

**Z-Scan at power reference point (LTEB7)**



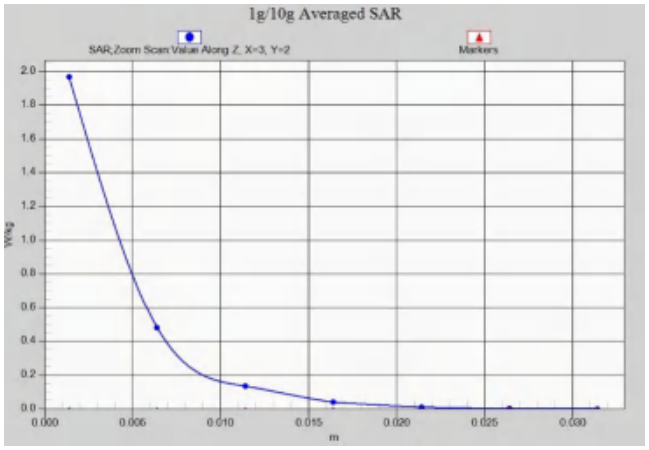

**Z-Scan at power reference point (LTEB41PC3)**



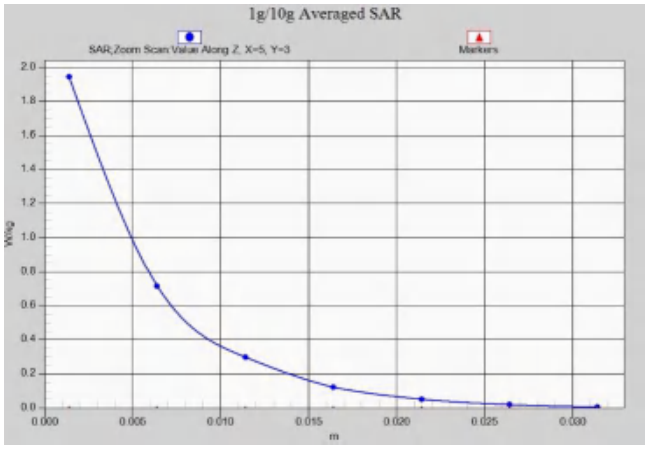

**Z-Scan at power reference point (LTEB41PC2)**



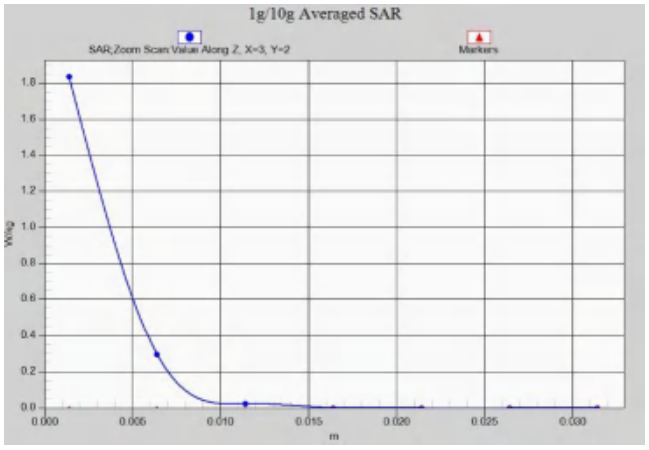

**Z-Scan at power reference point (5G N41)**



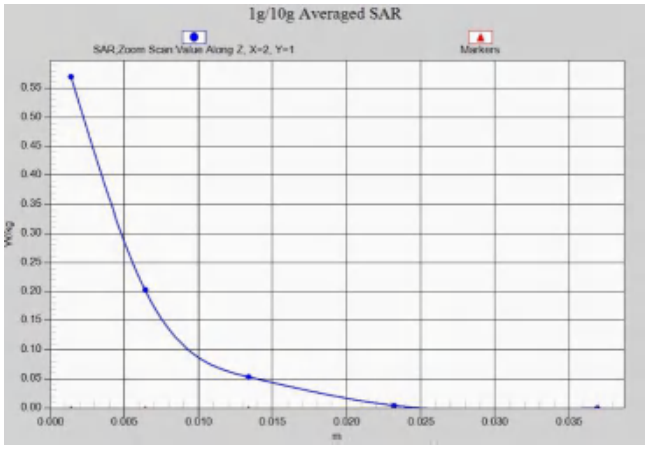

**Z-Scan at power reference point (5G N78)**




**Z-Scan at power reference point (WIFI2.4G)**




**Z-Scan at power reference point (WIFI5G)**




**Z-Scan at power reference point (BT)**

# ANNEX B System Verification Results

## 835 MHz

Date: 7/28/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 835 MHz; σ = 0.927 S/m; εr = 42.96; ρ = 1000 kg/m3

Ambient Temperature:23.3℃ Liquid Temperature: 22.5℃

Communication System: CW (0) Frequency: 835 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(9.91, 9.91, 9.91)

Area Scan (131x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.20 W/kg

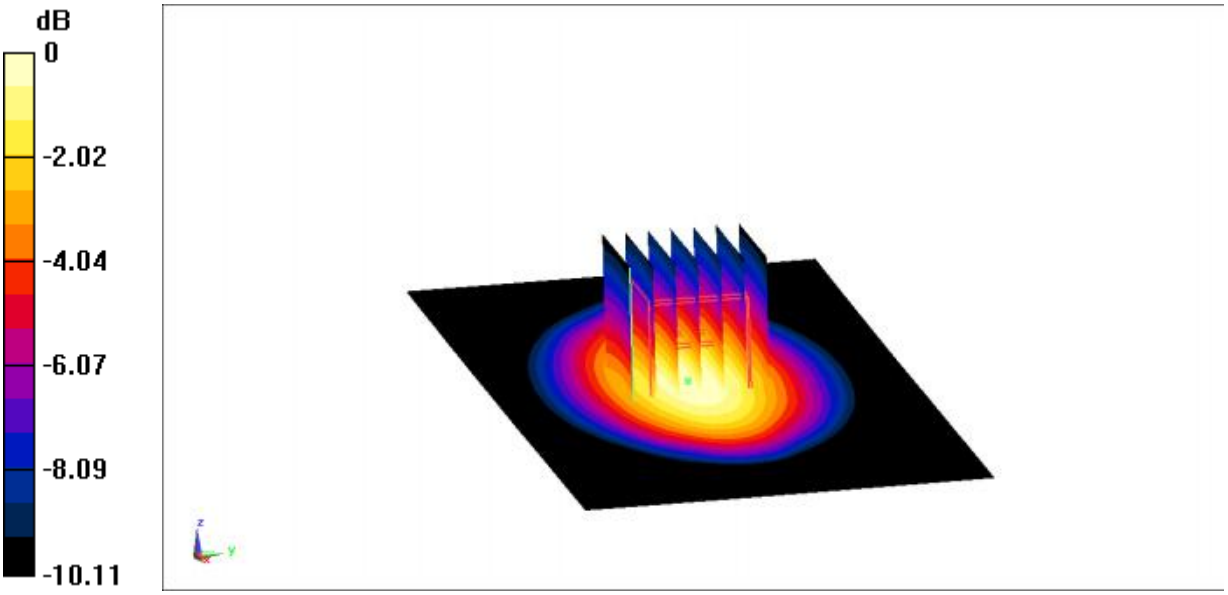
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 59.03 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 3.20 W/kg




0 dB = 3.20 W/kg = 5.05 dBW/kg

**1900MHz**

Date: 7/29/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 1900 MHz; σ = 1.372 S/m; εr = 41.7; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(8.08, 8.08, 8.08)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 16.2 W/kg

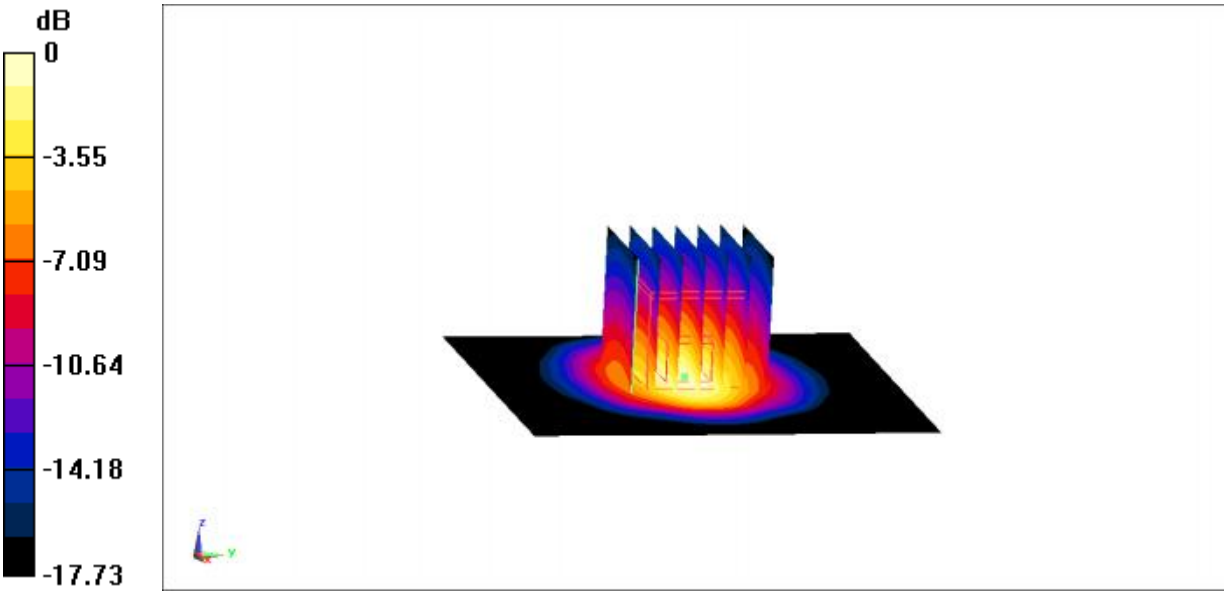
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.5 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 19.2 W/kg

SAR(1 g) = 9.99 W/kg; SAR(10 g) = 5.15 W/kg

Maximum value of SAR (measured) = 15.9 W/kg




0 dB = 15.9 W/kg = 12.01 dBW/kg

**2450MHz**

Date: 7/26/2022

Electronics: DAE4 Sn1588

Medium: H700-6000M

Medium parameters used: f = 2450 MHz; σ = 1.809 S/m; εr = 40.91; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.55, 7.55, 7.55)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 22.6 W/kg

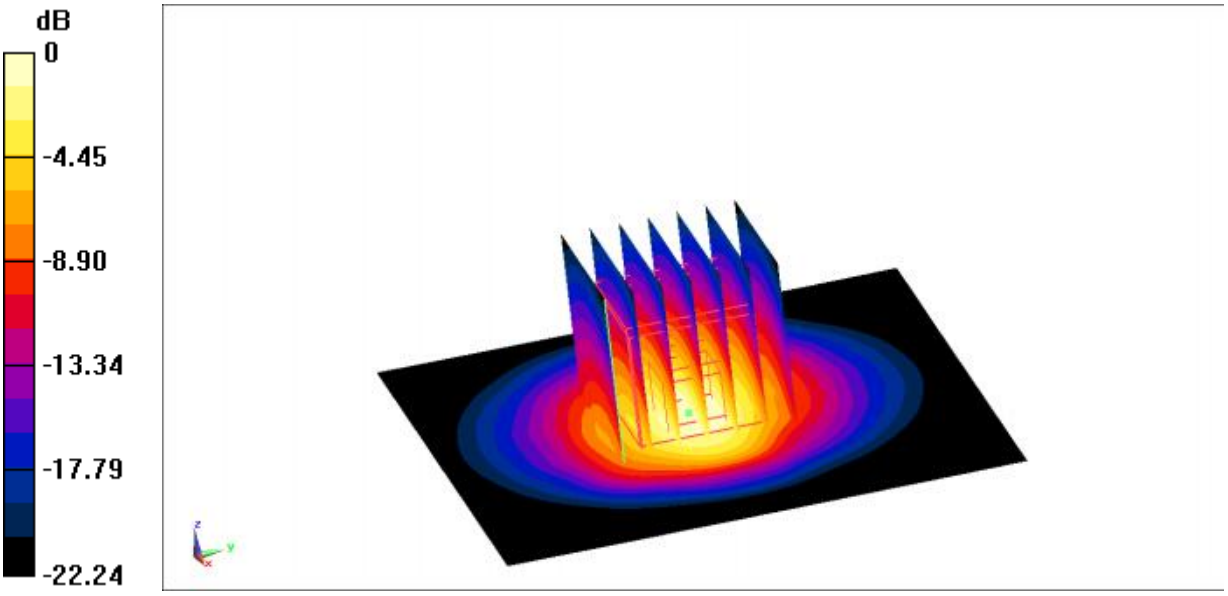
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.3 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 28.1 W/kg

SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.13 W/kg

Maximum value of SAR (measured) = 22.7 W/kg




0 dB = 22.7 W/kg = 13.56 dBW/kg

**2600MHz**

Date: 8/18/2022

Electronics: DAE4 Sn777

Medium: H650-7000M

Medium parameters used: f = 2600 MHz; σ = 1.907 S/m; εr = 40.95; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 2600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7600 ConvF(7.62, 7.62, 7.62)

Area Scan (61x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 24.3 W/kg

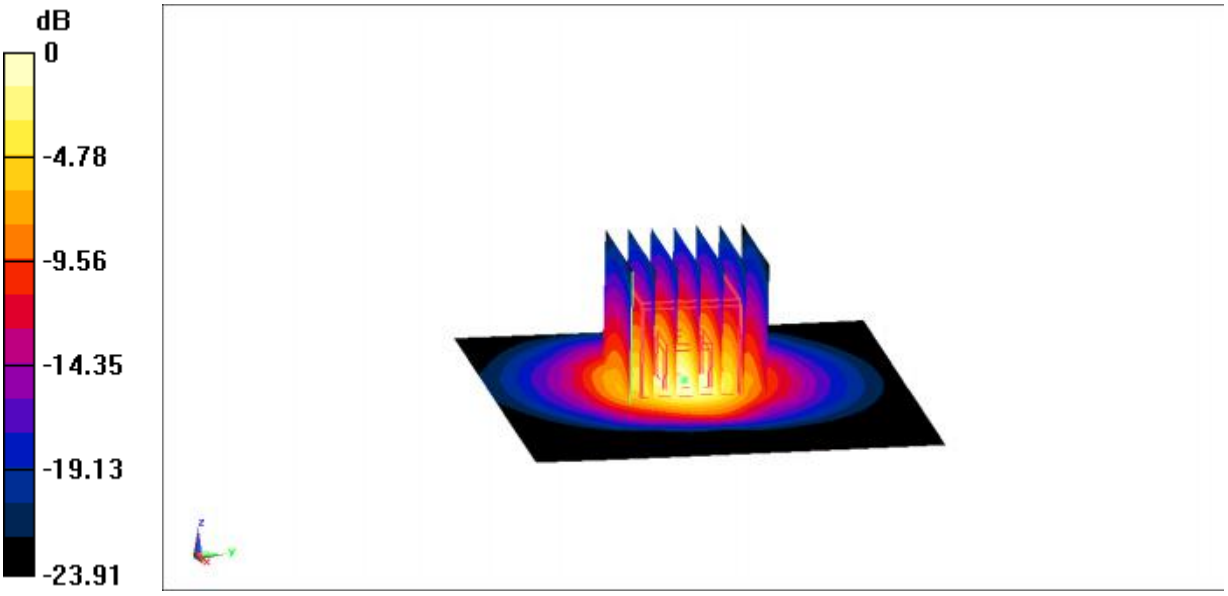
Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.8 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 30.9 W/kg

SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.29 W/kg

Maximum value of SAR (measured) = 24.4 W/kg




0 dB = 24.4 W/kg = 13.87 dBW/kg

**3500MHz**

Date: 9/4/2022

Electronics: DAE4 Sn777

Medium: H700-6000

Medium parameters used: f = 3500 MHz; σ = 2.866 S/m; εr = 39.23; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 3500 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7600 ConvF(7.05, 7.05, 7.05)

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 12.5 W/kg

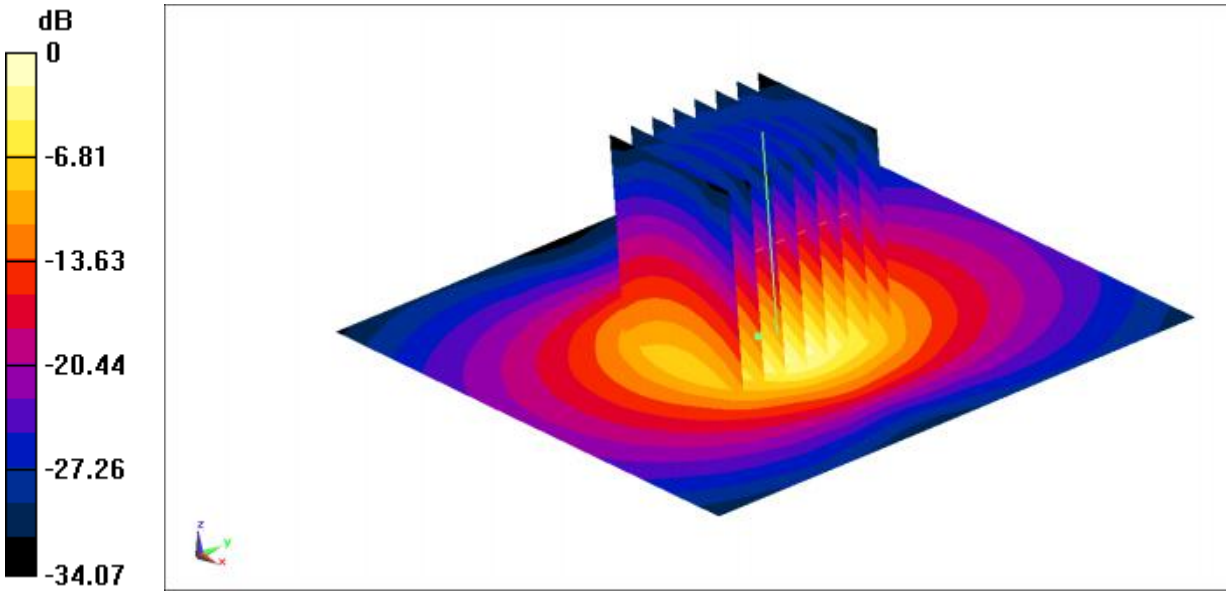
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.98 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.2 W/kg

SAR(1 g) = 6.61 W/kg; SAR(10 g) = 2.52 W/kg

Maximum value of SAR (measured) = 12.3 W/kg




0 dB = 12.3 W/kg = 10.90 dBW/kg

**5250 MHz**

Date: 8/10/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 5250 MHz; σ = 4.752 S/m; εr = 37.47; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 5250 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(5.53, 5.53, 5.53)

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.1 W/kg

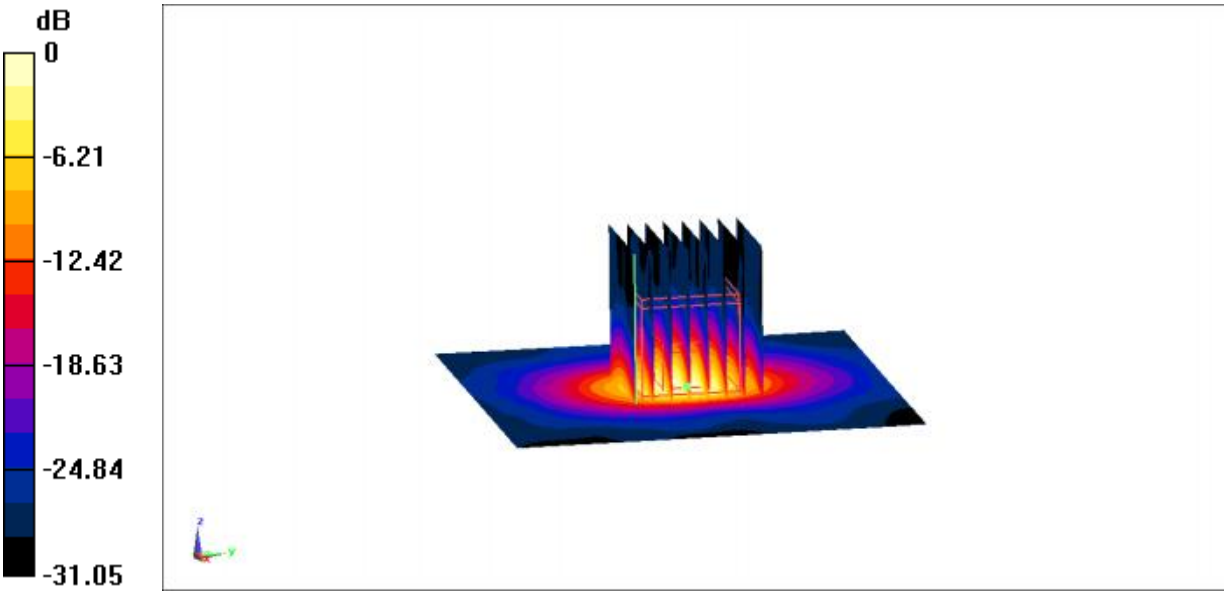
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.95 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 32.3 W/kg

SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.21 W/kg

Maximum value of SAR (measured) = 19.5 W/kg




0 dB = 19.5 W/kg = 12.90 dBW/kg

**5600 MHz**

Date: 8/10/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 5600 MHz; σ = 5.308 S/m; εr = 36.93; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(5.11, 5.11, 5.11)

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 20.5 W/kg

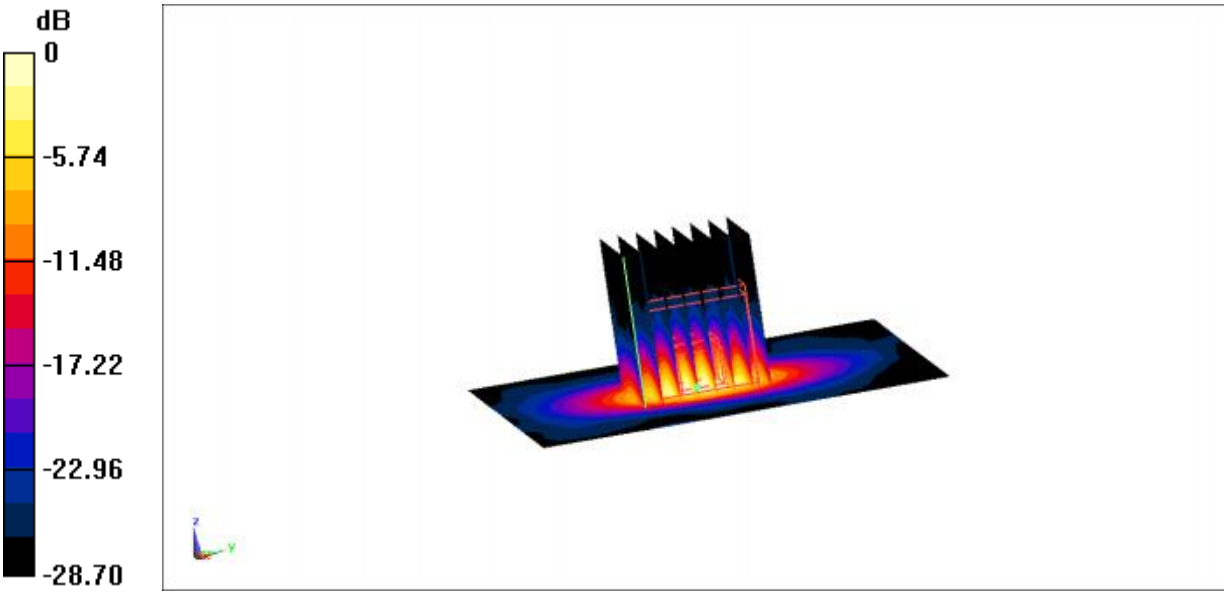
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 68.03 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 36.2 W/kg

SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.27 W/kg

Maximum value of SAR (measured) = 20.2 W/kg




0 dB = 20.2 W/kg = 13.05 dBW/kg

**5750 MHz**

Date: 8/10/2022

Electronics: DAE4 Sn1588

Medium: H700-6000

Medium parameters used: f = 5750 MHz; σ = 5.402 S/m; εr = 36.93; ρ = 1000 kg/m3

Ambient Temperature:23.3oC Liquid Temperature: 22.5oC

Communication System: CW (0) Frequency: 5750 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(5.2, 5.2, 5.2)

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.8 W/kg

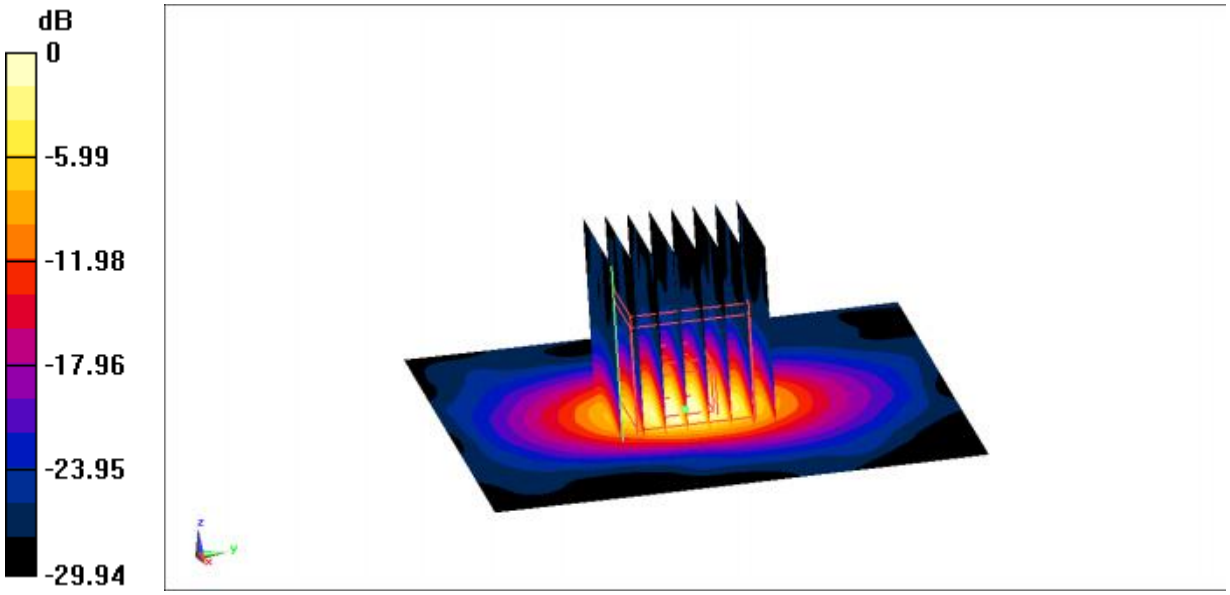
Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 68.50 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 36.2 W/kg

SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.17 W/kg

Maximum value of SAR (measured) = 19.1 W/kg

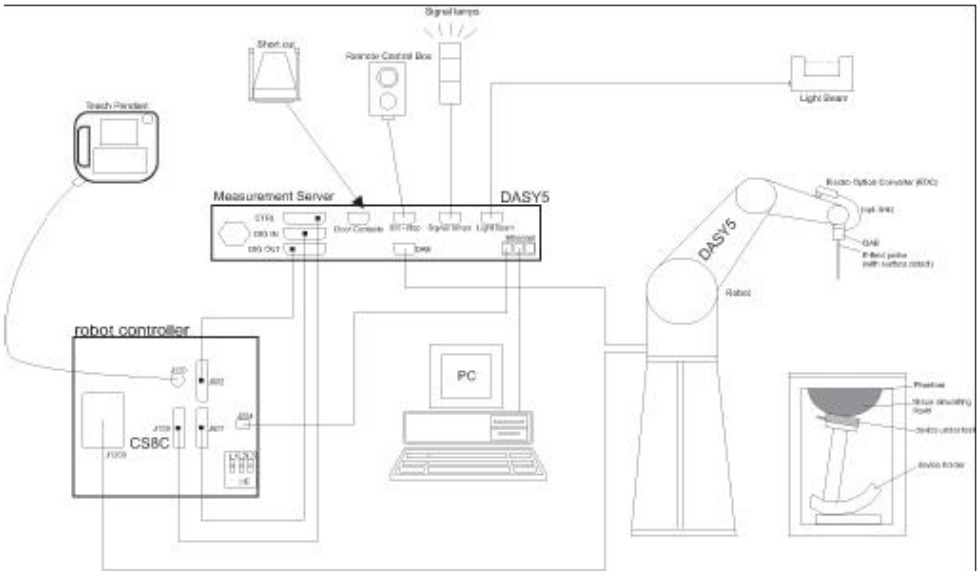



0 dB = 19.1 W/kg = 12.81 dBW/kg

# ANNEX C SAR Measurement Setup

## C.1 Measurement Set-up

The Dasy5 or DASY6 system for performing compliance tests is illustrated above graphically. This system consists of the following items:




**Picture C.1SAR Lab Test Measurement Set-up**

- A standard high precision 6-axis robot (StäubliTX=RX family) 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 and the DASY5 or DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as
- warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

## C.2 Dasy5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY5 or DASY6 software reads the reflection durning a software approach and looks for the maximum using 2nd ord curve fitting. The approach is stopped at reaching the maximum.

**Probe Specifications:**

**Model:** ES3DV3, EX3DV4
**Frequency** 10MHz — 6.0GHz(EX3DV4)
**Range:** 10MHz — 4GHz(ES3DV3)
**Calibration:** In head and body simulating tissue at Frequencies from 835 up to 5800MHz
**Linearity:** ± 0.2 dB(30 MHz to 6 GHz) for EX3DV4
± 0.2 dB(30 MHz to 4 GHz) for ES3DV3
**DynamicRange:** 10 mW/kg — 100W/kg
**Probe Length:** 330 mm
**Probe Tip**
**Length:** 20 mm
**Body Diameter:** 12 mm
**Tip Diameter:** 2.5 mm (3.9 mm for ES3DV3)
**Tip-Center:** 1 mm (2.0mm for ES3DV3)
**Application:** SAR Dosimetry Testing
Compliance tests ofmobile phones
Dosimetry in strong gradient fields

**Picture C.2Near-field Probe**

**Picture C.3E-field Probe**

## C.3 E-field Probe Calibration

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm$^2$) using an RF Signal generator, TEM cell, and RF Power Meter.

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and inn a waveguide or

other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm$^2$.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where:

$\Delta$t = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

$\Delta$T = Temperature increase due to RF exposure.

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m$^3$).

## C.4 Other Test Equipment

### C.4.1 Data Acquisition Electronics(DAE)

The data acquisition electronics consist 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 with a 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 mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

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

**PictureC.4: DAE**

### C.4.2 Robot

The SPEAG DASY system uses the high precision robots (DASY5: RX160L) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchron motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)


**Picture C.5 DASY 5**

### C.4.3 Measurement Server

The Measurement server is based on a PC/104 CPU broad with CPU (DASY5: 400 MHz, Intel Celeron), chipdisk (DASY5: 128MB), RAM DASY5: 128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O broad, which is directly connected to the PC/104 bus of the CPU broad.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.


**Picture C.6 Server for DASY 5**

### C.4.4 Device Holder for Phantom

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of ±0.5mm would produce a SAR uncertainty of ±20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

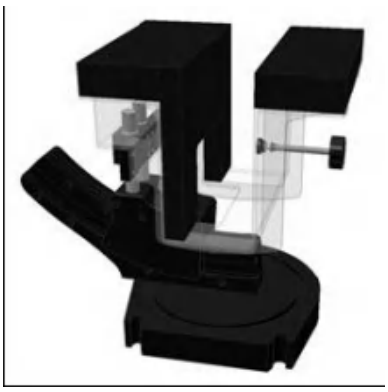
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity $\varepsilon$=3 and loss tangent $\delta$=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

<Laptop Extension Kit>

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 positioner. The extension is fully compatible with the Twin-SAM and ELI phantoms.

**Picture C7-1: Device Holder**



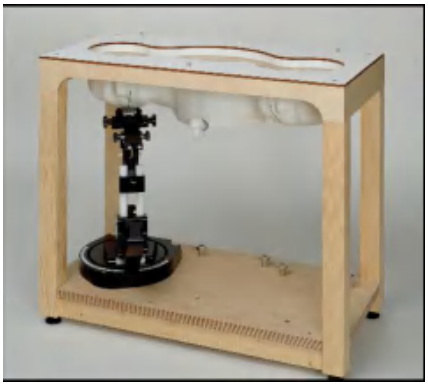
**Picture C.7-2: Laptop Extension Kit**

### C.4.5 Phantom

The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a table. The shape of the shell is based on data from an anatomical study designed to

Represent the 90$^{th}$ percentile of the population. The phantom enables the dissymmetric evaluation of SAR for both left and right handed handset usage, as well as body-worn usage using the flat phantom region. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. The shell phantom has a 2mm shell thickness (except the ear region where shell thickness increases to 6 mm).

Shell Thickness: 2±0. 2 mm
Filling Volume: Approx. 25 liters
Dimensions: 810 x l000 x 500 mm (H x L x W)
Available: Special

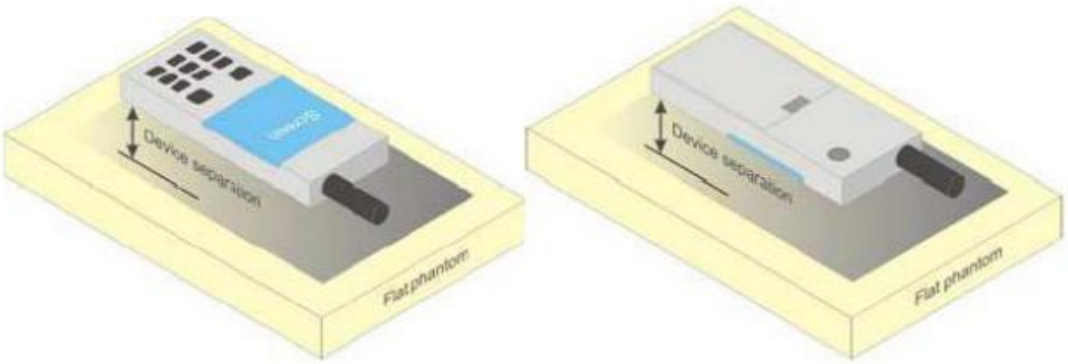


**Picture C.8: SAM Twin Phantom**

# ANNEX D Position of the wireless device in relation to the phantom

## D.1 Body-worn device

A typical example of a body-worn device is a mobile phone, wireless enabled PDA or other battery operated wireless device with the ability to transmit while mounted on a person's body using a carry accessory approved by the wireless device manufacturer.

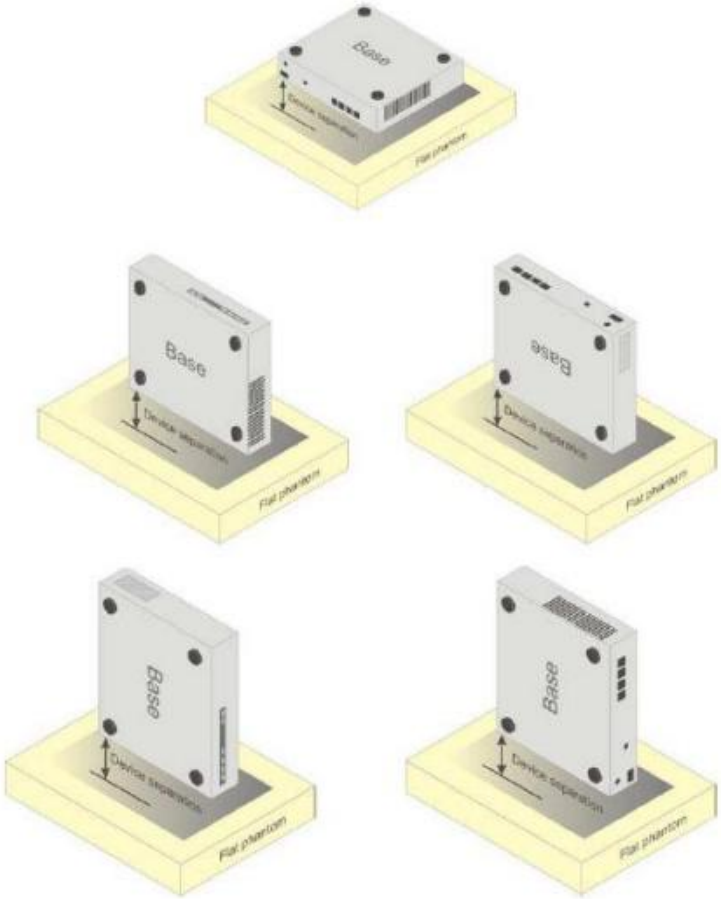



**Picture D.1 Test positions for body-worn devices**

## D.2 Desktop device

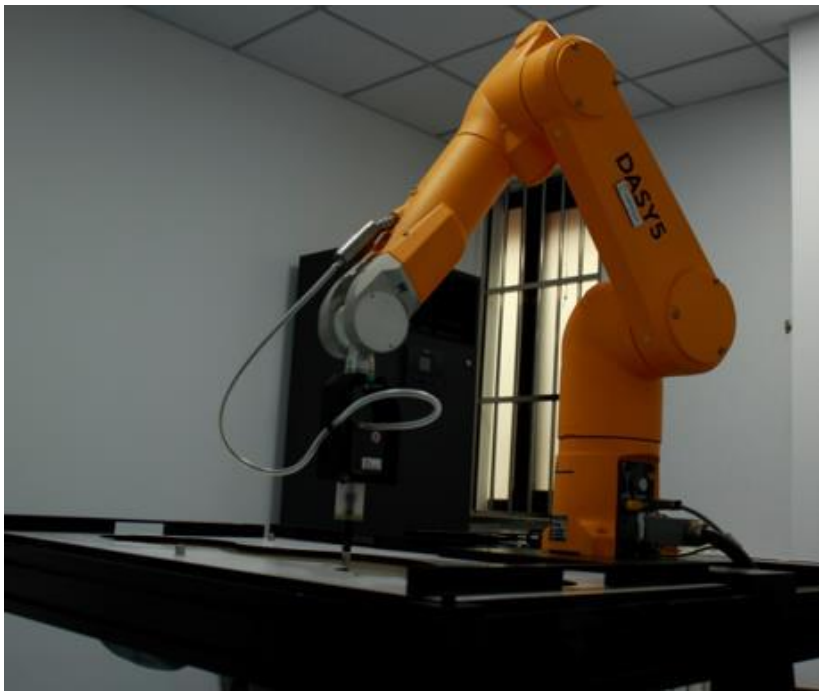
A typical example of a desktop device is a wireless enabled desktop computer placed on a table or desk when used.

The DUT shall be positioned at the distance and in the orientation to the phantom that corresponds to the intended use as specified by the manufacturer in the user instructions. For devices that employ an external antenna with variable positions, tests shall be performed for all antenna positions specified. Picture8.5 show positions for desktop device SAR tests. If the intended use is not specified, the device shall be tested directly against the flat phantom.




**Picture D.2 Test positions for desktop devices**

## D.3 DUT Setup Photos




**Picture D.3**

# ANNEX E Equivalent Media Recipes

The liquid used for the frequency range of 800-3000 MHz consisted of water, sugar, salt, preventol, glycol monobutyl and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table E.1 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528 and IEC 62209.

**TableE.1: Composition of the Tissue Equivalent Matter**

| Frequency (MHz) | 835Head | 835Body | 1900 Head | 1900 Body | 2450 Head | 2450 Body | 5800 Head | 5800 Body |
|---|---|---|---|---|---|---|---|---|
| Ingredients (% by weight) | | | | | | | | |
| Water | 41.45 | 52.5 | 55.242 | 69.91 | 58.79 | 72.60 | 65.53 | 65.53 |
| Sugar | 56.0 | 45.0 | \ | \ | \ | \ | \ | \ |
| Salt | 1.45 | 1.4 | 0.306 | 0.13 | 0.06 | 0.18 | \ | \ |
| Preventol | 0.1 | 0.1 | \ | \ | \ | \ | \ | \ |
| Cellulose | 1.0 | 1.0 | \ | \ | \ | \ | \ | \ |
| Glycol Monobutyl | \ | \ | 44.452 | 29.96 | 41.15 | 27.22 | \ | \ |
| Diethylenglycol monohexylether | \ | \ | \ | \ | \ | \ | 17.24 | 17.24 |
| Triton X-100 | \ | \ | \ | \ | \ | \ | 17.24 | 17.24 |
| Dielectric Parameters Target Value | ε=41.5 σ=0.90 | ε=55.2 σ=0.97 | ε=40.0 σ=1.40 | ε=53.3 σ=1.52 | ε=39.2 σ=1.80 | ε=52.7 σ=1.95 | ε=35.3 σ=5.27 | ε=48.2 σ=6.00 |

**Note: There are a little adjustment respectively for 750, 1750, 2600, 5200, 5300 and 5600 based on the recipe of closest frequency in table E.1.**

# ANNEX F System Validation

The SAR system must be validated against its performance specifications before it is deployed. When SAR probes, system components or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such components.

**Table F.1: System Validation for 7600**

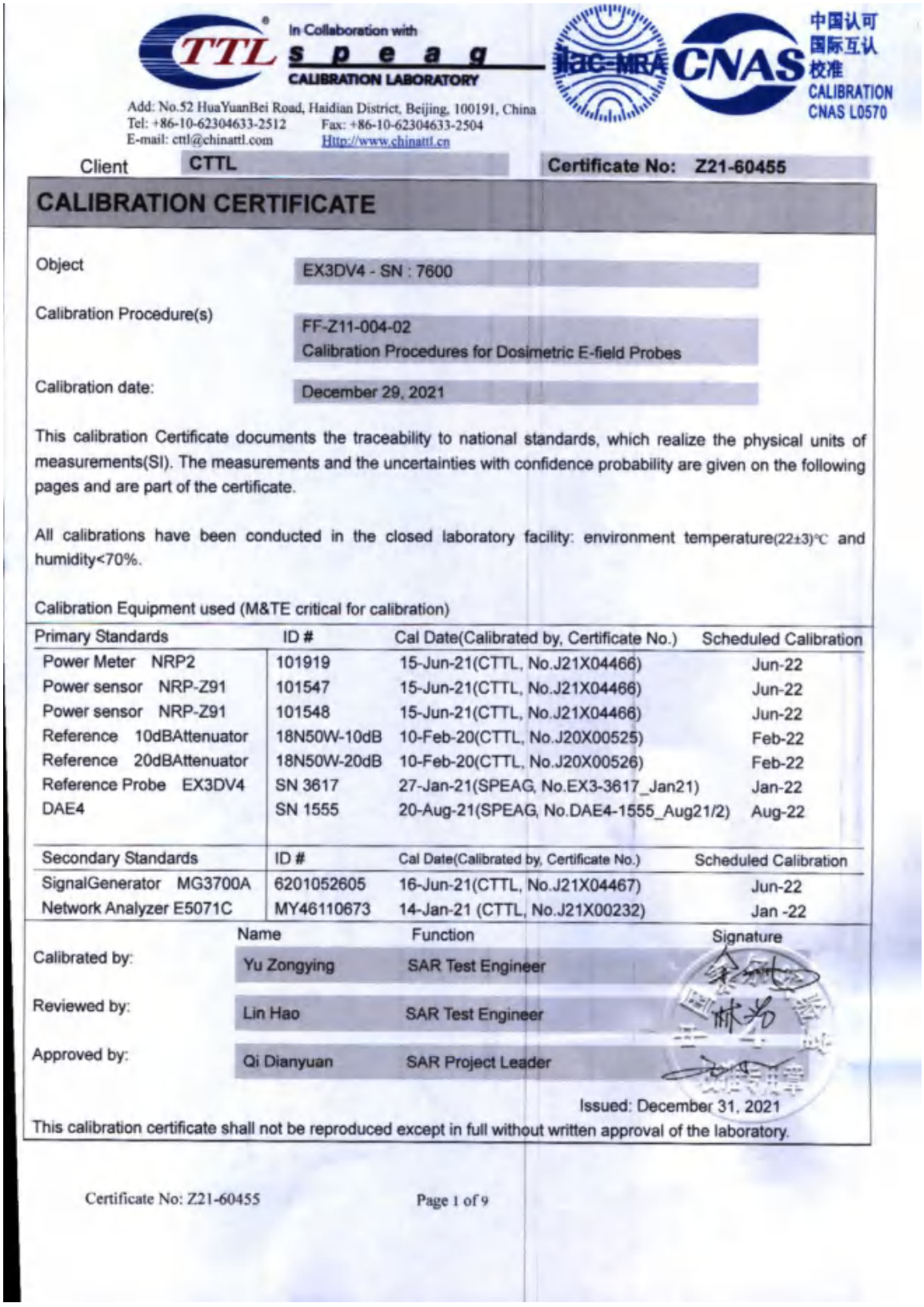
| Probe SN. | Liquid name | Validation date | Frequency point | Status (OK or Not) |
|---|---|---|---|---|
| 7600 | Head 750MHz | January 2，2022 | 750 MHz | OK |
| 7600 | Head 900MHz | January 2，2022 | 900 MHz | OK |
| 7600 | Head 1450MHz | January 3，2022 | 1450 MHz | OK |
| 7600 | Head 1750MHz | January 3，2022 | 1750 MHz | OK |
| 7600 | Head 1900MHz | January 4，2022 | 1900 MHz | OK |
| 7600 | Head 2100MHz | January 4，2022 | 2000 MHz | OK |
| 7600 | Head 2300MHz | January 4，2022 | 2300 MHz | OK |
| 7600 | Head 2450MHz | January 5，2022 | 2450 MHz | OK |
| 7600 | Head 2600MHz | January 5，2022 | 2600 MHz | OK |
| 7600 | Head 3300MHz | January 6，2022 | 3300 MHz | OK |
| 7600 | Head 3500MHz | January 6，2022 | 3500 MHz | OK |
| 7600 | Head 3700MHz | January 6，2022 | 3700 MHz | OK |
| 7600 | Head 3900MHz | January 7，2022 | 3900 MHz | OK |
| 7600 | Head 4100MHz | January 7，2022 | 4100MHz | OK |
| 7600 | Head 4200MHz | January 7，2022 | 4200MHz | OK |
| 7600 | Head 4400MHz | January 8，2022 | 4400MHz | OK |
| 7600 | Head 4600MHz | January 8，2022 | 4600MHz | OK |
| 7600 | Head 4800MHz | January 8，2022 | 4800MHz | OK |
| 7600 | Head 4950MHz | January 9，2022 | 4950MHz | OK |
| 7600 | Head 5250MHz | January 9，2022 | 5250MHz | OK |
| 7600 | Head 5600MHz | January 9，2022 | 5600 MHz | OK |
| 7600 | Head 5750MHz | January 9，2022 | 5750 MHz | OK |

**Table F.2: System Validation for 3617**

| Probe SN. | Liquid name | Validation date | Frequency point | Status (OK or Not) |
|---|---|---|---|---|
| 7600 | Head 750MHz | March 24，2022 | 750 MHz | OK |
| 7600 | Head 900MHz | March 24，2022 | 900 MHz | OK |
| 7600 | Head 1450MHz | March 24，2022 | 1450 MHz | OK |
| 7600 | Head 1750MHz | March 24，2022 | 1750 MHz | OK |
| 7600 | Head 1900MHz | March 24，2022 | 1900 MHz | OK |
| 7600 | Head 2000MHz | March 25，2022 | 2000 MHz | OK |
| 7600 | Head 2300MHz | March 25，2022 | 2300 MHz | OK |
| 7600 | Head 2450MHz | March 25，2022 | 2450 MHz | OK |
| 7600 | Head 2600MHz | March 25，2022 | 2600 MHz | OK |
| 7600 | Head 3300MHz | March 26，2022 | 3300 MHz | OK |
| 7600 | Head 3500MHz | March 26，2022 | 3500 MHz | OK |
| 7600 | Head 3700MHz | March 26，2022 | 3700 MHz | OK |
| 7600 | Head 3900MHz | March 26，2022 | 3900 MHz | OK |
| 7600 | Head 4100MHz | March 26，2022 | 4100MHz | OK |
| 7600 | Head 4200MHz | March 26，2022 | 4200MHz | OK |
| 7600 | Head 4400MHz | March 26，2022 | 4400MHz | OK |
| 7600 | Head 4600MHz | March 27，2022 | 4600MHz | OK |
| 7600 | Head 4800MHz | March 27，2022 | 4800MHz | OK |
| 7600 | Head 4950MHz | March 27，2022 | 4950MHz | OK |
| 7600 | Head 5250MHz | March 27，2022 | 5250MHz | OK |
| 7600 | Head 5600MHz | March 27，2022 | 5600 MHz | OK |
| 7600 | Head 5750MHz | March 27，2022 | 5750 MHz | OK |

# ANNEX G Probe Calibration Certificate

## Probe 7600 Calibration Certificate



In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com Http://www.chinattl.cn

中国认可 国际互认 校准 CALIBRATION CNAS L0570

Client CTTL Certificate No: Z21-60455

**CALIBRATION CERTIFICATE**

| | |
|---|---|
| Object | EX3DV4 - SN : 7600 |
| Calibration Procedure(s) | FF-Z11-004-02<br>Calibration Procedures for Dosimetric E-field Probes |
| Calibration date: | December 29, 2021 |

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power Meter NRP2 | 101919 | 15-Jun-21(CTTL, No.J21X04466) | Jun-22 |
| Power sensor NRP-Z91 | 101547 | 15-Jun-21(CTTL, No.J21X04466) | Jun-22 |
| Power sensor NRP-Z91 | 101548 | 15-Jun-21(CTTL, No.J21X04466) | Jun-22 |
| Reference 10dBAttenuator | 18N50W-10dB | 10-Feb-20(CTTL, No.J20X00525) | Feb-22 |
| Reference 20dBAttenuator | 18N50W-20dB | 10-Feb-20(CTTL, No.J20X00526) | Feb-22 |
| Reference Probe EX3DV4 | SN 3617 | 27-Jan-21(SPEAG, No.EX3-3617_Jan21) | Jan-22 |
| DAE4 | SN 1555 | 20-Aug-21(SPEAG, No.DAE4-1555_Aug21/2) | Aug-22 |

| Secondary Standards | ID # | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| SignalGenerator MG3700A | 6201052605 | 16-Jun-21(CTTL, No.J21X04467) | Jun-22 |
| Network Analyzer E5071C | MY46110673 | 14-Jan-21 (CTTL, No.J21X00232) | Jan -22 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Yu Zongying | SAR Test Engineer | |
| Reviewed by: | Lin Hao | SAR Test Engineer | |
| Approved by: | Qi Dianyuan | SAR Project Leader | |

Issued: December 31, 2021

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z21-60455 Page 1 of 9

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**Glossary:**

| | |
|---|---|
| TSL | tissue simulating liquid |
| NORMx,y,z | sensitivity in free space |
| ConvF | sensitivity in TSL / NORMx,y,z |
| DCP | diode compression point |
| CF | crest factor (1/duty_cycle) of the RF signal |
| A,B,C,D | modulation dependent linearization parameters |
| Polarization Φ | Φ rotation around probe axis |
| Polarization θ | θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i θ=0 is normal to probe axis |
| Connector Angle | information used in DASY system to align probe sensor X to the robot coordinate system |

**Calibration is Performed According to the Following Standards:**

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

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**Methods Applied and Interpretation of Parameters:**

- *NORMx,y,z*: Assessed for E-field polarization θ=0 (f≤900MHz in TEM-cell; f>1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the $E^2$-field uncertainty inside TSL (see below ConvF).
- *NORM(f)x,y,z = NORMx,y,z* frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- *DCPx,y,z*: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- *Ax,y,z; Bx,y,z; Cx,y,z; VRx,y,z*:A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from±50MHz to±100MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).



 

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# DASY/EASY – Parameters of Probe: EX3DV4 – SN:7600

## Basic Calibration Parameters

| | Sensor X | Sensor Y | Sensor Z | Unc (*k*=2) |
|---|---|---|---|---|
| Norm(μV/(V/m)²)[A] | 0.69 | 0.66 | 0.68 | ±10.0% |
| DCP(mV)[B] | 109.3 | 109.7 | 110.7 | |

## Modulation Calibration Parameters

| UID | Communication System Name | | A dB | B dB√μV | C | D dB | VR mV | Unc[E] (*k*=2) |
|---|---|---|---|---|---|---|---|---|
| 0 | CW | X | 0.0 | 0.0 | 1.0 | 0.00 | 212.0 | ±2.1% |
| | | Y | 0.0 | 0.0 | 1.0 | | 204.3 | |
| | | Z | 0.0 | 0.0 | 1.0 | | 208.9 | |

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor *k*=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 4).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



 

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# DASY/EASY – Parameters of Probe: EX3DV4 – SN:7600

## Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz][C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha[G] | Depth[G] (mm) | Unct. (*k*=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 10.74 | 10.74 | 10.74 | 0.16 | 1.27 | ±12.1% |
| 900 | 41.5 | 0.97 | 10.27 | 10.27 | 10.27 | 0.15 | 1.43 | ±12.1% |
| 1450 | 40.5 | 1.20 | 9.18 | 9.18 | 9.18 | 0.18 | 1.09 | ±12.1% |
| 1750 | 40.1 | 1.37 | 8.93 | 8.93 | 8.93 | 0.20 | 0.95 | ±12.1% |
| 1900 | 40.0 | 1.40 | 8.54 | 8.54 | 8.54 | 0.25 | 1.06 | ±12.1% |
| 2100 | 39.8 | 1.49 | 8.44 | 8.44 | 8.44 | 0.22 | 1.18 | ±12.1% |
| 2300 | 39.5 | 1.67 | 8.14 | 8.14 | 8.14 | 0.59 | 0.72 | ±12.1% |
| 2450 | 39.2 | 1.80 | 7.82 | 7.82 | 7.82 | 0.47 | 0.82 | ±12.1% |
| 2600 | 39.0 | 1.96 | 7.62 | 7.62 | 7.62 | 0.50 | 0.81 | ±12.1% |
| 3300 | 38.2 | 2.71 | 7.34 | 7.34 | 7.34 | 0.37 | 1.04 | ±13.3% |
| 3500 | 37.9 | 2.91 | 7.05 | 7.05 | 7.05 | 0.39 | 1.00 | ±13.3% |
| 3700 | 37.7 | 3.12 | 6.78 | 6.78 | 6.78 | 0.40 | 1.00 | ±13.3% |
| 3900 | 37.5 | 3.32 | 6.68 | 6.68 | 6.68 | 0.40 | 1.25 | ±13.3% |
| 4100 | 37.2 | 3.53 | 6.71 | 6.71 | 6.71 | 0.40 | 1.15 | ±13.3% |
| 4200 | 37.1 | 3.63 | 6.61 | 6.61 | 6.61 | 0.35 | 1.35 | ±13.3% |
| 4400 | 36.9 | 3.84 | 6.50 | 6.50 | 6.50 | 0.35 | 1.35 | ±13.3% |
| 4600 | 36.7 | 4.04 | 6.40 | 6.40 | 6.40 | 0.40 | 1.30 | ±13.3% |
| 4800 | 36.4 | 4.25 | 6.33 | 6.33 | 6.33 | 0.40 | 1.30 | ±13.3% |
| 4950 | 36.3 | 4.40 | 6.09 | 6.09 | 6.09 | 0.40 | 1.35 | ±13.3% |
| 5250 | 35.9 | 4.71 | 5.59 | 5.59 | 5.59 | 0.40 | 1.47 | ±13.3% |
| 5600 | 35.5 | 5.07 | 5.13 | 5.13 | 5.13 | 0.50 | 1.25 | ±13.3% |
| 5750 | 35.4 | 5.22 | 5.16 | 5.16 | 5.16 | 0.55 | 1.15 | ±13.3% |

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.



 

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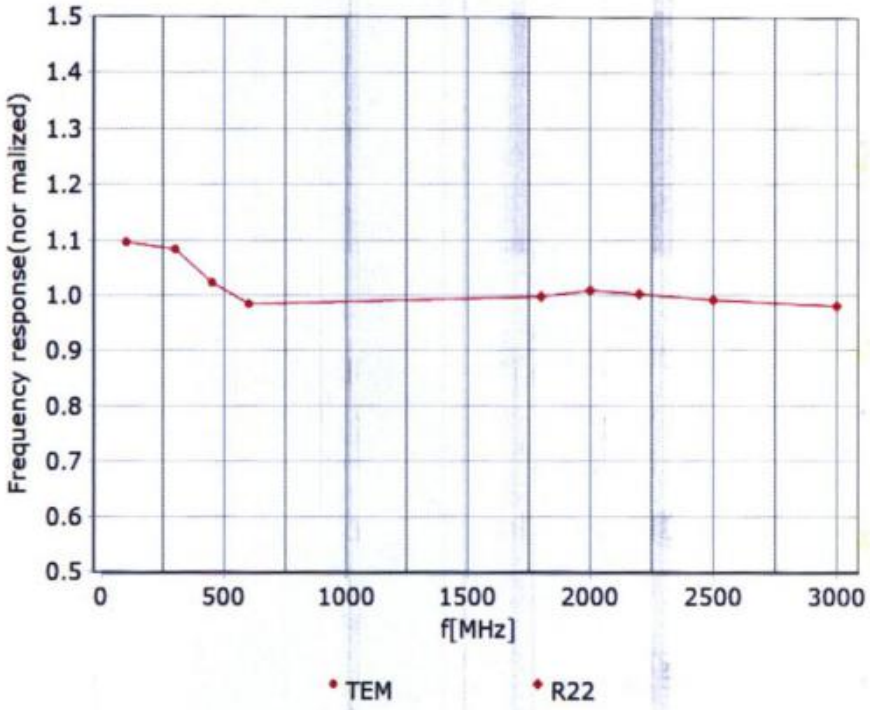
# Frequency Response of E-Field
## (TEM-Cell: ifi110 EXX, Waveguide: R22)




**Uncertainty of Frequency Response of E-field: ±7.4% (*k*=2)**



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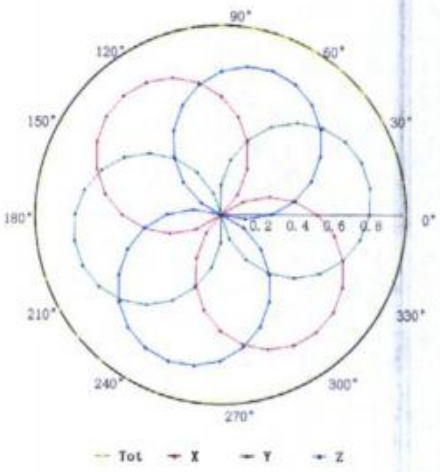
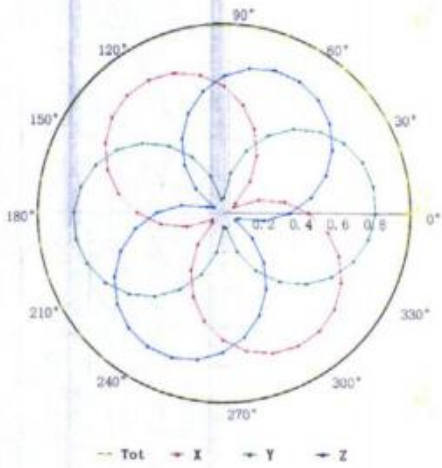
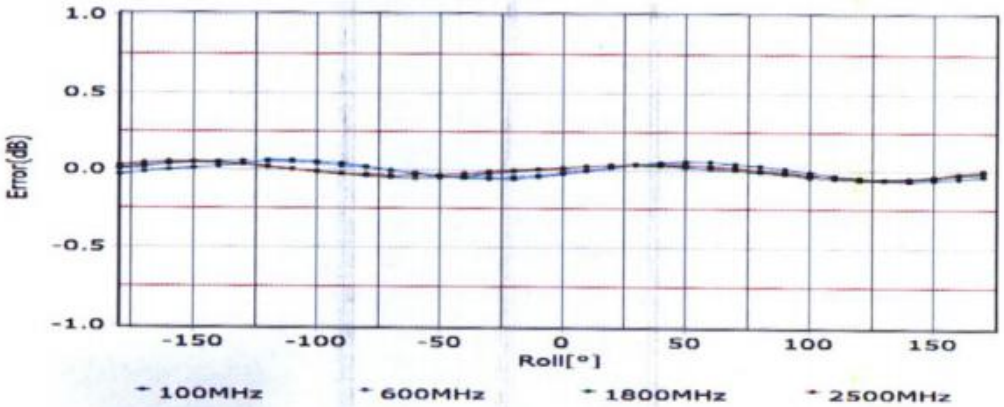
# Receiving Pattern (Φ), θ=0°

## f=600 MHz, TEM




## f=1800 MHz, R22




Uncertainty of Axial Isotropy Assessment: ±1.2% (*k*=2)



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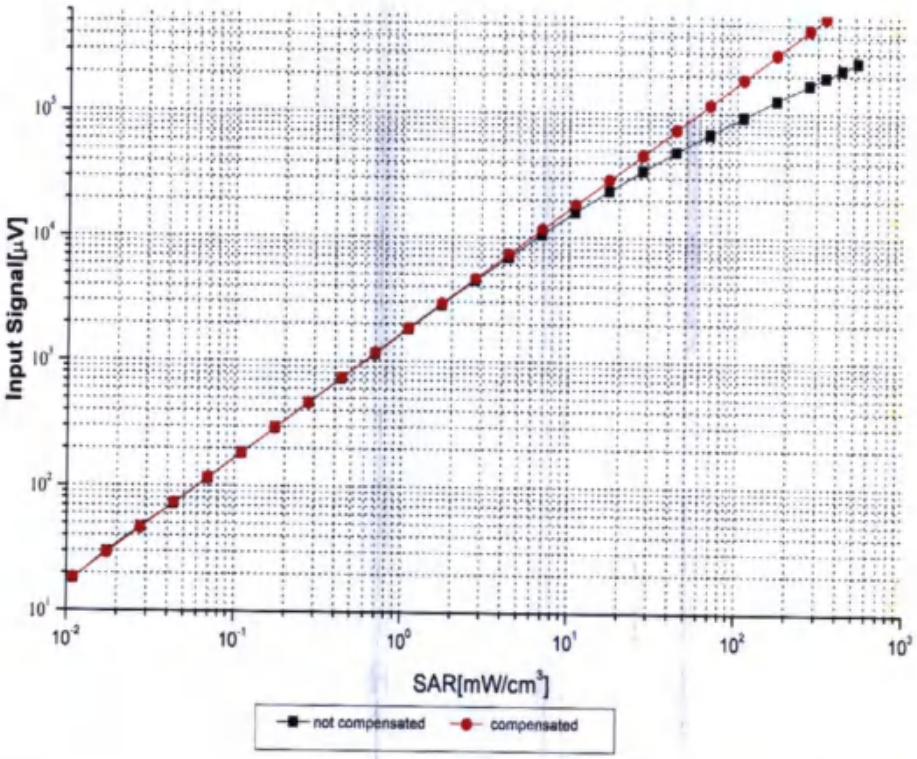
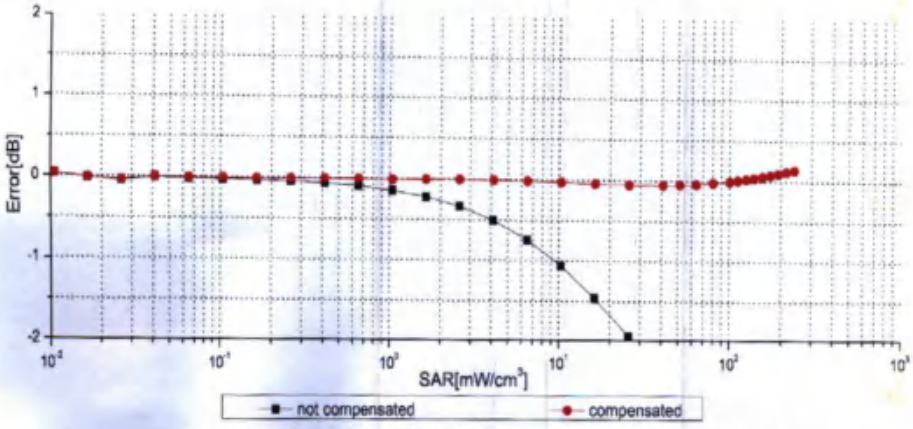
## Dynamic Range f(SAR$_{head}$)
## (TEM cell, f = 900 MHz)




**Uncertainty of Linearity Assessment: ±0.9% (*k*=2)**



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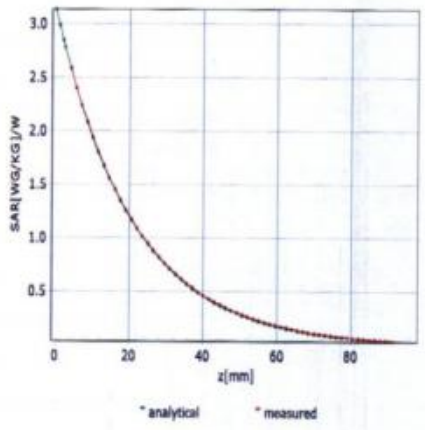
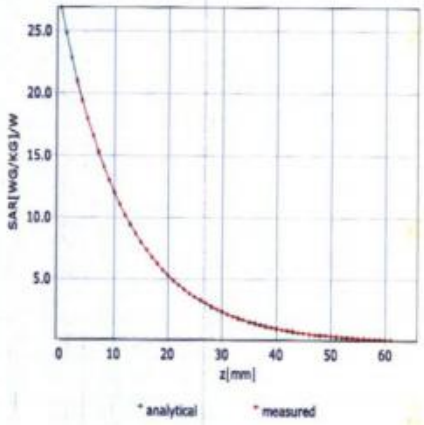
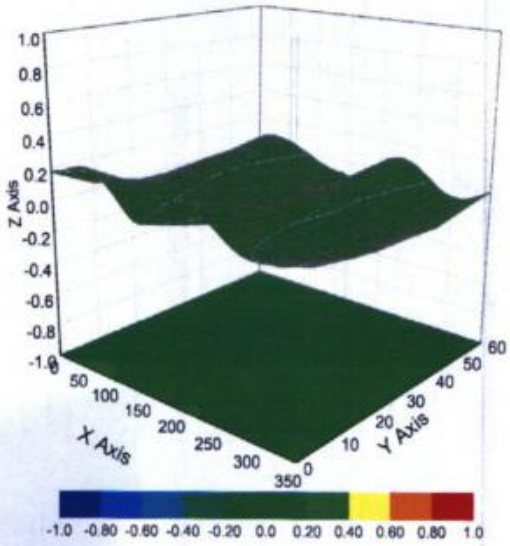
# Conversion Factor Assessment

**f=750 MHz,WGLS R9(H_convF)** **f=1750 MHz,WGLS R22(H_convF)**




# Deviation from Isotropy in Liquid




**Uncertainty of Spherical Isotropy Assessment: ±3.2% (*k*=2)**



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# DASY/EASY – Parameters of Probe: EX3DV4 – SN:7600

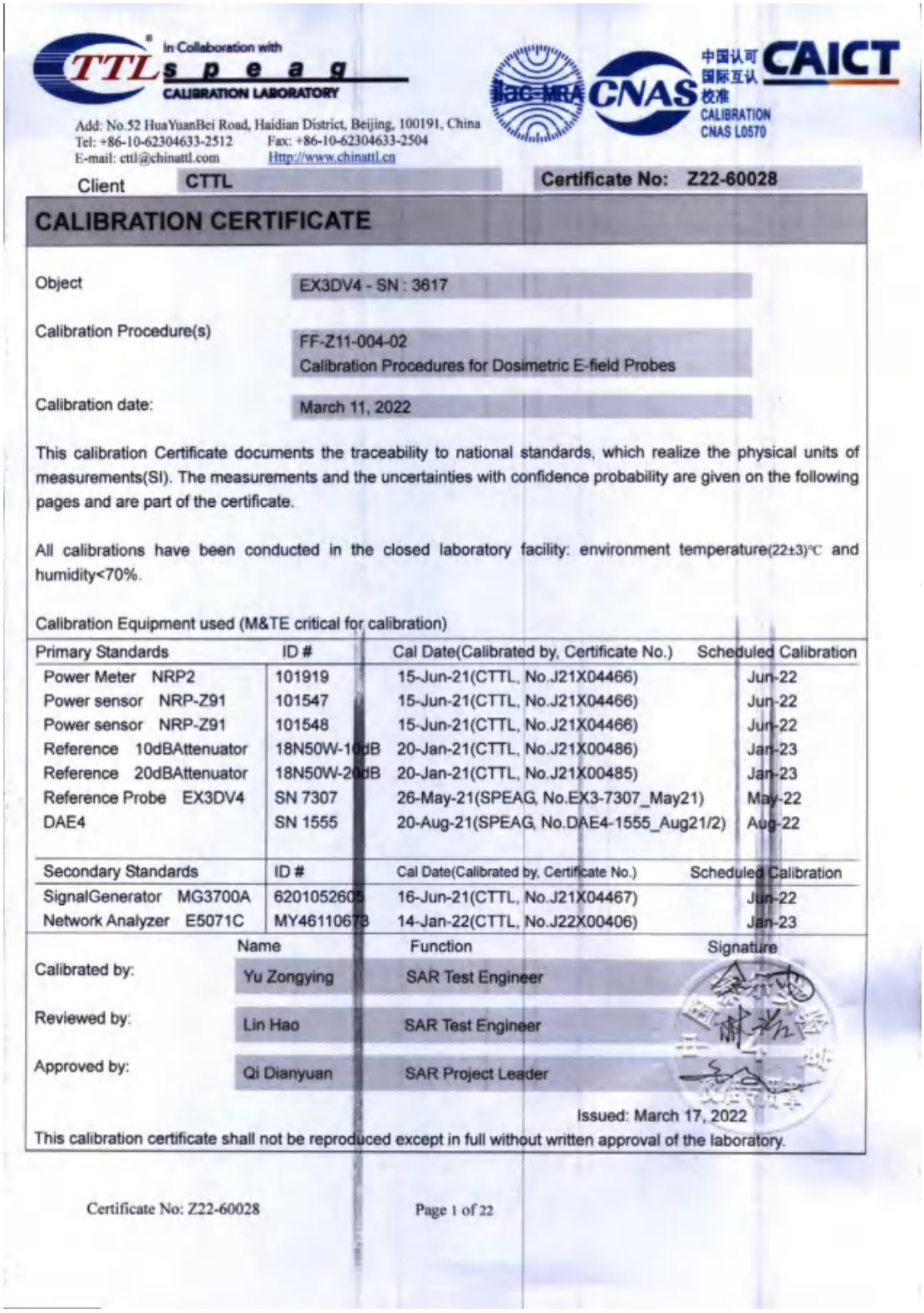
## Other Probe Parameters

| | |
|---|---|
| Sensor Arrangement | Triangular |
| Connector Angle (°) | 40.7 |
| Mechanical Surface Detection Mode | enabled |
| Optical Surface Detection Mode | disable |
| Probe Overall Length | 337mm |
| Probe Body Diameter | 10mm |
| Tip Length | 9mm |
| Tip Diameter | 2.5mm |
| Probe Tip to Sensor X Calibration Point | 1mm |
| Probe Tip to Sensor Y Calibration Point | 1mm |
| Probe Tip to Sensor Z Calibration Point | 1mm |
| Recommended Measurement Distance from Surface | 1.4mm |



## Probe 3617 Calibration Certificate



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Client CTTL Certificate No: Z22-60028

# CALIBRATION CERTIFICATE

Object EX3DV4 - SN : 3617

Calibration Procedure(s) FF-Z11-004-02
Calibration Procedures for Dosimetric E-field Probes

Calibration date: March 11, 2022

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

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| Reference 20dBAttenuator | 18N50W-20dB | 20-Jan-21(CTTL, No.J21X00485) | Jan-23 |
| Reference Probe EX3DV4 | SN 7307 | 26-May-21(SPEAG, No.EX3-7307_May21) | May-22 |
| DAE4 | SN 1555 | 20-Aug-21(SPEAG, No.DAE4-1555_Aug21/2) | Aug-22 |
| **Secondary Standards** | **ID #** | **Cal Date(Calibrated by, Certificate No.)** | **Scheduled Calibration** |
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| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Yu Zongying | SAR Test Engineer | |
| Reviewed by: | Lin Hao | SAR Test Engineer | |
| Approved by: | Qi Dianyuan | SAR Project Leader | |

Issued: March 17, 2022

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Certificate No: Z22-60028 Page 1 of 22

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- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from±50MHz to±100MHz.
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# DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3617

## Basic Calibration Parameters

| | Sensor X | Sensor Y | Sensor Z | Unc (*k*=2) |
|---|---|---|---|---|
| Norm(μV/(V/m)²)[A] | 0.34 | 0.22 | 0.34 | ±10.0% |
| DCP(mV)[B] | 102.7 | 98.3 | 98.7 | |

## Calibration Results for Modulation Response

| UID | Communication System Name | | A dB | B dB√μV | C | D dB | VR mV | Max Dev. | Max Unc[E] (*k*=2) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | CW | X | 0.0 | 0.0 | 1.0 | 0.00 | 140.9 | ±2.3% | ±4.7% |
| | | Y | 0.0 | 0.0 | 1.0 | | 101.3 | | |
| | | Z | 0.0 | 0.0 | 1.0 | | 138.5 | | |
| 10352-AAA | Pulse Waveform (200Hz, 10%) | X | 4.68 | 73.78 | 15.64 | | 60 | ±3.2% | ±9.6% |
| | | Y | 20.00 | 100.32 | 26.29 | 10.00 | 60 | | |
| | | Z | 20.00 | 95.47 | 23.48 | | 60 | | |
| 10353-AAA | Pulse Waveform (200Hz, 20%) | X | 5.54 | 77.25 | 15.64 | | 80 | ±1.9% | ±9.6% |
| | | Y | 20.00 | 101.90 | 25.86 | 6.99 | 80 | | |
| | | Z | 20.00 | 95.46 | 22.12 | | 80 | | |
| 10354-AAA | Pulse Waveform (200Hz, 40%) | X | 9.09 | 84.14 | 16.60 | | 95 | ±1.2% | ±9.6% |
| | | Y | 20.00 | 106.63 | 26.76 | 3.98 | 95 | | |
| | | Z | 20.00 | 98.05 | 21.85 | | 95 | | |
| 10355-AAA | Pulse Waveform (200Hz, 60%) | X | 20.00 | 94.35 | 18.77 | | 120 | ±1.1% | ±9.6% |
| | | Y | 20.00 | 113.90 | 29.05 | 2.22 | 120 | | |
| | | Z | 20.00 | 101.22 | 22.06 | | 120 | | |
| 10387-AAA | QPSK Waveform, 1 MHz | X | 1.78 | 66.21 | 15.14 | | 150 | ±1.2% | ±9.6% |
| | | Y | 1.98 | 66.25 | 15.69 | 1.00 | 150 | | |
| | | Z | 1.78 | 66.17 | 15.19 | | 150 | | |
| 10388-AAA | QPSK Waveform, 10 MHz | X | 2.35 | 68.41 | 15.87 | | 150 | ±2.5% | ±9.6% |
| | | Y | 2.49 | 68.22 | 16.09 | 0.00 | 150 | | |
| | | Z | 2.38 | 68.42 | 15.93 | | 150 | | |
| 10396-AAA | 64-QAM Waveform, 100 kHz | X | 3.32 | 71.56 | 18.90 | | 150 | ±1.0% | ±9.6% |
| | | Y | 3.39 | 71.34 | 19.37 | 3.01 | 150 | | |
| | | Z | 3.34 | 71.53 | 19.17 | | 150 | | |
| 10414-AAA | WLAN CCDF, 64-QAM, 40MHz | X | 5.19 | 66.74 | 16.07 | | 150 | ±4.9% | ±9.6% |
| | | Y | 5.00 | 65.30 | 15.47 | 0.00 | 150 | | |
| | | Z | 5.22 | 66.70 | 16.15 | | 150 | | |

**Note: For details on UID parameters see Appendix**

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor *k*=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 5).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



 

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# DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3617

## Sensor Model Parameters

| | C1 fF | C2 fF | α $V^{-1}$ | T1 $ms.V^{-2}$ | T2 $ms.V^{-1}$ | T3 ms | T4 $V^{-2}$ | T5 $V^{-1}$ | T6 |
|---|---|---|---|---|---|---|---|---|---|
| X | 48.86 | 355.95 | 34.02 | 12.06 | 0.10 | 4.96 | 1.32 | 0.31 | 1.00 |
| Y | 57.20 | 428.55 | 35.77 | 12.39 | 0.05 | 5.03 | 1.11 | 0.33 | 1.01 |
| Z | 50.11 | 374.56 | 35.59 | 11.54 | 0.08 | 5.02 | 1.10 | 0.36 | 1.01 |

## Other Probe Parameters

| | |
|---|---|
| Sensor Arrangement | Triangular |
| Connector Angle (°) | 10.7 |
| Mechanical Surface Detection Mode | enabled |
| Optical Surface Detection Mode | disable |
| Probe Overall Length | 337mm |
| Probe Body Diameter | 10mm |
| Tip Length | 9mm |
| Tip Diameter | 2.5mm |
| Probe Tip to Sensor X Calibration Point | 1mm |
| Probe Tip to Sensor Y Calibration Point | 1mm |
| Probe Tip to Sensor Z Calibration Point | 1mm |
| Recommended Measurement Distance from Surface | 1.4mm |



 

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# DASY/EASY – Parameters of Probe: EX3DV4 – SN:3617

## Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz][C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha[G] | Depth[G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 9.91 | 9.91 | 9.91 | 0.12 | 1.38 | ±12.1% |
| 900 | 41.5 | 0.97 | 9.49 | 9.49 | 9.49 | 0.30 | 0.94 | ±12.1% |
| 1450 | 40.5 | 1.20 | 8.60 | 8.60 | 8.60 | 0.11 | 1.31 | ±12.1% |
| 1750 | 40.1 | 1.37 | 8.21 | 8.21 | 8.21 | 0.19 | 1.06 | ±12.1% |
| 1900 | 40.0 | 1.40 | 8.08 | 8.08 | 8.08 | 0.22 | 1.17 | ±12.1% |
| 2000 | 40.0 | 1.40 | 8.05 | 8.05 | 8.05 | 0.20 | 1.22 | ±12.1% |
| 2300 | 39.5 | 1.67 | 7.89 | 7.89 | 7.89 | 0.53 | 0.73 | ±12.1% |
| 2450 | 39.2 | 1.80 | 7.55 | 7.55 | 7.55 | 0.41 | 0.88 | ±12.1% |
| 2600 | 39.0 | 1.96 | 7.40 | 7.40 | 7.40 | 0.43 | 0.88 | ±12.1% |
| 3300 | 38.2 | 2.71 | 7.12 | 7.12 | 7.12 | 0.40 | 0.94 | ±13.3% |
| 3500 | 37.9 | 2.91 | 6.85 | 6.85 | 6.85 | 0.41 | 1.00 | ±13.3% |
| 3700 | 37.7 | 3.12 | 6.70 | 6.70 | 6.70 | 0.44 | 1.00 | ±13.3% |
| 3900 | 37.5 | 3.32 | 6.61 | 6.61 | 6.61 | 0.35 | 1.35 | ±13.3% |
| 4100 | 37.2 | 3.53 | 6.67 | 6.67 | 6.67 | 0.40 | 1.15 | ±13.3% |
| 4200 | 37.1 | 3.63 | 6.55 | 6.55 | 6.55 | 0.35 | 1.35 | ±13.3% |
| 4400 | 36.9 | 3.84 | 6.46 | 6.46 | 6.46 | 0.35 | 1.35 | ±13.3% |
| 4600 | 36.7 | 4.04 | 6.36 | 6.36 | 6.36 | 0.45 | 1.25 | ±13.3% |
| 4800 | 36.4 | 4.25 | 6.28 | 6.28 | 6.28 | 0.45 | 1.28 | ±13.3% |
| 4950 | 36.3 | 4.40 | 6.05 | 6.05 | 6.05 | 0.45 | 1.30 | ±13.3% |
| 5250 | 35.9 | 4.71 | 5.53 | 5.53 | 5.53 | 0.55 | 1.22 | ±13.3% |
| 5600 | 35.5 | 5.07 | 5.11 | 5.11 | 5.11 | 0.55 | 1.20 | ±13.3% |
| 5750 | 35.4 | 5.22 | 5.20 | 5.20 | 5.20 | 0.55 | 1.20 | ±13.3% |

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.



 

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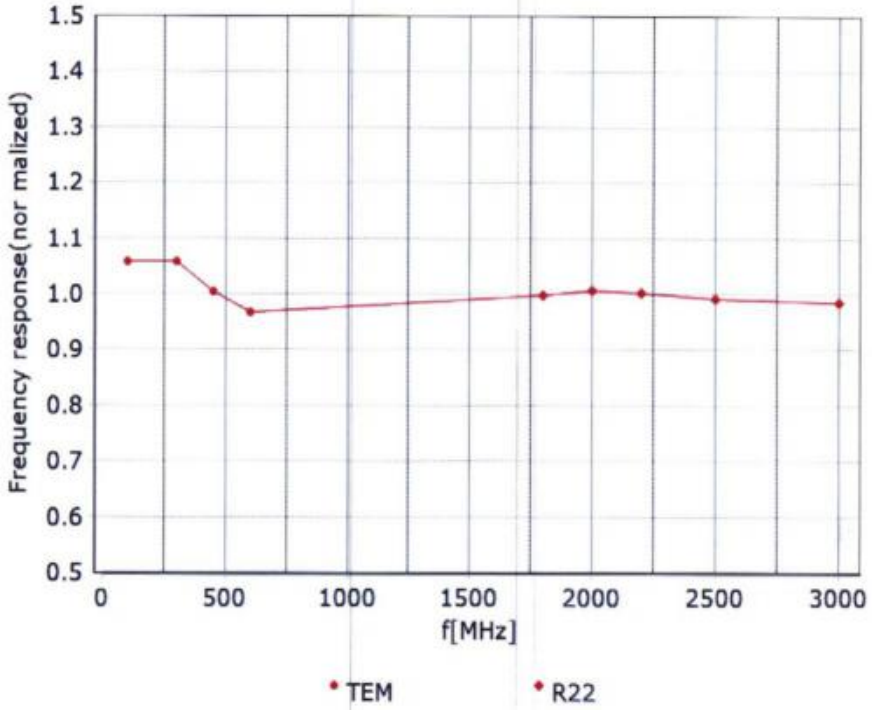
## Frequency Response of E-Field
### (TEM-Cell: ifi110 EXX, Waveguide: R22)




**Uncertainty of Frequency Response of E-field: ±7.4% (*k*=2)**



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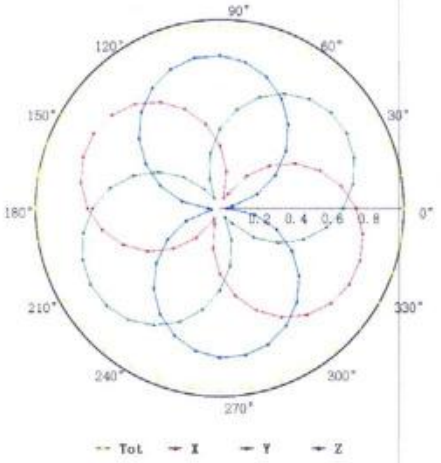
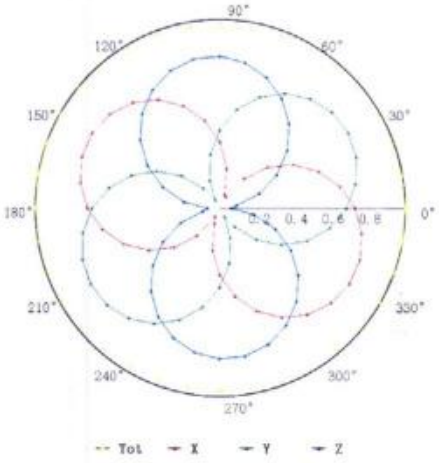
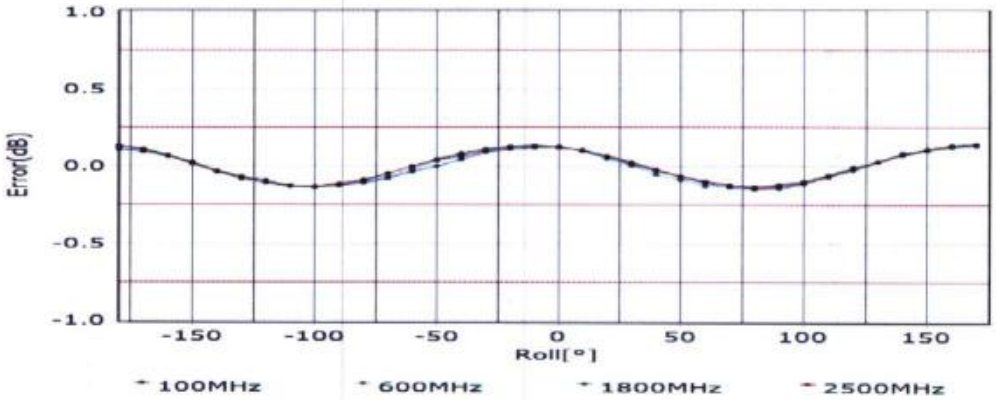
# Receiving Pattern (Φ), θ=0°

## f=600 MHz, TEM




## f=1800 MHz, R22




Uncertainty of Axial Isotropy Assessment: ±1.2% (*k*=2)



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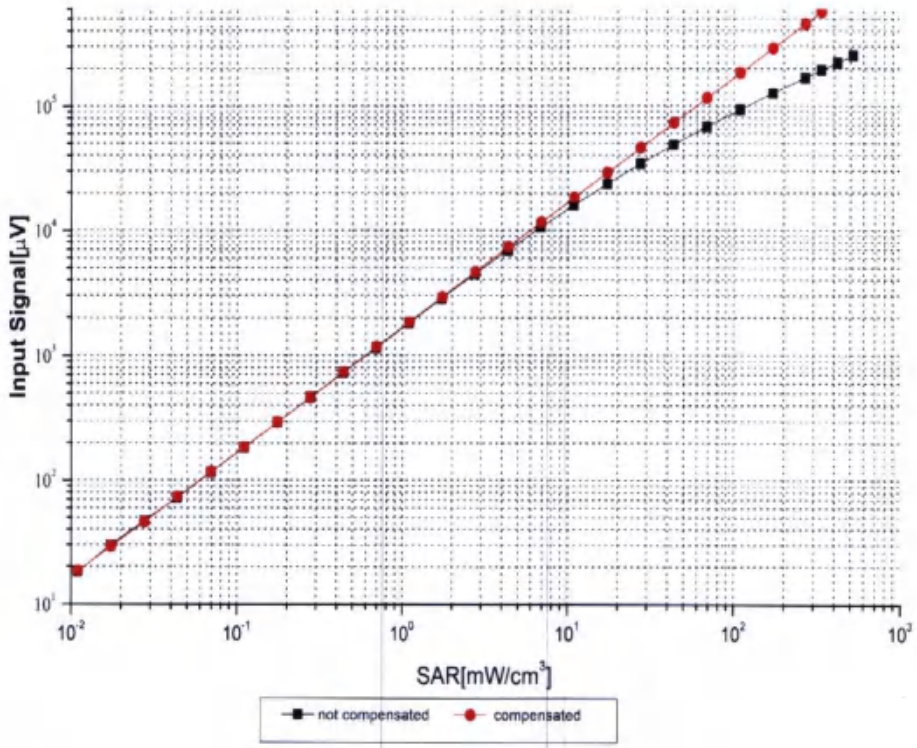
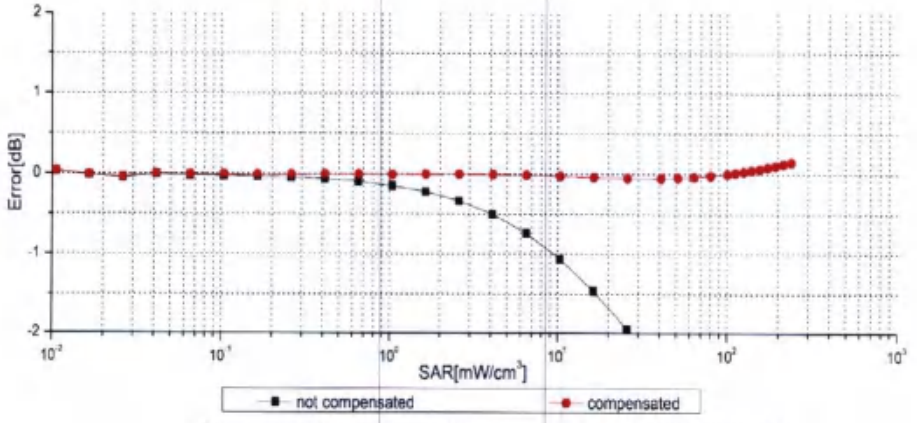
## Dynamic Range f(SAR$_{head}$)
## (TEM cell, f = 900 MHz)




**Uncertainty of Linearity Assessment: ±0.9% (*k*=2)**



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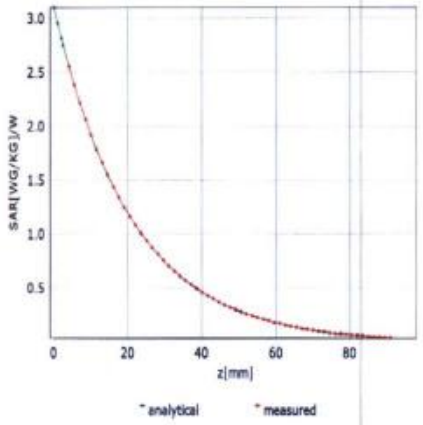
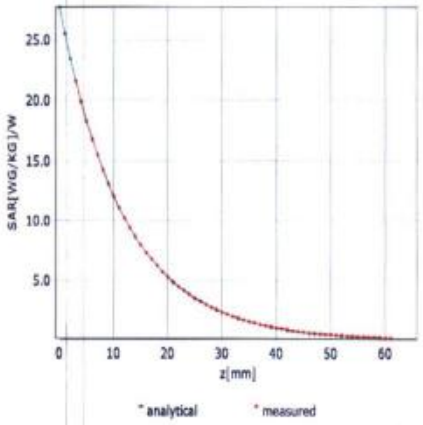
# Conversion Factor Assessment

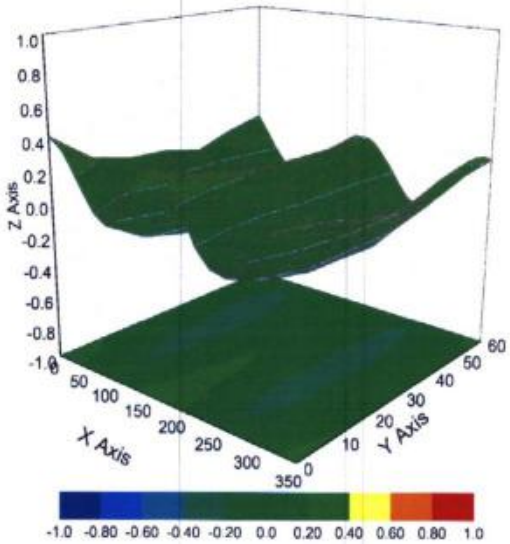
**f=750 MHz,WGLS R9(H_convF)**




**f=1750 MHz,WGLS R22(H_convF)**




# Deviation from Isotropy in Liquid




**Uncertainty of Spherical Isotropy Assessment: ±3.2% (*k*=2)**



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## Appendix: Modulation Calibration Parameters

| UID | Rev | Communication System Name | Group | PAR (dB) | UncE (k=2) |
|---|---|---|---|---|---|
| 0 | | CW | CW | 0.00 | ± 4.7 % |
| 10010 | CAA | SAR Validation (Square, 100ms, 10ms) | Test | 10.00 | ± 9.6 % |
| 10011 | CAB | UMTS-FDD (WCDMA) | WCDMA | 2.91 | ± 9.6 % |
| 10012 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) | WLAN | 1.87 | ± 9.6 % |
| 10013 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps) | WLAN | 9.46 | ± 9.6 % |
| 10021 | DAC | GSM-FDD (TDMA, GMSK) | GSM | 9.39 | ± 9.6 % |
| 10023 | DAC | GPRS-FDD (TDMA, GMSK, TN 0) | GSM | 9.57 | ± 9.6 % |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1) | GSM | 6.56 | ± 9.6 % |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0) | GSM | 12.62 | ± 9.6 % |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1) | GSM | 9.55 | ± 9.6 % |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2) | GSM | 4.80 | ± 9.6 % |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3) | GSM | 3.55 | ± 9.6 % |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2) | GSM | 7.78 | ± 9.6 % |
| 10030 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1) | Bluetooth | 5.30 | ± 9.6 % |
| 10031 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3) | Bluetooth | 1.87 | ± 9.6 % |
| 10032 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5) | Bluetooth | 1.16 | ± 9.6 % |
| 10033 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1) | Bluetooth | 7.74 | ± 9.6 % |
| 10034 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3) | Bluetooth | 4.53 | ± 9.6 % |
| 10035 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5) | Bluetooth | 3.83 | ± 9.6 % |
| 10036 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1) | Bluetooth | 8.01 | ± 9.6 % |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3) | Bluetooth | 4.77 | ± 9.6 % |
| 10038 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5) | Bluetooth | 4.10 | ± 9.6 % |
| 10039 | CAB | CDMA2000 (1xRTT, RC1) | CDMA2000 | 4.57 | ± 9.6 % |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | AMPS | 7.78 | ± 9.6 % |
| 10044 | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM) | AMPS | 0.00 | ± 9.6 % |
| 10048 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24) | DECT | 13.80 | ± 9.6 % |
| 10049 | CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12) | DECT | 10.79 | ± 9.6 % |
| 10056 | CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps) | TD-SCDMA | 11.01 | ± 9.6 % |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3) | GSM | 6.52 | ± 9.6 % |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps) | WLAN | 2.12 | ± 9.6 % |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps) | WLAN | 2.83 | ± 9.6 % |
| 10061 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps) | WLAN | 3.60 | ± 9.6 % |
| 10062 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps) | WLAN | 8.68 | ± 9.6 % |
| 10063 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps) | WLAN | 8.63 | ± 9.6 % |
| 10064 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps) | WLAN | 9.09 | ± 9.6 % |
| 10065 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps) | WLAN | 9.00 | ± 9.6 % |
| 10066 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps) | WLAN | 9.38 | ± 9.6 % |
| 10067 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps) | WLAN | 10.12 | ± 9.6 % |
| 10068 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps) | WLAN | 10.24 | ± 9.6 % |
| 10069 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps) | WLAN | 10.56 | ± 9.6 % |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps) | WLAN | 9.83 | ± 9.6 % |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps) | WLAN | 9.62 | ± 9.6 % |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps) | WLAN | 9.94 | ± 9.6 % |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps) | WLAN | 10.30 | ± 9.6 % |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps) | WLAN | 10.77 | ± 9.6 % |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps) | WLAN | 10.94 | ± 9.6 % |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps) | WLAN | 11.00 | ± 9.6 % |
| 10081 | CAB | CDMA2000 (1xRTT, RC3) | CDMA2000 | 3.97 | ± 9.6 % |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | AMPS | 4.77 | ± 9.6 % |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4) | GSM | 6.56 | ± 9.6 % |
| 10097 | CAC | UMTS-FDD (HSDPA) | WCDMA | 3.98 | ± 9.6 % |
| 10098 | DAC | UMTS-FDD (HSUPA, Subtest 2) | WCDMA | 3.98 | ± 9.6 % |
| 10099 | CAC | EDGE-FDD (TDMA, 8PSK, TN 0-4) | GSM | 9.55 | ± 9.6 % |
| 10100 | CAC | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK) | LTE-FDD | 5.67 | ± 9.6 % |
| 10101 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM) | LTE-FDD | 6.42 | ± 9.6 % |



 

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| | | | | | |
|---|---|---|---|---|---|
| 10102 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM) | LTE-FDD | 6.60 | ± 9.6 % |
| 10103 | DAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK) | LTE-TDD | 9.29 | ± 9.6 % |
| 10104 | CAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM) | LTE-TDD | 9.97 | ± 9.6 % |
| 10105 | CAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM) | LTE-TDD | 10.01 | ± 9.6 % |
| 10108 | CAE | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK) | LTE-FDD | 5.80 | ± 9.6 % |
| 10109 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM) | LTE-FDD | 6.43 | ± 9.6 % |
| 10110 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK) | LTE-FDD | 5.75 | ± 9.6 % |
| 10111 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM) | LTE-FDD | 6.44 | ± 9.6 % |
| 10112 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM) | LTE-FDD | 6.59 | ± 9.6 % |
| 10113 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM) | LTE-FDD | 6.62 | ± 9.6 % |
| 10114 | CAG | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK) | WLAN | 8.10 | ± 9.6 % |
| 10115 | CAG | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM) | WLAN | 8.46 | ± 9.6 % |
| 10116 | CAG | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN | 8.15 | ± 9.6 % |
| 10117 | CAG | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK) | WLAN | 8.07 | ± 9.6 % |
| 10118 | CAD | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM) | WLAN | 8.59 | ± 9.6 % |
| 10119 | CAD | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM) | WLAN | 8.13 | ± 9.6 % |
| 10140 | CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM) | LTE-FDD | 6.49 | ± 9.6 % |
| 10141 | CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM) | LTE-FDD | 6.53 | ± 9.6 % |
| 10142 | CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK) | LTE-FDD | 5.73 | ± 9.6 % |
| 10143 | CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM) | LTE-FDD | 6.35 | ± 9.6 % |
| 10144 | CAC | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM) | LTE-FDD | 6.65 | ± 9.6 % |
| 10145 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK) | LTE-FDD | 5.76 | ± 9.6 % |
| 10146 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) | LTE-FDD | 6.41 | ± 9.6 % |
| 10147 | CAC | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) | LTE-FDD | 6.72 | ± 9.6 % |
| 10149 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM) | LTE-FDD | 6.42 | ± 9.6 % |
| 10150 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM) | LTE-FDD | 6.60 | ± 9.6 % |
| 10151 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK) | LTE-TDD | 9.28 | ± 9.6 % |
| 10152 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM) | LTE-TDD | 9.92 | ± 9.6 % |
| 10153 | CAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM) | LTE-TDD | 10.05 | ± 9.6 % |
| 10154 | CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK) | LTE-FDD | 5.75 | ± 9.6 % |
| 10155 | CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM) | LTE-FDD | 6.43 | ± 9.6 % |
| 10156 | CAF | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK) | LTE-FDD | 5.79 | ± 9.6 % |
| 10157 | CAE | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM) | LTE-FDD | 6.49 | ± 9.6 % |
| 10158 | CAE | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM) | LTE-FDD | 6.62 | ± 9.6 % |
| 10159 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM) | LTE-FDD | 6.56 | ± 9.6 % |
| 10160 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK) | LTE-FDD | 5.82 | ± 9.6 % |
| 10161 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM) | LTE-FDD | 6.43 | ± 9.6 % |
| 10162 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM) | LTE-FDD | 6.58 | ± 9.6 % |
| 10166 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK) | LTE-FDD | 5.46 | ± 9.6 % |
| 10167 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | LTE-FDD | 6.21 | ± 9.6 % |
| 10168 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | LTE-FDD | 6.79 | ± 9.6 % |
| 10169 | CAG | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) | LTE-FDD | 5.73 | ± 9.6 % |
| 10170 | CAG | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM) | LTE-FDD | 6.52 | ± 9.6 % |
| 10171 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM) | LTE-FDD | 6.49 | ± 9.6 % |
| 10172 | CAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) | LTE-TDD | 9.21 | ± 9.6 % |
| 10173 | CAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM) | LTE-TDD | 9.48 | ± 9.6 % |
| 10174 | CAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM) | LTE-TDD | 10.25 | ± 9.6 % |
| 10175 | CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) | LTE-FDD | 5.72 | ± 9.6 % |
| 10176 | CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM) | LTE-FDD | 6.52 | ± 9.6 % |
| 10177 | CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK) | LTE-FDD | 5.73 | ± 9.6 % |
| 10178 | CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM) | LTE-FDD | 6.52 | ± 9.6 % |
| 10179 | AAE | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM) | LTE-FDD | 6.50 | ± 9.6 % |
| 10180 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM) | LTE-FDD | 6.50 | ± 9.6 % |
| 10181 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) | LTE-FDD | 5.72 | ± 9.6 % |
| 10182 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) | LTE-FDD | 6.52 | ± 9.6 % |
| 10183 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) | LTE-FDD | 6.50 | ± 9.6 % |
| 10184 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) | LTE-FDD | 5.73 | ± 9.6 % |
| 10185 | CAI | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) | LTE-FDD | 6.51 | ± 9.6 % |
| 10186 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) | LTE-FDD | 6.50 | ± 9.6 % |



 

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| 10187 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) | LTE-FDD | 5.73 | ± 9.6 % |
| 10188 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) | LTE-FDD | 6.52 | ± 9.6 % |
| 10189 | CAE | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) | LTE-FDD | 6.50 | ± 9.6 % |
| 10193 | CAE | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK) | WLAN | 8.09 | ± 9.6 % |
| 10194 | AAD | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) | WLAN | 8.12 | ± 9.6 % |
| 10195 | CAE | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM) | WLAN | 8.21 | ± 9.6 % |
| 10196 | CAE | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) | WLAN | 8.10 | ± 9.6 % |
| 10197 | AAE | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM) | WLAN | 8.13 | ± 9.6 % |
| 10198 | CAF | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM) | WLAN | 8.27 | ± 9.6 % |
| 10219 | CAF | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK) | WLAN | 8.03 | ± 9.6 % |
| 10220 | AAF | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM) | WLAN | 8.13 | ± 9.6 % |
| 10221 | CAC | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM) | WLAN | 8.27 | ± 9.6 % |
| 10222 | CAC | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK) | WLAN | 8.06 | ± 9.6 % |
| 10223 | CAD | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM) | WLAN | 8.48 | ± 9.6 % |
| 10224 | CAD | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM) | WLAN | 8.08 | ± 9.6 % |
| 10225 | CAD | UMTS-FDD (HSPA+) | WCDMA | 5.97 | ± 9.6 % |
| 10226 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) | LTE-TDD | 9.49 | ± 9.6 % |
| 10227 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) | LTE-TDD | 10.26 | ± 9.6 % |
| 10228 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) | LTE-TDD | 9.22 | ± 9.6 % |
| 10229 | DAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) | LTE-TDD | 9.48 | ± 9.6 % |
| 10230 | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) | LTE-TDD | 10.25 | ± 9.6 % |
| 10231 | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK) | LTE-TDD | 9.19 | ± 9.6 % |
| 10232 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM) | LTE-TDD | 9.48 | ± 9.6 % |
| 10233 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM) | LTE-TDD | 10.25 | ± 9.6 % |
| 10234 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK) | LTE-TDD | 9.21 | ± 9.6 % |
| 10235 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM) | LTE-TDD | 9.48 | ± 9.6 % |
| 10236 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM) | LTE-TDD | 10.25 | ± 9.6 % |
| 10237 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK) | LTE-TDD | 9.21 | ± 9.6 % |
| 10238 | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) | LTE-TDD | 9.48 | ± 9.6 % |
| 10239 | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) | LTE-TDD | 10.25 | ± 9.6 % |
| 10240 | CAB | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK) | LTE-TDD | 9.21 | ± 9.6 % |
| 10241 | CAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | LTE-TDD | 9.82 | ± 9.6 % |
| 10242 | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | LTE-TDD | 9.86 | ± 9.6 % |
| 10243 | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK) | LTE-TDD | 9.46 | ± 9.6 % |
| 10244 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM) | LTE-TDD | 10.06 | ± 9.6 % |
| 10245 | CAG | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM) | LTE-TDD | 10.06 | ± 9.6 % |
| 10246 | CAG | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK) | LTE-TDD | 9.30 | ± 9.6 % |
| 10247 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM) | LTE-TDD | 9.91 | ± 9.6 % |
| 10248 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM) | LTE-TDD | 10.09 | ± 9.6 % |
| 10249 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK) | LTE-TDD | 9.29 | ± 9.6 % |
| 10250 | CAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM) | LTE-TDD | 9.81 | ± 9.6 % |
| 10251 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM) | LTE-TDD | 10.17 | ± 9.6 % |
| 10252 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK) | LTE-TDD | 9.24 | ± 9.6 % |
| 10253 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM) | LTE-TDD | 9.90 | ± 9.6 % |
| 10254 | CAB | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM) | LTE-TDD | 10.14 | ± 9.6 % |
| 10255 | CAB | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK) | LTE-TDD | 9.20 | ± 9.6 % |
| 10256 | CAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) | LTE-TDD | 9.96 | ± 9.6 % |
| 10257 | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) | LTE-TDD | 10.08 | ± 9.6 % |
| 10258 | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK) | LTE-TDD | 9.34 | ± 9.6 % |
| 10259 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM) | LTE-TDD | 9.98 | ± 9.6 % |
| 10260 | CAG | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM) | LTE-TDD | 9.97 | ± 9.6 % |
| 10261 | CAG | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK) | LTE-TDD | 9.24 | ± 9.6 % |
| 10262 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM) | LTE-TDD | 9.83 | ± 9.6 % |
| 10263 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM) | LTE-TDD | 10.16 | ± 9.6 % |
| 10264 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK) | LTE-TDD | 9.23 | ± 9.6 % |
| 10265 | CAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM) | LTE-TDD | 9.92 | ± 9.6 % |
| 10266 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM) | LTE-TDD | 10.07 | ± 9.6 % |
| 10267 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK) | LTE-TDD | 9.30 | ± 9.6 % |
| 10268 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM) | LTE-TDD | 10.06 | ± 9.6 % |



 

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| 10269 | CAB | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM) | LTE-TDD | 10.13 | ± 9.6 % |
| 10270 | CAB | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK) | LTE-TDD | 9.58 | ± 9.6 % |
| 10274 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10) | WCDMA | 4.87 | ± 9.6 % |
| 10275 | CAD | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4) | WCDMA | 3.96 | ± 9.6 % |
| 10277 | CAD | PHS (QPSK) | PHS | 11.81 | ± 9.6 % |
| 10278 | CAD | PHS (QPSK, BW 884MHz, Rolloff 0.5) | PHS | 11.81 | ± 9.6 % |
| 10279 | CAG | PHS (QPSK, BW 884MHz, Rolloff 0.38) | PHS | 12.18 | ± 9.6 % |
| 10290 | CAG | CDMA2000, RC1, SO55, Full Rate | CDMA2000 | 3.91 | ± 9.6 % |
| 10291 | CAG | CDMA2000, RC3, SO55, Full Rate | CDMA2000 | 3.46 | ± 9.6 % |
| 10292 | CAG | CDMA2000, RC3, SO32, Full Rate | CDMA2000 | 3.39 | ± 9.6 % |
| 10293 | CAG | CDMA2000, RC3, SO3, Full Rate | CDMA2000 | 3.50 | ± 9.6 % |
| 10295 | CAG | CDMA2000, RC1, SO3, 1/8th Rate 25 fr. | CDMA2000 | 12.49 | ± 9.6 % |
| 10297 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK) | LTE-FDD | 5.81 | ± 9.6 % |
| 10298 | CAF | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK) | LTE-FDD | 5.72 | ± 9.6 % |
| 10299 | CAF | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM) | LTE-FDD | 6.39 | ± 9.6 % |
| 10300 | CAC | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM) | LTE-FDD | 6.60 | ± 9.6 % |
| 10301 | CAC | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC) | WiMAX | 12.03 | ± 9.6 % |
| 10302 | CAB | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL) | WiMAX | 12.57 | ± 9.6 % |
| 10303 | CAB | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC) | WiMAX | 12.52 | ± 9.6 % |
| 10304 | CAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC) | WiMAX | 11.86 | ± 9.6 % |
| 10305 | CAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC) | WiMAX | 15.24 | ± 9.6 % |
| 10306 | CAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC) | WiMAX | 14.67 | ± 9.6 % |
| 10307 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC) | WiMAX | 14.49 | ± 9.6 % |
| 10308 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC) | WiMAX | 14.46 | ± 9.6 % |
| 10309 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM,AMC 2x3) | WiMAX | 14.58 | ± 9.6 % |
| 10310 | AAB | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3 | WiMAX | 14.57 | ± 9.6 % |
| 10311 | AAB | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK) | LTE-FDD | 6.06 | ± 9.6 % |
| 10313 | AAD | iDEN 1:3 | iDEN | 10.51 | ± 9.6 % |
| 10314 | AAD | iDEN 1:6 | iDEN | 13.48 | ± 9.6 % |
| 10315 | AAD | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc) | WLAN | 1.71 | ± 9.6 % |
| 10316 | AAD | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10317 | AAA | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10352 | AAA | Pulse Waveform (200Hz, 10%) | Generic | 10.00 | ± 9.6 % |
| 10353 | AAA | Pulse Waveform (200Hz, 20%) | Generic | 6.99 | ± 9.6 % |
| 10354 | AAA | Pulse Waveform (200Hz, 40%) | Generic | 3.98 | ± 9.6 % |
| 10355 | AAA | Pulse Waveform (200Hz, 60%) | Generic | 2.22 | ± 9.6 % |
| 10356 | AAA | Pulse Waveform (200Hz, 80%) | Generic | 0.97 | ± 9.6 % |
| 10387 | AAA | QPSK Waveform, 1 MHz | Generic | 5.10 | ± 9.6 % |
| 10388 | AAA | QPSK Waveform, 10 MHz | Generic | 5.22 | ± 9.6 % |
| 10396 | AAA | 64-QAM Waveform, 100 kHz | Generic | 6.27 | ± 9.6 % |
| 10399 | AAA | 64-QAM Waveform, 40 MHz | Generic | 6.27 | ± 9.6 % |
| 10400 | AAD | IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc) | WLAN | 8.37 | ± 9.6 % |
| 10401 | AAA | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc) | WLAN | 8.60 | ± 9.6 % |
| 10402 | AAA | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc) | WLAN | 8.53 | ± 9.6 % |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0) | CDMA2000 | 3.76 | ± 9.6 % |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A) | CDMA2000 | 3.77 | ± 9.6 % |
| 10406 | AAD | CDMA2000, RC3, SO32, SCH0, Full Rate | CDMA2000 | 5.22 | ± 9.6 % |
| 10410 | AAA | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9) | LTE-TDD | 7.82 | ± 9.6 % |
| 10414 | AAA | WLAN CCDF, 64-QAM, 40MHz | Generic | 8.54 | ± 9.6 % |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc) | WLAN | 1.54 | ± 9.6 % |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc) | WLAN | 8.23 | ± 9.6 % |
| 10417 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc) | WLAN | 8.23 | ± 9.6 % |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long) | WLAN | 8.14 | ± 9.6 % |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short) | WLAN | 8.19 | ± 9.6 % |
| 10422 | AAA | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK) | WLAN | 8.32 | ± 9.6 % |
| 10423 | AAA | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM) | WLAN | 8.47 | ± 9.6 % |
| 10424 | AAE | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM) | WLAN | 8.40 | ± 9.6 % |
| 10425 | AAE | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK) | WLAN | 8.41 | ± 9.6 % |
| 10426 | AAE | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM) | WLAN | 8.45 | ± 9.6 % |



 

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| 10427 | AAB | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM) | WLAN | 8.41 | ± 9.6 % |
| 10430 | AAB | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1) | LTE-FDD | 8.28 | ± 9.6 % |
| 10431 | AAC | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1) | LTE-FDD | 8.38 | ± 9.6 % |
| 10432 | AAB | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1) | LTE-FDD | 8.34 | ± 9.6 % |
| 10433 | AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1) | LTE-FDD | 8.34 | ± 9.6 % |
| 10434 | AAG | W-CDMA (BS Test Model 1, 64 DPCH) | WCDMA | 8.60 | ± 9.6 % |
| 10435 | AAA | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10447 | AAA | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%) | LTE-FDD | 7.56 | ± 9.6 % |
| 10448 | AAA | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%) | LTE-FDD | 7.53 | ± 9.6 % |
| 10449 | AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%) | LTE-FDD | 7.51 | ± 9.6 % |
| 10450 | AAA | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%) | LTE-FDD | 7.48 | ± 9.6 % |
| 10451 | AAA | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%) | WCDMA | 7.59 | ± 9.6 % |
| 10453 | AAC | Validation (Square, 10ms, 1ms) | Test | 10.00 | ± 9.6 % |
| 10456 | AAC | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc) | WLAN | 8.63 | ± 9.6 % |
| 10457 | AAC | UMTS-FDD (DC-HSDPA) | WCDMA | 6.62 | ± 9.6 % |
| 10458 | AAC | CDMA2000 (1xEV-DO, Rev. B, 2 carriers) | CDMA2000 | 6.55 | ± 9.6 % |
| 10459 | AAC | CDMA2000 (1xEV-DO, Rev. B, 3 carriers) | CDMA2000 | 8.25 | ± 9.6 % |
| 10460 | AAC | UMTS-FDD (WCDMA, AMR) | WCDMA | 2.39 | ± 9.6 % |
| 10461 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10462 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.30 | ± 9.6 % |
| 10463 | AAD | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.56 | ± 9.6 % |
| 10464 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10465 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.32 | ± 9.6 % |
| 10466 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.57 | ± 9.6 % |
| 10467 | AAA | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10468 | AAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.32 | ± 9.6 % |
| 10469 | AAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.56 | ± 9.6 % |
| 10470 | AAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10471 | AAC | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.32 | ± 9.6 % |
| 10472 | AAC | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.57 | ± 9.6 % |
| 10473 | AAA | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub) | LTE-TDD | 7.82 | ± 9.6 % |
| 10474 | AAC | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.32 | ± 9.6 % |
| 10475 | AAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.57 | ± 9.6 % |
| 10477 | AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.32 | ± 9.6 % |
| 10478 | AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.57 | ± 9.6 % |
| 10479 | AAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub) | LTE-TDD | 7.74 | ± 9.6 % |
| 10480 | AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.18 | ± 9.6 % |
| 10481 | AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.45 | ± 9.6 % |
| 10482 | AAA | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub) | LTE-TDD | 7.71 | ± 9.6 % |
| 10483 | AAA | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub) | LTE-TDD | 8.39 | ± 9.6 % |
| 10484 | AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.47 | ± 9.6 % |
| 10485 | AAB | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub) | LTE-TDD | 7.59 | ± 9.6 % |
| 10486 | AAB | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.38 | ± 9.6 % |
| 10487 | AAC | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.60 | ± 9.6 % |
| 10488 | AAC | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub) | LTE-TDD | 7.70 | ± 9.6 % |
| 10489 | AAC | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.31 | ± 9.6 % |
| 10490 | AAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.54 | ± 9.6 % |
| 10491 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub) | LTE-TDD | 7.74 | ± 9.6 % |
| 10492 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.41 | ± 9.6 % |
| 10493 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.55 | ± 9.6 % |
| 10494 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub) | LTE-TDD | 7.74 | ± 9.6 % |
| 10495 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.37 | ± 9.6 % |
| 10496 | AAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.54 | ± 9.6 % |
| 10497 | AAE | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub) | LTE-TDD | 7.67 | ± 9.6 % |
| 10498 | AAE | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.40 | ± 9.6 % |
| 10499 | AAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.68 | ± 9.6 % |
| 10500 | AAF | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub) | LTE-TDD | 7.67 | ± 9.6 % |
| 10501 | AAF | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.44 | ± 9.6 % |
| 10502 | AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.52 | ± 9.6 % |



 

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| 10503 | AAB | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub) | LTE-TDD | 7.72 | ± 9.6 % |
| 10504 | AAB | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.31 | ± 9.6 % |
| 10505 | AAC | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.54 | ± 9.6 % |
| 10506 | AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub) | LTE-TDD | 7.74 | ± 9.6 % |
| 10507 | AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.36 | ± 9.6 % |
| 10508 | AAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.55 | ± 9.6 % |
| 10509 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub) | LTE-TDD | 7.99 | ± 9.6 % |
| 10510 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.49 | ± 9.6 % |
| 10511 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.51 | ± 9.6 % |
| 10512 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub) | LTE-TDD | 7.74 | ± 9.6 % |
| 10513 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.42 | ± 9.6 % |
| 10514 | AAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.45 | ± 9.6 % |
| 10515 | AAE | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc) | WLAN | 1.58 | ± 9.6 % |
| 10516 | AAE | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc) | WLAN | 1.57 | ± 9.6 % |
| 10517 | AAF | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc) | WLAN | 1.58 | ± 9.6 % |
| 10518 | AAF | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc) | WLAN | 8.23 | ± 9.6 % |
| 10519 | AAF | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc) | WLAN | 8.39 | ± 9.6 % |
| 10520 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc) | WLAN | 8.12 | ± 9.6 % |
| 10521 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc) | WLAN | 7.97 | ± 9.6 % |
| 10522 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10523 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc) | WLAN | 8.08 | ± 9.6 % |
| 10524 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc) | WLAN | 8.27 | ± 9.6 % |
| 10525 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10526 | AAF | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc) | WLAN | 8.42 | ± 9.6 % |
| 10527 | AAF | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc) | WLAN | 8.21 | ± 9.6 % |
| 10528 | AAF | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10529 | AAF | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10531 | AAF | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc) | WLAN | 8.43 | ± 9.6 % |
| 10532 | AAF | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10533 | AAE | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc) | WLAN | 8.38 | ± 9.6 % |
| 10534 | AAE | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10535 | AAE | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10536 | AAF | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc) | WLAN | 8.32 | ± 9.6 % |
| 10537 | AAF | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc) | WLAN | 8.44 | ± 9.6 % |
| 10538 | AAF | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc) | WLAN | 8.54 | ± 9.6 % |
| 10540 | AAA | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc) | WLAN | 8.39 | ± 9.6 % |
| 10541 | AAA | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc) | WLAN | 8.46 | ± 9.6 % |
| 10542 | AAA | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc) | WLAN | 8.65 | ± 9.6 % |
| 10543 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc) | WLAN | 8.65 | ± 9.6 % |
| 10544 | AAC | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc) | WLAN | 8.47 | ± 9.6 % |
| 10545 | AAC | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc) | WLAN | 8.55 | ± 9.6 % |
| 10546 | AAC | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc) | WLAN | 8.35 | ± 9.6 % |
| 10547 | AAC | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10548 | AAC | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc) | WLAN | 8.37 | ± 9.6 % |
| 10550 | AAC | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc) | WLAN | 8.38 | ± 9.6 % |
| 10551 | AAC | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc) | WLAN | 8.50 | ± 9.6 % |
| 10552 | AAC | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc) | WLAN | 8.42 | ± 9.6 % |
| 10553 | AAC | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10554 | AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc) | WLAN | 8.48 | ± 9.6 % |
| 10555 | AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc) | WLAN | 8.47 | ± 9.6 % |
| 10556 | AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc) | WLAN | 8.50 | ± 9.6 % |
| 10557 | AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc) | WLAN | 8.52 | ± 9.6 % |
| 10558 | AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc) | WLAN | 8.61 | ± 9.6 % |
| 10560 | AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc) | WLAN | 8.73 | ± 9.6 % |
| 10561 | AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc) | WLAN | 8.56 | ± 9.6 % |
| 10562 | AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc) | WLAN | 8.69 | ± 9.6 % |
| 10563 | AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10564 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc) | WLAN | 8.25 | ± 9.6 % |
| 10565 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc) | WLAN | 8.45 | ± 9.6 % |



 

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| 10566 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc) | WLAN | 8.13 | ± 9.6 % |
| 10567 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc) | WLAN | 8.00 | ± 9.6 % |
| 10568 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc) | WLAN | 8.37 | ± 9.6 % |
| 10569 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc) | WLAN | 8.10 | ± 9.6 % |
| 10570 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc) | WLAN | 8.30 | ± 9.6 % |
| 10571 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc) | WLAN | 1.99 | ± 9.6 % |
| 10572 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc) | WLAN | 1.99 | ± 9.6 % |
| 10573 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc) | WLAN | 1.98 | ± 9.6 % |
| 10574 | AAC | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc) | WLAN | 1.98 | ± 9.6 % |
| 10575 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc) | WLAN | 8.59 | ± 9.6 % |
| 10576 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc) | WLAN | 8.60 | ± 9.6 % |
| 10577 | AAC | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10578 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10579 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10580 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc) | WLAN | 8.76 | ± 9.6 % |
| 10581 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc) | WLAN | 8.35 | ± 9.6 % |
| 10582 | AAD | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc) | WLAN | 8.67 | ± 9.6 % |
| 10583 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc) | WLAN | 8.59 | ± 9.6 % |
| 10584 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc) | WLAN | 8.60 | ± 9.6 % |
| 10585 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10586 | AAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10587 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10588 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc) | WLAN | 8.76 | ± 9.6 % |
| 10589 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc) | WLAN | 8.35 | ± 9.6 % |
| 10590 | AAA | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc) | WLAN | 8.67 | ± 9.6 % |
| 10591 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc) | WLAN | 8.63 | ± 9.6 % |
| 10592 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc) | WLAN | 8.79 | ± 9.6 % |
| 10593 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc) | WLAN | 8.64 | ± 9.6 % |
| 10594 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc) | WLAN | 8.74 | ± 9.6 % |
| 10595 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc) | WLAN | 8.74 | ± 9.6 % |
| 10596 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc) | WLAN | 8.71 | ± 9.6 % |
| 10597 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc) | WLAN | 8.72 | ± 9.6 % |
| 10598 | AAA | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc) | WLAN | 8.50 | ± 9.6 % |
| 10599 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc) | WLAN | 8.79 | ± 9.6 % |
| 10600 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc) | WLAN | 8.88 | ± 9.6 % |
| 10601 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10602 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc) | WLAN | 8.94 | ± 9.6 % |
| 10603 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc) | WLAN | 9.03 | ± 9.6 % |
| 10604 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc) | WLAN | 8.76 | ± 9.6 % |
| 10605 | AAA | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc) | WLAN | 8.97 | ± 9.6 % |
| 10606 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10607 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc) | WLAN | 8.64 | ± 9.6 % |
| 10608 | AAC | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10609 | AAC | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc) | WLAN | 8.57 | ± 9.6 % |
| 10610 | AAC | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc) | WLAN | 8.78 | ± 9.6 % |
| 10611 | AAC | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10612 | AAC | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10613 | AAC | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc) | WLAN | 8.94 | ± 9.6 % |
| 10614 | AAC | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc) | WLAN | 8.59 | ± 9.6 % |
| 10615 | AAC | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10616 | AAC | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10617 | AAC | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc) | WLAN | 8.81 | ± 9.6 % |
| 10618 | AAC | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc) | WLAN | 8.58 | ± 9.6 % |
| 10619 | AAC | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc) | WLAN | 8.86 | ± 9.6 % |
| 10620 | AAC | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc) | WLAN | 8.87 | ± 9.6 % |
| 10621 | AAC | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10622 | AAC | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc) | WLAN | 8.68 | ± 9.6 % |
| 10623 | AAC | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10624 | AAC | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc) | WLAN | 8.96 | ± 9.6 % |



 

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| 10625 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc) | WLAN | 8.96 | ± 9.6 % |
| 10626 | AAC | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc) | WLAN | 8.83 | ± 9.6 % |
| 10627 | AAC | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc) | WLAN | 8.88 | ± 9.6 % |
| 10628 | AAC | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc) | WLAN | 8.71 | ± 9.6 % |
| 10629 | AAC | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc) | WLAN | 8.85 | ± 9.6 % |
| 10630 | AAC | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc) | WLAN | 8.72 | ± 9.6 % |
| 10631 | AAC | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc) | WLAN | 8.81 | ± 9.6 % |
| 10632 | AAC | IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc) | WLAN | 8.74 | ± 9.6 % |
| 10633 | AAC | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc) | WLAN | 8.83 | ± 9.6 % |
| 10634 | AAC | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc) | WLAN | 8.80 | ± 9.6 % |
| 10635 | AAC | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc) | WLAN | 8.81 | ± 9.6 % |
| 10636 | AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc) | WLAN | 8.83 | ± 9.6 % |
| 10637 | AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc) | WLAN | 8.79 | ± 9.6 % |
| 10638 | AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc) | WLAN | 8.86 | ± 9.6 % |
| 10639 | AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc) | WLAN | 8.85 | ± 9.6 % |
| 10640 | AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc) | WLAN | 8.98 | ± 9.6 % |
| 10641 | AAC | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc) | WLAN | 9.06 | ± 9.6 % |
| 10642 | AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc) | WLAN | 9.06 | ± 9.6 % |
| 10643 | AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc) | WLAN | 8.89 | ± 9.6 % |
| 10644 | AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc) | WLAN | 9.05 | ± 9.6 % |
| 10645 | AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc) | WLAN | 9.11 | ± 9.6 % |
| 10646 | AAC | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7) | LTE-TDD | 11.96 | ± 9.6 % |
| 10647 | AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7) | LTE-TDD | 11.96 | ± 9.6 % |
| 10648 | AAC | CDMA2000 (1x Advanced) | CDMA2000 | 3.45 | ± 9.6 % |
| 10652 | AAC | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%) | LTE-TDD | 6.91 | ± 9.6 % |
| 10653 | AAC | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%) | LTE-TDD | 7.42 | ± 9.6 % |
| 10654 | AAC | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%) | LTE-TDD | 6.96 | ± 9.6 % |
| 10655 | AAC | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%) | LTE-TDD | 7.21 | ± 9.6 % |
| 10658 | AAC | Pulse Waveform (200Hz, 10%) | Test | 10.00 | ± 9.6 % |
| 10659 | AAC | Pulse Waveform (200Hz, 20%) | Test | 6.99 | ± 9.6 % |
| 10660 | AAC | Pulse Waveform (200Hz, 40%) | Test | 3.98 | ± 9.6 % |
| 10661 | AAC | Pulse Waveform (200Hz, 60%) | Test | 2.22 | ± 9.6 % |
| 10662 | AAC | Pulse Waveform (200Hz, 80%) | Test | 0.97 | ± 9.6 % |
| 10670 | AAC | Bluetooth Low Energy | Bluetooth | 2.19 | ± 9.6 % |
| 10671 | AAD | IEEE 802.11ax (20MHz, MCS0, 90pc dc) | WLAN | 9.09 | ± 9.6 % |
| 10672 | AAD | IEEE 802.11ax (20MHz, MCS1, 90pc dc) | WLAN | 8.57 | ± 9.6 % |
| 10673 | AAD | IEEE 802.11ax (20MHz, MCS2, 90pc dc) | WLAN | 8.78 | ± 9.6 % |
| 10674 | AAD | IEEE 802.11ax (20MHz, MCS3, 90pc dc) | WLAN | 8.74 | ± 9.6 % |
| 10675 | AAD | IEEE 802.11ax (20MHz, MCS4, 90pc dc) | WLAN | 8.90 | ± 9.6 % |
| 10676 | AAD | IEEE 802.11ax (20MHz, MCS5, 90pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10677 | AAD | IEEE 802.11ax (20MHz, MCS6, 90pc dc) | WLAN | 8.73 | ± 9.6 % |
| 10678 | AAD | IEEE 802.11ax (20MHz, MCS7, 90pc dc) | WLAN | 8.78 | ± 9.6 % |
| 10679 | AAD | IEEE 802.11ax (20MHz, MCS8, 90pc dc) | WLAN | 8.89 | ± 9.6 % |
| 10680 | AAD | IEEE 802.11ax (20MHz, MCS9, 90pc dc) | WLAN | 8.80 | ± 9.6 % |
| 10681 | AAG | IEEE 802.11ax (20MHz, MCS10, 90pc dc) | WLAN | 8.62 | ± 9.6 % |
| 10682 | AAF | IEEE 802.11ax (20MHz, MCS11, 90pc dc) | WLAN | 8.83 | ± 9.6 % |
| 10683 | AAA | IEEE 802.11ax (20MHz, MCS0, 99pc dc) | WLAN | 8.42 | ± 9.6 % |
| 10684 | AAC | IEEE 802.11ax (20MHz, MCS1, 99pc dc) | WLAN | 8.26 | ± 9.6 % |
| 10685 | AAC | IEEE 802.11ax (20MHz, MCS2, 99pc dc) | WLAN | 8.33 | ± 9.6 % |
| 10686 | AAC | IEEE 802.11ax (20MHz, MCS3, 99pc dc) | WLAN | 8.28 | ± 9.6 % |
| 10687 | AAE | IEEE 802.11ax (20MHz, MCS4, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10688 | AAE | IEEE 802.11ax (20MHz, MCS5, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10689 | AAD | IEEE 802.11ax (20MHz, MCS6, 99pc dc) | WLAN | 8.55 | ± 9.6 % |
| 10690 | AAE | IEEE 802.11ax (20MHz, MCS7, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10691 | AAB | IEEE 802.11ax (20MHz, MCS8, 99pc dc) | WLAN | 8.25 | ± 9.6 % |
| 10692 | AAA | IEEE 802.11ax (20MHz, MCS9, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10693 | AAA | IEEE 802.11ax (20MHz, MCS10, 99pc dc) | WLAN | 8.25 | ± 9.6 % |
| 10694 | AAA | IEEE 802.11ax (20MHz, MCS11, 99pc dc) | WLAN | 8.57 | ± 9.6 % |
| 10695 | AAA | IEEE 802.11ax (40MHz, MCS0, 90pc dc) | WLAN | 8.78 | ± 9.6 % |



 

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| 10696 | AAA | IEEE 802.11ax (40MHz, MCS1, 90pc dc) | WLAN | 8.91 | ± 9.6 % |
| 10697 | AAA | IEEE 802.11ax (40MHz, MCS2, 90pc dc) | WLAN | 8.61 | ± 9.6 % |
| 10698 | AAA | IEEE 802.11ax (40MHz, MCS3, 90pc dc) | WLAN | 8.89 | ± 9.6 % |
| 10699 | AAA | IEEE 802.11ax (40MHz, MCS4, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10700 | AAA | IEEE 802.11ax (40MHz, MCS5, 90pc dc) | WLAN | 8.73 | ± 9.6 % |
| 10701 | AAA | IEEE 802.11ax (40MHz, MCS6, 90pc dc) | WLAN | 8.86 | ± 9.6 % |
| 10702 | AAA | IEEE 802.11ax (40MHz, MCS7, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10703 | AAA | IEEE 802.11ax (40MHz, MCS8, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10704 | AAA | IEEE 802.11ax (40MHz, MCS9, 90pc dc) | WLAN | 8.56 | ± 9.6 % |
| 10705 | AAA | IEEE 802.11ax (40MHz, MCS10, 90pc dc) | WLAN | 8.69 | ± 9.6 % |
| 10706 | AAC | IEEE 802.11ax (40MHz, MCS11, 90pc dc) | WLAN | 8.66 | ± 9.6 % |
| 10707 | AAC | IEEE 802.11ax (40MHz, MCS0, 99pc dc) | WLAN | 8.32 | ± 9.6 % |
| 10708 | AAC | IEEE 802.11ax (40MHz, MCS1, 99pc dc) | WLAN | 8.55 | ± 9.6 % |
| 10709 | AAC | IEEE 802.11ax (40MHz, MCS2, 99pc dc) | WLAN | 8.33 | ± 9.6 % |
| 10710 | AAC | IEEE 802.11ax (40MHz, MCS3, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10711 | AAC | IEEE 802.11ax (40MHz, MCS4, 99pc dc) | WLAN | 8.39 | ± 9.6 % |
| 10712 | AAC | IEEE 802.11ax (40MHz, MCS5, 99pc dc) | WLAN | 8.67 | ± 9.6 % |
| 10713 | AAC | IEEE 802.11ax (40MHz, MCS6, 99pc dc) | WLAN | 8.33 | ± 9.6 % |
| 10714 | AAC | IEEE 802.11ax (40MHz, MCS7, 99pc dc) | WLAN | 8.26 | ± 9.6 % |
| 10715 | AAC | IEEE 802.11ax (40MHz, MCS8, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10716 | AAC | IEEE 802.11ax (40MHz, MCS9, 99pc dc) | WLAN | 8.30 | ± 9.6 % |
| 10717 | AAC | IEEE 802.11ax (40MHz, MCS10, 99pc dc) | WLAN | 8.48 | ± 9.6 % |
| 10718 | AAC | IEEE 802.11ax (40MHz, MCS11, 99pc dc) | WLAN | 8.24 | ± 9.6 % |
| 10719 | AAC | IEEE 802.11ax (80MHz, MCS0, 90pc dc) | WLAN | 8.81 | ± 9.6 % |
| 10720 | AAC | IEEE 802.11ax (80MHz, MCS1, 90pc dc) | WLAN | 8.87 | ± 9.6 % |
| 10721 | AAC | IEEE 802.11ax (80MHz, MCS2, 90pc dc) | WLAN | 8.76 | ± 9.6 % |
| 10722 | AAC | IEEE 802.11ax (80MHz, MCS3, 90pc dc) | WLAN | 8.55 | ± 9.6 % |
| 10723 | AAC | IEEE 802.11ax (80MHz, MCS4, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10724 | AAC | IEEE 802.11ax (80MHz, MCS5, 90pc dc) | WLAN | 8.90 | ± 9.6 % |
| 10725 | AAC | IEEE 802.11ax (80MHz, MCS6, 90pc dc) | WLAN | 8.74 | ± 9.6 % |
| 10726 | AAC | IEEE 802.11ax (80MHz, MCS7, 90pc dc) | WLAN | 8.72 | ± 9.6 % |
| 10727 | AAC | IEEE 802.11ax (80MHz, MCS8, 90pc dc) | WLAN | 8.66 | ± 9.6 % |
| 10728 | AAC | IEEE 802.11ax (80MHz, MCS9, 90pc dc) | WLAN | 8.65 | ± 9.6 % |
| 10729 | AAC | IEEE 802.11ax (80MHz, MCS10, 90pc dc) | WLAN | 8.64 | ± 9.6 % |
| 10730 | AAC | IEEE 802.11ax (80MHz, MCS11, 90pc dc) | WLAN | 8.67 | ± 9.6 % |
| 10731 | AAC | IEEE 802.11ax (80MHz, MCS0, 99pc dc) | WLAN | 8.42 | ± 9.6 % |
| 10732 | AAC | IEEE 802.11ax (80MHz, MCS1, 99pc dc) | WLAN | 8.46 | ± 9.6 % |
| 10733 | AAC | IEEE 802.11ax (80MHz, MCS2, 99pc dc) | WLAN | 8.40 | ± 9.6 % |
| 10734 | AAC | IEEE 802.11ax (80MHz, MCS3, 99pc dc) | WLAN | 8.25 | ± 9.6 % |
| 10735 | AAC | IEEE 802.11ax (80MHz, MCS4, 99pc dc) | WLAN | 8.33 | ± 9.6 % |
| 10736 | AAC | IEEE 802.11ax (80MHz, MCS5, 99pc dc) | WLAN | 8.27 | ± 9.6 % |
| 10737 | AAC | IEEE 802.11ax (80MHz, MCS6, 99pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10738 | AAC | IEEE 802.11ax (80MHz, MCS7, 99pc dc) | WLAN | 8.42 | ± 9.6 % |
| 10739 | AAC | IEEE 802.11ax (80MHz, MCS8, 99pc dc) | WLAN | 8.29 | ± 9.6 % |
| 10740 | AAC | IEEE 802.11ax (80MHz, MCS9, 99pc dc) | WLAN | 8.48 | ± 9.6 % |
| 10741 | AAC | IEEE 802.11ax (80MHz, MCS10, 99pc dc) | WLAN | 8.40 | ± 9.6 % |
| 10742 | AAC | IEEE 802.11ax (80MHz, MCS11, 99pc dc) | WLAN | 8.43 | ± 9.6 % |
| 10743 | AAC | IEEE 802.11ax (160MHz, MCS0, 90pc dc) | WLAN | 8.94 | ± 9.6 % |
| 10744 | AAC | IEEE 802.11ax (160MHz, MCS1, 90pc dc) | WLAN | 9.16 | ± 9.6 % |
| 10745 | AAC | IEEE 802.11ax (160MHz, MCS2, 90pc dc) | WLAN | 8.93 | ± 9.6 % |
| 10746 | AAC | IEEE 802.11ax (160MHz, MCS3, 90pc dc) | WLAN | 9.11 | ± 9.6 % |
| 10747 | AAC | IEEE 802.11ax (160MHz, MCS4, 90pc dc) | WLAN | 9.04 | ± 9.6 % |
| 10748 | AAC | IEEE 802.11ax (160MHz, MCS5, 90pc dc) | WLAN | 8.93 | ± 9.6 % |
| 10749 | AAC | IEEE 802.11ax (160MHz, MCS6, 90pc dc) | WLAN | 8.90 | ± 9.6 % |
| 10750 | AAC | IEEE 802.11ax (160MHz, MCS7, 90pc dc) | WLAN | 8.79 | ± 9.6 % |
| 10751 | AAC | IEEE 802.11ax (160MHz, MCS8, 90pc dc) | WLAN | 8.82 | ± 9.6 % |
| 10752 | AAC | IEEE 802.11ax (160MHz, MCS9, 90pc dc) | WLAN | 8.81 | ± 9.6 % |
| 10753 | AAC | IEEE 802.11ax (160MHz, MCS10, 90pc dc) | WLAN | 9.00 | ± 9.6 % |
| 10754 | AAC | IEEE 802.11ax (160MHz, MCS11, 90pc dc) | WLAN | 8.94 | ± 9.6 % |



 

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| 10755 | AAC | IEEE 802.11ax (160MHz, MCS0, 99pc dc) | WLAN | 8.64 | ± 9.6 % |
| 10756 | AAC | IEEE 802.11ax (160MHz, MCS1, 99pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10757 | AAC | IEEE 802.11ax (160MHz, MCS2, 99pc dc) | WLAN | 8.77 | ± 9.6 % |
| 10758 | AAC | IEEE 802.11ax (160MHz, MCS3, 99pc dc) | WLAN | 8.69 | ± 9.6 % |
| 10759 | AAC | IEEE 802.11ax (160MHz, MCS4, 99pc dc) | WLAN | 8.58 | ± 9.6 % |
| 10760 | AAC | IEEE 802.11ax (160MHz, MCS5, 99pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10761 | AAC | IEEE 802.11ax (160MHz, MCS6, 99pc dc) | WLAN | 8.58 | ± 9.6 % |
| 10762 | AAC | IEEE 802.11ax (160MHz, MCS7, 99pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10763 | AAC | IEEE 802.11ax (160MHz, MCS8, 99pc dc) | WLAN | 8.53 | ± 9.6 % |
| 10764 | AAC | IEEE 802.11ax (160MHz, MCS9, 99pc dc) | WLAN | 8.54 | ± 9.6 % |
| 10765 | AAC | IEEE 802.11ax (160MHz, MCS10, 99pc dc) | WLAN | 8.54 | ± 9.6 % |
| 10766 | AAC | IEEE 802.11ax (160MHz, MCS11, 99pc dc) | WLAN | 8.51 | ± 9.6 % |
| 10767 | AAC | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 7.99 | ± 9.6 % |
| 10768 | AAC | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10769 | AAC | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10770 | AAC | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10771 | AAC | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10772 | AAC | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.23 | ± 9.6 % |
| 10773 | AAC | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.03 | ± 9.6 % |
| 10774 | AAC | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10775 | AAC | 5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10776 | AAC | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10777 | AAC | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10778 | AAC | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10779 | AAC | 5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.42 | ± 9.6 % |
| 10780 | AAC | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.38 | ± 9.6 % |
| 10781 | AAC | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.38 | ± 9.6 % |
| 10782 | AAC | 5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.43 | ± 9.6 % |
| 10783 | AAC | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10784 | AAC | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.29 | ± 9.6 % |
| 10785 | AAC | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10786 | AAC | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10787 | AAC | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.44 | ± 9.6 % |
| 10788 | AAC | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10789 | AAC | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10790 | AAC | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10791 | AAC | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.83 | ± 9.6 % |
| 10792 | AAC | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.92 | ± 9.6 % |
| 10793 | AAC | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.95 | ± 9.6 % |
| 10794 | AAC | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10795 | AAC | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.84 | ± 9.6 % |
| 10796 | AAC | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10797 | AAC | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10798 | AAC | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10799 | AAC | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10801 | AAC | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10802 | AAC | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.87 | ± 9.6 % |
| 10803 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10805 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10809 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10810 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10812 | AAD | 5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10817 | AAD | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10818 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10819 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.33 | ± 9.6 % |
| 10820 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10821 | AAC | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10822 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |



 

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|---|---|---|---|---|---|
| 10823 | AAC | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10824 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10825 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10827 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.42 | ± 9.6 % |
| 10828 | AAE | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.43 | ± 9.6 % |
| 10829 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10830 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.63 | ± 9.6 % |
| 10831 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.73 | ± 9.6 % |
| 10832 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.74 | ± 9.6 % |
| 10833 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10834 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.75 | ± 9.6 % |
| 10835 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10836 | AAE | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.66 | ± 9.6 % |
| 10837 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.68 | ± 9.6 % |
| 10839 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10840 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.67 | ± 9.6 % |
| 10841 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 7.71 | ± 9.6 % |
| 10843 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.49 | ± 9.6 % |
| 10844 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10846 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10854 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10855 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10856 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10857 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10858 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10859 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10860 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10861 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10863 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10864 | AAE | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10865 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz) | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10866 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10868 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.89 | ± 9.6 % |
| 10869 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10870 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 5.86 | ± 9.6 % |
| 10871 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10872 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.52 | ± 9.6 % |
| 10873 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.61 | ± 9.6 % |
| 10874 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65 | ± 9.6 % |
| 10875 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 7.78 | ± 9.6 % |
| 10876 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 8.39 | ± 9.6 % |
| 10877 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 7.95 | ± 9.6 % |
| 10878 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 8.41 | ± 9.6 % |
| 10879 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 8.12 | ± 9.6 % |
| 10880 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 8.38 | ± 9.6 % |
| 10881 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10882 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 5.96 | ± 9.6 % |
| 10883 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.57 | ± 9.6 % |
| 10884 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.53 | ± 9.6 % |
| 10885 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.61 | ± 9.6 % |
| 10886 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65 | ± 9.6 % |
| 10887 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 7.78 | ± 9.6 % |
| 10888 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz) | 5G NR FR2 TDD | 8.35 | ± 9.6 % |
| 10889 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 8.02 | ± 9.6 % |
| 10890 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 8.40 | ± 9.6 % |
| 10891 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 8.13 | ± 9.6 % |
| 10892 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 8.41 | ± 9.6 % |
| 10897 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.66 | ± 9.6 % |
| 10898 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.67 | ± 9.6 % |



 

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|---|---|---|---|---|---|
| 10899 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.67 | ± 9.6 % |
| 10900 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10901 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10902 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10903 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10904 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10905 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10906 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10907 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.78 | ± 9.6 % |
| 10908 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.93 | ± 9.6 % |
| 10909 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.96 | ± 9.6 % |
| 10910 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10911 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.93 | ± 9.6 % |
| 10912 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10913 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10914 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.85 | ± 9.6 % |
| 10915 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10916 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.87 | ± 9.6 % |
| 10917 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.94 | ± 9.6 % |
| 10918 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10919 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10920 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.87 | ± 9.6 % |
| 10921 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10922 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.82 | ± 9.6 % |
| 10923 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10924 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10925 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.95 | ± 9.6 % |
| 10926 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10927 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 5.94 | ± 9.6 % |
| 10928 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10929 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10930 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.52 | ± 9.6 % |
| 10931 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10932 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10933 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10934 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10935 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.51 | ± 9.6 % |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.90 | ± 9.6 % |
| 10937 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.77 | ± 9.6 % |
| 10938 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.90 | ± 9.6 % |
| 10939 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.82 | ± 9.6 % |
| 10940 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.89 | ± 9.6 % |
| 10941 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.83 | ± 9.6 % |
| 10942 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.85 | ± 9.6 % |
| 10943 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.95 | ± 9.6 % |
| 10944 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.81 | ± 9.6 % |
| 10945 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.85 | ± 9.6 % |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.83 | ± 9.6 % |
| 10947 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.87 | ± 9.6 % |
| 10948 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.94 | ± 9.6 % |
| 10949 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.87 | ± 9.6 % |
| 10950 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.94 | ± 9.6 % |
| 10951 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz) | 5G NR FR1 FDD | 5.92 | ± 9.6 % |
| 10952 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.25 | ± 9.6 % |
| 10953 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.15 | ± 9.6 % |
| 10954 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.23 | ± 9.6 % |
| 10955 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.42 | ± 9.6 % |
| 10956 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.14 | ± 9.6 % |
| 10957 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.31 | ± 9.6 % |



 