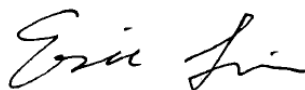


# FCC SAR TEST REPORT

**Application No.:** KSCR2205000877AT(FYCR2204000134AT)  
**Applicant:** Hytera Communications Corporation Limited  
**Address of Applicant:** Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, P.R.C., P 518057  
**Manufacturer:** Hytera Communications Corporation Limited  
**Address of Manufacturer:** Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, P.R.C., P 518057  
**Product Name:** 5G XSecure Rugged Device  
**Model No.(EUT):** PNC560/ PNC560 SCAN  
**Trade mark:** Hytera  
**FCC ID:** YAMPNC560  
**Standard(s) :** FCC 47CFR §2.1093  
**Date of Receipt:** 2022-05-27  
**Date of Test:** 2022-06-13 to 2022-07-21  
**Date of Issue:** 2022-07-27

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

\* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin  
EMC Laboratory Manager



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### REVISION HISTORY

Revision Record			
Version	Description	Date	Remark
00	Original	2022-07-27	/

<b>Authorized for issue by:</b>			
		<i>Richard Kong</i>	
		<b>Richard.Kong/ Project Engineer</b>	
		<i>Eric Lin</i>	
		<b>Eric.Lin/Reviewer</b>	

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### TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)		
	Head	Body	Extremity
GSM850	0.28	1.15	2.68
GSM1900	0.23	0.23	0.57
WCDMA Band II	0.41	0.25	0.70
WCDMA Band IV	0.33	0.25	0.50
WCDMA Band V	0.22	0.33	1.03
LTE Band 2	0.44	0.16	0.44
LTE Band 4	0.36	0.19	0.45
LTE Band 5	0.27	0.28	0.79
LTE Band 7	0.48	0.13	0.30
LTE Band 12	0.12	0.21	0.54
LTE Band 13	0.18	0.26	0.94
LTE Band 17	0.09	0.17	0.55
LTE Band 26	0.28	0.32	0.96
LTE Band 38	1.12	0.44	0.79
LTE Band 40 a	0.41	0.22	0.44
LTE Band 40 b	0.46	0.25	0.55
LTE Band 41	0.32	0.60	1.31
LTE Band 42	0.48	0.30	0.54
LTE Band 48	1.16	0.35	0.62
FR1 N2	0.54	0.34	0.83
FR1 N5	0.27	0.31	1.16
FR1 N41	1.13	0.31	1.13
FR1 N66	0.58	0.23	0.60
FR1 N71	0.18	0.26	0.98
WI-FI (2.4GHz)	0.32	0.07	0.25
WI-FI (5GHz)	0.83	0.22	0.51
Bluetooth	0.23	0.08	0.25
SAR Limited(W/kg)	1.6	1.6	4.0
Maximum Simultaneous Transmission SAR (W/kg)			
Scenario	Head	Body	Extremity
Sum SAR	1.59	1.37	3.88
SPLSR	/	/	/
SPLSR Limited	0.04	0.04	0.1

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# 1 General Information

## 1.1 General Description of EUT

Product Phase:	Production unit		
Device Type:	Portable device		
Exposure Category:	Uncontrolled environment / general population		
SN:	D16N209D1455591		
Hardware Version:	1FU010_V1.02		
Software Version:	V1.0.04.000.03		
Antenna Gain:	BT/2.4G/5G WIFI antenna gain: -0.5dBi GSM850: -2dBi; PCS1900: -1dBi WCDMA: B2: -1dBi, B4: -1dBi, B5: -2dBi LTE: B2, -1dBi; 4, -1dBi; 5, -2dBi; 7, 1dBi; 12, -2.5dBi; 13, -2.5dBi; 17, -2.5dBi; 26, -2dBi; 38, 1dBi; 40, -0.5dBi; 41, 1dBi; 42, 1dBi; 48, 1dBi NR: n2, -1dBi; 5, -2dBi; 41, 1dBi; 66, -1dBi; 71, -2.5dBi		
Antenna Type:	PIFA Antenna		
Device Operating Configurations :			
Modulation Mode:	WCDMA: QPSK, BPSK; LTE: QPSK, 16QAM; 5G NR (FDD 15SCS, TDD 30SCS) WIFI: CCK, DSSS, OFDM; BT: GFSK, π/4DQPSK, 8DPSK; BLE: GFSK		
HSDPA UE Category:	14	HSUPA UE Category	6
DC-HSDPA UE Category:	24		
Power Class:	4, tested with power level 5(GSM850)		
	1, tested with power level 0(GSM1900)		
	3, tested with power control "all 1" (WCDMA Band)		
	3, tested with power control Max Power (LTE Band)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824~849	869~894
	GSM1900	1850~1910	1930~1990
	WCDMA Band II	1850-1910	1930-1990
	WCDMA Band IV	1710-1755	2110- 2155
	WCDMA Band V	824-849	869-894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110- 2155
	LTE Band 5	824-849	869-894

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LTE Band 7	2500-2570	2620- 2690
LTE Band 12	699-716	729-746
LTE Band 13	777-787	746-756
LTE Band 17	704-716	734-746
LTE Band 26	814-849	859-894
LTE Band 38	2570~2620	2570~2620
LTE Band 40	2305-2315 MHz 2345-2355 MHz	2305-2315 MHz 2345-2355 MHz
LTE Band 41	2496-2690	2496-2690
LTE Band 42	3450-3550	3450-3550
LTE Band 48	3550-3700	3550-3700
N2	1850-1910	1930-1990
N5	1710-1785	1805-1880
N41	2496-2690	2496-2690
N66	1710-1780	2110-2200
N71	663-698	617-652
WIFI2.4G	2412-2462	2412-2462
U-NII-1	5150-5250	5150-5250
U-NII-3	5725~5850	5725~5850
BT	2402-2480	2402-2480

Battery Information:	Model:	BP4901
	Normal Voltage:	DC3.85V
	Rated capacity:	4900mAh
	Battery Type:	Rechargeable Li-ion Battery
	Manufacturer:	Hytera Communication Corporation Limited

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1.1.1 DUT Antenna Locations

Please see the Appendix D

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## 1.2 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radio frequency Radiation Exposure Evaluation: Portable Devices
IEEE Std C95.1 – 1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz
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
KDB 447498 D04v01	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB 865664 D01 v01r04	SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 v01r02	RF Exposure Compliance Reporting and Documentation Considerations
KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 616217 D04 v01r02	SAR EVALUATION CONSIDERATIONS FOR LAPTOP, NOTEBOOK, NETBOOK AND TABLET COMPUTERS
KDB 648474 D04 v01r03	SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS
KDB 941225 D01 v03r01	3G SAR Measurement Procedures
KDB 941225 D05 v02r05	SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES



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### 1.3 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
<b>Spatial Peak SAR*</b> (Brain*Trunk)	1.60 W/kg	8.00 W/kg
<b>Spatial Average SAR**</b> (Whole Body)	0.08 W/kg	0.40 W/kg
<b>Spatial Peak SAR***</b> (Hands/Feet/Ankle/Wrist)	4.00 W/kg	20.00 W/kg

**Notes:**

\* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

\*\* The Spatial Average value of the SAR averaged over the whole body.

\*\*\* The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

**Uncontrolled Environments** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**Controlled Environments** are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)



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## 1.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc ) is provided by the applicant. (if applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

## 1.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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## 2 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	



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### 3 SAR Measurements System Configuration

#### 3.1 The SAR Measurement System

This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation  $SAR = \sigma (|E_i|^2) / \rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:

A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

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.

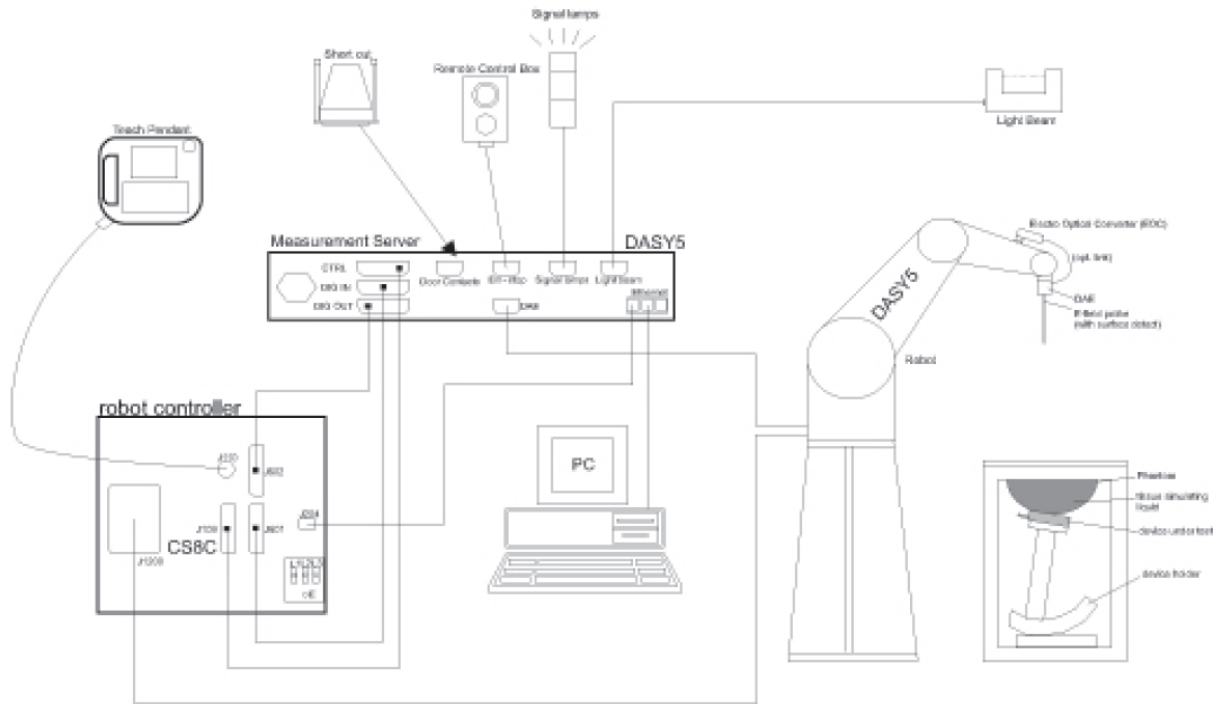
The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



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F-1. SAR Measurement System Configuration

- 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.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

### 3.2 Isotropic E-field Probe EX3DV4

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	<p>Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)</p>
<p><b>Calibration</b></p>	<p>ISO/IEC 17025 <a href="#">calibration service</a> available.</p>
<p><b>Frequency</b></p>	<p>10 MHz to &gt; 6 GHz Linearity: <math>\pm 0.2</math> dB (30 MHz to 6 GHz)</p>
<p><b>Directivity</b></p>	<p><math>\pm 0.3</math> dB in TSL (rotation around probe axis) <math>\pm 0.5</math> dB in TSL (rotation normal to probe axis)</p>
<p><b>Dynamic Range</b></p>	<p>10 <math>\mu</math>W/g to &gt; 100 mW/g Linearity: <math>\pm 0.2</math> dB (noise: typically &lt; 1 <math>\mu</math>W/g)</p>
<p><b>Dimensions</b></p>	<p>Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm</p>
<p><b>Application</b></p>	<p>High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.</p>
<p><b>Compatibility</b></p>	<p>DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI</p>



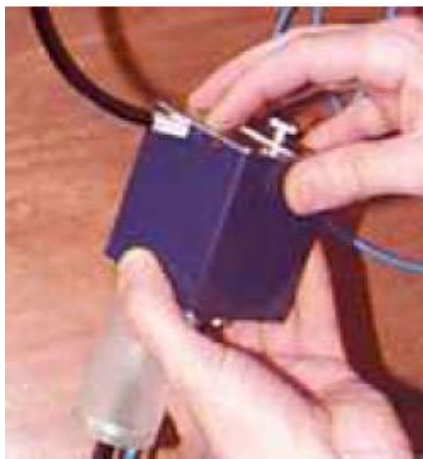
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### 3.3 Data Acquisition Electronics (DAE)

<b>Model</b>	DAE4	
<b>Construction</b>	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
<b>Measurement Range</b>	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)	
<b>Input Offset Voltage</b>	< 5μV (with auto zero)	
<b>Input Bias Current</b>	< 50 f A	
<b>Dimensions</b>	60 x 60 x 68 mm	

### 3.4 SAM Twin Phantom

<b>Material</b>	Vinylester, glass fiber reinforced (VE-GF)	
<b>Liquid Compatibility</b>	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
<b>Shell Thickness</b>	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
<b>Dimensions (incl. Wooden Support)</b>	Length: 1000 mm Width: 500 mm Height: adjustable feet	
<b>Filling Volume</b>	approx. 25 liters	
<b>Wooden Support</b>	SPEAG standard phantom table	

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.




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### 3.5 ELI Phantom

<b>Material</b>	Vinylester, glass fiber reinforced (VE-GF)	
<b>Liquid Compatibility</b>	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
<b>Shell Thickness</b>	2.0 ± 0.2 mm (bottom plate)	
<b>Dimensions</b>	Major axis: 600 mm Minor axis: 400 mm	
<b>Filling Volume</b>	approx. 30 liters	
<b>Wooden Support</b>	SPEAG standard phantom table	

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

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### 3.6 Device Holder for Transmitters



F-2. Device Holder for Transmitters

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon=3$  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.

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EMC Laboratory

### 3.7 Measurement procedure

#### 3.7.1 Scanning procedure

##### Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

##### Step 2: Area scan

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm\*15mm or 12mm\*12mm or 10mm\*10mm. Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

##### Step 3: Zoom scan

Around this point, a volume of 30mm\*30mm\*30mm (fine resolution volume scan, zoom scan) was assessed by measuring 5x5x7 points ( $\leq 2\text{GHz}$ ) and 7x7x7 points ( $\geq 2\text{GHz}$ ). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification). The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements. 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. 1528-2013.



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		≤ 3 GHz	> 3 GHz	
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$	
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30° ± 1°	20° ± 1°	
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm	
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.		
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	≤ 1.5 · $\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> 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.				

### Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max. ± 5 %



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### 3.7.2 Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension “.DAE3”. The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm<sup>2</sup>], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

### 3.7.3 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
- Conversion factor	ConvFi	
- Diode compression point	Dcpi	
Device parameters:	- Frequency	f
- Crest factor	cf	
Media parameters:	- Conductivity	ε
- Density	ρ	

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot c f / d c p_i$$

With  $V_i$  = compensated signal of channel  $i$  ( $i = x, y, z$ )

$U_i$  = input signal of channel  $i$  ( $i = x, y, z$ )



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cf = crest factor of exciting field (DASY parameter)

dcp i = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

$$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2) / f$$

With  $V_i$  = compensated signal of channel i (i = x, y, z)

$Norm_i$  = sensor sensitivity of channel i (i = x, y, z)

[mV/(V/m)<sup>2</sup>] for E-field Probes

ConvF = sensitivity enhancement in solution

$a_{ij}$  = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

$E_i$  = electric field strength of channel i in V/m

$H_i$  = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (E_{tot}^2 \cdot \sigma) / (\epsilon \cdot 1000)$$

With SAR = local specific absorption rate in mW/g

$E_{tot}$  = total field strength in V/m

$\sigma$  = conductivity in [mho/m] or [Siemens/m]

$\epsilon$  = equivalent tissue density in g/cm<sup>3</sup>

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with  $P_{pwe}$  = equivalent power density of a plane wave in mW/cm<sup>2</sup>

$E_{tot}$  = total electric field strength in V/m

$H_{tot}$  = total magnetic field strength in A/m



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## 4 SAR measurement variability and uncertainty

### 4.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, 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. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.80$  W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.80$  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  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.



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## 4.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.



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### 5 Description of Test Position

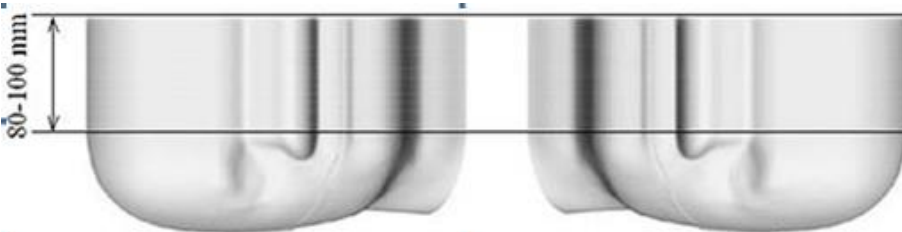
#### 5.1 The Head Test Position

##### 5.1.1 SAM Phantom Shape

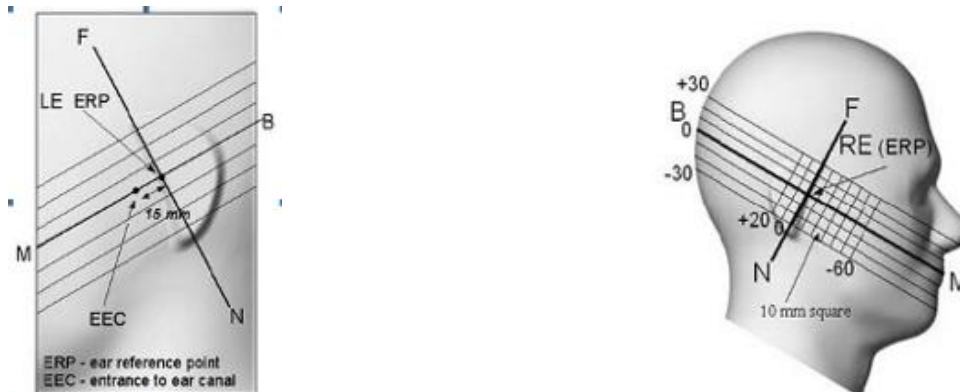


F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

Note: The centre strip including the nose region has a different thickness tolerance.



F-4. Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)



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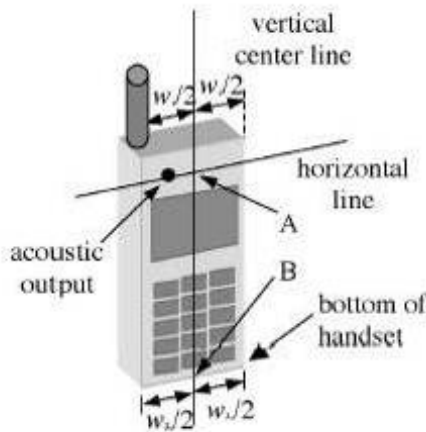
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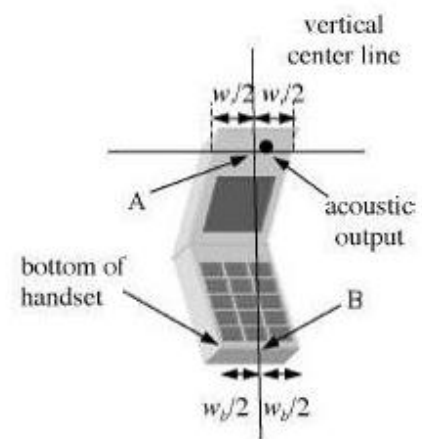
F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

### 5.1.2 EUT constructions



F-7. Handset vertical and horizontal reference lines—"fixed case"



F-8. Handset vertical and horizontal reference lines—"clam-shell case"

### 5.1.3 Definition of the "cheek" position

- Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.
- Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

### 5.1.4 Definition of the "tilted" position

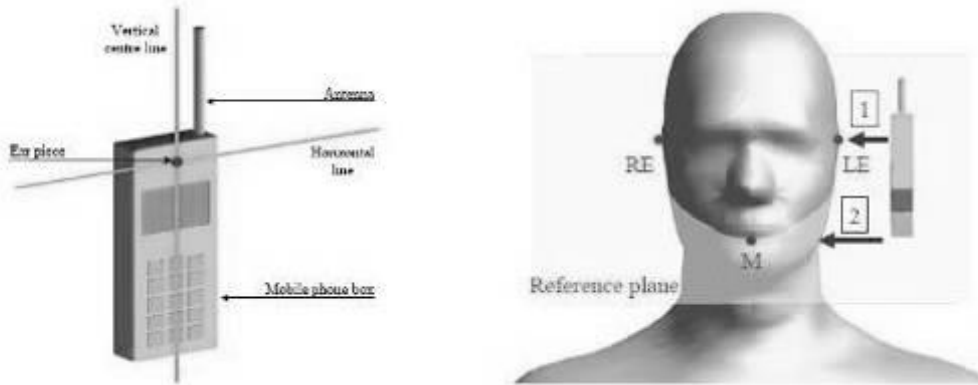
- Position the device in the "cheek" position described above;
- While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

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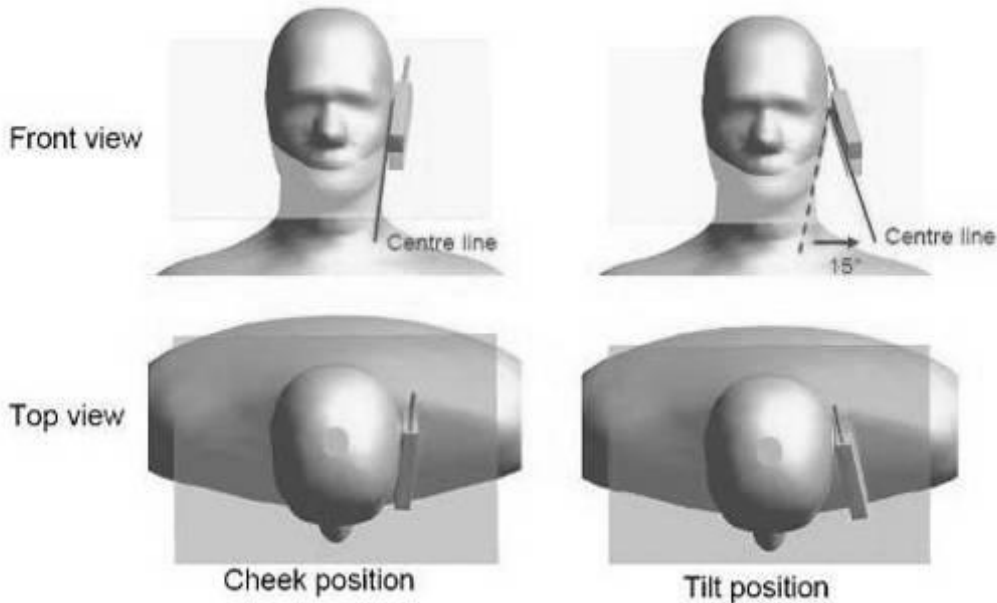
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F-9. Definition of the reference lines and points, on the phone and on the phantom and initial position



F-10. "Cheek" and "tilt" positions of the mobile phone on the left side

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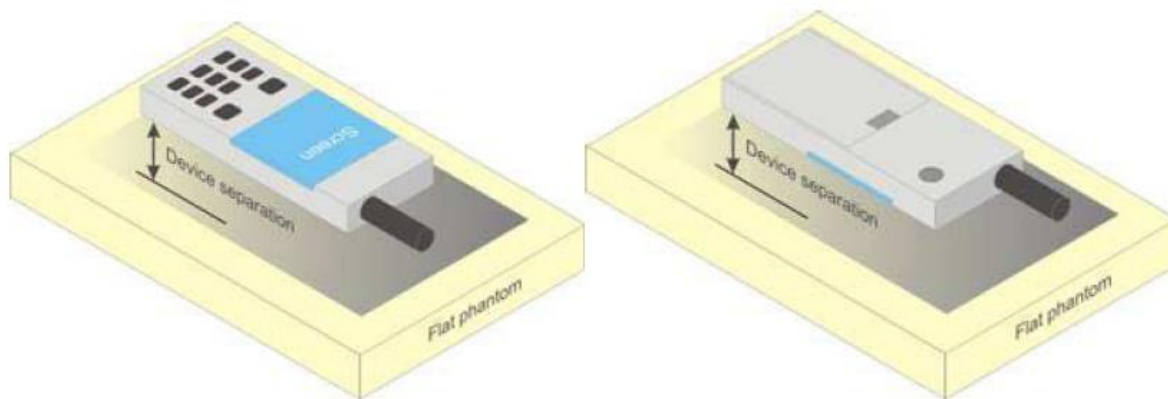
### 5.2 The Body Test Position

#### 5.2.1 Body-worn accessory exposure conditions

Devices that support transmission while used with body-worn accessories must be tested for body-worn accessory SAR compliance. SAR evaluation is required for body-worn accessories supplied with the host device. The test configurations must be conservative for supporting the body-worn accessory use conditions expected by users, as indicated in Figure 11

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

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the surface of the device and the flat phantom is used. Base upon the description of EN 62209-2, a separation distance 5 mm is commonly used for body-worn mobile phones, to represent a spacing provided by intended accessories. So the separation distance 5 mm is used for body-worn SAR testing of this device.



F-11. Test positions for body-worn devices

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### 5.3 Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

### 5.4 Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Due to the SAR result, only the following frequency bands need to test with 0mm for the Product Specific 10-g SAR, the others are not required.



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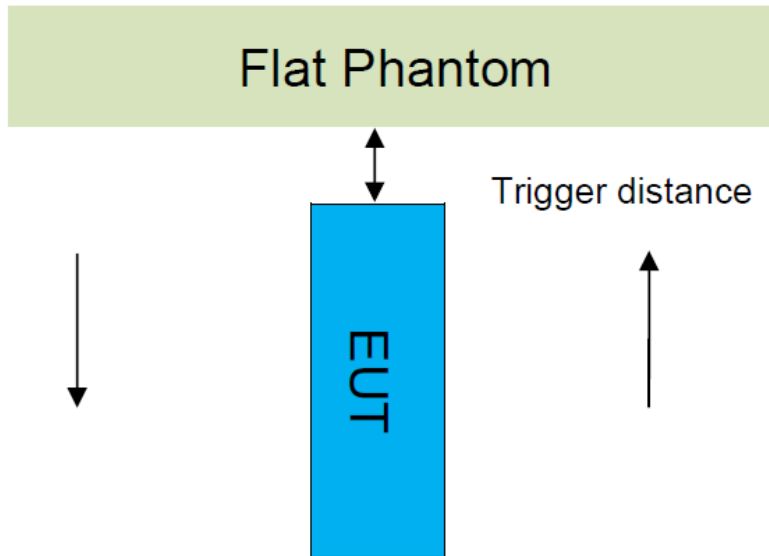
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### 5.5 Proximity Sensor Triggering Test

**Proximity sensor triggering distances:**

The Proximity sensor triggering was applied to WWAN antenna. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.



Proximity Sensor Triggering Distance(mm)		
Position	Front side	Back side
Minimum	16	16
Required SAR Test	15	15

Note: SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

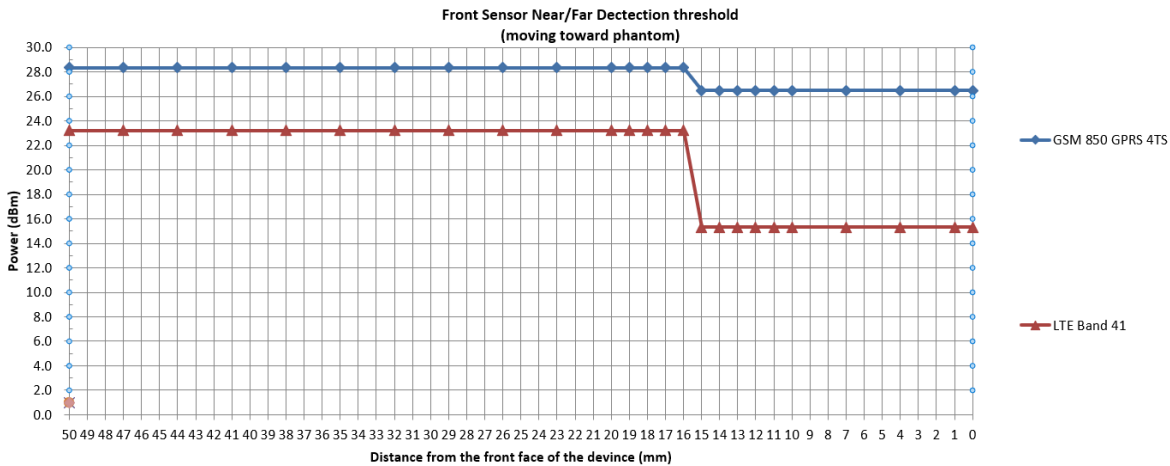


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### DUT Moving Toward(Trigger)the Phantom



### Proximity sensor coverage

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

### Device tilt angle influences to proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.

Rotating the tablet around the edge next to the phantom in  $\leq 10^\circ$  increments until the tablet is  $\pm 45^\circ$  from the vertical position at  $0^\circ$ , and the maximum output power remains in the reduced mode.



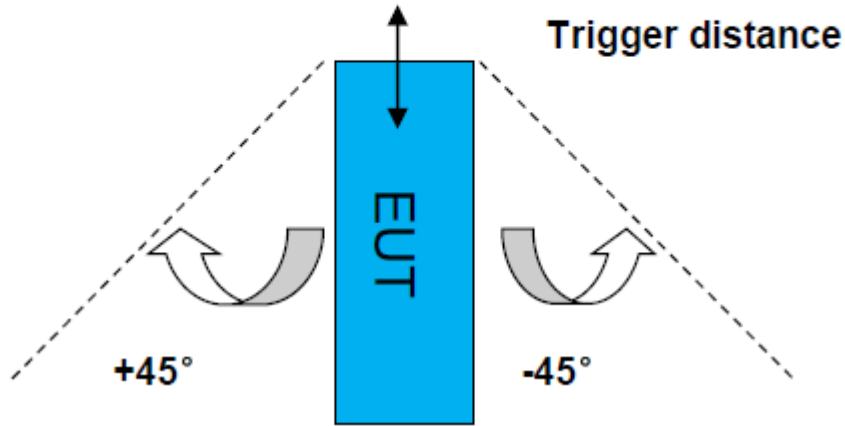
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### Flat Phantom



Summary Tilt Angle Influence to Proximity Sensor Triggering for Top Side

Band	Minimum distance(mm)	-45	-40	-30	-20	-10	0	10	20	30	40	45
GSM850	16	on	on	on	on	on	on	on	on	on	on	on
LTE Band 41	16	on	on	on	on	on	on	on	on	on	on	on



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## 6 SAR System Verification Procedure

### 6.1 Tissue Simulate Liquid

#### 6.1.1 Recipes for Tissue Simulate Liquid

The following tables give the recipes for tissue simulating liquids to be used in different frequency bands:

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

HSL5GHz is composed of the following ingredients:

Water: 50-65%

Mineral oil: 10-30%

Emulsifiers: 8-25%

Sodium salt: 0-1.5%

MSL5GHz is composed of the following ingredients:

Water: 64-78%

Mineral oil: 11-18%

Emulsifiers: 9-15%

Sodium salt: 2-3%

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### 6.1.2 Test Liquids Confirmation

#### Simulated tissue liquid parameter confirmation

The dielectric parameters were checked prior to assessment using the SPEAG DAK3.5 dielectric probe kit. The dielectric parameters measured are reported in each correspondent section.

#### IEEE SCC-34/SC-2 P1528 recommended tissue dielectric parameters

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528

Target Frequency (MHz)	Head		Body	
	$\epsilon_r$	$\sigma$ (S/m)	$\epsilon_r$	$\sigma$ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

( $\epsilon_r$  = relative permittivity,  $\sigma$  = conductivity and  $\rho = 1000 \text{ kg/m}^3$ )



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### 6.1.3 Measurement for Tissue Simulate Liquid

The dielectric properties for this Tissue Simulate Liquids were measured by using the SPEAG DAK3.5 dielectric probe kit in conjunction with Agilent E5071B Network Analyzer (300 KHz-8500 MHz). The Conductivity ( $\sigma$ ) and Permittivity ( $\rho$ ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was  $22\pm 2^{\circ}\text{C}$ .

Tissue Type	Measured Frequency (MHz)	Conductivity ( $\sigma$ )	Permittivity ( $\epsilon_r$ )	Conductivity Target ( $\sigma$ )	Permittivity Target ( $\epsilon_r$ )	Delta ( $\sigma$ ) (%)	Delta ( $\epsilon_r$ ) (%)	Limit (%)	Liquid Temp. ( $^{\circ}\text{C}$ )	Date
750 Head	750	0.88	43.03	0.89	41.90	-1.35	2.69	$\pm 5$	22.1	2022/6/13
750 Head	750	0.88	42.99	0.89	41.90	-1.12	2.60	$\pm 5$	22.1	2022/6/14
835 Head	835	0.89	40.97	0.90	41.50	-1.11	-1.27	$\pm 5$	22.1	2022/6/15
835 Head	835	0.88	40.94	0.90	41.50	-2.22	-1.35	$\pm 5$	22.1	2022/7/21
1800 Head	1800	1.38	40.26	1.40	40.00	-1.14	0.65	$\pm 5$	22.1	2022/6/17
1800 Head	1800	1.38	40.13	1.40	40.00	-1.43	0.33	$\pm 5$	22.1	2022/6/18
1900 Head	1900	1.41	41.79	1.40	40.00	0.93	4.48	$\pm 5$	22	2022/6/19
1900 Head	1900	1.40	41.80	1.40	40.00	0.00	4.50	$\pm 5$	22	2022/6/20
2300 Head	2300	1.65	39.66	1.67	39.50	-1.26	0.39	$\pm 5$	22.1	2022/6/21
2300 Head	2300	1.66	39.67	1.67	39.50	-0.60	0.43	$\pm 5$	22.1	2022/6/22
2450 Head	2450	1.82	39.15	1.80	39.20	1.28	-0.14	$\pm 5$	22	2022/6/23
2450 Head	2450	1.73	39.02	1.80	39.20	-3.89	-0.46	$\pm 5$	22	2022/6/24
2600 Head	2600	1.98	38.66	1.96	39.00	1.12	-0.88	$\pm 5$	22.1	2022/6/25
2600 Head	2600	1.99	38.64	1.96	39.00	1.53	-0.92	$\pm 5$	22.1	2022/7/21
3500 Head	3500	3.01	38.27	2.91	37.93	3.33	0.90	$\pm 5$	22.1	2022/6/27
3500 Head	3500	2.87	38.12	2.91	37.93	-1.37	0.50	$\pm 5$	22.1	2022/6/28
3700 Head	3700	3.24	37.64	3.12	37.70	3.88	-0.16	$\pm 5$	22.2	2022/6/29
3700 Head	3700	3.21	37.61	3.12	37.70	2.88	-0.24	$\pm 5$	22.2	2022/6/29
5200 Head	5200	4.66	36.05	4.66	36.01	0.04	0.11	$\pm 5$	22.1	2022/6/30
5800 Head	5800	5.24	34.50	5.28	35.24	-0.78	-2.11	$\pm 5$	22.1	2022/6/30

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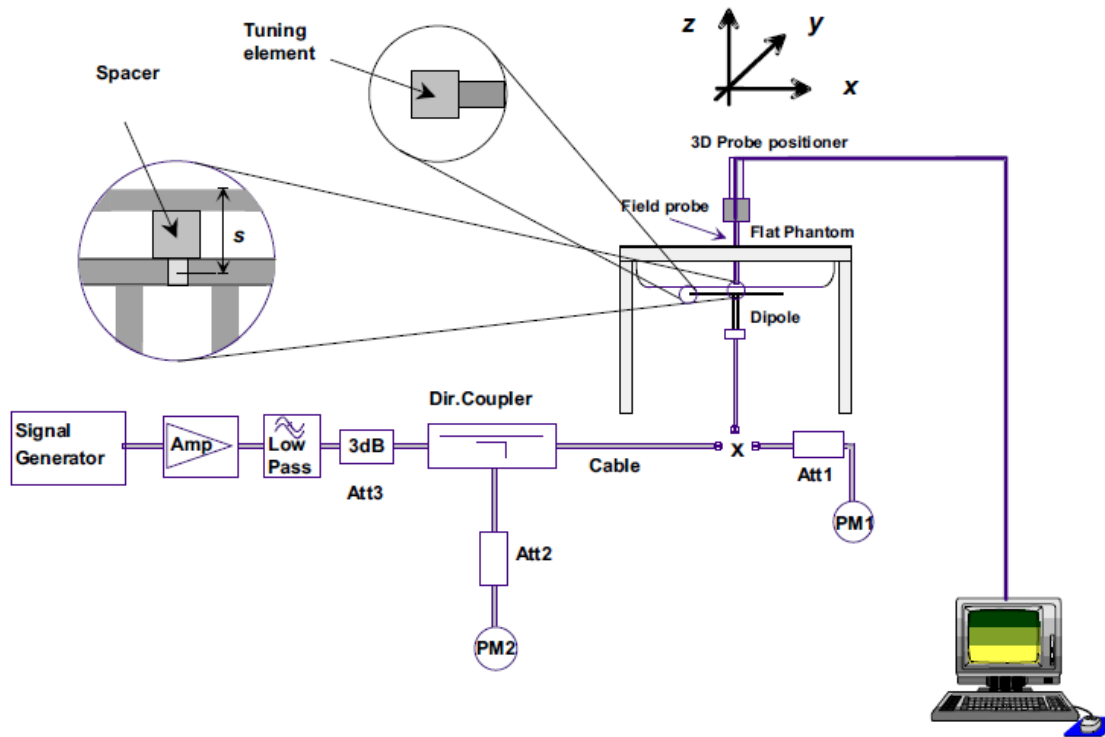
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### 6.2 SAR System Check

The microwave circuit arrangement for system check is sketched in bellow figure. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table. During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12. the microwave circuit arrangement used for SAR system verification



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### 6.2.1 Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

- a) There is no physical damage on the dipole;
- b) System check with specific dipole is within 10% of calibrated value;
- c) Return-loss is within 10% of calibrated measurement;
- d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.



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6.2.2 Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1w)	Measured SAR (normalized to 1w)	Target SAR (normalized to 1w) (±10%)	Target SAR (normalized to 1w) (±10%)	Liquid Temp. (°C)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V2	Head	2.12	1.31	8.48	5.24	8.27 (7.44~9.10)	5.48 (4.93~6.03)	22.1	2022/6/13
D750V2	Head	2.11	1.29	8.44	5.16	8.27 (7.44~9.10)	5.48 (4.93~6.03)	22.1	2022/6/14
D835V2	Head	2.33	1.55	9.32	6.2	9.40 (8.46~10.34)	6.12 (5.51~6.73)	22.1	2022/6/15
D835V2	Head	2.28	1.47	9.12	5.88	9.40 (8.46~10.34)	6.12 (5.51~6.73)	22.1	2022/7/21
D1800V2	Head	9.34	4.92	37.36	19.68	38.9 (35.01~42.79)	20.4 (18.36~22.44)	22.1	2022/6/17
D1800V2	Head	9.27	4.78	37.08	19.12	38.9 (35.01~42.79)	20.4 (18.36~22.44)	22.1	2022/6/18
D1900V2	Head	10.3	4.94	41.2	19.76	40.0 (36.00~44.00)	20.3 (18.72~22.88)	22	2022/6/19
D1900V2	Head	10.19	4.74	40.76	18.96	40.0 (36.00~44.00)	20.3 (18.72~22.88)	22	2022/6/20
D2300V2	Head	11.9	5.82	47.6	23.28	49.2 (44.28~54.12)	23.4 (21.06~25.74)	22.1	2022/6/21
D2300V2	Head	11.67	5.64	46.68	22.56	49.2 (44.28~54.12)	23.4 (21.06~25.74)	22.1	2022/6/22
D2450V2	Head	13.83	6.59	55.32	26.36	53 (47.70~58.30)	24.7 (22.23~27.17)	22	2022/6/23
D2450V2	Head	13.68	6.33	54.72	25.32	53 (47.70~58.30)	24.7 (22.23~27.17)	22	2022/6/24
D2600V2	Head	14.21	6.27	56.84	25.08	54.8 (49.32~60.28)	24.5 (22.05~26.95)	22.1	2022/6/25
D2600V2	Head	14.15	6.24	56.6	24.96	54.8 (49.32~60.28)	24.5 (22.05~26.95)	22.1	2022/7/21
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1w)	Measured SAR (normalized to 1w)	Target SAR (normalized to 1w) (±10%)	Target SAR (normalized to 1w) (±10%)	Liquid Temp. (°C)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D3500V2	Head	5.82	2.25	58.2	22.5	62.7 (56.43~68.97)	23.7 (21.33~26.07)	22	2022/6/27
D3500V2	Head	5.84	2.22	58.4	22.2	62.7 (56.43~68.97)	23.7 (21.33~26.07)	22	2022/6/27

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EMC Laboratory

D3700V2	Head	6.52	2.27	65.2	22.7	64.4 (57.96~70.84)	23.5 (21.15~25.85)	22.1	2022/6/29
D3700V2	Head	6.48	2.21	64.8	22.1	64.4 (57.96~70.84)	23.5 (21.15~25.85)	22.1	2022/6/29
D5GHzV2	Head (5.20GHz)	8.09	2.24	80.9	22.4	77.6 (69.84~85.36)	22.1 (19.35~23.65)	22.1	2022/6/30
	Head (5.80GHz)	8.12	2.13	81.2	21.3	76.7 (69.03~84.37)	21.5 (19.35~23.65)	22.1	2022/6/30

### 6.2.3 Detailed System Check Results

Please see the Appendix A



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## 7 Test Configuration

### 7.1 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode 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  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

### 7.2 Operation Configurations

#### 7.2.1 WCDMA Test Configuration

##### 1) . Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

##### 2) . Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure

##### 3) . Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

##### 4) . HSDPA / HSUPA / DC-HSDPA



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According to KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

**a) HSDPA**

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors( $\beta_c$ ,  $\beta_d$ ), and HS-DPCCH power offset parameters ( $\Delta_{ACK}$ ,  $\Delta_{NACK}$ ,  $\Delta_{CQI}$ ) are set according to values indicated in the following table. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

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Sub-test	$\beta_c$	Bd	$\beta_d(SF)$	$\beta_c/\beta_d$	$\beta_{hs}$	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1:  $\Delta ACK$ ,  $\Delta NACK$  and  $\Delta CQI = 8$   $A_{hs} = \beta_{hs}/\beta_c = 30/15$   $\beta_{hs} = 30/15 * \beta_c$

Note2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1.A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA,  $\Delta ACK$  and  $\Delta NACK = 8$  ( $A_{hs} = 30/15$ ) with  $\beta_{hs} = 30/15 * \beta_c$ , and  $\Delta CQI = 7$  ( $A_{hs} = 24/15$ ) with  $\beta_{hs} = 24/15 * \beta_c$ .

Note3: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI"s
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

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HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum H S-DSCH Transport Block Bits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

**b) HSUPA**

Due to inner loop power control requirements in HSUPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSUPA should be configured according to the values indicated below as well as other applicable procedures described in the „WCDMA Handset“ and „Release 5 HSUPA Data Device“ sections of 3G device.

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Sub-test <sup>c</sup>	$\beta_{ce}$	$\beta_{de}$	$\beta_{de}(SF)$	$\beta_{e}/\beta_{de}$	$\beta_{hs}$ <sup>(1)</sup>	$\beta_{ece}$	$\beta_{ede}$	$\beta_{ee}(SF)$	$\beta_{ede}(code)$	CM <sup>(2)</sup> (dB)	MP R <sup>e</sup> (dB) <sup>c</sup>	AG <sup>(4)</sup> Inde x <sup>e</sup>	E- TFC I <sup>c</sup>
1 <sup>e</sup>	11/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64 <sup>e</sup>	11/15 <sup>(3)</sup>	22/15 <sup>e</sup>	209/225 <sup>e</sup>	1039/225 <sup>e</sup>	4 <sup>e</sup>	1 <sup>e</sup>	1.0 <sup>e</sup>	0.0 <sup>e</sup>	20 <sup>e</sup>	75 <sup>e</sup>
2 <sup>e</sup>	6/15 <sup>e</sup>	15/15 <sup>e</sup>	64 <sup>e</sup>	6/15 <sup>e</sup>	12/15 <sup>e</sup>	12/15 <sup>e</sup>	94/75 <sup>e</sup>	4 <sup>e</sup>	1 <sup>e</sup>	3.0 <sup>e</sup>	2.0 <sup>e</sup>	12 <sup>e</sup>	67 <sup>e</sup>
3 <sup>e</sup>	15/15 <sup>e</sup>	9/15 <sup>e</sup>	64 <sup>e</sup>	15/9 <sup>e</sup>	30/15 <sup>e</sup>	30/15 <sup>e</sup>	$\beta_{ed1}:47/15e$ $\beta_{ed2}:47/15e$	4 <sup>e</sup>	2 <sup>e</sup>	2.0 <sup>e</sup>	1.0 <sup>e</sup>	15 <sup>e</sup>	92 <sup>e</sup>
4 <sup>e</sup>	2/15 <sup>e</sup>	15/15 <sup>e</sup>	64 <sup>e</sup>	2/15 <sup>e</sup>	4/15 <sup>e</sup>	2/15 <sup>e</sup>	56/75 <sup>e</sup>	4 <sup>e</sup>	1 <sup>e</sup>	3.0 <sup>e</sup>	2.0 <sup>e</sup>	17 <sup>e</sup>	71 <sup>e</sup>
5 <sup>e</sup>	15/15 <sup>(4)</sup>	15/15 <sup>(4)</sup>	64 <sup>e</sup>	15/15 <sup>(4)</sup>	30/15 <sup>e</sup>	24/15 <sup>e</sup>	134/15 <sup>e</sup>	4 <sup>e</sup>	1 <sup>e</sup>	1.0 <sup>e</sup>	0.0 <sup>e</sup>	21 <sup>e</sup>	81 <sup>e</sup>

Note 1:  $\Delta ACK$ ,  $\Delta NACK$  and  $\Delta CQI=8$   $A_{hs} = \beta_{hs}/\beta_{e} = 30/15$   $\beta_{hs} = 30/15 * \beta_{e}$   
 Note 2: CM = 1 for  $\beta_{e}/\beta_{d} = 12/15$ ,  $\beta_{hs}/\beta_{e} = 24/15$ . For all other combinations of DPDCH, DPCCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference<sup>e</sup>  
 Note 3 : For subtest 1 the  $\beta_{e}/\beta_{d}$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_{e} = 10/15$  and  $\beta_{d} = 15/15$ <sup>e</sup>  
 Note 4 : For subtest 5 the  $\beta_{e}/\beta_{d}$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_{e} = 14/15$  and  $\beta_{d} = 15/15$ <sup>e</sup>  
 Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g<sup>e</sup>  
 Note 6 :  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.<sup>e</sup>

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
	4	8	10	2SF2&2SF	11484	5.76
6 (No DPDCH)	4	4	2	4	20000	2.00
	4	8	2	2SF2&2SF	22996	?
7 (No DPDCH)	4	4	10	4	20000	?
	4	8	2	2SF2&2SF	22996	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM. (TS25.306-7.3.0).

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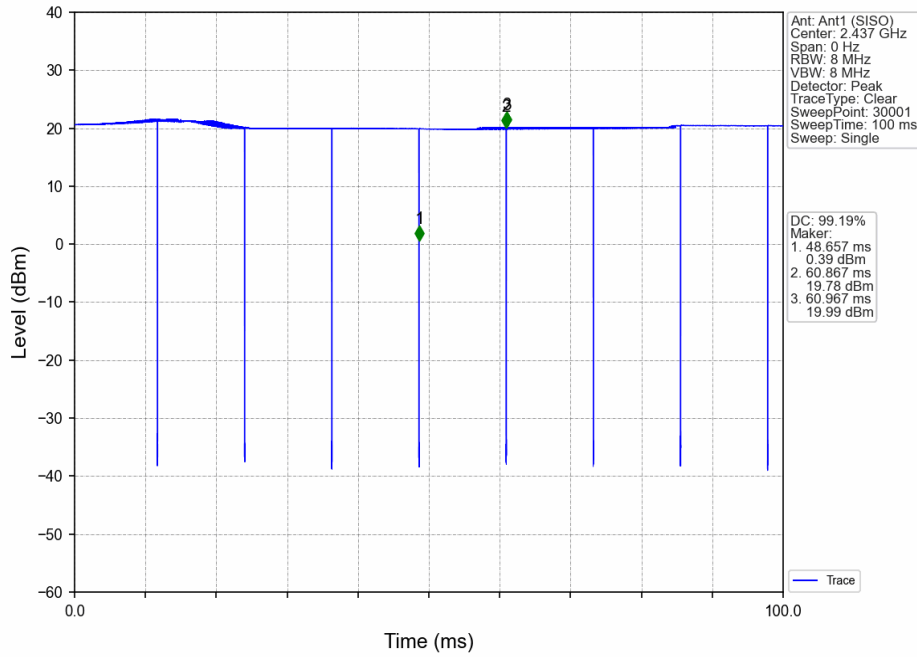
### 7.2.2 Wi-Fi Test Configuration

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

#### 7.2.2.1 Duty cycle

1) 2.4GHz Wi-Fi:

Wi-Fi 802.11b: Duty cycle= 99.19%



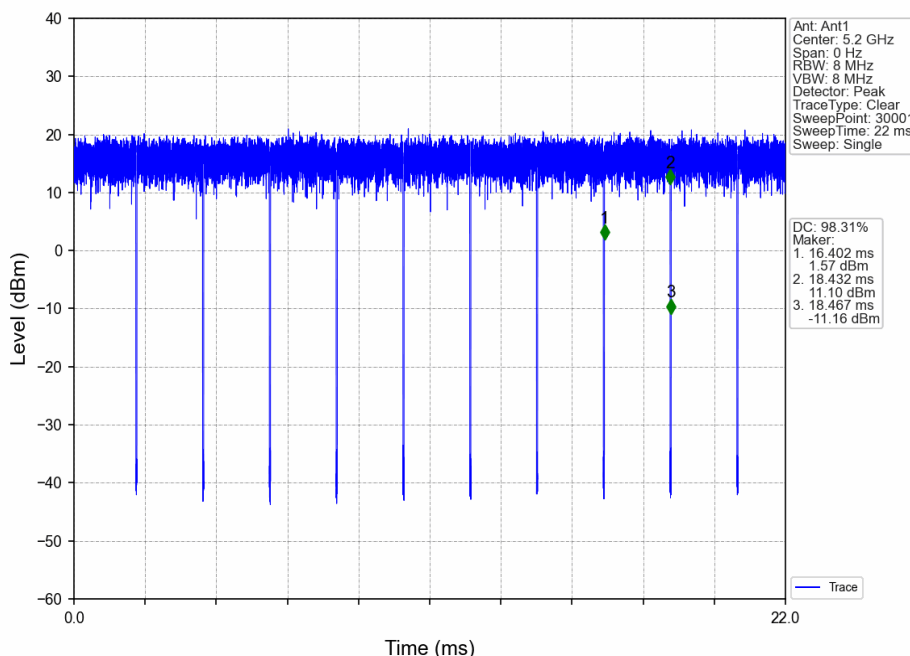
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- 2) 5GHz Wi-Fi 802.11a:  
 WI-FI 802.11a: Duty cycle= 98.31%



### 7.2.2.2 Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

- 1) .When the reported SAR of the initial test position is  $\leq 0.4$  W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
- 2) .When the reported SAR of the initial test position is  $> 0.4$  W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is  $\leq 0.8$  W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
- 3) . For all positions/configurations tested using the initial test position and subsequent test

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positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

**7.2.2.3 Initial Test Configuration Procedures**

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

**7.2.2.4 Subsequent Test Configuration Procedures**

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

- 1) . When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
- 2) . When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
- 3) . The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.
  - a) SAR should first be measured for the channel with highest measured output power in the subsequent test

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configuration.

- b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

- 4) . SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:
  - a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)
  - b) replace “initial test configuration” with “all tested higher output power configurations”

**7.2.2.5 2.4 GHz Wi-Fi SAR Procedures**

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

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

- 1) . When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) . When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

- **2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) . When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) . When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

**7.2.2.6 5 GHz Wi-Fi SAR Procedures**

- **U-NII-1 and U-NII-2A Bands**

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A

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- band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
  - 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is  $> 1.2$  W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

• **U-NII-2C and U-NII-3 Bands**

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

• **OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements**

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- 1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
- 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.

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- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
- 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
  - a) The channel closest to mid-band frequency is selected for SAR measurement.
  - b) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

• **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

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### 7.2.3 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

#### A) Spectrum Plots for RB Configurations

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

#### B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 V13.5.0 (201609) Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

Modulation	Channel bandwidth / Transmission bandwidth ( $N_{RB}$ )						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

#### C) A-MPR

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

#### D) Largest channel bandwidth standalone SAR test requirements

##### 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 for 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.



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4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

**E) Other channel bandwidth standalone SAR test requirements**

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.



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**7.2.4 NR Band Test Configuration**

1. NR Band n41/n77 only support SA mode.

2. The general information supported by the NR band is as following table:

Band		n2	n5	n41	n66	n77	
NR mode	SA	Yes	Yes	Yes	Yes	Yes	
	NSA	N/A	N/A	Yes	Yes	Yes	
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	
		QPSK	Yes	Yes	Yes	Yes	
		16QAM	Yes	Yes	Yes	Yes	
		64QAM	Yes	Yes	Yes	Yes	
		256QAM	Yes	Yes	Yes	Yes	
		CP-OFDM	QPSK	Yes	Yes	Yes	Yes
	16QAM	Yes	Yes	Yes	Yes		
	64QAM	Yes	Yes	Yes	Yes		
	256QAM	Yes	Yes	Yes	Yes		
	Duty Cycle		100%	100%	100%	100%	100%

3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:

- a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
- b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
- c. SAR testing start with the largest SCS and largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
- d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
- e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
- f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
- g. Smaller SCS/bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device



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4. MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS 38.101-1 Section 6.2.2 under Table 6.2.2 -1.

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

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n41, n77. The reference power of 0 dB MPR is 26dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n41, n77 with Pi/2 BPSK modulation and if the IE powerBoostPi2BPSK is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n41, n77.



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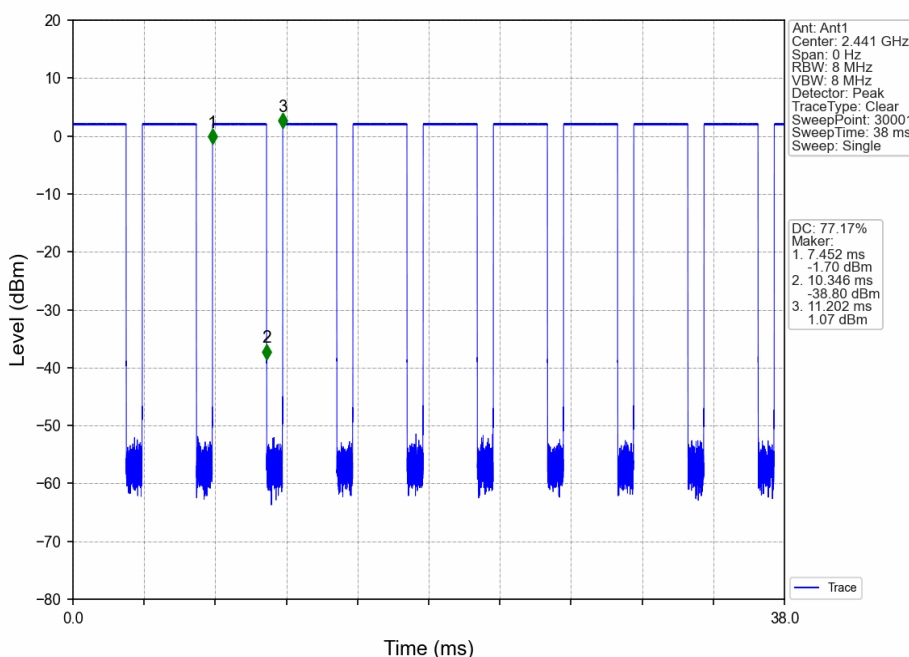
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### 7.2.5 Bluetooth Test Configuration

For the Bluetooth SAR tests, a communication link is set up with the test mode software for BT mode test. Bluetooth USES frequency hopping technology to divide the transmitted data into packets and transmit the packets respectively through 79 designated Bluetooth channels, 1MHz Bandwidth, frequency hops at 1600 hops/second per the Bluetooth standard. The Radio Frequency Channel Number (RFCN) is allocated to 0, 39 and 78 respectively in the case of 2402~2480 MHz during the test at each test frequency channel, the EUT is operated at the RF continuous emission mode.

#### 7.2.5.1 Duty cycle

Bluetooth duty cycle: 77.17%



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## 8 Test Result

### 8.1 Measurement of RF Conducted Power

#### 8.1.1 Conducted Power Of GSM

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	33.54	33.50	32.60	34.00	-9.03	24.51	24.47	23.57	24.97
GPRS/EGPRS (GMSK)	1 TX Slot	33.37	33.36	32.45	34.00	-9.03	24.34	24.33	23.42	24.97
	2 TX Slots	31.61	31.57	30.71	32.00	-6.02	25.59	25.55	24.69	25.98
	3 TX Slots	29.82	29.86	28.97	30.00	-4.26	25.56	<b>25.6</b>	24.71	25.74
	4 TX Slots	28.24	28.34	27.41	29.00	-3.01	25.23	25.33	24.4	<b>25.99</b>
EGPRS(8PSK)	1 TX Slot	26.71	26.65	25.87	27.00	-9.03	17.68	17.62	16.84	17.97
	2 TX Slots	24.95	24.95	24.17	25.00	-6.02	18.93	18.93	18.15	18.98
	3 TX Slots	<b>23.22</b>	23.20	22.39	24.00	-4.26	18.96	18.94	18.13	<b>19.74</b>
	4 TX Slots	21.72	21.66	20.81	22.00	-3.01	18.71	18.65	17.8	18.99

GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	28.76	29.42	<b>29.53</b>	30.00	-9.03	19.73	20.39	20.5	20.97
GPRS/EGPRS (GMSK)	1 TX Slot	28.55	29.21	29.38	30.00	-9.03	19.52	20.18	20.35	20.97
	2 TX Slots	26.77	27.41	<b>27.55</b>	28.00	-6.02	20.75	21.39	<b>21.53</b>	<b>21.98</b>
	3 TX Slots	24.90	25.54	25.73	26.00	-4.26	20.64	21.28	21.47	21.74
	4 TX Slots	23.32	23.81	23.98	24.00	-3.01	20.31	20.8	20.97	20.99
EGPRS(8PSK)	1 TX Slot	24.93	25.63	25.73	26.00	-9.03	15.9	16.6	16.7	16.97
	2 TX Slots	22.78	23.22	<b>23.71</b>	24.00	-6.02	16.76	17.2	17.69	<b>17.98</b>
	3 TX Slots	20.92	21.34	21.52	22.00	-4.26	16.66	17.08	17.26	17.74
	4 TX Slots	18.92	19.55	19.65	20.00	-3.01	15.91	16.54	16.64	16.99

Sensor on

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	31.64	31.60	30.61	32.00	-9.03	22.61	22.57	21.58	22.97
GPRS/EGPRS (GMSK)	1 TX Slot	31.47	31.25	30.37	32.00	-9.03	22.44	22.22	21.34	22.97
	2 TX Slots	29.73	29.62	28.80	30.00	-6.02	23.71	23.6	22.78	23.98
	3 TX Slots	27.83	27.81	27.05	28.00	-4.26	23.57	23.55	22.79	23.74
	4 TX Slots	26.14	26.48	25.52	27.00	-3.01	23.13	23.47	22.51	23.99
EGPRS(8PSK)	1 TX Slot	24.84	24.79	23.88	25.00	-9.03	15.81	15.76	14.85	15.97
	2 TX Slots	22.98	23.06	22.28	23.50	-6.02	16.96	17.04	16.26	17.48
	3 TX Slots	21.25	21.23	20.40	22.00	-4.26	16.99	16.97	16.14	17.74
	4 TX Slots	19.83	19.66	18.78	20.00	-3.01	16.82	16.65	15.77	16.99

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8.1.2 Conducted Power Of WCDMA

WCDMA Band II					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	21.58	21.16	21.05	22.00
	12.2kbps AMR	21.53	21.07	21.01	22.00
HSDPA	Subtest 1	20.42	20.40	20.27	21.00
	Subtest 2	20.40	20.40	20.27	21.00
	Subtest 3	20.34	20.36	20.23	21.00
	Subtest 4	20.34	20.36	20.23	21.00
HSUPA	Subtest 1	18.16	18.43	18.03	19.00
	Subtest 2	17.91	18.08	17.95	19.00
	Subtest 3	18.61	18.47	18.15	19.00
	Subtest 4	18.15	18.17	18.56	19.00
	Subtest 5	18.66	18.53	18.34	19.00

WCDMA Band IV					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	21.02	21.15	21.08	22.00
	12.2kbps AMR	20.98	21.08	21.01	22.00
HSDPA	Subtest 1	19.17	19.35	19.26	20.00
	Subtest 2	19.22	19.37	19.27	20.00
	Subtest 3	19.15	19.31	19.21	20.00
	Subtest 4	19.16	19.31	19.23	20.00
HSUPA	Subtest 1	16.87	17.34	17.32	18.00
	Subtest 2	17.32	17.38	17.03	18.00
	Subtest 3	16.71	17.52	17.50	18.00
	Subtest 4	17.30	17.49	17.03	18.00
	Subtest 5	17.34	16.89	17.40	18.00

WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	22.4	22.5	22.39	23.00
	12.2kbps AMR	22.31	22.38	22.3	23.00
HSDPA	Subtest 1	20.59	20.69	20.58	21.00
	Subtest 2	20.60	20.66	20.58	21.00
	Subtest 3	20.53	20.63	20.53	21.00

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	Subtest 4	20.55	20.64	20.54	21.00
HSUPA	Subtest 1	18.60	18.70	18.29	19.00
	Subtest 2	18.63	18.83	18.70	19.00
	Subtest 3	18.20	18.71	18.34	19.00
	Subtest 4	18.20	18.55	18.04	19.00
	Subtest 5	18.20	18.44	18.04	19.00

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8.1.3 Conducted Power Of LTE

LTE Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18607	18900	19193	
1.4MHz	QPSK	1	0	22.35	22.36	22.25	22.50
		1	2	<b>22.43</b>	22.34	22.37	22.50
		1	5	22.25	22.27	22.21	22.50
		3	0	21.85	21.84	21.82	22.00
		3	2	21.86	21.89	21.87	22.00
		3	3	21.75	21.75	21.73	22.00
	16QAM	6	0	21.12	21.09	21.06	22.00
		1	0	21.70	21.74	21.67	22.00
		1	2	21.77	21.78	21.77	22.00
		1	5	21.57	21.61	21.53	22.00
		3	0	21.03	21.03	21.16	22.00
		3	2	21.06	21.06	21.17	22.00
		3	3	21.09	21.04	21.19	22.00
		6	0	20.47	20.50	20.39	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18615	18900	19185	
3MHz	QPSK	1	0	22.00	<b>22.21</b>	22.19	22.50
		1	7	21.89	22.09	22.06	22.50
		1	14	21.88	22.04	22.07	22.50
		8	0	21.09	21.28	21.27	22.00
		8	4	21.12	21.27	21.25	22.00
		8	7	21.02	21.20	21.20	22.00
	16QAM	15	0	20.55	20.84	20.73	22.00
		1	0	21.26	21.54	21.56	22.00
		1	7	21.49	21.34	21.37	22.00
		1	14	21.21	21.40	21.37	22.00
		8	0	20.18	20.47	20.32	22.00
		8	4	20.10	20.48	20.28	22.00
		8	7	20.16	20.39	20.22	22.00
		15	0	20.08	20.32	20.33	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18625	18900	19175	
5MHz	QPSK	1	0	22.22	<b>22.30</b>	22.12	22.50
		1	13	22.24	22.29	22.18	22.50
		1	24	22.17	22.21	22.13	22.50
		12	0	21.33	21.33	21.31	22.00
		12	6	21.25	21.34	21.24	22.00
		12	13	21.24	21.24	21.19	22.00
		25	0	21.03	21.03	21.06	22.00
	16QAM	1	0	21.58	21.51	21.54	22.00
		1	13	21.61	21.55	21.55	22.00
		1	24	21.54	21.45	21.46	22.00
		12	0	20.34	20.93	20.66	22.00
		12	6	20.28	20.74	20.63	22.00
		12	13	20.19	20.79	20.66	22.00

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Bandwidth	Modulation	25	0	20.05	20.35	20.31	21.00	
		RB size	RB offset	Channel	Channel	Channel	Tune up	
10MHz	QPSK	1	0	22.39	22.39	21.75	22.50	
		1	25	<b>22.42</b>	22.33	21.80	22.50	
		1	49	22.36	22.28	21.73	22.50	
		25	0	21.46	21.42	20.93	22.00	
		25	13	21.49	21.37	20.95	22.00	
		25	25	21.43	21.57	20.84	22.00	
	16QAM	50	0	21.06	21.12	20.38	22.00	
		1	0	21.33	21.43	21.24	22.00	
		1	25	21.34	21.38	21.28	22.00	
		1	49	21.29	21.38	21.19	22.00	
		25	0	20.49	20.78	20.50	22.00	
		25	13	20.47	20.65	20.60	22.00	
	15MHz	QPSK	25	25	20.43	20.57	20.35	22.00
			50	0	20.27	20.37	20.10	21.00
			1	0	22.42	22.42	22.34	22.50
			1	38	<b>22.47</b>	22.40	22.32	22.50
			1	74	22.44	22.43	22.29	22.50
			36	0	21.80	21.84	21.62	22.00
16QAM		36	18	21.80	21.89	21.64	22.00	
		36	39	21.79	21.78	21.61	22.00	
		75	0	21.09	21.15	21.11	22.00	
		1	0	21.64	21.74	21.68	22.00	
		1	38	21.60	21.70	21.65	22.00	
		1	74	21.59	21.69	21.64	22.00	
20MHz		QPSK	36	0	20.83	21.27	20.82	22.00
			36	18	20.81	21.28	20.89	22.00
			36	39	20.87	21.25	20.88	22.00
			75	0	20.40	20.89	20.36	21.00
			1	0	<b>22.31</b>	22.25	22.27	22.50
			1	50	22.29	22.31	22.19	22.50
	16QAM	1	99	22.26	22.22	22.30	22.50	
		50	0	21.70	21.64	21.65	22.00	
		50	25	21.64	21.68	21.70	22.00	
		50	50	<b>21.80</b>	21.59	21.69	22.00	
		100	0	21.58	21.65	21.68	22.00	
		1	0	21.75	21.54	21.66	22.00	
	20MHz	16QAM	1	50	21.79	21.61	21.65	22.00
			1	99	21.68	21.53	21.60	22.00
			1	99	21.68	21.53	21.60	22.00

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	50	0	21.03	20.75	20.91	22.00
	50	25	21.13	20.71	20.87	22.00
	50	50	21.03	20.84	20.82	22.00
	100	0	20.79	20.69	20.79	21.00

LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19957	20175	20393	
1.4MHz	QPSK	1	0	21.94	22.11	21.97	22.50
		1	2	21.98	<b>22.21</b>	22.10	22.50
		1	5	21.88	22.14	21.87	22.50
		3	0	21.53	21.76	21.62	22.00
		3	2	21.53	21.79	21.57	22.00
		3	3	21.62	21.80	21.57	22.00
	16QAM	6	0	21.45	21.77	21.50	22.00
		1	0	21.39	21.71	21.57	22.00
		1	2	21.33	21.77	21.60	22.00
		1	5	21.30	21.70	21.52	22.00
		3	0	20.55	20.97	20.83	21.00
		3	2	20.61	20.98	20.93	21.00
		3	3	20.49	20.92	20.93	21.00
		6	0	20.56	20.97	20.91	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19965	20175	20385	
3MHz	QPSK	1	0	22.01	22.12	21.93	22.50
		1	7	22.06	<b>22.29</b>	21.95	22.50
		1	14	21.95	22.02	21.96	22.50
		8	0	21.71	21.78	21.55	22.00
		8	4	21.67	21.80	21.55	22.00
		8	7	21.70	21.85	21.52	22.00
		15	0	21.63	21.72	21.52	22.00
	16QAM	1	0	21.58	21.64	21.56	22.00
		1	7	21.60	21.61	21.62	22.00
		1	14	21.54	21.55	21.54	22.00
		8	0	20.84	20.80	20.81	21.00
		8	4	20.89	20.89	20.71	21.00
		8	7	20.90	20.77	20.80	21.00
		15	0	20.87	20.86	20.68	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19975	20175	20375	
5MHz	QPSK	1	0	22.09	22.24	22.03	22.50
		1	13	22.09	22.30	22.13	22.50
		1	24	22.16	<b>22.31</b>	22.04	22.50
		12	0	21.31	21.62	21.23	22.00
		12	6	21.39	21.67	21.15	22.00
		12	13	21.34	21.65	21.22	22.00
		25	0	21.37	21.63	21.25	22.00
	16QAM	1	0	21.45	21.61	21.18	22.00
		1	13	21.48	21.59	21.28	22.00
		1	24	21.48	21.70	21.12	22.00

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20000	20175	20350	
10MHz	QPSK	1	0	20.71	20.95	20.45	21.00
		1	6	20.71	20.95	20.52	21.00
		1	13	20.62	20.93	20.36	21.00
		25	0	20.65	20.97	20.45	21.00
		25	0	20.65	20.97	20.45	21.00
		25	0	20.65	20.97	20.45	21.00
	16QAM	1	0	21.97	22.08	21.93	22.50
		1	25	21.99	<b>22.27</b>	22.00	22.50
		1	49	21.97	22.00	21.95	22.50
		25	0	21.64	21.64	21.47	22.00
		25	13	21.61	21.66	21.54	22.00
		25	25	21.69	21.71	21.60	22.00
		50	0	21.58	21.64	21.58	22.00
		50	0	21.58	21.64	21.58	22.00
15MHz	QPSK	1	0	22.00	22.16	21.96	22.50
		1	38	22.04	<b>22.33</b>	22.02	22.50
		1	74	22.00	22.22	21.88	22.50
		36	0	21.20	21.40	21.35	22.00
		36	18	21.27	21.41	21.38	22.00
		36	39	21.26	21.37	21.42	22.00
	16QAM	75	0	21.20	21.31	21.48	22.00
		1	0	21.27	21.33	21.54	22.00
		1	38	21.34	21.39	21.47	22.00
		1	74	21.35	21.40	21.61	22.00
		36	0	20.59	20.54	20.92	21.00
		36	18	20.52	20.59	20.95	21.00
		36	39	20.54	20.54	20.89	21.00
		75	0	20.48	20.55	20.91	21.00
20MHz	QPSK	1	0	22.02	22.23	22.02	22.50
		1	50	22.16	22.23	22.21	22.50
		1	99	21.97	<b>22.28</b>	21.96	22.50
		50	0	21.37	21.59	21.33	22.00
		50	25	21.38	<b>21.67</b>	21.25	22.00
		50	50	21.37	21.65	21.18	22.00
	16QAM	100	0	21.33	21.59	21.20	22.00
		1	0	21.31	21.69	21.24	22.00
		1	50	21.36	21.67	21.20	22.00
		1	99	21.31	21.62	21.23	22.00
		50	0	20.64	20.98	20.62	21.00
		50	25	20.67	20.97	20.69	21.00
		50	50	20.55	20.96	20.60	21.00
		100	0	20.59	20.98	20.67	21.00

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LTE Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20407	20525	20643	
1.4MHz	QPSK	1	0	23.03	23.21	23.13	23.50
		1	2	23.11	<b>23.31</b>	23.10	23.50
		1	5	23.07	23.24	23.05	23.50
		3	0	23.10	23.13	23.16	23.50
		3	2	23.13	23.24	23.19	23.50
		3	3	23.06	23.20	23.13	23.50
	16QAM	6	0	22.15	22.21	22.22	22.50
		1	0	22.30	22.31	22.26	22.50
		1	2	22.41	22.39	22.27	22.50
		1	5	22.38	22.35	22.22	22.50
		3	0	22.17	22.35	22.35	22.50
		3	2	22.21	22.40	22.44	22.50
		3	3	22.18	22.37	22.34	22.50
		6	0	21.22	21.13	21.18	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
3MHz	QPSK	1	0	23.23	<b>23.37</b>	23.26	23.50
		1	7	23.14	23.27	23.16	23.50
		1	14	23.22	23.35	23.27	23.50
		8	0	22.25	22.32	22.35	23.50
		8	4	22.29	22.40	22.38	23.50
		8	7	22.25	22.37	22.31	23.50
	16QAM	15	0	22.27	22.25	21.09	22.50
		1	0	22.42	22.37	22.08	22.50
		1	7	22.27	22.31	22.09	22.50
		1	14	22.34	22.34	22.15	22.50
		8	0	21.27	21.34	21.94	22.50
		8	4	21.33	21.42	21.21	22.50
		8	7	21.28	21.42	21.93	22.50
		15	0	21.22	21.37	20.84	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
5MHz	QPSK	1	0	22.69	22.75	22.80	23.50
		1	13	22.68	22.77	<b>22.88</b>	23.50
		1	24	22.58	22.80	22.86	23.50
		12	0	21.97	21.93	22.04	23.50
		12	6	21.81	21.75	21.98	23.50
		12	13	21.84	21.71	21.74	23.50
	16QAM	25	0	21.97	21.98	21.03	22.50
		1	0	21.96	22.31	22.20	22.50
		1	13	21.95	22.35	22.27	22.50
		1	24	21.87	22.30	22.21	22.50
		12	0	21.14	21.47	21.19	22.50
		12	6	21.11	21.22	21.39	22.50
		12	13	21.11	21.53	21.47	22.50
		25	0	21.17	21.35	21.19	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20450	20525	20600	

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10MHz	QPSK	1	0	22.66	22.61	<b>22.88</b>	23.50
		1	25	22.60	22.72	22.77	23.50
		1	49	22.63	22.75	22.70	23.50
		25	0	21.85	21.89	22.05	23.50
		25	13	21.67	21.71	22.06	23.50
		25	25	21.62	21.73	<b>22.07</b>	23.50
		50	0	21.04	21.07	21.93	22.50
	16QAM	1	0	22.41	22.03	22.22	22.50
		1	25	22.38	22.23	22.17	22.50
		1	49	22.34	22.17	22.12	22.50
		25	0	21.16	21.46	21.32	22.50
		25	13	21.51	21.24	21.36	22.50
		25	25	21.43	21.54	21.37	22.50
		50	0	21.14	20.44	21.32	21.50

LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20775	21100	21425	
5MHz	QPSK	1	0	<b>21.98</b>	21.80	21.74	22.00
		1	13	21.89	21.86	21.65	22.00
		1	24	21.89	21.89	21.64	22.00
		12	0	21.29	21.07	21.10	21.50
		12	6	21.34	21.04	21.02	21.50
		12	13	21.10	21.02	21.01	21.50
	16QAM	25	0	21.09	21.00	20.98	21.50
		1	0	20.87	20.98	20.99	21.50
		1	13	20.96	20.98	20.98	21.50
		1	24	20.87	20.97	21.00	21.50
		12	0	20.14	20.35	20.31	20.50
		12	6	20.13	20.39	20.26	20.50
		12	13	20.13	20.36	20.38	20.50
		25	0	20.10	20.38	20.18	20.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20800	21100	21400	
10MHz	QPSK	1	0	21.90	21.78	21.77	22.00
		1	25	21.99	21.79	21.87	22.00
		1	49	21.90	21.88	21.78	22.00
		25	0	21.14	21.02	21.11	21.50
		25	13	21.18	21.01	21.01	21.50
		25	25	21.23	20.95	21.18	21.50
	16QAM	50	0	20.97	20.95	20.96	21.50
		1	0	20.82	20.85	21.01	21.50
		1	25	20.72	20.82	21.04	21.50

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Compliance Certification Services (Kunshan) Inc.  
EMC Laboratory

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20825	21100	21375	
15MHz	QPSK	1	0	20.87	20.90	21.05	21.50
		25	0	20.16	20.06	20.34	20.50
		25	13	20.06	20.05	20.31	20.50
		25	25	20.15	20.00	20.41	20.50
		50	0	20.05	20.04	20.22	20.50
		1	0	21.95	21.72	21.70	22.00
		1	38	21.97	21.74	21.72	22.00
	16QAM	1	74	21.85	21.67	21.76	22.00
		36	0	21.26	20.95	21.05	21.50
		36	18	21.18	20.91	20.99	21.50
		36	39	21.02	20.85	21.00	21.50
		75	0	20.93	20.87	20.92	21.50
		1	0	20.81	20.89	20.94	21.50
		1	38	20.84	20.96	20.93	21.50
20MHz	QPSK	1	74	20.76	20.82	21.02	21.50
		36	0	20.05	20.18	20.27	20.50
		36	18	20.07	20.12	20.24	20.50
		36	39	19.96	20.27	20.22	20.50
		75	0	20.01	20.09	20.21	20.50
		1	0	21.99	21.79	21.75	22.00
		1	50	21.95	21.75	21.84	22.00
	16QAM	1	99	21.93	21.70	21.69	22.00
		50	0	21.39	20.99	21.02	21.50
		50	25	21.38	21.04	21.02	21.50
		50	50	21.11	21.05	21.11	21.50
		100	0	21.10	21.03	20.95	21.50
		1	0	20.91	20.94	20.98	21.50
		1	50	21.00	20.89	20.95	21.50
16QAM	1	99	20.90	21.03	20.89	21.50	
	50	0	20.17	20.30	20.35	20.50	
	50	25	20.07	20.33	20.30	20.50	
	50	50	20.11	20.32	20.34	20.50	
	100	0	20.06	20.24	20.21	20.50	

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Compliance Certification Services (Kunshan) Inc.  
EMC Laboratory

LTE FDD Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23017	23095	23173	
1.4MHz	QPSK	1	0	22.80	22.65	22.66	23.50
		1	2	<b>22.95</b>	22.71	22.73	23.50
		1	5	22.41	22.59	22.52	23.50
		3	0	22.34	21.73	21.72	22.50
		3	2	22.31	21.83	21.69	22.50
		3	3	22.24	21.73	21.67	22.50
	16QAM	6	0	21.61	21.59	21.87	22.50
		1	0	22.35	22.02	22.17	22.50
		1	2	22.23	22.11	22.13	22.50
		1	5	22.14	21.94	22.16	22.50
		3	0	21.34	21.24	21.48	21.50
		3	2	21.23	21.46	21.41	21.50
		3	3	21.31	21.30	21.04	21.50
		6	0	21.07	21.13	21.39	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23025	23095	23165	
3MHz	QPSK	1	0	<b>22.75</b>	22.63	22.65	23.50
		1	7	22.73	22.60	22.58	23.50
		1	14	22.73	22.58	22.58	23.50
		8	0	21.85	21.75	21.70	22.50
		8	4	21.88	21.77	21.63	22.50
		8	7	21.80	21.76	21.67	22.50
	16QAM	15	0	21.74	21.78	21.63	22.50
		1	0	22.27	22.22	22.21	22.50
		1	7	22.17	22.24	22.06	22.50
		1	14	22.16	22.27	22.45	22.50
		8	0	21.41	21.39	21.41	21.50
		8	4	21.41	21.33	21.42	21.50
		8	7	21.31	21.40	21.44	21.50
		15	0	21.31	21.30	21.37	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23035	23095	23155	
5MHz	QPSK	1	0	22.80	22.60	22.88	23.50
		1	13	<b>23.02</b>	22.78	22.71	23.50
		1	24	22.89	22.36	22.54	23.50
		12	0	21.91	21.84	21.84	22.50
		12	6	21.84	21.59	21.86	22.50
		12	13	22.06	21.92	21.41	22.50
	16QAM	25	0	21.49	21.88	21.51	22.50
		1	0	22.06	22.23	22.18	22.50
		1	13	22.38	22.42	22.11	22.50
		1	24	22.26	22.14	22.25	22.50
		12	0	21.39	21.18	21.25	21.50
		12	6	21.45	21.35	21.20	21.50
		12	13	21.48	21.38	21.29	21.50
		25	0	21.41	21.05	21.45	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up

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				23060	23095	23130	
10MHz	QPSK	1	0	22.86	22.41	22.36	23.50
		1	25	22.56	<b>22.88</b>	22.77	23.50
		1	49	22.74	22.72	22.84	23.50
		25	0	21.61	21.83	21.70	22.50
		25	13	<b>21.99</b>	21.68	21.54	22.50
		25	25	21.68	21.77	21.41	22.50
	16QAM	50	0	21.78	21.83	21.44	22.50
		1	0	22.12	22.08	22.14	22.50
		1	25	21.90	22.36	22.18	22.50
		1	49	22.14	21.97	22.38	22.50
		25	0	21.43	21.40	21.38	21.50
		25	13	21.40	21.29	21.41	21.50
		25	25	21.46	21.32	21.12	21.50
		50	0	21.39	21.32	21.35	21.50

LTE FDD Band 13				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23205	23230	23255	
5MHz	QPSK	1	0	21.78	21.85	22.24	22.50
		1	13	21.79	21.94	<b>22.26</b>	22.50
		1	24	21.71	21.82	22.18	22.50
		12	0	21.03	21.19	21.44	22.00
		12	6	21.00	21.21	21.39	22.00
		12	13	21.07	21.27	21.40	22.00
	16QAM	25	0	20.96	21.16	21.36	22.00
		1	0	21.00	21.26	21.37	22.00
		1	13	20.99	21.29	21.44	22.00
		1	24	21.05	21.29	21.43	22.00
		12	0	20.30	20.62	20.61	21.00
		12	6	20.33	20.59	20.56	21.00
		12	13	20.21	20.63	20.55	21.00
		25	0	20.30	20.57	20.50	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	NA	23230	NA	22.50
		1	25	NA	22.11	NA	22.50
		1	49	NA	22.14	NA	22.50
		25	0	NA	21.66	NA	22.00
		25	13	NA	<b>21.67</b>	NA	22.00
		25	25	NA	21.6	NA	22.00
	16QAM	50	0	NA	21.62	NA	22.00
		1	0	NA	21.54	NA	22.00
		1	25	NA	21.59	NA	22.00
		1	49	NA	21.45	NA	22.00
		25	0	NA	20.88	NA	21.00
		25	13	NA	20.85	NA	21.00
		25	25	NA	20.78	NA	21.00
		50	0	NA	20.79	NA	21.00

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LTE FDD Band 17				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23755	23790	23825	
5MHz	QPSK	1	0	22.32	<b>22.74</b>	22.61	23.00
		1	13	22.34	22.65	22.62	23.00
		1	24	22.24	22.67	22.62	23.00
		12	0	21.56	22.09	21.93	22.50
		12	6	21.57	21.99	21.92	22.50
		12	13	21.66	22.12	21.87	22.50
		25	0	21.53	21.90	21.82	22.50
	16QAM	1	0	21.63	22.08	21.83	22.50
		1	13	21.55	22.00	21.85	22.50
		1	24	21.71	21.99	21.85	22.50
		12	0	20.92	21.33	21.13	22.00
		12	6	20.88	21.38	21.22	22.00
		12	13	20.99	21.30	21.04	22.00
		25	0	20.86	21.37	21.17	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	22.32	22.83	22.62	23.00
		1	25	22.44	<b>22.98</b>	22.64	23.00
		1	49	22.28	22.81	22.60	23.00
		25	0	21.58	22.06	22.02	22.50
		25	13	21.58	22.11	22.03	22.50
		25	25	21.68	<b>22.12</b>	21.94	22.50
	16QAM	50	0	21.53	22.08	21.94	22.50
		1	0	21.52	22.09	21.89	22.50
		1	25	21.51	22.03	21.87	22.50
		1	49	21.53	22.01	21.87	22.50
		25	0	20.89	21.36	21.20	22.00
		25	13	20.86	21.31	21.29	22.00
		25	25	20.93	21.31	21.30	22.00
		50	0	20.82	21.22	21.24	22.00

LTE FDD Band 26				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				26697	26865	27033	
1.4MHz	QPSK	1	0	23.12	22.66	23.01	23.50
		1	2	<b>23.16</b>	22.78	23.06	23.50
		1	5	23.02	22.75	23.06	23.50
		3	0	22.55	22.05	22.07	23.00
		3	2	22.59	22.12	22.16	23.00
		3	3	22.57	22.16	22.06	23.00
		6	0	22.14	22.15	22.13	23.00
	16QAM	1	0	22.37	22.23	22.16	23.00
		1	2	22.21	22.27	22.24	23.00

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Compliance Certification Services (Kunshan) Inc.  
EMC Laboratory

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				26705	26865	27025	
3MHz	QPSK	1	0	22.25	22.27	22.32	23.00
		3	0	21.17	21.52	21.17	22.00
		3	2	21.39	21.48	21.36	22.00
		3	3	21.22	21.52	21.18	22.00
		6	0	21.02	21.44	21.22	22.00
		1	7	23.10	22.79	22.44	23.50
		1	14	23.16	22.60	21.91	23.50
	16QAM	8	0	22.25	22.05	21.20	23.00
		8	4	22.26	22.03	21.37	23.00
		8	7	22.22	21.96	21.27	23.00
		15	0	22.23	21.94	21.25	23.00
		1	0	22.28	21.98	22.14	23.00
		1	7	22.32	22.07	22.39	23.00
		1	14	22.76	21.88	22.60	23.00
5MHz	QPSK	1	0	22.73	22.66	21.88	23.50
		1	13	22.79	22.55	22.10	23.50
		1	24	22.64	22.49	21.64	23.50
		12	0	21.97	21.88	21.32	23.00
		12	6	21.84	21.87	21.14	23.00
		12	13	21.93	21.95	21.12	23.00
		25	0	21.99	21.85	21.31	23.00
	16QAM	1	0	22.09	22.21	22.21	23.00
		1	13	21.77	21.97	22.25	23.00
		1	24	21.73	21.86	22.03	23.00
		12	0	21.36	21.27	21.44	22.00
		12	6	21.44	21.01	21.49	22.00
		12	13	21.37	21.10	21.36	22.00
		25	0	21.18	21.01	21.37	22.00
10MHz	QPSK	1	0	22.67	22.66	22.83	23.50
		1	25	22.53	22.67	22.92	23.50

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				26775	26865	26965	
15MHz	16QAM	1	49	22.67	22.62	22.78	23.50
		25	0	21.91	21.92	22.05	23.00
		25	13	21.83	21.84	22.03	23.00
		25	25	21.60	21.86	22.10	23.00
		50	0	21.02	21.86	21.77	23.00
		1	0	21.61	21.94	22.08	23.00
		1	25	21.96	21.99	21.98	23.00
	QPSK	1	49	21.87	21.99	21.89	23.00
		25	0	21.16	21.32	21.50	22.00
		25	13	21.21	21.41	21.33	22.00
		25	25	21.20	21.33	21.45	22.00
		50	0	21.37	21.32	20.77	22.00
		1	0	22.50	22.67	<b>22.83</b>	23.50
		1	38	22.48	22.72	22.60	23.50
15MHz	16QAM	1	74	22.52	22.69	22.57	23.50
		36	0	21.82	21.91	21.91	23.00
		36	18	21.88	21.95	21.89	23.00
		36	39	21.92	<b>22.05</b>	21.16	23.00
		75	0	21.84	21.99	21.93	23.00
		1	0	22.48	22.03	22.39	23.00
		1	38	22.45	22.03	22.23	23.00
	QPSK	1	74	22.42	22.06	22.36	23.00
		36	0	21.27	21.28	21.29	22.00
		36	18	21.21	21.26	21.21	22.00
		36	39	21.40	21.34	21.39	22.00
		75	0	21.12	21.22	21.27	22.00

LTE Band 38				Conducted Power(dBm)			Tune up
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
				37775	38000	38225	
5MHz	QPSK	1	0	22.34	22.30	22.16	22.50
		1	13	<b>22.48</b>	22.24	22.11	22.50
		1	24	22.41	22.21	22.23	22.50
		12	0	21.35	21.35	21.28	22.00
		12	6	21.46	21.39	21.27	22.00
		12	13	21.40	21.31	21.29	22.00
		25	0	21.42	21.36	21.26	22.00
	16QAM	1	0	21.32	21.48	21.24	22.00

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				37800	38000	38200	
10MHz	QPSK	1	13	21.49	21.73	21.56	22.00
		1	24	21.71	21.60	21.47	22.00
		12	0	20.40	20.34	20.22	21.00
		12	6	20.41	20.35	20.28	21.00
		12	13	20.35	20.24	20.30	21.00
		25	0	20.36	20.37	20.37	21.00
		25	0	20.36	20.37	20.37	21.00
	16QAM	1	0	22.38	22.27	22.13	22.50
		1	25	<b>22.42</b>	22.22	22.24	22.50
		1	49	22.41	22.22	22.29	22.50
		25	0	21.48	21.31	21.41	22.00
		25	13	21.45	21.29	21.48	22.00
		25	25	21.42	21.26	21.45	22.00
		50	0	21.41	21.34	21.46	22.00
15MHz	QPSK	1	0	21.28	21.19	21.56	22.00
		1	25	21.57	21.38	21.12	22.00
		1	49	21.62	21.56	21.67	22.00
		25	0	20.54	20.40	20.43	21.00
		25	13	20.46	20.28	20.49	21.00
		25	25	20.40	20.27	20.45	21.00
		50	0	20.47	20.33	20.46	21.00
	16QAM	1	0	22.41	22.31	22.27	22.50
		1	38	22.42	22.43	22.22	22.50
		1	74	<b>22.48</b>	22.22	22.32	22.50
		36	0	21.49	21.42	21.34	22.00
		36	18	21.57	21.47	21.39	22.00
		36	39	21.43	21.34	21.31	22.00
		75	0	21.43	21.41	21.34	22.00
20MHz	QPSK	1	0	21.27	21.55	21.26	22.00
		1	38	21.63	21.39	21.23	22.00
		1	74	21.29	21.45	21.28	22.00
		36	0	20.48	20.43	20.35	21.00
		36	18	20.54	20.46	20.40	21.00
		36	39	20.52	20.35	20.28	21.00
		75	0	20.45	20.44	20.36	21.00
20MHz	QPSK	1	0	Channel	Channel	Channel	Tune up
				37850	38000	38150	
20MHz	QPSK	1	0	21.94	21.95	21.83	22.50

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		1	50	<b>21.98</b>	<b>21.85</b>	<b>21.83</b>	<b>22.50</b>
		1	99	21.93	21.87	21.89	22.50
		50	0	<b>21.04</b>	20.95	20.90	<b>22.00</b>
		50	25	21.02	21.00	20.94	22.00
		50	50	21.01	20.89	20.84	22.00
		100	0	20.96	20.97	20.87	22.00
	16QAM	1	0	21.27	21.07	21.17	22.00
		1	50	21.04	21.17	20.63	22.00
		1	99	21.03	21.02	20.66	22.00
		50	0	20.03	19.97	19.92	21.00
		50	25	20.06	19.99	19.98	21.00
		50	50	20.01	19.94	19.81	21.00
		100	0	19.95	19.94	19.93	21.00

LTE Band 40 a				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				38725	38750	38785	
5MHz	QPSK	1	0	22.05	22.07	21.92	22.5
		1	13	22.05	22.06	<b>22.11</b>	22.5
		1	24	22.05	21.98	21.96	22.5
		12	0	21.09	21.03	20.99	21.5
		12	6	21.13	21.06	21.09	21.5
		12	13	21.12	21.08	21.09	21.5
	16QAM	25	0	21.07	21.05	21.03	21.5
		1	0	20.96	21.21	21.06	21.5
		1	13	21.20	21.09	21.37	21.5
		1	24	21.35	21.08	21.06	21.5
		12	0	20.19	20.07	20.07	20.5
		12	6	20.14	20.06	20.11	20.5
		12	13	20.14	20.08	20.08	20.5
		25	0	20.22	20.12	20.01	20.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	/	22.04	/	22.5
		1	25	/	<b>22.08</b>	/	22.5
		1	49	/	22.01	/	22.5
		25	0	/	<b>21.11</b>	/	21.5
		25	13	/	21.09	/	21.5
		25	25	/	21.10	/	21.5
		50	0	/	21.11	/	21.5

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16QAM	1	0	/	20.96	/	21.5
	1	25	/	21.32	/	21.5
	1	49	/	21.21	/	21.5
	25	0	/	20.09	/	20.5
	25	13	/	20.09	/	20.5
	25	25	/	20.06	/	20.5
	50	0	/	20.07	/	20.5

LTE Band 40 b				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				39175	39200	39225	
5MHz	QPSK	1	0	21.99	22.05	22.05	22.5
		1	13	22.13	22.08	22.14	22.5
		1	24	21.92	<b>22.23</b>	22.15	22.5
		12	0	21.10	21.15	21.19	21.5
		12	6	21.11	21.23	21.27	21.5
		12	13	21.11	21.22	21.27	21.5
	16QAM	25	0	21.04	21.15	21.24	21.5
		1	0	21.33	21.16	21.10	21.5
		1	13	21.47	21.17	21.42	21.5
		1	24	21.23	21.24	21.07	21.5
		12	0	20.17	20.10	20.15	20.5
		12	6	20.10	20.14	20.23	20.5
		12	13	20.12	20.20	20.29	20.5
		25	0	20.14	20.13	20.23	20.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	/	21.99	/	22.5
		1	25	/	22.07	/	22.5
		1	49	/	<b>22.19</b>	/	22.5
		25	0	/	21.14	/	21.5
		25	13	/	21.22	/	21.5
		25	25	/	<b>21.27</b>	/	21.5
		50	0	/	21.20	/	21.5
	16QAM	1	0	/	20.91	/	21.5
		1	25	/	21.00	/	21.5
		1	49	/	20.96	/	21.5
		25	0	/	20.19	/	20.5
		25	13	/	20.22	/	20.5
		25	25	/	20.20	/	20.5

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		50	0	/	20.19	/	20.5
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LTE Band 41 Full power				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Channel	Tune up
				39675	40148	40620	41093	41565	
5MHz	QPSK	1	0	23.15	23.03	22.95	23.04	23.11	23.50
		1	13	23.22	23.23	23.08	23.16	23.17	23.50
		1	24	23.13	23.11	22.86	23.02	23.15	23.50
		12	0	22.69	22.54	22.49	22.54	22.74	23.00
		12	6	22.74	22.58	22.47	22.54	22.76	23.00
		12	13	22.7	22.49	22.49	22.45	22.71	23.00
		25	0	22.7	22.51	22.45	22.48	22.72	23.00
	16QAM	1	0	22.71	22.44	22.43	22.41	22.83	23.00
		1	13	22.66	22.36	22.5	22.33	22.95	23.00
		1	24	22.95	22.4	22.44	22.34	22.87	23.00
		12	0	21.63	21.67	21.6	21.61	21.74	22.00
		12	6	21.73	21.67	21.69	21.51	21.83	22.00
		12	13	21.65	21.76	21.61	21.67	21.74	22.00
		25	0	21.67	21.59	21.66	21.44	21.73	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Channel	Tune up
				39700	40160	40620	41080	41540	
10MHz	QPSK	1	0	23.2	22.97	23.05	23.03	23.22	23.50
		1	25	23.2	23.02	23.21	23.2	23.13	23.50
		1	49	23.25	23.03	23.07	23.13	23.17	23.50
		25	0	22.75	22.5	22.59	22.56	22.76	23.00
		25	13	22.69	22.51	22.56	22.49	22.77	23.00
		25	25	22.69	22.57	22.52	22.4	22.79	23.00
		50	0	22.69	22.45	22.49	22.36	22.79	23.00
	16QAM	1	0	22.63	22.5	22.43	22.26	22.61	23.00
		1	25	22.87	22.58	22.52	22.21	22.51	23.00
		1	49	22.83	22.52	22.44	22.35	22.48	23.00
		25	0	21.78	21.62	21.7	21.54	21.76	22.00
		25	13	21.69	21.61	21.71	21.48	21.83	22.00
		25	25	21.66	21.63	21.75	21.46	21.79	22.00
		50	0	21.73	21.55	21.69	21.48	21.73	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Channel	Tune up
				39725	40173	40620	41068	41515	
15MHz	QPSK	1	0	23	23.05	22.97	22.98	22.97	23.50
		1	38	22.95	23.16	23.02	23.17	23	23.50
		1	74	22.98	23.03	23.06	22.95	22.99	23.50

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	16QAM	36	0	22.57	22.56	22.61	22.66	22.65	23.00		
		36	18	22.62	22.48	22.54	22.72	22.63	23.00		
		36	39	22.46	22.6	22.62	22.65	22.63	23.00		
		75	0	22.5	22.45	22.5	22.62	22.63	23.00		
		1	0	22.69	22.35	22.43	22.64	22.64	23.00		
		1	38	22.57	22.37	22.37	22.71	22.47	23.00		
		1	74	22.31	22.43	22.4	22.68	22.54	23.00		
		36	0	21.6	21.55	21.54	21.9	21.7	22.00		
		36	18	21.59	21.49	21.51	21.87	21.65	22.00		
		36	39	21.51	21.45	21.63	21.92	21.68	22.00		
		75	0	21.52	21.43	21.48	21.83	21.67	22.00		
		<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel</b>	<b>Channel</b>	<b>Channel</b>	<b>Channel</b>	<b>Channel</b>	<b>Tune up</b>
						39750	40185	40620	41055	41490	
		<b>20MHz</b>	QPSK	1	0	23	22.97	23.05	23.04	<b>23.22</b>	<b>23.50</b>
1	50			23.01	23.07	23.08	23.05	23.01	23.50		
1	99			22.99	23.04	23.1	23.13	22.99	23.50		
50	0			22.6	22.52	<b>22.74</b>	22.64	22.68	23.00		
50	25			22.55	22.46	22.66	22.65	22.67	23.00		
50	50			22.54	22.61	22.64	22.72	22.69	23.00		
16QAM	1		0	22.49	22.53	22.72	22.76	22.32	23.00		
	1		50	22.45	22.55	22.76	22.83	22.46	23.00		
	1		99	22.84	22.48	22.64	22.68	22.49	23.00		
	50		0	21.59	21.78	21.89	21.91	21.75	22.00		
	50		25	21.51	21.68	21.82	21.95	21.67	22.00		
	50		50	21.5	21.83	21.97	21.97	21.64	22.00		
			100	0	21.54	21.6	21.73	21.86	21.61	22.00	

LTE Band 42				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				42115	42590	43065	
<b>5MHz</b>	QPSK	1	0	22.15	21.94	21.90	23.00
		1	13	<b>22.21</b>	21.98	21.95	23.00
		1	24	22.17	21.91	21.89	23.00
		12	0	21.43	21.31	21.14	22.00
		12	6	21.42	21.22	21.16	22.00
		12	13	21.38	21.37	21.19	22.00
		25	0	21.37	21.16	21.23	22.00
	16QAM	1	0	21.45	21.26	21.32	22.00
		1	13	21.55	21.34	21.38	22.00

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				41640	42590	43540	
10MHz	QPSK	1	0	22.13	21.87	21.97	23.00
		1	25	<b>22.14</b>	21.95	21.99	23.00
		1	49	22.05	21.95	21.90	23.00
		25	0	21.41	21.08	21.30	22.00
		25	13	21.44	21.09	21.33	22.00
		25	25	21.39	21.09	21.26	22.00
		50	0	21.38	21.08	21.27	22.00
	16QAM	1	0	21.29	21.14	21.28	22.00
		1	25	21.24	21.21	21.35	22.00
		1	49	21.27	21.21	21.22	22.00
		25	0	20.54	20.54	20.60	21.00
		25	13	20.47	20.44	20.59	21.00
		25	25	20.61	20.58	20.67	21.00
		50	0	20.38	20.38	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				41665	42590	43015	
15MHz	QPSK	1	0	22.19	21.92	21.95	23.00
		1	38	<b>22.37</b>	21.94	22.01	23.00
		1	74	22.19	22.01	21.87	23.00
		36	0	21.39	21.32	21.35	22.00
		36	18	21.47	21.22	21.44	22.00
		36	39	21.38	21.38	21.52	22.00
		75	0	21.46	21.13	21.47	22.00
	16QAM	1	0	21.37	21.16	21.53	22.00
		1	38	21.38	21.24	21.61	22.00
		1	74	21.41	21.21	21.50	22.00
		36	0	20.61	20.43	20.76	21.00
		36	18	20.62	20.34	20.68	21.00
		36	39	20.69	20.35	20.75	21.00
		75	0	20.57	20.33	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				41690	42590	42990	
20MHz	QPSK	1	0	22.16	21.91	21.97	23.00
		1	50	<b>22.24</b>	21.95	21.97	23.00

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		1	99	22.21	21.84	22.02	23.00
		50	0	<b>21.39</b>	21.22	21.26	<b>22.00</b>
		50	25	21.36	21.30	21.35	22.00
		50	50	21.39	21.22	21.35	22.00
		100	0	21.36	21.24	21.30	22.00
	16QAM	1	0	21.40	21.27	21.37	22.00
		1	50	21.45	21.24	21.46	22.00
		1	99	21.35	21.21	21.36	22.00
		50	0	20.62	20.62	20.77	21.00
		50	25	20.57	20.64	20.68	21.00
		50	50	20.59	20.67	20.76	21.00
		100	0	20.48	20.58	20.62	21.00

LTE Band 48				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Tune up
				55265	55748	56232	56715	
5MHz	QPSK	1	0	20.47	19.61	19.93	20.47	21.00
		1	13	20.29	19.83	20.30	20.29	21.00
		1	24	20.58	19.54	19.92	20.58	21.00
		12	0	19.4	18.86	19.14	19.4	20.00
		12	6	19.46	19.01	18.68	19.46	20.00
		12	13	19.63	19.05	18.89	19.63	20.00
	16QAM	25	0	19.44	18.92	18.86	19.44	20.00
		1	0	19.61	19.26	19.54	19.61	20.00
		1	13	19.85	19.01	19.03	19.85	20.00
		1	24	19.75	19.22	19.10	19.75	20.00
		12	0	18.34	18.04	18.17	18.34	19.00
		12	6	18.76	17.99	18.01	18.76	19.00
		12	13	18.39	18.14	17.68	18.39	19.00
		25	0	18.54	18.15	18.37	18.54	19.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Tune up
				55290	55990	56690	55290	
10MHz	QPSK	1	0	20.91	20.07	20.05	20.91	21.00
		1	25	20.7	20.14	20.30	20.7	21.00
		1	49	20.79	19.98	20.12	20.79	21.00
		25	0	19.8	19.09	19.03	19.8	20.00
		25	13	19.72	19.06	19.21	19.72	20.00
		25	25	19.7	19.11	19.25	19.7	20.00
		50	0	19.75	19.27	19.47	19.75	20.00

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	16QAM	1	0	20.03	19.17	19.41	20.03	20.50
		1	25	19.59	19.16	19.05	19.59	20.00
		1	49	20.09	18.99	19.17	20.09	20.50
		25	0	18.65	18.14	18.02	18.65	19.00
		25	13	18.84	18.20	18.23	18.84	19.00
		25	25	18.78	18.08	18.43	18.78	19.00
		50	0	18.78	18.15	18.19	18.78	19.00
<b>Bandwidth</b>	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Tune up
				55315	55990	56665	55315	
<b>15MHz</b>	QPSK	1	0	20.59	19.47	19.69	20.59	21.00
		1	38	20.52	19.51	19.77	20.52	21.00
		1	74	20.46	19.50	19.59	20.46	21.00
		36	0	19.73	18.51	18.49	19.73	20.00
		36	18	19.41	18.61	18.61	19.41	20.00
		36	39	19.72	18.65	18.77	19.72	20.00
		75	0	18.55	17.43	17.42	18.55	19.00
	16QAM	1	0	19.4	18.74	18.67	19.4	20.00
		1	38	19.54	18.41	18.58	19.54	20.00
		1	74	19.53	18.67	18.59	19.53	20.00
		36	0	18.53	17.49	17.75	18.53	19.00
		36	18	18.71	17.58	17.73	18.71	19.00
		36	39	18.56	17.70	17.71	18.56	19.00
		75	0	17.35	16.43	16.41	17.35	18.00
<b>Bandwidth</b>	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Tune up
				55340	55990	56640	55340	
<b>20MHz</b>	QPSK	1	0	20.62	19.48	19.53	20.62	21.00
		1	50	20.61	17.35	17.57	20.61	21.00
		1	99	20.64	19.49	19.69	20.64	21.00
		50	0	17.57	18.57	18.63	17.57	19.00
		50	25	17.39	18.60	18.73	17.39	19.00
		50	50	17.38	18.64	16.64	17.38	19.00
		100	0	17.21	16.22	16.14	17.21	18.00
	16QAM	1	0	19.86	18.59	16.30	19.86	20.00
		1	50	19.66	18.46	18.68	19.66	20.00
		1	99	19.67	18.51	18.50	19.67	20.00
		50	0	18.78	17.65	17.77	18.78	19.00
		50	25	16.50	17.83	17.76	16.50	18.00
		50	50	16.46	15.61	15.55	16.46	17.00
		100	0	13.91	15.09	13.06	13.91	15.50

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Compliance Certification Services (Kunshan) Inc.  
EMC Laboratory

Sensor on

LTE Band 41 Full power				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Channel	Tune up
				39675	40148	40620	41093	41565	
5MHz	QPSK	1	0	14.84	14.85	14.82	14.88	15.12	16.00
		1	13	14.96	14.73	14.97	14.89	14.74	16.00
		1	24	14.84	15	14.87	14.84	14.85	16.00
		12	0	14.4	14.31	14.65	14.47	14.46	16.00
		12	6	14.5	14.27	14.54	14.57	14.54	16.00
		12	13	14.41	14.46	14.51	14.54	14.4	16.00
	16QAM	25	0	14.46	14.2	14.39	14.49	14.52	16.00
		1	0	14.43	14.31	14.36	14.66	14.15	16.00
		1	13	14.28	14.43	14.5	14.65	14.29	16.00
		1	24	14.6	14.26	14.4	14.39	14.21	16.00
		12	0	13.49	13.57	13.73	13.65	13.61	15.00
		12	6	13.2	13.61	13.55	13.86	13.38	15.00
10MHz	QPSK	12	13	13.21	13.6	13.76	13.7	13.38	15.00
		25	0	13.23	13.53	13.62	13.55	13.39	15.00
		1	0	14.86	14.79	14.8	14.85	15.14	16.00
		1	25	14.94	14.75	14.97	14.91	14.68	16.00
		1	49	14.83	15.01	14.84	14.78	14.85	16.00
		25	0	14.41	14.28	14.61	14.48	14.45	16.00
	16QAM	25	13	14.46	14.3	14.54	14.52	14.61	16.00
		25	25	14.45	14.47	14.43	14.51	14.45	16.00
		50	0	14.46	14.26	14.44	14.46	14.5	16.00
		1	0	14.38	14.34	14.36	14.62	14.15	16.00
		1	25	14.26	14.39	14.52	14.62	14.29	16.00
		1	49	14.56	14.25	14.39	14.34	14.16	16.00
15MHz	QPSK	25	0	13.53	13.6	13.69	13.66	13.6	15.00
		25	13	13.16	13.66	13.5	13.84	13.38	15.00
		25	25	13.16	13.57	13.81	13.72	13.41	15.00
		50	0	13.29	13.53	13.63	13.6	13.39	15.00
		1	0	14.83	14.8	14.75	14.85	15.11	16.00
		1	38	14.93	14.75	15.02	14.93	14.67	16.00
	16QAM	1	74	14.86	14.93	14.84	14.77	14.85	16.00
		36	0	14.46	14.27	14.56	14.44	14.39	16.00
		36	18	14.49	14.34	14.48	14.51	14.55	16.00
		36	39	14.45	14.53	14.51	14.51	14.37	16.00
		75	0	14.4	14.26	14.44	14.42	14.49	16.00
		1	0	14.42	14.35	14.41	14.62	14.12	16.00
15MHz	16QAM	1	38	14.29	14.41	14.43	14.61	14.25	16.00
		1	74	14.62	14.26	14.47	14.32	14.18	16.00

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Channel	Channel	Tune up
				39750	40185	40620	41055	41490	
20MHz	QPSK	36	0	13.53	13.58	13.66	13.66	13.53	15.00
		36	18	13.15	13.63	13.5	13.92	13.45	15.00
		36	39	13.19	13.56	13.77	13.75	13.45	15.00
		75	0	13.3	13.54	13.59	13.55	13.32	15.00
		1	0	15.01	15.01	14.99	15.07	15.31	16.00
		1	50	15.12	14.94	15.2	15.11	14.92	16.00
		1	99	15.01	15.17	15.03	14.99	15.01	16.00
	16QAM	50	0	14.64	14.5	14.8	14.64	14.63	16.00
		50	25	14.66	14.5	14.7	14.72	14.78	16.00
		50	50	14.61	14.7	14.67	14.69	14.61	16.00
		100	0	14.63	14.43	14.6	14.65	14.73	16.00
		1	0	14.61	14.54	14.59	14.85	14.36	16.00
		1	50	14.49	14.62	14.68	14.83	14.47	16.00
		1	99	14.78	14.46	14.63	14.55	14.38	16.00
50	0	13.73	13.8	13.91	13.85	13.77	15.00		
50	25	13.4	13.82	13.75	14.08	13.61	15.00		
50	50	13.39	13.78	13.98	13.92	13.62	15.00		
100	0	13.46	13.73	13.81	13.79	13.56	15.00		



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8.1.4 Conducted Power Of 5G NR

N2

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	23.13	23.09	23.19	
20	PI/2 BPSK	1	53	23.08	23.15	23.17	25.0
20	PI/2 BPSK	1	104	23.10	23.20	23.19	24.5
20	PI/2 BPSK	50	0	23.05	23.08	23.11	
20	PI/2 BPSK	50	28	23.11	23.15	23.16	25.0
20	PI/2 BPSK	50	56	23.10	23.09	23.14	24.5
20	PI/2 BPSK	100	0	22.64	22.71	22.71	25.0
20	QPSK	1	1	23.19	23.24	23.21	
20	QPSK	1	53	23.17	23.22	23.24	
20	QPSK	1	104	23.18	23.23	23.25	24.0
20	QPSK	50	0	23.11	23.08	23.13	
20	QPSK	50	28	23.12	23.10	23.14	25.0
20	QPSK	50	56	23.09	23.07	23.13	24.0
20	QPSK	100	0	22.18	22.23	22.22	24.0
20	16QAM	1	1	22.19	22.11	22.29	
20	64QAM	1	1	21.07	20.86	20.86	22.5
20	256QAM	1	1	17.97	18.24	18.17	20.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	40	23.07	23.21	23.24	25.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	26	23.12	23.23	23.24	25.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	13	23.19	23.17	23.20	25.0

N5

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	22.50	22.33	22.48	
20	PI/2 BPSK	1	53	22.68	22.42	22.63	23.5
20	PI/2 BPSK	1	104	22.80	22.98	23.06	23.0
20	PI/2 BPSK	50	0	22.53	22.62	22.65	
20	PI/2 BPSK	50	28	22.52	22.65	<b>22.67</b>	23.0

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20	PI/2 BPSK	50	56	22.49	22.64	22.65	23.0
20	PI/2 BPSK	100	0	21.96	22.14	22.21	
20	QPSK	1	1	22.95	22.94	22.96	23.5
20	QPSK	1	53	22.83	22.81	22.79	
20	QPSK	1	104	22.68	22.70	22.62	
20	QPSK	50	0	22.65	22.72	22.69	23.0
20	QPSK	50	28	22.78	22.81	22.78	23.0
20	QPSK	50	56	22.62	22.68	22.65	23.0
20	QPSK	100	0	22.80	22.85	22.84	
20	16QAM	1	1	22.84	22.95	22.85	23.0
20	64QAM	1	1	21.68	21.79	21.35	22.0
20	256QAM	1	1	18.88	18.91	18.83	19.5
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	QPSK	1	40	22.83	22.85	22.69	23.0
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	QPSK	1	26	22.38	22.50	22.80	23.0
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	13	22.82	22.85	22.73	23.0

N41

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	Tune-up limit (dBm)
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.33	23.31	23.78	24.5
100	PI/2 BPSK	1	137	23.45	24.22	23.74	
100	PI/2 BPSK	1	271	23.87	23.75	24.42	
100	PI/2 BPSK	135	0	23.29	23.89	23.91	24.5
100	PI/2 BPSK	135	69	23.36	23.91	24.15	24.5
100	PI/2 BPSK	135	138	23.33	23.84	24.16	24.5
100	PI/2 BPSK	270	0	23.48	23.79	24.13	
100	QPSK	1	1	23.07	23.10	23.54	24.5
100	QPSK	1	137	23.44	23.53	23.61	
100	QPSK	1	271	23.65	24.07	24.11	
100	QPSK	135	0	23.21	23.52	23.48	24.0
100	QPSK	135	69	23.12	23.60	23.91	24.0
100	QPSK	135	138	23.05	23.31	23.20	24.5
100	QPSK	270	0	23.16	23.56	24.00	
100	16QAM	1	1	22.93	22.96	23.53	24.0
100	64QAM	1	1	22.60	22.70	23.13	24.0
100	256QAM	1	1	19.15	19.05	19.62	20.0
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	

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90	QPSK	1	123	23.41	23.61	23.94	24.0
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	QPSK	1	109	23.19	23.58	23.96	24.0
Channel				506202	518598	531000	Tune-up limit (dBm)
Frequency (MHz)				2531.01	2592.99	2655	
70	QPSK	1	95	/	/	/	/
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	QPSK	1	81	23.23	23.79	24.28	24.5
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	QPSK	1	67	23.55	23.83	24.49	24.5
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	QPSK	1	53	23.51	24.05	24.49	24.5
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	QPSK	1	39	23.58	23.93	24.55	25.0
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	QPSK	1	26	23.33	23.91	24.52	25.0
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	QPSK	1	19	/	/	/	/
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	QPSK	1	12	/	/	/	/

N66

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344,000.00	349,000.00	354,000.00	Tune-up limit (dBm)
Frequency (MHz)				1,720.00	1,745.00	1,770.00	
20	PI/2 BPSK	1	1	22.98	23.13	23.05	24.0
20	PI/2 BPSK	1	53	23.15	23.17	23.11	
20	PI/2 BPSK	1	104	23.11	23.21	23.13	
20	PI/2 BPSK	50	0	23.11	23.15	23.24	23.5
20	PI/2 BPSK	50	28	23.05	23.14	23.16	24.0
20	PI/2 BPSK	50	56	23.11	23.08	23.19	23.5
20	PI/2 BPSK	100	0	22.58	22.66	22.63	
20	QPSK	1	1	23.44	23.47	23.38	24.0
20	QPSK	1	53	23.45	23.51	23.43	
20	QPSK	1	104	23.44	23.55	23.47	
20	QPSK	50	0	23.38	23.49	23.43	23.0

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20	QPSK	50	28	23.4	23.5	23.4	24.0
20	QPSK	50	56	23.41	<b>23.51</b>	23.45	23.0
20	QPSK	100	0	23.40	23.42	23.45	
20	16QAM	1	1	23.37	23.44	23.46	23.0
20	64QAM	1	1	21.90	22.29	22.19	21.5
20	256QAM	1	1	19.43	19.42	19.39	19.5
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	40	23.48	23.53	23.42	24.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	26	23.53	23.51	23.58	24.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	13	23.45	23.55	23.53	24.0

N71

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	22.69	22.53	22.55	23.0
20	PI/2 BPSK	1	53	22.53	22.51	22.48	
20	PI/2 BPSK	1	104	22.41	22.43	22.33	
20	PI/2 BPSK	50	0	22.42	22.51	22.33	23.0
20	PI/2 BPSK	50	28	22.45	22.53	22.35	23.0
20	PI/2 BPSK	50	56	22.47	22.48	22.35	23.0
20	PI/2 BPSK	100	0	21.99	21.85	22.62	
20	QPSK	1	1	22.75	22.73	22.71	23.0
20	QPSK	1	53	22.56	22.53	22.67	
20	QPSK	1	104	22.48	22.42	22.58	
20	QPSK	50	0	22.53	22.57	22.55	23.0
20	QPSK	50	28	22.55	22.53	22.54	23.0
20	QPSK	50	56	<b>22.59</b>	22.58	22.57	23.0
20	QPSK	100	0	22.62	22.62	22.53	
20	16QAM	1	1	22.71	22.69	22.56	23.0
20	64QAM	1	1	21.40	21.30	21.26	22.0
20	256QAM	1	1	18.72	18.38	18.47	19.0
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	40	22.73	22.51	22.52	23.0
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	26	22.72	22.65	22.60	23.0
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	13	22.72	22.49	22.45	23.0

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8.1.5 Conducted Power Of Wi-Fi

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	15.63	16.00
	6	2437		15.78	16.00
	11	2462		15.42	16.00
802.11g	1	2412	6	13.39	14.50
	6	2437		14.32	14.50
	11	2462		13.89	14.50
802.11n SISO HT20	1	2412	MCS0	12.30	14.00
	6	2437		13.19	14.00
	11	2462		12.90	14.00
802.11n SISO HT40	3	2422	MCS0	14.32	15.00
	6	2437		14.99	15.00
	9	2452		14.59	15.00

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11a	U-NII-1	36	5180	6	14.76	15.50
		40	5200		14.94	15.50
		44	5220		15.14	15.50
		48	5240		15.23	15.50
	U-NII-3	149	5745		14.78	15.00
		157	5785		14.48	15.00
		165	5825		13.90	15.00
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11n-HT20	U-NII-1	36	5180	MCS0	13.74	15.00
		40	5200		13.91	15.00
		44	5220		14.23	15.00
		48	5240		14.27	15.00
	U-NII-3	149	5745		14.67	15.00
		157	5785		14.36	15.00
		165	5825		13.77	15.00
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11n-HT40	U-NII-1	38	5190	MCS0	14.14	15.00
		46	5230		14.37	15.00
	U-NII-3	151	5755		14.14	15.00

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5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 20M	U-NII-1	159	5795	MCS0	13.81	15.00
		36	5180		13.69	14.50
		40	5200		13.90	14.50
		44	5220		14.15	14.50
	U-NII-3	48	<b>5240</b>		14.33	14.50
		149	5745		13.65	14.50
		157	5785		13.35	14.50
165	5825	13.84	14.50			
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 40M	U-NII-1	38	5190	MCS0	14.14	14.50
		46	5230		14.34	14.50
	U-NII-3	151	5755		14.09	14.50
		159	5795		13.75	14.50
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 80M	U-NII-1	42	5210	MCS0	14.83	15.00
	U-NII-3	155	5775		14.70	15.00

Note:

- a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
- b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
  - 1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
  - 2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.
- c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.



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8.1.6 Conducted Power Of BT

BT			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	7.44	9
	39	2441	8.50	9
	78	2480	8.95	9
π/4DQPSK	0	2402	6.50	9
	39	2441	7.94	9
	78	2480	8.34	9
8DPSK	0	2402	6.96	9
	39	2441	8.33	9
	78	2480	8.74	9

BLE_1M			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	7.38	9
	19	2440	8.44	9
	39	2480	8.69	9
BLE_2M			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	7.40	9
	19	2440	8.53	9
	39	2480	8.87	9

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## 8.2 Measurement of SAR Data

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B
- 2) Per FCC KDB Publication 447498 D04, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg (2.0W/kg for 10g) then testing at the other channels is not required for such test configuration(s).

WiFi 2.4G:

- 1) When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR test for the other 802.11 modes are not required.

**WiFi 5G:**

- 1) When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR test for the other 802.11 modes are not required.



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8.2.1 SAR Result Of GSM 850

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	SAR limit (W/kg)
Head Test data												
Left cheek	GSM	128/824.2	1:8.3	0.255	0.199	-0.02	31.64	32	1.086	<b>0.277</b>	22.1	1.6
Left tilted	GSM	128/824.2	1:8.3	0.049	0.048	-0.14	31.64	32	1.086	0.053	22.1	1.6
Right cheek	GSM	128/824.2	1:8.3	0.113	0.097	0.1	31.64	32	1.086	0.123	22.1	1.6
Right tilted	GSM	128/824.2	1:8.3	0.021	0.019	-0.13	31.64	32	1.086	0.022	22.1	1.6
Left cheek	GSM	190/836.6	1:8.3	0.231	0.168	-0.07	31.6	32	1.096	0.253	22.1	1.6
Left cheek	GSM	251/848.8	1:8.3	0.2	0.142	0.1	30.61	32	1.377	0.275	22.1	1.6
Head Test data at the worst case with SIM2												
Left cheek	GSM	128/824.2	1:8.3	0.237	0.172	-0.18	31.64	32	1.086	0.257	22.1	1.6
Body Test data(Separate 10mm)												
Front side	GPRS 4TS	190/836.6	1:2.075	0.789	0.591	-0.09	26.48	27	1.127	0.889	22.1	1.6
Back side	GPRS 4TS	190/836.6	1:2.075	1.020	0.627	0.06	26.48	27	1.127	<b>1.150</b>	22.1	1.6
Back side	GPRS 4TS	128/824.2	1:2.075	0.925	0.618	0.06	26.14	27	1.219	1.128	22.1	1.6
Back side	GPRS 4TS	251/848.8	1:2.075	0.814	0.511	0.14	25.52	27	1.406	1.145	22.1	1.6
Left side	GPRS 4TS	190/836.6	1:2.075	0.860	0.598	-0.12	26.48	27	1.127	0.970	22.1	1.6
Right side	GPRS 4TS	190/836.6	1:2.075	0.780	0.591	-0.19	26.48	27	1.127	0.879	22.1	1.6
Top side	GPRS 4TS	190/836.6	1:2.075	0.093	0.079	0.01	26.48	27	1.127	0.105	22.1	1.6
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.647	0.379	0.09	26.48	27	1.127	0.729	22.1	1.6
Back side	EGPRS 3TS	128/824.2	1:2.075	0.844	0.561	-0.1	21.25	22	1.189	1.003	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	GPRS 4TS	190/836.6	1:2.075	0.921	0.604	0.06	26.48	27	1.127	1.038	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	GPRS 4TS	190/836.6	1:2.075	3.16	2.29	-0.03	26.48	27	1.127	2.581	22.1	4
Back side	GPRS 4TS	190/836.6	1:2.075	4.11	2.38	0.11	26.48	27	1.127	2.683	22.1	4
Left side	GPRS 4TS	190/836.6	1:2.075	3.46	2.26	-0.12	26.48	27	1.127	2.547	22.1	4
Bottom side	GPRS 4TS	190/836.6	1:2.075	2.62	1.29	-0.14	26.48	27	1.127	1.454	22.1	4
Sensor off (Separate 15mm)												
Front side	GPRS 4TS	190/836.6	1:2.075	0.367	0.179	-0.03	28.34	29	1.164	0.427	22.1	1.6
Back side	GPRS 4TS	190/836.6	1:2.075	0.488	0.275	0.17	28.34	29	1.164	0.568	22.1	1.6

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8.2.2 SAR Result Of PCS 1900

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift(dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	SAR limit (W/kg)
Head Test data												
Left cheek	GSM	810/1909.8	1:8.3	0.203	0.094	-0.04	29.53	30	1.114	<b>0.226</b>	22.3	1.6
Left tilted	GSM	810/1909.8	1:8.3	0.038	0.020	0.17	29.53	30	1.114	0.042	22.3	1.6
Right cheek	GSM	810/1909.8	1:8.3	0.082	0.042	0.05	29.53	30	1.114	0.092	22.3	1.6
Right tilted	GSM	810/1909.8	1:8.3	0.019	0.010	0.05	29.53	30	1.114	0.022	22.3	1.6
Left cheek	GSM	512/1850.2	1:8.3	0.164	0.086	0.06	28.76	30	1.330	0.218	22.3	1.6
Left cheek	GSM	661/1880	1:8.3	0.185	0.084	0.17	29.42	30	1.143	0.211	22.3	1.6
Head Test data at the worst case with SIM2												
Left cheek	GSM	810/1909.8	1:8.3	0.177	0.082	0.11	29.53	30	1.114	0.197	22.3	1.6
Body Test data(Separate 10mm)												
Front side	GPRS 2TS	810/1909.8	1:2.075	0.144	0.081	-0.12	27.55	28	1.109	0.159	22.3	1.6
Back side	GPRS 2TS	810/1909.8	1:2.075	0.160	0.084	0.13	27.55	28	1.109	0.177	22.3	1.6
Left side	GPRS 2TS	810/1909.8	1:2.075	0.209	0.107	-0.1	27.55	28	1.109	<b>0.232</b>	22.3	1.6
Left side	GPRS 2TS	512/1850.2	1:2.075	0.164	0.075	0.016	26.77	28	1.327	0.218	22.3	1.6
Left side	GPRS 2TS	661/1880	1:2.075	0.188	0.096	-0.07	27.41	28	1.146	0.215	22.3	1.6
Right side	GPRS 2TS	810/1909.8	1:2.075	0.017	0.011	-0.15	27.55	28	1.109	0.019	22.3	1.6
Top side	GPRS 2TS	810/1909.8	1:2.075	0.041	0.025	0.05	27.55	28	1.109	0.045	22.3	1.6
Bottom side	GPRS 2TS	810/1909.8	1:2.075	0.041	0.026	0.1	27.55	28	1.109	0.045	22.3	1.6
Left side	EGPRS 2TS	810/1909.8	1:2.075	0.188	0.102	0.19	23.71	24	1.069	0.201	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	GPRS 2TS	810/1909.8	1:2.075	0.179	0.093	-0.1	27.55	28	1.109	0.199	22.3	1.6
Extremity Test data(Separate 0mm)												
Front side	GPRS 2TS	810/1909.8	1:2.075	0.829	0.413	-0.18	27.55	28	1.109	0.458	22.3	4
Back side	GPRS 2TS	810/1909.8	1:2.075	0.924	0.413	0.08	27.55	28	1.109	0.458	22.3	4
Left side	GPRS 2TS	810/1909.8	1:2.075	1.02	0.51	0.06	27.55	28	1.109	<b>0.566</b>	22.3	4

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8.2.3 SAR Result Of WCDMA Band II

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	SAR limit (W/kg)
Head Test data												
Left cheek	RMC	9262/1852.4	1:1	0.373	0.185	-0.18	21.58	22	1.102	<b>0.411</b>	22.3	1.6
Left tilted	RMC	9262/1852.4	1:1	0.066	0.037	-0.01	21.58	22	1.102	0.072	22.3	1.6
Right cheek	RMC	9262/1852.4	1:1	0.156	0.085	0.09	21.58	22	1.102	0.172	22.3	1.6
Right tilted	RMC	9262/1852.4	1:1	0.038	0.026	0.14	21.58	22	1.102	0.041	22.3	1.6
Left cheek	RMC	9400/1880	1:1	0.331	0.167	0.03	21.16	22	1.213	0.402	22.3	1.6
Left cheek	RMC	9538/1907.6	1:1	0.329	0.152	0.12	21.05	22	1.245	0.409	22.3	1.6
Head Test data at the worst case with SIM2												
Left cheek	RMC	9262/1852.4	1:1	0.352	0.162	-0.19	21.58	22	1.102	0.388	22.3	1.6
Body Test data(Separate 10mm)												
Front side	RMC	9262/1852.4	1:1	0.158	0.080	-0.19	21.58	22	1.102	0.174	22.3	1.6
Back side	RMC	9262/1852.4	1:1	0.173	0.093	0.13	21.58	22	1.102	0.191	22.3	1.6
Left side	RMC	9262/1852.4	1:1	0.222	0.112	-0.06	21.58	22	1.102	<b>0.245</b>	22.3	1.6
Left side	RMC	9400/1880	1:1	0.182	0.079	0.19	21.16	22	1.213	0.221	22.3	1.6
Left side	RMC	9538/1907.6	1:1	0.195	0.084	-0.14	21.05	22	1.245	0.243	22.3	1.6
Right side	RMC	9262/1852.4	1:1	0.021	0.010	-0.08	21.58	22	1.102	0.023	22.3	1.6
Top side	RMC	9262/1852.4	1:1	0.042	0.022	0.17	21.58	22	1.102	0.046	22.3	1.6
Bottom side	RMC	9262/1852.4	1:1	0.040	0.029	0.17	21.58	22	1.102	0.044	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	RMC	9262/1852.4	1:1	0.185	0.097	-0.01	21.58	22	1.102	0.204	22.3	1.6
Extremity Test data(Separate 0mm)												
Front side	RMC	9262/1852.4	1:1	0.891	0.392	-0.07	21.58	22	1.102	0.431	22.3	4
Back side	RMC	9262/1852.4	1:1	0.989	0.466	-0.01	21.58	22	1.102	0.513	22.3	4
Left side	RMC	9262/1852.4	1:1	1.25	0.638	0.12	21.58	22	1.102	<b>0.703</b>	22.3	4



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8.2.4 SAR Result Of WCDMA Band IV

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	SAR limit (W/kg)
Head Test data												
Left cheek	RMC	1412/1732.4	1:1	0.272	0.153	-0.18	21.15	22	1.216	<b>0.331</b>	22.2	1.6
Left cheek	RMC	1312/1712.4	1:1	0.263	0.142	0.08	21.02	22	1.253	0.330	22.2	1.6
Left cheek	RMC	1513/1752.6	1:1	0.249	0.135	0.05	21.08	22	1.236	0.308	22.2	1.6
Left tilted	RMC	1412/1732.4	1:1	0.082	0.043	0.05	21.15	22	1.216	0.100	22.2	1.6
Right cheek	RMC	1412/1732.4	1:1	0.134	0.072	0.06	21.15	22	1.216	0.163	22.2	1.6
Right tilted	RMC	1412/1732.4	1:1	0.046	0.022	0.01	21.15	22	1.216	0.056	22.2	1.6
Head Test data at the worst case with SIM2												
Left cheek	RMC	1412/1732.4	1:1	0.242	0.129	-0.04	21.15	22	1.216	0.294	22.2	1.6
Body Test data(Separate 10mm)												
Front side	RMC	1412/1732.4	1:1	0.136	0.080	0.15	21.15	22	1.216	0.165	22.2	1.6
Back side	RMC	1412/1732.4	1:1	0.149	0.084	0.02	21.15	22	1.216	0.182	22.2	1.6
Left side	RMC	1412/1732.4	1:1	0.204	0.106	-0.17	21.15	22	1.216	<b>0.248</b>	22.2	1.6
Left side	RMC	1312/1712.4	1:1	0.194	0.102	0.13	21.02	22	1.253	0.243	22.2	1.6
Left side	RMC	1513/1752.6	1:1	0.183	0.096	0.03	21.08	22	1.236	0.226	22.2	1.6
Right side	RMC	1412/1732.4	1:1	0.019	0.013	0.02	21.15	22	1.216	0.023	22.2	1.6
Top side	RMC	1412/1732.4	1:1	0.041	0.025	0.11	21.15	22	1.216	0.049	22.2	1.6
Bottom side	RMC	1412/1732.4	1:1	0.033	0.026	0.11	21.15	22	1.216	0.040	22.2	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	RMC	1412/1732.4	1:1	0.165	0.076	0.18	21.15	22	1.216	0.201	22.2	1.6
Extremity Test data(Separate 0mm)												
Front side	RMC	1412/1732.4	1:1	0.759	0.392	0.1	21.15	22	1.216	0.477	22.2	4
Back side	RMC	1412/1732.4	1:1	0.832	0.410	0.01	21.15	22	1.216	0.498	22.2	4
Left side	RMC	1412/1732.4	1:1	0.961	0.412	-0.07	21.15	22	1.216	<b>0.501</b>	22.2	4

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8.2.5 SAR Result Of WCDMA Band V

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	SAR limit (W/kg)
Head Test data												
Left cheek	RMC	4182/836.4	1:1	0.194	0.102	0.09	22.5	23	1.122	<b>0.218</b>	22.1	1.6
Left cheek	RMC	4132/826.4	1:1	0.177	0.101	0.08	22.4	23	1.148	0.203	22.1	1.6
Left cheek	RMC	4233/846.6	1:1	0.182	0.095	-0.16	22.39	23	1.151	0.209	22.1	1.6
Left tilted	RMC	4182/836.4	1:1	0.037	0.024	-0.1	22.5	23	1.122	0.042	22.1	1.6
Right cheek	RMC	4182/836.4	1:1	0.084	0.048	-0.02	22.5	23	1.122	0.094	22.1	1.6
Right tilted	RMC	4182/836.4	1:1	0.016	0.009	-0.08	22.5	23	1.122	0.018	22.1	1.6
Head Test data at the worst case with SIM2												
Left cheek	RMC	4182/836.4	1:1	0.162	0.085	0.12	22.5	23	1.122	0.182	22.1	1.6
Body Test data(Separate 10mm)												
Front side	RMC	4182/836.4	1:1	0.224	0.156	0.08	22.5	23	1.122	0.251	22.1	1.6
Back side	RMC	4182/836.4	1:1	0.298	0.222	-0.06	22.5	23	1.122	<b>0.334</b>	22.1	1.6
Back side	RMC	4132/826.4	1:1	0.268	0.168	0.11	22.4	23	1.148	0.308	22.1	1.6
Back side	RMC	4233/846.6	1:1	0.271	0.164	0.09	22.39	23	1.151	0.312	22.1	1.6
Left side	RMC	4182/836.4	1:1	0.245	0.158	-0.07	22.5	23	1.122	0.275	22.1	1.6
Right side	RMC	4182/836.4	1:1	0.226	0.153	0.14	22.5	23	1.122	0.254	22.1	1.6
Top side	RMC	4182/836.4	1:1	0.026	0.017	-0.07	22.5	23	1.122	0.029	22.1	1.6
Bottom side	RMC	4182/836.4	1:1	0.183	0.100	-0.07	22.5	23	1.122	0.205	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	RMC	4182/836.4	1:1	0.264	0.192	0.15	22.5	23	1.122	0.296	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	RMC	4182/836.4	1:1	0.902	0.707	-0.1	22.5	23	1.122	0.793	22.1	4
Back side	RMC	4182/836.4	1:1	1.45	0.917	0.03	22.5	23	1.122	<b>1.029</b>	22.1	4
Left side	RMC	4182/836.4	1:1	1.007	0.695	-0.19	22.5	23	1.122	0.780	22.1	4
Bottom side	RMC	4182/836.4	1:1	0.764	0.465	0.15	22.5	23	1.122	0.522	22.1	4

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8.2.6 SAR Result Of LTE Band 2

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_QPSK 1RB_0	18700/1860	1:1	0.419	0.219	0.13	22.31	22.5	1.045	<b>0.438</b>	22.3	1.6
Left cheek	20M_QPSK 1RB_0	18900/1880	1:1	0.397	0.198	0.07	22.25	22.5	1.059	0.421	22.3	1.6
Left cheek	20M_QPSK 1RB_0	19100/1900	1:1	0.402	0.205	0.15	22.27	22.5	1.054	0.424	22.3	1.6
Left cheek	20M_QPSK 50RB_50	18700/1860	1:1	0.313	0.169	0.02	21.8	22	1.047	0.328	22.3	1.6
Left tilted	20M_QPSK 1RB_0	18700/1860	1:1	0.071	0.042	-0.02	22.31	22.5	1.045	0.074	22.3	1.6
Left tilted	20M_QPSK 50RB_50	18700/1860	1:1	0.044	0.028	-0.05	21.8	22	1.047	0.046	22.3	1.6
Right cheek	20M_QPSK 1RB_0	18700/1860	1:1	0.168	0.094	0.11	22.31	22.5	1.045	0.176	22.3	1.6
Right cheek	20M_QPSK 50RB_50	18700/1860	1:1	0.134	0.076	0.04	21.8	22	1.047	0.140	22.3	1.6
Right tilted	20M_QPSK 1RB_0	18700/1860	1:1	0.037	0.023	0.07	22.31	22.5	1.045	0.039	22.3	1.6
Right tilted	20M_QPSK 50RB_50	18700/1860	1:1	0.023	0.010	-0.01	21.8	22	1.047	0.024	22.3	1.6
Head Test data at the worst case with SIM2												
Left cheek	20M_QPSK 1RB_0	18700/1860	1:1	0.391	0.203	0.03	22.31	22.5	1.045	0.408	22.3	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_0	18700/1860	1:1	0.103	0.057	-0.16	22.31	22.5	1.045	0.108	22.3	1.6
Front side	20M_QPSK 50RB_50	18700/1860	1:1	0.085	0.041	0.14	21.8	22	1.047	0.089	22.3	1.6
Back side	20M_QPSK 1RB_0	18700/1860	1:1	0.113	0.064	-0.11	22.31	22.5	1.045	0.118	22.3	1.6
Back side	20M_QPSK 50RB_50	18700/1860	1:1	0.092	0.045	0.17	21.8	22	1.047	0.096	22.3	1.6
Left side	20M_QPSK 1RB_0	18700/1860	1:1	0.152	0.082	0.06	22.31	22.5	1.045	<b>0.159</b>	22.3	1.6
Left side	20M_QPSK 1RB_0	18900/1880	1:1	0.136	0.064	0.09	22.25	22.5	1.059	0.144	22.3	1.6
Left side	20M_QPSK 1RB_0	19100/1900	1:1	0.142	0.075	0.18	22.27	22.5	1.054	0.150	22.3	1.6
Left side	20M_QPSK 50RB_50	18700/1860	1:1	0.132	0.063	-0.11	21.8	22	1.047	0.138	22.3	1.6
Right side	20M_QPSK 1RB_0	18700/1860	1:1	0.010	0.005	0.15	22.31	22.5	1.045	0.010	22.3	1.6
Right side	20M_QPSK 50RB_50	18700/1860	1:1	0.008	0.003	0.05	21.8	22	1.047	0.008	22.3	1.6
Top side	20M_QPSK 1RB_0	18700/1860	1:1	0.025	0.013	0.01	22.31	22.5	1.045	0.026	22.3	1.6
Top side	20M_QPSK 50RB_50	18700/1860	1:1	0.020	0.010	0.04	21.8	22	1.047	0.021	22.3	1.6
Bottom side	20M_QPSK 1RB_0	18700/1860	1:1	0.024	0.016	-0.05	22.31	22.5	1.045	0.025	22.3	1.6
Bottom side	20M_QPSK 50RB_50	18700/1860	1:1	0.020	0.012	-0.17	21.8	22	1.047	0.021	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_49	18700/1860	1:1	0.132	0.065	-0.05	22.31	22.5	1.045	0.138	22.3	1.6
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_0	18700/1860	1:1	0.596	0.280	-0.01	22.31	22.5	1.045	0.292	22.3	4
Front side	20M_QPSK 50RB_50	18700/1860	1:1	0.505	0.224	0.03	21.8	22	1.047	0.235	22.3	4
Back side	20M_QPSK 1RB_0	18700/1860	1:1	0.645	0.334	-0.15	22.31	22.5	1.045	0.348	22.3	4
Back side	20M_QPSK 50RB_50	18700/1860	1:1	0.511	0.240	0.14	21.8	22	1.047	0.252	22.3	4
Left side	20M_QPSK 1RB_49	18700/1860	1:1	0.864	0.425	-0.08	22.31	22.5	1.045	<b>0.444</b>	22.3	4
Left side	20M_QPSK 50RB_50	18700/1860	1:1	0.736	0.305	-0.17	21.8	22	1.047	0.320	22.3	4

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8.2.7 SAR Result Of LTE Band 4

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_99	20175/1732.5	1:1	0.342	0.184	0.02	22.28	22.5	1.052	<b>0.360</b>	22.2	1.6
Left cheek	20M_QPSK 1RB_99	20300/1745	1:1	0.294	0.149	0.15	21.97	22.5	1.130	0.332	22.2	1.6
Left cheek	20M_QPSK 1RB_99	20050/1720	1:1	0.315	0.162	0.05	21.96	22.5	1.132	0.357	22.2	1.6
Left cheek	20M_QPSK 50RB_25	20175/1732.5	1:1	0.264	0.146	-0.05	21.67	22	1.079	0.285	22.2	1.6
Left tilted	20M_QPSK 1RB_99	20175/1732.5	1:1	0.061	0.037	-0.17	22.28	22.5	1.052	0.064	22.2	1.6
Left tilted	20M_QPSK 50RB_25	20175/1732.5	1:1	0.042	0.028	-0.09	21.67	22	1.079	0.045	22.2	1.6
Right cheek	20M_QPSK 1RB_99	20175/1732.5	1:1	0.143	0.083	-0.14	22.28	22.5	1.052	0.150	22.2	1.6
Right cheek	20M_QPSK 50RB_25	20175/1732.5	1:1	0.117	0.07	-0.09	21.67	22	1.079	0.126	22.2	1.6
Right tilted	20M_QPSK 1RB_99	20175/1732.5	1:1	0.021	0.012	0.01	22.28	22.5	1.052	0.022	22.2	1.6
Right tilted	20M_QPSK 50RB_25	20175/1732.5	1:1	0.032	0.024	0.06	21.67	22	1.079	0.035	22.2	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_99	20175/1732.5	1:1	0.327	0.175	0.02	22.28	22.5	1.052	0.344	22.2	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.129	0.074	0.11	22.28	22.5	1.052	0.135	22.2	1.6
Front side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.108	0.049	0.18	21.67	22	1.079	0.117	22.2	1.6
Back side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.137	0.076	0.02	22.28	22.5	1.052	0.144	22.2	1.6
Back side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.110	0.053	0.01	21.67	22	1.079	0.118	22.2	1.6
Left side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.183	0.1	-0.04	22.28	22.5	1.052	<b>0.193</b>	22.2	1.6
Left side	20M_QPSK 1RB_99	20300/1745	1:1	0.162	0.091	0.07	21.97	22.5	1.130	0.183	22.2	1.6
Left side	20M_QPSK 1RB_99	20050/1720	1:1	0.157	0.085	0.16	21.96	22.5	1.132	0.178	22.2	1.6
Left side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.157	0.075	-0.14	21.67	22	1.079	0.169	22.2	1.6
Right side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.012	0.007	0.15	22.28	22.5	1.052	0.013	22.2	1.6
Right side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.015	0.006	0.09	21.67	22	1.079	0.016	22.2	1.6
Top side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.034	0.020	0.08	22.28	22.5	1.052	0.036	22.2	1.6
Top side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.026	0.014	0.19	21.67	22	1.079	0.028	22.2	1.6
Bottom side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.030	0.023	0.1	22.28	22.5	1.052	0.031	22.2	1.6
Bottom side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.026	0.016	-0.19	21.67	22	1.079	0.028	22.2	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.155	0.085	-0.19	22.28	22.5	1.052	0.163	22.2	1.6
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.736	0.373	0.12	22.28	22.5	1.052	0.392	22.2	4
Front side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.606	0.248	0.08	21.67	22	1.079	0.268	22.2	4
Back side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.775	0.374	0.16	22.28	22.5	1.052	0.393	22.2	4
Back side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.638	0.277	-0.07	21.67	22	1.079	0.299	22.2	4
Left side	20M_QPSK 1RB_99	20175/1732.5	1:1	0.885	0.426	0.07	22.28	22.5	1.052	<b>0.448</b>	22.2	4
Left side	20M_QPSK 50RB_25	20175/1732.5	1:1	0.885	0.363	0.09	21.67	22	1.079	0.391	22.2	4

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8.2.8 SAR Result Of LTE Band 5

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_0	20600/844	1:1	0.233	0.18	-0.02	22.88	23.5	1.153	<b>0.269</b>	22.1	1.6
Left cheek	10M_QPSK 1RB_0	20450/829	1:1	0.211	0.123	0.04	22.66	23.5	1.213	0.256	22.1	1.6
Left cheek	10M_QPSK 1RB_0	20525/836.5	1:1	0.216	0.142	0.16	22.61	23.5	1.227	0.265	22.1	1.6
Left cheek	10M_QPSK 25RB_25	20600/844	1:1	0.187	0.12	0.18	22.07	23.5	1.390	0.260	22.1	1.6
Left tilted	10M_QPSK 1RB_0	20600/844	1:1	0.046	0.03	0.11	22.88	23.5	1.153	0.053	22.1	1.6
Left tilted	10M_QPSK 25RB_25	20600/844	1:1	0.031	0.029	-0.05	22.07	23.5	1.390	0.043	22.1	1.6
Right cheek	10M_QPSK 1RB_0	20600/844	1:1	0.107	0.084	0.11	22.88	23.5	1.153	0.123	22.1	1.6
Right cheek	10M_QPSK 25RB_25	20600/844	1:1	0.086	0.071	0.09	22.07	23.5	1.390	0.120	22.1	1.6
Right tilted	10M_QPSK 1RB_0	20600/844	1:1	0.017	0.012	0.03	22.88	23.5	1.153	0.020	22.1	1.6
Right tilted	10M_QPSK 25RB_25	20600/844	1:1	0.025	0.02	0.07	22.07	23.5	1.390	0.035	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_0	20600/844	1:1	0.228	0.185	0.03	22.88	23.5	1.153	0.263	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_0	20600/844	1:1	0.188	0.132	0.1	22.88	23.5	1.153	0.217	22.1	1.6
Front side	10M_QPSK 25RB_25	20600/844	1:1	0.152	0.122	-0.03	22.07	23.5	1.390	0.211	22.1	1.6
Back side	10M_QPSK 1RB_0	20600/844	1:1	0.241	0.179	-0.12	22.88	23.5	1.153	<b>0.278</b>	22.1	1.6
Back side	10M_QPSK 1RB_0	20450/829	1:1	0.221	0.152	0.12	22.66	23.5	1.213	0.268	22.1	1.6
Back side	10M_QPSK 1RB_0	20525/836.5	1:1	0.226	0.162	0.08	22.61	23.5	1.227	0.277	22.1	1.6
Back side	10M_QPSK 25RB_25	20600/844	1:1	0.195	0.121	-0.19	22.07	23.5	1.390	0.271	22.1	1.6
Left side	10M_QPSK 1RB_0	20600/844	1:1	0.172	0.115	0.14	22.88	23.5	1.153	0.198	22.1	1.6
Left side	10M_QPSK 25RB_25	20600/844	1:1	0.172	0.111	-0.06	22.07	23.5	1.390	0.239	22.1	1.6
Right side	10M_QPSK 1RB_0	20600/844	1:1	0.188	0.128	-0.19	22.88	23.5	1.153	0.217	22.1	1.6
Right side	10M_QPSK 25RB_25	20600/844	1:1	0.167	0.109	-0.13	22.07	23.5	1.390	0.232	22.1	1.6
Top side	10M_QPSK 1RB_0	20600/844	1:1	0.018	0.013	0.14	22.88	23.5	1.153	0.021	22.1	1.6
Top side	10M_QPSK 25RB_25	20600/844	1:1	0.015	0.009	-0.07	22.07	23.5	1.390	0.021	22.1	1.6
Bottom side	10M_QPSK 1RB_0	20600/844	1:1	0.15	0.085	-0.06	22.88	23.5	1.153	0.173	22.1	1.6
Bottom side	10M_QPSK 25RB_25	20600/844	1:1	0.13	0.065	0.1	22.07	23.5	1.390	0.181	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	10M_QPSK 1RB_0	20600/844	1:1	0.221	0.143	-0.05	22.88	23.5	1.153	0.255	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_0	20600/844	1:1	1.07	0.530	-0.14	22.88	23.5	1.153	0.612	22.1	4
Front side	10M_QPSK 25RB_25	20600/844	1:1	0.869	0.469	-0.04	22.07	23.5	1.390	0.652	22.1	4
Back side	10M_QPSK 1RB_0	20600/844	1:1	1.31	0.682	0.08	22.88	23.5	1.153	<b>0.787</b>	22.1	4
Back side	10M_QPSK 25RB_25	20600/844	1:1	1.10	0.488	-0.07	22.07	23.5	1.390	0.679	22.1	4
Left side	10M_QPSK 1RB_0	20600/844	1:1	0.979	0.443	0.03	22.88	23.5	1.153	0.510	22.1	4
Left side	10M_QPSK 25RB_25	20600/844	1:1	0.985	0.451	0.16	22.07	23.5	1.390	0.627	22.1	4
Bottom side	10M_QPSK 1RB_0	20600/844	1:1	0.841	0.344	-0.06	22.88	23.5	1.153	0.397	22.1	4
Bottom side	10M_QPSK 25RB_25	20600/844	1:1	0.734	0.273	-0.11	22.07	23.5	1.390	0.379	22.1	4



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8.2.9 SAR Result Of LTE Band 7

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_QPSK 1RB_0	20850/2510	1:1	0.424	0.196	-0.05	21.99	22.5	1.125	<b>0.477</b>	22.1	1.6
Left cheek	20M_QPSK 1RB_0	21100/2535.5	1:1	0.341	0.164	0.06	21.79	22.5	1.178	0.402	22.1	1.6
Left cheek	20M_QPSK 1RB_0	21350/2560	1:1	0.389	0.185	-0.19	21.75	22.5	1.189	0.462	22.1	1.6
Left cheek	20M_QPSK 50RB_0	20850/2510	1:1	0.366	0.182	-0.01	21.39	21.5	1.026	0.375	22.1	1.6
Left tilted	20M_QPSK 1RB_0	20850/2510	1:1	0.023	0.011	-0.12	21.99	22.5	1.125	0.026	22.1	1.6
Left tilted	20M_QPSK 50RB_0	20850/2510	1:1	0.015	0.009	-0.11	21.39	21.5	1.026	0.015	22.1	1.6
Right cheek	20M_QPSK 1RB_0	20850/2510	1:1	0.054	0.025	-0.1	21.99	22.5	1.125	0.061	22.1	1.6
Right cheek	20M_QPSK 50RB_0	20850/2510	1:1	0.042	0.021	-0.15	21.39	21.5	1.026	0.043	22.1	1.6
Right tilted	20M_QPSK 1RB_0	20850/2510	1:1	0.012	0.007	0.17	21.99	22.5	1.125	0.014	22.1	1.6
Right tilted	20M_QPSK 50RB_0	20850/2510	1:1	0.008	0.003	-0.06	21.39	21.5	1.026	0.008	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_0	20850/2510	1:1	0.111	0.051	0.02	21.99	22.5	1.125	0.125	22.1	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_0	20850/2510	1:1	0.084	0.040	-0.18	21.99	22.5	1.125	0.095	22.1	1.6
Front side	20M_QPSK 50RB_0	20850/2510	1:1	0.066	0.027	-0.03	21.39	21.5	1.026	0.068	22.1	1.6
Back side	20M_QPSK 1RB_0	20850/2510	1:1	0.088	0.044	0.01	21.99	22.5	1.125	0.099	22.1	1.6
Back side	20M_QPSK 50RB_0	20850/2510	1:1	0.072	0.031	0.07	21.39	21.5	1.026	0.074	22.1	1.6
Left side	20M_QPSK 1RB_0	20850/2510	1:1	0.119	0.055	0.01	21.99	22.5	1.125	<b>0.134</b>	22.1	1.6
Left side	20M_QPSK 1RB_0	21100/2535.5	1:1	0.102	0.047	0.05	21.79	22.5	1.178	0.120	22.1	1.6
Left side	20M_QPSK 1RB_0	21350/2560	1:1	0.112	0.051	0.09	21.75	22.5	1.189	0.133	22.1	1.6
Left side	20M_QPSK 50RB_0	20850/2510	1:1	0.104	0.044	0.03	21.39	21.5	1.026	0.107	22.1	1.6
Right side	20M_QPSK 1RB_0	20850/2510	1:1	0.009	0.004	0.15	21.99	22.5	1.125	0.010	22.1	1.6
Right side	20M_QPSK 50RB_0	20850/2510	1:1	0.007	0.002	0.09	21.39	21.5	1.026	0.007	22.1	1.6
Top side	20M_QPSK 1RB_0	20850/2510	1:1	0.022	0.011	-0.13	21.99	22.5	1.125	0.025	22.1	1.6
Top side	20M_QPSK 50RB_0	20850/2510	1:1	0.020	0.009	0.13	21.39	21.5	1.026	0.021	22.1	1.6
Bottom side	20M_QPSK 1RB_0	20850/2510	1:1	0.021	0.014	0.16	21.99	22.5	1.125	0.023	22.1	1.6
Bottom side	20M_QPSK 50RB_0	20850/2510	1:1	0.017	0.012	0.12	21.39	21.5	1.026	0.018	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_0	20850/2510	1:1	0.102	0.047	0.13	21.99	22.50	1.125	0.115	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_0	20850/2510	1:1	0.493	0.201	-0.05	21.99	22.5	1.125	0.226	22.1	4
Front side	20M_QPSK 50RB_0	20850/2510	1:1	0.388	0.138	-0.15	21.39	21.5	1.026	0.141	22.1	4
Back side	20M_QPSK 1RB_0	20850/2510	1:1	0.508	0.236	0.02	21.99	22.5	1.125	0.265	22.1	4
Back side	20M_QPSK 50RB_0	20850/2510	1:1	0.427	0.171	-0.04	21.39	21.5	1.026	0.175	22.1	4
Left side	20M_QPSK 1RB_0	20850/2510	1:1	0.523	0.265	0.18	21.99	22.50	1.125	<b>0.298</b>	22.1	4
Left side	20M_QPSK 50RB_0	20850/2510	1:1	0.605	0.236	-0.19	21.39	21.5	1.026	0.242	22.1	4



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8.2.10 SAR Result Of LTE Band 12

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	23095/707.5	1:1	0.101	0.079	0.12	22.88	23.5	1.153	<b>0.116</b>	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23060/704	1:1	0.092	0.059	-0.19	22.56	23.5	1.242	0.114	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23130/711	1:1	0.087	0.062	0.01	22.77	23.5	1.183	0.103	22.1	1.6
Left cheek	10M_QPSK 25RB_13	23060/704	1:1	0.077	0.053	-0.07	21.99	22.5	1.125	0.086	22.1	1.6
Left tilted	10M_QPSK 1RB_25	23095/707.5	1:1	0.019	0.011	-0.13	22.88	23.5	1.153	0.022	22.1	1.6
Left tilted	10M_QPSK 25RB_13	23060/704	1:1	0.013	0.009	0.08	21.99	22.5	1.125	0.015	22.1	1.6
Right cheek	10M_QPSK 1RB_25	23095/707.5	1:1	0.010	0.005	0.03	22.88	23.5	1.153	0.012	22.1	1.6
Right cheek	10M_QPSK 25RB_13	23060/704	1:1	0.008	0.004	-0.06	21.99	22.5	1.125	0.009	22.1	1.6
Right tilted	10M_QPSK 1RB_25	23095/707.5	1:1	0.007	0.005	0.06	22.88	23.5	1.153	0.009	22.1	1.6
Right tilted	10M_QPSK 25RB_13	23060/704	1:1	0.010	0.006	-0.01	21.99	22.5	1.125	0.011	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	23095/707.5	1:1	0.085	0.066	-0.02	22.88	23.5	1.153	0.098	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_25	23095/707.5	1:1	0.114	0.087	-0.17	22.88	23.5	1.153	0.132	22.1	1.6
Front side	10M_QPSK 25RB_13	23060/704	1:1	0.093	0.066	0.04	21.99	22.5	1.125	0.104	22.1	1.6
Back side	10M_QPSK 1RB_25	23095/707.5	1:1	0.182	0.139	-0.07	22.88	23.5	1.153	<b>0.210</b>	22.1	1.6
Back side	10M_QPSK 1RB_25	23060/704	1:1	0.142	0.116	0.07	22.56	23.5	1.242	0.176	22.1	1.6
Back side	10M_QPSK 1RB_25	23130/711	1:1	0.162	0.119	0.02	22.77	23.5	1.183	0.192	22.1	1.6
Back side	10M_QPSK 25RB_13	23060/704	1:1	0.156	0.110	0.1	21.99	22.5	1.125	0.175	22.1	1.6
Left side	10M_QPSK 1RB_25	23095/707.5	1:1	0.121	0.085	-0.04	22.88	23.5	1.153	0.140	22.1	1.6
Left side	10M_QPSK 25RB_13	23060/704	1:1	0.104	0.072	0.03	21.99	22.5	1.125	0.117	22.1	1.6
Right side	10M_QPSK 1RB_25	23095/707.5	1:1	0.113	0.082	-0.17	22.88	23.5	1.153	0.130	22.1	1.6
Right side	10M_QPSK 25RB_13	23060/704	1:1	0.101	0.072	0.1	21.99	22.5	1.125	0.113	22.1	1.6
Top side	10M_QPSK 1RB_25	23095/707.5	1:1	0.014	0.009	-0.04	22.88	23.5	1.153	0.016	22.1	1.6
Top side	10M_QPSK 25RB_13	23060/704	1:1	0.011	0.007	0.08	21.99	22.5	1.125	0.012	22.1	1.6
Bottom side	10M_QPSK 1RB_25	23095/707.5	1:1	0.088	0.054	0	22.88	23.5	1.153	0.102	22.1	1.6
Bottom side	10M_QPSK 25RB_13	23060/704	1:1	0.079	0.042	0.13	21.99	22.5	1.125	0.089	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	10M_QPSK 1RB_25	23095/707.5	1:1	0.142	0.092	-0.1	22.88	23.5	1.153	0.164	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_25	23095/707.5	1:1	0.550	0.304	-0.17	22.88	23.5	1.153	0.351	22.1	4
Front side	10M_QPSK 25RB_13	23060/704	1:1	0.451	0.229	0.1	21.99	22.5	1.125	0.257	22.1	4
Back side	10M_QPSK 1RB_25	23095/707.5	1:1	0.815	0.468	0.16	22.88	23.5	1.153	<b>0.540</b>	22.1	4
Back side	10M_QPSK 25RB_13	23060/704	1:1	0.725	0.377	0.12	21.99	22.5	1.125	0.424	22.1	4
Left side	10M_QPSK 1RB_25	23095/707.5	1:1	0.559	0.305	-0.02	22.88	23.5	1.153	0.351	22.1	4
Left side	10M_QPSK 25RB_13	23060/704	1:1	0.479	0.257	-0.12	21.99	22.5	1.125	0.289	22.1	4
Bottom side	10M_QPSK 1RB_25	23095/707.5	1:1	0.408	0.189	0.04	22.88	23.5	1.153	0.219	22.1	4
Bottom side	10M_QPSK 25RB_13	23060/704	1:1	0.366	0.153	-0.06	21.99	22.5	1.125	0.172	22.1	4



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8.2.11 SAR Result Of LTE Band 13

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_0	23230/782	1:1	0.162	0.125	-0.16	22.15	22.5	1.084	<b>0.176</b>	22.1	1.6
Left cheek	10M_QPSK 25RB_13	23230/782	1:1	0.124	0.097	0.1	21.67	22	1.079	0.134	22.1	1.6
Left tilted	10M_QPSK 1RB_0	23230/782	1:1	0.033	0.028	-0.06	22.15	22.5	1.084	0.036	22.1	1.6
Left tilted	10M_QPSK 25RB_13	23230/782	1:1	0.024	0.018	0.17	21.67	22	1.079	0.026	22.1	1.6
Right cheek	10M_QPSK 1RB_0	23230/782	1:1	0.070	0.055	0.16	22.15	22.5	1.084	0.076	22.1	1.6
Right cheek	10M_QPSK 25RB_13	23230/782	1:1	0.057	0.037	0	21.67	22	1.079	0.062	22.1	1.6
Right tilted	10M_QPSK 1RB_0	23230/782	1:1	0.011	0.007	0.17	22.15	22.5	1.084	0.012	22.1	1.6
Right tilted	10M_QPSK 25RB_13	23230/782	1:1	0.018	0.010	0.1	21.67	22	1.079	0.020	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_0	23230/782	1:1	0.144	0.102	0.16	22.15	22.5	1.084	0.156	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_0	23230/782	1:1	0.152	0.116	-0.09	22.15	22.5	1.084	0.165	22.1	1.6
Front side	10M_QPSK 25RB_13	23230/782	1:1	0.125	0.108	0.16	21.67	22	1.079	0.135	22.1	1.6
Back side	10M_QPSK 1RB_0	23230/782	1:1	0.238	0.178	-0.06	22.15	22.5	1.084	<b>0.258</b>	22.1	1.6
Back side	10M_QPSK 25RB_13	23230/782	1:1	0.212	0.165	0.05	21.67	22	1.079	0.228	22.1	1.6
Left side	10M_QPSK 1RB_0	23230/782	1:1	0.168	0.119	-0.11	22.15	22.5	1.084	0.182	22.1	1.6
Left side	10M_QPSK 25RB_13	23230/782	1:1	0.141	0.099	0.11	21.67	22	1.079	0.152	22.1	1.6
Right side	10M_QPSK 1RB_0	23230/782	1:1	0.151	0.114	0.11	22.15	22.5	1.084	0.164	22.1	1.6
Right side	10M_QPSK 25RB_13	23230/782	1:1	0.136	0.095	-0.16	21.67	22	1.079	0.147	22.1	1.6
Top side	10M_QPSK 1RB_0	23230/782	1:1	0.016	0.012	0.06	22.15	22.5	1.084	0.018	22.1	1.6
Top side	10M_QPSK 25RB_13	23230/782	1:1	0.015	0.009	-0.02	21.67	22	1.079	0.016	22.1	1.6
Bottom side	10M_QPSK 1RB_0	23230/782	1:1	0.121	0.077	-0.18	22.15	22.5	1.084	0.131	22.1	1.6
Bottom side	10M_QPSK 25RB_13	23230/782	1:1	0.104	0.068	0.14	21.67	22	1.079	0.112	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	10M_QPSK 1RB_0	23230/782	1:1	0.209	0.167	0.12	22.15	22.5	1.084	0.227	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_0	23230/782	1:1	0.867	0.574	-0.03	22.15	22.5	1.084	0.622	22.1	4
Front side	10M_QPSK 25RB_13	23230/782	1:1	0.704	0.527	-0.03	21.67	22	1.079	0.569	22.1	4
Back side	10M_QPSK 1RB_0	23230/782	1:1	1.33	0.864	0.03	22.15	22.5	1.084	<b>0.937</b>	22.1	4
Back side	10M_QPSK 25RB_13	23230/782	1:1	1.21	0.802	0.07	21.67	22	1.079	0.866	22.1	4
Left side	10M_QPSK 1RB_0	23230/782	1:1	0.964	0.597	-0.11	22.15	22.5	1.084	0.647	22.1	4
Left side	10M_QPSK 25RB_13	23230/782	1:1	0.792	0.489	-0.09	21.67	22	1.079	0.528	22.1	4
Bottom side	10M_QPSK 1RB_0	23230/782	1:1	0.671	0.393	-0.01	22.15	22.5	1.084	0.426	22.1	4
Bottom side	10M_QPSK 25RB_13	23230/782	1:1	0.616	0.336	0.06	21.67	22	1.079	0.363	22.1	4

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8.2.12 SAR Result Of LTE Band 17

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	23790/710	1:1	0.088	0.062	-0.09	22.98	23	1.005	<b>0.088</b>	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23780/709	1:1	0.065	0.049	0.16	22.44	23	1.138	0.074	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23800/711	1:1	0.072	0.048	0.05	22.64	23	1.086	0.078	22.1	1.6
Left cheek	10M_QPSK 25RB_25	23790/710	1:1	0.065	0.054	-0.05	22.12	22.5	1.091	0.071	22.1	1.6
Left tilted	10M_QPSK 1RB_25	23790/710	1:1	0.016	0.012	0.06	22.98	23	1.005	0.016	22.1	1.6
Left tilted	10M_QPSK 25RB_25	23790/710	1:1	0.01	0.007	-0.03	22.12	22.5	1.091	0.011	22.1	1.6
Right cheek	10M_QPSK 1RB_25	23790/710	1:1	0.036	0.024	0.11	22.98	23	1.005	0.036	22.1	1.6
Right cheek	10M_QPSK 25RB_25	23790/710	1:1	0.032	0.022	0.02	22.12	22.5	1.091	0.035	22.1	1.6
Right tilted	10M_QPSK 1RB_25	23790/710	1:1	0.007	0.004	0.06	22.98	23	1.005	0.007	22.1	1.6
Right tilted	10M_QPSK 25RB_25	23790/710	1:1	0.005	0.002	-0.09	22.12	22.5	1.091	0.005	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	23790/710	1:1	0.071	0.039	-0.07	22.98	23	1.005	0.071	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_25	23790/710	1:1	0.109	0.083	-0.09	22.98	23	1.005	0.110	22.1	1.6
Front side	10M_QPSK 25RB_25	23790/710	1:1	0.091	0.062	0.14	22.12	22.5	1.091	0.099	22.1	1.6
Back side	10M_QPSK 1RB_25	23790/710	1:1	0.170	0.127	0.01	22.98	23	1.005	<b>0.171</b>	22.1	1.6
Back side	10M_QPSK 1RB_25	23780/709	1:1	0.146	0.087	0.06	22.44	23	1.138	0.166	22.1	1.6
Back side	10M_QPSK 1RB_25	23800/711	1:1	0.152	0.095	-0.1	22.64	23	1.086	0.165	22.1	1.6
Back side	10M_QPSK 25RB_25	23790/710	1:1	0.145	0.106	-0.01	22.12	22.5	1.091	0.159	22.1	1.6
Left side	10M_QPSK 1RB_25	23790/710	1:1	0.118	0.080	0.18	22.98	23	1.005	0.118	22.1	1.6
Left side	10M_QPSK 25RB_25	23790/710	1:1	0.098	0.070	-0.17	22.12	22.5	1.091	0.107	22.1	1.6
Right side	10M_QPSK 1RB_25	23790/710	1:1	0.109	0.078	0.01	22.98	23	1.005	0.109	22.1	1.6
Right side	10M_QPSK 25RB_25	23790/710	1:1	0.099	0.068	-0.01	22.12	22.5	1.091	0.108	22.1	1.6
Top side	10M_QPSK 1RB_25	23790/710	1:1	0.017	0.012	-0.08	22.98	23	1.005	0.017	22.1	1.6
Top side	10M_QPSK 25RB_25	23790/710	1:1	0.015	0.012	0.13	22.12	22.5	1.091	0.016	22.1	1.6
Bottom side	10M_QPSK 1RB_25	23790/710	1:1	0.083	0.053	-0.06	22.98	23	1.005	0.084	22.1	1.6
Bottom side	10M_QPSK 25RB_25	23790/710	1:1	0.079	0.039	0.13	22.12	22.5	1.091	0.086	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	10M_QPSK 1RB_25	23790/710	1:1	0.152	0.111	0.07	22.98	23	1.005	0.153	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_25	23790/710	1:1	0.617	0.402	-0.12	22.98	23	1.005	0.404	22.1	4
Front side	10M_QPSK 25RB_25	23790/710	1:1	0.534	0.309	0.18	22.12	22.5	1.091	0.337	22.1	4
Back side	10M_QPSK 1RB_25	23790/710	1:1	0.841	0.549	-0.04	22.98	23	1.005	0.552	22.1	4
Back side	10M_QPSK 25RB_25	23790/710	1:1	0.833	0.505	-0.15	22.12	22.5	1.091	<b>0.551</b>	22.1	4
Left side	10M_QPSK 1RB_25	23790/710	1:1	0.657	0.396	0.04	22.98	23	1.005	0.398	22.1	4
Left side	10M_QPSK 25RB_25	23790/710	1:1	0.575	0.347	-0.11	22.12	22.5	1.091	0.378	22.1	4
Bottom side	10M_QPSK 1RB_25	23790/710	1:1	0.490	0.270	0.1	22.98	23	1.005	0.272	22.1	4
Bottom side	10M_QPSK 25RB_25	23790/710	1:1	0.440	0.202	0.12	22.12	22.5	1.091	0.221	22.1	4



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8.2.13 SAR Result Of LTE Band 26

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	15M_QPSK 1RB_0	26965/841.5	1:1	0.243	0.183	-0.18	22.83	23.5	1.167	<b>0.284</b>	22.1	1.6
Left cheek	15M_QPSK 1RB_0	26775/822.5	1:1	0.217	0.157	0.04	22.5	23.5	1.259	0.273	22.1	1.6
Left cheek	15M_QPSK 1RB_0	26865/831.5	1:1	0.231	0.163	0.02	22.67	23.5	1.211	0.280	22.1	1.6
Left cheek	15M_QPSK 36RB_39	26865/831.5	1:1	0.180	0.143	0.1	22.05	23	1.245	0.224	22.1	1.6
Left tilted	15M_QPSK 1RB_0	26965/841.5	1:1	0.047	0.029	-0.13	22.83	23.5	1.167	0.055	22.1	1.6
Left tilted	15M_QPSK 36RB_39	26865/831.5	1:1	0.032	0.031	-0.06	22.05	23	1.245	0.039	22.1	1.6
Right cheek	15M_QPSK 1RB_0	26965/841.5	1:1	0.100	0.082	0.05	22.83	23.5	1.167	0.117	22.1	1.6
Right cheek	15M_QPSK 36RB_39	26865/831.5	1:1	0.084	0.066	0.17	22.05	23	1.245	0.105	22.1	1.6
Right tilted	15M_QPSK 1RB_0	26965/841.5	1:1	0.022	0.017	0.06	22.83	23.5	1.167	0.026	22.1	1.6
Right tilted	15M_QPSK 36RB_39	26865/831.5	1:1	0.026	0.019	0.07	22.05	23	1.245	0.032	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	15M_QPSK 1RB_0	26965/841.5	1:1	0.221	0.162	0.01	22.83	23.5	1.167	0.258	22.1	1.6
Body Test data(Separate 10mm)												
Front side	15M_QPSK 1RB_0	26965/841.5	1:1	0.178	0.123	-0.12	22.83	23.5	1.167	0.207	22.1	1.6
Front side	15M_QPSK 36RB_39	26865/831.5	1:1	0.143	0.113	-0.01	22.05	23	1.245	0.177	22.1	1.6
Back side	15M_QPSK 1RB_0	26965/841.5	1:1	0.277	0.193	-0.06	22.83	23.5	1.167	<b>0.324</b>	22.1	1.6
Back side	15M_QPSK 1RB_0	26775/822.5	1:1	0.254	0.141	0.07	22.5	23.5	1.259	0.320	22.1	1.6
Back side	15M_QPSK 1RB_0	26865/831.5	1:1	0.262	0.168	0.13	22.67	23.5	1.211	0.317	22.1	1.6
Back side	15M_QPSK 36RB_39	26865/831.5	1:1	0.247	0.175	0.07	22.05	23	1.245	0.307	22.1	1.6
Left side	15M_QPSK 1RB_0	26965/841.5	1:1	0.193	0.129	-0.09	22.83	23.5	1.167	0.225	22.1	1.6
Left side	15M_QPSK 36RB_39	26865/831.5	1:1	0.161	0.107	-0.06	22.05	23	1.245	0.200	22.1	1.6
Right side	15M_QPSK 1RB_0	26965/841.5	1:1	0.176	0.117	-0.17	22.83	23.5	1.167	0.206	22.1	1.6
Right side	15M_QPSK 36RB_39	26865/831.5	1:1	0.160	0.105	0.11	22.05	23	1.245	0.199	22.1	1.6
Top side	15M_QPSK 1RB_0	26965/841.5	1:1	0.017	0.015	0.16	22.83	23.5	1.167	0.020	22.1	1.6
Top side	15M_QPSK 36RB_39	26865/831.5	1:1	0.019	0.012	0.15	22.05	23	1.245	0.024	22.1	1.6
Bottom side	15M_QPSK 1RB_0	26965/841.5	1:1	0.141	0.080	-0.13	22.83	23.5	1.167	0.165	22.1	1.6
Bottom side	15M_QPSK 36RB_39	26865/831.5	1:1	0.124	0.064	0.19	22.05	23	1.245	0.154	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Back side	15M_QPSK 1RB_0	26965/841.5	1:1	0.247	0.163	-0.08	22.83	23.5	1.167	0.288	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	15M_QPSK 1RB_0	26965/841.5	1:1	1.016	0.605	0.16	22.83	23.5	1.167	0.705	22.1	4
Front side	15M_QPSK 36RB_39	26865/831.5	1:1	0.810	0.561	0.01	22.05	23	1.245	0.698	22.1	4
Back side	15M_QPSK 1RB_0	26965/841.5	1:1	1.35	0.826	-0.04	22.83	23.5	1.167	<b>0.964</b>	22.1	4
Back side	15M_QPSK 36RB_39	26865/831.5	1:1	1.160	0.758	0.09	22.05	23	1.245	0.943	22.1	4
Left side	15M_QPSK 1RB_0	26965/841.5	1:1	1.077	0.618	-0.01	22.83	23.5	1.167	0.721	22.1	4
Left side	15M_QPSK 36RB_39	26865/831.5	1:1	0.893	0.522	0.03	22.05	23	1.245	0.650	22.1	4
Bottom side	15M_QPSK 1RB_0	26965/841.5	1:1	0.796	0.416	-0.12	22.83	23.5	1.167	0.485	22.1	4
Bottom side	15M_QPSK 36RB_39	26865/831.5	1:1	0.696	0.314	0.16	22.05	23	1.245	0.391	22.1	4



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8.2.14 SAR Result Of LTE Band 38

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.28	0.136	0.07	21.98	22.5	1.127	0.316	22.1	1.6
Left cheek	20M_QPSK 50RB_0	37850/2580	1:1	0.242	0.122	0.1	21.04	22	1.247	0.302	22.1	1.6
Left tilted	20M_QPSK 1RB_50	37850/2580	1:1	0.098	0.053	0.05	21.98	22.5	1.127	0.110	22.1	1.6
Left tilted	20M_QPSK 50RB_0	37850/2580	1:1	0.082	0.041	-0.03	21.04	22	1.247	0.102	22.1	1.6
Right cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.952	0.449	0.06	21.98	22.5	1.127	1.073	22.1	1.6
Right cheek	20M_QPSK 1RB_50	38000/2595	1:1	0.963	0.452	-0.04	21.85	22.5	1.161	<b>1.118</b>	22.1	1.6
Right cheek	20M_QPSK 1RB_50	38150/2610	1:1	0.955	0.437	-0.12	21.83	22.5	1.167	1.114	22.1	1.6
Right cheek	20M_QPSK 50RB_0	37850/2580	1:1	0.811	0.421	0.09	21.04	22	1.247	1.012	22.1	1.6
Right tilted	20M_QPSK 1RB_50	37850/2580	1:1	0.386	0.203	0.06	21.98	22.5	1.127	0.435	22.1	1.6
Right tilted	20M_QPSK 50RB_0	37850/2580	1:1	0.332	0.172	0.02	21.04	22	1.247	0.414	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Right cheek	20M_QPSK 1RB_50	38000/2595	1:1	0.792	0.407	0.05	21.85	22.5	1.161	0.920	22.1	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_50	37850/2580	1:1	0.271	0.143	-0.04	21.98	22.5	1.127	0.305	22.1	1.6
Front side	20M_QPSK 50RB_0	37850/2580	1:1	0.241	0.129	-0.11	21.04	22	1.247	0.301	22.1	1.6
Back side	20M_QPSK 1RB_50	37850/2580	1:1	0.278	0.148	0.08	21.98	22.5	1.127	0.313	22.1	1.6
Back side	20M_QPSK 50RB_0	37850/2580	1:1	0.257	0.131	0.05	21.04	22	1.247	0.321	22.1	1.6
Left side	20M_QPSK 1RB_50	37850/2580	1:1	0.358	0.172	0.07	21.98	22.5	1.127	0.404	22.1	1.6
Left side	20M_QPSK 1RB_50	38000/2595	1:1	0.377	0.174	-0.18	21.85	22.5	1.161	<b>0.438</b>	22.1	1.6
Left side	20M_QPSK 1RB_50	38150/2610	1:1	0.361	0.164	0.13	21.83	22.5	1.167	0.421	22.1	1.6
Left side	20M_QPSK 50RB_0	37850/2580	1:1	0.339	0.161	0.07	21.04	22	1.247	0.423	22.1	1.6
Right side	20M_QPSK 1RB_50	37850/2580	1:1	0.018	0.009	0.17	21.98	22.5	1.127	0.021	22.1	1.6
Right side	20M_QPSK 50RB_0	37850/2580	1:1	0.011	0.005	-0.17	21.04	22	1.247	0.014	22.1	1.6
Top side	20M_QPSK 1RB_50	37850/2580	1:1	0.074	0.041	-0.03	21.98	22.5	1.127	0.083	22.1	1.6
Top side	20M_QPSK 50RB_0	37850/2580	1:1	0.052	0.031	0.04	21.04	22	1.247	0.065	22.1	1.6
Bottom side	20M_QPSK 1RB_50	37850/2580	1:1	0.007	0.004	0.11	21.98	22.5	1.127	0.008	22.1	1.6
Bottom side	20M_QPSK 50RB_0	37850/2580	1:1	0.006	0.003	0.16	21.04	22	1.247	0.007	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_50	38000/2595	1:1	0.318	0.137	-0.13	21.85	22.5	1.161	0.369	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	37850/2580	1:1	1.54	0.683	-0.01	21.98	22.5	1.127	0.770	22.1	4
Front side	20M_QPSK 50RB_0	37850/2580	1:1	1.35	0.614	-0.15	21.04	22	1.247	0.766	22.1	4
Back side	20M_QPSK 1RB_50	37850/2580	1:1	1.57	0.659	-0.08	21.98	22.5	1.127	0.743	22.1	4
Back side	20M_QPSK 50RB_0	37850/2580	1:1	1.46	0.614	0.14	21.04	22	1.247	0.766	22.1	4
Left side	20M_QPSK 1RB_50	37850/2580	1:1	1.82	0.649	0.06	21.98	22.5	1.127	0.732	22.1	4
Left side	20M_QPSK 1RB_50	38000/2595	1:1	1.72	0.679	0.04	21.85	22.5	1.161	<b>0.789</b>	22.1	4
Left side	20M_QPSK 50RB_0	37850/2580	1:1	1.53	0.613	0.09	21.04	22	1.247	0.765	22.1	4

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8.2.15 SAR Result Of LTE Band 40a

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	38750/2310	1:1	0.368	0.161	0.12	22.08	22.5	1.102	<b>0.405</b>	22.1	1.6
Left cheek	10M_QPSK 25RB_0	38750/2310	1:1	0.280	0.129	-0.04	21.11	21.5	1.094	0.306	22.1	1.6
Left tilted	10M_QPSK 1RB_25	38750/2310	1:1	0.068	0.033	0.13	22.08	22.5	1.102	0.075	22.1	1.6
Left tilted	10M_QPSK 25RB_0	38750/2310	1:1	0.042	0.025	-0.09	21.11	21.5	1.094	0.046	22.1	1.6
Right cheek	10M_QPSK 1RB_25	38750/2310	1:1	0.148	0.073	0.16	22.08	22.5	1.102	0.163	22.1	1.6
Right cheek	10M_QPSK 25RB_0	38750/2310	1:1	0.120	0.061	0.12	21.11	21.5	1.094	0.131	22.1	1.6
Right tilted	10M_QPSK 1RB_25	38750/2310	1:1	0.035	0.020	-0.15	22.08	22.5	1.102	0.039	22.1	1.6
Right tilted	10M_QPSK 25RB_0	38750/2310	1:1	0.025	0.010	0.13	21.11	21.5	1.094	0.027	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_25	38750/2310	1:1	0.341	0.144	-0.07	22.08	22.5	1.102	0.376	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_25	38750/2310	1:1	0.145	0.073	-0.12	22.08	22.5	1.102	0.159	22.1	1.6
Front side	10M_QPSK 25RB_0	38750/2310	1:1	0.117	0.054	0.08	21.11	21.5	1.094	0.128	22.1	1.6
Back side	10M_QPSK 1RB_25	38750/2310	1:1	0.153	0.078	0.01	22.08	22.5	1.102	0.168	22.1	1.6
Back side	10M_QPSK 25RB_0	38750/2310	1:1	0.121	0.055	0.05	21.11	21.5	1.094	0.133	22.1	1.6
Left side	10M_QPSK 1RB_25	38750/2310	1:1	0.197	0.096	0.03	22.08	22.5	1.102	<b>0.217</b>	22.1	1.6
Left side	10M_QPSK 25RB_0	38750/2310	1:1	0.176	0.082	0.02	21.11	21.5	1.094	0.193	22.1	1.6
Right side	10M_QPSK 1RB_25	38750/2310	1:1	0.018	0.013	0.1	22.08	22.5	1.102	0.020	22.1	1.6
Right side	10M_QPSK 25RB_0	38750/2310	1:1	0.019	0.010	0.09	21.11	21.5	1.094	0.020	22.1	1.6
Top side	10M_QPSK 1RB_25	38750/2310	1:1	0.036	0.017	-0.14	22.08	22.5	1.102	0.040	22.1	1.6
Top side	10M_QPSK 25RB_0	38750/2310	1:1	0.028	0.019	0.09	21.11	21.5	1.094	0.030	22.1	1.6
Bottom side	10M_QPSK 1RB_25	38750/2310	1:1	0.032	0.020	-0.09	22.08	22.5	1.102	0.036	22.1	1.6
Bottom side	10M_QPSK 25RB_0	38750/2310	1:1	0.034	0.020	-0.06	21.11	21.5	1.094	0.037	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	10M_QPSK 1RB_25	38750/2310	1:1	0.172	0.081	0.02	22.08	22.5	1.102	0.189	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_25	38750/2310	1:1	0.811	0.365	-0.02	22.08	22.5	1.102	0.402	22.1	4
Front side	10M_QPSK 25RB_0	38750/2310	1:1	0.655	0.267	-0.1	21.11	21.5	1.094	0.292	22.1	4
Back side	10M_QPSK 1RB_25	38750/2310	1:1	0.849	0.391	-0.07	22.08	22.5	1.102	0.430	22.1	4
Back side	10M_QPSK 25RB_0	38750/2310	1:1	0.708	0.291	-0.01	21.11	21.5	1.094	0.319	22.1	4
Left side	10M_QPSK 1RB_25	38750/2310	1:1	0.894	0.397	-0.03	22.08	22.5	1.102	<b>0.437</b>	22.1	4
Left side	10M_QPSK 25RB_0	38750/2310	1:1	0.981	0.393	0.16	21.11	21.5	1.094	0.430	22.1	4

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8.2.16 SAR Result Of LTE Band 40b

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_49	39200/2355	1:1	0.425	0.183	0.02	22.19	22.5	1.074	<b>0.456</b>	22.1	1.6
Left cheek	10M_QPSK 25RB_25	39200/2355	1:1	0.319	0.145	0.05	21.27	21.5	1.054	0.336	22.1	1.6
Left tilted	10M_QPSK 1RB_49	39200/2355	1:1	0.077	0.040	-0.1	22.19	22.5	1.074	0.083	22.1	1.6
Left tilted	10M_QPSK 25RB_25	39200/2355	1:1	0.052	0.029	0.06	21.27	21.5	1.054	0.055	22.1	1.6
Right cheek	10M_QPSK 1RB_49	39200/2355	1:1	0.177	0.079	0.05	22.19	22.5	1.074	0.190	22.1	1.6
Right cheek	10M_QPSK 25RB_25	39200/2355	1:1	0.142	0.067	0.15	21.27	21.5	1.054	0.149	22.1	1.6
Right tilted	10M_QPSK 1RB_49	39200/2355	1:1	0.044	0.020	-0.09	22.19	22.5	1.074	0.048	22.1	1.6
Right tilted	10M_QPSK 25RB_25	39200/2355	1:1	0.025	0.012	-0.05	21.27	21.5	1.054	0.026	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Left cheek	10M_QPSK 1RB_49	39200/2355	1:1	0.387	0.152	0.1	22.19	22.5	1.074	0.416	22.1	1.6
Body Test data(Separate 10mm)												
Front side	10M_QPSK 1RB_49	39200/2355	1:1	0.162	0.085	-0.18	22.19	22.5	1.074	0.174	22.1	1.6
Front side	10M_QPSK 25RB_25	39200/2355	1:1	0.144	0.064	-0.05	21.27	21.5	1.054	0.152	22.1	1.6
Back side	10M_QPSK 1RB_49	39200/2355	1:1	0.163	0.084	-0.09	22.19	22.5	1.074	0.175	22.1	1.6
Back side	10M_QPSK 25RB_25	39200/2355	1:1	0.142	0.063	-0.19	21.27	21.5	1.054	0.150	22.1	1.6
Left side	10M_QPSK 1RB_49	39200/2355	1:1	0.231	0.118	0.05	22.19	22.5	1.074	<b>0.248</b>	22.1	1.6
Left side	10M_QPSK 25RB_25	39200/2355	1:1	0.197	0.102	-0.15	21.27	21.5	1.054	0.208	22.1	1.6
Right side	10M_QPSK 1RB_49	39200/2355	1:1	0.020	0.010	-0.13	22.19	22.5	1.074	0.021	22.1	1.6
Right side	10M_QPSK 25RB_25	39200/2355	1:1	0.017	0.006	-0.08	21.27	21.5	1.054	0.018	22.1	1.6
Top side	10M_QPSK 1RB_49	39200/2355	1:1	0.041	0.023	0.14	22.19	22.5	1.074	0.044	22.1	1.6
Top side	10M_QPSK 25RB_25	39200/2355	1:1	0.031	0.016	0.09	21.27	21.5	1.054	0.033	22.1	1.6
Bottom side	10M_QPSK 1RB_49	39200/2355	1:1	0.044	0.018	-0.01	22.19	22.5	1.074	0.047	22.1	1.6
Bottom side	10M_QPSK 25RB_25	39200/2355	1:1	0.042	0.016	0.08	21.27	21.5	1.054	0.044	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	10M_QPSK 1RB_49	39200/2355	1:1	0.192	0.105	-0.13	22.19	22.5	1.074	0.206	22.1	1.6
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_49	39200/2355	1:1	0.902	0.407	-0.12	22.19	22.5	1.074	0.437	22.1	4
Front side	10M_QPSK 25RB_25	39200/2355	1:1	0.826	0.311	-0.05	21.27	21.5	1.054	0.328	22.1	4
Back side	10M_QPSK 1RB_49	39200/2355	1:1	0.942	0.402	0.02	22.19	22.5	1.074	0.432	22.1	4
Back side	10M_QPSK 25RB_25	39200/2355	1:1	0.794	0.314	-0.12	21.27	21.5	1.054	0.331	22.1	4
Left side	10M_QPSK 1RB_49	39200/2355	1:1	0.978	0.514	0.01	22.19	22.5	1.074	<b>0.552</b>	22.1	4
Left side	10M_QPSK 25RB_25	39200/2355	1:1	1.108	0.518	0.13	21.27	21.5	1.054	0.546	22.1	4



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8.2.17 SAR Result Of LTE Band 41

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_0	41490/2680	1:1	0.103	0.055	-0.14	15.31	16	1.172	0.121	22.1	1.6
Left cheek	20M_QPSK 50RB_0	40620/2593	1:1	0.090	0.051	0.05	14.8	16	1.318	0.118	22.1	1.6
Left tilted	20M_QPSK 1RB_0	41490/2680	1:1	0.030	0.019	-0.13	15.31	16	1.172	0.035	22.1	1.6
Left tilted	20M_QPSK 50RB_0	40620/2593	1:1	0.027	0.016	0.07	14.8	16	1.318	0.036	22.1	1.6
Right cheek	20M_QPSK 1RB_0	41490/2680	1:1	0.269	0.124	-0.18	15.31	16	1.172	<b>0.315</b>	22.1	1.6
Right cheek	20M_QPSK 1RB_0	39750/2506	1:1	0.241	0.116	-0.15	15.01	16	1.256	0.303	22.1	1.6
Right cheek	20M_QPSK 1RB_0	40185/2549.5	1:1	0.250	0.122	0.19	15.01	16	1.256	0.314	22.1	1.6
Right cheek	20M_QPSK 1RB_0	40620/2593	1:1	0.237	0.119	-0.03	14.99	16	1.262	0.299	22.1	1.6
Right cheek	20M_QPSK 1RB_0	41055/2636.5	1:1	0.249	0.118	0.12	15.07	16	1.239	0.308	22.1	1.6
Right cheek	20M_QPSK 50RB_0	40620/2593	1:1	0.231	0.117	-0.04	14.8	16	1.318	0.305	22.1	1.6
Right tilted	20M_QPSK 1RB_0	41490/2680	1:1	0.113	0.059	-0.19	15.31	16	1.172	0.132	22.1	1.6
Right tilted	20M_QPSK 50RB_0	40620/2593	1:1	0.098	0.051	-0.03	14.8	16	1.318	0.129	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Right cheek	20M_QPSK 1RB_0	41490/2680	1:1	0.241	0.115	-0.19	15.31	16	1.172	0.282	22.1	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_0	41490/2680	1:1	0.376	0.193	-0.14	15.31	16	1.172	0.440	22.1	1.6
Front side	20M_QPSK 50RB_0	40620/2593	1:1	0.330	0.186	0.05	14.8	16	1.318	0.435	22.1	1.6
Back side	20M_QPSK 1RB_0	41490/2680	1:1	0.380	0.209	-0.13	15.31	16	1.172	0.445	22.1	1.6
Back side	20M_QPSK 50RB_0	40620/2593	1:1	0.357	0.171	0.07	14.8	16	1.318	0.471	22.1	1.6
Left side	20M_QPSK 1RB_0	41490/2680	1:1	0.511	0.235	-0.18	15.31	16	1.172	<b>0.599</b>	22.1	1.6
Left side	20M_QPSK 1RB_0	39750/2506	1:1	0.469	0.215	-0.15	15.01	16	1.256	0.589	22.1	1.6
Left side	20M_QPSK 1RB_0	40185/2549.5	1:1	0.474	0.229	0.19	15.01	16	1.256	0.595	22.1	1.6
Left side	20M_QPSK 1RB_0	40620/2593	1:1	0.462	0.212	-0.03	14.99	16	1.262	0.583	22.1	1.6
Left side	20M_QPSK 1RB_0	41055/2636.5	1:1	0.479	0.226	0.12	15.07	16	1.239	0.593	22.1	1.6
Left side	20M_QPSK 50RB_0	40620/2593	1:1	0.452	0.205	-0.04	14.8	16	1.318	0.596	22.1	1.6
Right side	20M_QPSK 1RB_0	41490/2680	1:1	0.036	0.019	-0.19	15.31	16	1.172	0.042	22.1	1.6
Right side	20M_QPSK 50RB_0	40620/2593	1:1	0.026	0.021	-0.03	14.8	16	1.318	0.035	22.1	1.6
Top side	20M_QPSK 1RB_0	41490/2680	1:1	0.101	0.059	0.1	15.31	16	1.172	0.118	22.1	1.6
Top side	20M_QPSK 50RB_0	40620/2593	1:1	0.090	0.059	-0.14	14.8	16	1.318	0.119	22.1	1.6
Bottom side	20M_QPSK 1RB_0	41490/2680	1:1	0.021	0.014	-0.02	15.31	16	1.172	0.024	22.1	1.6
Bottom side	20M_QPSK 50RB_0	40620/2593	1:1	0.020	0.008	0.18	14.8	16	1.318	0.026	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_0	41490/2680	1:1	0.475	0.221	0.14	15.31	16	1.172	0.557	22.1	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_0	41490/2680	1:1	2.10	0.931	-0.02	15.31	16	1.172	1.092	22.1	4
Front side	20M_QPSK 50RB_0	40620/2593	1:1	1.84	0.907	-0.12	14.8	16	1.318	1.195	22.1	4
Back side	20M_QPSK 1RB_0	41490/2680	1:1	2.14	1.01	0.12	15.31	16	1.172	1.182	22.1	4
Back side	20M_QPSK 50RB_0	40620/2593	1:1	2.00	0.835	0.04	14.8	16	1.318	1.101	22.1	4
Left side	20M_QPSK 1RB_0	41490/2680	1:1	2.58	1.12	0.01	15.31	16	1.172	<b>1.313</b>	22.1	4
Left side	20M_QPSK 50RB_0	40620/2593	1:1	2.53	0.982	-0.13	14.8	16	1.318	1.295	22.1	4
Sensor off (Separate 15mm)												



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Front side	20M_QPSK 1RB_0	41490/2680	1:1	0.217	0.124	0.02	23.22	23.5	1.067	0.231	22.1	1.6
Front side	20M_QPSK 50RB_0	40620/2593	1:1	0.203	0.109	-0.06	22.74	23	1.062	0.216	22.1	1.6
Back side	20M_QPSK 1RB_0	41490/2680	1:1	0.222	0.131	0.17	23.22	23.5	1.067	0.237	22.1	1.6
Back side	20M_QPSK 50RB_0	40620/2593	1:1	0.218	0.117	0.11	22.74	23	1.062	0.231	22.1	1.6



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8.2.18 SAR Result Of LTE Band 42

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_50	41690/3410	1:1	0.149	0.071	-0.04	22.24	23	1.191	0.178	22.1	1.6
Left cheek	20M_QPSK 50RB_0	41690/3410	1:1	0.134	0.066	-0.13	21.39	22	1.151	0.154	22.1	1.6
Left tilted	20M_QPSK 1RB_50	41690/3410	1:1	0.044	0.021	-0.18	22.24	23	1.191	0.052	22.1	1.6
Left tilted	20M_QPSK 50RB_0	41690/3410	1:1	0.035	0.017	-0.03	21.39	22	1.151	0.040	22.1	1.6
Right cheek	20M_QPSK 1RB_50	41690/3410	1:1	0.406	0.172	-0.07	22.24	23	1.191	<b>0.484</b>	22.1	1.6
Right cheek	20M_QPSK 1RB_50	42590/3500	1:1	0.375	0.162	0.01	21.95	23	1.274	0.478	22.1	1.6
Right cheek	20M_QPSK 1RB_50	42990/3540	1:1	0.381	0.159	-0.14	21.97	23	1.268	0.483	22.1	1.6
Right cheek	20M_QPSK 50RB_0	41690/3410	1:1	0.343	0.161	-0.02	21.39	22	1.151	0.394	22.1	1.6
Right tilted	20M_QPSK 1RB_50	41690/3410	1:1	0.164	0.080	-0.11	22.24	23	1.191	0.195	22.1	1.6
Right tilted	20M_QPSK 50RB_0	41690/3410	1:1	0.143	0.068	-0.16	21.39	22	1.151	0.164	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Right cheek	20M_QPSK 1RB_50	41690/3410	1:1	0.363	0.152	-0.12	22.24	23	1.191	0.432	22.1	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_50	41690/3410	1:1	0.183	0.086	-0.12	22.24	23	1.191	0.218	22.1	1.6
Front side	20M_QPSK 50RB_0	41690/3410	1:1	0.165	0.081	-0.07	21.39	22	1.151	0.190	22.1	1.6
Back side	20M_QPSK 1RB_50	41690/3410	1:1	0.189	0.092	0.1	22.24	23	1.191	0.225	22.1	1.6
Back side	20M_QPSK 50RB_0	41690/3410	1:1	0.177	0.080	0.05	21.39	22	1.151	0.203	22.1	1.6
Left side	20M_QPSK 1RB_50	41690/3410	1:1	0.253	0.110	0.03	22.24	23	1.191	<b>0.301</b>	22.1	1.6
Left side	20M_QPSK 1RB_50	42590/3500	1:1	0.231	0.094	0.16	21.95	23	1.274	0.294	22.1	1.6
Left side	20M_QPSK 1RB_50	42990/3540	1:1	0.236	0.103	0.07	21.97	23	1.268	0.299	22.1	1.6
Left side	20M_QPSK 50RB_0	41690/3410	1:1	0.232	0.099	0.06	21.39	22	1.151	0.267	22.1	1.6
Right side	20M_QPSK 1RB_50	41690/3410	1:1	0.014	0.006	-0.14	22.24	23	1.191	0.016	22.1	1.6
Right side	20M_QPSK 50RB_0	41690/3410	1:1	0.010	0.004	0.07	21.39	22	1.151	0.012	22.1	1.6
Top side	20M_QPSK 1RB_50	41690/3410	1:1	0.050	0.026	-0.09	22.24	23	1.191	0.060	22.1	1.6
Top side	20M_QPSK 50RB_0	41690/3410	1:1	0.038	0.021	-0.18	21.39	22	1.151	0.044	22.1	1.6
Bottom side	20M_QPSK 1RB_50	41690/3410	1:1	0.008	0.003	-0.02	22.24	23	1.191	0.010	22.1	1.6
Bottom side	20M_QPSK 50RB_0	41690/3410	1:1	0.005	0.003	0	21.39	22	1.151	0.006	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_50	41690/3410	1:1	0.221	0.094	-0.09	22.24	23	1.191	0.263	22.1	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_50	41690/3410	1:1	1.06	0.432	0.15	22.24	23	1.191	0.514	22.1	4
Front side	20M_QPSK 50RB_0	41690/3410	1:1	0.927	0.400	-0.01	21.39	22	1.151	0.460	22.1	4
Back side	20M_QPSK 1RB_50	41690/3410	1:1	1.07	0.441	0.13	22.24	23	1.191	0.525	22.1	4
Back side	20M_QPSK 50RB_0	41690/3410	1:1	0.981	0.392	0.15	21.39	22	1.151	0.452	22.1	4
Left side	20M_QPSK 1RB_50	41690/3410	1:1	1.25	0.453	0.12	22.24	23	1.191	<b>0.540</b>	22.1	4
Left side	20M_QPSK 50RB_0	41690/3410	1:1	1.11	0.445	-0.01	21.39	22	1.151	0.512	22.1	4

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8.2.19 SAR Result Of LTE Band 48

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data(1RB_0 offset)												
Left cheek	20M_QPSK 1RB_99	55340/3630	1:1	0.230	0.116	-0.17	20.64	21	1.086	0.250	22.1	1.6
Left cheek	20M_QPSK 50RB_25	56640/3760	1:1	0.214	0.095	0.13	18.73	19	1.064	0.228	22.1	1.6
Left tilted	20M_QPSK 1RB_99	55340/3630	1:1	0.095	0.043	0.12	20.64	21	1.086	0.104	22.1	1.6
Left tilted	20M_QPSK 50RB_25	56640/3760	1:1	0.080	0.037	-0.13	18.73	19	1.064	0.086	22.1	1.6
Right cheek	20M_QPSK 1RB_99	55340/3630	1:1	0.881	0.360	0.18	20.64	21	1.086	0.957	22.1	1.6
Right cheek	20M_QPSK 1RB_99	55990/3625	1:1	0.811	0.322	0.06	19.49	21	1.416	1.148	22.1	1.6
Right cheek	20M_QPSK 1RB_99	56640/3760	1:1	0.857	0.349	0.18	19.69	21	1.352	<b>1.159</b>	22.1	1.6
Right cheek	20M_QPSK 50RB_25	56640/3760	1:1	0.744	0.319	0.1	18.73	19	1.064	0.792	22.1	1.6
Right tilted	20M_QPSK 1RB_99	55340/3630	1:1	0.357	0.166	0.02	20.64	21	1.086	0.388	22.1	1.6
Right tilted	20M_QPSK 50RB_25	56640/3760	1:1	0.310	0.141	-0.09	18.73	19	1.064	0.330	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)												
Right cheek	20M_QPSK 1RB_50	56640/3760	1:1	0.821	0.327	0.11	19.69	21	1.352	1.110	22.1	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_99	55340/3630	1:1	0.201	0.094	-0.01	20.64	21	1.086	0.218	22.1	1.6
Front side	20M_QPSK 50RB_25	56640/3760	1:1	0.178	0.086	0.06	18.73	19	1.064	0.189	22.1	1.6
Back side	20M_QPSK 1RB_99	55340/3630	1:1	0.207	0.101	0.01	20.64	21	1.086	0.225	22.1	1.6
Back side	20M_QPSK 50RB_25	56640/3760	1:1	0.193	0.089	0.14	18.73	19	1.064	0.205	22.1	1.6
Left side	20M_QPSK 1RB_99	55340/3630	1:1	0.277	0.120	-0.17	20.64	21	1.086	0.301	22.1	1.6
Left side	20M_QPSK 1RB_99	55990/3625	1:1	0.224	0.102	0.06	19.49	21	1.416	0.317	22.1	1.6
Left side	20M_QPSK 1RB_99	56640/3760	1:1	0.258	0.105	-0.02	19.69	21	1.352	<b>0.349</b>	22.1	1.6
Left side	20M_QPSK 1RB_99	56640/3760	1:1	0.229	0.094	0.05	18.73	19	1.064	0.244	22.1	1.6
Right side	20M_QPSK 1RB_99	55340/3630	1:1	0.018	0.007	0.02	20.64	21	1.086	0.020	22.1	1.6
Right side	20M_QPSK 50RB_25	56640/3760	1:1	0.012	0.005	-0.09	18.73	19	1.064	0.013	22.1	1.6
Top side	20M_QPSK 1RB_99	55340/3630	1:1	0.057	0.030	0.04	20.64	21	1.086	0.062	22.1	1.6
Top side	20M_QPSK 50RB_25	56640/3760	1:1	0.042	0.020	-0.02	18.73	19	1.064	0.045	22.1	1.6
Bottom side	20M_QPSK 1RB_99	55340/3630	1:1	0.006	0.004	-0.01	20.64	21	1.086	0.006	22.1	1.6
Bottom side	20M_QPSK 50RB_25	56640/3760	1:1	0.009	0.004	0.05	18.73	19	1.064	0.009	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)												
Left side	20M_QPSK 1RB_50	56640/3760	1:1	0.264	0.109	-0.03	19.69	21	1.352	0.295	22.1	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_99	55340/3630	1:1	1.13	0.462	0.18	20.64	21	1.086	0.502	22.1	4
Front side	20M_QPSK 50RB_25	56640/3760	1:1	0.996	0.427	-0.14	18.73	19	1.064	0.455	22.1	4
Back side	20M_QPSK 1RB_99	55340/3630	1:1	1.17	0.501	-0.05	20.64	21	1.086	0.544	22.1	4
Back side	20M_QPSK 50RB_25	56640/3760	1:1	1.09	0.444	0.08	18.73	19	1.064	0.473	22.1	4
Left side	20M_QPSK 1RB_99	55340/3630	1:1	1.54	0.572	0.16	20.64	21	1.086	<b>0.621</b>	22.1	4
Left side	20M_QPSK 50RB_25	56640/3760	1:1	1.41	0.525	-0.09	18.73	19	1.064	0.559	22.1	4



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8.2.20 SAR Result Of FR1 n2

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_QPSK 1RB_104	380000/1900	1:1	0.510	0.263	-0.19	23.25	23.5	1.059	<b>0.540</b>	22.3	1.6
Left cheek	20M_QPSK 1RB_104	372000/1860	1:1	0.468	0.247	0.01	23.18	23.5	1.076	0.504	22.3	1.6
Left cheek	20M_QPSK 1RB_104	376000/1880	1:1	0.475	0.251	-0.12	23.23	23.5	1.064	0.505	22.3	1.6
Left cheek	20M_QPSK 50RB_28	380000/1900	1:1	0.388	0.211	0.02	23.14	23.5	1.086	0.421	22.3	1.6
Left tilted	20M_QPSK 1RB_104	380000/1900	1:1	0.093	0.059	-0.13	23.25	23.5	1.059	0.099	22.3	1.6
Left tilted	20M_QPSK 50RB_28	380000/1900	1:1	0.061	0.042	-0.08	23.14	23.5	1.086	0.066	22.3	1.6
Right cheek	20M_QPSK 1RB_104	380000/1900	1:1	0.212	0.119	0.12	23.25	23.5	1.059	0.225	22.3	1.6
Right cheek	20M_QPSK 50RB_28	380000/1900	1:1	0.168	0.093	-0.12	23.14	23.5	1.086	0.183	22.3	1.6
Right tilted	20M_QPSK 1RB_104	380000/1900	1:1	0.051	0.030	0.18	23.25	23.5	1.059	0.054	22.3	1.6
Right tilted	20M_QPSK 50RB_28	380000/1900	1:1	0.035	0.016	-0.13	23.14	23.5	1.086	0.038	22.3	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_104	380000/1900	1:1	0.130	0.072	0.11	23.25	23.5	1.059	0.138	22.3	1.6
Front side	20M_QPSK 50RB_28	380000/1900	1:1	0.112	0.061	0.03	23.14	23.5	1.086	0.122	22.3	1.6
Back side	20M_QPSK 1RB_104	380000/1900	1:1	0.194	0.106	-0.13	23.25	23.5	1.059	0.205	22.3	1.6
Back side	20M_QPSK 50RB_28	380000/1900	1:1	0.173	0.084	-0.02	23.14	23.5	1.086	0.188	22.3	1.6
Left side	20M_QPSK 1RB_104	380000/1900	1:1	0.323	0.163	-0.15	23.25	23.5	1.059	<b>0.342</b>	22.3	1.6
Left side	20M_QPSK 1RB_104	372000/1860	1:1	0.311	0.157	0.11	23.18	23.5	1.076	0.335	22.3	1.6
Left side	20M_QPSK 1RB_104	376000/1880	1:1	0.302	0.152	-0.19	23.23	23.5	1.064	0.321	22.3	1.6
Left side	20M_QPSK 50RB_28	380000/1900	1:1	0.309	0.147	0.1	23.14	23.5	1.086	0.336	22.3	1.6
Right side	20M_QPSK 1RB_104	380000/1900	1:1	0.011	0.009	0.08	23.25	23.5	1.059	0.012	22.3	1.6
Right side	20M_QPSK 50RB_28	380000/1900	1:1	0.009	0.006	0.05	23.14	23.5	1.086	0.010	22.3	1.6
Top side	20M_QPSK 1RB_104	380000/1900	1:1	0.032	0.021	0.03	23.25	23.5	1.059	0.034	22.3	1.6
Top side	20M_QPSK 50RB_28	380000/1900	1:1	0.028	0.019	0.17	23.14	23.5	1.086	0.030	22.3	1.6
Bottom side	20M_QPSK 1RB_104	380000/1900	1:1	0.027	0.019	-0.15	23.25	23.5	1.059	0.029	22.3	1.6
Bottom side	20M_QPSK 50RB_28	380000/1900	1:1	0.024	0.016	-0.05	23.14	23.5	1.086	0.026	22.3	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_104	380000/1900	1:1	0.728	0.356	0.06	23.25	23.5	1.059	0.377	22.3	4
Front side	20M_QPSK 50RB_28	380000/1900	1:1	0.625	0.320	-0.01	23.14	23.5	1.086	0.348	22.3	4
Back side	20M_QPSK 1RB_104	380000/1900	1:1	1.085	0.528	-0.01	23.25	23.5	1.059	0.559	22.3	4
Back side	20M_QPSK 50RB_28	380000/1900	1:1	0.996	0.429	0.12	23.14	23.5	1.086	0.466	22.3	4
Left side	20M_QPSK 1RB_104	380000/1900	1:1	1.650	0.784	-0.01	23.25	23.5	1.059	<b>0.830</b>	22.3	4
Left side	20M_QPSK 50RB_28	380000/1900	1:1	1.740	0.719	0.11	23.14	23.5	1.086	0.781	22.3	4



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8.2.21 SAR Result Of FR1 n5

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_BPSK 1RB_104	167800/839	1:1	0.216	0.135	0.05	23.06	24	1.242	<b>0.268</b>	22.3	1.6
Left cheek	20M_BPSK 1RB_104	166800/834	1:1	0.201	0.121	0.06	22.8	24	1.318	0.265	22.3	1.6
Left cheek	20M_BPSK 1RB_104	167300/836.5	1:1	0.204	0.132	-0.17	22.98	24	1.265	0.258	22.3	1.6
Left cheek	20M_BPSK 50RB_28	167800/839	1:1	0.184	0.150	0.16	22.67	23	1.079	0.199	22.3	1.6
Left tilted	20M_BPSK 1RB_104	167800/839	1:1	0.046	0.034	0.1	23.06	24	1.242	0.057	22.3	1.6
Left tilted	20M_BPSK 50RB_28	167800/839	1:1	0.031	0.032	0.19	22.67	23	1.079	0.034	22.3	1.6
Right cheek	20M_BPSK 1RB_104	167800/839	1:1	0.107	0.084	-0.08	23.06	24	1.242	0.133	22.3	1.6
Right cheek	20M_BPSK 50RB_28	167800/839	1:1	0.085	0.071	-0.03	22.67	23	1.079	0.091	22.3	1.6
Right tilted	20M_BPSK 1RB_104	167800/839	1:1	0.016	0.014	0.11	23.06	24	1.242	0.020	22.3	1.6
Right tilted	20M_BPSK 50RB_28	167800/839	1:1	0.026	0.022	0.07	22.67	23	1.079	0.028	22.3	1.6
Body Test data(Separate 10mm)												
Front side	20M_BPSK 1RB_104	167800/839	1:1	0.164	0.122	-0.13	23.06	24	1.242	0.204	22.3	1.6
Front side	20M_BPSK 50RB_28	167800/839	1:1	0.132	0.114	0.1	22.67	23	1.079	0.143	22.3	1.6
Back side	20M_BPSK 1RB_104	167800/839	1:1	0.253	0.189	-0.04	23.06	24	1.242	<b>0.314</b>	22.3	1.6
Back side	20M_BPSK 1RB_104	166800/834	1:1	0.232	0.164	0.14	22.8	24	1.318	0.306	22.3	1.6
Back side	20M_BPSK 1RB_104	167300/836.5	1:1	0.239	0.176	-0.09	22.98	24	1.265	0.302	22.3	1.6
Back side	20M_BPSK 50RB_28	167800/839	1:1	0.226	0.174	0.15	22.67	23	1.079	0.244	22.3	1.6
Left side	20M_BPSK 1RB_104	167800/839	1:1	0.175	0.127	0.16	23.06	24	1.242	0.218	22.3	1.6
Left side	20M_BPSK 50RB_28	167800/839	1:1	0.148	0.103	0.05	22.67	23	1.079	0.159	22.3	1.6
Right side	20M_BPSK 1RB_104	167800/839	1:1	0.164	0.123	-0.11	23.06	24	1.242	0.203	22.3	1.6
Right side	20M_BPSK 50RB_28	167800/839	1:1	0.146	0.105	0.03	22.67	23	1.079	0.157	22.3	1.6
Top side	20M_BPSK 1RB_104	167800/839	1:1	0.019	0.017	-0.04	23.06	24	1.242	0.024	22.3	1.6
Top side	20M_BPSK 50RB_28	167800/839	1:1	0.018	0.012	-0.18	22.67	23	1.079	0.019	22.3	1.6
Bottom side	20M_BPSK 1RB_104	167800/839	1:1	0.130	0.083	0.09	23.06	24	1.242	0.161	22.3	1.6
Bottom side	20M_BPSK 50RB_28	167800/839	1:1	0.115	0.065	-0.07	22.67	23	1.079	0.124	22.3	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_BPSK 1RB_104	167800/839	1:1	0.928	0.605	-0.02	23.06	24	1.242	0.752	22.3	4
Front side	20M_BPSK 50RB_28	167800/839	1:1	0.743	0.547	-0.03	22.67	23	1.079	0.591	22.3	4
Back side	20M_BPSK 1RB_104	167800/839	1:1	1.360	0.936	-0.03	23.06	24	1.242	<b>1.162</b>	22.3	4
Back side	20M_BPSK 50RB_28	167800/839	1:1	1.275	0.830	0.06	22.67	23	1.079	0.896	22.3	4
Left side	20M_BPSK 1RB_104	167800/839	1:1	1.003	0.634	-0.05	23.06	24	1.242	0.787	22.3	4
Left side	20M_BPSK 50RB_28	167800/839	1:1	0.843	0.491	-0.01	22.67	23	1.079	0.530	22.3	4
Bottom side	20M_BPSK 1RB_104	167800/839	1:1	0.732	0.407	0.02	23.06	24	1.242	0.505	22.3	4
Bottom side	20M_BPSK 50RB_28	167800/839	1:1	0.642	0.328	0.18	22.67	23	1.079	0.354	22.3	4



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8.2.22 SAR Result Of FR1 n41

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	100M_QPSK 1RB_271	528000/2640	1:1	<b>0.438</b>	<b>0.240</b>	<b>-0.04</b>	24.11	25	1.227	0.537	22.3	1.6
Left cheek	100M_QPSK 135RB_69	528000/2640	1:1	0.389	0.214	0.04	23.91	24.5	1.146	0.446	22.3	1.6
Left tilted	100M_QPSK 1RB_271	528000/2640	1:1	0.131	0.070	-0.11	24.11	25	1.227	0.161	22.3	1.6
Left tilted	100M_QPSK 135RB_69	528000/2640	1:1	0.111	0.063	0.18	23.91	24.5	1.146	0.128	22.3	1.6
Right cheek	100M_QPSK 1RB_271	528000/2640	1:1	0.924	0.525	-0.16	24.11	25	1.227	<b>1.134</b>	22.3	1.6
Right cheek	100M_QPSK 1RB_271	509202/2546.01	1:1	0.908	0.475	0.11	23.65	25	1.365	1.239	22.3	1.6
Right cheek	100M_QPSK 1RB_271	518598/2592.99	1:1	0.912	0.462	0.03	24.07	25	1.239	1.130	22.3	1.6
Right cheek	100M_QPSK 135RB_69	528000/2640	1:1	0.797	0.443	0.02	23.91	24.5	1.146	0.913	22.3	1.6
Right tilted	100M_QPSK 1RB_271	528000/2640	1:1	0.482	0.260	-0.17	24.11	25	1.227	0.592	22.3	1.6
Right tilted	100M_QPSK 135RB_69	528000/2640	1:1	0.415	0.223	0.18	23.91	24.5	1.146	0.475	22.3	1.6
Body Test data(Separate 10mm)												
Front side	100M_QPSK 1RB_271	528000/2640	1:1	0.185	0.095	0.13	24.11	25	1.227	0.227	22.3	1.6
Front side	100M_QPSK 135RB_69	528000/2640	1:1	0.164	0.090	0.13	23.91	24.5	1.146	0.188	22.3	1.6
Back side	100M_QPSK 1RB_271	528000/2640	1:1	0.193	0.101	0.14	24.11	25	1.227	0.236	22.3	1.6
Back side	100M_QPSK 135RB_69	528000/2640	1:1	0.179	0.090	0.04	23.91	24.5	1.146	0.205	22.3	1.6
Left side	100M_QPSK 1RB_271	528000/2640	1:1	0.253	0.120	-0.07	24.11	25	1.227	<b>0.311</b>	22.3	1.6
Left side	100M_QPSK 1RB_271	509202/2546.01	1:1	0.225	0.102	0.13	23.65	25	1.365	0.307	22.3	1.6
Left side	100M_QPSK 1RB_271	518598/2592.99	1:1	0.244	0.113	0.08	24.07	25	1.239	0.302	22.3	1.6
Left side	100M_QPSK 135RB_69	528000/2640	1:1	0.231	0.106	0.04	23.91	24.5	1.146	0.264	22.3	1.6
Right side	100M_QPSK 1RB_271	528000/2640	1:1	0.019	0.013	-0.11	24.11	25	1.227	0.023	22.3	1.6
Right side	100M_QPSK 135RB_69	528000/2640	1:1	0.013	0.009	-0.07	23.91	24.5	1.146	0.015	22.3	1.6
Top side	100M_QPSK 1RB_271	528000/2640	1:1	0.053	0.032	-0.12	24.11	25	1.227	0.065	22.3	1.6
Top side	100M_QPSK 135RB_69	528000/2640	1:1	0.041	0.021	0.18	23.91	24.5	1.146	0.047	22.3	1.6
Bottom side	100M_QPSK 1RB_271	528000/2640	1:1	0.009	0.007	-0.04	24.11	25	1.227	0.011	22.3	1.6
Bottom side	100M_QPSK 135RB_69	528000/2640	1:1	0.013	0.010	-0.17	23.91	24.5	1.146	0.015	22.3	1.6
Extremity Test data (Separate 0mm)												
Front side	100M_QPSK 1RB_271	528000/2640	1:1	1.05	0.481	0.09	24.11	25	1.227	0.590	22.3	4
Front side	100M_QPSK 135RB_69	528000/2640	1:1	0.921	0.442	-0.13	23.91	24.5	1.146	0.506	22.3	4
Back side	100M_QPSK 1RB_271	528000/2640	1:1	1.07	0.495	0.13	24.11	25	1.227	0.607	22.3	4
Back side	100M_QPSK 135RB_69	528000/2640	1:1	1.03	0.457	0.16	23.91	24.5	1.146	0.524	22.3	4
Left side	100M_QPSK 1RB_271	528000/2640	1:1	1.42	0.921	-0.05	24.11	25	1.227	1.130	22.3	4
Left side	100M_QPSK 135RB_69	528000/2640	1:1	1.30	0.721	0.16	23.91	24.5	1.146	0.826	22.3	4

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8.2.23 SAR Result Of FR1 n66

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_QPSK 1RB_104	349000/1745	1:1	0.524	0.284	-0.19	23.55	24	1.109	<b>0.581</b>	22.3	1.6
Left cheek	20M_QPSK 1RB_104	344000/1720	1:1	0.509	0.264	0.09	23.44	24	1.138	0.579	22.3	1.6
Left cheek	20M_QPSK 1RB_104	354000/1770	1:1	0.529	0.272	-0.07	23.47	24	1.130	0.598	22.3	1.6
Left cheek	20M_QPSK 50RB_56	349000/1745	1:1	0.428	0.237	0.02	23.51	24	1.119	0.479	22.3	1.6
Left tilted	20M_QPSK 1RB_104	349000/1745	1:1	0.099	0.065	0.16	23.55	24	1.109	0.110	22.3	1.6
Left tilted	20M_QPSK 50RB_56	349000/1745	1:1	0.070	0.051	0.11	23.51	24	1.119	0.079	22.3	1.6
Right cheek	20M_QPSK 1RB_104	349000/1745	1:1	0.234	0.141	-0.15	23.55	24	1.109	0.259	22.3	1.6
Right cheek	20M_QPSK 50RB_56	349000/1745	1:1	0.191	0.117	0.12	23.51	24	1.119	0.214	22.3	1.6
Right tilted	20M_QPSK 1RB_104	349000/1745	1:1	0.038	0.029	-0.01	23.55	24	1.109	0.042	22.3	1.6
Right tilted	20M_QPSK 50RB_56	349000/1745	1:1	0.058	0.039	0.1	23.51	24	1.119	0.065	22.3	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_104	349000/1745	1:1	0.149	0.087	-0.02	23.55	24	1.109	0.165	22.3	1.6
Front side	20M_QPSK 50RB_56	349000/1745	1:1	0.125	0.059	-0.05	23.51	24	1.119	0.140	22.3	1.6
Back side	20M_QPSK 1RB_104	349000/1745	1:1	0.155	0.086	0.12	23.55	24	1.109	0.172	22.3	1.6
Back side	20M_QPSK 50RB_56	349000/1745	1:1	0.130	0.062	0.08	23.51	24	1.119	0.145	22.3	1.6
Left side	20M_QPSK 1RB_104	349000/1745	1:1	0.205	0.111	-0.02	23.55	24	1.109	<b>0.227</b>	22.3	1.6
Left side	20M_QPSK 1RB_104	344000/1720	1:1	0.184	0.098	0.01	23.44	24	1.138	0.209	22.3	1.6
Left side	20M_QPSK 1RB_104	354000/1770	1:1	0.192	0.106	0.16	23.47	24	1.130	0.217	22.3	1.6
Left side	20M_QPSK 50RB_56	349000/1745	1:1	0.182	0.085	-0.18	23.51	24	1.119	0.204	22.3	1.6
Right side	20M_QPSK 1RB_104	349000/1745	1:1	0.017	0.009	0.19	23.55	24	1.109	0.019	22.3	1.6
Right side	20M_QPSK 50RB_56	349000/1745	1:1	0.023	0.012	-0.12	23.51	24	1.119	0.026	22.3	1.6
Top side	20M_QPSK 1RB_104	349000/1745	1:1	0.041	0.024	0.07	23.55	24	1.109	0.046	22.3	1.6
Top side	20M_QPSK 50RB_56	349000/1745	1:1	0.037	0.023	0.14	23.51	24	1.119	0.041	22.3	1.6
Bottom side	20M_QPSK 1RB_104	349000/1745	1:1	0.039	0.030	-0.03	23.55	24	1.109	0.043	22.3	1.6
Bottom side	20M_QPSK 50RB_56	349000/1745	1:1	0.032	0.025	0.08	23.51	24	1.119	0.036	22.3	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_104	349000/1745	1:1	0.845	0.423	-0.18	23.55	24	1.109	0.469	22.3	4
Front side	20M_QPSK 50RB_56	349000/1745	1:1	0.708	0.295	0.11	23.51	24	1.119	0.330	22.3	4
Back side	20M_QPSK 1RB_104	349000/1745	1:1	0.883	0.420	0.12	23.55	24	1.109	0.466	22.3	4
Back side	20M_QPSK 50RB_56	349000/1745	1:1	0.755	0.314	-0.15	23.51	24	1.119	0.352	22.3	4
Left side	20M_QPSK 1RB_104	349000/1745	1:1	1.160	0.543	-0.14	23.55	24	1.109	0.602	22.3	4
Left side	20M_QPSK 50RB_56	349000/1745	1:1	1.039	0.411	-0.01	23.51	24	1.119	0.460	22.3	4

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8.2.24 SAR Result Of FR1 n71

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data												
Left cheek	20M_QPSK 1RB_1	134600/673	1:1	0.147	0.113	0.07	22.75	23.5	1.189	<b>0.175</b>	22.3	1.6
Left cheek	20M_QPSK 1RB_1	136100/680.5	1:1	0.144	0.101	0.06	22.73	23.5	1.194	0.172	22.3	1.6
Left cheek	20M_QPSK 1RB_1	137600/688	1:1	0.132	0.105	0.17	22.71	23.5	1.199	0.158	22.3	1.6
Left cheek	20M_QPSK 50RB_56	134600/673	1:1	0.116	0.094	-0.15	22.59	23.5	1.233	0.142	22.3	1.6
Left tilted	20M_QPSK 1RB_1	134600/673	1:1	0.030	0.022	-0.13	22.75	23.5	1.189	0.036	22.3	1.6
Left tilted	20M_QPSK 50RB_56	134600/673	1:1	0.023	0.022	0.09	22.59	23.5	1.233	0.028	22.3	1.6
Right cheek	20M_QPSK 1RB_1	134600/673	1:1	0.069	0.052	-0.14	22.75	23.5	1.189	0.082	22.3	1.6
Right cheek	20M_QPSK 50RB_56	134600/673	1:1	0.053	0.046	0.07	22.59	23.5	1.233	0.065	22.3	1.6
Right tilted	20M_QPSK 1RB_1	134600/673	1:1	0.012	0.011	0.16	22.75	23.5	1.189	0.014	22.3	1.6
Right tilted	20M_QPSK 50RB_56	134600/673	1:1	0.017	0.015	-0.16	22.59	23.5	1.233	0.021	22.3	1.6
Body Test data(Separate 10mm)												
Front side	20M_QPSK 1RB_1	134600/673	1:1	0.145	0.112	-0.17	22.75	23.5	1.189	0.172	22.3	1.6
Front side	20M_QPSK 50RB_56	134600/673	1:1	0.121	0.102	0.1	22.59	23.5	1.233	0.149	22.3	1.6
Back side	20M_QPSK 1RB_1	134600/673	1:1	0.222	0.168	-0.03	22.75	23.5	1.189	<b>0.264</b>	22.3	1.6
Back side	20M_QPSK 1RB_1	136100/680.5	1:1	0.205	0.152	0.01	22.73	23.5	1.194	0.245	22.3	1.6
Back side	20M_QPSK 1RB_1	137600/688	1:1	0.213	0.165	-0.11	22.71	23.5	1.199	0.255	22.3	1.6
Back side	20M_QPSK 50RB_56	134600/673	1:1	0.204	0.156	0.06	22.59	23.5	1.233	0.252	22.3	1.6
Left side	20M_QPSK 1RB_1	134600/673	1:1	0.159	0.118	0.17	22.75	23.5	1.189	0.189	22.3	1.6
Left side	20M_QPSK 50RB_56	134600/673	1:1	0.131	0.092	-0.13	22.59	23.5	1.233	0.162	22.3	1.6
Right side	20M_QPSK 1RB_1	134600/673	1:1	0.148	0.111	-0.13	22.75	23.5	1.189	0.176	22.3	1.6
Right side	20M_QPSK 50RB_56	134600/673	1:1	0.132	0.095	-0.12	22.59	23.5	1.233	0.163	22.3	1.6
Top side	20M_QPSK 1RB_1	134600/673	1:1	0.020	0.016	0.15	22.75	23.5	1.189	0.024	22.3	1.6
Top side	20M_QPSK 50RB_56	134600/673	1:1	0.018	0.012	0.06	22.59	23.5	1.233	0.022	22.3	1.6
Bottom side	20M_QPSK 1RB_1	134600/673	1:1	0.117	0.074	-0.13	22.75	23.5	1.189	0.139	22.3	1.6
Bottom side	20M_QPSK 50RB_56	134600/673	1:1	0.104	0.059	0.15	22.59	23.5	1.233	0.129	22.3	1.6
Extremity Test data (Separate 0mm)												
Front side	20M_QPSK 1RB_1	134600/673	1:1	0.828	0.559	-0.02	22.75	23.5	1.189	0.664	22.3	4
Front side	20M_QPSK 50RB_56	134600/673	1:1	0.710	0.488	-0.09	22.59	23.5	1.233	0.602	22.3	4
Back side	20M_QPSK 1RB_1	134600/673	1:1	1.34	0.826	-0.08	22.75	23.5	1.189	0.982	22.3	4
Back side	20M_QPSK 50RB_56	134600/673	1:1	1.15	0.756	-0.12	22.59	23.5	1.233	0.932	22.3	4
Left side	20M_QPSK 1RB_1	134600/673	1:1	0.921	0.586	-0.01	22.75	23.5	1.189	0.697	22.3	4
Left side	20M_QPSK 50RB_56	134600/673	1:1	0.757	0.452	-0.19	22.59	23.5	1.233	0.557	22.3	4
Bottom side	20M_QPSK 1RB_1	134600/673	1:1	0.683	0.354	0.1	22.75	23.5	1.189	0.421	22.3	4
Bottom side	20M_QPSK 50RB_56	134600/673	1:1	0.597	0.291	-0.18	22.59	23.5	1.233	0.359	22.3	4

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8.2.25 SAR Result Of 2.4GHz Wi-Fi

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg)1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	802.11b	6/2437	99.19%	1.008	0.306	0.149	0.01	15.78	16.00	1.052	<b>0.324</b>	22.0	1.6
Left tilted	802.11b	6/2437	99.19%	1.008	0.077	0.030	0.07	15.78	16.00	1.052	0.081	22.0	1.6
Right cheek	802.11b	6/2437	99.19%	1.008	0.151	0.073	-0.06	15.78	16.00	1.052	0.160	22.0	1.6
Right tilted	802.11b	6/2437	99.19%	1.008	0.034	0.014	0.05	15.78	16.00	1.052	0.036	22.0	1.6
Left cheek	802.11b	1/2412	99.19%	1.008	0.284	0.135	0.14	15.63	16.00	1.089	0.312	22.0	1.6
Left cheek	802.11b	11/2462	99.19%	1.008	0.279	0.142	0.06	15.42	16.00	1.143	0.321	22.0	1.6
Body Test data(Separate 10mm)													
Front side	802.11b	6/2437	99.19%	1.008	0.042	0.028	-0.08	15.78	16.00	1.052	0.045	22.0	1.6
Back side	802.11b	6/2437	99.19%	1.008	0.068	0.038	0.02	15.78	16.00	1.052	0.072	22.0	1.6
Left side	802.11b	6/2437	99.19%	1.008	0.030	0.014	-0.11	15.78	16.00	1.052	0.032	22.0	1.6
Right side	802.11b	6/2437	99.19%	1.008	0.080	0.044	-0.05	15.78	16.00	1.052	<b>0.085</b>	22.0	1.6
Top side	802.11b	6/2437	99.19%	1.008	0.044	0.026	0.09	15.78	16.00	1.052	0.047	22.0	1.6
Bottom side	802.11b	6/2437	99.19%	1.008	0.002	0.001	0.11	15.78	16.00	1.052	0.002	22.0	1.6
Back side	802.11b	1/2412	99.19%	1.008	0.054	0.026	0.09	15.63	16.00	1.089	0.059	22.0	1.6
Back side	802.11b	11/2462	99.19%	1.008	0.061	0.032	0.11	15.42	16.00	1.143	0.070	22.0	1.6
Extremity Test data (Separate 0mm)													
Front side	802.11b	6/2437	99.19%	1.008	0.253	0.137	0.00	15.78	16.00	1.052	0.146	22.0	4
Back side	802.11b	6/2437	99.19%	1.008	0.422	0.234	0.01	15.78	16.00	1.052	<b>0.248</b>	22.0	4
Right side	802.11b	6/2437	99.19%	1.008	0.466	0.214	-0.08	15.78	16.00	1.052	0.227	22.0	4

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8.2.26 SAR Result Of Bluetooth

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	GFSK	78/2480	77.17%	1.296	0.158	0.075	0.19	8.95	9	1.012	0.207	22.0	1.6
Left tilted	GFSK	78/2480	77.17%	1.296	0.044	0.019	0.18	8.95	9	1.012	0.057	22.0	1.6
Right cheek	GFSK	78/2480	77.17%	1.296	0.080	0.041	0.09	8.95	9	1.012	0.105	22.0	1.6
Right tilted	GFSK	78/2480	77.17%	1.296	0.018	0.008	-0.05	8.95	9	1.012	0.024	22.0	1.6
Left cheek	GFSK	0/2402	77.17%	1.296	0.124	0.061	0.02	7.44	9	1.432	0.230	22.0	1.6
Left cheek	GFSK	39/2441	77.17%	1.296	0.160	0.082	0.19	8.50	9	1.122	<b>0.233</b>	22.0	1.6
Body Test data(Separate 10mm)													
Front side	GFSK	78/2480	77.17%	1.296	0.042	0.023	-0.07	8.95	9	1.012	0.056	22.0	1.6
Back side	GFSK	78/2480	77.17%	1.296	0.047	0.029	0.02	8.95	9	1.012	0.062	22.0	1.6
Left side	GFSK	78/2480	77.17%	1.296	0.046	0.024	-0.07	8.95	9	1.012	0.061	22.0	1.6
Right side	GFSK	78/2480	77.17%	1.296	0.041	0.022	-0.03	8.95	9	1.012	0.054	22.0	1.6
Top side	GFSK	78/2480	77.17%	1.296	0.005	0.003	0.03	8.95	9	1.012	0.007	22.0	1.6
Bottom side	GFSK	78/2480	77.17%	1.296	0.034	0.015	0.03	8.95	9	1.012	0.045	22.0	1.6
Back side	GFSK	0/2402	77.17%	1.296	0.032	0.015	0.11	7.44	9	1.432	0.059	22.0	1.6
Back side	GFSK	39/2441	77.17%	1.296	0.053	0.030	-0.03	8.50	9	1.122	<b>0.077</b>	22.0	1.6
Extremity Test data (Separate 0mm)													
Front side	GFSK	78/2480	77.17%	1.296	0.244	0.139	0.05	8.95	9	1.012	0.183	22.0	4
Back side	GFSK	39/2441	77.17%	1.296	0.327	0.169	-0.17	8.50	9	1.122	<b>0.246</b>	22.0	4
Right side	GFSK	78/2480	77.17%	1.296	0.260	0.122	0.00	8.95	9	1.012	0.160	22.0	4

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8.2.27 SAR Result Of WIFI 5G

Test position	Test mode	Test Ch./Freq.	Duty Cycle %	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 1-g	Power drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp.	SAR limit (W/kg)
Head Test data U-NII-1													
Left cheek	802.11a	48/5240	98.31	1.017	0.771	0.285	0.06	15.23	15.50	1.064	<b>0.834</b>	22.2	1.6
Left tilted	802.11a	48/5240	98.31	1.017	0.195	0.059	0.12	15.23	15.50	1.064	0.211	22.2	1.6
Right cheek	802.11a	48/5240	98.31	1.017	0.204	0.105	0.19	15.23	15.50	1.064	0.221	22.2	1.6
Right tilted	802.11a	48/5240	98.31	1.017	0.088	0.029	-0.08	15.23	15.50	1.064	0.095	22.2	1.6
Left cheek	802.11a	36/5180	98.31	1.017	0.674	0.247	0.04	14.76	15.50	1.186	0.813	22.2	1.6
Left cheek	802.11a	40/5200	98.31	1.017	0.689	0.261	0.15	14.94	15.50	1.138	0.797	22.2	1.6
Left cheek	802.11a	44/5220	98.31	1.017	0.748	0.281	0.06	15.14	15.50	1.086	0.826	22.2	1.6
Body Test data(Separate 10mm)													
Front side	802.11a	48/5240	98.31	1.017	0.162	0.068	0.05	15.23	15.50	1.064	0.176	22.2	1.6
Back side	802.11a	48/5240	98.31	1.017	0.202	0.089	-0.02	15.23	15.50	1.064	<b>0.219</b>	22.2	1.6
Left side	802.11a	48/5240	98.31	1.017	0.176	0.070	0.02	15.23	15.50	1.064	0.190	22.2	1.6
Right side	802.11a	48/5240	98.31	1.017	0.164	0.064	0.08	15.23	15.50	1.064	0.177	22.2	1.6
Top side	802.11a	48/5240	98.31	1.017	0.018	0.007	0.06	15.23	15.50	1.064	0.019	22.2	1.6
Bottom side	802.11a	48/5240	98.31	1.017	0.128	0.043	-0.19	15.23	15.50	1.064	0.139	22.2	1.6
Back side	802.11a	36/5180	98.31	1.017	0.157	0.077	0.02	14.76	15.50	1.186	0.189	22.2	1.6
Back side	802.11a	40/5200	98.31	1.017	0.172	0.086	0.16	14.94	15.50	1.138	0.199	22.2	1.6
Back side	802.11a	44/5220	98.31	1.017	0.185	0.094	0.14	15.14	15.50	1.086	0.204	22.2	1.6
Extremity Test data (Separate 0mm)													
Front side	802.11a	48/5240	98.31	1.017	0.906	0.345	0.05	15.23	15.50	1.064	0.373	22.2	4
Back side	802.11a	48/5240	98.31	1.017	1.110	0.468	0.15	15.23	15.50	1.064	<b>0.506</b>	22.2	4
Right side	802.11a	48/5240	98.31	1.017	0.922	0.315	-0.12	15.23	15.50	1.064	0.341	22.2	4
Head Test data U-NII-3													
Left cheek	802.11ac 80	155/5775	98.31	1.017	0.521	0.192	0.14	14.7	15	1.072	<b>0.568</b>	22.2	1.6
Left tilted	802.11ac 80	155/5775	98.31	1.017	0.131	0.042	0.04	14.7	15	1.072	0.143	22.2	1.6
Right cheek	802.11ac 80	155/5775	98.31	1.017	0.261	0.103	0.04	14.7	15	1.072	0.284	22.2	1.6
Right tilted	802.11ac 80	155/5775	98.31	1.017	0.063	0.020	0.02	14.7	15	1.072	0.068	22.2	1.6
Body Test data(Separate 10mm)													
Front side	802.11ac 80	155/5775	98.31	1.017	0.119	0.032	-0.07	14.7	15	1.072	0.130	22.2	1.6
Back side	802.11ac 80	155/5775	98.31	1.017	0.152	0.042	-0.19	14.7	15	1.072	<b>0.166</b>	22.2	1.6
Left side	802.11ac 80	155/5775	98.31	1.017	0.131	0.034	0.01	14.7	15	1.072	0.143	22.2	1.6
Right side	802.11ac 80	155/5775	98.31	1.017	0.118	0.031	-0.1	14.7	15	1.072	0.129	22.2	1.6
Top side	802.11ac 80	155/5775	98.31	1.017	0.014	0.004	0.13	14.7	15	1.072	0.015	22.2	1.6
Bottom side	802.11ac 80	155/5775	98.31	1.017	0.096	0.020	0.13	14.7	15	1.072	0.104	22.2	1.6
Extremity Test data (Separate 0mm)													
Front side	802.11ac 80	155/5775	98.31	1.017	0.695	0.169	-0.07	14.7	15	1.072	0.184	22.2	4
Back side	802.11ac 80	155/5775	98.31	1.017	0.891	0.263	0.08	14.7	15	1.072	<b>0.287</b>	22.2	4
Right side	802.11ac 80	155/5775	98.31	1.017	0.690	0.173	-0.1	14.7	15	1.072	0.188	22.2	4



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**8.2.28 Repeated measurements**

Head/Body

Wireless	Test position	First Measure SAR (W/kg)	Second Measure SAR (W/kg)	Radio
GSM850	Back side	1.02	0.988	1.03
LTE Band 38	Right cheek	0.963	0.956	1.01
LTE Band 48	Right cheek	0.881	0.872	1.01
5G NR n41	Right cheek	0.924	0.911	1.01

Extremity

Wireless	Test position	First Measure SAR (W/kg)	Second Measure SAR (W/kg)	Radio
GSM850	Back side	2.38	2.19	1.09

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.80$  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  $\geq 1.45$  W/kg (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.



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### 8.3 Multiple Transmitter Evaluation

#### 8.3.1 Simultaneous SAR SAR test evaluation

##### Simultaneous Transmission

NO.	Simultaneous Transmission Configuration	Head	Body	Extremity
1	WWAN + WIFI 2.4GHZ	Yes	Yes	Yes
2	WWAN + WIFI 5GHZ	Yes	Yes	Yes
3	WWAN + BT	Yes	Yes	Yes
4	WIFI + BT (They share the same antenna and cannot transmit at the same time by design.)	No	No	No

##### Simultaneous Transmission SAR Summation Scenario for Head

WWAN Band	Exposure position	①MAX. WWAN SAR (W/kg)	②MAX. WLAN2.4G SAR (W/kg)	③MAX. WLAN 5G SAR (W/kg)	④MAX. BT SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Summed SAR ①+④	Volume scan
GSM850	Left Touch	0.277	0.324	0.834	0.233	0.601	1.111	0.510	NO
	Left Tilt	0.053	0.081	0.211	0.057	0.134	0.264	0.110	NO
	Right Touch	0.123	0.16	0.221	0.105	0.283	0.344	0.228	NO
	Right Tilt	0.022	0.036	0.095	0.024	0.058	0.117	0.046	NO
GSM1900	Left Touch	0.226	0.324	0.834	0.233	0.550	1.060	0.459	NO
	Left Tilt	0.042	0.081	0.211	0.057	0.123	0.253	0.099	NO
	Right Touch	0.092	0.16	0.221	0.105	0.252	0.313	0.197	NO
	Right Tilt	0.022	0.036	0.095	0.024	0.058	0.117	0.046	NO
WCDMA Band II	Left Touch	0.411	0.324	0.834	0.233	0.735	1.245	0.644	NO
	Left Tilt	0.072	0.081	0.211	0.057	0.153	0.283	0.129	NO
	Right Touch	0.172	0.16	0.221	0.105	0.332	0.393	0.277	NO
	Right Tilt	0.041	0.036	0.095	0.024	0.077	0.136	0.065	NO
WCDMA Band V	Left Touch	0.218	0.324	0.834	0.233	0.542	1.052	0.451	NO
	Left Tilt	0.042	0.081	0.211	0.057	0.123	0.253	0.099	NO
	Right Touch	0.094	0.16	0.221	0.105	0.254	0.315	0.199	NO
	Right Tilt	0.018	0.036	0.095	0.024	0.054	0.113	0.042	NO
WCDMA Band IV	Left Touch	0.331	0.324	0.834	0.233	0.655	1.165	0.564	NO
	Left Tilt	0.1	0.081	0.211	0.057	0.181	0.311	0.157	NO
	Right Touch	0.163	0.16	0.221	0.105	0.323	0.384	0.268	NO
	Right Tilt	0.056	0.036	0.095	0.024	0.092	0.151	0.080	NO

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LTE Band 2	Left Touch	0.438	0.324	0.834	0.233	0.762	1.272	0.671	NO
	Left Tilt	0.074	0.081	0.211	0.057	0.155	0.285	0.131	NO
	Right Touch	0.176	0.16	0.221	0.105	0.336	0.397	0.281	NO
	Right Tilt	0.039	0.036	0.095	0.024	0.075	0.134	0.063	NO
LTE Band 4	Left Touch	0.36	0.324	0.834	0.233	0.684	1.194	0.593	NO
	Left Tilt	0.064	0.081	0.211	0.057	0.145	0.275	0.121	NO
	Right Touch	0.15	0.16	0.221	0.105	0.310	0.371	0.255	NO
	Right Tilt	0.035	0.036	0.095	0.024	0.071	0.130	0.059	NO
LTE Band 5	Left Touch	0.269	0.324	0.834	0.233	0.593	1.103	0.502	NO
	Left Tilt	0.053	0.081	0.211	0.057	0.134	0.264	0.110	NO
	Right Touch	0.123	0.16	0.221	0.105	0.283	0.344	0.228	NO
	Right Tilt	0.035	0.036	0.095	0.024	0.071	0.130	0.059	NO
LTE Band 7	Left Touch	0.477	0.324	0.834	0.233	0.801	1.311	0.710	NO
	Left Tilt	0.026	0.081	0.211	0.057	0.107	0.237	0.083	NO
	Right Touch	0.061	0.16	0.221	0.105	0.221	0.282	0.166	NO
	Right Tilt	0.014	0.036	0.095	0.024	0.050	0.109	0.038	NO
LTE Band 12	Left Touch	0.116	0.324	0.834	0.233	0.440	0.950	0.349	NO
	Left Tilt	0.022	0.081	0.211	0.057	0.103	0.233	0.079	NO
	Right Touch	0.012	0.16	0.221	0.105	0.172	0.233	0.117	NO
	Right Tilt	0.011	0.036	0.095	0.024	0.047	0.106	0.035	NO
LTE Band 13	Left Touch	0.176	0.324	0.834	0.233	0.500	1.010	0.409	NO
	Left Tilt	0.036	0.081	0.211	0.057	0.117	0.247	0.093	NO
	Right Touch	0.076	0.16	0.221	0.105	0.236	0.297	0.181	NO
	Right Tilt	0.02	0.036	0.095	0.024	0.056	0.115	0.044	NO
LTE Band 17	Left Touch	0.088	0.324	0.834	0.233	0.412	0.922	0.321	NO
	Left Tilt	0.016	0.081	0.211	0.057	0.097	0.227	0.073	NO
	Right Touch	0.036	0.16	0.221	0.105	0.196	0.257	0.141	NO
	Right Tilt	0.007	0.036	0.095	0.024	0.043	0.102	0.031	NO
LTE Band 26	Left Touch	0.284	0.324	0.834	0.233	0.608	1.118	0.517	NO
	Left Tilt	0.055	0.081	0.211	0.057	0.136	0.266	0.112	NO
	Right Touch	0.117	0.16	0.221	0.105	0.277	0.338	0.222	NO
	Right Tilt	0.032	0.036	0.095	0.024	0.068	0.127	0.056	NO
LTE Band 38	Left Touch	0.316	0.324	0.834	0.233	0.640	1.150	0.549	NO
	Left Tilt	0.11	0.081	0.211	0.057	0.191	0.321	0.167	NO
	Right Touch	1.118	0.16	0.221	0.105	1.278	1.339	1.223	NO
	Right Tilt	0.435	0.036	0.095	0.024	0.471	0.530	0.459	NO
LTE Band 40 a	Left Touch	0.405	0.324	0.834	0.233	0.729	1.239	0.638	NO
	Left Tilt	0.075	0.081	0.211	0.057	0.156	0.286	0.132	NO
	Right Touch	0.163	0.16	0.221	0.105	0.323	0.384	0.268	NO
	Right Tilt	0.039	0.036	0.095	0.024	0.075	0.134	0.063	NO
LTE Band 40 b	Left Touch	0.456	0.324	0.834	0.233	0.780	1.290	0.689	NO
	Left Tilt	0.083	0.081	0.211	0.057	0.164	0.294	0.140	NO

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	Right Touch	0.19	0.16	0.221	0.105	0.350	0.411	0.295	NO
	Right Tilt	0.048	0.036	0.095	0.024	0.084	0.143	0.072	NO
LTE Band 41	Left Touch	0.121	0.324	0.834	0.233	0.445	0.955	0.354	NO
	Left Tilt	0.036	0.081	0.211	0.057	0.117	0.247	0.093	NO
	Right Touch	0.315	0.16	0.221	0.105	0.475	0.536	0.420	NO
	Right Tilt	0.132	0.036	0.095	0.024	0.168	0.227	0.156	NO
LTE Band 42	Left Touch	0.178	0.324	0.834	0.233	0.502	1.012	0.411	NO
	Left Tilt	0.052	0.081	0.211	0.057	0.133	0.263	0.109	NO
	Right Touch	0.484	0.16	0.221	0.105	0.644	0.705	0.589	NO
	Right Tilt	0.195	0.036	0.095	0.024	0.231	0.290	0.219	NO
LTE Band 48	Left Touch	0.25	0.324	0.834	0.233	0.574	1.084	0.483	NO
	Left Tilt	0.104	0.081	0.211	0.057	0.185	0.315	0.161	NO
	Right Touch	1.159	0.16	0.221	0.105	1.319	1.380	1.264	NO
	Right Tilt	0.388	0.036	0.095	0.024	0.424	0.483	0.412	NO
FR1 N2	Left Touch	0.54	0.324	0.834	0.233	0.864	1.374	0.773	NO
	Left Tilt	0.099	0.081	0.211	0.057	0.180	0.310	0.156	NO
	Right Touch	0.225	0.16	0.221	0.105	0.385	0.446	0.330	NO
	Right Tilt	0.054	0.036	0.095	0.024	0.090	0.149	0.078	NO
FR1 N5	Left Touch	0.268	0.324	0.834	0.233	0.592	1.102	0.501	NO
	Left Tilt	0.057	0.081	0.211	0.057	0.138	0.268	0.114	NO
	Right Touch	0.133	0.16	0.221	0.105	0.293	0.354	0.238	NO
	Right Tilt	0.028	0.036	0.095	0.024	0.064	0.123	0.052	NO
FR1 N41	Left Touch	0.537	0.324	0.834	0.233	0.861	1.371	0.770	NO
	Left Tilt	0.161	0.081	0.211	0.057	0.242	0.372	0.218	NO
	Right Touch	1.13	0.16	0.221	0.105	1.294	1.355	1.239	NO
	Right Tilt	0.592	0.036	0.095	0.024	0.628	0.687	0.616	NO
FR1 N66	Left Touch	0.581	0.324	0.834	0.233	0.905	1.415	0.814	NO
	Left Tilt	0.11	0.081	0.211	0.057	0.191	0.321	0.167	NO
	Right Touch	0.259	0.16	0.221	0.105	0.419	0.480	0.364	NO
	Right Tilt	0.065	0.036	0.095	0.024	0.101	0.160	0.089	NO
FR1 N71	Left Touch	0.175	0.324	0.834	0.233	0.499	1.009	0.408	NO
	Left Tilt	0.036	0.081	0.211	0.057	0.117	0.247	0.093	NO
	Right Touch	0.082	0.16	0.221	0.105	0.242	0.303	0.187	NO
	Right Tilt	0.021	0.036	0.095	0.024	0.057	0.116	0.045	NO

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Simultaneous Transmission SAR Summation Scenario for Body

WWAN Band	Exposure position	①MAX. WWAN SAR (W/kg)	②MAX. WLAN2.4G SAR (W/kg)	③MAX BT SAR (W/kg)	④MAX. WLAN5G SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Summed SAR ①+④	Volume scan
GSM850	Front	0.889	0.045	0.056	0.176	0.934	0.945	1.065	NO
	Back	1.15	0.072	0.077	0.219	1.222	1.227	1.369	NO
	Left	0.97	0.032	0.061	0.19	1.002	1.031	1.160	NO
	Right	0.879	0.085	0.054	0.177	0.964	0.933	1.056	NO
	Top	0.105	0.047	0.007	0.019	0.152	0.112	0.124	NO
	Bottom	0.729	0.002	0.045	0.139	0.731	0.774	0.868	NO
GSM1900	Front	0.159	0.045	0.056	0.176	0.204	0.215	0.335	NO
	Back	0.177	0.072	0.077	0.219	0.249	0.254	0.396	NO
	Left	0.232	0.032	0.061	0.19	0.264	0.293	0.422	NO
	Right	0.019	0.085	0.054	0.177	0.104	0.073	0.196	NO
	Top	0.045	0.047	0.007	0.019	0.092	0.052	0.064	NO
	Bottom	0.045	0.002	0.045	0.139	0.047	0.090	0.184	NO
WCDMA Band II	Front	0.174	0.045	0.056	0.176	0.219	0.230	0.350	NO
	Back	0.191	0.072	0.077	0.219	0.263	0.268	0.410	NO
	Left	0.245	0.032	0.061	0.19	0.277	0.306	0.435	NO
	Right	0.023	0.085	0.054	0.177	0.108	0.077	0.200	NO
	Top	0.046	0.047	0.007	0.019	0.093	0.053	0.065	NO
	Bottom	0.044	0.002	0.045	0.139	0.046	0.089	0.183	NO
WCDMA Band V	Front	0.251	0.045	0.056	0.176	0.296	0.307	0.427	NO
	Back	0.334	0.072	0.077	0.219	0.406	0.411	0.553	NO
	Left	0.275	0.032	0.061	0.19	0.307	0.336	0.465	NO
	Right	0.254	0.085	0.054	0.177	0.339	0.308	0.431	NO
	Top	0.029	0.047	0.007	0.019	0.076	0.036	0.048	NO
	Bottom	0.205	0.002	0.045	0.139	0.207	0.250	0.344	NO
WCDMA Band IV	Front	0.165	0.045	0.056	0.176	0.210	0.221	0.341	NO
	Back	0.182	0.072	0.077	0.219	0.254	0.259	0.401	NO
	Left	0.248	0.032	0.061	0.19	0.280	0.309	0.438	NO
	Right	0.023	0.085	0.054	0.177	0.108	0.077	0.200	NO
	Top	0.049	0.047	0.007	0.019	0.096	0.056	0.068	NO
	Bottom	0.04	0.002	0.045	0.139	0.042	0.085	0.179	NO
LTE Band 2	Front	0.108	0.045	0.056	0.176	0.153	0.164	0.284	NO
	Back	0.118	0.072	0.077	0.219	0.190	0.195	0.337	NO
	Left	0.159	0.032	0.061	0.19	0.191	0.220	0.349	NO
	Right	0.01	0.085	0.054	0.177	0.095	0.064	0.187	NO
	Top	0.026	0.047	0.007	0.019	0.073	0.033	0.045	NO
	Bottom	0.025	0.002	0.045	0.139	0.027	0.070	0.164	NO
LTE Band 4	Front	0.135	0.045	0.056	0.176	0.180	0.191	0.311	NO

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	Back	0.144	0.072	0.077	0.219	0.216	0.221	0.363	NO
	Left	0.193	0.032	0.061	0.19	0.225	0.254	0.383	NO
	Right	0.016	0.085	0.054	0.177	0.101	0.070	0.193	NO
	Top	0.036	0.047	0.007	0.019	0.083	0.043	0.055	NO
	Bottom	0.031	0.002	0.045	0.139	0.033	0.076	0.170	NO
LTE Band 5	Front	0.217	0.045	0.056	0.176	0.262	0.273	0.393	NO
	Back	0.278	0.072	0.077	0.219	0.350	0.355	0.497	NO
	Left	0.198	0.032	0.061	0.19	0.230	0.259	0.388	NO
	Right	0.232	0.085	0.054	0.177	0.317	0.286	0.409	NO
	Top	0.021	0.047	0.007	0.019	0.068	0.028	0.040	NO
LTE Band 7	Bottom	0.181	0.002	0.045	0.139	0.183	0.226	0.320	NO
	Front	0.095	0.045	0.056	0.176	0.140	0.151	0.271	NO
	Back	0.099	0.072	0.077	0.219	0.171	0.176	0.318	NO
	Left	0.134	0.032	0.061	0.19	0.166	0.195	0.324	NO
	Right	0.01	0.085	0.054	0.177	0.095	0.064	0.187	NO
LTE Band 12	Top	0.025	0.047	0.007	0.019	0.072	0.032	0.044	NO
	Bottom	0.023	0.002	0.045	0.139	0.025	0.068	0.162	NO
	Front	0.132	0.045	0.056	0.176	0.177	0.188	0.308	NO
	Back	0.21	0.072	0.077	0.219	0.282	0.287	0.429	NO
	Left	0.14	0.032	0.061	0.19	0.172	0.201	0.330	NO
LTE Band 13	Right	0.13	0.085	0.054	0.177	0.215	0.184	0.307	NO
	Top	0.016	0.047	0.007	0.019	0.063	0.023	0.035	NO
	Bottom	0.102	0.002	0.045	0.139	0.104	0.147	0.241	NO
	Front	0.165	0.045	0.056	0.176	0.210	0.221	0.341	NO
	Back	0.258	0.072	0.077	0.219	0.330	0.335	0.477	NO
LTE Band 17	Left	0.182	0.032	0.061	0.19	0.214	0.243	0.372	NO
	Right	0.164	0.085	0.054	0.177	0.249	0.218	0.341	NO
	Top	0.018	0.047	0.007	0.019	0.065	0.025	0.037	NO
	Bottom	0.131	0.002	0.045	0.139	0.133	0.176	0.270	NO
	Front	0.11	0.045	0.056	0.176	0.155	0.166	0.286	NO
LTE Band 26	Back	0.171	0.072	0.077	0.219	0.243	0.248	0.390	NO
	Left	0.118	0.032	0.061	0.19	0.150	0.179	0.308	NO
	Right	0.109	0.085	0.054	0.177	0.194	0.163	0.286	NO
	Top	0.017	0.047	0.007	0.019	0.064	0.024	0.036	NO
	Bottom	0.086	0.002	0.045	0.139	0.088	0.131	0.225	NO
LTE Band	Front	0.207	0.045	0.056	0.176	0.252	0.263	0.383	NO
	Back	0.324	0.072	0.077	0.219	0.396	0.401	0.543	NO
	Left	0.225	0.032	0.061	0.19	0.257	0.286	0.415	NO
	Right	0.206	0.085	0.054	0.177	0.291	0.260	0.383	NO
	Top	0.024	0.047	0.007	0.019	0.071	0.031	0.043	NO
	Bottom	0.165	0.002	0.045	0.139	0.167	0.210	0.304	NO
LTE Band	Front	0.305	0.045	0.056	0.176	0.350	0.361	0.481	NO

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38	Back	0.321	0.072	0.077	0.219	0.393	0.398	0.540	NO
	Left	0.438	0.032	0.061	0.19	0.470	0.499	0.628	NO
	Right	0.021	0.085	0.054	0.177	0.106	0.075	0.198	NO
	Top	0.083	0.047	0.007	0.019	0.130	0.090	0.102	NO
	Bottom	0.008	0.002	0.045	0.139	0.010	0.053	0.147	NO
LTE Band 40 a	Front	0.159	0.045	0.056	0.176	0.204	0.215	0.335	NO
	Back	0.168	0.072	0.077	0.219	0.240	0.245	0.387	NO
	Left	0.217	0.032	0.061	0.19	0.249	0.278	0.407	NO
	Right	0.02	0.085	0.054	0.177	0.105	0.074	0.197	NO
	Top	0.04	0.047	0.007	0.019	0.087	0.047	0.059	NO
LTE Band 40 b	Bottom	0.037	0.002	0.045	0.139	0.039	0.082	0.176	NO
	Front	0.174	0.045	0.056	0.176	0.219	0.230	0.350	NO
	Back	0.175	0.072	0.077	0.219	0.247	0.252	0.394	NO
	Left	0.248	0.032	0.061	0.19	0.280	0.309	0.438	NO
	Right	0.021	0.085	0.054	0.177	0.106	0.075	0.198	NO
LTE Band 41	Top	0.044	0.047	0.007	0.019	0.091	0.051	0.063	NO
	Bottom	0.047	0.002	0.045	0.139	0.049	0.092	0.186	NO
	Front	0.44	0.045	0.056	0.176	0.485	0.496	0.616	NO
	Back	0.471	0.072	0.077	0.219	0.543	0.548	0.690	NO
	Left	0.599	0.032	0.061	0.19	0.631	0.660	0.789	NO
LTE Band 42	Right	0.042	0.085	0.054	0.177	0.127	0.096	0.219	NO
	Top	0.119	0.047	0.007	0.019	0.166	0.126	0.138	NO
	Bottom	0.026	0.002	0.045	0.139	0.028	0.071	0.165	NO
	Front	0.218	0.045	0.056	0.176	0.263	0.274	0.394	NO
	Back	0.225	0.072	0.077	0.219	0.297	0.302	0.444	NO
LTE Band 48	Left	0.301	0.032	0.061	0.19	0.333	0.362	0.491	NO
	Right	0.016	0.085	0.054	0.177	0.101	0.070	0.193	NO
	Top	0.06	0.047	0.007	0.019	0.107	0.067	0.079	NO
	Bottom	0.01	0.002	0.045	0.139	0.012	0.055	0.149	NO
	Front	0.218	0.045	0.056	0.176	0.263	0.274	0.394	NO
FR1 N2	Back	0.225	0.072	0.077	0.219	0.297	0.302	0.444	NO
	Left	0.349	0.032	0.061	0.19	0.381	0.410	0.539	NO
	Right	0.02	0.085	0.054	0.177	0.105	0.074	0.197	NO
	Top	0.062	0.047	0.007	0.019	0.109	0.069	0.081	NO
	Bottom	0.009	0.002	0.045	0.139	0.011	0.054	0.148	NO
FR1 N5	Front	0.138	0.045	0.056	0.176	0.183	0.194	0.314	NO
	Back	0.205	0.072	0.077	0.219	0.277	0.282	0.424	NO
	Left	0.342	0.032	0.061	0.19	0.374	0.403	0.532	NO
	Right	0.012	0.085	0.054	0.177	0.097	0.066	0.189	NO
	Top	0.034	0.047	0.007	0.019	0.081	0.041	0.053	NO
Bottom	0.029	0.002	0.045	0.139	0.031	0.074	0.168	NO	
FR1 N5	Front	0.204	0.045	0.056	0.176	0.249	0.260	0.380	NO

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EMC Laboratory

	Back	0.314	0.072	0.077	0.219	0.386	0.391	0.533	NO
	Left	0.218	0.032	0.061	0.19	0.250	0.279	0.408	NO
	Right	0.203	0.085	0.054	0.177	0.288	0.257	0.380	NO
	Top	0.024	0.047	0.007	0.019	0.071	0.031	0.043	NO
	Bottom	0.161	0.002	0.045	0.139	0.163	0.206	0.300	NO
FR1 N41	Front	0.227	0.045	0.056	0.176	0.272	0.283	0.403	NO
	Back	0.236	0.072	0.077	0.219	0.308	0.313	0.455	NO
	Left	0.311	0.032	0.061	0.19	0.343	0.372	0.501	NO
	Right	0.023	0.085	0.054	0.177	0.108	0.077	0.200	NO
	Top	0.065	0.047	0.007	0.019	0.112	0.072	0.084	NO
	Bottom	0.011	0.002	0.045	0.139	0.013	0.056	0.150	NO
FR1 N66	Front	0.165	0.045	0.056	0.176	0.210	0.221	0.341	NO
	Back	0.172	0.072	0.077	0.219	0.244	0.249	0.391	NO
	Left	0.227	0.032	0.061	0.19	0.259	0.288	0.417	NO
	Right	0.026	0.085	0.054	0.177	0.111	0.080	0.203	NO
	Top	0.046	0.047	0.007	0.019	0.093	0.053	0.065	NO
	Bottom	0.043	0.002	0.045	0.139	0.045	0.088	0.182	NO
FR1 N71	Front	0.172	0.045	0.056	0.176	0.217	0.228	0.348	NO
	Back	0.264	0.072	0.077	0.219	0.336	0.341	0.483	NO
	Left	0.189	0.032	0.061	0.19	0.221	0.250	0.379	NO
	Right	0.176	0.085	0.054	0.177	0.261	0.230	0.353	NO
	Top	0.024	0.047	0.007	0.019	0.071	0.031	0.043	NO
	Bottom	0.139	0.002	0.045	0.139	0.141	0.184	0.278	NO

Simultaneous Transmission SAR Summation Scenario for Extremity

WWAN Band	Exposure position	①MAX. WWAN SAR (W/kg)	②MAX. WLAN2.4G SAR (W/kg)	③MAX. BT SAR (W/kg)	④MAX. WLAN5G SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Summed SAR ①+④	Volume scan
GSM850	Front	2.581	0.146	0.183	0.981	2.727	2.764	3.562	NO
	Back	2.683	0.248	0.246	1.201	2.931	2.929	3.884	NO
GSM1900	Front	0.458	0.146	0.183	0.981	0.604	0.641	1.439	NO
	Back	0.458	0.248	0.246	1.201	0.706	0.704	1.659	NO
WCDMA Band II	Front	0.431	0.146	0.183	0.981	0.577	0.614	1.412	NO
	Back	0.513	0.248	0.246	1.201	0.761	0.759	1.714	NO
WCDMA Band V	Front	0.793	0.146	0.183	0.981	0.939	0.976	1.774	NO
	Back	1.029	0.248	0.246	1.201	1.277	1.275	2.230	NO
WCDMA Band IV	Front	0.477	0.146	0.183	0.981	0.623	0.660	1.458	NO
	Back	0.498	0.248	0.246	1.201	0.746	0.744	1.699	NO
LTE Band 2	Front	0.292	0.146	0.183	0.981	0.438	0.475	1.273	NO
	Back	0.348	0.248	0.246	1.201	0.596	0.594	1.549	NO
LTE Band 4	Front	0.392	0.146	0.183	0.981	0.538	0.575	1.373	NO

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LTE Band 5	Back	0.393	0.248	0.246	1.201	0.641	0.639	1.594	NO
	Front	0.652	0.146	0.183	0.981	0.798	0.835	1.633	NO
LTE Band 7	Back	0.787	0.248	0.246	1.201	1.035	1.033	1.988	NO
	Front	0.226	0.146	0.183	0.981	0.372	0.409	1.207	NO
LTE Band 12	Back	0.265	0.248	0.246	1.201	0.513	0.511	1.466	NO
	Front	0.351	0.146	0.183	0.981	0.497	0.534	1.332	NO
LTE Band 13	Back	0.54	0.248	0.246	1.201	0.788	0.786	1.741	NO
	Front	0.622	0.146	0.183	0.981	0.768	0.805	1.603	NO
LTE Band 17	Back	0.937	0.248	0.246	1.201	1.185	1.183	2.138	NO
	Front	0.404	0.146	0.183	0.981	0.550	0.587	1.385	NO
LTE Band 26	Back	0.552	0.248	0.246	1.201	0.800	0.798	1.753	NO
	Front	0.705	0.146	0.183	0.981	0.851	0.888	1.686	NO
LTE Band 38	Back	0.964	0.248	0.246	1.201	1.212	1.210	2.165	NO
	Front	0.77	0.146	0.183	0.981	0.916	0.953	1.751	NO
LTE Band 40 a	Back	0.766	0.248	0.246	1.201	1.014	1.012	1.967	NO
	Front	0.402	0.146	0.183	0.981	0.548	0.585	1.383	NO
LTE Band 40 b	Back	0.43	0.248	0.246	1.201	0.678	0.676	1.631	NO
	Front	0.437	0.146	0.183	0.981	0.583	0.620	1.418	NO
LTE Band 41	Back	0.432	0.248	0.246	1.201	0.680	0.678	1.633	NO
	Front	1.195	0.146	0.183	0.981	1.341	1.378	2.176	NO
LTE Band 42	Back	1.182	0.248	0.246	1.201	1.430	1.428	2.383	NO
	Front	0.514	0.146	0.183	0.981	0.660	0.697	1.495	NO
LTE Band 48	Back	0.525	0.248	0.246	1.201	0.773	0.771	1.726	NO
	Front	0.502	0.146	0.183	0.981	0.648	0.685	1.483	NO
FR1 N2	Back	0.544	0.248	0.246	1.201	0.792	0.790	1.745	NO
	Front	0.377	0.146	0.183	0.981	0.523	0.560	1.358	NO
FR1 N5	Back	0.559	0.248	0.246	1.201	0.807	0.805	1.760	NO
	Front	0.752	0.146	0.183	0.981	0.898	0.935	1.733	NO
FR1 N41	Back	1.162	0.248	0.246	1.201	1.410	1.408	2.363	NO
	Front	0.59	0.146	0.183	0.981	0.736	0.773	1.571	NO
FR1 N66	Back	0.607	0.248	0.246	1.201	0.855	0.853	1.808	NO
	Front	0.469	0.146	0.183	0.981	0.615	0.652	1.450	NO
FR1 N71	Back	0.466	0.248	0.246	1.201	0.714	0.712	1.667	NO
	Front	0.664	0.146	0.183	0.981	0.810	0.847	1.645	NO
	Back	0.982	0.248	0.246	1.201	1.230	1.228	2.183	NO

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ENDC

Simultaneous Transmission SAR Summation Scenario for head

WWAN Band	WWAN Band	Exposure position	1.MAX. WWAN SAR (W/kg)	2.MAX. WWAN SAR (W/kg)	3.MAX. WLAN2.4G SAR (W/kg)	4.MAX WLAN 5G SAR (W/kg)	5.MAX. BT SAR (W/kg)	Summed SAR 1+2+3	Summed SAR 1+2+4	Summed SAR 1+2+5	Volume scan
LTE Band 13	FR1 N66	Left Touch	0.176	0.581	0.324	0.834	0.233	1.081	1.591	0.990	NO
		Left Tilt	0.036	0.11	0.081	0.211	0.057	0.227	0.357	0.203	NO
		Right Touch	0.076	0.259	0.16	0.420	0.105	0.495	0.755	0.440	NO
		Right Tilt	0.02	0.065	0.036	0.095	0.024	0.121	0.180	0.109	NO
FR1 N41	LTE Band 12	Left Touch	0.537	0.116	0.324	0.834	0.233	0.977	1.487	0.886	NO
		Left Tilt	0.161	0.022	0.081	0.211	0.057	0.264	0.394	0.240	NO
		Right Touch	1.13	0.012	0.16	0.420	0.105	1.306	1.566	1.251	NO
		Right Tilt	0.592	0.011	0.036	0.095	0.024	0.639	0.698	0.627	NO
FR1 N66	LTE Band 12	Left Touch	0.581	0.116	0.324	0.834	0.233	1.021	1.531	0.930	NO
		Left Tilt	0.11	0.022	0.081	0.211	0.057	0.213	0.343	0.189	NO
		Right Touch	0.259	0.012	0.16	0.420	0.105	0.431	0.691	0.376	NO
		Right Tilt	0.065	0.011	0.036	0.095	0.024	0.112	0.171	0.100	NO
FR1 N71	LTE Band 7	Left Touch	0.175	0.477	0.324	0.834	0.233	0.976	1.486	0.885	NO
		Left Tilt	0.036	0.026	0.081	0.211	0.057	0.143	0.273	0.119	NO
		Right Touch	0.082	0.061	0.16	0.420	0.105	0.303	0.563	0.248	NO
		Right Tilt	0.021	0.014	0.036	0.095	0.024	0.071	0.130	0.059	NO

Simultaneous Transmission SAR Summation Scenario for body

WWAN Band	WWAN Band	Exposure position	1.MAX. WWAN SAR (W/kg)	2.MAX. WWAN SAR (W/kg)	3.MAX. WLAN2.4G SAR (W/kg)	4.MAX BT SAR (W/kg)	5.MAX. WLAN5G SAR (W/kg)	Summed SAR 1+2+3	Summed SAR 1+2+4	Summed SAR 1+2+5	Volume scan
LTE Band 7	FR1 N71	Front	0.095	0.172	0.045	0.056	0.176	0.312	0.323	0.443	NO
		Back	0.099	0.264	0.072	0.077	0.219	0.435	0.440	0.582	NO
		Left	0.134	0.189	0.032	0.061	0.19	0.355	0.384	0.513	NO
		Right	0.01	0.176	0.085	0.054	0.177	0.271	0.240	0.363	NO
		Top	0.025	0.024	0.047	0.007	0.019	0.096	0.056	0.068	NO
		Bottom	0.023	0.139	0.002	0.045	0.139	0.164	0.207	0.301	NO
LTE Band 12	FR1 N41	Front	0.132	0.227	0.045	0.056	0.176	0.404	0.415	0.535	NO
		Back	0.21	0.236	0.072	0.077	0.219	0.518	0.523	0.665	NO
		Left	0.14	0.311	0.032	0.061	0.19	0.483	0.512	0.641	NO
		Right	0.13	0.023	0.085	0.054	0.177	0.238	0.207	0.330	NO
		Top	0.016	0.065	0.047	0.007	0.019	0.128	0.088	0.100	NO
		Bottom	0.102	0.011	0.002	0.045	0.139	0.115	0.158	0.252	NO
LTE Band	FR1 N66	Front	0.132	0.165	0.045	0.056	0.176	0.342	0.353	0.473	NO
		Back	0.21	0.172	0.072	0.077	0.219	0.454	0.459	0.601	NO

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12		Left	0.14	0.227	0.032	0.061	0.19	0.399	0.428	0.557	NO
		Right	0.13	0.026	0.085	0.054	0.177	0.241	0.210	0.333	NO
		Top	0.016	0.046	0.047	0.007	0.019	0.109	0.069	0.081	NO
		Bottom	0.102	0.043	0.002	0.045	0.139	0.147	0.190	0.284	NO
LTE Band 13	FR1 N66	Front	0.165	0.165	0.045	0.056	0.176	0.375	0.386	0.506	NO
		Back	0.258	0.172	0.072	0.077	0.219	0.502	0.507	0.649	NO
		Left	0.182	0.227	0.032	0.061	0.19	0.441	0.470	0.599	NO
		Right	0.164	0.026	0.085	0.054	0.177	0.275	0.244	0.367	NO
		Top	0.018	0.046	0.047	0.007	0.019	0.111	0.071	0.083	NO
		Bottom	0.131	0.043	0.002	0.045	0.139	0.176	0.219	0.313	NO

Simultaneous Transmission SAR Summation Scenario for Extremity

WWAN Band	WWAN Band	Exposure position	1.MAX. WWAN SAR (W/kg)	2.MAX. WWAN SAR (W/kg)	3.MAX. WLAN2.4G SAR (W/kg)	4.MAX BT SAR (W/kg)	5.MAX. WLAN5G SAR (W/kg)	Summed SAR 1+2+3	Summed SAR 1+2+4	Summed SAR 1+2+5	Volume scan
LTE Band 7	FR1 N71	Front	0.226	0.664	0.146	0.183	0.981	1.036	1.073	1.871	NO
		Back	0.265	0.982	0.248	0.246	1.201	1.495	1.493	2.448	NO
LTE Band 12	FR1 N41	Front	0.351	0.59	0.146	0.183	0.981	1.087	1.124	1.922	NO
		Back	0.54	0.607	0.248	0.246	1.201	1.395	1.393	2.348	NO
LTE Band 12	FR1 N66	Front	0.351	0.469	0.146	0.183	0.981	0.966	1.003	1.801	NO
		Back	0.54	0.466	0.248	0.246	1.201	1.254	1.252	2.207	NO
LTE Band 13	FR1 N66	Front	0.622	0.469	0.146	0.183	0.981	1.237	1.274	2.072	NO
		Back	0.937	0.466	0.248	0.246	1.201	1.651	1.649	2.604	NO

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## 9 Equipment list

Test Platform		SPEAG DASY5 Professional				
Location		Compliance Certification Services (Kunshan) Inc.				
Software Reference		DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)				
Hardware Reference						
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration	
<input checked="" type="checkbox"/>	P C	HP	Core(rm)3.16G	CZCO48171H	N/A	N/A
<input checked="" type="checkbox"/>	Signal Generator	Agilent	E5182A	MY50142015	2021/09/24	2022/09/23
<input checked="" type="checkbox"/>	S-Parameter Network Analyzer	Agilent	E5071B	MY42301382	2022/02/20	2023/02/19
<input checked="" type="checkbox"/>	DAK-3.5 probe	SPEAG	DAK-3.5	1102	N/A	N/A
<input checked="" type="checkbox"/>	Wireless Communication Test Set	R&S	CMW500	159275	2021/10/12	2022/10/11
<input checked="" type="checkbox"/>	DAE	SPEAG	DAE4	1245	2022/05/30	2023/05/29
<input checked="" type="checkbox"/>	E-field PROBE	SPEAG	EX3DV4	7346	2022/03/30	2023/03/29
<input checked="" type="checkbox"/>	Dipole	SPEAG	D750V3	1188	2022/03/29	2025/03/28
<input checked="" type="checkbox"/>	Dipole	SPEAG	D835V2	4d114	2022/03/31	2025/03/30
<input checked="" type="checkbox"/>	Dipole	SPEAG	D1800V2	2d170	2022/03/31	2025/03/30
<input checked="" type="checkbox"/>	Dipole	SPEAG	D1900V2	5d136	2022/06/07	2025/06/06
<input checked="" type="checkbox"/>	Dipole	SPEAG	D2300V2	1096	2022/03/31	2025/03/30
<input checked="" type="checkbox"/>	Dipole	SPEAG	D2450V2	817	2022/04/01	2025/03/31
<input checked="" type="checkbox"/>	Dipole	SPEAG	D2600V2	1158	2022/03/31	2025/03/30
<input checked="" type="checkbox"/>	Dipole	SPEAG	D3500V2	1101	2021/09/09	2024/09/08
<input checked="" type="checkbox"/>	Dipole	SPEAG	D3700V2	1103	2021/09/09	2024/09/08
<input checked="" type="checkbox"/>	Dipole	SPEAG	D5GHzV2	1095	2022/06/01	2025/05/31
<input checked="" type="checkbox"/>	Electro Thermometer	DTM	DTM3000	3030	2021/10/17	2022/10/16
<input checked="" type="checkbox"/>	Amplifier	Mini-circuits	ZVE-8G	110405	N/A	N/A
<input checked="" type="checkbox"/>	Amplifier	Mini-circuits	ZHL-42	QA1331003	N/A	N/A
<input checked="" type="checkbox"/>	3db ATTENUATOR	MINI	MCL BW-S3W5	0533	N/A	N/A
<input checked="" type="checkbox"/>	DUMMY PROBE	SPEAG	DP_2	SPDP2001AA	N/A	N/A
<input checked="" type="checkbox"/>	Dual Directional Coupler	Woken	20W couple	DOM2BHW1A1	N/A	N/A
<input checked="" type="checkbox"/>	SAM PHANTOM (ELI4 v4.0)	SPEAG	QDOVA001BB	1102	N/A	N/A

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<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	1609	N/A	N/A
<input checked="" type="checkbox"/>	ROBOT	SPEAG	TX60	F10/5E6AA1/A101	N/A	N/A
<input checked="" type="checkbox"/>	ROBOT KRC	SPEAG	CS8C	F10/5E6AA1/C101	N/A	N/A
<input checked="" type="checkbox"/>	LIQUID CALIBRATION KIT	ANTENNESSA	41/05 OCP9	00425167	N/A	N/A

Note: All the equipments are within the valid period when the tests are performed.

All measurement facilities used to collect the measurement data are located at

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### 10 Calibration certificate

Please see the Appendix C

### 11 Photographs

Please see the Appendix D

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Compliance Certification Services (Kunshan) Inc.  
EMC Laboratory

## Appendix A: Detailed System Check Results

The plots are showing as followings.

## Appendix B: Detailed Test Results

The plots of worse case are showing as followings.

## Appendix C: Calibration certificate

## Appendix D: Photographs

---END---



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