



Compliance Certification Services (Kunshan) Inc.

Report No.: KSCR221000185709

Page: 1 of 134

FCC SAR TEST REPORT

Application No.: KSCR2210001857AT
Applicant: Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant: Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Manufacturer: Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer: Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Product Name: Handheld Wireless Terminal
Model No.(EUT): T6810
Trade mark: SUNMI
FCC ID: 2AH25T6810
Standard(s) : FCC 47CFR §2.1093
Date of Receipt: 2022-10-08
Date of Test: 2022-10-15 to 2022-11-02
Date of Issue: 2022-11-20

Test Result:	Pass*
---------------------	--------------

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

Eric Lin
EMC Laboratory Manager



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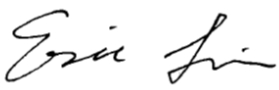
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REVISION HISTORY

Revision Record			
Version	Description	Date	Remark
00	Original	2022-11-20	/

Authorized for issue by:			
			
		Richard.Kong/ Project Engineer	
			
		Eric.Lin/Reviewer	



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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)		
	Head	Body	Extremity
GSM850	0.44	0.54	1.59
GSM1900	0.31	0.62	1.49
WCDMA Band II	0.30	0.94	2.13
WCDMA Band IV	0.51	0.83	2.63
WCDMA Band V	0.22	0.29	1.50
LTE Band 2	0.40	0.95	2.52
LTE Band 4	0.50	0.82	2.61
LTE Band 5	0.25	0.34	1.52
LTE Band 7	0.10	1.13	2.39
LTE Band 12	0.15	0.26	1.22
LTE Band 17	0.15	0.29	1.21
LTE Band 38	0.10	0.83	1.67
LTE Band 41	0.11	0.99	1.82
WI-FI (2.4GHz)	0.88	0.35	0.53
BT	0.19	0.06	0.12
WI-FI (5GHz)	1.02	0.38	0.55
WWAN + WI-FI (2.4GHz)	1.39	1.45	3.09
WWAN + BT	0.70	1.19	2.75
WWAN + WI-FI (5GHz)	1.53	1.51	3.18
SAR Limited(W/kg)	1.6		4.0

Note:

The product is divided into high configuration version and basic configuration version.

SKU1: high configuration version, With code scanning probe, motor, front camera and MIC

SKU2: basic configuration version, Without code scanning probe, motor, front camera and MIC

Except for the above differences, everything else is the same.



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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:	PC04D28400081		
Hardware Version:	P2 LITE SE_MB_V1.2		
Software Version:	P2_LITE_SE_user		
Antenna Gain:	GSM850: -1.6dBi (Provided by the manufacturer) GSM1900: -0.2dBi (Provided by the manufacturer) UMTS B2: -0.1dBi (Provided by the manufacturer) UMTS B4: -1.7dBi (Provided by the manufacturer) UMTS B5: -1.6dBi (Provided by the manufacturer) Band 2: -0.1dBi (Provided by the manufacturer) Band 4: -1.7dBi (Provided by the manufacturer) Band 5: -1.6dBi (Provided by the manufacturer) Band 7: 0.5dBi (Provided by the manufacturer) Band 12: -6.4dBi (Provided by the manufacturer) Band 17: -6.4dBi (Provided by the manufacturer) Band 38: 0.5dBi (Provided by the manufacturer) Band 41: 0.5dBi (Provided by the manufacturer) WIFI 2.4G/BT: 1.7dBi (Provided by the manufacturer) WIFI 5G: -0.6dBi (Provided by the manufacturer)		
Antenna Type:	FPC Antenna		
Device Operating Configurations:			
Modulation Mode:	GSM: GMSK, 8PSK WCDMA: QPSK, 16QAM(HSPA+) LTE: QPSK, 16QAM WIFI: CCK, DSSS, OFDM BT: GFSK, π/4DQPSK, 8DPSK		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	14	HSUPA UE Category	6
DC-HSDPA UE Category:	24	LTE UE Category:	5
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 II/IV/V)		
	3, tested with power control Max Power (LTE Band 2/4/5/7/12/17/38/41/)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824-849	869-894



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	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
	LTE Band 7	2500-2570	2620- 2690
	LTE Band 12	699-716	729-746
	LTE Band 17	704-716	734-746
	LTE Band 38	2570-2620	2570-2620
	LTE Band 41	2535-2655	2535-2655
	WIFI2.4G	2412-2462	2412-2462
	BT	2402-2480	2402-2480
	WIFI(U-NII-1)	5150~5250	5150~5250
	WIFI(U-NII-3)	5725~5850	5725~5850
Battery Information:	Model:	TMPA	
	Normal Voltage:	3.8V	
	Rated capacity:	2900mAh	
	Battery Type:	Rechargeable Li-ion Battery	
	Manufacturer:	Zhongshan Tianmao Battery Co., Ltd.	



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1.1.1 DUT Antenna Locations

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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 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
KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES



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1.3 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain*Trunk)	1.60 W/kg	8.00 W/kg
Spatial Average SAR** (Whole Body)	0.08 W/kg	0.40 W/kg
Spatial Peak SAR*** (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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Compliance Certification Services (Kunshan) Inc.

Report No.: KSCR221000185709

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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:

• A2LA

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

• FCC

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

• ISED

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

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 σ and ρ 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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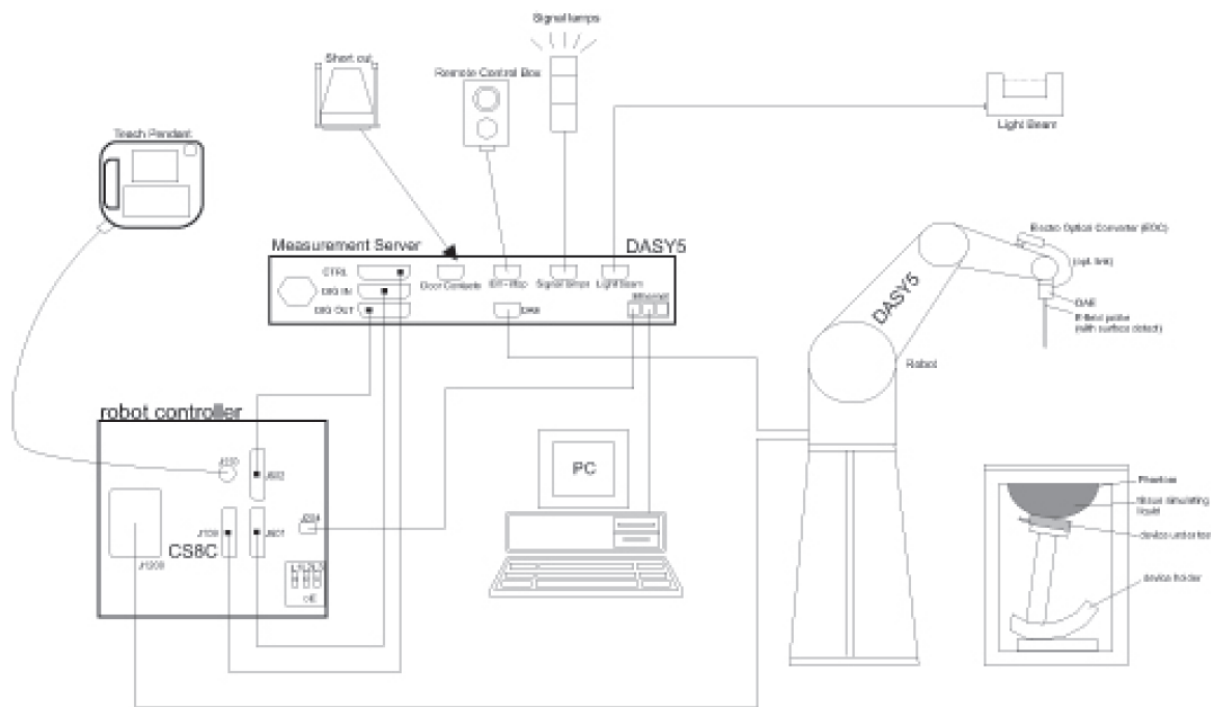
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F-1. SAR Measurement System Configuration

- 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.



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3.2 Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 μ W/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)
Dimensions	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
Application	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%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI



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3.3 Data Acquisition Electronics (DAE)

Model	DAE4	
Construction	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.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)	
Input Offset Voltage	< 5μV (with auto zero)	
Input Bias Current	< 50 f A	
Dimensions	60 x 60 x 68 mm	

3.4 SAM Twin Phantom

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



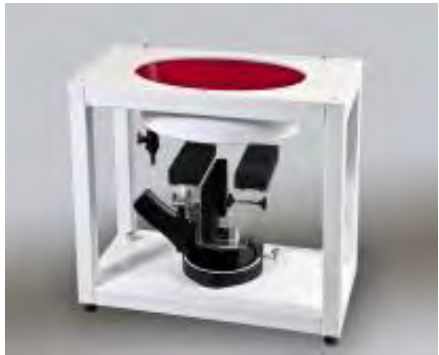
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3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	
Wooden Support	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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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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		$\leq 3 \text{ GHz}$	$> 3 \text{ GHz}$
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		$5 \pm 1 \text{ mm}$	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location		$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$		$\leq 2 \text{ GHz}: \leq 15 \text{ mm}$ $2 - 3 \text{ GHz}: \leq 12 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 12 \text{ mm}$ $4 - 6 \text{ GHz}: \leq 10 \text{ mm}$
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$		$\leq 2 \text{ GHz}: \leq 8 \text{ mm}$ $2 - 3 \text{ GHz}: \leq 5 \text{ mm}^*$	$3 - 4 \text{ GHz}: \leq 5 \text{ mm}^*$ $4 - 6 \text{ GHz}: \leq 4 \text{ mm}^*$
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$	$\leq 5 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 4 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 3 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	$3 - 4 \text{ GHz}: \leq 3 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 2.5 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$
Minimum zoom scan volume	x, y, z	$\geq 30 \text{ mm}$	$3 - 4 \text{ GHz}: \geq 28 \text{ mm}$ $4 - 5 \text{ GHz}: \geq 25 \text{ mm}$ $5 - 6 \text{ GHz}: \geq 22 \text{ mm}$
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.			
* 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 $\leq 1.4 \text{ W/kg}$, $\leq 8 \text{ mm}$, $\leq 7 \text{ mm}$ and $\leq 5 \text{ mm}$ 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. $\pm 5 \%$



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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/cm²], [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:

$$V_i = U_i + U_i^2 \cdot cf / dcpi$$

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



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U_i = input signal of channel i ($i = x, y, z$)
 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)²] 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

σ = conductivity in [mho/m] or [Siemens/m]

ϵ = equivalent tissue density in g/cm³

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/cm²

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 ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 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 ≥ 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

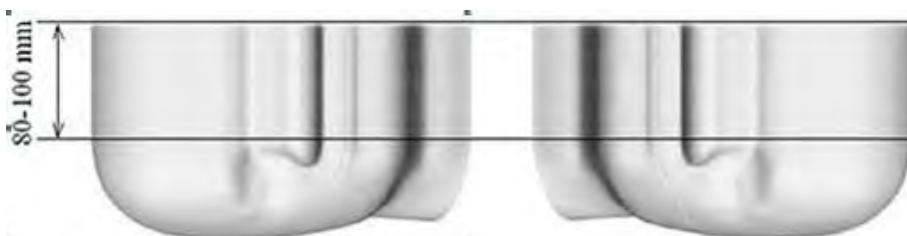
5.1 The Head Test Position

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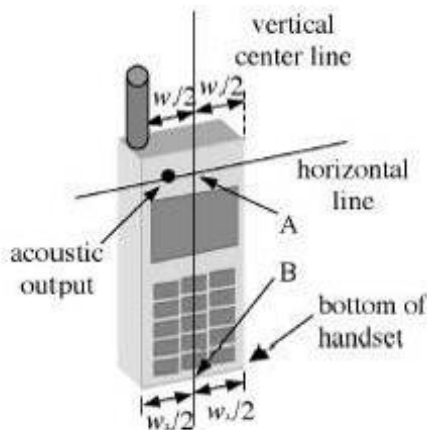
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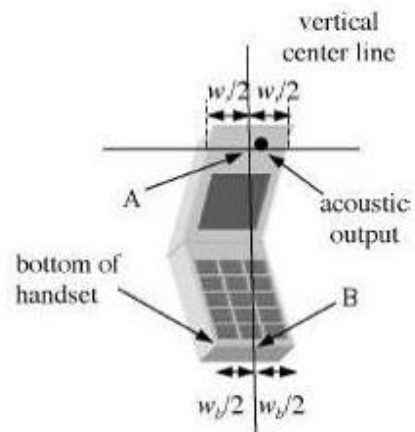
F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

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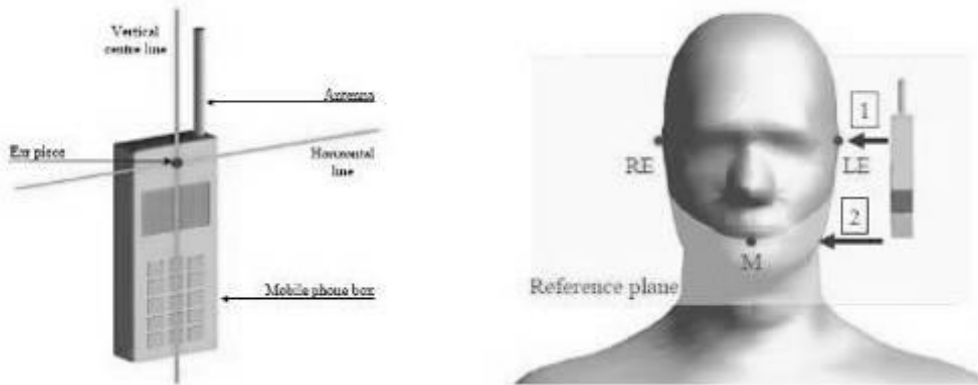
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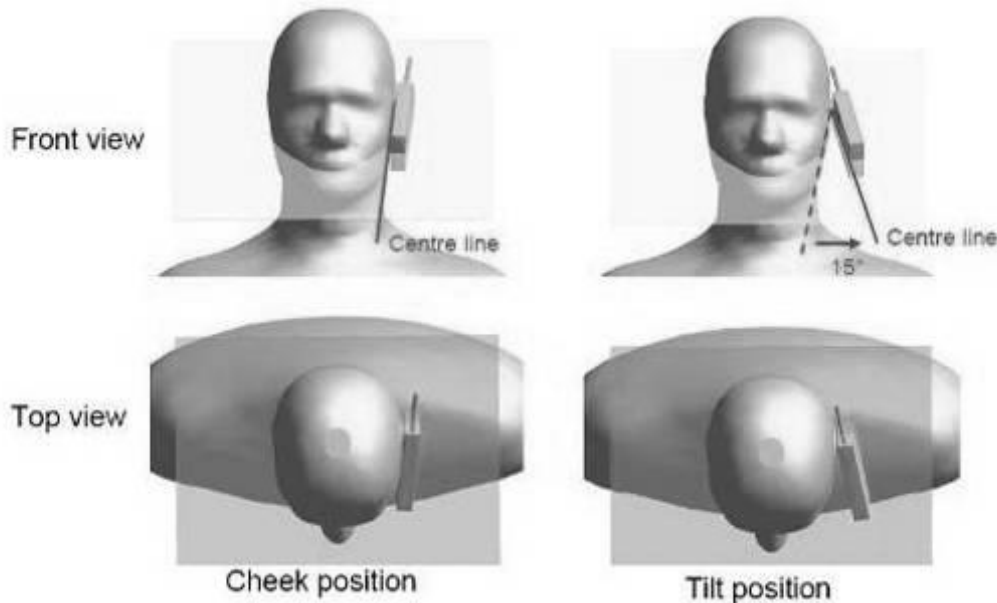
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F-9. Definition of the reference lines and points, on the phone and on the phantom and initial position



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



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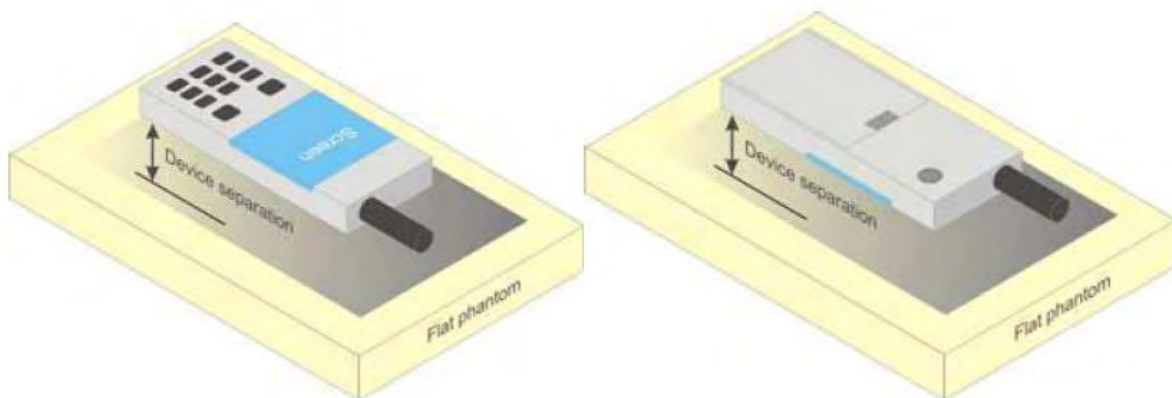
5.2 The Body Test Position

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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) 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 $9 \text{ cm} \times 5 \text{ cm}$, 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 $> 15.0 \text{ cm}$ or an overall diagonal dimension $> 16.0 \text{ cm}$ 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 $\leq 25 \text{ mm}$ 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 $> 1.2 \text{ W/kg}$; 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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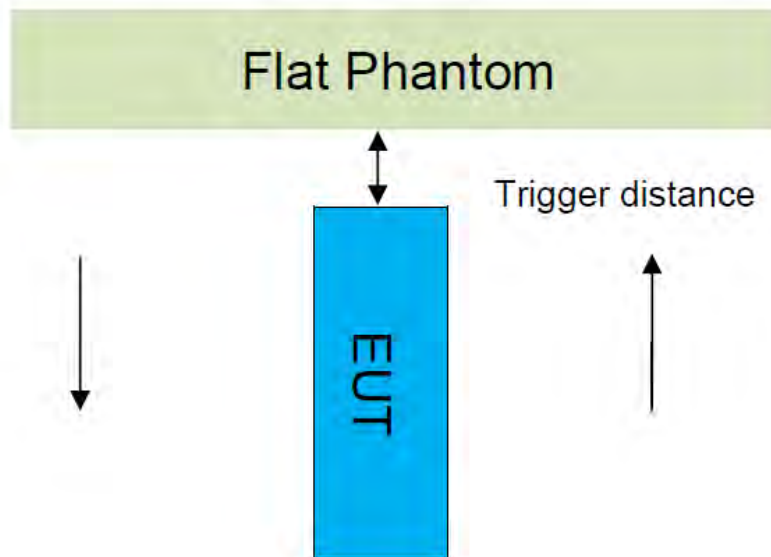
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5.5 Proximity Sensor Triggering Test

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.

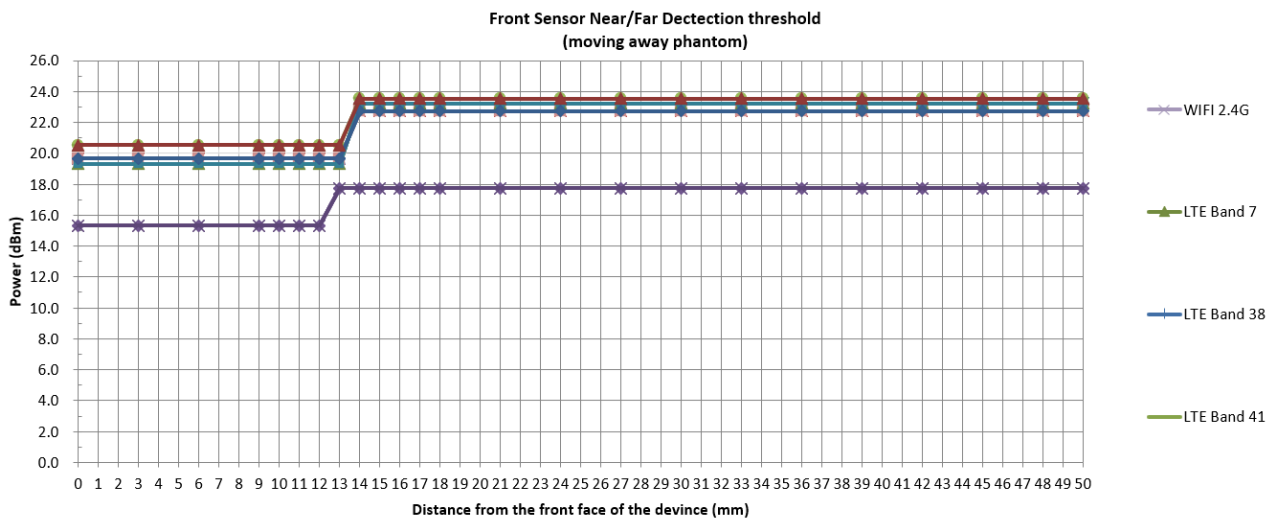
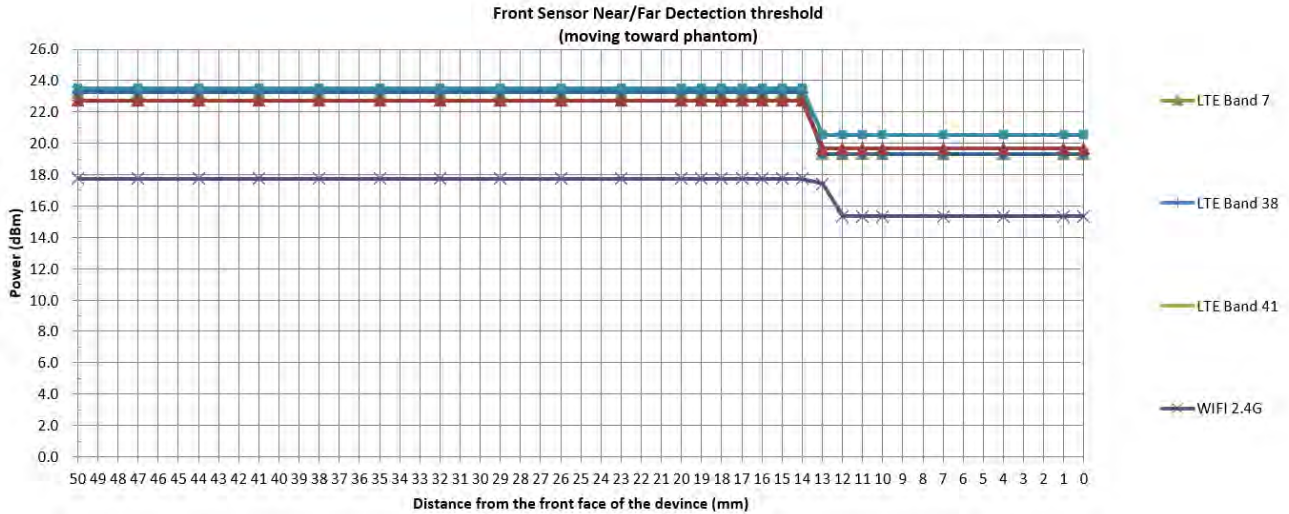


Proximity Sensor Triggering Distance(mm)						
Position	Front	Back	Bottom	Top	Right	Left
WWAN Minimum	13	35	24	--	18	--
WLAN Minimum	12	13	--	14	--	12
WWAN Required SAR Test	12	34	23	--	17	--
WLAN Required SAR Test	11	12	--	13	--	11

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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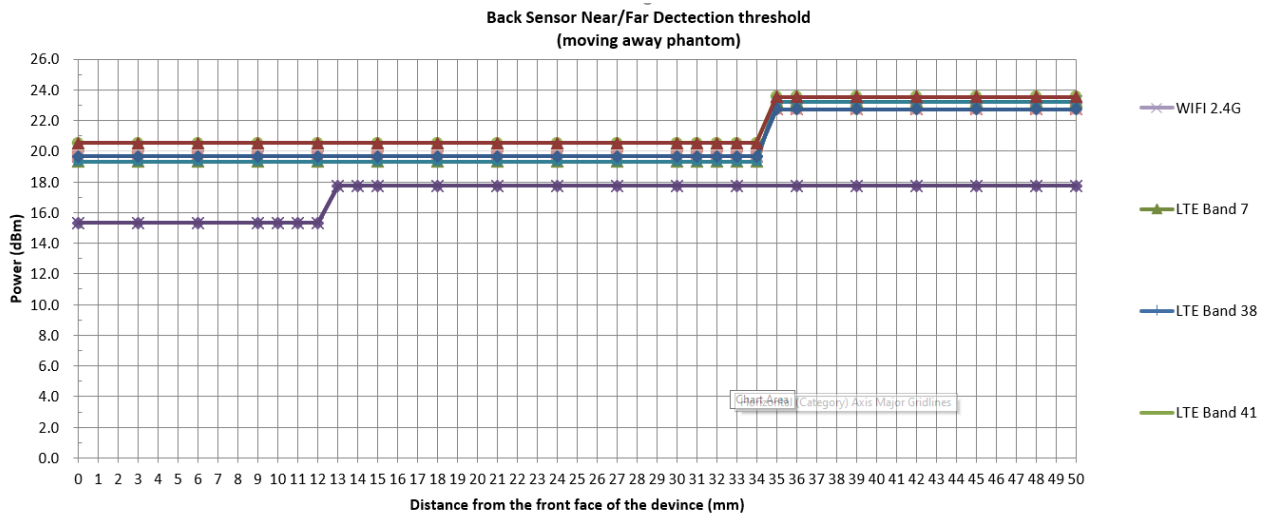
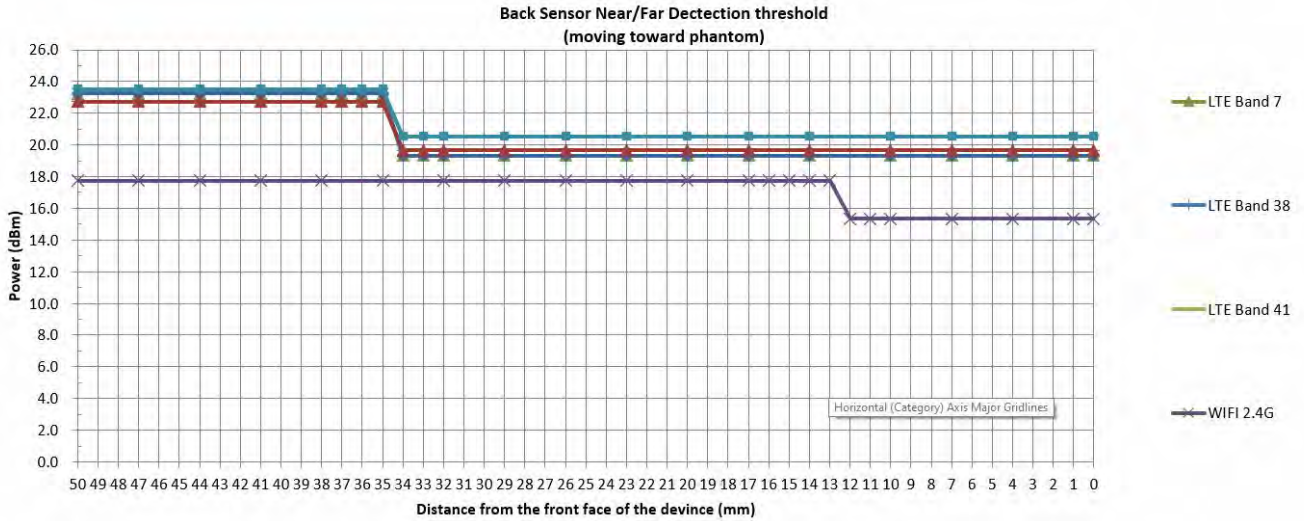
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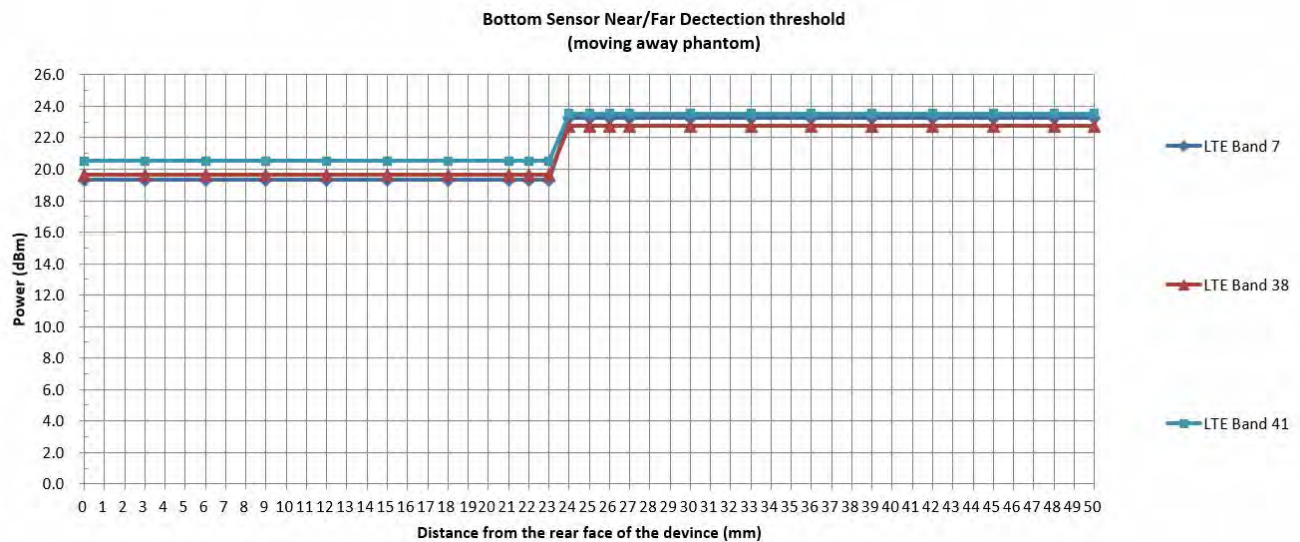
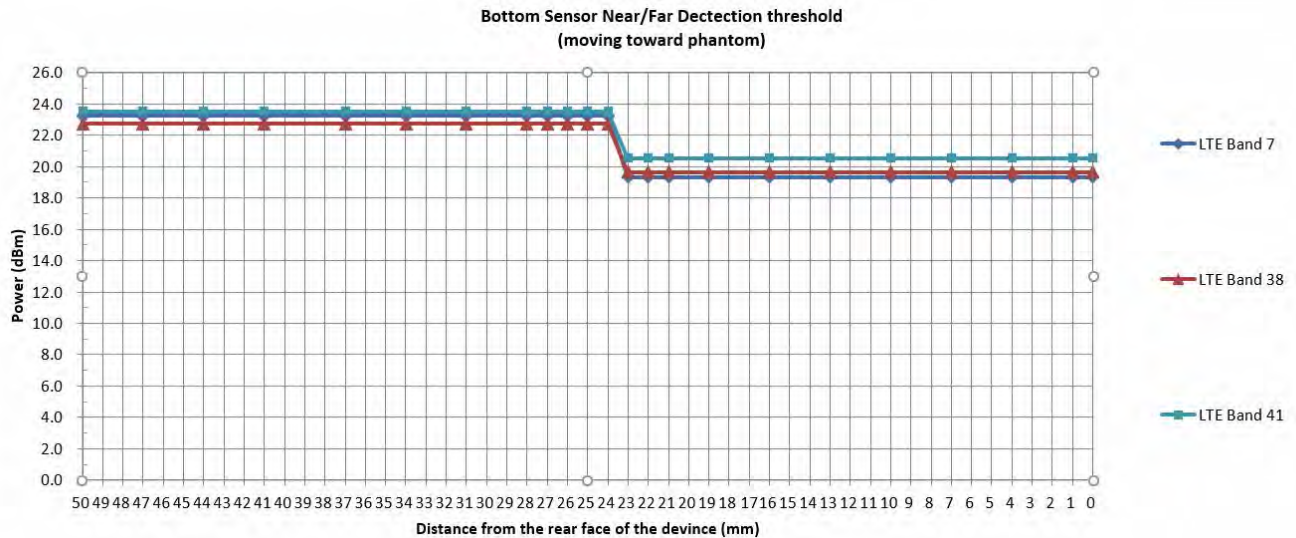
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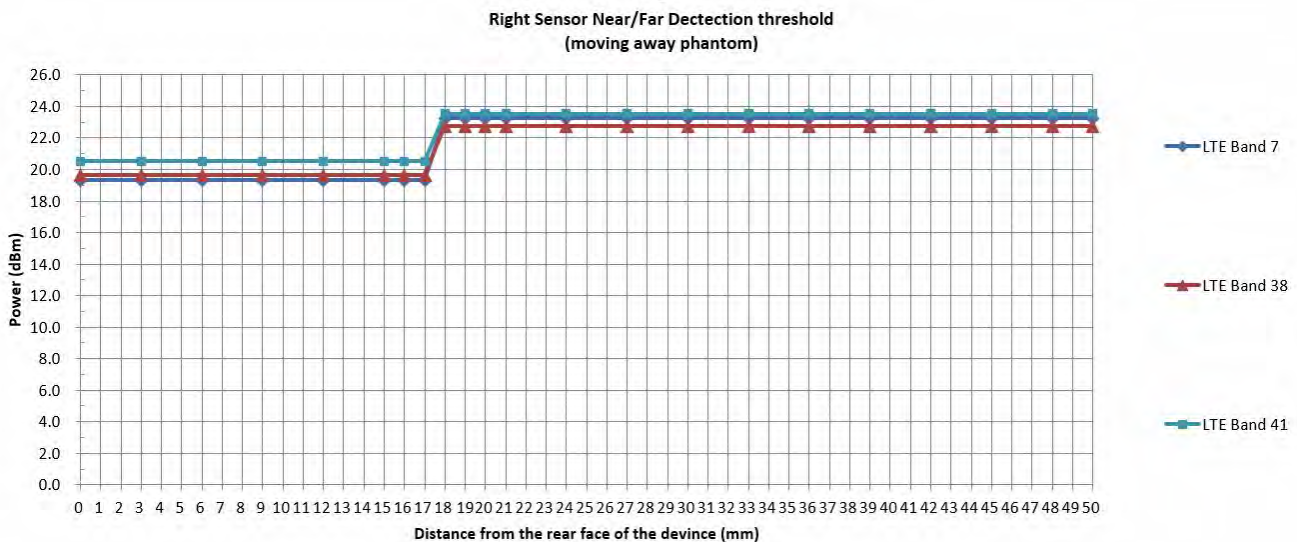
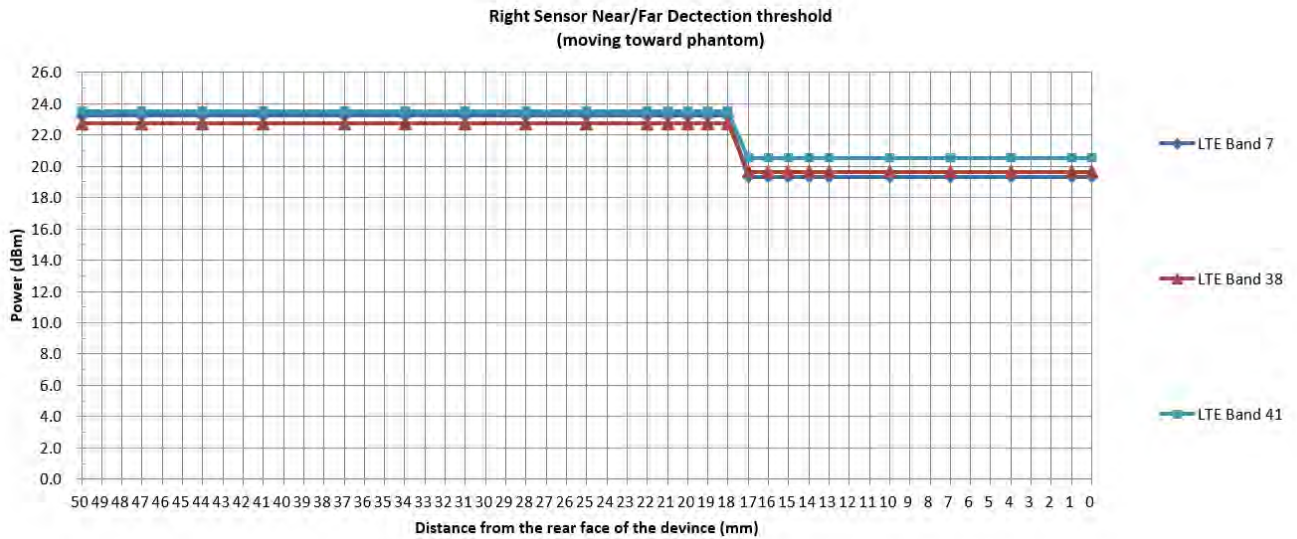
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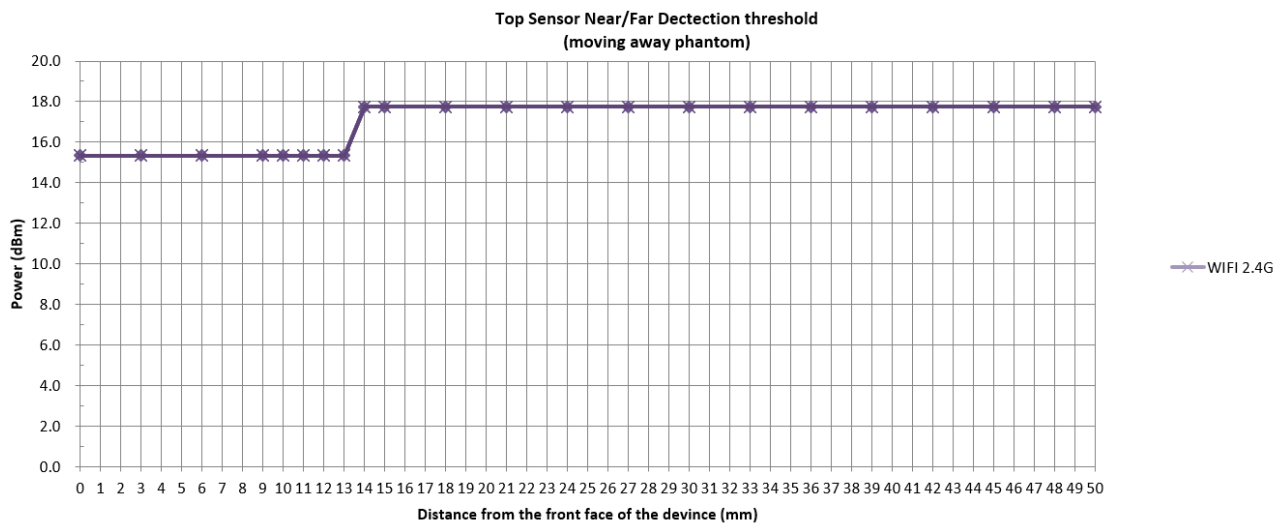
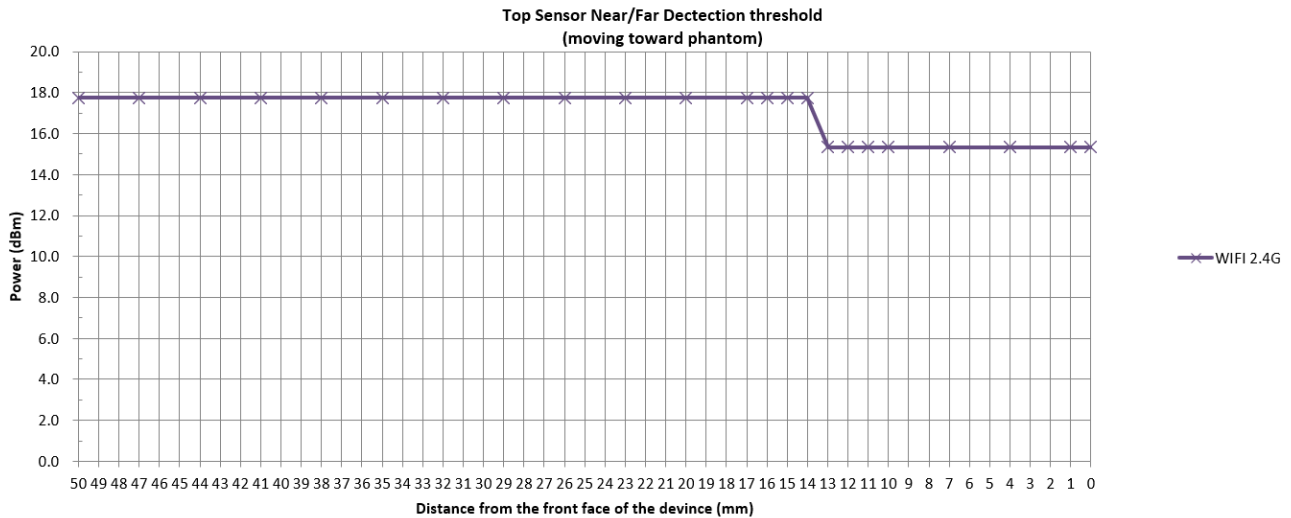
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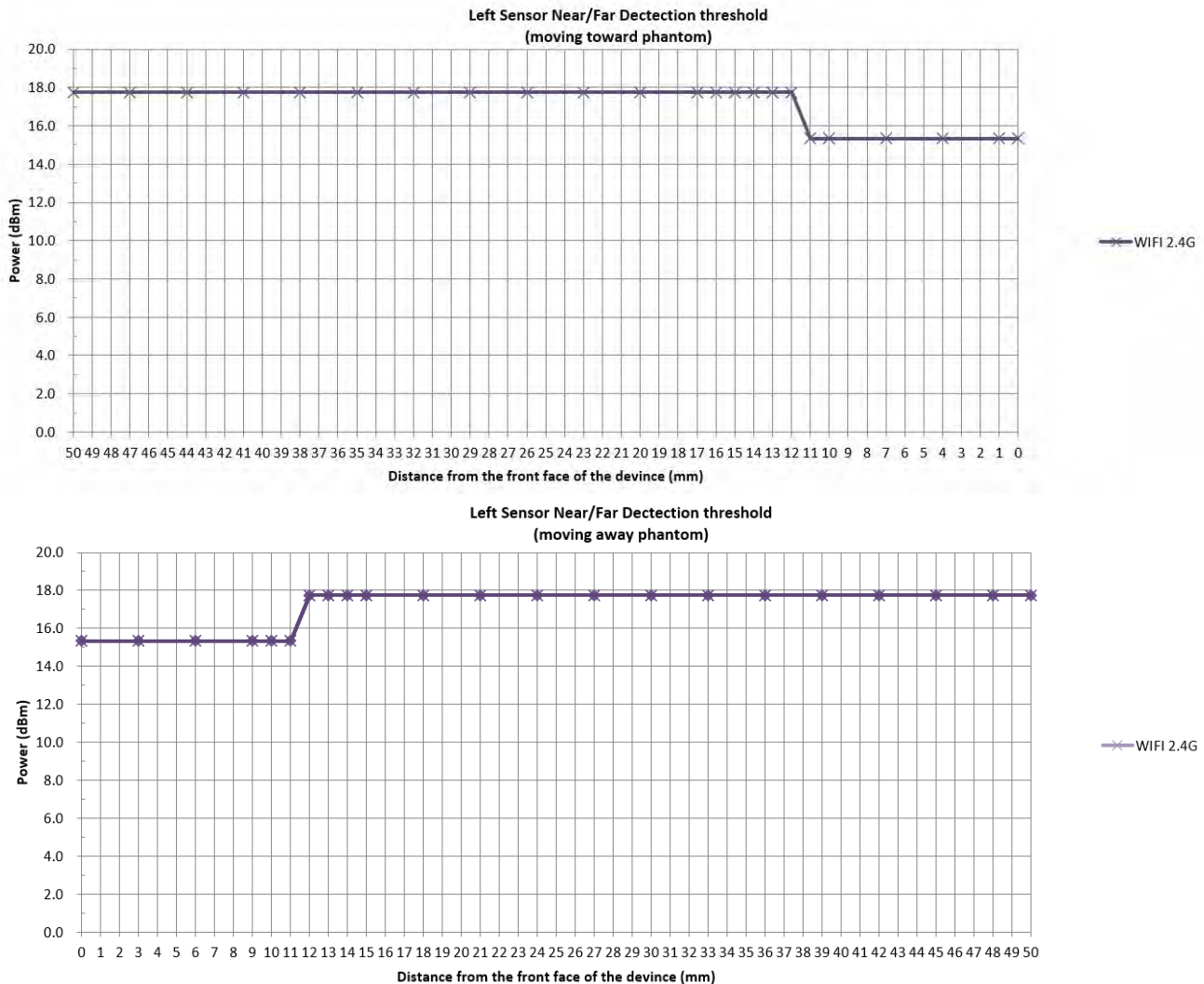
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Proximity sensor coverage

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.



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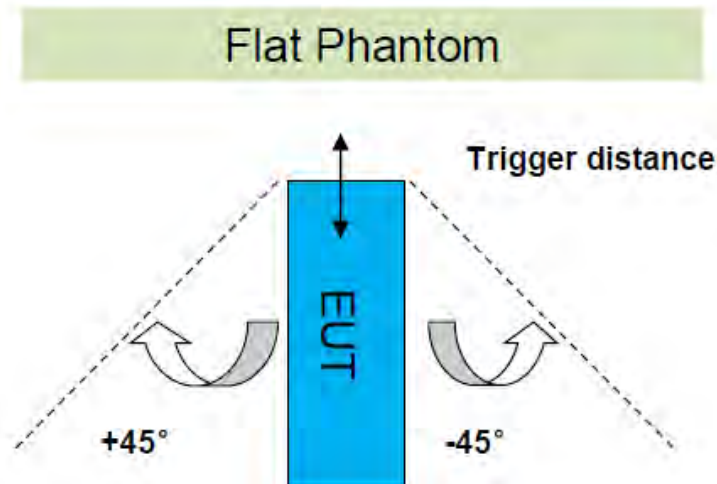
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Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



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
LTE Band 7	13/35/24/18	on	on	on	on	on	on	on	on	on	on	on
LTE Band 38	13/35/24/18	on	on	on	on	on	on	on	on	on	on	on
LTE Band 41	13/35/24/18	on	on	on	on	on	on	on	on	on	on	on
WLAN 2.4G	12/13/14/12	on	on	on	on	on	on	on	on	on	on	on

Resulting test positions for SAR measurements

Wireless	Position	Triggering distance (mm)	Worst case distance for SAR (mm)
WWAN	Front side	13	12
	Back side	35	34
	Bottom side	24	23
	Right side	18	17
Wireless	Position	Triggering distance (mm)	Worst case distance for SAR (mm)
WLAN	Front side	12	11
	Back side	13	12
	Top side	14	13
	Left side	12	11



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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	
	ϵ_r	σ (S/m)	ϵ_r	σ (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

(ϵ_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m³)



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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 (σ) and Permittivity (ρ) 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 (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Liquid Temp. ($^{\circ}\text{C}$)	Date
750 Head	750	0.89	41.81	0.89	41.90	-0.22	-0.22	± 5	22.1	2022/10/15
750 Head	750	0.91	42.10	0.89	41.90	2.25	0.48	± 5	22.1	2022/10/16
835 Head	835	0.91	42.67	0.90	41.50	1.00	2.81	± 5	22.1	2022/10/17
835 Head	835	0.87	41.90	0.90	41.50	-3.33	0.96	± 5	22.1	2022/10/18
1800 Head	1800	1.36	38.82	1.40	40.00	-2.86	-2.95	± 5	22.2	2022/10/19
1800 Head	1800	1.42	39.11	1.40	40.00	1.43	-2.23	± 5	22.2	2022/10/20
1900 Head	1900	1.41	40.56	1.40	40.00	1.00	1.41	± 5	22.3	2022/10/21
1900 Head	1900	1.36	40.22	1.40	40.00	-2.86	0.55	± 5	22.3	2022/10/22
2450 Head	2450	1.85	38.03	1.80	39.20	2.89	-3.00	± 5	22	2022/10/23
2450 Head	2450	1.76	37.69	1.80	39.20	-2.22	-3.85	± 5	22	2022/10/24
2600 Head	2600	2.02	37.47	1.96	39.00	3.27	-3.92	± 5	22.1	2022/10/25
2600 Head	2600	2.01	37.42	1.96	39.00	2.55	-4.05	± 5	22.1	2022/10/26
5200 Head	5200	4.78	37.01	4.66	36.01	2.62	2.79	± 5	22.2	2022/10/27
5800 Head	5800	5.50	35.45	5.28	35.24	4.07	0.58	± 5	22.2	2022/10/27



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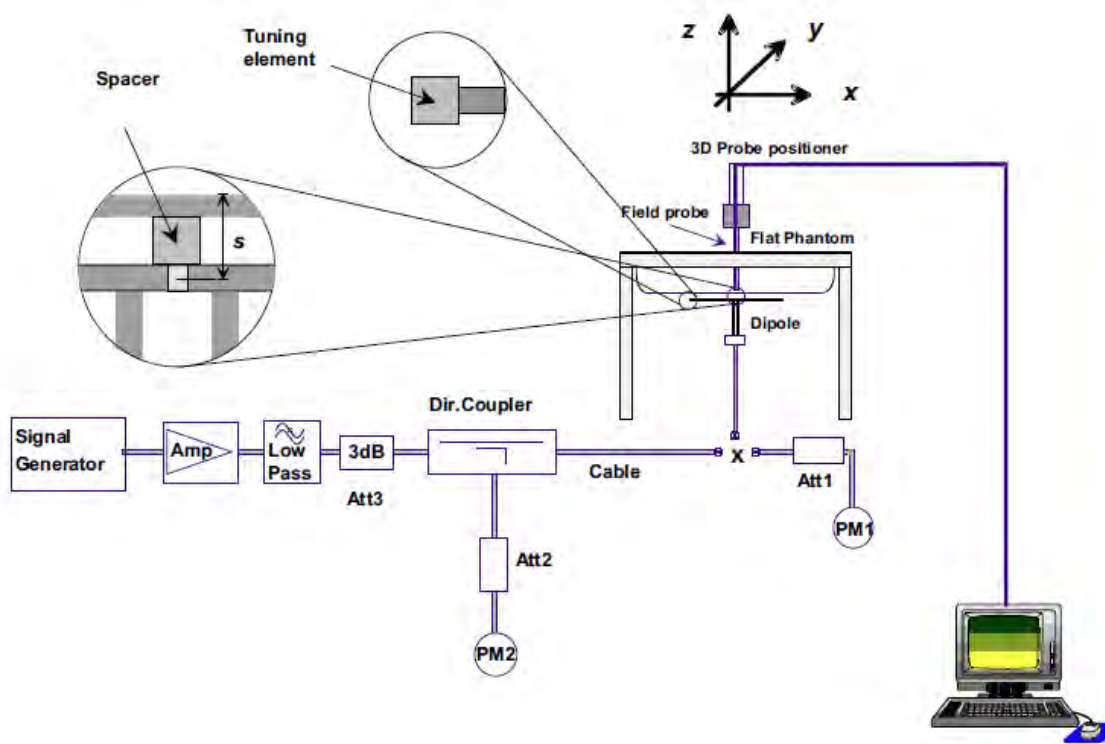
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6.2 SAR System Check

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 $\pm 10\%$ 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 $22\pm 2^{\circ}\text{C}$, 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	2.05	1.33	8.2	5.32	8.27 (7.44~9.10)	5.48 (4.93~6.03)	22.1	2022/10/15
D835V2	Head	2.35	1.54	9.4	6.16	9.40 (8.46~10.34)	6.12 (5.51~6.73)	22.1	2022/10/17
D1800V2	Head	9.52	4.76	38.08	19.04	38.9 (35.01~42.79)	20.4 (18.36~22.44)	22.2	2022/10/19
D1900V2	Head	9.78	4.78	39.12	19.12	40.0 (36.00~44.00)	20.3 (18.72~22.88)	22.3	2022/10/21
D2450V2	Head	13.6	5.78	54.4	23.12	53 (47.70~58.30)	24.7 (22.23~27.17)	22	2022/10/23
D2600V2	Head	13.3	5.66	53.2	22.64	54.8 (49.32~60.28)	24.5 (22.05~26.95)	22.1	2022/10/25
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)		
D5GHzV2	Head(5.20GHz)	7.26	2.16	72.6	21.6	77.6 (69.84~85.36)	22.1 (19.35~23.65)	22.2	2022/10/27
	Head(5.8GHz)	8.13	2.16	81.3	21.6	76.7 (69.03~84.37)	21.5 (19.35~23.65)	22.2	2022/10/27

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 $\leq 1/4$ 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 ≤ 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 D01v03, 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 ≤ 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(β_c , β_d), and HS-DPCCH power offset parameters (Δ_{ACK} , Δ_{NACK} , Δ_{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	β_c	Bd	β_d (SF)	β_c/β_d	β_{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: ΔACK , $\Delta NACK$ 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, ΔACK 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 ¹	β_c ²	β_d ²	β_d (SF) ³	β_c/β_d ⁴	β_{hs} ⁽¹⁾	β_{ec} ⁵	β_{ed} ⁶	β_c (SF) ⁷	β_{ed} (code) ⁸	CM ⁽²⁾ (dB) ⁹	MP R ¹⁰ (dB) ¹¹	AG ⁽⁴⁾ Index ¹²	E-TFC I ¹³
1 ¹	11/15 ⁽³⁾	15/15 ⁽³⁾	64 ⁴	11/15 ⁽³⁾	22/15 ⁵	209/225 ⁶	1039/225 ⁷	4 ⁸	1 ⁹	1.0 ¹⁰	0.0 ¹¹	20 ¹²	75 ¹³
2 ¹	6/15 ⁴	15/15 ⁵	64 ⁶	6/15 ⁷	12/15 ⁸	12/15 ⁹	94/75 ¹⁰	4 ¹¹	1 ¹²	3.0 ¹³	2.0 ¹⁴	12 ¹⁵	67 ¹⁶
3 ¹	15/15 ⁴	9/15 ⁵	64 ⁶	15/9 ⁷	30/15 ⁸	30/15 ⁹	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4 ¹¹	2 ¹²	2.0 ¹³	1.0 ¹⁴	15 ¹⁵	92 ¹⁶
4 ¹	2/15 ⁴	15/15 ⁵	64 ⁶	2/15 ⁷	4/15 ⁸	2/15 ⁹	56/75 ¹⁰	4 ¹¹	1 ¹²	3.0 ¹³	2.0 ¹⁴	17 ¹⁵	71 ¹⁶
5 ¹	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64 ⁶	15/15 ⁽⁴⁾	30/15 ⁸	24/15 ⁹	134/15 ¹⁰	4 ¹¹	1 ¹²	1.0 ¹³	0.0 ¹⁴	21 ¹⁵	81 ¹⁶

Note 1: ΔACK , $\Delta NACK$ and $\Delta CQI = 8$ $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference¹⁷

Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$ ¹⁸

Note 4 : For subtest 5 the β_c/β_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 $\beta_c = 14/15$ and $\beta_d = 15/15$ ¹⁹

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g²⁰

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.²¹

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
6 (No DPDCH)	4	8	10	2SF2&2SF	11484	5.76
	4	4	2	4	20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF	22996	?
	4	4	10	4	20000	?

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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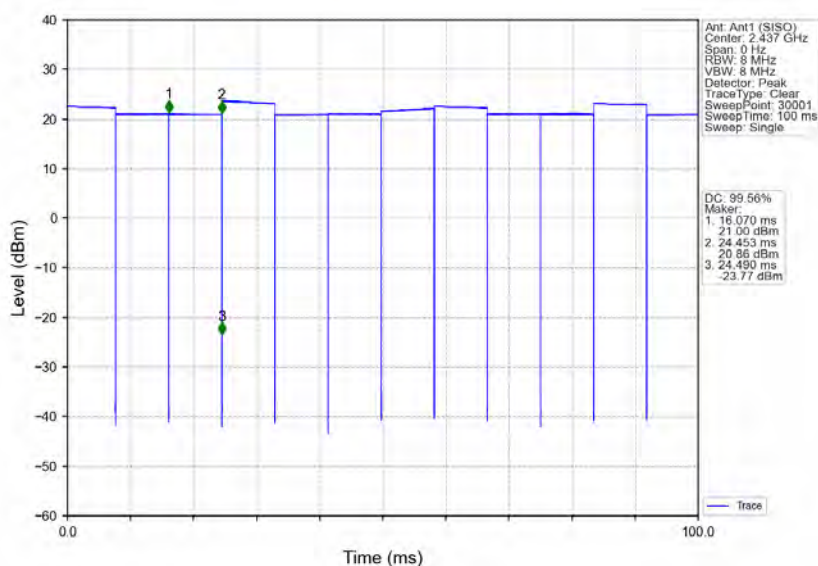
7.2.2 Wi-Fi Test Configuration

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= 99.56%



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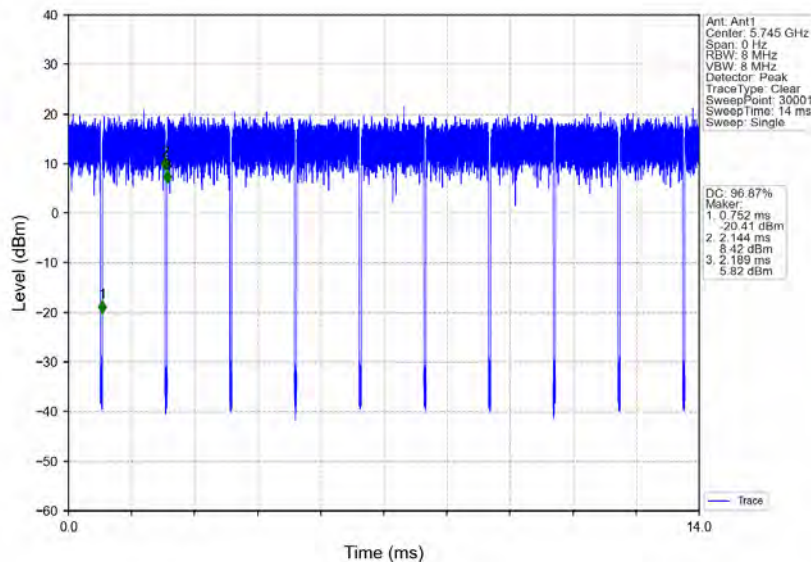
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- 2) 5GHz Wi-Fi 802.11a:
Wi-Fi 802.11a: Duty cycle= 96.87%



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 ≤ 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 ≤ 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 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



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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 $> 0.8 \text{ W/kg}$, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is $\leq 1.2 \text{ W/kg}$ 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 $\leq 1.2 \text{ W/kg}$, 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 configuration.
 - b) SAR for subsequent highest measured maximum output power channels in the subsequent test



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configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is $> 1.2 \text{ W/kg}$ 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 $\leq 0.8 \text{ W/kg}$, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) . When the reported SAR is $> 0.8 \text{ W/kg}$, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is $> 1.2 \text{ W/kg}$, 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 $\leq 1.2 \text{ W/kg}$.

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 band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is $\leq 1.2 \text{ W/kg}$, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition);

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- 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 ≤ 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.
- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and



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- 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.
- The channel closest to mid-band frequency is selected for SAR measurement.
 - 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.



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 $> \frac{1}{2}$ 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 $> \frac{1}{2}$ 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 BluetoothTest 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.

7.2.4.1 Duty cycle

Bluetooth duty cycle: 77.11%



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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	32.18	32.14	32.26	33.00	-9.03	23.15	23.11	23.23	23.97
GPRS/EGPRS (GMSK)	1 TX Slot	32.21	32.06	32.16	33.00	-9.03	23.18	23.03	23.13	23.97
	2 TX Slots	31.43	31.36	31.46	32.00	-6.02	25.41	25.34	25.44	25.98
	3 TX Slots	29.67	29.62	29.73	30.00	-4.26	25.41	25.36	25.47	25.74
	4 TX Slots	28.49	28.47	28.58	29.00	-3.01	25.48	25.46	25.57	25.99
EGPRS(8PSK)	1 TX Slot	23.72	23.58	23.28	24.00	-9.03	14.69	14.55	14.25	14.97
	2 TX Slots	22.42	22.49	22.55	23.00	-6.02	16.4	16.47	16.53	16.98
	3 TX Slots	20.25	20.26	20.29	21.00	-4.26	15.99	16	16.03	16.74
	4 TX Slots	18.65	18.97	18.77	20.00	-3.01	15.64	15.96	15.76	16.99
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	29.12	29.14	29.04	30.00	-9.03	20.09	20.11	20.01	20.97
GPRS/EGPRS (GMSK)	1 TX Slot	29.13	29.12	29.02	30.00	-9.03	20.1	20.09	19.99	20.97
	2 TX Slots	28.49	28.51	28.41	29.00	-6.02	22.47	22.49	22.39	22.98
	3 TX Slots	26.86	26.89	26.80	27.00	-4.26	22.6	22.63	22.54	22.74
	4 TX Slots	25.75	25.79	25.70	26.00	-3.01	22.74	22.78	22.69	22.99
EGPRS(8PSK)	1 TX Slot	24.51	24.22	24.28	25.00	-9.03	15.48	15.19	15.25	15.97
	2 TX Slots	23.35	24.21	23.29	25.00	-6.02	17.33	18.19	17.27	18.98
	3 TX Slots	21.12	21.27	21.37	22.00	-4.26	16.86	17.01	17.11	17.74
	4 TX Slots	20.18	19.94	19.99	21.00	-3.01	17.17	16.93	16.98	17.99



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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	21.88	21.76	21.98	23.00
HSDPA	Subtest 1	19.82	19.90	19.91	21.00
	Subtest 2	19.84	19.92	19.93	21.00
	Subtest 3	19.85	19.91	19.94	21.00
	Subtest 4	19.74	19.81	19.81	21.00
HSUPA	Subtest 1	17.57	17.63	17.47	19.00
	Subtest 2	17.17	17.24	17.45	19.00
	Subtest 3	17.41	18.64	17.64	19.00
	Subtest 4	17.77	17.89	18.68	19.00
	Subtest 5	18.50	17.65	17.61	19.00

WCDMA Band IV					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	21.34	21.74	21.67	23.00
HSDPA	Subtest 1	19.39	19.74	19.65	21.00
	Subtest 2	19.43	19.75	19.68	21.00
	Subtest 3	19.39	19.78	19.73	21.00
	Subtest 4	19.34	19.69	19.64	21.00
HSUPA	Subtest 1	17.40	17.70	17.27	19.00
	Subtest 2	17.02	18.71	17.25	19.00
	Subtest 3	18.31	18.63	18.50	19.00
	Subtest 4	18.53	17.77	17.58	19.00
	Subtest 5	18.25	18.56	17.29	19.00



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WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	22.72	22.73	22.89	24.00
HSDPA	Subtest 1	20.61	20.64	20.74	21.00
	Subtest 2	20.60	20.65	20.75	21.00
	Subtest 3	20.60	20.68	20.73	21.00
	Subtest 4	20.59	20.66	20.72	21.00
HSUPA	Subtest 1	19.07	19.07	19.22	20.00
	Subtest 2	18.63	18.91	18.74	20.00
	Subtest 3	18.59	19.11	19.05	20.00
	Subtest 4	18.82	18.59	18.99	20.00
	Subtest 5	19.06	19.13	19.06	20.00



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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	22.49	22.51	22.48	24.00
		1	2	22.57	22.66	22.56	24.00
		1	5	22.49	22.53	22.48	24.00
		3	0	22.59	22.58	22.60	24.00
		3	2	22.63	22.60	22.61	24.00
		3	3	22.58	22.58	22.56	24.00
		6	0	21.61	21.57	21.57	23.00
	16QAM	1	0	21.64	21.49	21.48	23.00
		1	2	21.75	21.60	21.56	23.00
		1	5	21.63	21.54	21.45	23.00
		3	0	21.54	21.61	21.72	23.00
		3	2	21.53	21.62	21.73	23.00
		3	3	21.55	21.55	21.70	23.00
		6	0	20.60	20.52	20.57	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18615	18900	19185	
3MHz	QPSK	1	0	22.54	22.53	22.64	24.00
		1	7	22.68	22.68	22.73	24.00
		1	14	22.50	22.51	22.55	24.00
		8	0	21.52	21.56	21.58	23.00
		8	4	21.56	21.57	21.59	23.00
		8	7	21.53	21.53	21.54	23.00
		15	0	21.52	21.55	21.51	23.00
	16QAM	1	0	22.07	21.68	21.60	23.00
		1	7	22.19	21.86	21.73	23.00
		1	14	22.00	21.69	21.49	23.00
		8	0	20.69	20.56	20.65	22.00
		8	4	20.75	20.61	20.67	22.00
		8	7	20.72	20.54	20.61	22.00
		15	0	20.61	20.52	20.58	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18625	18900	19175	
5MHz	QPSK	1	0	22.40	22.46	22.53	24.00
		1	13	22.58	22.56	22.61	24.00
		1	24	22.44	22.49	22.44	24.00
		12	0	21.44	21.50	21.55	23.00
		12	6	21.55	21.57	21.61	23.00
		12	13	21.51	21.56	21.50	23.00
		25	0	21.51	21.55	21.54	23.00



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		1	0	21.29	21.70	21.61	23.00
		1	13	21.41	21.81	21.67	23.00
		1	24	21.29	21.73	21.53	23.00
	16QAM	12	0	20.48	20.57	20.55	22.00
		12	6	20.57	20.63	20.61	22.00
		12	13	20.51	20.60	20.51	22.00
		25	0	20.53	20.59	20.56	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	22.50	22.46	22.67	24.00
		1	25	22.67	22.65	22.79	24.00
		1	49	22.53	22.56	22.60	24.00
		25	0	21.57	21.57	21.69	23.00
		25	13	21.56	21.60	21.67	23.00
		25	25	21.62	21.61	21.61	23.00
		50	0	21.56	21.58	21.64	23.00
	16QAM	1	0	22.02	21.67	21.63	23.00
		1	25	22.18	21.85	21.77	23.00
		1	49	22.07	21.71	21.56	23.00
		25	0	20.64	20.60	20.79	22.00
		25	13	20.64	20.65	20.73	22.00
		25	25	20.66	20.65	20.68	22.00
		50	0	20.60	20.61	20.68	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	22.41	22.37	22.57	24.00
		1	38	22.54	22.57	22.63	24.00
		1	74	22.46	22.50	22.50	24.00
		36	0	21.60	21.58	21.73	23.00
		36	18	21.70	21.61	21.73	23.00
		36	39	21.61	21.64	21.68	23.00
		75	0	21.60	21.63	21.72	23.00
	16QAM	1	0	21.97	21.60	21.90	23.00
		1	38	22.09	21.71	21.97	23.00
		1	74	22.00	21.65	21.78	23.00
		36	0	20.57	20.58	20.68	22.00
		36	18	20.62	20.61	20.70	22.00
		36	39	20.62	20.67	20.64	22.00
		75	0	20.60	20.64	20.69	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	22.26	22.27	22.30	24.00
		1	50	22.72	22.70	22.82	24.00
		1	99	22.34	22.36	22.32	24.00



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		50	0	21.51	21.56	21.63	23.00
		50	25	21.55	21.56	21.70	23.00
		50	50	21.53	21.58	21.63	23.00
		100	0	21.53	21.58	21.63	23.00
	16QAM	1	0	21.53	21.44	21.86	23.00
		1	50	21.95	21.90	22.32	23.00
		1	99	21.61	21.54	21.85	23.00
		50	0	20.54	20.60	20.64	22.00
		50	25	20.60	20.61	20.69	22.00
		50	50	20.56	20.60	20.65	22.00
		100	0	20.57	20.60	20.66	22.00

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	22.53	22.84	22.59	24.00
		1	2	22.62	22.94	22.73	24.00
		1	5	22.54	22.85	22.60	24.00
		3	0	22.62	22.92	22.67	24.00
		3	2	22.68	22.98	22.64	24.00
		3	3	22.64	22.92	22.68	24.00
	16QAM	6	0	21.63	21.95	21.68	23.00
		1	0	21.50	22.02	21.58	23.00
		1	2	21.61	22.15	21.65	23.00
		1	5	21.53	22.02	21.54	23.00
		3	0	21.78	21.91	21.65	23.00
		3	2	21.84	21.93	21.59	23.00
		3	3	21.81	21.94	21.52	23.00
		6	0	20.64	20.97	20.59	22.00
3MHz	QPSK	1	0	22.58	22.89	22.64	24.00
		1	7	22.68	23.02	22.79	24.00
		1	14	22.56	22.75	22.62	24.00
		8	0	21.57	21.93	21.65	23.00
		8	4	21.62	21.95	21.67	23.00
		8	7	21.59	21.89	21.63	23.00
		15	0	21.57	21.89	21.61	23.00
	16QAM	1	0	22.08	22.01	21.62	23.00
		1	7	22.23	22.18	21.80	23.00
		1	14	22.09	21.99	21.58	23.00
		8	0	20.74	20.92	20.71	22.00
		8	4	20.80	20.96	20.76	22.00
		8	7	20.78	20.88	20.70	22.00



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		15	0	20.65	20.90	20.69	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19975	20175	20375	
5MHz	QPSK	1	0	22.45	22.81	22.49	24.00
		1	13	22.63	22.93	22.57	24.00
		1	24	22.54	22.68	22.50	24.00
		12	0	21.55	21.81	21.53	23.00
		12	6	21.63	21.89	21.66	23.00
		12	13	21.55	21.80	21.63	23.00
		25	0	21.56	21.83	21.58	23.00
	16QAM	1	0	21.30	22.00	21.45	23.00
		1	13	21.47	22.15	21.43	23.00
		1	24	21.38	21.89	21.40	23.00
		12	0	20.53	20.84	20.48	22.00
		12	6	20.63	20.98	20.60	22.00
		12	13	20.53	20.87	20.57	22.00
		25	0	20.60	20.88	20.53	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20000	20175	20350	
10MHz	QPSK	1	0	22.57	22.88	22.69	24.00
		1	25	22.83	23.01	22.71	24.00
		1	49	22.76	22.72	22.52	24.00
		25	0	21.69	21.87	21.63	23.00
		25	13	21.69	21.92	21.61	23.00
		25	25	21.76	21.87	21.53	23.00
		50	0	21.70	21.86	21.60	23.00
	16QAM	1	0	22.06	21.87	21.35	23.00
		1	25	22.36	22.13	21.75	23.00
		1	49	22.31	21.75	21.35	23.00
		25	0	20.80	20.91	20.76	22.00
		25	13	20.87	20.94	20.81	22.00
		25	25	20.83	20.91	20.79	22.00
		50	0	20.74	20.91	20.69	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20025	20175	20325	
15MHz	QPSK	1	0	22.46	22.75	22.64	24.00
		1	38	22.75	22.91	22.63	24.00
		1	74	22.75	22.53	22.46	24.00
		36	0	21.74	21.88	21.72	23.00
		36	18	21.81	21.97	21.74	23.00
		36	39	21.94	21.91	21.67	23.00
		75	0	21.83	21.88	21.75	23.00
	16QAM	1	0	21.98	21.79	21.96	23.00
		1	38	22.29	21.77	21.88	23.00
		1	74	22.32	21.64	21.78	23.00
		36	0	20.72	20.83	20.76	22.00
36		18	20.83	20.95	20.69	22.00	

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		36	39	20.97	20.86	20.65	22.00
		75	0	20.86	20.93	20.72	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20050	20175	20300	
20MHz	QPSK	1	0	22.30	22.29	22.45	24.00
		1	50	22.98	22.80	22.71	24.00
		1	99	22.59	22.29	22.01	24.00
		50	0	21.74	21.78	21.79	23.00
		50	25	21.84	21.84	21.66	23.00
		50	50	22.00	21.78	21.54	23.00
		100	0	21.88	21.82	21.59	23.00
	16QAM	1	0	21.56	21.47	21.60	23.00
		1	50	22.25	21.91	22.02	23.00
		1	99	21.87	21.50	21.52	23.00
		50	0	20.81	20.72	20.87	22.00
		50	25	20.89	20.79	20.74	22.00
		50	50	21.03	20.77	20.58	22.00
		100	0	20.93	20.85	20.74	22.00

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	22.77	22.65	22.72	24.00
		1	2	22.83	22.78	22.85	24.00
		1	5	22.74	22.65	22.74	24.00
		3	0	22.86	22.73	22.92	23.00
		3	2	22.88	22.75	22.94	23.00
		3	3	22.83	22.74	22.90	23.00
		6	0	21.80	21.70	21.87	23.00
	16QAM	1	0	21.94	21.66	21.79	23.00
		1	2	22.03	21.76	21.91	23.00
		1	5	21.94	21.72	21.80	23.00
		3	0	21.83	21.78	22.09	23.00
		3	2	21.86	21.78	22.11	23.00
		3	3	21.84	21.77	22.10	23.00
		6	0	20.88	20.70	20.94	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20415	20525	20635	
3MHz	QPSK	1	0	22.78	22.69	22.86	24.00
		1	7	22.85	22.78	22.96	24.00
		1	14	22.70	22.68	22.87	24.00
		8	0	21.73	21.70	21.85	23.00
		8	4	21.80	21.76	21.89	23.00
		8	7	21.74	21.70	21.85	23.00



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		15	0	21.75	21.72	21.87	23.00
	16QAM	1	0	22.37	21.85	21.91	23.00
		1	7	22.44	21.98	22.00	23.00
		1	14	22.24	21.90	21.87	23.00
		8	0	20.95	20.76	20.96	22.00
		8	4	21.02	20.79	21.02	22.00
		8	7	20.94	20.75	20.96	22.00
		15	0	20.87	20.74	20.97	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20425	20525	20625	
5MHz	QPSK	1	0	22.71	22.64	22.73	24.00
		1	13	22.77	22.68	22.85	24.00
		1	24	22.68	22.67	22.81	24.00
		12	0	21.66	21.65	21.86	23.00
		12	6	21.81	21.78	21.90	23.00
		12	13	21.77	21.72	21.84	23.00
		25	0	21.73	21.71	21.81	23.00
	16QAM	1	0	21.66	21.89	21.86	23.00
		1	13	21.67	22.02	21.94	23.00
		1	24	21.50	21.86	21.87	23.00
		12	0	20.70	20.80	20.88	22.00
		12	6	20.83	20.84	20.91	22.00
		12	13	20.77	20.72	20.80	22.00
		25	0	20.82	20.74	20.90	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20450	20525	20600	
10MHz	QPSK	1	0	22.74	22.62	22.72	24.00
		1	25	22.82	22.80	22.93	24.00
		1	49	22.69	22.73	22.91	24.00
		25	0	21.71	21.73	21.84	23.00
		25	13	21.77	21.80	21.87	23.00
		25	25	21.75	21.74	21.83	23.00
		50	0	21.76	21.77	21.88	23.00
	16QAM	1	0	22.32	21.86	21.76	23.00
		1	25	22.37	22.01	22.00	23.00
		1	49	22.20	21.92	21.89	23.00
		25	0	20.82	20.82	21.00	22.00
		25	13	20.84	20.83	21.04	22.00
		25	25	20.87	20.84	20.99	22.00
		50	0	20.82	20.83	20.93	22.00

LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20775	21100	21425	
5MHz	QPSK	1	0	22.49	22.55	23.05	24.00



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		1	13	22.60	22.71	23.26	24.00
		1	24	22.42	22.64	23.12	24.00
		12	0	21.54	21.63	22.07	23.00
		12	6	21.58	21.71	22.14	23.00
		12	13	21.56	21.68	22.03	23.00
		25	0	21.53	21.68	22.03	23.00
	16QAM	1	0	21.28	21.76	22.02	23.00
		1	13	21.37	21.92	22.13	23.00
		1	24	21.23	21.81	21.95	23.00
		12	0	20.53	20.68	21.01	22.00
		12	6	20.62	20.73	21.08	22.00
		12	13	20.50	20.73	20.95	22.00
		25	0	20.58	20.70	21.03	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20800	21100	21400	
10MHz	QPSK	1	0	22.60	22.65	23.19	24.00
		1	25	22.68	22.86	23.35	24.00
		1	49	22.41	22.77	23.29	24.00
		25	0	21.56	21.70	22.13	23.00
		25	13	21.55	21.75	22.11	23.00
		25	25	21.48	21.72	22.06	23.00
		50	0	21.56	21.73	22.06	23.00
	16QAM	1	0	21.98	21.75	22.13	23.00
		1	25	22.08	21.96	22.19	23.00
		1	49	22.01	21.90	22.00	23.00
		25	0	20.65	20.72	21.21	22.00
		25	13	20.63	20.77	21.16	22.00
		25	25	20.56	20.79	21.09	22.00
		50	0	20.62	20.76	21.08	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20825	21100	21375	
15MHz	QPSK	1	0	22.48	22.50	22.98	24.00
		1	38	22.45	22.69	23.23	24.00
		1	74	22.31	22.75	23.12	24.00
		36	0	21.61	21.78	22.17	23.00
		36	18	21.54	21.82	22.26	23.00
		36	39	21.50	21.86	22.24	23.00
		75	0	21.59	21.83	22.16	23.00
	16QAM	1	0	21.90	21.66	22.13	23.00
		1	38	22.03	21.83	22.22	23.00
		1	74	21.93	21.89	22.01	23.00
		36	0	20.58	20.77	20.97	22.00
		36	18	20.57	20.77	21.10	22.00
		36	39	20.52	20.82	21.05	22.00
		75	0	20.53	20.79	21.04	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20850	21100	21350	



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20MHz	QPSK	1	0	22.25	22.32	22.74	24.00
		1	50	22.56	22.81	23.24	24.00
		1	99	22.14	22.55	22.48	24.00
		50	0	21.41	21.51	21.69	23.00
		50	25	21.40	21.68	21.92	23.00
		50	50	21.40	21.63	21.67	23.00
		100	0	21.43	21.63	21.80	23.00
	16QAM	1	0	21.38	21.36	21.84	23.00
		1	50	21.87	21.84	22.26	23.00
		1	99	21.40	21.71	21.65	23.00
		50	0	20.50	20.56	20.63	22.00
		50	25	20.43	20.70	20.76	22.00
		50	50	20.39	20.70	20.73	22.00
		100	0	20.46	20.61	20.86	22.00

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	22.58	22.99	23.10	24.00
		1	2	22.67	23.16	23.18	24.00
		1	5	22.60	22.89	23.06	24.00
		3	0	22.70	22.93	23.24	24.00
		3	2	22.74	22.94	23.19	24.00
		3	3	22.70	23.06	23.21	24.00
		6	0	21.79	22.21	22.23	23.00
	16QAM	1	0	21.76	22.01	22.12	23.00
		1	2	21.89	22.14	22.18	23.00
		1	5	21.75	22.09	22.05	23.00
		3	0	21.62	22.17	22.44	23.00
		3	2	21.70	22.14	22.41	23.00
		3	3	21.66	22.12	22.38	23.00
		6	0	20.91	21.15	21.20	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23025	23095	23165	
3MHz	QPSK	1	0	23.18	23.11	23.27	24.00
		1	7	23.30	23.32	23.41	24.00
		1	14	23.10	23.14	23.20	24.00
		8	0	22.20	22.20	22.26	23.00
		8	4	22.23	22.26	22.30	23.00
		8	7	22.13	22.21	22.23	23.00
		15	0	22.19	22.23	22.26	23.00
	16QAM	1	0	22.64	22.35	22.30	24.00
		1	7	22.82	22.47	22.44	24.00
		1	14	22.69	22.35	22.14	24.00
		8	0	21.35	21.17	21.35	22.00



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		8	4	21.38	21.22	21.37	22.00
		8	7	21.31	21.19	21.29	22.00
		15	0	21.27	21.18	21.31	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23035	23095	23155	
5MHz	QPSK	1	0	23.06	23.04	23.08	24.00
		1	13	23.18	23.16	23.25	24.00
		1	24	23.04	23.05	23.04	24.00
		12	0	22.17	22.13	22.32	23.00
		12	6	22.23	22.24	22.32	23.00
		12	13	22.21	22.17	22.20	23.00
		25	0	22.23	22.14	22.26	23.00
	16QAM	1	0	21.93	22.35	22.20	24.00
		1	13	22.09	22.42	22.38	24.00
		1	24	21.98	22.34	22.15	24.00
		12	0	21.19	21.14	21.30	22.00
		12	6	21.22	21.29	21.29	22.00
		12	13	21.19	21.20	21.18	22.00
		25	0	21.27	21.16	21.31	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23060	23095	23130	
10MHz	QPSK	1	0	23.16	23.12	23.15	24.00
		1	25	23.26	23.28	23.39	24.00
		1	49	23.12	23.14	23.20	24.00
		25	0	22.28	22.17	22.32	23.00
		25	13	22.25	22.25	22.28	23.00
		25	25	22.33	22.18	22.22	23.00
		50	0	22.33	22.16	22.27	23.00
	16QAM	1	0	22.62	22.34	22.18	24.00
		1	25	22.83	22.49	22.36	24.00
		1	49	22.68	22.37	22.20	24.00
		25	0	21.33	21.23	21.37	22.00
		25	13	21.32	21.28	21.39	22.00
		25	25	21.40	21.14	21.32	22.00
		50	0	21.33	21.18	21.34	22.00

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	23.07	23.07	23.07	24.00
		1	13	23.19	23.18	23.19	24.00
		1	24	23.07	23.08	23.06	24.00
		12	0	22.12	22.19	22.28	23.00
		12	6	22.24	22.27	22.28	23.00



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	16QAM	12	13	22.23	22.14	22.26	23.00
		25	0	22.18	22.17	22.24	23.00
		1	0	21.97	22.34	22.18	23.00
		1	13	22.05	22.47	22.38	23.00
		1	24	21.97	22.37	22.11	23.00
		12	0	21.19	21.22	21.25	22.00
		12	6	21.24	21.27	21.27	22.00
		12	13	21.21	21.17	21.23	22.00
		25	0	21.22	21.18	21.30	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23780	23790	23800	
10MHz	QPSK	1	0	23.15	23.15	23.17	24.00
		1	25	23.37	23.32	23.41	24.00
		1	49	23.16	23.15	23.19	24.00
		25	0	22.20	22.27	22.33	23.00
		25	13	22.27	22.26	22.26	23.00
		25	25	22.13	22.13	22.20	23.00
		50	0	22.21	22.24	22.30	23.00
	16QAM	1	0	22.73	22.34	22.21	24.00
		1	25	22.86	22.54	22.41	24.00
		1	49	22.77	22.38	22.20	24.00
		25	0	21.24	21.29	21.42	22.00
		25	13	21.31	21.27	21.36	22.00
		25	25	21.21	21.15	21.31	22.00
		50	0	21.23	21.23	21.30	22.00

LTE Band 38				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				37775	38000	38225	
5MHz	QPSK	1	0	22.51	22.34	22	23
		1	13	22.64	22.46	22.15	23
		1	24	22.51	22.33	21.91	23
		12	0	21.69	21.38	21.17	22
		12	6	21.76	21.49	21.12	22
		12	13	21.67	21.39	21.08	22
		25	0	21.66	21.37	21.15	22
	16QAM	1	0	21.64	21.29	21.24	22
		1	13	21.71	21.46	21.3	22
		1	24	21.52	21.31	21.16	22
		12	0	20.64	20.35	20.14	21
		12	6	20.74	20.35	20.19	21
		12	13	20.58	20.29	20.02	21
		25	0	20.66	20.38	20.16	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up



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Bandwidth	Modulation	RB size	RB offset	Channel 37800	Channel 38000	Channel 38200	Tune up
10MHz	QPSK	1	0	22.78	22.43	22.24	23
		1	25	22.81	22.67	22.34	23
		1	49	22.45	22.34	22.08	23
		25	0	21.72	21.45	21.21	22
		25	13	21.62	21.39	21.2	22
		25	25	21.58	21.39	21.13	22
		50	0	21.64	21.42	21.2	22
	16QAM	1	0	21.82	21.26	21.21	22
		1	25	21.84	21.39	21.02	22
		1	49	21.47	21.26	21	22
		25	0	20.68	20.48	20.26	21
		25	13	20.59	20.4	20.21	21
		25	25	20.53	20.35	20.11	21
		50	0	20.67	20.39	20.16	21
Bandwidth	Modulation	RB size	RB offset	Channel 37825	Channel 38000	Channel 38175	Tune up
15MHz	QPSK	1	0	22.72	22.31	22.16	23
		1	38	22.53	22.44	22.21	23
		1	74	22.35	22.32	21.97	23
		36	0	21.69	21.49	21.39	22
		36	18	21.66	21.48	21.3	22
		36	39	21.56	21.46	21.18	22
		75	0	21.68	21.48	21.28	22
	16QAM	1	0	21.69	21.22	21.27	22
		1	38	21.37	21.33	21.27	22
		1	74	21.11	21.18	20.93	22
		36	0	20.64	20.4	20.3	21
		36	18	20.67	20.4	20.25	21
		36	39	20.47	20.34	20.16	21
		75	0	20.6	20.43	20.29	21
Bandwidth	Modulation	RB size	RB offset	Channel 37850	Channel 38000	Channel 38150	Tune up
20MHz	QPSK	1	0	22.43	22.03	22.12	23
		1	50	22.74	22.52	22.26	23
		1	99	22.12	22.1	21.74	23
		50	0	21.53	21.34	21.33	22
		50	25	21.52	21.36	21.29	22
		50	50	21.37	21.33	21.11	22
		100	0	21.5	21.36	21.27	22
	16QAM	1	0	21.45	20.84	21.11	22
		1	50	21.49	21.69	21.47	22
		1	99	21.29	20.79	20.78	22
		50	0	20.55	20.34	20.32	21
		50	25	20.45	20.41	20.28	21
		50	50	20.35	20.29	20.06	21
		100	0	20.47	20.35	20.24	21

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LTE Band 41				Conducted Power(dBm)			Tune up
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
				40065	40640	41215	
5MHz	QPSK	1	0	23.02	22.87	22.96	24.00
		1	13	23.23	22.88	23.04	24.00
		1	24	23.03	22.8	22.86	24.00
		12	0	22.05	21.9	22.03	23.00
		12	6	22.09	21.98	22.07	23.00
		12	13	22.18	21.9	21.9	23.00
		25	0	22.12	21.85	21.98	23.00
	16QAM	1	0	22.09	21.9	21.94	23.00
		1	13	22.16	22.02	21.99	23.00
		1	24	22.15	22.05	21.81	23.00
		12	0	21.08	20.86	20.92	22.00
		12	6	21.12	20.97	21	22.00
		12	13	21.21	20.8	20.87	22.00
		25	0	21.21	20.92	20.96	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40090	40640	41190	
10MHz	QPSK	1	0	23.06	23.06	23.16	24.00
		1	25	23.41	23.17	23.22	24.00
		1	49	23.25	22.97	22.92	24.00
		25	0	22.15	22.01	22.13	23.00
		25	13	22.26	21.98	22.03	23.00
		25	25	22.27	21.94	21.98	23.00
		50	0	22.22	22.03	22.08	23.00
	16QAM	1	0	21.85	21.67	22.09	23.00
		1	25	22.17	22.01	22.14	23.00
		1	49	22.36	21.85	21.77	23.00
		25	0	21.11	21.08	21.08	22.00
		25	13	21.24	20.95	21.05	22.00
		25	25	21.35	21.01	20.96	22.00
		50	0	21.28	20.95	21.06	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40115	40640	41165	
15MHz	QPSK	1	0	23.08	22.99	23.17	24.00
		1	38	23.32	22.89	23.06	24.00
		1	74	23.18	22.84	22.94	24.00
		36	0	22.23	22.01	22.28	23.00
		36	18	22.35	22.05	22.2	23.00
		36	39	22.38	21.95	22.05	23.00
		75	0	22.32	22.05	22.2	23.00
	16QAM	1	0	22.13	21.8	21.98	23.00
		1	38	22.4	21.64	21.86	23.00



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		1	74	22.36	21.78	21.88	23.00
		36	0	21.11	20.97	21.19	22.00
		36	18	21.31	21.03	21.14	22.00
		36	39	21.41	20.95	21.04	22.00
		75	0	21.22	21.01	21.13	22.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40140	40640	41140	
20MHz	QPSK	1	0	22.95	22.84	23.14	24.00
		1	50	23.53	23.02	23.17	24.00
		1	99	23.26	22.76	22.75	24.00
		50	0	22.12	21.97	22.27	23.00
		50	25	22.28	22.01	22.17	23.00
		50	50	22.4	21.94	22	23.00
		100	0	22.24	21.92	22.11	23.00
	16QAM	1	0	22.17	21.99	22.19	23.00
		1	50	22.49	21.79	22.32	23.00
		1	99	22.2	21.45	21.72	23.00
		50	0	21.19	20.99	21.24	22.00
		50	25	21.3	21	21.25	22.00
		50	50	21.41	20.84	21.03	22.00
		100	0	21.27	20.95	21.1	22.00

Sensor on:

LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20775	21100	21425	
5MHz	QPSK	1	0	18.50	18.64	19.10	20.00
		1	13	18.69	18.62	19.30	20.00
		1	24	18.45	18.65	19.15	20.00
		12	0	17.44	17.60	18.08	19.00
		12	6	17.60	17.62	18.10	19.00
		12	13	17.62	17.62	17.97	19.00
		25	0	17.58	17.75	17.93	19.00
	16QAM	1	0	17.20	17.72	18.03	19.00
		1	13	17.30	17.89	18.13	19.00
		1	24	17.30	17.73	18.03	19.00
		12	0	16.60	16.67	17.07	18.00
		12	6	16.70	16.64	17.16	18.00
		12	13	16.47	16.79	17.05	18.00
		25	0	16.50	16.70	17.02	18.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20800	21100	21400	
10MHz	QPSK	1	0	18.51	18.67	19.19	20.00
		1	25	18.70	18.78	19.40	20.00
		1	49	18.35	18.83	19.24	20.00



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		25	0	17.53	17.78	18.17	19.00
		25	13	17.57	17.71	18.07	19.00
		25	25	17.47	17.74	18.16	19.00
		50	0	17.60	17.65	18.01	19.00
	16QAM	1	0	18.00	17.75	18.17	19.00
		1	25	18.00	18.02	18.27	19.00
		1	49	17.93	18.00	17.96	19.00
		25	0	16.61	16.72	17.26	18.00
		25	13	16.66	16.75	17.20	18.00
		25	25	16.53	16.87	17.04	18.00
		50	0	16.63	16.78	16.98	18.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20825	21100	21375	
15MHz	QPSK	1	0	18.54	18.57	18.89	20.00
		1	38	18.41	18.70	19.23	20.00
		1	74	18.40	18.74	19.12	20.00
		36	0	17.66	17.76	18.13	19.00
		36	18	17.64	17.82	18.18	19.00
		36	39	17.55	17.78	18.15	19.00
		75	0	17.67	17.93	18.09	19.00
	16QAM	1	0	17.84	17.59	18.10	19.00
		1	38	17.97	17.88	18.21	19.00
		1	74	17.93	17.84	17.97	19.00
		36	0	16.68	16.79	16.93	18.00
		36	18	16.48	16.68	17.08	18.00
		36	39	16.60	16.81	17.05	18.00
		75	0	16.45	16.71	16.99	18.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20850	21100	21350	
20MHz	QPSK	1	0	18.23	18.35	18.81	20.00
		1	50	18.52	18.83	19.33	20.00
		1	99	18.10	18.46	18.39	20.00
		50	0	17.37	17.49	17.71	19.00
		50	25	17.47	17.68	17.89	19.00
		50	50	17.38	17.60	17.71	19.00
		100	0	17.35	17.65	17.82	19.00
	16QAM	1	0	17.40	17.30	17.81	19.00
		1	50	17.91	17.90	18.35	19.00
		1	99	17.39	17.65	17.56	19.00
		50	0	16.45	16.50	16.70	18.00
		50	25	16.35	16.77	16.72	18.00
		50	50	16.47	16.69	16.79	18.00
		100	0	16.43	16.53	16.81	18.00



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LTE Band 38				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
5MHz	QPSK	1	0	37775	38000	38225	20
		1	13	19.57	19.33	19.11	20
		1	24	19.51	19.46	19.17	20
		1	24	19.53	19.26	18.96	20
		12	0	18.59	18.35	18.18	19
		12	6	18.69	18.56	17.97	19
		12	13	18.63	18.33	18.24	19
		25	0	18.55	18.37	18.08	19
	16QAM	1	0	18.67	18.37	18.1	19
		1	13	18.77	18.41	18.2	19
		1	24	18.52	18.31	18.12	19
		12	0	17.57	17.38	17.15	18
		12	6	17.77	17.23	17.04	18
		12	13	17.67	17.32	17.09	18
		25	0	17.78	17.35	17.15	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	37800	38000	38200	20
		1	25	19.53	19.32	18.99	20
		1	49	19.54	19.32	19.14	20
		1	49	19.52	19.24	18.89	20
		25	0	18.63	18.32	18.09	19
		25	13	18.77	18.64	18.01	19
		25	25	18.71	18.22	18.06	19
		50	0	18.65	18.38	18.11	19
	16QAM	1	0	18.81	18.41	18.24	19
		1	25	18.67	18.45	18.23	19
		1	49	18.52	18.3	18.17	19
		25	0	17.56	17.32	17.06	18
		25	13	17.74	17.26	17.19	18
		25	25	17.66	17.4	16.97	18
		50	0	17.64	17.27	17.06	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
15MHz	QPSK	1	0	37825	38000	38175	20
		1	38	19.44	19.24	19.14	20
		1	74	19.62	19.43	19.26	20
		1	74	19.55	19.23	18.9	20
		36	0	18.59	18.31	18.08	19
		36	18	18.75	18.58	18.1	19
		36	39	18.55	18.36	18.12	19
		75	0	18.58	18.36	18.21	19
	16QAM	1	0	18.77	18.43	18.16	19
		1	38	18.75	18.38	18.16	19

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		1	74	18.44	18.32	18.06	19
		36	0	17.64	17.37	17.2	18
		36	18	17.75	17.23	17	18
		36	39	17.64	17.41	17.09	18
		75	0	17.64	17.26	17.11	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				37850	38000	38150	
20MHz	QPSK	1	0	19.43	19.39	19.16	20
		1	50	19.65	19.4	19.23	20
		1	99	19.61	19.41	18.95	20
		50	0	18.7	18.41	18.14	19
		50	25	18.65	18.5	18.12	19
		50	50	18.69	18.37	18.05	19
		100	0	18.59	18.45	18.07	19
	16QAM	1	0	18.63	18.32	18.09	19
		1	50	18.71	18.49	18.32	19
		1	99	18.52	18.24	18.19	19
		50	0	17.68	17.34	17.22	18
		50	25	17.72	17.25	17.13	18
		50	50	17.63	17.33	17.21	18
		100	0	17.7	17.29	17	18

LTE Band 41				Conducted Power(dBm)			Tune up
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
				40065	40640	41215	
5MHz	QPSK	1	0	19.98	19.95	19.9	21.00
		1	13	20.31	19.84	20.13	21.00
		1	24	20.13	19.87	19.85	21.00
		12	0	19.14	18.97	19.12	20.00
		12	6	19.02	19.05	19.02	20.00
		12	13	19.21	18.99	18.95	20.00
		25	0	19.05	18.93	18.95	20.00
	16QAM	1	0	19.17	18.98	18.91	20.00
		1	13	19.06	18.99	18.96	20.00
		1	24	19.21	18.97	18.74	20.00
		12	0	18.12	17.78	17.96	19.00
		12	6	18.05	17.98	18	19.00
		12	13	18.18	17.82	17.94	19.00
		25	0	18.23	17.99	18.03	19.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40090	40640	41190	
10MHz	QPSK	1	0	20.13	20.02	20.26	21.00
		1	25	20.32	20.16	20.28	21.00
		1	49	20.3	20.03	19.94	21.00
		25	0	19.11	19.08	19.05	20.00

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		25	13	19.26	18.98	19.11	20.00
		25	25	19.28	19.02	19.03	20.00
		50	0	19.27	18.99	19.02	20.00
	16QAM	1	0	18.75	18.66	19.11	20.00
		1	25	19.15	18.97	19.15	20.00
		1	49	19.28	18.77	18.68	20.00
		25	0	18.07	18.06	18.17	19.00
		25	13	18.21	17.89	18.07	19.00
		25	25	18.4	18.06	17.92	19.00
		50	0	18.27	17.92	18.12	19.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40115	40640	41165	
15MHz	QPSK	1	0	20.16	19.92	20.2	21.00
		1	38	20.32	19.9	20.11	21.00
		1	74	20.1	19.74	19.94	21.00
		36	0	19.29	19.02	19.21	20.00
		36	18	19.32	19.13	19.28	20.00
		36	39	19.39	18.95	19.05	20.00
		75	0	19.36	19.08	19.29	20.00
	16QAM	1	0	19.16	18.85	18.91	20.00
		1	38	19.42	18.69	18.95	20.00
		1	74	19.4	18.74	18.79	20.00
		36	0	18.08	18.04	18.27	19.00
		36	18	18.32	18.02	18.16	19.00
		36	39	18.48	17.94	18.08	19.00
		75	0	18.24	18.06	18.16	19.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				40140	40640	41140	
20MHz	QPSK	1	0	19.98	19.79	20.07	21.00
		1	50	20.54	20.01	20.16	21.00
		1	99	20.26	19.83	19.84	21.00
		50	0	19.14	18.96	19.21	20.00
		50	25	19.21	18.92	19.2	20.00
		50	50	19.46	18.89	19	20.00
		100	0	19.32	18.88	19.09	20.00
	16QAM	1	0	19.11	18.99	19.11	20.00
		1	50	19.5	18.71	19.28	20.00
		1	99	19.26	18.38	18.81	20.00
		50	0	18.25	18.03	18.27	19.00
		50	25	18.32	18.06	18.24	19.00
		50	50	18.43	17.84	18.01	19.00
		100	0	18.19	17.95	18.01	19.00



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8.1.4 Conducted Power Of Wi-Fi

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	17.57	18.50
	6	2437		17.66	18.50
	11	2462		17.74	18.50
802.11g	1	2412	6	14.53	15.50
	6	2437		14.84	15.50
	11	2462		14.89	15.50
802.11n HT20 SISO	1	2412	MCS0	14.66	15.50
	6	2437		14.82	15.50
	11	2462		14.68	15.50

Sensor on:

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	15.10	16
	6	2437		15.18	16
	11	2462		15.33	16
802.11g	1	2412	6	12.10	13
	6	2437		12.34	13
	11	2462		12.49	13
802.11n HT20 SISO	1	2412	6.5	12.13	13
	6	2437		12.28	13
	11	2462		12.20	13

5GHz	mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11a	U-NII-1	36	5180	6	13.78	14.50
		40	5200		13.67	14.50
		48	5240		13.44	14.50
	U-NII-3	149	5745		12.98	13.50
		157	5785		12.88	13.50
		165	5825		12.98	13.50
5GHz	mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11n-HT20	U-NII-1	36	5180	MCS0	13.53	14.50
		40	5200		13.55	14.50
		48	5240		13.31	14.50
	U-NII-3	149	5745		12.80	13.50
		157	5785		12.86	13.50



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5GHz	mode	165 Channel	5825 Frequency (MHz)	Data Rate (Mbps)	12.90 Average Power (dBm)	13.50 Tune up
802.11n-HT40	U-NII-1	38	5190	MCS0	13.12	14.00
		46	5230		13.11	14.00
	U-NII-3	151	5755		12.45	13.00
		159	5795		12.41	13.00
5GHz	mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11ac 20M	U-NII-1	36	5180	MCS0	12.57	13.50
		40	5200		12.50	13.50
		48	5240		12.10	13.50
	U-NII-3	149	5745		11.68	12.50
		157	5785		11.65	12.50
		165	5825		11.86	12.50
5GHz	mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11ac 40M	U-NII-1	38	5190	MCS0	12.11	13.00
		46	5230		11.96	13.00
	U-NII-3	151	5755		11.37	12.50
		159	5795		11.27	12.50
5GHz	mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11ac 80M	U-NII-1	42	5210	MCS0	12.23	13.00
	U-NII-3	155	5775		11.55	12.50

Note:

- Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
- Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
 - 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.
 - 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.
- 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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8.1.5 Conducted Power Of BT

BT			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	11.64	12
	39	2441	11.44	12
	78	2480	9.87	11
π /4DQPSK	0	2402	11.11	12
	39	2441	10.82	12
	78	2480	9.11	11
8DPSK	0	2402	11.11	12
	39	2441	10.82	12
	78	2480	9.11	11

BLE_1M			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	-2.6	-1
	19	2440	-1.66	-1
	39	2480	-2.45	-1
BLE_2M			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	-2.53	-1
	19	2440	-1.61	-1
	39	2480	-2.39	-1



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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 ≤ 0.8 W/kg (2.0W/kg for 10g) then testing at the other channels is not required for such test configuration(s).
- 3) “*” is repeated measurement.

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 ≤ 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 ≤ 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

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	GSM	251/848.8	1:8.3	0.371	0.277	0.01	32.26	33	1.186	0.440	0.328	22.1	1.6
Left tilted	GSM	251/848.8	1:8.3	0.095	0.080	0.18	32.26	33	1.186	0.113	0.095	22.1	1.6
Right cheek	GSM	251/848.8	1:8.3	0.254	0.198	-0.09	32.26	33	1.186	0.301	0.235	22.1	1.6
Right tilted	GSM	251/848.8	1:8.3	0.089	0.071	-0.11	32.26	33	1.186	0.106	0.084	22.1	1.6
Left cheek	GSM	128/824.2	1:8.3	0.355	0.279	0.09	32.18	33	1.208	0.428	0.337	22.1	1.6
Left cheek	GSM	190/836.6	1:8.3	0.352	0.266	0.05	32.14	33	1.219	0.429	0.324	22.1	1.6
Head Test data at the worst case with SIM2													
Left cheek	GSM	251/848.8	1:8.3	0.343	0.259	-0.08	32.26	33	1.186	0.407	0.307	22.1	1.6
Body Test data(Separate 10mm)													
Front side	GPRS 4TS	251/848.8	1:2.075	0.313	0.238	-0.19	28.58	29	1.102	0.345	0.262	22.1	1.6
Back side	GPRS 4TS	251/848.8	1:2.075	0.494	0.370	-0.06	28.58	29	1.102	0.544	0.408	22.1	1.6
Left side	GPRS 4TS	251/848.8	1:2.075	0.086	0.062	0.02	28.58	29	1.102	0.095	0.069	22.1	1.6
Right side	GPRS 4TS	251/848.8	1:2.075	0.224	0.159	-0.05	28.58	29	1.102	0.247	0.175	22.1	1.6
Top side	GPRS 4TS	251/848.8	1:2.075	0.017	0.015	-0.18	28.58	29	1.102	0.019	0.016	22.1	1.6
Bottom side	GPRS 4TS	251/848.8	1:2.075	0.192	0.112	0.09	28.58	29	1.102	0.211	0.123	22.1	1.6
Back side	GPRS 4TS	128/824.2	1:2.075	0.472	0.359	-0.09	28.49	29	1.125	0.531	0.404	22.1	1.6
Back side	GPRS 4TS	190/836.6	1:2.075	0.461	0.357	0.05	28.47	29	1.130	0.521	0.403	22.1	1.6
Body Test data at the worst case with SIM2													
Back side	GPRS 4TS	251/848.8	1:2.075	0.411	0.335	0.02	28.58	29	1.102	0.453	0.369	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	GPRS 4TS	251/848.8	1:2.075	1.96	0.926	-0.14	28.58	29	1.102	2.159	1.020	22.1	4
Back side	GPRS 4TS	251/848.8	1:2.075	3.08	1.44	0.07	28.58	29	1.102	3.393	1.586	22.1	4
Left side	GPRS 4TS	251/848.8	1:2.075	0.530	0.230	0.03	28.58	29	1.102	0.584	0.253	22.1	4
Right side	GPRS 4TS	251/848.8	1:2.075	1.37	0.668	-0.14	28.58	29	1.102	1.509	0.736	22.1	4
Top side	GPRS 4TS	251/848.8	1:2.075	0.115	0.056	-0.09	28.58	29	1.102	0.127	0.061	22.1	4
Bottom side	GPRS 4TS	251/848.8	1:2.075	2.40	0.846	0.04	28.58	29	1.102	2.644	0.932	22.1	4
Back side	GPRS 4TS	128/824.2	1:2.075	2.90	1.34	-0.03	28.49	29	1.125	3.258	1.503	22.1	4

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Back side	GPRS 4TS	190/836.6	1:2.075	2.81	1.29	0.16	28.47	29	1.130	3.175	1.462	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	GPRS 4TS	251/848.8	1:2.075	0.456	0.341	-0.06	28.58	29	1.102	0.502	0.376	22.1	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	GSM	251/848.8	1:8.3	0.351	0.262	0.03	32.26	33	1.186	0.416	0.311	22.1	1.6
Body Test data(Separate 10mm)													
Back side	GPRS 4TS	251/848.8	1:2.075	0.464	0.362	0.07	28.58	29	1.102	0.511	0.399	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	GPRS 4TS	251/848.8	1:2.075	2.88	1.27	0.07	28.58	29	1.102	3.172	1.399	22.1	4



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8.2.2 SAR Result Of PCS 1900

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	GSM	661/1880	1:8.3	0.251	0.157	0.04	29.14	30	1.219	0.306	0.191	22.3	1.6
Left tilted	GSM	661/1880	1:8.3	0.060	0.045	-0.02	29.14	30	1.219	0.073	0.054	22.3	1.6
Right cheek	GSM	661/1880	1:8.3	0.200	0.129	0.07	29.14	30	1.219	0.244	0.157	22.3	1.6
Right tilted	GSM	661/1880	1:8.3	0.059	0.038	0.07	29.14	30	1.219	0.072	0.046	22.3	1.6
Left cheek	GSM	512/1850.2	1:8.3	0.244	0.155	-0.11	29.12	30	1.225	0.298	0.190	22.3	1.6
Left cheek	GSM	810/1909.8	1:8.3	0.238	0.151	-0.12	29.04	30	1.247	0.297	0.188	22.3	1.6
Head Test data at the worst case with SIM2													
Left cheek	GSM	661/1880	1:8.3	0.232	0.146	-0.16	29.14	30	1.219	0.282	0.178	22.3	1.6
Body Test data(Separate 10mm)													
Front side	GPRS 4TS	661/1880	1:2.075	0.371	0.214	0.07	25.79	26	1.050	0.390	0.224	22.3	1.6
Back side	GPRS 4TS	661/1880	1:2.075	0.589	0.331	0.01	25.79	26	1.050	0.618	0.347	22.3	1.6
Left side	GPRS 4TS	661/1880	1:2.075	0.102	0.052	0.17	25.79	26	1.050	0.107	0.055	22.3	1.6
Right side	GPRS 4TS	661/1880	1:2.075	0.395	0.214	0.02	25.79	26	1.050	0.415	0.225	22.3	1.6
Top side	GPRS 4TS	661/1880	1:2.075	0.023	0.013	-0.15	25.79	26	1.050	0.024	0.014	22.3	1.6
Bottom side	GPRS 4TS	661/1880	1:2.075	0.487	0.299	0.05	25.79	26	1.050	0.511	0.314	22.3	1.6
Back side	GPRS 4TS	512/1850.2	1:2.075	0.565	0.321	0.04	25.75	26	1.059	0.598	0.340	22.3	1.6
Back side	GPRS 4TS	810/1909.8	1:2.075	0.547	0.311	-0.13	25.7	26	1.072	0.586	0.333	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	GPRS 4TS	661/1880	1:2.075	0.547	0.310	0.04	25.79	26	1.050	0.574	0.325	22.3	1.6
Extremity Test data(Separate 0mm)													
Front side	GPRS 4TS	661/1880	1:2.075	1.86	0.921	-0.17	25.79	26	1.050	1.956	0.967	22.3	4
Back side	GPRS 4TS	661/1880	1:2.075	2.96	1.42	0.07	25.79	26	1.050	3.107	1.490	22.3	4
Left side	GPRS 4TS	661/1880	1:2.075	0.517	0.239	0.09	25.79	26	1.050	0.543	0.250	22.3	4
Right side	GPRS 4TS	661/1880	1:2.075	2.55	1.12	0.04	25.79	26	1.050	2.676	1.175	22.3	4
Top side	GPRS 4TS	661/1880	1:2.075	0.117	0.066	-0.14	25.79	26	1.050	0.122	0.069	22.3	4
Bottom side	GPRS 4TS	661/1880	1:2.075	2.06	1.13	-0.06	25.79	26	1.050	2.162	1.186	22.3	4
Back side	GPRS 4TS	512/1850.2	1:2.075	2.81	1.35	0.08	25.75	26	1.059	2.979	1.430	22.3	4

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Back side	GPRS 4TS	810/1909.8	1:2.075	2.72	1.31	0.06	25.7	26	1.072	2.920	1.405	22.3	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	GPRS 4TS	661/1880	1:2.075	2.720	1.310	-0.01	25.79	26	1.050	2.855	1.375	22.3	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	GSM	661/1880	1:8.3	0.223	0.142	0.04	29.14	30	1.219	0.272	0.173	22.3	1.6
Body Test data(Separate 10mm)													
Back side	GPRS 4TS	661/1880	1:2.075	0.542	0.314	0.01	25.79	26	1.050	0.569	0.330	22.3	1.6
Extremity Test data(Separate 0mm)													
Back side	GPRS 4TS	661/1880	1:2.075	2.74	1.25	0.07	25.79	26	1.050	2.876	1.312	22.3	4



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8.2.3 SAR Result Of WCDMA Band II

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	RMC	9538/1907.6	1:1	0.234	0.136	0.05	21.98	23	1.265	0.296	0.172	22.3	1.6
Left tilted	RMC	9538/1907.6	1:1	0.056	0.039	-0.16	21.98	23	1.265	0.071	0.049	22.3	1.6
Right cheek	RMC	9538/1907.6	1:1	0.204	0.123	0.05	21.98	23	1.265	0.258	0.155	22.3	1.6
Right tilted	RMC	9538/1907.6	1:1	0.056	0.035	0.14	21.98	23	1.265	0.071	0.044	22.3	1.6
Left cheek	RMC	9262/1852.4	1:1	0.226	0.132	-0.04	21.88	23	1.294	0.293	0.171	22.3	1.6
Left cheek	RMC	9400/1880	1:1	0.222	0.125	0.13	21.76	23	1.330	0.295	0.166	22.3	1.6
Head Test data at the worst case with SIM2													
Left cheek	RMC	9538/1907.6	1:1	0.219	0.130	-0.01	21.98	23	1.265	0.277	0.164	22.3	1.6
Body Test data(Separate 10mm)													
Front side	RMC	9538/1907.6	1:1	0.467	0.266	-0.05	21.98	23	1.265	0.590	0.336	22.3	1.6
Back side	RMC	9538/1907.6	1:1	0.739	0.413	-0.08	21.98	23	1.265	0.935	0.522	22.3	1.6
Left side	RMC	9538/1907.6	1:1	0.129	0.066	-0.16	21.98	23	1.265	0.163	0.084	22.3	1.6
Right side	RMC	9538/1907.6	1:1	0.431	0.233	-0.02	21.98	23	1.265	0.545	0.295	22.3	1.6
Top side	RMC	9538/1907.6	1:1	0.026	0.020	0.1	21.98	23	1.265	0.033	0.026	22.3	1.6
Bottom side	RMC	9538/1907.6	1:1	0.535	0.327	0.02	21.98	23	1.265	0.677	0.414	22.3	1.6
Back side	RMC	9262/1852.4	1:1	0.705	0.393	-0.1	21.88	23	1.294	0.912	0.509	22.3	1.6
Back side	RMC	9400/1880	1:1	0.686	0.385	-0.15	21.76	23	1.330	0.913	0.512	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	RMC	9538/1907.6	1:1	0.684	0.382	-0.18	21.98	23	1.265	0.865	0.483	22.3	1.6
Extremity Test data(Separate 0mm)													
Front side	RMC	9538/1907.6	1:1	2.25	1.07	0.18	21.98	23	1.265	2.841	1.358	22.3	4
Back side	RMC	9538/1907.6	1:1	3.56	1.68	0.1	21.98	23	1.265	4.502	2.125	22.3	4
Left side	RMC	9538/1907.6	1:1	0.627	0.275	-0.09	21.98	23	1.265	0.793	0.348	22.3	4
Right side	RMC	9538/1907.6	1:1	3.15	1.36	-0.08	21.98	23	1.265	3.984	1.720	22.3	4
Top side	RMC	9538/1907.6	1:1	0.123	0.083	-0.02	21.98	23	1.265	0.155	0.105	22.3	4
Bottom side	RMC	9538/1907.6	1:1	2.19	1.21	-0.01	21.98	23	1.265	2.770	1.530	22.3	4
Back side	RMC	9262/1852.4	1:1	3.38	1.60	-0.06	21.88	23	1.294	4.377	2.067	22.3	4



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Back side	RMC	9400/1880	1:1	3.28	1.55	-0.17	21.76	23	1.330	4.360	2.062	22.3	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	RMC	9538/1907.6	1:1	3.28	1.55	0.14	21.98	23	1.265	4.149	1.956	22.3	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	RMC	9538/1907.6	1:1	0.205	0.114	0.05	21.98	23	1.265	0.259	0.144	22.3	1.6
Body Test data(Separate 10mm)													
Back side	RMC	9538/1907.6	1:1	0.689	0.397	-0.08	21.98	23	1.265	0.871	0.502	22.3	1.6
Extremity Test data(Separate 0mm)													
Back side	RMC	9538/1907.6	1:1	3.22	1.51	0.1	21.98	23	1.265	4.072	1.910	22.3	4



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8.2.4 SAR Result Of WCDMA Band IV

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	RMC	1412/1732.4	1:1	0.241	0.161	-0.12	21.74	23	1.337	0.322	0.215	22.1	1.6
Left tilted	RMC	1412/1732.4	1:1	0.057	0.054	0.08	21.74	23	1.337	0.077	0.072	22.1	1.6
Right cheek	RMC	1412/1732.4	1:1	0.380	0.253	0.04	21.74	23	1.337	0.508	0.338	22.1	1.6
Right tilted	RMC	1412/1732.4	1:1	0.064	0.040	0.03	21.74	23	1.337	0.085	0.054	22.1	1.6
Right cheek	RMC	1312/1712.4	1:1	0.329	0.241	0.18	21.34	23	1.466	0.482	0.353	22.1	1.6
Right cheek	RMC	1513/1752.6	1:1	0.316	0.225	0.02	21.67	23	1.358	0.429	0.306	22.1	1.6
Head Test data at the worst case with SIM2													
Right cheek	RMC	1412/1732.4	1:1	0.317	0.218	0.18	21.74	23	1.337	0.424	0.291	22.1	1.6
Body Test data(Separate 10mm)													
Front side	RMC	1412/1732.4	1:1	0.397	0.257	-0.13	21.74	23	1.337	0.530	0.343	22.1	1.6
Back side	RMC	1412/1732.4	1:1	0.619	0.395	0.03	21.74	23	1.337	0.828	0.528	22.1	1.6
Left side	RMC	1412/1732.4	1:1	0.108	0.066	-0.05	21.74	23	1.337	0.145	0.089	22.1	1.6
Right side	RMC	1412/1732.4	1:1	0.537	0.320	0.17	21.74	23	1.337	0.717	0.427	22.1	1.6
Top side	RMC	1412/1732.4	1:1	0.025	0.020	0.15	21.74	23	1.337	0.033	0.027	22.1	1.6
Bottom side	RMC	1412/1732.4	1:1	0.326	0.196	-0.03	21.74	23	1.337	0.436	0.262	22.1	1.6
Back side	RMC	1312/1712.4	1:1	0.521	0.311	-0.17	21.34	23	1.466	0.764	0.456	22.1	1.6
Back side	RMC	1513/1752.6	1:1	0.567	0.366	0.15	21.67	23	1.358	0.770	0.497	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	RMC	1412/1732.4	1:1	0.572	0.371	0.13	21.74	23	1.337	0.764	0.496	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	RMC	1412/1732.4	1:1	2.30	1.261	0.17	21.74	23	1.337	3.080	1.685	22.1	4
Back side	RMC	1412/1732.4	1:1	3.61	1.97	-0.1	21.74	23	1.337	4.832	2.629	22.1	4
Left side	RMC	1412/1732.4	1:1	0.621	0.334	-0.11	21.74	23	1.337	0.830	0.446	22.1	4
Right side	RMC	1412/1732.4	1:1	3.382	1.648	0.04	21.74	23	1.337	4.521	2.203	22.1	4
Top side	RMC	1412/1732.4	1:1	0.151	0.074	0.02	21.74	23	1.337	0.202	0.098	22.1	4
Bottom side	RMC	1412/1732.4	1:1	1.89	1.073	0.11	21.74	23	1.337	2.523	1.434	22.1	4
Back side	RMC	1312/1712.4	1:1	3.27	1.65	-0.19	21.34	23	1.466	4.792	2.418	22.1	4
Back side	RMC	1513/1752.6	1:1	3.32	1.81	-0.16	21.67	23	1.358	4.512	2.462	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													

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Back side	RMC	1412/1732.4	1:1	3.33	1.81	-0.04	21.74	23	1.337	4.453	2.416	22.1	4
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SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Right cheek	RMC	1412/1732.4	1:1	0.354	0.223	0.06	21.74	23	1.337	0.473	0.298	22.1	1.6
Body Test data(Separate 10mm)													
Back side	RMC	1412/1732.4	1:1	0.587	0.378	-0.11	21.74	23	1.337	0.785	0.505	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	RMC	1412/1732.4	1:1	3.33	1.78	0.02	21.74	23	1.337	4.451	2.379	22.1	4



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8.2.5 SAR Result Of WCDMA Band V

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Left cheek	RMC	4233/846.6	1:1	0.052	0.041	0.02	22.89	24	1.291	0.068	0.053	22.1	1.6
Left tilted	RMC	4233/846.6	1:1	0.038	0.034	0.12	22.89	24	1.291	0.049	0.044	22.1	1.6
Right cheek	RMC	4233/846.6	1:1	0.168	0.129	0.17	22.89	24	1.291	0.217	0.167	22.1	1.6
Right tilted	RMC	4233/846.6	1:1	0.045	0.043	-0.11	22.89	24	1.291	0.058	0.055	22.1	1.6
Right cheek	RMC	4132/826.4	1:1	0.129	0.091	0.04	22.72	24	1.343	0.173	0.122	22.1	1.6
Right cheek	RMC	4182/836.4	1:1	0.135	0.097	0.14	22.73	24	1.340	0.181	0.130	22.1	1.6
Head Test data at the worst case with SIM2													
Right cheek	RMC	4233/846.6	1:1	0.144	0.114	0.04	22.89	24	1.291	0.186	0.147	22.1	1.6
Body Test data(Separate 10mm)													
Front side	RMC	4233/846.6	1:1	0.140	0.095	-0.11	22.89	24	1.291	0.181	0.123	22.1	1.6
Back side	RMC	4233/846.6	1:1	0.222	0.147	0.07	22.89	24	1.291	0.287	0.190	22.1	1.6
Left side	RMC	4233/846.6	1:1	0.038	0.023	-0.01	22.89	24	1.291	0.050	0.029	22.1	1.6
Right side	RMC	4233/846.6	1:1	0.116	0.082	0.01	22.89	24	1.291	0.150	0.106	22.1	1.6
Top side	RMC	4233/846.6	1:1	0.009	0.007	-0.14	22.89	24	1.291	0.011	0.009	22.1	1.6
Bottom side	RMC	4233/846.6	1:1	0.098	0.058	0.14	22.89	24	1.291	0.126	0.075	22.1	1.6
Back side	RMC	4132/826.4	1:1	0.213	0.135	-0.11	22.72	24	1.343	0.285	0.181	22.1	1.6
Back side	RMC	4182/836.4	1:1	0.207	0.141	-0.13	22.73	24	1.340	0.278	0.189	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	RMC	4233/846.6	1:1	0.209	0.136	-0.14	22.89	24	1.291	0.270	0.176	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	RMC	4233/846.6	1:1	1.56	0.750	-0.04	22.89	24	1.291	2.017	0.969	22.1	4
Back side	RMC	4233/846.6	1:1	2.47	1.16	0.01	22.89	24	1.291	3.189	1.498	22.1	4
Left side	RMC	4233/846.6	1:1	0.439	0.179	-0.02	22.89	24	1.291	0.567	0.232	22.1	4
Right side	RMC	4233/846.6	1:1	0.748	0.347	0.05	22.89	24	1.291	0.966	0.448	22.1	4
Top side	RMC	4233/846.6	1:1	0.085	0.046	0.13	22.89	24	1.291	0.109	0.059	22.1	4
Bottom side	RMC	4233/846.6	1:1	1.44	0.495	0.02	22.89	24	1.291	1.859	0.639	22.1	4
Back side	RMC	4132/826.4	1:1	2.35	1.11	0.11	22.72	24	1.343	3.159	1.485	22.1	4

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Back side	RMC	4182/836.4	1:1	2.28	1.07	0.04	22.73	24	1.340	3.049	1.435	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	RMC	4233/846.6	1:1	2.28	1.07	-0.19	22.89	24	1.291	2.939	1.386	22.1	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp	SAR limit (W/kg)
Head Test data													
Right cheek	RMC	4233/846.6	1:1	0.142	0.111	0.08	22.89	24	1.291	0.183	0.143	22.1	1.6
Body Test data(Separate 10mm)													
Back side	RMC	4233/846.6	1:1	0.202	0.124	-0.12	22.89	24	1.291	0.261	0.160	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	RMC	4233/846.6	1:1	2.27	1.05	0.11	22.89	24	1.291	2.931	1.356	22.1	4



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8.2.6 SAR Result Of LTE Band 2

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	19100/1900	1:1	0.301	0.189	0.01	22.82	24	1.312	0.395	0.248	22.3	1.6
Left tilted	20M_QPSK 1RB_50	19100/1900	1:1	0.072	0.052	-0.05	22.82	24	1.312	0.094	0.068	22.3	1.6
Right cheek	20M_QPSK 1RB_50	19100/1900	1:1	0.258	0.168	0.05	22.82	24	1.312	0.339	0.220	22.3	1.6
Right tilted	20M_QPSK 1RB_50	19100/1900	1:1	0.067	0.043	0.09	22.82	24	1.312	0.088	0.057	22.3	1.6
Left cheek	20M_QPSK 1RB_50	18700/1860	1:1	0.286	0.181	-0.11	22.72	24	1.343	0.384	0.243	22.3	1.6
Left cheek	20M_QPSK 1RB_50	18900/1880	1:1	0.283	0.180	-0.19	22.70	24	1.349	0.382	0.243	22.3	1.6
Left cheek	20M_QPSK 50RB_25	19100/1900	1:1	0.277	0.180	0.11	21.7	23	1.349	0.374	0.243	22.3	1.6
Left tilted	20M_QPSK 50RB_25	19100/1900	1:1	0.065	0.041	0.11	21.7	23	1.349	0.088	0.055	22.3	1.6
Right cheek	20M_QPSK 50RB_25	19100/1900	1:1	0.239	0.157	-0.15	21.7	23	1.349	0.323	0.211	22.3	1.6
Right tilted	20M_QPSK 50RB_25	19100/1900	1:1	0.055	0.036	-0.05	21.7	23	1.349	0.074	0.049	22.3	1.6
Left cheek	20M_QPSK 50RB_25	18700/1860	1:1	0.268	0.172	0.02	21.55	23	1.396	0.374	0.239	22.3	1.6
Left cheek	20M_QPSK 50RB_25	18900/1880	1:1	0.262	0.171	0.14	21.56	23	1.393	0.365	0.238	22.3	1.6
Head Test data at the worst case with SIM2													
Left cheek	20M_QPSK 1RB_50	19100/1900	1:1	0.283	0.176	-0.09	22.82	24	1.312	0.371	0.231	22.3	1.6
Body Test data (Separate 10mm)													
Front side	20M_QPSK 1RB_50	19100/1900	1:1	0.457	0.281	-0.18	22.82	24	1.312	0.600	0.369	22.3	1.6
Back side	20M_QPSK 1RB_50	19100/1900	1:1	0.726	0.443	-0.13	22.82	24	1.312	0.953	0.581	22.3	1.6
Left side	20M_QPSK 1RB_50	19100/1900	1:1	0.124	0.068	0.07	22.82	24	1.312	0.163	0.089	22.3	1.6
Right side	20M_QPSK 1RB_50	19100/1900	1:1	0.470	0.261	0.12	22.82	24	1.312	0.617	0.342	22.3	1.6
Top side	20M_QPSK 1RB_50	19100/1900	1:1	0.025	0.016	-0.11	22.82	24	1.312	0.032	0.021	22.3	1.6
Bottom side	20M_QPSK 1RB_50	19100/1900	1:1	0.442	0.262	-0.18	22.82	24	1.312	0.580	0.344	22.3	1.6
Back side	20M_QPSK 1RB_50	18700/1860	1:1	0.706	0.428	0.01	22.72	24	1.343	0.948	0.575	22.3	1.6
Back side	20M_QPSK 1RB_50	18900/1880	1:1	0.703	0.424	-0.19	22.70	24	1.349	0.948	0.572	22.3	1.6
Front side	20M_QPSK 50RB_25	19100/1900	1:1	0.422	0.264	-0.02	21.7	23	1.349	0.569	0.356	22.3	1.6
Back side	20M_QPSK 50RB_25	19100/1900	1:1	0.668	0.408	0.12	21.7	23	1.349	0.901	0.550	22.3	1.6
Left side	20M_QPSK 50RB_25	19100/1900	1:1	0.117	0.068	-0.1	21.7	23	1.349	0.157	0.092	22.3	1.6
Right side	20M_QPSK 50RB_25	19100/1900	1:1	0.434	0.242	0.13	21.7	23	1.349	0.586	0.326	22.3	1.6

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Top side	20M_QPSK 50RB_25	19100/1900	1:1	0.023	0.014	-0.04	21.7	23	1.349	0.031	0.019	22.3	1.6
Bottom side	20M_QPSK 50RB_25	19100/1900	1:1	0.422	0.264	-0.16	21.7	23	1.349	0.569	0.357	22.3	1.6
Back side	20M_QPSK 50RB_25	18700/1860	1:1	0.638	0.394	0.11	21.55	23	1.396	0.891	0.550	22.3	1.6
Back side	20M_QPSK 50RB_25	18900/1880	1:1	0.619	0.380	0.12	21.56	23	1.393	0.862	0.529	22.3	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	20M_QPSK 1RB_50	19100/1900	1:1	0.670	0.409	0.15	22.82	24	1.312	0.880	0.536	22.3	1.6
Extremity Test data(Separate 0mm)													
Front side	20M_QPSK 1RB_50	19100/1900	1:1	2.09	1.09	0.08	22.82	24	1.312	2.742	1.430	22.3	4
Back side	20M_QPSK 1RB_50	19100/1900	1:1	3.93	1.92	-0.09	22.82	24	1.312	5.157	2.519	22.3	4
Left side	20M_QPSK 1RB_50	19100/1900	1:1	0.539	0.296	-0.11	22.82	24	1.312	0.707	0.388	22.3	4
Right side	20M_QPSK 1RB_50	19100/1900	1:1	3.76	1.68	0.01	22.82	24	1.312	4.934	2.204	22.3	4
Top side	20M_QPSK 1RB_50	19100/1900	1:1	0.037	0.0173	0.03	22.82	24	1.312	0.049	0.023	22.3	4
Bottom side	20M_QPSK 1RB_50	19100/1900	1:1	2.45	1.36	-0.11	22.82	24	1.312	3.215	1.785	22.3	4
Back side	20M_QPSK 1RB_50	18700/1860	1:1	3.73	1.83	0.1	22.72	24	1.343	5.014	2.458	22.3	4
Back side	20M_QPSK 1RB_50	18900/1880	1:1	3.62	1.77	0.11	22.70	24	1.349	4.880	2.389	22.3	4
Front side	20M_QPSK 50RB_25	19100/1900	1:1	1.93	1.00	-0.16	21.7	23	1.349	2.602	1.354	22.3	4
Back side	20M_QPSK 50RB_25	19100/1900	1:1	3.62	1.77	0.13	21.7	23	1.349	4.881	2.389	22.3	4
Left side	20M_QPSK 50RB_25	19100/1900	1:1	0.496	0.275	-0.17	21.7	23	1.349	0.669	0.371	22.3	4
Right side	20M_QPSK 50RB_25	19100/1900	1:1	3.46	1.55	-0.13	21.7	23	1.349	4.668	2.088	22.3	4
Top side	20M_QPSK 50RB_25	19100/1900	1:1	0.035	0.016	-0.02	21.7	23	1.349	0.047	0.022	22.3	4
Bottom side	20M_QPSK 50RB_25	19100/1900	1:1	2.26	1.25	-0.07	21.7	23	1.349	3.048	1.690	22.3	4
Back side	20M_QPSK 50RB_25	18700/1860	1:1	3.44	1.69	-0.14	21.55	23	1.396	4.807	2.358	22.3	4
Back side	20M_QPSK 50RB_25	18900/1880	1:1	3.33	1.63	0.1	21.56	23	1.393	4.645	2.273	22.3	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	20M_QPSK 1RB_50	19100/1900	1:1	3.33	1.63	-0.14	22.82	24	1.312	4.369	2.139	22.3	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	19100/1900	1:1	0.275	0.168	-0.08	22.82	24	1.312	0.361	0.220	22.3	1.6
Body Test data(Separate 10mm)													



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Back side	20M_QPSK 1RB_50	19100/1900	1:1	0.685	0.421	0.11	22.82	24	1.312	0.899	0.552	22.3	1.6
Extremity Test data(Separate 0mm)													
Back side	20M_QPSK 1RB_50	19100/1900	1:1	3.68	1.72	0.13	22.82	24	1.312	4.829	2.257	22.3	4

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8.2.7 SAR Result Of LTE Band 4

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	20050/1720	1:1	0.248	0.163	-0.02	22.98	24	1.265	0.314	0.206	22.2	1.6
Left tilted	20M_QPSK 1RB_50	20050/1720	1:1	0.060	0.051	0.13	22.98	24	1.265	0.075	0.064	22.2	1.6
Right cheek	20M_QPSK 1RB_50	20050/1720	1:1	0.392	0.259	0.04	22.98	24	1.265	0.496	0.328	22.2	1.6
Right tilted	20M_QPSK 1RB_50	20050/1720	1:1	0.061	0.041	-0.03	22.98	24	1.265	0.077	0.052	22.2	1.6
Right cheek	20M_QPSK 1RB_50	20175/1732.5	1:1	0.361	0.234	0.07	22.80	24	1.318	0.476	0.308	22.2	1.6
Right cheek	20M_QPSK 1RB_50	20300/1745	1:1	0.352	0.222	-0.18	22.71	24	1.346	0.474	0.299	22.2	1.6
Left cheek	20M_QPSK 50RB_50	20050/1720	1:1	0.235	0.160	0.18	22	23	1.259	0.296	0.201	22.2	1.6
Left tilted	20M_QPSK 50RB_50	20050/1720	1:1	0.058	0.051	0.07	22	23	1.259	0.073	0.064	22.2	1.6
Right cheek	20M_QPSK 50RB_50	20050/1720	1:1	0.362	0.229	0.08	22	23	1.259	0.456	0.288	22.2	1.6
Right tilted	20M_QPSK 50RB_50	20050/1720	1:1	0.059	0.041	-0.09	22	23	1.259	0.074	0.052	22.2	1.6
Right cheek	20M_QPSK 50RB_50	20175/1732.5	1:1	0.324	0.199	0.1	21.78	23	1.324	0.429	0.264	22.2	1.6
Right cheek	20M_QPSK 50RB_50	20300/1745	1:1	0.309	0.184	0.12	21.54	23	1.400	0.432	0.258	22.2	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Right cheek	20M_QPSK 1RB_50	20050/1720	1:1	0.316	0.221	-0.19	22.98	24	1.265	0.400	0.280	22.2	1.6
Body Test data (Separate 10mm)													
Front side	20M_QPSK 1RB_50	20050/1720	1:1	0.411	0.267	0	22.98	24	1.265	0.520	0.337	22.2	1.6
Back side	20M_QPSK 1RB_50	20050/1720	1:1	0.645	0.414	0.09	22.98	24	1.265	0.816	0.524	22.2	1.6
Left side	20M_QPSK 1RB_50	20050/1720	1:1	0.114	0.066	-0.04	22.98	24	1.265	0.144	0.083	22.2	1.6
Right side	20M_QPSK 1RB_50	20050/1720	1:1	0.563	0.333	0.08	22.98	24	1.265	0.712	0.421	22.2	1.6
Top side	20M_QPSK 1RB_50	20050/1720	1:1	0.023	0.016	-0.1	22.98	24	1.265	0.029	0.020	22.2	1.6
Bottom side	20M_QPSK 1RB_50	20050/1720	1:1	0.339	0.205	0.05	22.98	24	1.265	0.429	0.259	22.2	1.6
Back side	20M_QPSK 1RB_50	20175/1732.5	1:1	0.618	0.394	0.09	22.80	24	1.318	0.814	0.520	22.2	1.6
Back side	20M_QPSK 1RB_50	20300/1745	1:1	0.594	0.384	-0.16	22.71	24	1.346	0.799	0.517	22.2	1.6
Front side	20M_QPSK 50RB_50	20050/1720	1:1	0.380	0.249	0.09	22	23	1.259	0.478	0.313	22.2	1.6
Back side	20M_QPSK 50RB_50	20050/1720	1:1	0.599	0.387	-0.06	22	23	1.259	0.754	0.487	22.2	1.6
Left side	20M_QPSK 50RB_50	20050/1720	1:1	0.106	0.065	-0.16	22	23	1.259	0.134	0.082	22.2	1.6
Right side	20M_QPSK 50RB_50	20050/1720	1:1	0.520	0.311	-0.16	22	23	1.259	0.655	0.391	22.2	1.6

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Top side	20M_QPSK 50RB_50	20050/1720	1:1	0.022	0.016	0.19	22	23	1.259	0.028	0.020	22.2	1.6
Bottom side	20M_QPSK 50RB_50	20050/1720	1:1	0.315	0.190	-0.18	22	23	1.259	0.397	0.240	22.2	1.6
Back side	20M_QPSK 50RB_50	20175/1732.5	1:1	0.572	0.368	0.18	21.78	23	1.324	0.757	0.487	22.2	1.6
Back side	20M_QPSK 50RB_50	20300/1745	1:1	0.551	0.355	-0.06	21.54	23	1.400	0.772	0.498	22.2	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	20M_QPSK 1RB_50	20050/1720	1:1	0.598	0.385	-0.19	22.98	24	1.265	0.757	0.487	22.2	1.6
Extremity Test data(Separate 0mm)													
Front side	20M_QPSK 1RB_50	20050/1720	1:1	2.42	1.32	0.07	22.98	24	1.265	3.055	1.670	22.2	4
Back side	20M_QPSK 1RB_50	20050/1720	1:1	3.79	2.06	0.19	22.98	24	1.265	4.793	2.605	22.2	4
Left side	20M_QPSK 1RB_50	20050/1720	1:1	0.650	0.345	0.07	22.98	24	1.265	0.822	0.436	22.2	4
Right side	20M_QPSK 1RB_50	20050/1720	1:1	3.55	1.73	0.01	22.98	24	1.265	4.490	2.188	22.2	4
Top side	20M_QPSK 1RB_50	20050/1720	1:1	0.153	0.076	0.06	22.98	24	1.265	0.194	0.096	22.2	4
Bottom side	20M_QPSK 1RB_50	20050/1720	1:1	1.98	1.12	-0.14	22.98	24	1.265	2.504	1.417	22.2	4
Back side	20M_QPSK 1RB_50	20175/1732.5	1:1	3.60	1.96	0.18	22.80	24	1.318	4.747	2.581	22.2	4
Back side	20M_QPSK 1RB_50	20300/1745	1:1	3.49	1.90	0.02	22.71	24	1.346	4.693	2.555	22.2	4
Front side	20M_QPSK 50RB_50	20050/1720	1:1	2.23	1.22	0.05	22	23	1.259	2.803	1.532	22.2	4
Back side	20M_QPSK 50RB_50	20050/1720	1:1	3.49	1.90	0.02	22	23	1.259	4.393	2.392	22.2	4
Left side	20M_QPSK 50RB_50	20050/1720	1:1	0.604	0.322	0.18	22	23	1.259	0.760	0.405	22.2	4
Right side	20M_QPSK 50RB_50	20050/1720	1:1	3.27	1.60	-0.14	22	23	1.259	4.118	2.010	22.2	4
Top side	20M_QPSK 50RB_50	20050/1720	1:1	0.141	0.070	0.1	22	23	1.259	0.178	0.088	22.2	4
Bottom side	20M_QPSK 50RB_50	20050/1720	1:1	1.82	1.03	0.17	22	23	1.259	2.294	1.299	22.2	4
Back side	20M_QPSK 50RB_50	20175/1732.5	1:1	3.32	1.80	0.07	21.78	23	1.324	4.396	2.387	22.2	4
Back side	20M_QPSK 50RB_50	20300/1745	1:1	3.21	1.75	0.07	21.54	23	1.400	4.492	2.449	22.2	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	20M_QPSK 1RB_50	20050/1720	1:1	3.49	1.90	-0.18	22.98	24	1.265	4.418	2.400	22.2	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Right cheek	20M_QPSK 1RB_50	20050/1720	1:1	0.370	0.232	0.08	22.98	24	1.265	0.468	0.293	22.2	1.6
Body Test data(Separate 10mm)													



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Back side	20M_QPSK 1RB_50	20050/1720	1:1	0.615	0.374	0.03	22.98	24	1.265	0.778	0.473	22.2	1.6
Extremity Test data(Separate 0mm)													
Back side	20M_QPSK 1RB_50	20050/1720	1:1	3.64	1.87	-0.06	22.98	24	1.265	4.604	2.365	22.2	4



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8.2.8 SAR Result Of LTE Band 5

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	20600/844	1:1	0.197	0.147	0.06	22.93	24	1.279	0.252	0.188	22.1	1.6
Left tilted	10M_QPSK 1RB_25	20600/844	1:1	0.048	0.045	0.05	22.93	24	1.279	0.062	0.058	22.1	1.6
Right cheek	10M_QPSK 1RB_25	20600/844	1:1	0.114	0.088	-0.05	22.93	24	1.279	0.146	0.113	22.1	1.6
Right tilted	10M_QPSK 1RB_25	20600/844	1:1	0.044	0.037	0.06	22.93	24	1.279	0.056	0.047	22.1	1.6
Left cheek	10M_QPSK 1RB_25	20450/829	1:1	0.189	0.145	-0.1	22.82	24	1.312	0.247	0.190	22.1	1.6
Left cheek	10M_QPSK 1RB_25	20525/836.5	1:1	0.186	0.142	-0.13	22.80	24	1.318	0.245	0.187	22.1	1.6
Left cheek	10M_QPSK 25RB_13	20600/844	1:1	0.184	0.137	-0.11	21.87	23	1.297	0.239	0.178	22.1	1.6
Left tilted	10M_QPSK 25RB_13	20600/844	1:1	0.045	0.048	0.17	21.87	23	1.297	0.058	0.062	22.1	1.6
Right cheek	10M_QPSK 25RB_13	20600/844	1:1	0.106	0.086	0.16	21.87	23	1.297	0.137	0.111	22.1	1.6
Right tilted	10M_QPSK 25RB_13	20600/844	1:1	0.041	0.031	0.02	21.87	23	1.297	0.053	0.040	22.1	1.6
Left cheek	10M_QPSK 25RB_13	20450/829	1:1	0.179	0.135	0.12	21.77	23	1.327	0.238	0.180	22.1	1.6
Left cheek	10M_QPSK 25RB_13	20525/836.5	1:1	0.175	0.135	0.1	21.80	23	1.318	0.230	0.178	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Left cheek	10M_QPSK 1RB_25	20600/844	1:1	0.174	0.130	0.05	22.93	24	1.279	0.223	0.167	22.1	1.6
Body Test data(Separate 10mm)													
Front side	10M_QPSK 1RB_25	20600/844	1:1	0.166	0.126	-0.13	22.93	24	1.279	0.212	0.162	22.1	1.6
Back side	10M_QPSK 1RB_25	20600/844	1:1	0.263	0.199	0.05	22.93	24	1.279	0.336	0.255	22.1	1.6
Left side	10M_QPSK 1RB_25	20600/844	1:1	0.046	0.031	-0.02	22.93	24	1.279	0.059	0.040	22.1	1.6
Right side	10M_QPSK 1RB_25	20600/844	1:1	0.128	0.090	0.01	22.93	24	1.279	0.164	0.115	22.1	1.6
Top side	10M_QPSK 1RB_25	20600/844	1:1	0.011	0.010	0.12	22.93	24	1.279	0.014	0.013	22.1	1.6
Bottom side	10M_QPSK 1RB_25	20600/844	1:1	0.015	0.005	0.14	22.93	24	1.279	0.019	0.007	22.1	1.6
Back side	10M_QPSK 1RB_25	20450/829	1:1	0.251	0.191	0.02	22.82	24	1.312	0.329	0.250	22.1	1.6
Back side	10M_QPSK 1RB_25	20525/836.5	1:1	0.243	0.189	0.16	22.80	24	1.318	0.320	0.249	22.1	1.6
Front side	10M_QPSK 25RB_13	20600/844	1:1	0.154	0.116	0.1	21.87	23	1.297	0.199	0.151	22.1	1.6
Back side	10M_QPSK 25RB_13	20600/844	1:1	0.243	0.187	0.1	21.87	23	1.297	0.315	0.243	22.1	1.6
Left side	10M_QPSK 25RB_13	20600/844	1:1	0.040	0.021	-0.15	21.87	23	1.297	0.052	0.027	22.1	1.6
Right side	10M_QPSK 25RB_13	20600/844	1:1	0.120	0.086	0.14	21.87	23	1.297	0.156	0.111	22.1	1.6

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Top side	10M_QPSK 25RB_13	20600/844	1:1	0.010	0.006	0.08	21.87	23	1.297	0.013	0.008	22.1	1.6
Bottom side	10M_QPSK 25RB_13	20600/844	1:1	0.014	0.006	-0.06	21.87	23	1.297	0.018	0.008	22.1	1.6
Back side	10M_QPSK 25RB_13	20450/829	1:1	0.238	0.178	0.14	21.77	23	1.327	0.316	0.236	22.1	1.6
Back side	10M_QPSK 25RB_13	20525/836.5	1:1	0.227	0.175	-0.17	21.80	23	1.318	0.299	0.230	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	10M_QPSK 1RB_25	20600/844	1:1	0.248	0.186	-0.08	22.93	24	1.279	0.317	0.238	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	10M_QPSK 1RB_25	20600/844	1:1	1.58	0.758	-0.17	22.93	24	1.279	2.022	0.970	22.1	4
Back side	10M_QPSK 1RB_25	20600/844	1:1	2.49	1.19	-0.16	22.93	24	1.279	3.186	1.522	22.1	4
Left side	10M_QPSK 1RB_25	20600/844	1:1	0.434	0.196	-0.15	22.93	24	1.279	0.556	0.251	22.1	4
Right side	10M_QPSK 1RB_25	20600/844	1:1	0.777	0.372	-0.01	22.93	24	1.279	0.994	0.476	22.1	4
Top side	10M_QPSK 1RB_25	20600/844	1:1	0.096	0.058	0.09	22.93	24	1.279	0.123	0.074	22.1	4
Bottom side	10M_QPSK 1RB_25	20600/844	1:1	0.756	0.297	0.01	22.93	24	1.279	0.967	0.380	22.1	4
Back side	10M_QPSK 1RB_25	20450/829	1:1	2.37	1.13	-0.05	22.82	24	1.312	3.109	1.487	22.1	4
Back side	10M_QPSK 1RB_25	20525/836.5	1:1	2.30	1.10	0.08	22.80	24	1.318	3.026	1.451	22.1	4
Front side	10M_QPSK 25RB_13	20600/844	1:1	1.46	0.698	-0.11	21.87	23	1.297	1.890	0.905	22.1	4
Back side	10M_QPSK 25RB_13	20600/844	1:1	2.30	1.10	-0.19	21.87	23	1.297	2.980	1.424	22.1	4
Left side	10M_QPSK 25RB_13	20600/844	1:1	0.402	0.186	-0.09	21.87	23	1.297	0.522	0.241	22.1	4
Right side	10M_QPSK 25RB_13	20600/844	1:1	0.716	0.348	0.13	21.87	23	1.297	0.929	0.452	22.1	4
Top side	10M_QPSK 25RB_13	20600/844	1:1	0.081	0.055	-0.15	21.87	23	1.297	0.105	0.071	22.1	4
Bottom side	10M_QPSK 25RB_13	20600/844	1:1	0.700	0.273	0.16	21.87	23	1.297	0.909	0.355	22.1	4
Back side	10M_QPSK 25RB_13	20450/829	1:1	2.18	1.05	-0.13	21.77	23	1.327	2.898	1.388	22.1	4
Back side	10M_QPSK 25RB_13	20525/836.5	1:1	2.11	1.02	-0.19	21.80	23	1.318	2.787	1.343	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	10M_QPSK 1RB_25	20600/844	1:1	2.12	1.02	0.15	21.87	23	1.297	2.746	1.318	22.1	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	20600/844	1:1	0.165	0.129	-0.14	22.93	24	1.279	0.211	0.165	22.1	1.6
Body Test data(Separate 10mm)													
Back side	10M_QPSK 1RB_25	20600/844	1:1	0.234	0.179	-0.09	22.93	24	1.279	0.299	0.229	22.1	1.6



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Extremity Test data(Separate 0mm)													
Back side	10M_QPSK 1RB_25	20600/844	1:1	2.22	1.08	-0.17	22.93	24	1.279	2.840	1.382	22.1	4



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8.2.9 SAR Result Of LTE Band 7

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	21350/2560	1:1	0.027	0.017	0.05	23.24	24	1.191	0.032	0.020	22.1	1.6
Left tilted	20M_QPSK 1RB_50	21350/2560	1:1	0.016	0.009	0.14	23.24	24	1.191	0.019	0.011	22.1	1.6
Right cheek	20M_QPSK 1RB_50	21350/2560	1:1	0.084	0.055	0.01	23.24	24	1.191	0.099	0.066	22.1	1.6
Right tilted	20M_QPSK 1RB_50	21350/2560	1:1	0.024	0.015	0.05	23.24	24	1.191	0.029	0.018	22.1	1.6
Right cheek	20M_QPSK 1RB_50	20850/2510	1:1	0.068	0.041	0.15	22.56	24	1.393	0.095	0.057	22.1	1.6
Right cheek	20M_QPSK 1RB_50	21100/2535.5	1:1	0.071	0.042	0.11	22.81	24	1.315	0.093	0.055	22.1	1.6
Left cheek	20M_QPSK 50RB_25	21350/2560	1:1	0.024	0.016	0.07	21.92	23	1.282	0.031	0.020	22.1	1.6
Left tilted	20M_QPSK 50RB_25	21350/2560	1:1	0.014	0.008	0.13	21.92	23	1.282	0.018	0.010	22.1	1.6
Right cheek	20M_QPSK 50RB_25	21350/2560	1:1	0.077	0.053	-0.08	21.92	23	1.282	0.098	0.068	22.1	1.6
Right tilted	20M_QPSK 50RB_25	21350/2560	1:1	0.022	0.001	-0.07	21.92	23	1.282	0.028	0.002	22.1	1.6
Right cheek	20M_QPSK 50RB_25	20850/2510	1:1	0.061	0.039	0.19	21.40	23	1.445	0.089	0.056	22.1	1.6
Right cheek	20M_QPSK 50RB_25	21100/2535.5	1:1	0.066	0.042	0.16	21.68	23	1.355	0.090	0.057	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Right cheek	20M_QPSK 1RB_50	21350/2560	1:1	0.072	0.048	0.04	23.24	24	1.191	0.086	0.057	22.1	1.6
Body Test data(Separate 10mm)													
Front side	20M_QPSK 1RB_50	21350/2560	1:1	0.66	0.321	0.03	19.33	20	1.167	0.775	0.375	22.1	1.6
Back side	20M_QPSK 1RB_50	21350/2560	1:1	0.973	0.491	0.09	19.33	20	1.167	1.135	0.573	22.1	1.6
Left side	20M_QPSK 1RB_50	21350/2560	1:1	0.297	0.134	0.09	23.24	24	1.191	0.354	0.159	22.1	1.6
Right side	20M_QPSK 1RB_50	21350/2560	1:1	0.112	0.069	-0.09	19.33	20	1.167	0.131	0.080	22.1	1.6
Top side	20M_QPSK 1RB_50	21350/2560	1:1	0.059	0.039	0.18	23.24	24	1.191	0.070	0.046	22.1	1.6
Bottom side	20M_QPSK 1RB_50	21350/2560	1:1	0.92	0.458	0.19	19.33	20	1.167	1.072	0.535	22.1	1.6
Back side	20M_QPSK 1RB_50	20850/2510	1:1	0.847	0.421	0.03	18.52	20	1.406	1.191	0.592	22.1	1.6
Back side	20M_QPSK 1RB_50	21100/2535.5	1:1	0.853	0.423	-0.14	18.83	20	1.309	1.117	0.554	22.1	1.6
Front side	20M_QPSK 50RB_25	21350/2560	1:1	0.60	0.297	-0.05	17.89	19	1.291	0.776	0.383	22.1	1.6
Back side	20M_QPSK 50RB_25	21350/2560	1:1	0.96	0.465	-0.09	17.89	19	1.291	1.239	0.600	22.1	1.6
Left side	20M_QPSK 50RB_25	21350/2560	1:1	0.271	0.114	0.07	21.92	23	1.282	0.348	0.147	22.1	1.6

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Right side	20M_QPSK 50RB_25	21350/2560	1:1	0.101	0.061	-0.05	17.89	19	1.291	0.130	0.079	22.1	1.6
Top side	20M_QPSK 50RB_25	21350/2560	1:1	0.046	0.024	0.16	21.92	23	1.282	0.059	0.031	22.1	1.6
Bottom side	20M_QPSK 50RB_25	21350/2560	1:1	0.85	0.425	0.02	17.89	19	1.291	1.095	0.548	22.1	1.6
Back side	20M_QPSK 50RB_25	20850/2510	1:1	0.78	0.393	0.09	17.47	19	1.422	1.113	0.558	22.1	1.6
Back side	20M_QPSK 50RB_25	21100/2535.5	1:1	0.79	0.394	-0.17	17.68	19	1.355	1.070	0.534	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	20M_QPSK 1RB_50	21350/2560	1:1	0.95	0.475	-0.07	19.33	20	1.167	1.111	0.554	22.1	1.6
Sensor on SAR													
Front side 12mm	20M_QPSK 1RB_50	21350/2560	1:1	0.449	0.247	-0.03	23.24	24	1.191	0.534	0.294	22.1	1.6
Back side 34mm	20M_QPSK 1RB_50	21350/2560	1:1	0.301	0.176	0.04	23.24	24	1.191	0.358	0.210	22.1	1.6
Right side 17mm	20M_QPSK 1RB_50	21350/2560	1:1	0.145	0.092	0.09	23.24	24	1.191	0.172	0.109	22.1	1.6
Bottom side 23mm	20M_QPSK 1RB_50	21350/2560	1:1	0.715	0.403	0.06	23.24	24	1.191	0.852	0.480	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	20M_QPSK 1RB_50	21350/2560	1:1	3.16	1.32	-0.03	19.33	20	1.167	3.690	1.538	22.1	4
Back side	20M_QPSK 1RB_50	21350/2560	1:1	4.96	2.05	0.09	19.33	20	1.167	5.788	2.394	22.1	4
Left side	20M_QPSK 1RB_50	21350/2560	1:1	1.39	0.52	-0.15	23.24	24	1.191	1.661	0.625	22.1	4
Right side	20M_QPSK 1RB_50	21350/2560	1:1	0.79	0.33	-0.06	19.33	20	1.167	0.926	0.384	22.1	4
Top side	20M_QPSK 1RB_50	21350/2560	1:1	0.31	0.15	0.07	23.24	24	1.191	0.373	0.183	22.1	4
Bottom side	20M_QPSK 1RB_50	21350/2560	1:1	2.97	1.26	-0.11	19.33	20	1.167	3.468	1.471	22.1	4
Back side	20M_QPSK 1RB_50	20850/2510	1:1	4.22	1.58	-0.11	18.52	20	1.406	5.934	2.222	22.1	4
Back side	20M_QPSK 1RB_50	21100/2535.5	1:1	4.47	1.71	-0.09	18.83	20	1.309	5.852	2.239	22.1	4
Front side	20M_QPSK 50RB_25	21350/2560	1:1	2.91	1.22	0.15	17.89	19	1.291	3.763	1.570	22.1	4
Back side	20M_QPSK 50RB_25	21350/2560	1:1	4.57	1.89	-0.02	17.89	19	1.291	5.897	2.442	22.1	4
Left side	20M_QPSK 50RB_25	21350/2560	1:1	1.28	0.485	0.13	21.92	23	1.282	1.645	0.622	22.1	4
Right side	20M_QPSK 50RB_25	21350/2560	1:1	0.64	0.303	0.12	17.89	19	1.291	0.820	0.391	22.1	4
Top side	20M_QPSK 50RB_25	21350/2560	1:1	0.25	0.124	-0.15	21.92	23	1.282	0.322	0.160	22.1	4
Bottom side	20M_QPSK 50RB_25	21350/2560	1:1	2.38	1.01	-0.18	17.89	19	1.291	3.074	1.309	22.1	4
Back side	20M_QPSK 50RB_25	20850/2510	1:1	3.61	1.44	0.17	17.47	19	1.422	5.135	2.048	22.1	4
Back side	20M_QPSK 50RB_25	21100/2535.5	1:1	3.52	1.35	-0.14	17.68	19	1.355	4.770	1.830	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	20M_QPSK 1RB_50	21350/2560	1:1	4.73	1.97	0.05	19.33	20	1.167	5.519	2.299	22.1	4

SKU2



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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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Right cheek	20M_QPSK 1RB_50	21350/2560	1:1	0.071	0.049	0.09	23.24	24	1.191	0.085	0.058	22.1	1.6
Body Test data(Separate 10mm)													
Back side	20M_QPSK 1RB_50	21350/2560	1:1	0.987	0.474	0.03	19.33	20	1.167	1.152	0.553	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	20M_QPSK 1RB_50	21350/2560	1:1	4.69	1.92	-0.17	19.33	20	1.167	5.472	2.240	22.1	4



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8.2.10 SAR Result Of LTE Band 12

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	23130/711	1:1	0.134	0.103	0.04	23.39	24	1.151	0.154	0.119	22.1	1.6
Left tilted	10M_QPSK 1RB_25	23130/711	1:1	0.034	0.032	0.19	23.39	24	1.151	0.040	0.037	22.1	1.6
Right cheek	10M_QPSK 1RB_25	23130/711	1:1	0.082	0.065	0.06	23.39	24	1.151	0.095	0.075	22.1	1.6
Right tilted	10M_QPSK 1RB_25	23130/711	1:1	0.031	0.027	-0.1	23.39	24	1.151	0.036	0.031	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23060/704	1:1	0.128	0.102	0.06	23.26	24	1.186	0.152	0.120	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23095/707.5	1:1	0.126	0.101	-0.17	23.28	24	1.180	0.149	0.120	22.1	1.6
Left cheek	10M_QPSK 25RB_25	23060/704	1:1	0.124	0.097	-0.14	22.33	23.00	1.167	0.144	0.113	22.1	1.6
Left tilted	10M_QPSK 25RB_25	23060/704	1:1	0.032	0.036	-0.17	22.33	23.00	1.167	0.038	0.041	22.1	1.6
Right cheek	10M_QPSK 25RB_25	23060/704	1:1	0.079	0.061	0.15	22.33	23.00	1.167	0.093	0.071	22.1	1.6
Right tilted	10M_QPSK 25RB_25	23060/704	1:1	0.029	0.025	0.04	22.33	23.00	1.167	0.034	0.029	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23095/707.5	1:1	0.120	0.098	0.01	22.18	23.00	1.208	0.145	0.118	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23130/711	1:1	0.116	0.096	0.01	22.22	23.00	1.197	0.139	0.115	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Left cheek	10M_QPSK 1RB_25	23130/711	1:1	0.128	0.100	-0.15	23.39	24	1.151	0.147	0.115	22.1	1.6
Body Test data(Separate 10mm)													
Front side	10M_QPSK 1RB_25	23130/711	1:1	0.144	0.112	0.01	23.39	24	1.151	0.165	0.129	22.1	1.6
Back side	10M_QPSK 1RB_25	23130/711	1:1	0.225	0.174	-0.03	23.39	24	1.151	0.259	0.200	22.1	1.6
Left side	10M_QPSK 1RB_25	23130/711	1:1	0.039	0.027	-0.15	23.39	24	1.151	0.045	0.031	22.1	1.6
Right side	10M_QPSK 1RB_25	23130/711	1:1	0.131	0.093	-0.06	23.39	24	1.151	0.151	0.107	22.1	1.6
Top side	10M_QPSK 1RB_25	23130/711	1:1	0.009	0.008	-0.02	23.39	24	1.151	0.010	0.009	22.1	1.6
Bottom side	10M_QPSK 1RB_25	23130/711	1:1	0.031	0.020	-0.07	23.39	24	1.151	0.036	0.023	22.1	1.6
Back side	10M_QPSK 1RB_25	23060/704	1:1	0.216	0.170	0.15	23.26	24	1.186	0.257	0.201	22.1	1.6
Back side	10M_QPSK 1RB_25	23095/707.5	1:1	0.209	0.165	-0.05	23.28	24	1.180	0.246	0.195	22.1	1.6
Front side	10M_QPSK 25RB_25	23060/704	1:1	0.133	0.105	0.15	22.33	23.00	1.167	0.155	0.123	22.1	1.6
Back side	10M_QPSK 25RB_25	23060/704	1:1	0.208	0.162	0.12	22.33	23.00	1.167	0.243	0.189	22.1	1.6
Left side	10M_QPSK 25RB_25	23060/704	1:1	0.037	0.026	-0.03	22.33	23.00	1.167	0.043	0.030	22.1	1.6
Right side	10M_QPSK 25RB_25	23060/704	1:1	0.122	0.089	0.18	22.33	23.00	1.167	0.142	0.104	22.1	1.6

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Top side	10M_QPSK 25RB_25	23060/704	1:1	0.006	0.003	-0.07	22.33	23.00	1.167	0.007	0.004	22.1	1.6
Bottom side	10M_QPSK 25RB_25	23060/704	1:1	0.029	0.018	0.02	22.33	23.00	1.167	0.034	0.021	22.1	1.6
Back side	10M_QPSK 25RB_25	23095/707.5	1:1	0.203	0.159	-0.16	22.18	23.00	1.208	0.245	0.192	22.1	1.6
Back side	10M_QPSK 25RB_25	23130/711	1:1	0.194	0.153	-0.06	22.22	23.00	1.197	0.232	0.183	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	10M_QPSK 1RB_25	23130/711	1:1	0.208	0.166	0.09	23.39	24	1.151	0.239	0.191	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	10M_QPSK 1RB_25	23130/711	1:1	1.36	0.680	-0.19	23.39	24	1.151	1.562	0.783	22.1	4
Back side	10M_QPSK 1RB_25	23130/711	1:1	2.15	1.06	-0.02	23.39	24	1.151	2.474	1.220	22.1	4
Left side	10M_QPSK 1RB_25	23130/711	1:1	0.376	0.178	-0.1	23.39	24	1.151	0.433	0.205	22.1	4
Right side	10M_QPSK 1RB_25	23130/711	1:1	0.416	0.183	0.09	23.39	24	1.151	0.479	0.211	22.1	4
Top side	10M_QPSK 1RB_25	23130/711	1:1	0.082	0.050	-0.03	23.39	24	1.151	0.095	0.058	22.1	4
Bottom side	10M_QPSK 1RB_25	23130/711	1:1	0.345	0.209	0.09	23.39	24	1.151	0.397	0.241	22.1	4
Back side	10M_QPSK 1RB_25	23060/704	1:1	2.04	1.01	0.12	23.26	24	1.186	2.423	1.199	22.1	4
Back side	10M_QPSK 1RB_25	23095/707.5	1:1	1.98	0.978	-0.14	23.28	24	1.180	2.335	1.154	22.1	4
Front side	10M_QPSK 25RB_25	23060/704	1:1	1.25	0.631	-0.1	22.33	23.00	1.167	1.462	0.736	22.1	4
Back side	10M_QPSK 25RB_25	23060/704	1:1	1.98	0.977	0.13	22.33	23.00	1.167	2.315	1.139	22.1	4
Left side	10M_QPSK 25RB_25	23060/704	1:1	0.348	0.170	0.15	22.33	23.00	1.167	0.406	0.198	22.1	4
Right side	10M_QPSK 25RB_25	23060/704	1:1	0.389	0.172	-0.07	22.33	23.00	1.167	0.454	0.201	22.1	4
Top side	10M_QPSK 25RB_25	23060/704	1:1	0.076	0.046	-0.1	22.33	23.00	1.167	0.089	0.054	22.1	4
Bottom side	10M_QPSK 25RB_25	23060/704	1:1	0.319	0.193	0.04	22.33	23.00	1.167	0.372	0.225	22.1	4
Back side	10M_QPSK 25RB_25	23095/707.5	1:1	1.88	0.932	-0.17	22.18	23.00	1.208	2.274	1.126	22.1	4
Back side	10M_QPSK 25RB_25	23130/711	1:1	1.82	0.901	-0.14	22.22	23.00	1.197	2.180	1.079	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	10M_QPSK 1RB_25	23130/711	1:1	1.98	0.976	0.07	23.39	24	1.151	2.279	1.123	22.1	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	23130/711	1:1	0.109	0.089	0.01	23.39	24	1.151	0.125	0.102	22.1	1.6
Body Test data(Separate 10mm)													



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Back side	10M_QPSK 1RB_25	23130/711	1:1	0.204	0.168	-0.14	23.39	24	1.151	0.235	0.193	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	10M_QPSK 1RB_25	23130/711	1:1	2.04	0.989	0.11	23.39	24	1.151	2.348	1.138	22.1	4



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8.2.11 SAR Result Of LTE Band 17

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	23800/711	1:1	0.129	0.099	0.16	23.41	24	1.146	0.148	0.113	22.1	1.6
Left tilted	10M_QPSK 1RB_25	23800/711	1:1	0.031	0.028	-0.02	23.41	24	1.146	0.036	0.032	22.1	1.6
Right cheek	10M_QPSK 1RB_25	23800/711	1:1	0.120	0.095	-0.07	23.41	24	1.146	0.137	0.109	22.1	1.6
Right tilted	10M_QPSK 1RB_25	23800/711	1:1	0.030	0.026	-0.07	23.41	24	1.146	0.034	0.029	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23780/709	1:1	0.124	0.096	-0.03	23.37	24	1.156	0.143	0.111	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23790/710	1:1	0.122	0.093	-0.17	23.32	24	1.169	0.143	0.109	22.1	1.6
Left cheek	10M_QPSK 25RB_0	23800/711	1:1	0.120	0.093	0.02	22.33	23.00	1.167	0.140	0.109	22.1	1.6
Left tilted	10M_QPSK 25RB_0	23800/711	1:1	0.029	0.027	-0.15	22.33	23.00	1.167	0.034	0.031	22.1	1.6
Right cheek	10M_QPSK 25RB_0	23800/711	1:1	0.113	0.087	-0.05	22.33	23.00	1.167	0.132	0.102	22.1	1.6
Right tilted	10M_QPSK 25RB_0	23800/711	1:1	0.027	0.024	-0.09	22.33	23.00	1.167	0.032	0.028	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23780/709	1:1	0.116	0.095	0.15	22.20	23.00	1.202	0.139	0.114	22.1	1.6
Left cheek	10M_QPSK 1RB_25	23790/710	1:1	0.115	0.091	0.02	22.27	23.00	1.183	0.136	0.108	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Left cheek	10M_QPSK 1RB_25	23800/711	1:1	0.124	0.098	-0.02	23.41	24	1.146	0.142	0.112	22.1	1.6
Body Test data(Separate 10mm)													
Front side	10M_QPSK 1RB_25	23800/711	1:1	0.163	0.126	-0.06	23.41	24	1.146	0.187	0.144	22.1	1.6
Back side	10M_QPSK 1RB_25	23800/711	1:1	0.257	0.198	-0.11	23.41	24	1.146	0.294	0.227	22.1	1.6
Left side	10M_QPSK 1RB_25	23800/711	1:1	0.046	0.031	0.01	23.41	24	1.146	0.052	0.035	22.1	1.6
Right side	10M_QPSK 1RB_25	23800/711	1:1	0.125	0.088	0.09	23.41	24	1.146	0.143	0.101	22.1	1.6
Top side	10M_QPSK 1RB_25	23800/711	1:1	0.009	0.006	0.19	23.41	24	1.146	0.010	0.007	22.1	1.6
Bottom side	10M_QPSK 1RB_25	23800/711	1:1	0.034	0.002	0.03	23.41	24	1.146	0.039	0.002	22.1	1.6
Back side	10M_QPSK 1RB_25	23780/709	1:1	0.250	0.194	0.08	23.37	24	1.156	0.289	0.224	22.1	1.6
Back side	10M_QPSK 1RB_25	23790/710	1:1	0.240	0.187	0.19	23.32	24	1.169	0.281	0.219	22.1	1.6
Front side	10M_QPSK 25RB_0	23800/711	1:1	0.152	0.121	0.16	22.33	23.00	1.167	0.177	0.141	22.1	1.6
Back side	10M_QPSK 25RB_0	23800/711	1:1	0.242	0.185	0.05	22.33	23.00	1.167	0.282	0.216	22.1	1.6
Left side	10M_QPSK 25RB_0	23800/711	1:1	0.041	0.026	0.18	22.33	23.00	1.167	0.048	0.030	22.1	1.6
Right side	10M_QPSK 25RB_0	23800/711	1:1	0.118	0.083	0.02	22.33	23.00	1.167	0.138	0.097	22.1	1.6

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Top side	10M_QPSK 25RB_0	23800/711	1:1	0.008	0.004	-0.1	22.33	23.00	1.167	0.009	0.005	22.1	1.6
Bottom side	10M_QPSK 25RB_0	23800/711	1:1	0.032	0.004	0.13	22.33	23.00	1.167	0.037	0.005	22.1	1.6
Back side	10M_QPSK 25RB_0	23780/709	1:1	0.233	0.180	-0.01	22.20	23.00	1.202	0.281	0.216	22.1	1.6
Back side	10M_QPSK 25RB_0	23790/710	1:1	0.226	0.173	-0.04	22.27	23.00	1.183	0.267	0.205	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	10M_QPSK 1RB_25	23800/711	1:1	0.223	0.174	-0.14	23.41	24	1.146	0.256	0.200	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	10M_QPSK 1RB_25	23800/711	1:1	1.36	0.677	0.1	23.41	24	1.146	1.562	0.776	22.1	4
Back side	10M_QPSK 1RB_25	23800/711	1:1	2.15	1.06	-0.05	23.41	24	1.146	2.463	1.214	22.1	4
Left side	10M_QPSK 1RB_25	23800/711	1:1	0.384	0.177	-0.04	23.41	24	1.146	0.440	0.203	22.1	4
Right side	10M_QPSK 1RB_25	23800/711	1:1	0.457	0.200	-0.06	23.41	24	1.146	0.523	0.229	22.1	4
Top side	10M_QPSK 1RB_25	23800/711	1:1	0.074	0.043	-0.1	23.41	24	1.146	0.084	0.049	22.1	4
Bottom side	10M_QPSK 1RB_25	23800/711	1:1	0.364	0.154	0.06	23.41	24	1.146	0.417	0.176	22.1	4
Back side	10M_QPSK 1RB_25	23780/709	1:1	2.04	1.01	-0.14	23.37	24	1.156	2.362	1.166	22.1	4
Back side	10M_QPSK 1RB_25	23790/710	1:1	1.98	0.978	-0.13	23.32	24	1.169	2.317	1.144	22.1	4
Front side	10M_QPSK 25RB_0	23800/711	1:1	1.26	0.628	-0.19	22.33	23.00	1.167	1.467	0.733	22.1	4
Back side	10M_QPSK 25RB_0	23800/711	1:1	1.98	0.977	-0.14	22.33	23.00	1.167	2.311	1.140	22.1	4
Left side	10M_QPSK 25RB_0	23800/711	1:1	0.354	0.168	0.11	22.33	23.00	1.167	0.413	0.197	22.1	4
Right side	10M_QPSK 25RB_0	23800/711	1:1	0.425	0.189	0.16	22.33	23.00	1.167	0.496	0.221	22.1	4
Top side	10M_QPSK 25RB_0	23800/711	1:1	0.070	0.041	-0.19	22.33	23.00	1.167	0.082	0.048	22.1	4
Bottom side	10M_QPSK 25RB_0	23800/711	1:1	0.336	0.142	-0.07	22.33	23.00	1.167	0.392	0.166	22.1	4
Back side	10M_QPSK 25RB_0	23780/709	1:1	1.88	0.930	-0.12	22.20	23.00	1.202	2.262	1.119	22.1	4
Back side	10M_QPSK 25RB_0	23790/710	1:1	1.82	0.903	0.02	22.27	23.00	1.183	2.158	1.068	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	10M_QPSK 1RB_25	23800/711	1:1	1.98	0.977	0.09	23.41	24	1.146	2.269	1.119	22.1	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	10M_QPSK 1RB_25	23800/711	1:1	0.112	0.087	-0.07	23.41	24	1.146	0.128	0.100	22.1	1.6
Body Test data(Separate 10mm)													



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Back side	10M_QPSK 1RB_25	23800/711	1:1	0.241	0.191	0.11	23.41	24	1.146	0.276	0.219	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	10M_QPSK 1RB_25	23800/711	1:1	2.01	0.988	-0.1	23.41	24	1.146	2.302	1.132	22.1	4



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8.2.12 SAR Result Of LTE Band 38

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.034	0.024	-0.11	22.74	23	1.062	0.036	0.025	22.1	1.6
Left tilted	20M_QPSK 1RB_50	37850/2580	1:1	0.020	0.012	-0.03	22.74	23	1.062	0.021	0.013	22.1	1.6
Right cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.098	0.062	-0.19	22.74	23	1.062	0.104	0.066	22.1	1.6
Right tilted	20M_QPSK 1RB_50	37850/2580	1:1	0.023	0.013	0.03	22.74	23	1.062	0.025	0.014	22.1	1.6
Right cheek	20M_QPSK 1RB_50	38000/2595	1:1	0.071	0.048	-0.07	22.52	23	1.117	0.079	0.054	22.1	1.6
Right cheek	20M_QPSK 1RB_50	38150/2610	1:1	0.081	0.051	-0.19	22.26	23	1.186	0.096	0.061	22.1	1.6
Left cheek	20M_QPSK 50RB_0	37850/2580	1:1	0.031	0.023	-0.11	21.53	22	1.114	0.034	0.026	22.1	1.6
Left tilted	20M_QPSK 50RB_0	37850/2580	1:1	0.018	0.012	-0.19	21.53	22	1.114	0.020	0.013	22.1	1.6
Right cheek	20M_QPSK 50RB_0	37850/2580	1:1	0.085	0.055	-0.01	21.53	22	1.114	0.094	0.061	22.1	1.6
Right tilted	20M_QPSK 50RB_0	37850/2580	1:1	0.021	0.012	0.08	21.53	22	1.114	0.023	0.013	22.1	1.6
Right cheek	20M_QPSK 50RB_0	38000/2595	1:1	0.066	0.037	0.18	21.34	22	1.164	0.077	0.043	22.1	1.6
Right cheek	20M_QPSK 50RB_0	38150/2610	1:1	0.067	0.042	-0.1	21.33	22	1.167	0.078	0.049	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Right cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.088	0.058	0.09	22.74	23	1.062	0.093	0.061	22.1	1.6
Body Test data(Separate 10mm)													
Front side	20M_QPSK 1RB_50	37850/2580	1:1	0.526	0.251	-0.09	19.65	20	1.084	0.570	0.272	22.1	1.6
Back side	20M_QPSK 1RB_50	37850/2580	1:1	0.766	0.374	0.06	19.65	20	1.084	0.830	0.405	22.1	1.6
Left side	20M_QPSK 1RB_50	37850/2580	1:1	0.232	0.100	-0.08	19.65	20	1.084	0.251	0.108	22.1	1.6
Right side	20M_QPSK 1RB_50	37850/2580	1:1	0.072	0.045	0.04	19.65	20	1.084	0.078	0.049	22.1	1.6
Top side	20M_QPSK 1RB_50	37850/2580	1:1	0.050	0.033	-0.08	19.65	20	1.084	0.054	0.036	22.1	1.6
Bottom side	20M_QPSK 1RB_50	37850/2580	1:1	0.585	0.292	0.04	19.65	20	1.084	0.634	0.316	22.1	1.6
Back side	20M_QPSK 1RB_50	38000/2595	1:1	0.716	0.339	0.06	19.4	20	1.148	0.823	0.389	22.1	1.6
Back side	20M_QPSK 1RB_50	38150/2610	1:1	0.687	0.311	0.12	19.23	20	1.194	0.820	0.371	22.1	1.6
Front side	20M_QPSK 50RB_0	37850/2580	1:1	0.502	0.241	0.14	18.7	19	1.072	0.538	0.259	22.1	1.6
Back side	20M_QPSK 50RB_0	37850/2580	1:1	0.741	0.355	0.06	18.7	19	1.072	0.794	0.380	22.1	1.6
Left side	20M_QPSK 50RB_0	37850/2580	1:1	0.232	0.102	-0.16	18.7	19	1.072	0.249	0.109	22.1	1.6
Right side	20M_QPSK 50RB_0	37850/2580	1:1	0.066	0.036	-0.02	18.7	19	1.072	0.071	0.039	22.1	1.6
Top side	20M_QPSK 50RB_0	37850/2580	1:1	0.044	0.021	0.11	18.7	19	1.072	0.047	0.023	22.1	1.6



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Bottom side	20M_QPSK 50RB_0	37850/2580	1:1	0.554	0.284	0.19	18.7	19	1.072	0.594	0.304	22.1	1.6
Back side	20M_QPSK 50RB_0	38000/2595	1:1	0.673	0.320	0.16	18.41	19	1.146	0.771	0.366	22.1	1.6
Back side	20M_QPSK 50RB_0	38150/2610	1:1	0.642	0.302	0.06	18.14	19	1.219	0.783	0.368	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	20M_QPSK 1RB_50	37850/2580	1:1	0.817	0.380	0.05	19.65	20	1.084	0.885	0.412	22.1	1.6
Sensor on SAR													
Front side 12mm	20M_QPSK 1RB_50	37850/2580	1:1	0.325	0.179	-0.19	22.74	23	1.062	0.345	0.190	22.1	1.6
Back side 34mm	20M_QPSK 1RB_50	37850/2580	1:1	0.209	0.131	-0.19	22.74	23	1.062	0.222	0.139	22.1	1.6
Right side 17mm	20M_QPSK 1RB_50	37850/2580	1:1	0.109	0.073	0.1	22.74	23	1.062	0.116	0.077	22.1	1.6
Bottom side 23mm	20M_QPSK 1RB_50	37850/2580	1:1	0.523	0.297	-0.01	22.74	23	1.062	0.555	0.316	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	20M_QPSK 1RB_50	37850/2580	1:1	2.33	0.992	-0.09	19.65	20	1.084	2.524	1.075	22.1	4
Back side	20M_QPSK 1RB_50	37850/2580	1:1	3.67	1.54	-0.05	19.65	20	1.084	3.977	1.671	22.1	4
Left side	20M_QPSK 1RB_50	37850/2580	1:1	1.04	0.402	0.17	19.65	20	1.084	1.126	0.436	22.1	4
Right side	20M_QPSK 1RB_50	37850/2580	1:1	0.629	0.257	0.16	19.65	20	1.084	0.681	0.279	22.1	4
Top side	20M_QPSK 1RB_50	37850/2580	1:1	0.251	0.114	-0.06	19.65	20	1.084	0.272	0.124	22.1	4
Bottom side	20M_QPSK 1RB_50	37850/2580	1:1	2.81	1.05	0.11	19.65	20	1.084	3.048	1.141	22.1	4
Back side	20M_QPSK 1RB_50	38000/2595	1:1	2.21	1.34	-0.03	19.4	20	1.148	2.537	1.533	22.1	4
Back side	20M_QPSK 1RB_50	38150/2610	1:1	2.15	1.29	0.07	19.23	20	1.194	2.569	1.536	22.1	4
Front side	20M_QPSK 50RB_0	37850/2580	1:1	2.10	0.92	0.18	18.7	19	1.072	2.247	0.986	22.1	4
Back side	20M_QPSK 50RB_0	37850/2580	1:1	3.38	1.42	-0.01	18.7	19	1.072	3.621	1.526	22.1	4
Left side	20M_QPSK 50RB_0	37850/2580	1:1	0.614	0.236	-0.01	18.7	19	1.072	0.658	0.253	22.1	4
Right side	20M_QPSK 50RB_0	37850/2580	1:1	0.582	0.243	-0.12	18.7	19	1.072	0.624	0.261	22.1	4
Top side	20M_QPSK 50RB_0	37850/2580	1:1	0.153	0.073	0.15	18.7	19	1.072	0.164	0.078	22.1	4
Bottom side	20M_QPSK 50RB_0	37850/2580	1:1	2.58	0.971	-0.11	18.7	19	1.072	2.769	1.040	22.1	4
Back side	20M_QPSK 50RB_0	38000/2595	1:1	2.94	1.24	0.1	18.41	19	1.146	3.369	1.420	22.1	4
Back side	20M_QPSK 50RB_0	38150/2610	1:1	2.89	1.20	0.14	18.14	19	1.219	3.522	1.458	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	20M_QPSK 1RB_50	37850/2580	1:1	3.43	1.42	0.15	19.65	20	1.084	3.713	1.540	22.1	4

SKU2



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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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Right cheek	20M_QPSK 1RB_50	37850/2580	1:1	0.085	0.047	-0.19	22.74	23	1.062	0.090	0.050	22.1	1.6
Body Test data(Separate 10mm)													
Back side	20M_QPSK 1RB_50	37850/2580	1:1	0.723	0.358	-0.06	19.65	20	1.084	0.784	0.388	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	20M_QPSK 1RB_50	37850/2580	1:1	3.47	1.29	-0.12	19.65	20	1.084	3.761	1.398	22.1	4



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8.2.13 SAR Result Of LTE Band 41

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Left cheek	20M_QPSK 1RB_50	40140/2545	1:1	0.029	0.018	0.01	23.53	24	1.114	0.032	0.020	22.1	1.6
Left tilted	20M_QPSK 1RB_50	40140/2545	1:1	0.018	0.011	0.05	23.53	24	1.114	0.020	0.012	22.1	1.6
Right cheek	20M_QPSK 1RB_50	40140/2545	1:1	0.094	0.059	-0.19	23.53	24	1.114	0.105	0.066	22.1	1.6
Right tilted	20M_QPSK 1RB_50	40140/2545	1:1	0.021	0.014	0.04	23.53	24	1.114	0.023	0.016	22.1	1.6
Right cheek	20M_QPSK 1RB_50	40640/2595	1:1	0.069	0.041	-0.05	23.02	24	1.253	0.086	0.051	22.1	1.6
Right cheek	20M_QPSK 1RB_50	41140/2645	1:1	0.075	0.044	0.17	23.17	24	1.211	0.091	0.053	22.1	1.6
Left cheek	20M_QPSK 50RB_50	40140/2545	1:1	0.027	0.020	0.07	22.4	23	1.148	0.031	0.023	22.1	1.6
Left tilted	20M_QPSK 50RB_50	40140/2545	1:1	0.014	0.008	0.12	22.4	23	1.148	0.016	0.009	22.1	1.6
Right cheek	20M_QPSK 50RB_50	40140/2545	1:1	0.079	0.052	0.01	22.4	23	1.148	0.090	0.060	22.1	1.6
Right tilted	20M_QPSK 50RB_50	40140/2545	1:1	0.019	0.015	0.13	22.4	23	1.148	0.022	0.018	22.1	1.6
Right cheek	20M_QPSK 50RB_50	40640/2595	1:1	0.058	0.036	-0.04	21.94	23	1.276	0.074	0.046	22.1	1.6
Right cheek	20M_QPSK 50RB_50	41140/2645	1:1	0.063	0.037	0.03	22	23	1.259	0.079	0.046	22.1	1.6
Head Test data at the worst case with SIM2(1RB_0 offset)													
Right cheek	20M_QPSK 1RB_50	40140/2545	1:1	0.079	0.054	0.01	23.53	24	1.114	0.088	0.060	22.1	1.6
Body Test data(Separate 10mm)													
Front side	20M_QPSK 1RB_50	40140/2545	1:1	0.551	0.261	0.06	20.54	21	1.112	0.612	0.290	22.1	1.6
Back side	20M_QPSK 1RB_50	40140/2545	1:1	0.889	0.421	0	20.54	21	1.112	0.988	0.468	22.1	1.6
Left side	20M_QPSK 1RB_50	40140/2545	1:1	0.242	0.102	-0.19	23.53	24	1.114	0.270	0.114	22.1	1.6
Right side	20M_QPSK 1RB_50	40140/2545	1:1	0.072	0.041	-0.11	20.54	21	1.112	0.080	0.046	22.1	1.6
Top side	20M_QPSK 1RB_50	40140/2545	1:1	0.051	0.029	-0.1	23.53	24	1.114	0.057	0.032	22.1	1.6
Bottom side	20M_QPSK 1RB_50	40140/2545	1:1	0.610	0.305	0.11	20.54	21	1.112	0.678	0.340	22.1	1.6
Back side	20M_QPSK 1RB_50	40640/2595	1:1	0.747	0.353	-0.19	20.01	21	1.256	0.938	0.443	22.1	1.6
Back side	20M_QPSK 1RB_50	41140/2645	1:1	0.751	0.361	0.07	20.16	21	1.213	0.911	0.438	22.1	1.6
Front side	20M_QPSK 50RB_50	40140/2545	1:1	0.50	0.240	-0.09	19.46	20	1.132	0.564	0.272	22.1	1.6
Back side	20M_QPSK 50RB_50	40140/2545	1:1	0.79	0.374	0.07	19.46	20	1.132	0.899	0.423	22.1	1.6
Left side	20M_QPSK 50RB_50	40140/2545	1:1	0.228	0.099	-0.05	22.4	23	1.148	0.262	0.113	22.1	1.6



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Right side	20M_QPSK 50RB_50	40140/2545	1:1	0.069	0.040	-0.02	19.46	20	1.132	0.078	0.045	22.1	1.6
Top side	20M_QPSK 50RB_50	40140/2545	1:1	0.046	0.024	-0.1	22.4	23	1.148	0.053	0.027	22.1	1.6
Bottom side	20M_QPSK 50RB_50	40140/2545	1:1	0.57	0.285	-0.16	19.46	20	1.132	0.641	0.322	22.1	1.6
Back side	20M_QPSK 50RB_50	40640/2595	1:1	0.71	0.331	-0.19	18.89	20	1.291	0.910	0.427	22.1	1.6
Back side	20M_QPSK 50RB_50	41140/2645	1:1	0.69	0.321	-0.15	19	20	1.259	0.871	0.404	22.1	1.6
Body Test data at the worst case with SIM2(Separate 10mm)													
Back side	20M_QPSK 1RB_50	40140/2545	1:1	0.83	0.385	-0.08	20.54	21	1.112	0.926	0.428	22.1	1.6
Sensor on SAR													
Front side 12mm	20M_QPSK 1RB_50	40140/2545	1:1	0.325	0.176	-0.09	23.53	24	1.114	0.362	0.196	22.1	1.6
Back side 34mm	20M_QPSK 1RB_50	40140/2545	1:1	0.205	0.125	-0.18	23.53	24	1.114	0.229	0.139	22.1	1.6
Right side 17mm	20M_QPSK 1RB_50	40140/2545	1:1	0.106	0.066	0.06	23.53	24	1.114	0.118	0.073	22.1	1.6
Bottom side 23mm	20M_QPSK 1RB_50	40140/2545	1:1	0.536	0.300	-0.18	23.53	24	1.114	0.597	0.335	22.1	1.6
Extremity Test data(Separate 0mm)													
Front side	20M_QPSK 1RB_50	40140/2545	1:1	2.39	1.01	0.06	20.54	21	1.112	2.652	1.123	22.1	4
Back side	20M_QPSK 1RB_50	40140/2545	1:1	3.91	1.64	0.09	20.54	21	1.112	4.347	1.823	22.1	4
Left side	20M_QPSK 1RB_50	40140/2545	1:1	1.06	0.410	-0.15	23.53	24	1.114	1.186	0.457	22.1	4
Right side	20M_QPSK 1RB_50	40140/2545	1:1	0.64	0.261	0.08	20.54	21	1.112	0.707	0.290	22.1	4
Top side	20M_QPSK 1RB_50	40140/2545	1:1	0.250	0.109	0.06	23.53	24	1.114	0.278	0.121	22.1	4
Bottom side	20M_QPSK 1RB_50	40140/2545	1:1	2.88	1.08	0.05	20.54	21	1.112	3.207	1.197	22.1	4
Back side	20M_QPSK 1RB_50	40640/2595	1:1	2.27	1.37	-0.05	20.01	21	1.256	2.851	1.721	22.1	4
Back side	20M_QPSK 1RB_50	41140/2645	1:1	2.21	1.32	-0.16	20.16	21	1.213	2.682	1.602	22.1	4
Front side	20M_QPSK 50RB_50	40140/2545	1:1	2.15	0.94	-0.02	19.46	20	1.132	2.432	1.059	22.1	4
Back side	20M_QPSK 50RB_50	40140/2545	1:1	3.47	1.46	-0.13	19.46	20	1.132	3.932	1.649	22.1	4
Left side	20M_QPSK 50RB_50	40140/2545	1:1	0.62	0.239	0.01	22.4	23	1.148	0.712	0.274	22.1	4
Right side	20M_QPSK 50RB_50	40140/2545	1:1	0.59	0.244	0.13	19.46	20	1.132	0.665	0.277	22.1	4
Top side	20M_QPSK 50RB_50	40140/2545	1:1	0.148	0.065	0.17	22.4	23	1.148	0.170	0.074	22.1	4
Bottom side	20M_QPSK 50RB_50	40140/2545	1:1	2.66	1.00	-0.15	19.46	20	1.132	3.007	1.128	22.1	4
Back side	20M_QPSK 50RB_50	40640/2595	1:1	3.02	1.27	0.02	18.89	20	1.291	3.899	1.640	22.1	4
Back side	20M_QPSK 50RB_50	41140/2645	1:1	2.97	1.22	0.08	19	20	1.259	3.739	1.536	22.1	4
Extremity Test data at the worst case with SIM2(Separate 0mm)													
Back side	20M_QPSK 1RB_50	40140/2545	1:1	3.52	1.46	-0.08	20.54	21	1.112	3.913	1.623	22.1	4

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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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data													
Right cheek	20M_QPSK 1RB_50	39750/2506	1:1	0.085	0.047	-0.11	23.53	24	1.114	0.095	0.052	22.1	1.6
Body Test data(Separate 10mm)													
Back side	20M_QPSK 1RB_50	39750/2506	1:1	0.815	0.374	0.06	20.54	21	1.112	0.906	0.416	22.1	1.6
Extremity Test data(Separate 0mm)													
Back side	20M_QPSK 1RB_50	39750/2506	1:1	3.42	1.29	0.06	20.54	21	1.112	3.802	1.434	22.1	4



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8.2.14 SAR Result Of 2.4GHz Wi-Fi

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data														
Left cheek	802.11b	11/2462	99.56	1.004	0.494	0.292	0.15	15.33	16	1.167	0.578	0.342	22.2	1.6
Left tilted	802.11b	11/2462	99.56	1.004	0.366	0.216	-0.14	15.33	16	1.167	0.429	0.253	22.2	1.6
Right cheek	802.11b	11/2462	99.56	1.004	0.752	0.416	0.08	15.33	16	1.167	0.881	0.487	22.2	1.6
Right tilted	802.11b	11/2462	99.56	1.004	0.532	0.297	0.04	15.33	16	1.167	0.623	0.348	22.2	1.6
Right cheek	802.11b	1/2412	99.57	1.004	0.702	0.372	0.01	15.1	16	1.230	0.867	0.459	22.2	1.6
Right cheek	802.11b	6/2437	99.56	1.004	0.692	0.387	-0.07	15.18	16	1.208	0.839	0.469	22.2	1.6
Body Test data(Separate 10mm)														
Front side	802.11b	11/2462	99.56	1.004	0.296	0.166	-0.05	15.33	16	1.167	0.347	0.194	22.2	1.6
Back side	802.11b	11/2462	99.56	1.004	0.265	0.15	0.02	15.33	16	1.167	0.310	0.176	22.2	1.6
Left side	802.11b	11/2462	99.56	1.004	0.213	0.11	0.06	15.33	16	1.167	0.250	0.129	22.2	1.6
Right side	802.11b	11/2462	99.56	1.004	0.029	0.016	0.05	17.74	18.5	1.191	0.035	0.019	22.2	1.6
Top side	802.11b	11/2462	99.56	1.004	0.14	0.073	0.18	15.33	16	1.167	0.164	0.086	22.2	1.6
Bottom side	802.11b	11/2462	99.56	1.004	0.005	0.002	0.04	17.74	18.5	1.191	0.006	0.002	22.2	1.6
Front side	802.11b	1/2412	99.57	1.004	0.277	0.155	0.1	15.1	16	1.230	0.342	0.191	22.2	1.6
Front side	802.11b	6/2437	99.56	1.004	0.278	0.154	0.04	15.18	16	1.208	0.337	0.187	22.2	1.6
Sensor on SAR														
Front side 11mm	802.11b	11/2462	99.56	1.004	0.274	0.148	0.02	17.74	18.50	1.191	0.328	0.177	22.2	1.6
Back side 12mm	802.11b	11/2462	99.56	1.004	0.233	0.101	0.09	17.74	18.50	1.191	0.279	0.121	22.2	1.6
Left side 11mm	802.11b	11/2462	99.56	1.004	0.198	0.095	0.06	17.74	18.50	1.191	0.237	0.114	22.2	1.6
Top side 13mm	802.11b	11/2462	99.56	1.004	0.082	0.047	0.18	17.74	18.50	1.191	0.098	0.056	22.2	1.6
Extremity Test data(Separate 0mm)														
Front side	802.11b	11/2462	99.56	1.004	0.948	0.446	0.08	15.33	16	1.167	1.111	0.522	22.2	4
Back side	802.11b	11/2462	99.56	1.004	0.770	0.394	-0.09	15.33	16	1.167	0.902	0.461	22.2	4
Left side	802.11b	11/2462	99.56	1.004	0.689	0.309	0.09	15.33	16	1.167	0.808	0.361	22.2	4
Right side	802.11b	11/2462	99.56	1.004	0.076	0.039	0.03	17.74	18.5	1.191	0.091	0.047	22.2	4
Top side	802.11b	11/2462	99.56	1.004	0.695	0.262	-0.19	15.33	16	1.167	0.814	0.306	22.2	4
Bottom side	802.11b	11/2462	99.56	1.004	0.075	0.037	0.06	17.74	18.5	1.191	0.089	0.044	22.2	4

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Front side	802.11b	1/2412	99.57	1.004	0.885	0.411	-0.15	15.1	16	1.230	1.093	0.508	22.2	4
Front side	802.11b	6/2437	99.56	1.004	0.873	0.411	0.1	15.18	16	1.208	1.059	0.499	22.2	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data														
Right cheek	802.11b	11/2462	99.56	1.004	0.728	0.388	-0.17	15.33	16	1.167	0.853	0.455	22.2	1.6
Body Test data(Separate 10mm)														
Front side	802.11b	11/2462	99.56	1.004	0.268	0.149	0.09	15.33	16	1.167	0.314	0.175	22.2	1.6
Extremity Test data(Separate 0mm)														
Front side	802.11b	11/2462	99.56	1.004	0.898	0.422	-0.04	15.33	16	1.167	1.052	0.494	22.2	4



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8.2.15 SAR Result Of Bluetooth

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data U-NII-1														
Left cheek	GFSK	0/2402	77.11	1.297	0.090	0.056	-0.15	11.64	12	1.086	0.127	0.079	22.2	1.6
Left tilted	GFSK	0/2402	77.11	1.297	0.068	0.042	0.1	11.64	12	1.086	0.095	0.059	22.2	1.6
Right cheek	GFSK	0/2402	77.11	1.297	0.137	0.079	0.07	11.64	12	1.086	0.193	0.111	22.2	1.6
Right tilted	GFSK	0/2402	77.11	1.297	0.097	0.057	0.16	11.64	12	1.086	0.137	0.081	22.2	1.6
Body Test data(Separate 10mm)														
Front side	GFSK	0/2402	77.11	1.297	0.030	0.015	0.01	11.64	12	1.086	0.042	0.021	22.2	1.6
Back side	GFSK	0/2402	77.11	1.297	0.040	0.023	0.03	11.64	12	1.086	0.056	0.032	22.2	1.6
Left side	GFSK	0/2402	77.11	1.297	0.021	0.011	0.12	11.64	12	1.086	0.030	0.016	22.2	1.6
Right side	GFSK	0/2402	77.11	1.297	0.002	0.001	0.01	11.64	12	1.086	0.003	0.002	22.2	1.6
Top side	GFSK	0/2402	77.11	1.297	0.022	0.009	0.09	11.64	12	1.086	0.031	0.013	22.2	1.6
Bottom side	GFSK	0/2402	77.11	1.297	0.000	0.000	0.05	11.64	12	1.086	0.000	0.000	22.2	1.6
Extremity Test data(Separate 0mm)														
Front side	GFSK	0/2402	77.11	1.297	0.152	0.0742	0.03	11.64	12	1.086	0.214	0.105	22.2	4
Back side	GFSK	0/2402	77.11	1.297	0.155	0.083	-0.03	11.64	12	1.086	0.218	0.117	22.2	4
Left side	GFSK	0/2402	77.11	1.297	0.123	0.0547	0.03	11.64	12	1.086	0.173	0.077	22.2	4
Right side	GFSK	0/2402	77.11	1.297	0.013	0.007	-0.14	11.64	12	1.086	0.018	0.010	22.2	4
Top side	GFSK	0/2402	77.11	1.297	0.112	0.044	0.11	11.64	12	1.086	0.157	0.061	22.2	4
Bottom side	GFSK	0/2402	77.11	1.297	0.000	0.000	0.04	11.64	12	1.086	0.000	0.000	22.2	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data U-NII-1														
Right cheek	GFSK	0/2402	77.11	1.297	0.127	0.069	0.04	11.64	12	1.086	0.179	0.097	22.2	1.6
Body Test data(Separate 10mm)														
Back side	GFSK	0/2402	77.11	1.297	0.030	0.018	0.04	11.64	12	1.086	0.042	0.025	22.2	1.6



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Extremity Test data(Separate 0mm)														
Back side	GFSK	0/2402	77.11	1.297	0.129	0.074	-0.14	11.64	12	1.086	0.182	0.104	22.2	4



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8.2.16 SAR Result Of WIFI 5G

SKU1

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data U-NII-1														
Left cheek	802.11a	36/5180	96.87	1.032	0.336	0.122	-0.05	13.78	14.50	1.180	0.410	0.148	22.2	1.6
Left tilted	802.11a	36/5180	96.87	1.032	0.252	0.091	0.16	13.78	14.50	1.180	0.307	0.111	22.2	1.6
Right cheek	802.11a	36/5180	96.87	1.032	0.512	0.173	-0.09	13.78	14.50	1.180	0.624	0.211	22.2	1.6
Right tilted	802.11a	36/5180	96.87	1.032	0.544	0.165	0.11	13.78	14.50	1.180	0.663	0.201	22.2	1.6
Right cheek	802.11a	40/5200	96.94	1.032	0.491	0.167	-0.15	13.67	14.50	1.211	0.614	0.208	22.2	1.6
Right cheek	802.11a	48/5240	97.01	1.031	0.473	0.162	-0.19	13.44	14.50	1.276	0.622	0.214	22.2	1.6
Body Test data U-NII-1(Separate 10mm)														
Front side	802.11a	36/5180	96.87	1.032	0.134	0.051	0.08	13.78	14.50	1.180	0.163	0.062	22.2	1.6
Back side	802.11a	36/5180	96.87	1.032	0.193	0.070	0.01	13.78	14.50	1.180	0.235	0.085	22.2	1.6
Left side	802.11a	36/5180	96.87	1.032	0.205	0.087	0.04	13.78	14.50	1.180	0.250	0.106	22.2	1.6
Right side	802.11a	36/5180	96.87	1.032	0.015	0.007	-0.11	13.78	14.50	1.180	0.019	0.008	22.2	1.6
Top side	802.11a	36/5180	96.87	1.032	0.065	0.025	-0.06	13.78	14.50	1.180	0.079	0.030	22.2	1.6
Bottom side	802.11a	36/5180	96.87	1.032	0.000	0.000	0.02	13.78	14.50	1.180	0.000	0.000	22.2	1.6
Left side	802.11a	40/5200	96.94	1.032	0.184	0.067	0.07	13.67	14.50	1.211	0.230	0.084	22.2	1.6
Left side	802.11a	48/5240	97.01	1.031	0.178	0.065	-0.08	13.44	14.50	1.276	0.234	0.086	22.2	1.6
Extremity Test data U-NII-1(Separate 0mm)														
Front side	802.11a	36/5180	96.87	1.032	0.772	0.234	-0.07	13.78	14.50	1.180	0.940	0.285	22.2	4
Back side	802.11a	36/5180	96.87	1.032	1.05	0.295	0.01	13.78	14.50	1.180	1.279	0.359	22.2	4
Left side	802.11a	36/5180	96.87	1.032	0.674	0.23	0.01	13.78	14.50	1.180	0.821	0.280	22.2	4
Right side	802.11a	36/5180	96.87	1.032	0.090	0.022	-0.15	13.78	14.50	1.180	0.110	0.027	22.2	4
Top side	802.11a	36/5180	96.87	1.032	0.371	0.106	-0.16	13.78	14.50	1.180	0.452	0.129	22.2	4
Bottom side	802.11a	36/5180	96.87	1.032	0.012	0.003	0.08	13.78	14.50	1.180	0.015	0.004	22.2	4
Back side	802.11a	40/5200	96.94	1.032	1.01	0.285	0.17	13.67	14.50	1.211	1.257	0.356	22.2	4
Back side	802.11a	48/5240	97.01	1.031	0.964	0.274	0.1	13.44	14.50	1.276	1.269	0.361	22.2	4
Head Test data U-NII-3														
Left cheek	802.11a	165/5825	96.94	1.032	0.579	0.178	-0.15	12.98	13.50	1.127	0.674	0.207	22.2	1.6
Left tilted	802.11a	165/5825	96.94	1.032	0.430	0.132	0.19	12.98	13.50	1.127	0.501	0.154	22.2	1.6

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Right cheek	802.11a	165/5825	96.94	1.032	0.876	0.252	0.03	12.98	13.50	1.127	1.019	0.293	22.2	1.6
Right tilted	802.11a	165/5825	96.94	1.032	0.783	0.23	-0.06	12.98	13.50	1.127	0.911	0.268	22.2	1.6
Right cheek	802.11a	149/5745	96.87	1.032	0.842	0.244	0.08	12.98	13.50	1.127	0.979	0.283	22.2	1.6
Right cheek	802.11a	157/5785	96.94	1.032	0.810	0.235	0.03	12.88	13.50	1.153	0.965	0.280	22.2	1.6
Body Test data U-NII-3(Separate 10mm)														
Front side	802.11a	165/5825	96.94	1.032	0.239	0.082	0.09	12.98	13.50	1.127	0.278	0.095	22.2	1.6
Back side	802.11a	165/5825	96.94	1.032	0.322	0.116	0.01	12.98	13.50	1.127	0.375	0.135	22.2	1.6
Left side	802.11a	165/5825	96.94	1.032	0.294	0.118	0.08	12.98	13.50	1.127	0.342	0.137	22.2	1.6
Right side	802.11a	165/5825	96.94	1.032	0.029	0.008	-0.18	12.98	13.50	1.127	0.034	0.009	22.2	1.6
Top side	802.11a	165/5825	96.94	1.032	0.118	0.039	0.15	12.98	13.50	1.127	0.137	0.046	22.2	1.6
Bottom side	802.11a	165/5825	96.94	1.032	0.009	0.003	0.05	12.98	13.50	1.127	0.010	0.003	22.2	1.6
Back side	802.11a	149/5745	96.87	1.032	0.309	0.112	-0.06	12.98	13.50	1.127	0.360	0.130	22.2	1.6
Back side	802.11a	157/5785	96.94	1.032	0.297	0.109	-0.19	12.88	13.50	1.153	0.353	0.130	22.2	1.6
Extremity Test data U-NII-3(Separate 0mm)														
Front side	802.11a	165/5825	96.94	1.032	1.15	0.34	0.07	12.98	13.50	1.127	1.338	0.396	22.2	4
Back side	802.11a	165/5825	96.94	1.032	1.68	0.473	0.01	12.98	13.50	1.127	1.954	0.550	22.2	4
Left side	802.11a	165/5825	96.94	1.032	0.833	0.279	0.01	12.98	13.50	1.127	0.969	0.325	22.2	4
Right side	802.11a	165/5825	96.94	1.032	0.118	0.039	-0.06	12.98	13.50	1.127	0.137	0.045	22.2	4
Top side	802.11a	165/5825	96.94	1.032	0.551	0.164	0.15	12.98	13.50	1.127	0.641	0.191	22.2	4
Bottom side	802.11a	165/5825	96.94	1.032	0.015	0.005	0.05	12.98	13.50	1.127	0.017	0.006	22.2	4
Back side	802.11a	149/5745	96.87	1.032	1.61	0.455	0.14	12.98	13.50	1.127	1.876	0.530	22.2	4
Back side	802.11a	157/5785	96.94	1.032	1.55	0.443	0.08	12.88	13.50	1.153	1.841	0.527	22.2	4

SKU2

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) 1-g	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg)
Head Test data U-NII-1														
Right cheek	802.11a	36/5180	96.87	1.032	0.473	0.158	-0.11	13.78	14.50	1.180	0.576	0.192	22.2	1.6
Body Test data U-NII-1(Separate 10mm)														
Left side	802.11a	36/5180	96.87	1.032	0.183	0.076	-0.1	13.78	14.50	1.180	0.223	0.093	22.2	1.6
Extremity Test data U-NII-1(Separate 0mm)														
Back side	802.11a	48/5240	97.01	1.031	0.937	0.258	0.18	13.44	14.50	1.276	1.233	0.340	22.2	4
Head Test data U-NII-3														



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Right cheek	802.11a	165/5825	96.94	1.032	0.825	0.239	-0.03	12.98	13.50	1.127	0.960	0.278	22.2	1.6
Body Test data U-NII-3(Separate 10mm)														
Back side	802.11a	165/5825	96.94	1.032	0.302	0.107	0.13	12.98	13.50	1.127	0.351	0.124	22.2	1.6
Extremity Test data U-NII-3(Separate 0mm)														
Back side	802.11a	165/5825	96.94	1.032	1.43	0.421	0.09	12.98	13.50	1.127	1.663	0.490	22.2	4



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8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous 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 (W/kg)	④MAX. BT SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Summed SAR ①+④	Volume scan
GSM850	Left Touch	0.44	0.578	0.674	0.127	1.018	1.114	0.567	NO
	Left Tilt	0.113	0.429	0.501	0.095	0.542	0.614	0.208	NO
	Right Touch	0.301	0.881	1.019	0.193	1.182	1.320	0.494	NO
	Right Tilt	0.106	0.623	0.911	0.137	0.729	1.017	0.243	NO
GSM1900	Left Touch	0.306	0.578	0.674	0.127	0.884	0.980	0.433	NO
	Left Tilt	0.073	0.429	0.501	0.095	0.502	0.574	0.168	NO
	Right Touch	0.244	0.881	1.019	0.193	1.125	1.263	0.437	NO
	Right Tilt	0.072	0.623	0.911	0.137	0.695	0.983	0.209	NO
WCDMA Band II	Left Touch	0.296	0.578	0.674	0.127	0.874	0.970	0.423	NO
	Left Tilt	0.071	0.429	0.501	0.095	0.500	0.572	0.166	NO
	Right Touch	0.258	0.881	1.019	0.193	1.139	1.277	0.451	NO
	Right Tilt	0.071	0.623	0.911	0.137	0.694	0.982	0.208	NO
WCDMA Band IV	Left Touch	0.322	0.578	0.674	0.127	0.900	0.996	0.449	NO
	Left Tilt	0.077	0.429	0.501	0.095	0.506	0.578	0.172	NO
	Right Touch	0.508	0.881	1.019	0.193	1.389	1.527	0.701	NO
	Right Tilt	0.085	0.623	0.911	0.137	0.708	0.996	0.222	NO
WCDMA Band V	Left Touch	0.068	0.578	0.674	0.127	0.646	0.742	0.195	NO
	Left Tilt	0.049	0.429	0.501	0.095	0.478	0.550	0.144	NO
	Right Touch	0.217	0.881	1.019	0.193	1.098	1.236	0.410	NO
	Right Tilt	0.058	0.623	0.911	0.137	0.681	0.969	0.195	NO



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LTE Band 2	Left Touch	0.395	0.578	0.674	0.127	0.973	1.069	0.522	NO
	Left Tilt	0.094	0.429	0.501	0.095	0.523	0.595	0.189	NO
	Right Touch	0.339	0.881	1.019	0.193	1.220	1.358	0.532	NO
	Right Tilt	0.088	0.623	0.911	0.137	0.711	0.999	0.225	NO
LTE Band 4	Left Touch	0.314	0.578	0.674	0.127	0.892	0.988	0.441	NO
	Left Tilt	0.075	0.429	0.501	0.095	0.504	0.576	0.170	NO
	Right Touch	0.496	0.881	1.019	0.193	1.377	1.515	0.689	NO
	Right Tilt	0.077	0.623	0.911	0.137	0.700	0.988	0.214	NO
LTE Band 5	Left Touch	0.252	0.578	0.674	0.127	0.830	0.926	0.379	NO
	Left Tilt	0.062	0.429	0.501	0.095	0.491	0.563	0.157	NO
	Right Touch	0.146	0.881	1.019	0.193	1.027	1.165	0.339	NO
	Right Tilt	0.056	0.623	0.911	0.137	0.679	0.967	0.193	NO
LTE Band 7	Left Touch	0.032	0.578	0.674	0.127	0.610	0.706	0.159	NO
	Left Tilt	0.019	0.429	0.501	0.095	0.448	0.520	0.114	NO
	Right Touch	0.099	0.881	1.019	0.193	0.980	1.118	0.292	NO
	Right Tilt	0.029	0.623	0.911	0.137	0.652	0.940	0.166	NO
LTE Band 12	Left Touch	0.154	0.578	0.674	0.127	0.732	0.828	0.281	NO
	Left Tilt	0.04	0.429	0.501	0.095	0.469	0.541	0.135	NO
	Right Touch	0.095	0.881	1.019	0.193	0.976	1.114	0.288	NO
	Right Tilt	0.036	0.623	0.911	0.137	0.659	0.947	0.173	NO
LTE Band 17	Left Touch	0.148	0.578	0.674	0.127	0.726	0.822	0.275	NO
	Left Tilt	0.036	0.429	0.501	0.095	0.465	0.537	0.131	NO
	Right Touch	0.137	0.881	1.019	0.193	1.018	1.156	0.330	NO
	Right Tilt	0.034	0.623	0.911	0.137	0.657	0.945	0.171	NO
LTE Band 38	Left Touch	0.036	0.578	0.674	0.127	0.614	0.710	0.163	NO
	Left Tilt	0.021	0.429	0.501	0.095	0.450	0.522	0.116	NO
	Right Touch	0.104	0.881	1.019	0.193	0.985	1.123	0.297	NO
	Right Tilt	0.025	0.623	0.911	0.137	0.648	0.936	0.162	NO
LTE Band 41	Left Touch	0.032	0.578	0.674	0.127	0.610	0.706	0.159	NO
	Left Tilt	0.02	0.429	0.501	0.095	0.449	0.521	0.115	NO
	Right Touch	0.105	0.881	1.019	0.193	0.986	1.124	0.298	NO
	Right Tilt	0.023	0.623	0.911	0.137	0.646	0.934	0.160	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	0.345	0.347	0.042	0.278	0.692	0.387	0.623	NO
	Back	0.544	0.31	0.056	0.375	0.854	0.600	0.919	NO
	Left	0.095	0.25	0.030	0.342	0.345	0.125	0.437	NO
	Right	0.247	0.035	0.003	0.034	0.282	0.250	0.281	NO
	Top	0.019	0.164	0.031	0.137	0.183	0.050	0.156	NO
	Bottom	0.211	0.006	0.000	0.01	0.217	0.211	0.221	NO
GSM1900	Front	0.39	0.347	0.042	0.278	0.737	0.432	0.668	NO
	Back	0.618	0.31	0.056	0.375	0.928	0.674	0.993	NO
	Left	0.107	0.25	0.030	0.342	0.357	0.137	0.449	NO
	Right	0.415	0.035	0.003	0.034	0.450	0.418	0.449	NO
	Top	0.024	0.164	0.031	0.137	0.188	0.055	0.161	NO
	Bottom	0.511	0.006	0.000	0.01	0.517	0.511	0.521	NO
WCDMA Band II	Front	0.59	0.347	0.042	0.278	0.937	0.632	0.868	NO
	Back	0.935	0.31	0.056	0.375	1.245	0.991	1.310	NO
	Left	0.163	0.25	0.030	0.342	0.413	0.193	0.505	NO
	Right	0.545	0.035	0.003	0.034	0.580	0.548	0.579	NO
	Top	0.033	0.164	0.031	0.137	0.197	0.064	0.170	NO
	Bottom	0.677	0.006	0.000	0.01	0.683	0.677	0.687	NO
WCDMA Band IV	Front	0.53	0.347	0.042	0.278	0.877	0.572	0.808	NO
	Back	0.828	0.31	0.056	0.375	1.138	0.884	1.203	NO
	Left	0.145	0.25	0.030	0.342	0.395	0.175	0.487	NO
	Right	0.717	0.035	0.003	0.034	0.752	0.720	0.751	NO
	Top	0.033	0.164	0.031	0.137	0.197	0.064	0.170	NO
	Bottom	0.436	0.006	0.000	0.01	0.442	0.436	0.446	NO
WCDMA Band V	Front	0.181	0.347	0.042	0.278	0.528	0.223	0.459	NO
	Back	0.287	0.31	0.056	0.375	0.597	0.343	0.662	NO
	Left	0.05	0.25	0.030	0.342	0.300	0.080	0.392	NO
	Right	0.15	0.035	0.003	0.034	0.185	0.153	0.184	NO
	Top	0.011	0.164	0.031	0.137	0.175	0.042	0.148	NO
	Bottom	0.126	0.006	0.000	0.01	0.132	0.126	0.136	NO
LTE Band 2	Front	0.6	0.347	0.042	0.278	0.947	0.642	0.878	NO
	Back	0.953	0.31	0.056	0.375	1.263	1.009	1.328	NO
	Left	0.163	0.25	0.030	0.342	0.413	0.193	0.505	NO
	Right	0.617	0.035	0.003	0.034	0.652	0.620	0.651	NO
	Top	0.032	0.164	0.031	0.137	0.196	0.063	0.169	NO
	Bottom	0.58	0.006	0.000	0.01	0.586	0.580	0.590	NO

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LTE Band 4	Front	0.52	0.347	0.042	0.278	0.867	0.562	0.798	NO
	Back	0.816	0.31	0.056	0.375	1.126	0.872	1.191	NO
	Left	0.144	0.25	0.030	0.342	0.394	0.174	0.486	NO
	Right	0.712	0.035	0.003	0.034	0.747	0.715	0.746	NO
	Top	0.029	0.164	0.031	0.137	0.193	0.060	0.166	NO
	Bottom	0.429	0.006	0.000	0.01	0.435	0.429	0.439	NO
LTE Band 5	Front	0.212	0.347	0.042	0.278	0.559	0.254	0.490	NO
	Back	0.336	0.31	0.056	0.375	0.646	0.392	0.711	NO
	Left	0.059	0.25	0.030	0.342	0.309	0.089	0.401	NO
	Right	0.164	0.035	0.003	0.034	0.199	0.167	0.198	NO
	Top	0.014	0.164	0.031	0.137	0.178	0.045	0.151	NO
	Bottom	0.019	0.006	0.000	0.01	0.025	0.019	0.029	NO
LTE Band 7	Front	0.775	0.347	0.042	0.278	1.122	0.817	1.053	NO
	Back	1.135	0.317	0.056	0.375	1.452	1.191	1.510	NO
	Left	0.354	0.25	0.030	0.342	0.604	0.384	0.696	NO
	Right	0.131	0.035	0.003	0.034	0.166	0.134	0.165	NO
	Top	0.07	0.164	0.031	0.137	0.234	0.101	0.207	NO
	Bottom	1.072	0.006	0.000	0.01	1.078	1.072	1.082	NO
LTE Band 12	Front	0.165	0.347	0.042	0.278	0.512	0.207	0.443	NO
	Back	0.259	0.31	0.056	0.375	0.569	0.315	0.634	NO
	Left	0.045	0.25	0.030	0.342	0.295	0.075	0.387	NO
	Right	0.151	0.035	0.003	0.034	0.186	0.154	0.185	NO
	Top	0.01	0.164	0.031	0.137	0.174	0.041	0.147	NO
	Bottom	0.036	0.006	0.000	0.01	0.042	0.036	0.046	NO
LTE Band 17	Front	0.187	0.347	0.042	0.278	0.534	0.229	0.465	NO
	Back	0.294	0.31	0.056	0.375	0.604	0.350	0.669	NO
	Left	0.052	0.25	0.030	0.342	0.302	0.082	0.394	NO
	Right	0.143	0.035	0.003	0.034	0.178	0.146	0.177	NO
	Top	0.01	0.164	0.031	0.137	0.174	0.041	0.147	NO
	Bottom	0.039	0.006	0.000	0.01	0.045	0.039	0.049	NO
LTE Band 38	Front	0.57	0.347	0.042	0.278	0.917	0.612	0.848	NO
	Back	0.83	0.31	0.056	0.375	1.140	0.886	1.205	NO
	Left	0.251	0.25	0.030	0.342	0.501	0.281	0.593	NO
	Right	0.078	0.035	0.003	0.034	0.113	0.081	0.112	NO
	Top	0.054	0.164	0.031	0.137	0.218	0.085	0.191	NO
	Bottom	0.634	0.006	0.000	0.01	0.640	0.634	0.644	NO
LTE Band 41	Front	0.612	0.347	0.042	0.278	0.959	0.654	0.890	NO
	Back	0.954	0.31	0.056	0.375	1.264	1.010	1.329	NO
	Left	0.27	0.25	0.030	0.342	0.520	0.300	0.612	NO
	Right	0.08	0.035	0.003	0.034	0.115	0.083	0.114	NO
	Top	0.057	0.164	0.031	0.137	0.221	0.088	0.194	NO



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	Bottom	0.678	0.006	0.000	0.01	0.684	0.678	0.688	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	1.02	0.522	0.105	0.396	1.542	1.125	1.416	NO
	Back	1.586	0.461	0.117	0.55	2.047	1.703	2.136	NO
	Left	0.253	0.361	0.077	0.325	0.614	0.330	0.578	NO
	Right	0.736	0.047	0.010	0.045	0.783	0.746	0.781	NO
	Top	0.061	0.306	0.061	0.191	0.367	0.122	0.252	NO
	Bottom	0.932	0.044	0.000	0.006	0.976	0.932	0.938	NO
GSM1900	Front	0.967	0.522	0.105	0.396	1.489	1.072	1.363	NO
	Back	1.49	0.461	0.117	0.55	1.951	1.607	2.040	NO
	Left	0.25	0.361	0.077	0.325	0.611	0.327	0.575	NO
	Right	1.175	0.047	0.010	0.045	1.222	1.185	1.220	NO
	Top	0.069	0.306	0.061	0.191	0.375	0.130	0.260	NO
	Bottom	1.186	0.044	0.000	0.006	1.230	1.186	1.192	NO
WCDMA Band II	Front	1.358	0.522	0.105	0.396	1.880	1.463	1.754	NO
	Back	2.125	0.461	0.117	0.55	2.586	2.242	2.675	NO
	Left	0.348	0.361	0.077	0.325	0.709	0.425	0.673	NO
	Right	1.72	0.047	0.010	0.045	1.767	1.730	1.765	NO
	Top	0.105	0.306	0.061	0.191	0.411	0.166	0.296	NO
	Bottom	1.53	0.044	0.000	0.006	1.574	1.530	1.536	NO
WCDMA Band IV	Front	1.685	0.522	0.105	0.396	2.207	1.790	2.081	NO
	Back	2.629	0.461	0.117	0.55	3.090	2.746	3.179	NO
	Left	0.446	0.361	0.077	0.325	0.807	0.523	0.771	NO
	Right	2.203	0.047	0.010	0.045	2.250	2.213	2.248	NO
	Top	0.098	0.306	0.061	0.191	0.404	0.159	0.289	NO
	Bottom	1.434	0.044	0.000	0.006	1.478	1.434	1.440	NO
WCDMA Band V	Front	0.969	0.522	0.105	0.396	1.491	1.074	1.365	NO
	Back	1.498	0.461	0.117	0.55	1.959	1.615	2.048	NO
	Left	0.232	0.361	0.077	0.325	0.593	0.309	0.557	NO
	Right	0.448	0.047	0.010	0.045	0.495	0.458	0.493	NO
	Top	0.059	0.306	0.061	0.191	0.365	0.120	0.250	NO
	Bottom	0.639	0.044	0.000	0.006	0.683	0.639	0.645	NO
LTE Band 2	Front	1.43	0.522	0.105	0.396	1.952	1.535	1.826	NO
	Back	2.519	0.461	0.117	0.55	2.980	2.636	3.069	NO
	Left	0.388	0.361	0.077	0.325	0.749	0.465	0.713	NO
	Right	2.204	0.047	0.010	0.045	2.251	2.214	2.249	NO



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	Top	0.023	0.306	0.061	0.191	0.329	0.084	0.214	NO
	Bottom	1.785	0.044	0.000	0.006	1.829	1.785	1.791	NO
LTE Band 4	Front	1.67	0.522	0.105	0.396	2.192	1.775	2.066	NO
	Back	2.605	0.461	0.117	0.55	3.066	2.722	3.155	NO
	Left	0.436	0.361	0.077	0.325	0.797	0.513	0.761	NO
	Right	2.188	0.047	0.010	0.045	2.235	2.198	2.233	NO
	Top	0.096	0.306	0.061	0.191	0.402	0.157	0.287	NO
	Bottom	1.417	0.044	0.000	0.006	1.461	1.417	1.423	NO
LTE Band 5	Front	0.97	0.522	0.105	0.396	1.492	1.075	1.366	NO
	Back	1.522	0.461	0.117	0.55	1.983	1.639	2.072	NO
	Left	0.251	0.361	0.077	0.325	0.612	0.328	0.576	NO
	Right	0.476	0.047	0.010	0.045	0.523	0.486	0.521	NO
	Top	0.074	0.306	0.061	0.191	0.380	0.135	0.265	NO
	Bottom	0.38	0.044	0.000	0.006	0.424	0.380	0.386	NO
LTE Band 7	Front	1.538	0.522	0.105	0.396	2.060	1.643	1.934	NO
	Back	2.394	0.461	0.117	0.55	2.855	2.511	2.944	NO
	Left	0.625	0.361	0.077	0.325	0.986	0.702	0.950	NO
	Right	0.384	0.047	0.010	0.045	0.431	0.394	0.429	NO
	Top	0.183	0.306	0.061	0.191	0.489	0.244	0.374	NO
	Bottom	1.471	0.044	0.000	0.006	1.515	1.471	1.477	NO
LTE Band 12	Front	0.783	0.522	0.105	0.396	1.305	0.888	1.179	NO
	Back	1.22	0.461	0.117	0.55	1.681	1.337	1.770	NO
	Left	0.205	0.361	0.077	0.325	0.566	0.282	0.530	NO
	Right	0.211	0.047	0.010	0.045	0.258	0.221	0.256	NO
	Top	0.058	0.306	0.061	0.191	0.364	0.119	0.249	NO
	Bottom	0.241	0.044	0.000	0.006	0.285	0.241	0.247	NO
LTE Band 17	Front	0.776	0.522	0.105	0.396	1.298	0.881	1.172	NO
	Back	1.214	0.461	0.117	0.55	1.675	1.331	1.764	NO
	Left	0.203	0.361	0.077	0.325	0.564	0.280	0.528	NO
	Right	0.229	0.047	0.010	0.045	0.276	0.239	0.274	NO
	Top	0.049	0.306	0.061	0.191	0.355	0.110	0.240	NO
	Bottom	0.176	0.044	0.000	0.006	0.220	0.176	0.182	NO
LTE Band 38	Front	1.075	0.522	0.105	0.396	1.597	1.180	1.471	NO
	Back	1.671	0.461	0.117	0.55	2.132	1.788	2.221	NO
	Left	0.436	0.361	0.077	0.325	0.797	0.513	0.761	NO
	Right	0.279	0.047	0.010	0.045	0.326	0.289	0.324	NO
	Top	0.124	0.306	0.061	0.191	0.430	0.185	0.315	NO
	Bottom	1.141	0.044	0.000	0.006	1.185	1.141	1.147	NO
LTE Band 41	Front	1.123	0.522	0.105	0.396	1.645	1.228	1.519	NO
	Back	1.757	0.461	0.117	0.55	2.218	1.874	2.307	NO
	Left	0.457	0.361	0.077	0.325	0.818	0.534	0.782	NO



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	Right	0.29	0.047	0.010	0.045	0.337	0.300	0.335	NO
	Top	0.121	0.306	0.061	0.191	0.427	0.182	0.312	NO
	Bottom	1.197	0.044	0.000	0.006	1.241	1.197	1.203	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
☒	P C	HP	Core(rm)3.16G	CZCO48171H	N/A	N/A
☒	Signal Generator	Agilent	E5182A	MY50142015	2021/09/24	2022/09/23
☒	S-Parameter Network Analyzer	Agilent	E5071B	MY42301382	2022/02/20	2023/02/19
☒	DAK-3.5 probe	SPEAG	DAK-3.5	1102	N/A	N/A
☒	Wireless Communication Test Set	R&S	CMW500	159275	2021/10/12	2022/10/11
☒	DAE	SPEAG	DAE4	1245	2022/05/30	2023/05/29
☒	E-field PROBE	SPEAG	EX3DV4	7346	2022/03/30	2023/03/29
☒	Dipole	SPEAG	D750V3	1188	2022/03/29	2025/03/28
☒	Dipole	SPEAG	D835V2	4d114	2022/03/31	2025/03/30
☒	Dipole	SPEAG	D1800V2	2d170	2022/03/31	2025/03/30
☒	Dipole	SPEAG	D1900V2	5d136	2022/06/07	2025/06/06
☒	Dipole	SPEAG	D2300V2	1096	2022/03/31	2025/03/30
☒	Dipole	SPEAG	D2450V2	817	2022/04/01	2025/03/31
☒	Dipole	SPEAG	D2600V2	1158	2022/03/31	2025/03/30
☒	Dipole	SPEAG	D5GHzV2	1145	2022/02/15	2025/02/14
☒	Electro Thermometer	DTM	DTM3000	3030	2021/10/17	2022/10/16
☒	Amplifier	Mini-circuits	ZVE-8G	110405	N/A	N/A
☒	Amplifier	Mini-circuits	ZHL-42	QA1331003	N/A	N/A
☒	3db ATTENUATOR	MINI	MCL BW-S3W5	0533	N/A	N/A
☒	DUMMY PROBE	SPEAG	DP_2	SPDP2001AA	N/A	N/A
☒	Dual Directional Coupler	Woken	20W couple	DOM2BHW1A1	N/A	N/A
☒	SAM PHANTOM (ELI4 v4.0)	SPEAG	QDOVA001BB	1102	N/A	N/A
☒	Twin SAM Phantom	SPEAG	QD000P40CD	1609	N/A	N/A
☒	ROBOT	SPEAG	TX60	F10/5E6AA1/A101	N/A	N/A



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☒	ROBOT KRC	SPEAG	CS8C	F10/5E6AA1/C101	N/A	N/A
☒	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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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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