FCC SAR Test Report

FCC ID: QISFIG-LX3

Project No.	:	1711C033
Equipment	:	Smart Phone
Model Name	:	FIG-LX3
Applicant	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

Date of Receipt	:	Nov.11, 2017
Date of Test	:	Nov. 16, 2017~ Dec. 04, 2017
Issued Date	:	Dec. 06, 2017
Tested by	:	BTL Inc.

PREPARED BY : (Rot Liang)

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Testing Laboratory 2640

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCC SAR-1-1711C033	Original Issue	Dec. 06, 2017

1. GENERAL SUMMARY

Equipment	Smart Phone
Model Name	FIG-LX3
Model difference	N/A
Brand Name	HUAWEI
Manufacturer	Huawei Technologies Co.,Ltd.
Address	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Factory	Huawei Technologies Co.,Ltd.
Address	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Standard(s)	**ANSI Std C95.1-1992** Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.(IEEE Std C95.1-1991) **IEEE Std 1528-2013** Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques **KDB941225 D01** 3G SAR Procedures v03r01 **KDB941225 D05** SAR for LTE Devices v02r05 **KDB941225 D06** Hotspot Mode V02r01 **KDB447498 D01** General RF Exposure Guidance v06 **KDB648474 D04** Handset SAR v01r03 **KDB248227 D01** 802. 11 Wi-Fi SAR v02r02 **KDB865664 D01** SAR measurement 100 MHz to 6 GHz v01r04 **KDB865664 D02** SAR Reporting v01r02 **KDB690783 D01** SAR Listings on Grants v01r03

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCC SAR-1711C033) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. RF EMISSIONS MEASUREMENT

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **SAR room** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town,Dong Guan, China.523792

2.2 MEASUREMENT UNCERTAINTY

Note: 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.

3. GENERAL INFORMATION

3.1 STATEMENT OF COMPLIANCE

Equipment Class	Mode	Highest Head SAR-1g (W/kg)	Highest Body-worn (15mm) SAR-1g(W/kg)	Highest Hotspot (10mm) SAR-1g(W/kg)
PCE (Main Ant)	GSM850	0.31	0.40	0.41
	GSM1900	0.05	0.63	0.29
	UMTS Band 2	0.13	0.84	0.96
	UMTS Band 4	0.13	0.65	0.63
	UMTS Band 5	0.22	0.39	0.42
	LTE Band 2	0.10	0.65	0.89
	LTE Band 4	0.11	0.50	0.51
	LTE Band 5	0.17	0.31	0.28
	LTE Band 7	0.26	0.39	0.57
PCE (Sub Ant)	GSM850	0.82	0.28	0.09
	GSM1900	0.96	0.09	0.05
	UMTS Band 2	0.88	0.21	0.08
	UMTS Band 4	0.82	0.06	0.03
	UMTS Band 5	0.76	0.28	0.12
	LTE Band 2	0.53	0.14	0.07
	LTE Band 4	0.73	0.05	0.07
	LTE Band 5	0.90	0.19	0.08
	LTE Band 7	0.69	0.20	0.03
DTS	2.4G WLAN	0.60	0.06	0.13
Note: The highest reported SAR for head, body-worn accessory, product specific (hotspot), simultaneous transmission and product specific 10-g SAR exposure conditions are 0.96W/kg,0.84W/kg, 0.96W/kg and 1.394W/kg respectively.				

Note:

1) For body-worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The device is in compliance with Specific Absorption Rate(SAR)for general population uncontrolled exposure limits according to the FCC rule §2.1093, the ANSI C95.1:1992/IEEE C95.1:1991, the NCRP Report Number 86 for uncontrolled environment, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013 .

3.2 GENERAL DESCRIPTION OF EUT

Equipment	Smart Phone		
Model Name	FIG-LX3		
IMEI Code	IMEI 1:	865842030020530 865842030024151	
	IMEI 2:	865842030022718 865842030026339	
	IMEI 3:	865842030021777 865842030025398	
S/N	S/N 1: GPK0117A23000054		
	S/N 2: GPK0117A23000272		
	S/N 3: GPK0117A23000178		
HW Version	HL2FIGOM		
SW Version	FIG-LX3 8.0.0.100(C900)		
Modulation	GSM(GMSK/8PSK),UMTS(QPSK, 16QAM), LTE(QPSK/16QAM),WiFi(DSSS/OFDM),BT(GFSK/ π /4-DQPSK/8-DPSK)		
Operation Frequency Range(s)	Band	TX (MHz)	RX (MHz)
	GSM850	824-849	869-894
	GSM1900	1850-1910	1930-1990
	UMTS Band 2	1850-1910	1930-1990
	UMTS Band 4	1710-1755	2110-2155
	UMTS Band 5	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
	Bluetooth	2400 ~2483.5	
	2.4GWIFI	2400 ~2483.5	
GPRS/EDGE Multislot Class(12)	Max Number of Timeslots in Uplink:	4	
	Max Number of Timeslots in Downlink:	4	
	Max Total Timeslot:	5	
GSM Device class	Class B		
HSDPA UE Category	14		
HSUPA UE Category	7		
DC-HSDPA UE Category	24		
Power Class:	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(UMTS Band 2/4/5)		
	3, tested with power control “all Max” (LTE Band 2/4/5/7)		
Test Channels (low-mid-high):	128-190-251 (GSM850)		
	512-661-810 (GSM1900)		
	9262-9400-9538(UMTS Band 2)		
	1312-1413-1513 (UMTS Band 4)		
	4132-4182-4233 (UMTS Band 5)		
	18700-18900-19100(LTE Band 2 BW=20MHz)		
	20050-20175-20300(LTE Band 4 BW=20MHz)		
	20450-20525-20600(LTE Band 5 BW=10MHz)		
	20850-21100-21350(LTE Band 7 BW=20MHz)		
	1-6 -11 (2.4G WIFI 802.11b/g/n HT20)		
	3-6 - 9 (2.4G WIFI 802.11n HT40)		

Antenna Gain	BT/2.4G WiFi: -1dBi
	GSM850/ UMTS /LTE Band 5: -2.1dBi(Main Antenna), -2.9dBi(Sub Antenna)
	GSM1900/ UMTS /LTE Band 2: -1.4dBi(Main Antenna), -2.2dBi(Sub Antenna)
	LTE Band 7:-1.8dBi(Main Antenna)& (Sub Antenna)
	UMTS /LTE Band 4:-1.0dBi (Main Antenna), -2.7dBi(Sub Antenna)
Other Information	
Battery	Huawei Technologies Co., Ltd. Battery Model: HB366481ECW-11 Rated capacity: 2900mAh Nominal Voltage: ⎓ +3.82V Charging Voltage: ⎓ +4.4V 1. Sunwoda Electronic Co., Ltd. 2. Huizhou Desay Battery Co., Ltd. 3. SCUD(Fujian)Electronics Co.,Ltd
Earphone	Yes 1. Jiangxi Lianchuang Hongsheng Electronic Co., LTD. 2. GoerTek Inc.

3.3 LABORATORY ENVIRONMENT

Temperature	Min. = 18ºC, Max. = 25ºC
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.	

3.4 MAIN TEST INSTRUMENTS

Item	Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Interval
1	Data Acquisition Electronics	Speag	DAE4	1390	Sep. 15, 2017	1 Year
2	E-field Probe	Speag	EX3DV4	7396	May. 25, 2017	1 Year
3	Electro Optical Converter	Speag	ECO90	1151	N/A	N/A
4	System Validation Dipole	Speag	D835V2	4d160	Sep. 30, 2015	1 Year
5	System Validation Dipole	Speag	D1750V2	1101	Sep. 22, 2015	1 Year
6	System Validation Dipole	Speag	D1900V2	5d179	Sep. 29, 2015	1 Year
7	System Validation Dipole	Speag	D2450V2	919	Sep. 28, 2015	1 Year
8	System Validation Dipole	Speag	D2600V2	1067	Sep. 28, 2015	1 Year
9	Twin Sam Phantom	Speag	Twin Sam Phantom V5.0	1784	N/A	N/A
10	Twin Sam Phantom	Speag	Twin Sam Phantom V5.0	1896	N/A	N/A
11	8960 Series 10 Wireless Com Test set	Agilent	E5515E	MY52112163	Aug. 20, 2017	1 Year
12 *	CMW500-Wideband Radio Communication Tester	RS	CMW500	152366	Mar. 26, 2017	1 Year
13	CMW500-Wideband Radio Communication Tester	RS	CMW500	152372	Mar. 26, 2017	1 Year
14	Power Amplifier	Mini-Circuits	ZHL-42W+	QA1333003	N/A	N/A
15	Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	N/A	N/A
16	ENA Network Analyzer	Agilent	E5071C	MY46102965	Mar. 26, 2017	1 Year
17	MXG Analog Signal Generator	Agilent	N5181A	MY49060477	Jun. 30, 2017	1 Year
18	P-series power meter	Agilent	N1911A	MY45100473	Aug. 20, 2017	1 Year
19	wideband power sensor	Agilent	N1921A	MY51100041	Aug. 20, 2017	1 Year
20	power Meter	Anritsu	ML2495A	1128009	Mar. 26, 2017	1 Year
21	Pulse Power Sensor	Anritsu	MA 2411B	1027500	Mar. 26, 2017	1 Year
22	Dielectric Assessment Kit	Speag	DAK-3.5	1226	N/A	N/A
23	Dual directional coupler	Woken	TS-PCC0M-05	107090019	Mar. 09, 2017	1 Year

Remark: 1." N/A" denotes no model name, serial No. or calibration specified.

2.

1) Per KDB865664 D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. 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) The most recent return-loss result , measured at least annually, deviates by no more than 20% from the previous measurement;

d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.

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

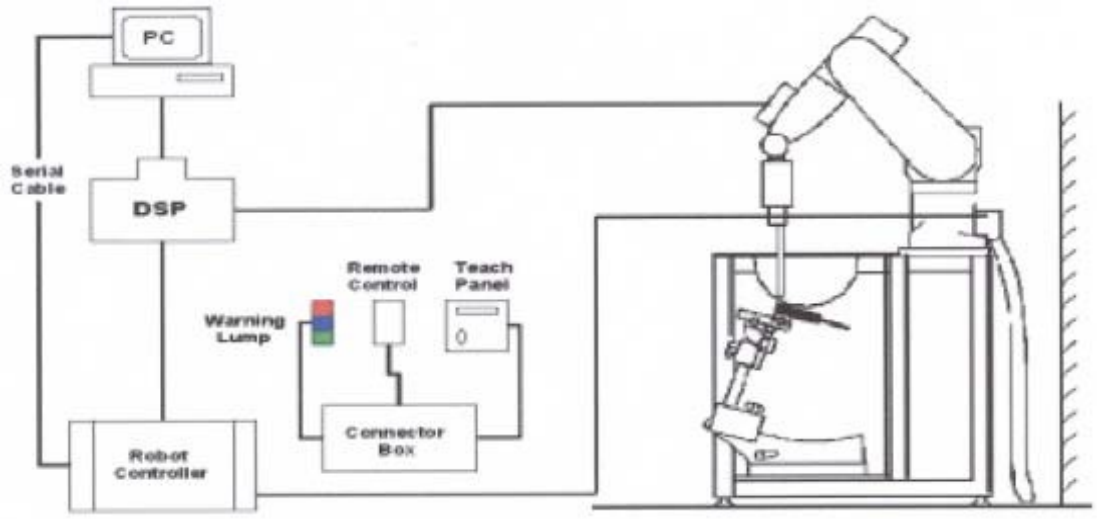
4. SAR MEASUREMENTS SYSTEM CONFIGURATION

4.1 SAR MEASUREMENT SET-UP

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

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. 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.
3. A data acquisition electronic (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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. TheDASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 7
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.1.1 Test Setup Layout



4.2 DASY5E-FIELDPROBESYSTEM

The SAR measurements were conducted with the dosimetric probe EX3DV4(manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

4.2.1 EX3DV4 PROBE SPECIFICATION

Construction	Symmetrical design with triangular core Interleaved sensors 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 HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity:± 0.2dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Distance from probe tip to dipole centers: 1.0 mm

EX3DV4 E-field Probe

4.2.2 E-FIELD PROBE CALIBRATION

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ±10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

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

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

Where: Δt = Exposure time (30 seconds),

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

ΔT = Temperature increase due to RF exposure.

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

Where: σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m3).

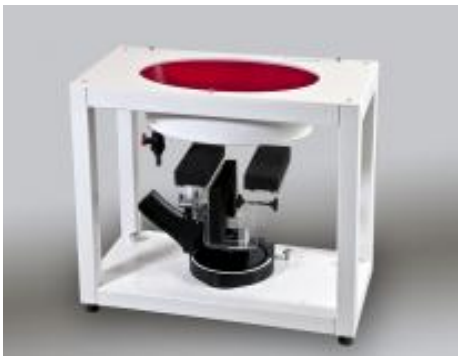
4.2.3 OTHER TEST EQUIPMENT

4.2.3.1. Device Holder for Transmitters

Construction: Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices (e.g., laptops, cameras, etc.) It is light weight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin SAM, ELI4and SAM v6.0Phantoms.
Material: POM, Acrylic glass, Foam

4.2.3.2 Phantom

Model	ELI4 Phantom
Construction	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.
Shell Thickness	2±0.1 mm
Filling Volume	Approx. 30 liters
Dimensions	Length: 600 mm ; Width: 190mm Height: adjustable feet
Aailable	Special



Model	Twin SAM
Construction	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.
Shell Thickness	2 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length:1000mm; Width: 500mm Height: adjustable feet
Aailable	Special

4.2.4 SCANNING PROCEDURE

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

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. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

The “surface check” measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- Area Scan

The “area scan” measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension(≤2GHz)，12 mm in x- and y- dimension(2-4 GHz) and 10mm in x- and y- dimension(4-6GHz). If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation.

- Zoom Scan

A “zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous “coarse” scan. This is a fine grid with maximum scan spatial resolution: Δx_{zoom}, Δy_{zoom}≤ 2GHz -≤8mm, 2-4GHz -≤5 mm and 4-6 GHz-≤4mm; Δz_{zoom}≤3GHz -≤5 mm, 3-4 GHz-≤4mm and 4-6GHz-≤2mm where the robot additionally moves the probe along the z-axis away from the bottom of the Phantom. DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in Appendix B. Test results relevant for the specified standard (see chapter 1.4.)are shown in table form form in chapter 7.2.

A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2 mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth.

The following table summarizes the area scan and zoom scan resolutions per FCC KDB 865664D01:

Frequency	Maximun Area Scan resolution (Δx_{area}, Δy_{area})	Maximun Zoom Scan spatial resolution (Δx_{Zoom}, Δy_{Zoom})	Maximun Zoom Scan spatial resolution			Minimum zoom scan volume (x,y,z)
			Uniform Grid	Graded Grad		
			$\Delta z_{Zoom}(n)$	$\Delta z_{Zoom}(1)$*	$\Delta z_{Zoom}(n>1)$*	
≤2GHz	≤15mm	≤8mm	≤5mm	≤4mm	≤1.5*Δz_{Zoom}(n-1)	≥30mm
2-3GHz	≤12mm	≤5mm	≤5mm	≤4mm	≤1.5*Δz_{Zoom}(n-1)	≥30mm
3-4GHz	≤12mm	≤5mm	≤4mm	≤3mm	≤1.5*Δz_{Zoom}(n-1)	≥28mm
4-5GHz	≤10mm	≤4mm	≤3mm	≤2.5mm	≤1.5*Δz_{Zoom}(n-1)	≥25mm
5-6GHz	≤10mm	≤4mm	≤2mm	≤2mm	≤1.5*Δz_{Zoom}(n-1)	≥22mm

4.2.5SPATIAL PEAK SAR EVALUATION

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 5 x 5 x 7 points(with 8mm horizontal resolution) or 7 x 7 x 7 points(with 5mm horizontal resolution) or 8 x 8 x 7 points(with 4mm horizontal resolution). The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting “Graph Evaluated”.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computer mathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computer mathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY5 uses the advanced extrapolation option which is able to companysate boundary effects on E-field probes.

4.2.6 DATA STORAGE AND EVALUATION

4.2.6.1 Data Storage

The DASY5 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 ".DAE4". 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], [mW/g], [mW/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.

4.2.7 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, a_{i0}, a_{i1}, a_{i2}
	Conversion factor	$ConvF_i$
	Diode compression point	Dcp_i
Device parameters:	Frequency	f
	Crest factor	cf
Media parameters:	Conductivity	
	Density	

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 DASY5 components. In the direct measuring mode of the multi meter 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:

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

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

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

aij = 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.

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

With SAR = local specific absorption rate in mW/g

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

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

= equivalent tissue density in g/cm^3

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.

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

With P_{pwe} = equivalent power density of a plane wave in mW/cm^2

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

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

5. SYSTEM VERIFICATION PROCEDURE

5.1 TISSUE VERIFICATION

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectic parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ± 5% of the target values.

The following materials are used for producing the tissue-equivalent materials.

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
Head 835	0.2	-	0.2	1.5	57.0	-	41.1	-
Head 1750	-	47.0	-	0.4	-	-	52.6	-
Head 1900	-	44.5	-	0.2	-	-	55.3	-
Head 2450	-	45.0	-	0.1	-	-	54.9	-
Head 2600	-	45.1	-	0.1	-	-	54.8	-

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
Body 835	0.2	-	0.2	0.9	48.5	-	50.2	-
Body 1750	-	31.0	-	0.2	-	-	68.8	-
Body 1900	-	29.5	-	0.3	-	-	70.2	-
Body 2450	-	31.4	-	0.1	-	-	68.5	-
Body 2600	-	31.8	-	0.1	-	-	68.1	-

Salt: 99+% Pure Sodium Chloride; Sugar: 98+% Pure Sucrose; Water: De-ionized, 16M + resistivity
HEC: Hydroxyethyl Cellulose; DGBE: 99+% Di(ethylene glycol) butyl ether,[2-(2-butoxyethoxy)ethanol]
Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

Tissue Verification									
Tissue Type	Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Targeted Conductivity (σ)	Targeted Permittivity (εr)	Deviation Conductivity (σ) (%)	Deviation Permittivity (εr) (%)	Date
Head	835	22.5	0.888	42.516	0.90	41.5	-1.33	2.45	Nov. 16, 2017
Head	1750	22.1	1.411	41.180	1.37	40.1	2.99	2.69	Nov. 18, 2017
Head	1900	22.4	1.426	39.212	1.40	40.0	1.86	-1.97	Nov. 17, 2017
Head	2450	22.1	1.815	39.084	1.80	39.2	0.83	-0.30	Nov. 20, 2017
Head	2600	22.4	2.024	38.631	1.96	39.0	3.27	-0.95	Nov. 19, 2017
Body	835	22.3	0.946	53.977	0.97	55.2	-2.47	-2.22	Nov. 21, 2017
Body	835	22.5	0.991	55.289	0.97	55.2	2.16	0.16	Nov. 23, 2017
Body	1750	22.5	1.486	52.203	1.49	53.4	-0.27	-2.24	Nov. 26, 2017
Body	1750	22.1	1.497	52.524	1.49	53.4	0.47	-1.64	Nov. 27, 2017
Body	1900	22.1	1.550	52.006	1.52	53.3	1.97	-2.43	Nov. 24, 2017
Body	1900	22.3	1.537	54.914	1.52	53.3	1.12	3.03	Nov. 25, 2017
Body	2450	22.1	1.996	51.663	1.95	52.7	2.36	-1.97	Nov. 20, 2017
Body	2600	22.3	2.178	52.121	2.16	52.5	0.83	-0.72	Nov. 28, 2017

Note:
1)The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.
2)KDB 865664 was ensured to be applied for probe calibration frequencies greater than or equal to 50MHz of the EUT frequencies.
3)The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies. The SAR test plots may slightly differ from the table above since the DASY rounds to three significant digits.

5.2 SYSTEM CHECK

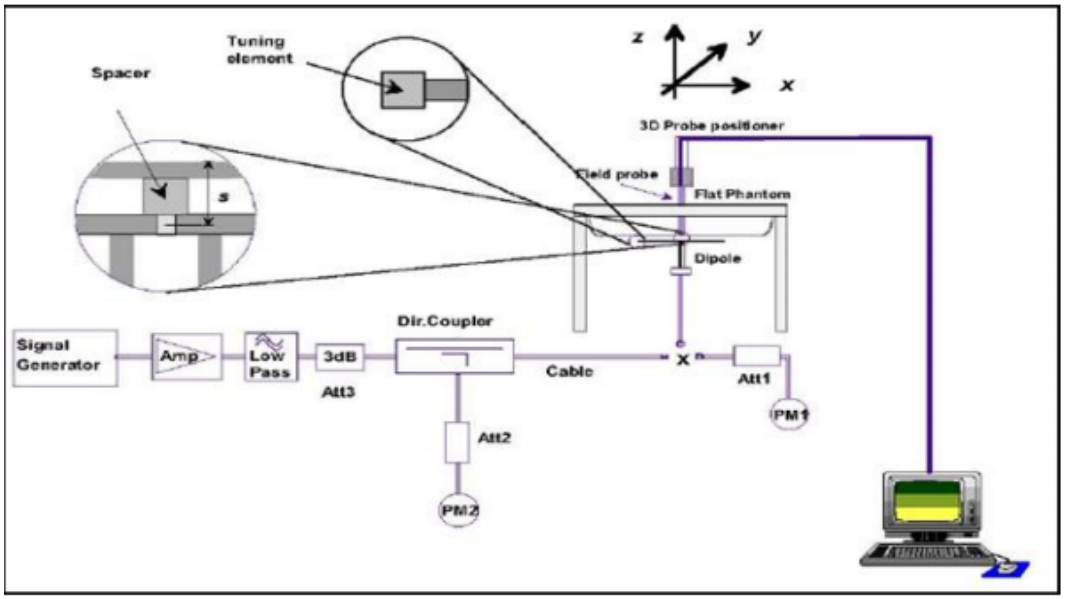
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE P1528 (described above). The following table shows system check results for all frequency bands and tissue liquids used during the tests.

System Check	Date	Frequency (MHz)	Targeted SAR-1g (W/kg)	Measured SAR-1g (W/kg)	normalized SAR-1g (W/kg)	Deviation (%)	Dipole S/N
Head	Nov. 16, 2017	835	9.50	2.29	9.16	-3.58	4d160
Head	Nov. 18, 2017	1750	36.60	9.51	38.04	3.93	1101
Head	Nov. 17, 2017	1900	39.70	9.75	39.00	-1.76	5d179
Head	Nov. 20, 2017	2450	52.00	13.20	52.80	1.54	919
Head	Nov. 19, 2017	2600	56.80	13.50	54.00	-4.93	1067
Body	Nov. 21, 2017	835	9.52	2.31	9.24	-2.94	4d160
Body	Nov. 23, 2017	835	9.52	2.37	9.48	-0.42	4d160
Body	Nov. 26, 2017	1750	35.70	9.03	36.12	1.18	1101
Body	Nov. 27, 2017	1750	35.70	9.15	36.60	2.52	1101
Body	Nov. 24, 2017	1900	39.60	9.78	39.12	-1.21	5d179
Body	Nov. 25, 2017	1900	39.60	9.45	37.80	-4.55	5d179
Body	Nov. 20, 2017	2450	51.10	12.80	51.20	0.20	919
Body	Nov. 28, 2017	2600	54.10	13.30	53.20	-1.66	1067

5.3 SYSTEM CHECK PROCEDURE

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250 mW(below 5GHz) or 100mW(above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test.

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system (±10 %).



6.SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

6.1 SAR MEASUREMENT VARIABILITY

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz, 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 (~ 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.

The detailed repeated measurement results are shown in Section 8.2.

7. OPERATIONAL CONDITIONS DURING TEST

7.1 SAR TEST CONFIGURATION

7.1.1 GSM TEST CONFIGURATION

SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. Using 8960 Series the power lever is set to “5”and “0” in SAR of GSM850 and GSM1900. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.
SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. Using 8960 Series the power lever is set to “5”and “0” in SAR of GSM850 and GSM1900. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has 4 timeslots in downlink, the maximum total timeslot is 5.
When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot.

The allowed power reduction in the multi-slot configuration is as following:

Number of timeslots in uplink assignment		Reduction of maximum output power (dB)		
Band	Time Slots	GPRS (GMSK)	EGPRS (GMSK)	EGPRS (8PSK)
GSM850(Main)	1 TX slot	0.00	0.00	5.80
	2 TX slots	3.50	3.50	9.30
	3 TX slots	5.30	5.30	11.10
	4 TX slots	6.50	6.50	12.30
GSM850(Sub)	1 TX slot	0.00	0.00	5.80
	2 TX slots	3.50	3.50	9.30
	3 TX slots	5.30	5.30	11.10
	4 TX slots	6.50	6.50	12.30
GSM1900(Main)	1 TX slot	0.00	0.00	4.00
	2 TX slots	3.50	3.50	7.50
	3 TX slots	5.30	5.30	9.30
	4 TX slots	6.50	6.50	10.50
GSM1900(Sub)	1 TX slot	0.00	0.00	4.00
	2 TX slots	3.50	3.50	7.50
	3 TX slots	5.30	5.30	9.30
	4 TX slots	6.50	6.50	10.50

7.1.2 UMTS TEST CONFIGURATION

1. Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the procedures description in section 5.2 of 3GPP TS 34.121,using the appropriate RMC or AMR with TPC(transmit power control) set to all “1s” for WCDMA/HSDPA or applying the required inner loop power control procedure to maintain maximum output power while HSUPA is active. Result for all applicable physical channel configurations(DPCCH,DPDCHn and spreading codes, HSDPA, HSPA)
Should be tabulated in the SAR report .All configuration that are not supported by the DUT or cannot be measured due to technical or equipment limitation should be clearly identified.

2. WCDMA

(1).Head SAR Measurements
SAR for Head exposure configurations in voice mode is measured using a 12.2 kbps RMC with TPC bits configured to all “1s”. SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than ¼ dB higher than that measured in 12.2 kbps RMC. Otherwise SAR is measured on the maximum output channel in 12.2 kbps AMR with 3.4kbps SRB(signalling radio bearer) using the exposure configuration that results in the highest SAR in12.2kbps RMC for that RF channel.

(2).Body SAR Measurements
SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits configured to all “1s”. SAR for other spreading codes and multiple DPDCHn, when supported by the EUT, are not required when the maximum average outputs of each RF channel, for each spreading code and DPDCHn configuration, are less than ¼ dB higher than those measured in 12.2 kbps RMC.

3. HSDPA

SAR for body exposure configurations is measured according to the “Body SAR Measurements”” procedures of 3G device. In addition, body SAR is also measured for HSDPA when the maximum average outputs of each RF channel with HSDPA active is at ¼ dB higher than that measured without HSDPA using 12.2kbps RMC or the maximum SAR 12.2kbps RMC is above 75% of the SAR limit. Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA.
HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HAPRQ 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 condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the below table, β_{hs} for HS-DPCCH is set automatically to the correct value when Δ ACK, Δ NACK, Δ CQI = 8. The variation of the β_c /β_d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test	β_c	β_d	β_d (SF)	β_c /β_d	β_{hs} (1)	CM(dB)(2)	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

Note 1: ΔACK, ΔNACK and ΔCQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$
Note 2 : CM=1 for β_c/β_d= 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH,DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 3 : For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to β_c = 11/15 and β_d = 15/15

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

Settings of required H-Set 1 QPSK acc. to 3GPP 34.121

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

HSDPA UE category

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum HS-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

4. HSUPA

SAR for Body exposure configurations is measured according to the “Body SAR Measurements” procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the primary mode and the adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

Per KDB941225 D01, the 3G SAR test reduction procedures is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures for the highest reported body exposure SAR configuration in 12.2 kbps RMC.

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 HSDPA should be configured according to the values indicated below as well as other applicable procedures described in the “WCDMA Handset“ and „Release 5 HSDPA Data Device” sections of 3G device.

Subtests for WCDMA Release 6 HSUPA

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_c (SF)	β_{ed} (code)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ ACK, Δ NACK and Δ 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 difference

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 $\beta_d = 15/15$

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 $\beta_d = 15/15$

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

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

HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading 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&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		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).

5. DC-HSDPA

In DC-HSDPA implementation of this device, the uplink parameters are the same as HSDPA. No additional channels and modulations (16 QAM, and 64 QAM) are supported in uplink. The difference is only in the downlink parameters, where two carriers are supported. HSDPA settings were used on uplink.

For Rel. 8 DC-HSDPA apply the four subtests from HSDPA Release 5 except use fixed reference channel H-Set 12 for DC-HSDPA. And we can apply the same SAR test exclusion criteria used for Rel. 6 HSPA for Rel. 7 HSPA+ and Rel. 8 DC-HSDPA. That is, if the HSPA, HSPA+, or the DC-HSDPA maximum output is not more than 0.25 dB higher than WCDMA, SAR measurement for those modes is not required.
The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0
Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13
The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.
The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK

Parameter	Value
Nominal average inf. bit rate	60 kbit/s
Inter-TTI Distance	1 TTI"s
Number of HARQ Processes	6 Processes
Information Bit Payload	120 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	960 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	3200 SMLs
Coding Rate	0.15
Number of Physical Channel Codes	1

Note:
1.The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.
2.Maximum number of transmission is limited to 1,i.e.,retransmission is not allowed. The redundancy and constellation version 0 shall be used.

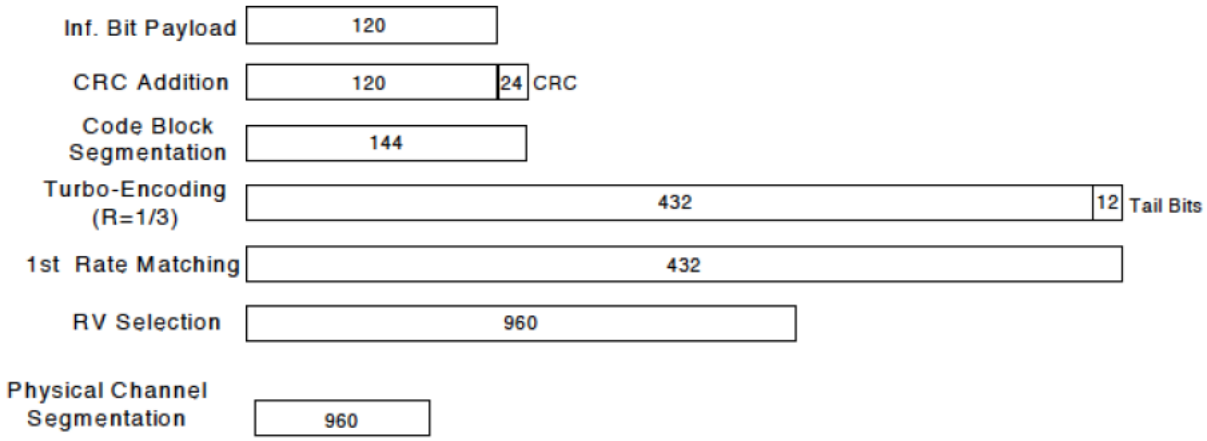


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 5 procedures. A summary of subtest settings are illustrated below:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM(dB)(2)	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

Note 1: Δ ACK, Δ NACK and Δ CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$
Note 2: CM=1 for β_c/β_d= 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15

Up commands are set continuously to set the UE to Max power.

Note:
1.The Dual Carriers transmission only applies to HSDPA physical channels
2.The Dual Carriers belong to the same Node and are on adjacent carriers.
3.The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation
4.The Dual Carriers operate in the same frequency band .
5.The device doesn't support the modulation of 16QAM in uplink but 64QAM in downlink for DC-HSDPA mode.
6.The device doesn‟t support carrier aggregation for it just can operate in Release 8.

6. HSPA+

When the maximum average output power of each RF channel with (uplink) HSPA+ active is ⩽¼ dB higher than that measured without HSPA+ using 12.2 kbps RMC, SAR evaluation for HSPA+ is not required.

Table Sub-test1 setup for release 7 HSPA+ with 16QAM

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

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

7.1.3 LTE TEST CONFIGURATION

SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices. The CMW500 Wide Band Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR test were performed with the same number of RB and RB offsets transmitting on all TTI frames(Maximum TTI)

1. Spectrum Plots for RB configurations

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

2. MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.
The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101:

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

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

3. A-MPR

A-MPR(Additional MPR) has been disabled for all SAR tests by using Network Signalling Value of “NS_01”on the base station simulator.

4. LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) 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.

ii) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in i) are applied to measure the SAR for QPSK with 50% RB allocation

iii) 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 i) and ii) 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.

iv) Higher order modulations

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

B) Other channel bandwidth standalone SAR test requirements

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

7.1.4 WIFI TEST CONFIGURATION

For WLAN SAR testing, WLAN engineering testing software installed on the DUT can provide continuous transmitting RF signal.
2.4G

Mode	802.11b	802.11g	802.11n HT20	802.11n HT40
Duty cycle	100%			
Crest factor	1			

For WiFi SAR testing, a communication link is set up with the test mode software for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. The RF signal utilized in SAR measurement has 100% duty cycle and its crest factor is 1. The test procedures in KDB 248227 D01 are applied.

7.1.4.1 2.4G SAR Test Requirements

802.11b DSSS SAR Test Requirements

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

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

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

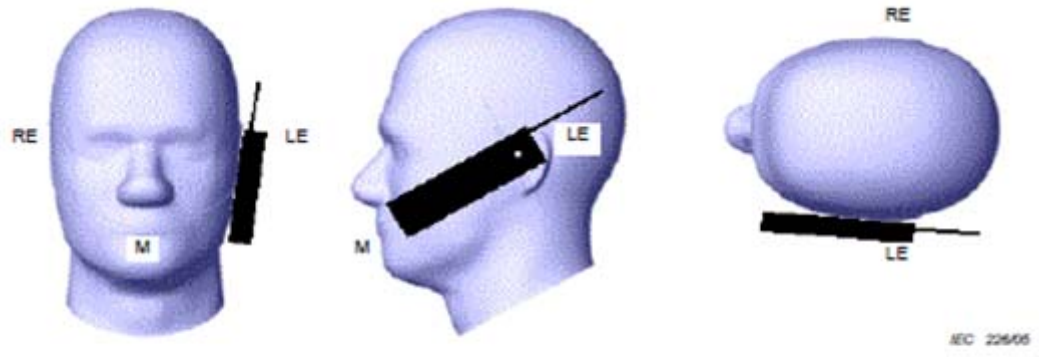
When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.

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

7.2 TEST POSITION

7.2.1 Head test configuration

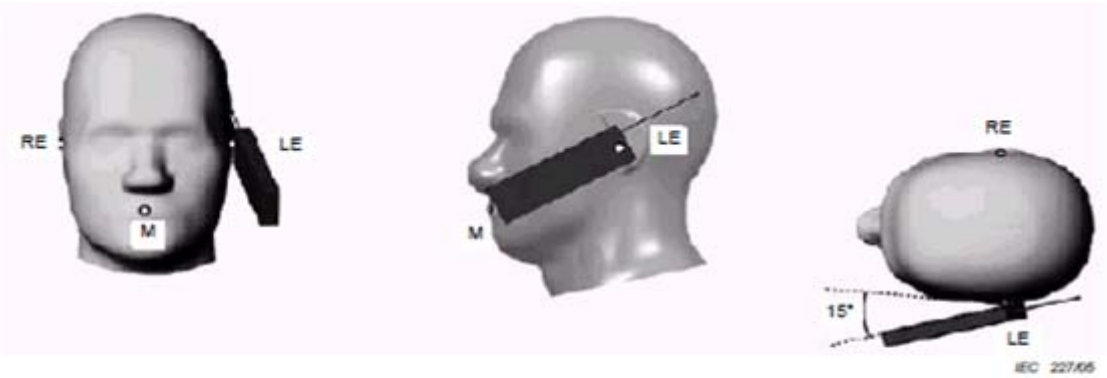
Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.



Key	
M	Mouth reference point
LE	Left ear reference point (ERP)
RE	Right ear reference point (ERP)

Figure 1 Cheek position of the wireless device on the left side of SAM

Note1: Cheek position of the wireless device on Right side of SAM also is similar to the left side represented above.



Key	
M	Mouth reference point
LE	Left ear reference point (ERP)
RE	Right ear reference point (ERP)

Figure 2 Tilt position of the wireless device on the left side of SAM

Note2: Tilt position of the wireless device on Right side of SAM also is similar to the left side represented above.

7.2.2 Body-worn test configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. The distance between the device and the phantom was kept 15mm.

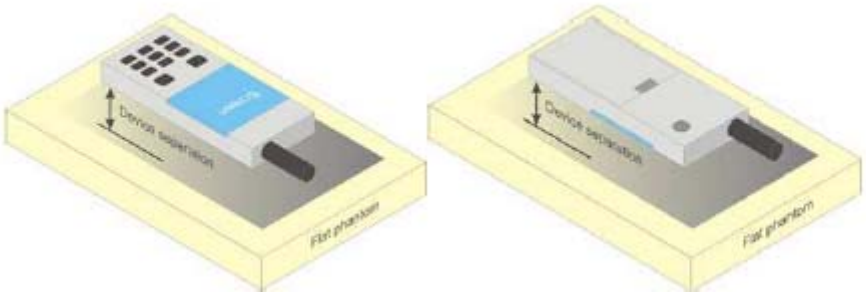


Figure 3 Test positions for body-worn device

7.2.3 Hotspot test configuration

Per FCC KDB 941225 D06, the SAR test separation distance for hotspot mode is determined according to device form factor. When the overall length and width of a device is >9cm×5cm, a test separation distance of 10mm is required for hotspot mode SAR measurements. A test separation distance of 5mm or less is required for smaller devices. Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25mm from that surface or edge; for the data modes, wireless technologies and frequency bands supporting hotspot mode. The SAR results are used to determine simultaneous transmission SAR test exclusion for hotspot mode; otherwise, simultaneous transmission SAR measurement is required.

The size of the mobile phone is150.1mm (length) x 72.05mm (width), the length of the diagonal is 157.8mm.
The location of the antennas inside mobile phone is shown as below picture:

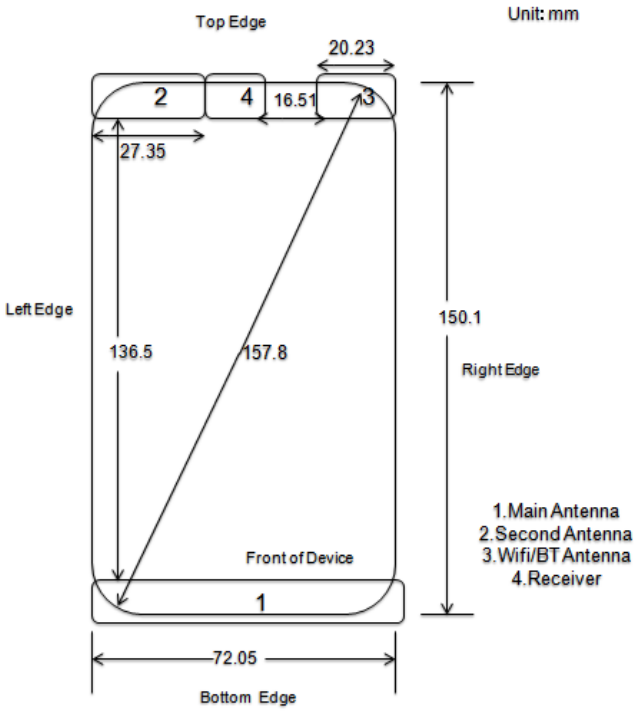


Table: Sides For Hotspot SAR Testing

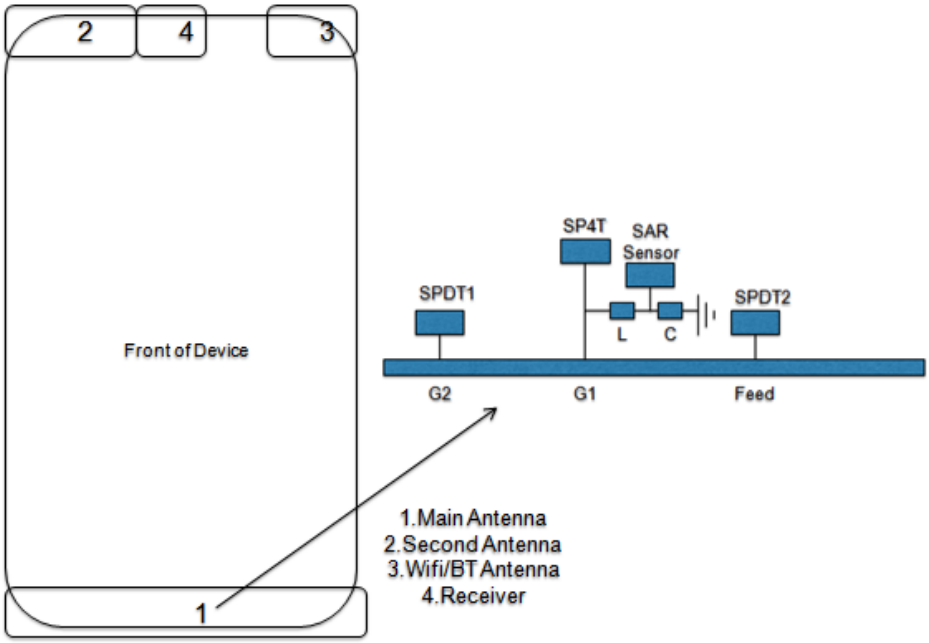
ANT	Mode	Front Side	Rear Side	Left Side	Right Side	Top Side	Bottom Side
1	2G/3G/LTE	YES	YES	YES	YES	NO	YES
2	2G/3G/LTE	YES	YES	YES	YES	YES	NO
3	WIFI	YES	YES	NO	YES	YES	NO

Note:
1) Per KDB 941225 D06, particular DUT edges were not required to be evaluated for Hotspot SAR if the antenna-to-edge distance is greater than 2.5cm.
2) The GPS antenna only receiver signal.

7.2.4 Proximity sensor power reduction(Body SAR)

In this section, the following list is used to prepare an inquiry seeking SAR test guidance for proximity sensor power reduction. The procedure in KDB 616217 is applied for SAR testing.

1. General proximity sensor implementation description
   This device uses a proximity sensor that share the same metallic electrode as the transmitting antenna to facilitate triggering in typical user interactivity with the device.
   Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the UE is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes to ensure SAR compliance for the following scenarios: To reduce the output power of main antennas during body operating configurations.
2. Sensor placement details

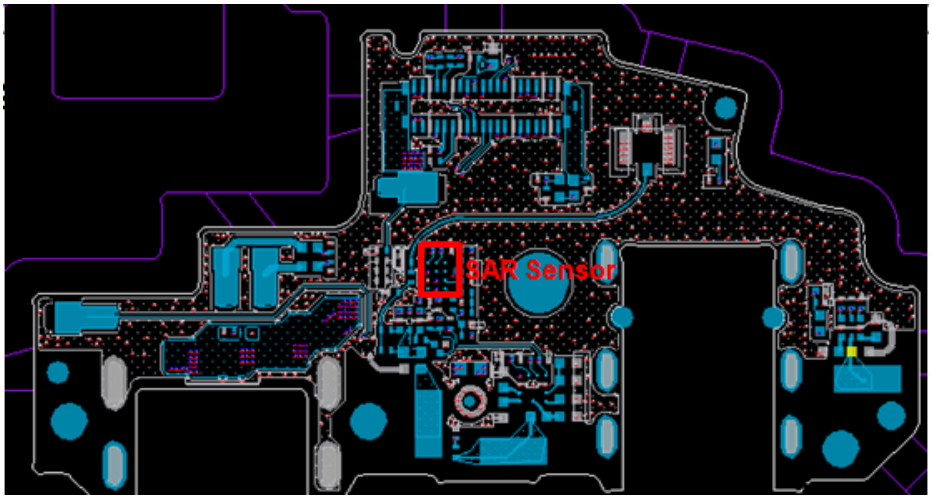


Location of the proximity sensor

Note: The proximity sensor and main antenna use same metallic electrode, so the location is same.

	Sensor-to- DUT Sides separation distances					
Item	Front side	Back side	Left side	Right side	Top side	Bottom side
sensor	N/A	N/A	N/A	N/A	156mm	N/A

3. Proximity sensor clarification



The Picture of the SAR sensor

Description of proximity sensor Techniques

The proximity sensor is triggered by capacitance changes due to objects in the vicinity of the sensing element.

Capacitive proximity sensor share a metallic electrode with the GSM、WCDMA and LTE antenna radiator. The metallic electrode and sar sensor chip works as a sensor. As shown in above picture.

The proximity sensor or the power reduction cannot be intentionally or unintentionally turned-off by the user.

The expected capacitance trigger values are programmed in each device for each power back-off stage. Capacitance trigger value is C1

When a certain object or human body approaches the DUT, if the measured capacitance is lower than C1, proximity sensor is not triggered. If the measured capacitance is equal to C1 or higher than C1, the power back-off is triggered.

Power Reduction operation table

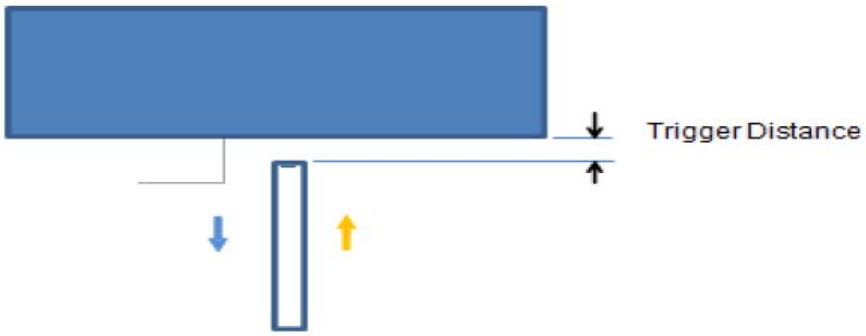
The UE use Dallas platform, which have some special NVs for SAR related max power back off, These NVs are used to set a new max power limit based proximity information and call configuration. When human body is in proximity and is detected by sensor, a new max power limit is set using the values stored in the NV. If Base station requests the higher output power above the limit, the power control algorithm inside modem chip will limit the power up to the preset power limit. If base station requests a lower output power less than the limit, the out power is controlled by base station.

Main antenna		
Band	Sensor Trigger Distance	Power reduction (dB)
UMTS Band II	Front side: 18mm / Back side: 18mm / Bottom side: 18mm	1
UMTS Band IV	Front side: 18mm / Back side: 18mm / Bottom side: 18mm	1
LTE Band II	Front side: 18mm / Back side: 18mm / Bottom side: 18mm	1
LTE Band IV	Front side: 18mm / Back side: 18mm / Bottom side: 18mm	1

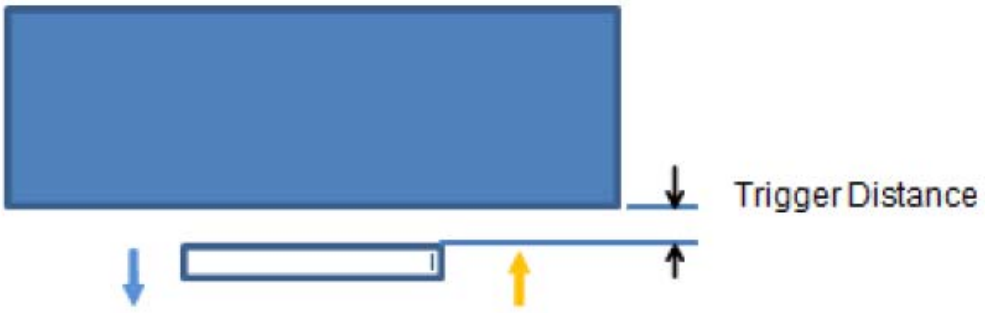
4. Proximity sensor coverage, distance and angle

4.1 Procedures for determining proximity sensor triggering distances (Per KDB616217 § 6.2)

Per FCC KDB 616217 D04v01, the device was tested by the test lab to determine the proximity sensor triggering distances for the back side and bottom side of the device. To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering minus 1 mm, must be used as the test separation distance for SAR testing. These SAR tests are included in addition to the SAR tests for the device touching the SAR phantom with reduced power.



Picture: Proximity sensor triggering distances assessment (Bottom)



Picture: Proximity sensor triggering distances assessment (Back side)

Table: Summary of Trigger Distances

Band	Trigger distance – Bottom side		Trigger distance – back side		Trigger distance – Front side	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving toward phantom
UMTS Band II	18mm	18mm	18mm	18mm	18mm	18mm
UMTS Band IV	18mm	18mm	18mm	18mm	18mm	18mm
LTE Band II	18mm	18mm	18mm	18mm	18mm	18mm
LTE Band IV	18mm	18mm	18mm	18mm	18mm	18mm

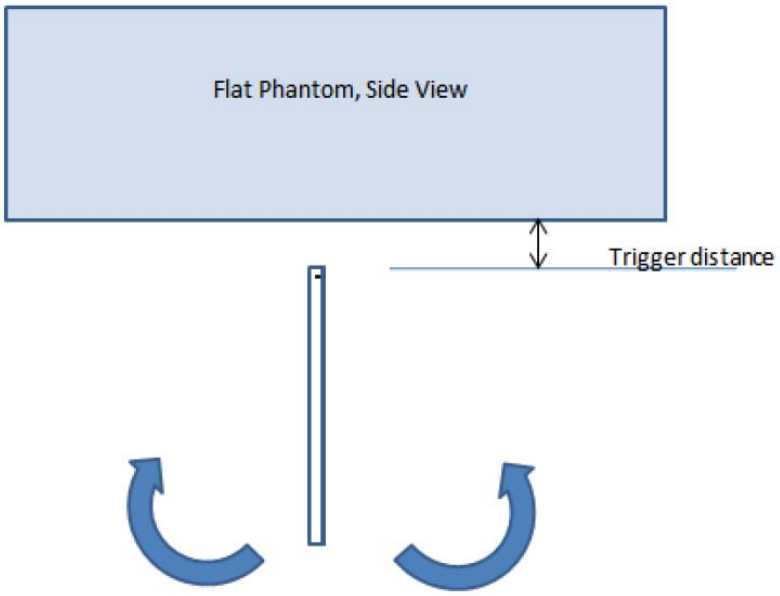
4.2 Procedures for determining antenna and proximity sensor coverage (Per KDB616217 § 6.3)

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

4.3 Procedures for determining device tilt angle influences to proximity sensor triggering (Per KDB616217 § 6.4)

Per FCC KDB 616217 D04v01, the DUT was positioned directly below the flat phantom at the minimum measured trigger distance with each applicable edge parallel to the base of the flat phantom for each band.

The EUT was rotated about each applicable edge for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



Picture: Proximity sensor tilt angle assessment

Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Bottom side)

Band(MHz)	Minimum trigger distance at which power reduction was maintained over ±45°	Sensor Power Reduction Status										
		-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
UMTS Band II	18mm	on	on	on	on	on	on	on	on	on	on	on
UMTS Band IV	18mm	on	on	on	on	on	on	on	on	on	on	on
LTE Band II	18mm	on	on	on	on	on	on	on	on	on	on	on
LTE Band IV	18mm	on	on	on	on	on	on	on	on	on	on	on

4.4 Summary SAR test Plan for Proximity sensor power reduction

For Body SAR compliance, the device uses proximity sensor power reduction for some frequency bands of Main antenna and test positions.

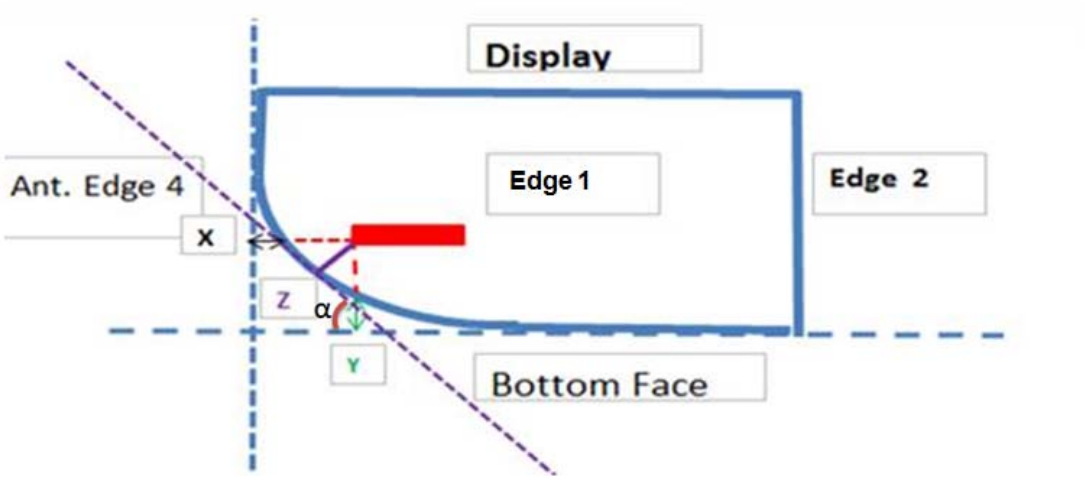
1）To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tilt positions for each applicable side triggering conditions, minus 1 mm, is used as the test separation distance for SAR testing.

2）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.

Appendix A：the distance between antenna and Curved Face

Main antenna：

Z：5.24mm / X：1.2mm / Y：1.4mm / α ：45°



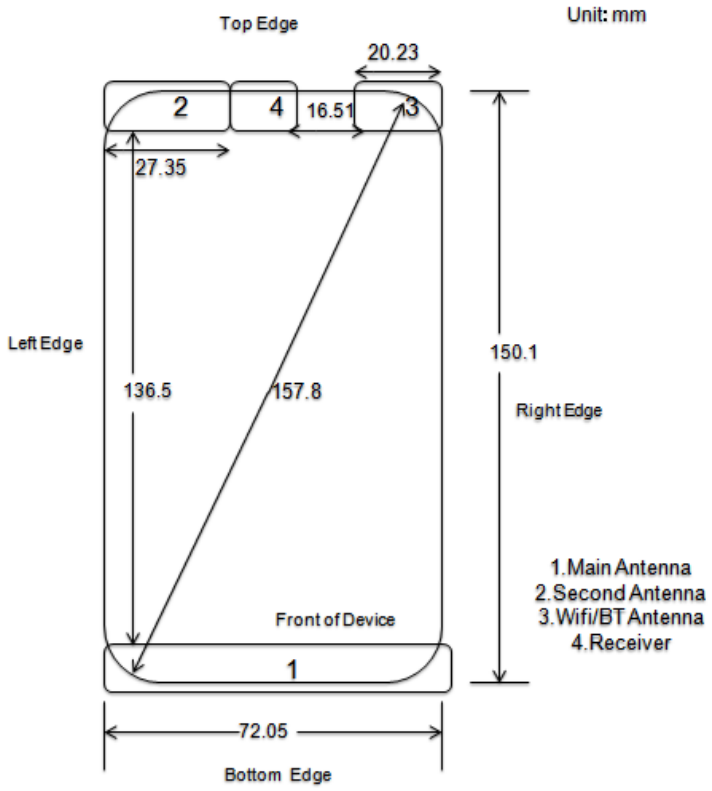
7.2.5 Dynamic antenna tuning

1. The specific device covered by the KDB inquiry
   ANS: We have a series of mobile phone devices using the same dynamic antenna tuning technology, including three models: FIG-LX3

   The band differences between these models are as below:

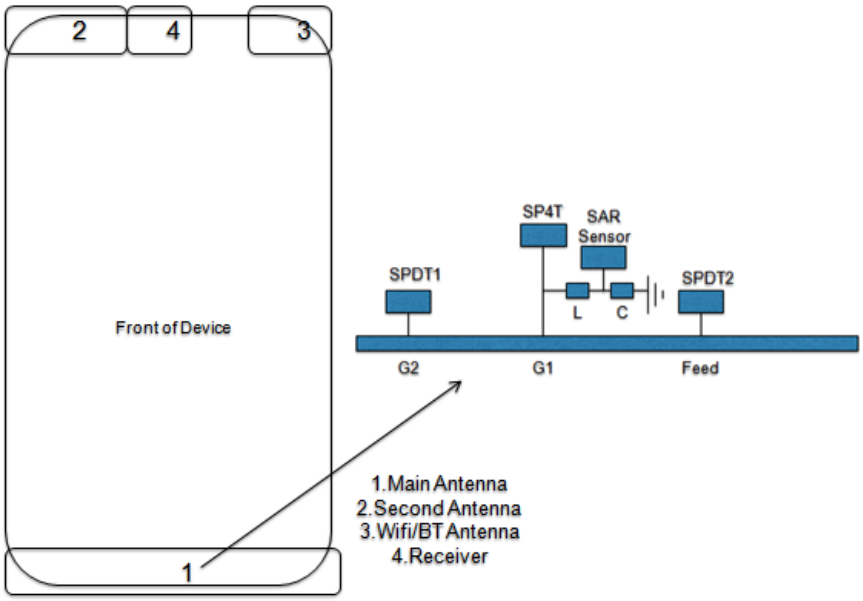
Model	FIG-LX3
SIM Card	Double
FCC bands	GSM850/1900 WCDMA B2/4/5 FDD LTE: B2/4/5/7
FCC bands supporting dynamic antenna tuning	Main Antenna: GSM850 WCDMA B5 B4 FDD LTE:B4 B5

2. Implementation details of dynamic switching tuning
   ANS: The device supports the dynamic antenna tuning function to optimize transmission efficiency for 791MHz~960MHz and 1710MHz~2700MHz frequency operations, especially in any hand usage scenario. The device has two GSM/UMTS/LTE Tx antennas: Main Antenna (Ant 1) and Second Antenna (Ant 2).The antennas inside the device are shown as below picture of description of TX antennas contained within the device. The dynamic antenna tuning function is only applicable for the 2G/3G/4G main Tx antenna, which is located in the bottom part of the device. The 2G/3G/4G main antenna has two fixed states for some bands: the state 1 and state 2. However, it has only one fixed feed, the state 2 can be formed by tuning two SPDT and SP4T switch which two are used as picture of dynamic antenna tuning implementation.



Picture: Description of Tx antennas contained within the device

The device uses two SPDT and one SP4T switch to achieve a dynamic antenna tuning which is based on the antennas RSSI (Received Signal Strength Indication) comparison and Switch Algorithm. The antenna tuning threshold is set to a fixed value (3dB). The software will choose better RSSI according to different state of two SPDT and one SP4T (In other words, between state1 and state 2) as the main state of the TX antenna. For example, When the RSSI of state 2 is 3 dB higher than the state1 in some hand usage scenario, the state 2 will be chosen as the state of operating main Tx antenna. The switching refer to the bands which operate during 791 MHz~960MHz & 1710MHz~2700MHz.



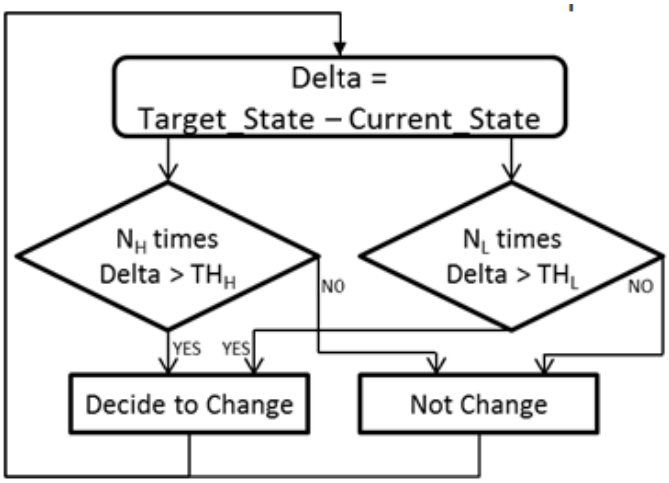
Picture: dynamic antenna tuning implementation

Note:
The dynamic antenna tuning bands and operating parameters are only related to the two SPDT and one SP4T switch RF port combinations listed in the table above. Other combinations are not used for dynamic antenna tuning by design.

The antenna tuning and operating parameters are implemented using a fixed table look-up mechanism that is fully contained within the approved transmitter; therefore, antenna tuning is static and remains unchanged for the same device operating configurations. Namely, the two tuning states have the same test channel, conductive power and turn up for 791 MHz~960MHz & 1710MHz~2700MHz. as they share the same antenna and RF path. At the beginning, the TX antenna will be fixed at the state which has a better OTA performance for free space.

3. Flow chart for dynamic antenna tuning

The simple mechanism and flow chart for dynamic antenna tuning is as below:
There are 2 pairs of preset threshold (TH_H and TH_L) and preset count (N_H and N_L). The antenna tuning thresholds is set to fixed values. (For example: TH_H =3dB, TH_L =1dB, N_H = 2 and N_L= 4);
Dynamic antenna tuning of this device is based on the antennas RSSI (Received Signal Strength Indication) comparison and Switch Algorithm.
If the difference of two tuning state (Delta) is higher than the preset threshold (TH_H or TH_L), the counter times will be increased.
When the counter times reaches the number of preset count(N_H or N_L), change tuning state to the better one. The software will choose better RSSI as the main state of the TX antenna.



Picture: Flow chart for dynamic antenna tuning

4. Power reduction description

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation per the PAG exclusion clause in KDB388624D02 item II.C.1.k:
1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered. (Reduce power of hotspot)
2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.
The series of mobile phone devices includes three models: FIG-LX3 (double cards). The following tables summarize the key power reduction information. The detailed full power and reduced tune-up specifications and conducted power measurement results will be fully explained in the final SAR report:

	Reduction cindition power	GSM850	GSM1900	WCDMA 2	WCDMA 4	WCDMA 5	LTE B2	LTE B4	LTE B5	LTE B7
Main Ant	SAR sensor on	0	0	1	1	0	1	1	0	0
	Multaneous	0	0	0	0	0	0	0	0	0

Note: Only the Main Antenna (Ant 1) support dynamic antenna tuning function. The power reduction bands and amount are same for the two tuning states of Ant 1.

5. Summary test plan of Dynamic antenna tuning
   For dynamic antenna tuning SAR test of each model device, all the tuning states will be considered for SAR compliance:
   a) Firstly, some AT commands are used to fix the tuning state at state1 or state 2, so that only one antenna tuning state is chosen at a time for SAR test. The antenna is set to the MAX transmit output power level.
   b) Secondly, per KDB648474D04 section 5, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, we plan to perform one single point zoom scan SAR measurement between state1 and state 2 for each antenna tuning band and applicable RF exposure condition to identify the higher SAR tuning state that need the full set of normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.
   c) Thirdly, full normally required SAR measurements are performed for the higher SAR tuning state. Moreover, the SAR worst case check will also be tested for the other tuning state in each antenna tuning band and applicable RF exposure condition. We think it is conservative enough to ensure the SAR compliance.

7.2.6 Maximum output power reduction triggered by specific use conditions mechanism

1. General description
   We have a mobile phone device supporting the maximum output power reduction triggered by specific use conditions mechanism. The main purpose is to minimize triggering associated with power reduction scenarios by audio receiver detection mechanisms and provide enhanced user experience. This device uses the audio receiver to indicate whether the user is making a call in head scenario or not. The selection between head and body power levels is based on the audio receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 2G&3G&4G second antenna accordingly:

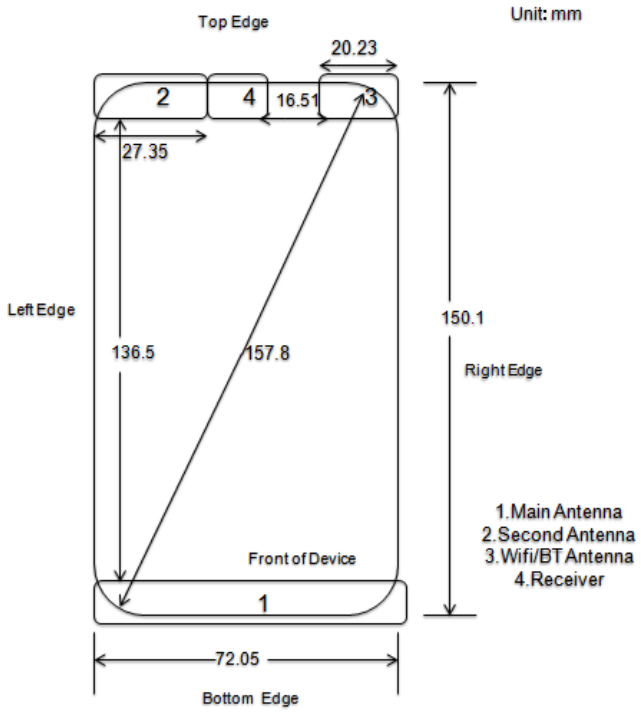
Table: Summery of Audio Receiver detection mechanism

Antenna	Audio Receiver on (head scenario)	Audio Receiver off (Body)
2G&3G&4G second ant	Power Level A	Power Level B

The specific device(s) covered by the KDB inquiry are as below.

Model	FIG-LX3
FCC ID	QISFIG-LX3
FCC bands	GSM850/1900 ; WCDMA B2/4/5 FDD LTE:B2/4/5/7 WiFi/BT

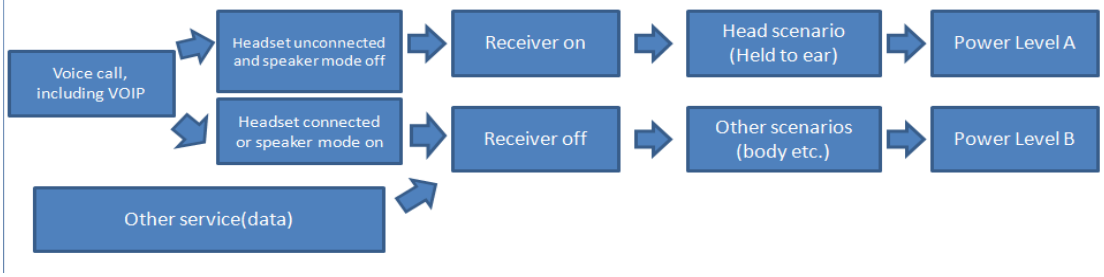
2. Antenna and audio receiver placement details
   The device has two 2G&3G&4G Tx antennas and one wifi/BT Tx ant. The selection between second ant and main ant is based on RSSI based antenna selection.



Picture: The location of the antennas and audio receiver

3. Audio receiver detection mechanism clarifications

The audio receiver on detection is accomplished by voice call from the modem as figure below shows:



Note: The power level A and B can be set to the same or different.

1) When there is a voice call (including VOIP) and the modem chip detects that the Headset is unconnected and speaker is off, then the audio receiver is triggered and it is considered as Held to ear scenario (Head). The power level A is applied.

2) When there is a voice call, but the headset is connected or speaker mode is on, the audio receiver will not work. It is considered as other scenarios (Body etc.). The power level B is applied.

3) When there is data service only (No voice call, including VOIP), the receiver will not work too. It is considered as other scenarios (Body etc.).The power level B is applied.

The device offers 3 sets SAR back off NVs to meet different complicated SAR scenarios. These NVs control max output power of main modem for 2G/3G/4G bands and WIFI. When certain set NVs works, the processor compare the back off NVs and original ones, and choose the lower output to apply. The audio receiver only works in voice mode, like GSM, CDMA 1X, VOLTE, WCDMA, and VOIP (VOLTE and VOIP based on the operation of different telecom carriers services and other third party VOIP software applications).When users take voice services like above, SAR back off will be applied immediately. If Base station requests the higher output power above the limit, the power control algorithm inside modem chip will limit the power up to the preset power limit. If base station requests a lower output power less than the limit, the out power is controlled by base station.

The table below provides more details information, which is based on a prototype phone for reference:

Power reduction(dB)		GSM850	GSM1900	WCDMA 2	WCDMA 4	WCDMA 5	LTE B2	LTE B4	LTE B5	LTE B7
standlone SAR	Receiver off	0	0	0	0	0	0	0	0	0
	Receiver on	4	4	6	2	5	7	1.5	4.5	9
Simutanuous SAR	WiFi station	7	7	8	4	7	9	3.5	6.5	12
	WiFi hotspot	7	7	8	4	7	9	3.5	6.5	12

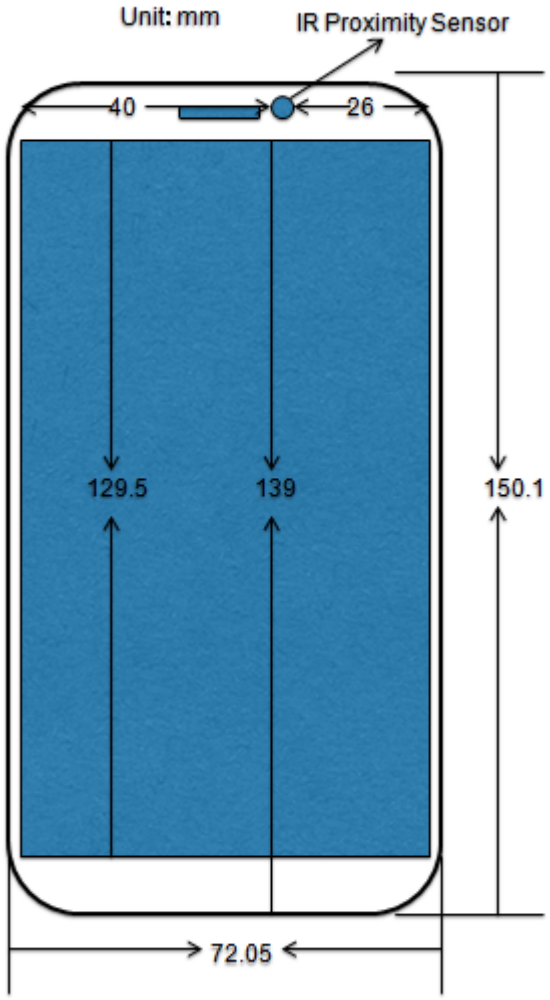
Note: The final power reduction value in the table above may be adjusted according to the SAR test results. The detailed full power and reduced tune-up specifications and conducted power measurement result will be provided in the final SAR report.

4. Summary SAR test plan
   Based on the power reduction triggered by specific use conditions information above, we provide a draft SAR test plan as below:
   1) The Main Antenna and Second Antenna are set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions per KDB 447498. Some AT commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time.
   2) For Head SAR test of 2G/3G/4G Second Antenna:
   Standalone Head SAR should be evaluated at power level A（Audio Receiver on）.
   As the audio receiver only works in voice mode when the user is making a call in head scenario, and the lack of the third-party VoIP server and the unstandardized VOIP operating characteristics, so we're planning to do the Head SAR test of LTE DATA, WCDMA RMC mode through triggering the audio receiver on by test scripts (bat files) in order to simulate the users' scene (LTE VOIP, WCDMA VOIP or data mode simultaneous Transmission with VoWifi) for Head SAR test of UMTS , LTE.
   The test scripts (bat files) function is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement. We can guarantee that the TX power and SAR value level during the test is the same as the actual user scenarios.
   3) For Body / Product Specific 10-g SAR test of 2G/3G/4G Second Antenna：
   Standalone Body SAR should be evaluated at power level B（Audio Receiver off）;
   4) For Product Specific 10-g SAR test of 2G/3G/4G Second Antenna：
   Standalone Body SAR should be evaluated at the MAX power level between A and B;

7.2.7 IR Proximity sensor power reduction

In this section, the following list is used to prepare an inquiry seeking SAR test guidance for proximity sensor power reduction. The procedure in KDB 616217 is applied for SAR testing.

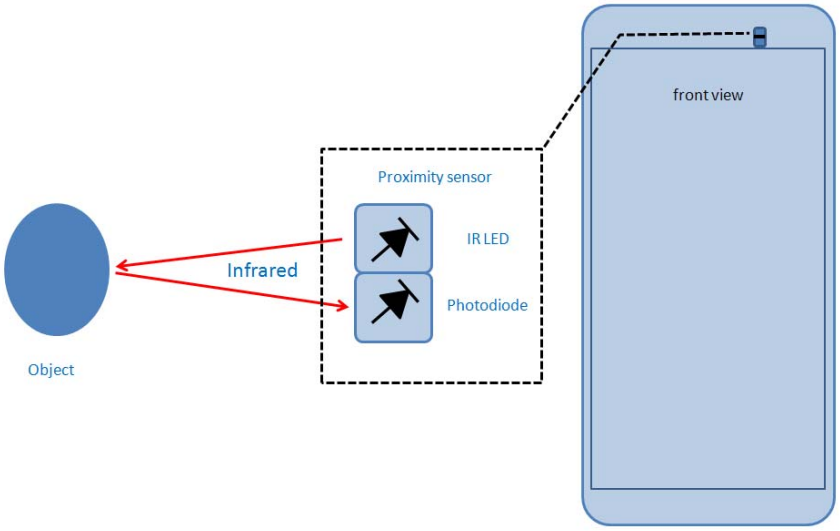
1. General proximity sensor implementation description
   This device uses a proximity sensor that share the same metallic electrode as the transmitting antenna to facilitate triggering in typical user interactivity with the device.
   Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the UE is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes to ensure SAR compliance for the following scenarios: To reduce the output power of main antennas during body operating configurations.
2. Sensor placement details



Location of the IR proximity sensor

	IR Sensor distances (front view, unit: mm)					
Item	Front side	Back side	Left side	Right side	Top side	Bottom side
IR Proximity Sensor	0	6	40	26	4	140.5
The IR proximity sensor locates on the front face of the device and detects objects approaching only from the front side						

3. Proximity sensor clarification



The Picture of the IR proximity sensor

Description of proximity sensor Techniques

As above picture shows, proximity detection is accomplished by photodiode measuring the amount of IR energy, from the internal IR LED, reflected off an object to determine its distance. As the sensor locates on the front side of the device, it only detects the front face approaching, like held-to-ear or body mode.

The device uses proximity sensor to detect the presence of nearby objects without any physical contact. When the device is under voice mode and the sensor finds the objects close enough and meet some other conditions at the same time, it will do the power reduction. When the call is off or sensor is not working on during the call, the power recovers as usual. The proximity sensor or the power reduction cannot be intentionally or unintentionally turned-off by the users.

Power Reduction operation table

The device uses HIMS platform, which offers SAR back off mechanism through reducing a fixed level WiFi power to meet complicated SAR scenarios. This fixed level WiFi power reducing mechanism will set a Max Tx-power(P1 for 2.4G,p2 for 5G)) that is different with Max Tx-power in NVs(P3 for 2.4G11b/g/n,P4 for 5G 11a\n\ac) dynamically, while complicated SAR scenarios is triggered. IR proximity sensor only works in voice mode, like GSM, WCDMA. and LTE.When head is in proximity and is detected by sensor as users take voice services like above, SAR back off for WiFi will be applied immediately. If Base station requests the higher output power above the limit, the power control algorithm inside modem chip will limit the power up to the preset power limit. If base station requests a lower output power less than the limit, the out power is controlled by base station. And the out power will below or equal as min(P1 for 2.4G/P2 for 5G, P3 for 2.4G/P4 for 5G). More details information followings:

2G&3G&4G antenna + WiFi antenna simultaneous transmission		
Band/Mode	Power Reduction Level Amount (dB)	
	2G&3G&4G Antenna(Voice) + WiFi +IR Sensor on	2G&3G&4G Antenna(Voice) + WiFi + IR Sensor off
WIFI 2.4G	7.0	0

In user actual scenarios, while proximity sensor is triggered in voice mode, dynamical WiFi power reducing mechanism will set a lower WiFi Tx-power to make SAR back off immediately. Then if proximity sensor is away, WiFi proximity sensor power reducing mechanism will recover WiFi Tx-power that sets in NVs, now WiFi out power recovery to normal.

WiFi sensor power reducing mechanism need detect the WiFi connect state to make sure if it is necessary to set WiFi Tx-power back-off. In test lab environment, the 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 per KDB248227. As Wi-Fi works in non-signaling mode, so the reducing mechanism can not detect WiFi connect state. In order to validate the power change before and after sensor power reduction in WiFi non signaling mode, a specific external test software and chipset based internal test modes are used in sensor triggering power measurement validation tests.
In the sensor triggering power measurement tests, chipset based internal test modes enable proximity sensor logic in WiFi non signaling mode by the following steps:

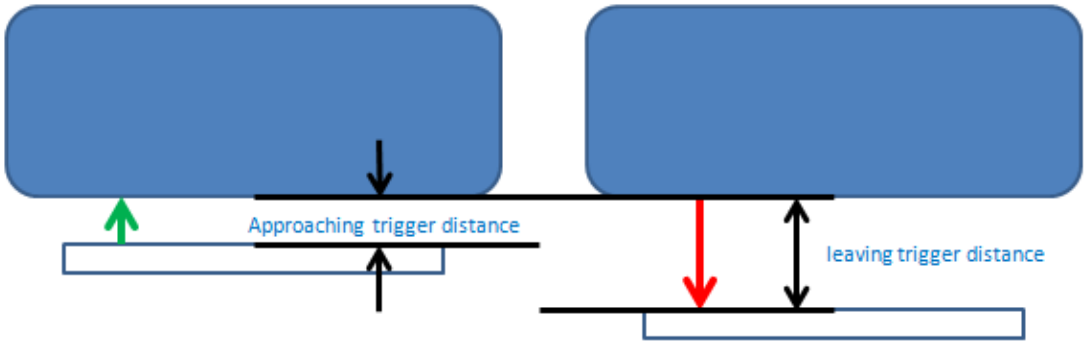
1) The first step, push the files into test device and restar the phone
2) The second step, send continuous non signaling frames from the test phone，make a call and cover the proximity sensor，then test the power

In the sensor triggering power measurement tests, WiFi power controlling logic for WiFi non signaling mode is the same as WiFi signaling mode. The Specific external test software and chipset based internal test modes only make sure that proximity sensor logic can be triggered in WiFi non signaling mode, and do not modify any settings in the phone. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement per KDB248227

4. Proximity sensor coverage, distance and angle

4.1 Procedures for determining proximity sensor triggering distances

The procedure per KDB 616217 D04§6.2 is used to determine the triggering distances. As the proximity sensor locates on the front face of the device and detects objects approaching only from the front side, so triggering distance only need to be checked for the front side of Wi-Fi band when Wi-Fi and 2G&3G&4G main antenna voice mode transmit simultaneously.



Picture: Proximity sensor triggering distances assessment (Front)

The EUT is moved towards from the flat phantom:

Distance between phantom to DUT in mm	45	40	35	30	25	20	15
Condition of Sensor in the front side of the device(under voice mode)	off	off	off	off	off	on	on

The EUT is moved away from the flat phantom:

Distance between phantom to DUT in mm	75	70	65	60	55	50	45
Condition of Sensor in the front side of the device(under voice mode)	off	off	off	off	off	on	on

Conclusion: The Proximity sensor triggering distance is N mm (about 20-50mm), so it can be ensured that the proximity sensor Power reduction is valid for the Head and body front side exposure condition.

4.2 Procedures for determining antenna and proximity sensor

As the proximity sensor locates on the front face of the device and detects objects approaching only from the front side, so triggering distance only need to be checked for the front side of Wi-Fi band when Wi-Fi and 2G&3G&4G main antenna voice mode transmit simultaneously.

4.3 Procedures for determining device tilt angle influences to proximity sensor triggering

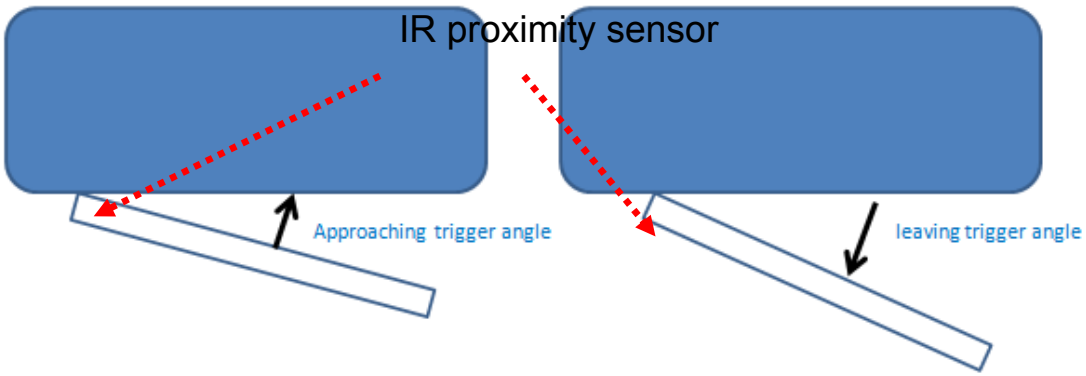
The following procedure is used to determine the triggering angle. Distance need to be check when device under voice mode so that sensor is working.

1）For Body exposure condition, as the proximity sensor triggering power reduction is only applicable for the front side, so tilt angle influences for the other edges does not need to be assessed.

2) For Head exposure condition, device tilt angle influences to proximity sensor triggering is determined as below:

Firstly, the DUT was positioned directly touch the SAM phantom (Left &Right hand touch cheek position) for each band. Rotate the DUT around the ear reference point of the phantom in 5° increments until the DUT is 15° or more away from the touch cheek position at 0°

Then the DUT is positioned at 15° or more away from the touch cheek position and moved towards the phantom in 5°increments until the DUT directly touch the SAM phantom at 0°(Left & Right hand touch cheek position).



The EUT is moved towards and away from SAM phantom.

angle between phantom to DUT in degree	0	5	10	15	20	25	30
Condition of Sensor	on	on	on	on	on	on	on

Based on the validation results above, angle tilt coverage can ensure that the proximity sensor is triggered for all the Head test positions(Left/Right Hand Touched cheek, Left/Right Hand tiled 15 °)

5. Summary SAR test plan for Proximity sensor power reduction

To sum up, as the device uses proximity sensor triggering power reduction when Wi-Fi antenna transmits simultaneously with main antenna(Voice mode) in held-to-ear scenarios or body front face scenario, therefore:

1) For Head SAR compliance: The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction. Additional Head SAR for Wi-Fi antenna is evaluated at reduced power levels when 2G&3G&4G antenna in voice mode and Wi-Fi antennas transmit simultaneously.
2) For Body/ Product Specific 10-g SAR compliance, the standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.

8. TEST RESULT

8.1 CONDUCTED POWER RESULTS

8.1.1 CONDUCTED POWER MEASUREMENTS OF GSM850

1) Conducted power measurement results of GSM850(Power Full)

GSM850 (Main)		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			128CH	190CH	251CH		128CH	190CH	251CH
			824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM (CS)		33.30	32.35	32.30	32.26	24.11	23.16	23.11	23.07
GPRS/ EDGE (GMSK)	1 Tx Slot	33.30	32.35	32.30	32.26	24.11	23.16	23.11	23.07
	2 Tx Slots	29.80	28.78	28.71	28.67	23.67	22.65	22.58	22.54
	3 Tx Slots	28.00	27.00	26.93	26.92	23.58	22.58	22.51	22.50
	4 Tx Slots	26.80	25.78	25.72	25.66	23.62	22.60	22.54	22.48
EDGE (8PSK)	1 Tx Slot	27.50	26.32	26.22	26.11	18.31	17.13	17.03	16.92
	2 Tx Slots	24.00	22.84	22.88	22.81	17.87	16.71	16.75	16.68
	3 Tx Slots	22.20	21.09	21.06	21.12	17.78	16.67	16.64	16.70
	4 Tx Slots	21.00	19.51	19.34	19.45	17.82	16.33	16.16	16.27

GSM850 (Sub)		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			128CH	190CH	251CH		128CH	190CH	251CH
			824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM (CS)		33.30	32.08	32.09	32.05	24.11	22.89	22.90	22.86
GPRS/ EDGE (GMSK)	1 Tx Slot	33.30	32.08	32.09	32.05	24.11	22.89	22.90	22.86
	2 Tx Slots	29.80	28.50	28.47	28.41	23.67	22.37	22.34	22.28
	3 Tx Slots	28.00	26.78	26.77	26.73	23.58	22.36	22.35	22.31
	4 Tx Slots	26.80	25.53	25.46	25.46	23.62	22.35	22.28	22.28
EDGE (8PSK)	1 Tx Slot	27.50	25.82	25.88	25.83	18.31	16.63	16.69	16.64
	2 Tx Slots	24.00	22.45	22.53	22.46	17.87	16.32	16.40	16.33
	3 Tx Slots	22.20	20.48	20.57	20.54	17.78	16.06	16.15	16.12
	4 Tx Slots	21.00	19.48	19.51	19.59	17.82	16.30	16.33	16.41

2) Conducted power measurement results of GSM850 (Receiver On)

GSM850 (Sub)	Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
		128CH	190CH	251CH		128CH	190CH	251CH
		824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM (CS)	29.30	28.02	28.02	28.01	20.11	18.83	18.83	18.82

3) Conducted power measurement results of GSM850 (Receiver On + Wifi)

GSM850 (Sub)	Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
		128CH	190CH	251CH		128CH	190CH	251CH
		824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM (CS)	26.30	24.95	24.96	24.92	17.11	15.76	15.77	15.73

Note:
1) The conducted power of GSM850 is measured with RMS detector.
2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 time slots.
3) Per KDB941225 D01, the bolded GPRS2Tx mode was selected for SAR testing according to the highest frame –averaged output power table.
4) The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power=10 x log(Burst-averaged power mW x Slot used/8)

8.1.2 CONDUCTED POWER MEASUREMENTS OF GSM1900

1) Conducted power measurement results of GSM1900(Power Full)

GSM1900 (Main)		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			512CH	661CH	810CH		512CH	661CH	810CH
			1850.2MHz	1880MHz	1909.8MHz		1850.2MHz	1880MHz	1909.8MHz
GSM (CS)		30.50	29.86	29.85	29.85	21.31	20.67	20.66	20.66
GPRS /EDGE (GMSK)	1 Tx Slot	30.50	29.86	29.85	29.85	21.31	20.67	20.66	20.66
	2 Tx Slots	27.00	26.07	26.08	25.97	20.87	19.94	19.95	19.84
	3 Tx Slots	25.20	24.34	24.29	24.16	20.78	19.92	19.87	19.74
	4 Tx Slots	24.00	23.09	23.12	23.01	20.82	19.91	19.94	19.83
EDGE (8PSK)	1 Tx Slot	26.50	25.34	25.45	25.43	17.31	16.15	16.26	16.24
	2 Tx Slots	23.00	21.62	21.71	21.59	16.87	15.49	15.58	15.46
	3 Tx Slots	21.20	19.85	19.93	20.04	16.78	15.43	15.51	15.62
	4 Tx Slots	20.00	18.47	18.54	18.39	16.82	15.29	15.36	15.21

GSM1900 (Sub)		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			512CH	661CH	810CH		512CH	661CH	810CH
			1850.2MHz	1880MHz	1909.8MHz		1850.2MHz	1880MHz	1909.8MHz
GSM (CS)		30.50	29.73	29.58	29.53	21.31	20.54	20.39	20.34
GPRS /EDGE (GMSK)	1 Tx Slot	30.50	29.73	29.58	29.53	21.31	20.54	20.39	20.34
	2 Tx Slots	27.00	26.13	26.05	26.02	20.87	20.00	19.92	19.89
	3 Tx Slots	25.20	24.35	24.25	24.23	20.78	19.93	19.83	19.81
	4 Tx Slots	24.00	23.05	22.97	22.95	20.82	19.87	19.79	19.77
EDGE (8PSK)	1 Tx Slot	26.50	25.34	25.31	25.22	17.31	16.15	16.12	16.03
	2 Tx Slots	23.00	21.57	21.51	21.42	16.87	15.44	15.38	15.29
	3 Tx Slots	21.20	19.76	19.68	19.72	16.78	15.34	15.26	15.30
	4 Tx Slots	20.00	18.60	18.62	18.63	16.82	15.42	15.44	15.45

2）Conducted power measurement results of GSM1900 (Receiver On)

GSM1900 (Sub)	Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
		512CH	661CH	810CH		512CH	661CH	810CH
		1850.2MHz	1880MHz	1909.8MHz		1850.2MHz	1880MHz	1909.8MHz
GSM (CS)	26.50	25.62	25.54	25.54	17.31	16.43	16.35	16.35

3）Conducted power measurement results of GSM1900 (Receiver On + Wifi)

GSM1900 (Sub)	Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
		512CH	661CH	810CH		512CH	661CH	810CH
		1850.2MHz	1880MHz	1909.8MHz		1850.2MHz	1880MHz	1909.8MHz
GSM (CS)	23.50	22.46	22.39	22.39	14.31	13.27	13.20	13.20

Note:
1) The conducted power of GSM1900 is measured with RMS detector.
2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 time slots.
3) Per KDB941225 D01, the bolded GPRS 2Tx mode was selected for SAR testing according to the highest frame –averaged output power table.
4) The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power=10 x log(Burst-averaged power mW x Slot used/8)

8.1.3CONDUCTED POWER MEASUREMENTS OF UMTS Band 2

1）Conducted power measurement results of UMTS Band 2(Power Full)

UMTS Band 2 (Main)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	23.80	22.81	22.87	22.85
	12.2kbps RMC	23.80	22.81	22.87	22.85
	64kbps RMC	23.80	22.81	22.90	22.80
	144kbps RMC	23.80	22.84	22.94	22.89
	384kbps RMC	23.80	22.82	22.94	22.87
HSDPA	Subtest 1	24.00	22.87	22.91	22.89
	Subtest 2	24.00	22.87	22.93	22.91
	Subtest 3	23.00	21.88	21.94	21.87
	Subtest 4	23.00	21.84	21.91	21.91
HSUPA	Subtest 1	21.50	20.44	20.61	20.67
	Subtest 2	20.00	18.12	18.44	18.54
	Subtest 3	22.50	21.10	21.34	21.27
	Subtest 4	20.00	18.79	18.53	18.69
	Subtest 5	22.50	21.72	21.49	21.53
HSPA+	Subtest 1	21.50	20.83	20.69	20.74
DC-HSDPA	Subtest 1	23.80	21.87	21.91	21.89
	Subtest 2	23.80	22.87	22.93	22.91
	Subtest 3	23.00	21.88	21.94	21.87
	Subtest 4	23.00	21.84	21.91	21.91

UMTS Band 2 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	23.80	22.43	22.65	22.81
	12.2kbps RMC	23.80	22.43	22.65	22.81
	64kbps RMC	23.80	22.44	22.70	22.79
	144kbps RMC	23.80	22.42	22.68	22.80
	384kbps RMC	23.80	22.43	22.67	22.82
HSDPA	Subtest 1	23.50	22.47	22.56	22.55
	Subtest 2	23.50	22.46	22.68	22.80
	Subtest 3	23.00	21.51	21.71	21.82
	Subtest 4	23.00	21.48	21.71	21.82
HSUPA	Subtest 1	21.00	20.33	20.30	20.40
	Subtest 2	19.50	18.05	18.17	18.24
	Subtest 3	22.50	21.15	20.84	21.01
	Subtest 4	19.50	19.12	19.19	19.02
	Subtest 5	22.50	21.57	21.41	21.52
HSPA+	Subtest 1	21.50	20.48	20.57	20.70
DC-HSDPA	Subtest 1	22.50	21.45	21.67	21.83
	Subtest 2	23.50	22.46	22.68	22.80
	Subtest 3	23.00	21.51	21.71	21.82
	Subtest 4	23.00	21.48	21.71	21.82

2）Conducted power measurement results of UMTS Band 2 (Power Sensor)

UMTS Band 2 (Main)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	22.80	21.89	21.92	21.88
	12.2kbps RMC	22.80	21.89	21.92	21.88
	64kbps RMC	22.80	21.93	21.96	21.91
	144kbps RMC	22.80	21.92	21.95	21.90
	384kbps RMC	22.80	21.90	21.82	21.89
HSDPA	Subtest 1	23.00	21.86	21.94	21.90
	Subtest 2	23.00	21.88	21.96	21.94
	Subtest 3	22.00	20.86	20.94	20.90
	Subtest 4	22.00	20.89	20.92	20.91
HSUPA	Subtest 1	20.50	19.35	19.53	19.61
	Subtest 2	19.00	17.61	17.63	17.45
	Subtest 3	21.50	20.21	20.06	20.18
	Subtest 4	19.00	18.32	18.36	18.38
	Subtest 5	21.50	21.06	20.87	20.75
HSPA+	Subtest 1	20.50	19.89	19.86	19.78
DC-HSDPA	Subtest 1	22.80	20.86	20.94	20.90
	Subtest 2	22.80	21.88	21.96	21.94
	Subtest 3	22.00	20.86	20.94	20.90
	Subtest 4	22.00	20.89	20.92	20.91

3）Conducted power measurement results of UMTS Band 2 (Power Hotspot)

UMTS Band 2 (Main)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	17.80	16.76	16.77	16.83
	12.2kbps RMC	17.80	16.76	16.77	16.83
	64kbps RMC	17.80	16.86	16.87	16.85
	144kbps RMC	17.80	16.84	16.88	16.86
	384kbps RMC	17.80	17.77	16.88	16.87
HSDPA	Subtest 1	18.00	16.81	16.89	16.87
	Subtest 2	18.00	16.93	16.97	16.92
	Subtest 3	17.00	15.92	15.97	15.89
	Subtest 4	17.00	15.89	15.90	15.87
HSUPA	Subtest 1	15.50	14.94	15.01	15.08
	Subtest 2	14.00	12.47	12.51	12.68
	Subtest 3	16.50	15.48	15.30	15.39
	Subtest 4	14.00	12.71	12.67	12.83
	Subtest 5	16.50	16.45	16.46	16.37
HSPA+	Subtest 1	16.50	15.53	15.56	15.65
DC-HSDPA	Subtest 1	17.80	15.86	15.85	15.85
	Subtest 2	17.80	16.93	16.97	16.92
	Subtest 3	17.00	15.92	15.97	15.89
	Subtest 4	17.00	15.89	15.90	15.87

UMTS Band 2 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	15.80	14.61	14.69	14.70
	12.2kbps RMC	15.80	14.61	14.69	14.70
	64kbps RMC	15.80	14.58	14.71	14.72
	144kbps RMC	15.80	14.58	14.72	14.70
	384kbps RMC	15.80	14.59	14.71	14.71
HSDPA	Subtest 1	15.50	14.53	14.64	14.67
	Subtest 2	15.50	14.57	14.74	14.76
	Subtest 3	15.00	13.69	13.82	13.87
	Subtest 4	15.00	13.76	13.82	13.85
HSUPA	Subtest 1	15.00	13.82	14.05	14.21
	Subtest 2	11.50	10.76	10.85	10.58
	Subtest 3	14.50	13.34	13.61	13.78
	Subtest 4	11.50	10.25	10.57	10.65
	Subtest 5	16.00	14.58	14.84	14.98
HSPA+	Subtest 1	12.50	11.12	11.37	11.52
DC-HSDPA	Subtest 1	14.50	13.72	13.83	13.88
	Subtest 2	15.50	14.57	14.74	14.76
	Subtest 3	15.00	13.69	13.82	13.87
	Subtest 4	15.00	13.76	13.82	13.85

4）Conducted power measurement results of UMTS Band 2 (Power sensor + Hotspot)

UMTS Band 2 (Main)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	16.80	15.82	15.89	15.80
	12.2kbps RMC	16.80	15.82	15.89	15.80
	64kbps RMC	16.80	15.83	15.90	15.80
	144kbps RMC	16.80	15.85	15.90	15.79
	384kbps RMC	16.80	15.84	15.87	15.75
HSDPA	Subtest 1	17.00	15.81	15.85	15.78
	Subtest 2	17.00	15.89	15.92	15.85
	Subtest 3	16.00	14.86	14.90	14.84
	Subtest 4	16.00	14.81	14.86	14.83
HSUPA	Subtest 1	16.00	14.99	15.08	15.16
	Subtest 2	13.00	12.02	12.10	12.04
	Subtest 3	15.50	14.63	14.71	14.84
	Subtest 4	13.00	11.55	11.65	11.74
	Subtest 5	16.50	15.86	16.08	16.01
HSPA+	Subtest 1	15.00	14.17	14.11	14.30
DC-HSDPA	Subtest 1	16.80	14.82	14.90	14.87
	Subtest 2	16.80	15.89	15.92	15.85
	Subtest 3	16.00	14.86	14.90	14.84
	Subtest 4	16.00	14.81	14.86	14.83

5）Conducted power measurement results of UMTS Band 2 (Receiver On)

UMTS Band 2 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	17.80	16.63	16.74	16.74
	12.2kbps RMC	17.80	16.63	16.74	16.74
	64kbps RMC	17.80	16.58	16.68	16.75
	144kbps RMC	17.80	16.59	16.70	16.77
	384kbps RMC	17.80	16.59	16.69	16.77
HSDPA	Subtest 1	17.50	16.56	16.57	16.63
	Subtest 2	17.50	16.60	16.69	16.72
	Subtest 3	17.00	15.37	15.44	15.48
	Subtest 4	17.00	15.36	15.47	15.48
HSUPA	Subtest 1	15.00	14.54	14.81	14.99
	Subtest 2	13.50	12.87	12.82	13.06
	Subtest 3	16.50	14.93	15.11	15.29
	Subtest 4	13.50	12.26	12.54	12.79
	Subtest 5	16.50	16.16	16.24	16.19
HSPA+	Subtest 1	15.50	14.73	14.79	14.80
DC-HSDPA	Subtest 1	16.50	15.66	15.70	15.72
	Subtest 2	17.50	16.60	16.69	16.72
	Subtest 3	17.00	15.37	15.44	15.48
	Subtest 4	17.00	15.36	15.47	15.48

6）Conducted power measurement results of UMTS Band 2 (Receiver On+Wifi)

UMTS Band 2 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	15.80	14.41	14.43	14.44
	12.2kbps RMC	15.80	14.41	14.43	14.44
	64kbps RMC	15.80	14.69	14.78	14.69
	144kbps RMC	15.80	14.43	14.70	14.81
	384kbps RMC	15.80	14.71	14.81	14.70
HSDPA	Subtest 1	15.50	14.68	14.73	14.72
	Subtest 2	15.50	14.60	14.76	14.70
	Subtest 3	15.00	13.71	13.84	13.86
	Subtest 4	15.00	13.72	13.87	13.84
HSUPA	Subtest 1	15.00	13.84	14.03	14.15
	Subtest 2	11.50	10.76	10.84	10.92
	Subtest 3	14.50	13.55	13.61	13.75
	Subtest 4	11.50	10.23	10.52	10.65
	Subtest 5	16.00	14.68	14.93	15.10
HSPA+	Subtest 1	13.50	12.88	13.06	13.14
DC-HSDPA	Subtest 1	14.50	13.73	13.81	13.81
	Subtest 2	15.50	14.60	14.76	14.70
	Subtest 3	15.00	13.71	13.84	13.86
	Subtest 4	15.00	13.72	13.87	13.84

Note:
1) The conducted power of UMTS Band 2 is measured with RMS detector.
2) Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

8.1.4 CONDUCTED POWER MEASUREMENTS OF UMTS Band 4

1）Conducted power measurement results of UMTS Band 4 (Power Full)

UMTS Band 4 (Main)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	22.50	21.60	21.47	21.41
	12.2kbps RMC	22.50	21.60	21.47	21.41
	64kbps RMC	22.50	21.54	21.43	21.37
	144kbps RMC	22.50	21.53	21.43	21.35
	384kbps RMC	22.50	21.53	21.48	21.42
HSDPA	Subtest 1	22.50	21.43	21.45	21.35
	Subtest 2	22.50	21.60	21.48	21.41
	Subtest 3	22.00	21.06	20.97	20.88
	Subtest 4	22.00	21.04	20.97	20.90
HSUPA	Subtest 1	20.00	18.97	18.73	18.54
	Subtest 2	18.50	17.61	17.57	17.48
	Subtest 3	21.50	19.81	19.85	19.88
	Subtest 4	18.50	17.90	17.72	17.58
	Subtest 5	21.50	20.76	20.58	20.72
HSPA+	Subtest 1	20.50	19.44	19.31	19.34
DC-HSDPA	Subtest 1	21.50	20.53	20.45	20.35
	Subtest 2	22.50	21.60	21.48	21.41
	Subtest 3	22.00	21.06	20.97	20.88
	Subtest 4	22.00	21.04	20.97	20.90

UMTS Band 4 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	23.50	22.40	22.15	22.18
	12.2kbps RMC	23.50	22.40	22.15	22.18
	64kbps RMC	23.50	22.39	22.17	22.20
	144kbps RMC	23.50	22.39	22.18	22.17
	384kbps RMC	23.50	22.41	22.22	22.24
HSDPA	Subtest 1	23.50	22.16	22.01	22.03
	Subtest 2	23.50	22.36	22.22	22.24
	Subtest 3	23.00	21.87	21.67	21.75
	Subtest 4	23.00	21.91	21.67	21.74
HSUPA	Subtest 1	21.00	19.92	19.63	19.81
	Subtest 2	19.50	18.48	18.46	18.28
	Subtest 3	22.50	20.65	20.69	20.72
	Subtest 4	19.50	18.48	18.59	18.24
	Subtest 5	22.50	21.46	21.17	21.41
HSPA+	Subtest 1	21.50	20.29	20.11	20.12
DC-HSDPA	Subtest 1	22.50	21.40	21.21	21.18
	Subtest 2	23.50	22.36	22.22	22.24
	Subtest 3	23.00	21.87	21.67	21.75
	Subtest 4	23.00	21.91	21.67	21.74

2）Conducted power measurement results of UMTS Band 4 (Power Sensor)

UMTS Band 4 (Main)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	22.50	21.60	21.47	21.41
	12.2kbps RMC	22.50	21.60	21.47	21.41
	64kbps RMC	22.50	21.54	21.43	21.37
	144kbps RMC	22.50	21.53	21.43	21.35
	384kbps RMC	22.50	21.53	21.48	21.42
HSDPA	Subtest 1	22.50	21.43	21.45	21.35
	Subtest 2	22.50	21.60	21.48	21.41
	Subtest 3	22.00	21.06	20.97	20.88
	Subtest 4	22.00	21.04	20.97	20.90
HSUPA	Subtest 1	20.00	18.97	18.73	18.54
	Subtest 2	18.50	17.61	17.57	17.48
	Subtest 3	21.50	19.81	19.85	19.88
	Subtest 4	18.50	17.90	17.72	17.58
	Subtest 5	21.50	20.76	20.58	20.72
HSPA+	Subtest 1	20.50	19.44	19.31	19.34
DC-HSDPA	Subtest 1	21.50	20.53	20.45	20.35
	Subtest 2	22.50	21.60	21.48	21.41
	Subtest 3	22.00	21.06	20.97	20.88
	Subtest 4	22.00	21.04	20.97	20.90

3）Conducted power measurement results of UMTS Band 4 (Power Hotspot)

UMTS Band 4 (Main)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	17.50	17.46	17.24	17.03
	12.2kbps RMC	17.50	17.46	17.24	17.03
	64kbps RMC	17.50	17.48	17.49	17.40
	144kbps RMC	17.50	17.47	17.40	17.32
	384kbps RMC	17.50	17.49	17.40	17.43
HSDPA	Subtest 1	18.00	17.44	17.31	17.23
	Subtest 2	18.50	17.57	17.48	17.38
	Subtest 3	18.00	17.09	16.98	16.91
	Subtest 4	18.00	17.05	16.93	16.85
HSUPA	Subtest 1	16.50	15.35	15.30	15.23
	Subtest 2	14.30	13.74	13.08	12.83
	Subtest 3	17.00	15.70	16.06	15.93
	Subtest 4	15.00	14.03	14.00	13.98
	Subtest 5	18.00	17.03	16.93	16.90
HSPA+	Subtest 1	17.00	15.89	15.81	15.76
DC-HSDPA	Subtest 1	18.00	17.03	16.94	16.87
	Subtest 2	18.50	17.57	17.48	17.38
	Subtest 3	18.00	17.09	16.98	16.91
	Subtest 4	18.00	17.05	16.93	16.85

UMTS Band 4 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	19.50	18.26	18.17	18.14
	12.2kbps RMC	19.50	18.26	18.17	18.14
	64kbps RMC	19.50	18.30	18.19	18.16
	144kbps RMC	19.50	18.29	18.19	18.15
	384kbps RMC	19.50	18.31	18.20	18.16
HSDPA	Subtest 1	19.50	18.21	18.05	18.02
	Subtest 2	19.50	18.30	18.20	18.17
	Subtest 3	19.00	17.81	17.70	17.68
	Subtest 4	19.00	17.79	17.70	17.67
HSUPA	Subtest 1	17.00	15.98	16.03	15.99
	Subtest 2	15.50	14.76	14.51	14.54
	Subtest 3	18.50	16.73	16.55	16.66
	Subtest 4	15.50	14.69	14.67	14.73
	Subtest 5	18.50	17.58	17.52	17.46
HSPA+	Subtest 1	12.30	11.49	11.20	11.06
DC-HSDPA	Subtest 1	18.50	17.30	17.23	17.15
	Subtest 2	19.50	18.30	18.20	18.17
	Subtest 3	19.00	17.81	17.70	17.68
	Subtest 4	19.00	17.79	17.70	17.67

4）Conducted power measurement results of UMTS Band 4 (Power Sensor + Hotspot)

UMTS Band 4 (Main)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	17.40	16.43	16.37	16.27
	12.2kbps RMC	17.40	16.43	16.37	16.27
	64kbps RMC	17.40	16.42	16.36	16.26
	144kbps RMC	17.40	16.42	16.35	16.27
	384kbps RMC	17.40	16.47	16.32	16.29
HSDPA	Subtest 1	16.50	16.44	16.38	16.28
	Subtest 2	17.50	16.54	16.45	16.44
	Subtest 3	17.00	16.07	15.98	15.89
	Subtest 4	17.00	16.07	15.97	15.88
HSUPA	Subtest 1	15.50	14.54	14.39	14.46
	Subtest 2	13.00	12.38	11.91	11.84
	Subtest 3	15.50	14.93	14.62	14.64
	Subtest 4	13.50	12.50	12.21	12.04
	Subtest 5	17.00	16.02	15.94	15.88
HSPA+	Subtest 1	15.50	14.55	14.53	14.49
DC-HSDPA	Subtest 1	16.50	15.58	15.49	15.37
	Subtest 2	17.50	16.54	16.45	16.44
	Subtest 3	17.00	16.07	15.98	15.89
	Subtest 4	17.00	16.07	15.97	15.88

5）Conducted power measurement results of UMTS Band 4 (Receiver on)

UMTS Band 4 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	21.50	20.31	20.20	20.07
	12.2kbps RMC	21.50	20.31	20.20	20.07
	64kbps RMC	21.50	20.30	20.19	20.08
	144kbps RMC	21.50	20.30	20.20	20.09
	384kbps RMC	21.50	20.27	20.23	20.11
HSDPA	Subtest 1	21.50	20.10	20.03	19.98
	Subtest 2	21.50	20.10	20.01	19.96
	Subtest 3	21.00	19.58	19.48	19.51
	Subtest 4	21.00	19.56	19.46	19.48
HSUPA	Subtest 1	19.00	18.20	17.59	18.11
	Subtest 2	17.50	16.40	16.04	16.56
	Subtest 3	20.50	18.84	18.73	18.65
	Subtest 4	17.50	16.56	16.69	16.58
	Subtest 5	20.50	19.80	19.69	19.63
HSPA+	Subtest 1	19.50	18.22	18.20	18.12
DC-HSDPA	Subtest 1	20.50	19.26	19.23	19.19
	Subtest 2	21.50	20.10	20.01	19.96
	Subtest 3	21.00	19.58	19.48	19.51
	Subtest 4	21.00	19.56	19.46	19.48

6）Conducted power measurement results of UMTS Band 4 (Receiver on+Wifi)

UMTS Band 4 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	19.50	18.06	18.01	17.92
	12.2kbps RMC	19.50	18.06	18.01	17.92
	64kbps RMC	19.50	18.03	17.98	17.95
	144kbps RMC	19.50	18.26	18.17	18.15
	384kbps RMC	19.50	18.25	18.27	18.22
HSDPA	Subtest 1	19.50	18.03	18.02	18.04
	Subtest 2	19.50	18.31	18.20	18.14
	Subtest 3	19.00	17.81	17.76	17.67
	Subtest 4	19.00	17.80	17.71	17.67
HSUPA	Subtest 1	17.00	16.09	16.05	15.96
	Subtest 2	15.50	14.63	14.72	14.55
	Subtest 3	18.50	16.60	16.79	16.52
	Subtest 4	15.50	14.69	14.70	14.67
	Subtest 5	18.50	17.71	17.64	17.60
HSPA+	Subtest 1	17.50	16.26	16.17	16.10
DC-HSDPA	Subtest 1	18.50	17.21	17.20	17.18
	Subtest 2	19.50	18.31	18.20	18.14
	Subtest 3	19.00	17.81	17.76	17.67
	Subtest 4	19.00	17.80	17.71	17.67

Note:
1) The conducted power of UMTS Band 4 is measured with RMS detector.
2) Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

8.1.5 CONDUCTED POWER MEASUREMENTS OF UMTS Band 5

1）Conducted power measurement results of UMTS Band 5(Power Full)

UMTS Band 5 (Main)		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	24.50	23.38	23.33	23.40
	12.2kbps RMC	24.50	23.38	23.33	23.40
	64kbps RMC	24.50	23.33	23.27	23.41
	144kbps RMC	24.50	23.40	23.26	23.42
	384kbps RMC	24.50	23.41	23.25	23.41
HSDPA	Subtest 1	24.50	23.25	23.32	23.47
	Subtest 2	24.50	23.31	23.30	23.38
	Subtest 3	23.50	22.22	22.21	22.34
	Subtest 4	23.50	22.24	22.31	22.42
HSUPA	Subtest 1	22.00	20.60	20.54	21.06
	Subtest 2	20.00	19.61	19.51	19.25
	Subtest 3	23.00	22.07	22.26	22.04
	Subtest 4	20.50	19.47	19.39	19.49
	Subtest 5	22.50	21.65	21.76	21.66
HSPA+	Subtest 1	22.30	21.18	21.07	21.23
DC-HSDPA	Subtest 1	23.50	22.25	22.32	22.47
	Subtest 2	24.50	23.31	23.30	23.38
	Subtest 3	23.50	22.22	22.21	22.34
	Subtest 4	23.50	22.24	22.31	22.42

UMTS Band 5 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	24.50	23.28	23.21	23.46
	12.2kbps RMC	24.50	23.28	23.21	23.46
	64kbps RMC	24.50	23.24	23.12	23.30
	144kbps RMC	24.50	23.31	23.14	23.29
	384kbps RMC	24.50	23.30	23.14	23.30
HSDPA	Subtest 1	24.50	23.18	23.21	23.36
	Subtest 2	24.50	23.23	23.19	23.37
	Subtest 3	23.50	22.10	22.04	22.26
	Subtest 4	23.50	22.11	22.07	22.21
HSUPA	Subtest 1	22.00	20.96	20.72	20.75
	Subtest 2	20.00	19.47	19.52	19.27
	Subtest 3	23.00	21.58	21.73	21.40
	Subtest 4	20.50	19.17	19.21	19.13
	Subtest 5	22.50	21.74	21.69	21.81
HSPA+	Subtest 1	22.30	21.06	21.03	21.11
DC-HSDPA	Subtest 1	23.30	22.21	22.17	22.38
	Subtest 2	24.50	23.23	23.19	23.37
	Subtest 3	23.50	22.10	22.04	22.26
	Subtest 4	23.50	22.11	22.07	22.21

2）Conducted power measurement results of UMTS Band 5(Receiver on)

UMTS Band 5 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	19.50	18.51	18.44	18.65
	12.2kbps RMC	19.50	18.51	18.44	18.65
	64kbps RMC	19.50	18.47	18.46	18.59
	144kbps RMC	19.50	18.54	18.46	18.60
	384kbps RMC	19.50	18.52	18.44	18.59
HSDPA	Subtest 1	19.50	18.27	18.26	18.49
	Subtest 2	19.50	18.12	18.27	18.37
	Subtest 3	18.50	17.09	17.11	17.23
	Subtest 4	18.50	17.10	17.09	17.24
HSUPA	Subtest 1	17.00	15.60	15.72	15.88
	Subtest 2	15.00	14.27	14.19	14.25
	Subtest 3	18.00	17.20	17.36	17.19
	Subtest 4	15.50	14.54	14.38	14.44
	Subtest 5	18.50	17.75	17.72	17.91
HSPA+	Subtest 1	17.30	16.32	16.21	16.41
DC-HSDPA	Subtest 1	18.30	17.42	17.41	16.60
	Subtest 2	19.50	18.12	18.27	18.37
	Subtest 3	18.50	17.09	17.11	17.23
	Subtest 4	18.50	17.10	17.09	17.24

3）Conducted power measurement results of UMTS Band 5(Receiver on+Wifi)

UMTS Band 5 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	17.50	16.20	16.18	16.28
	12.2kbps RMC	17.50	16.20	16.18	16.28
	64kbps RMC	17.50	16.19	16.20	16.32
	144kbps RMC	17.50	16.25	16.34	16.39
	384kbps RMC	17.50	16.38	16.36	16.40
HSDPA	Subtest 1	17.50	16.25	16.24	16.28
	Subtest 2	17.50	16.33	16.23	16.49
	Subtest 3	16.50	15.21	15.17	15.41
	Subtest 4	16.50	15.23	15.21	15.39
HSUPA	Subtest 1	15.00	14.33	14.29	14.11
	Subtest 2	13.00	11.97	11.86	11.84
	Subtest 3	16.00	14.47	14.55	14.38
	Subtest 4	14.50	13.20	13.25	14.23
	Subtest 5	16.80	15.75	15.69	15.93
HSPA+	Subtest 1	15.30	14.25	14.27	14.44
DC-HSDPA	Subtest 1	16.30	15.26	15.32	15.52
	Subtest 2	17.50	16.33	16.23	16.49
	Subtest 3	16.50	15.21	15.17	15.41
	Subtest 4	16.50	15.23	15.21	15.39

4）Conducted power measurement results of UMTS Band 5(Power Hotspot)

UMTS Band 5 (Sub)		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	17.50	16.26	16.22	16.37
	12.2kbps RMC	17.50	16.26	16.22	16.37
	64kbps RMC	17.50	16.27	16.24	16.39
	144kbps RMC	17.50	16.29	16.21	16.38
	384kbps RMC	17.50	16.27	16.22	16.37
HSDPA	Subtest 1	17.50	16.21	16.31	16.44
	Subtest 2	17.50	16.28	16.24	16.48
	Subtest 3	16.50	15.12	15.18	15.36
	Subtest 4	16.50	15.16	15.22	15.38
HSUPA	Subtest 1	15.00	14.29	14.22	14.06
	Subtest 2	13.00	11.97	11.87	11.83
	Subtest 3	16.00	14.59	14.48	14.33
	Subtest 4	13.50	12.13	12.07	11.98
	Subtest 5	16.50	15.63	15.73	15.88
HSPA+	Subtest 1	15.40	13.47	13.49	14.08
DC-HSDPA	Subtest 1	16.30	15.29	15.31	15.46
	Subtest 2	17.50	16.28	16.24	16.48
	Subtest 3	16.50	15.12	15.18	15.36
	Subtest 4	16.50	15.16	15.22	15.38

Note:
1) The conducted power of UMTS Band 5 is measured with RMS detector.
2) Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

8.1.6CONDUCTED POWER MEASUREMENTS OF LTE Band 2

1）Conducted power measurement results of LTE Band 2 (Power Full)

FDD LTE B2(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	23.50	22.34	22.67	22.66
		1	2	23.50	22.43	22.76	22.67
		1	5	23.50	22.38	22.63	22.52
		3	0	23.50	22.39	22.76	22.74
		3	1	23.50	22.40	22.76	22.76
		3	3	23.50	22.43	22.74	22.73
		6	0	22.50	21.52	21.75	21.70
	16QAM	1	0	22.50	21.35	21.85	21.72
		1	2	22.50	21.44	21.90	21.74
		1	5	22.50	21.35	21.76	21.61
		3	0	22.50	21.37	21.73	21.74
		3	1	22.50	21.39	21.74	21.74
		3	3	22.50	21.38	21.72	21.72
		6	0	22.00	20.91	21.19	21.15
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	23.50	22.29	22.61	22.72
		1	7	23.50	22.50	22.78	22.86
		1	14	23.50	22.29	22.49	22.46
		8	0	22.50	21.54	21.78	21.83
		8	3	22.50	21.54	21.76	21.73
		8	7	22.50	21.50	21.68	21.60
		15	0	22.50	21.53	21.75	21.71
	16QAM	1	0	22.50	21.38	21.74	21.60
		1	7	22.50	21.60	21.91	21.72
		1	14	22.50	21.36	21.61	21.44
		8	0	22.00	20.93	21.15	21.15
		8	3	22.00	20.94	21.14	21.10
		8	7	22.00	20.89	21.05	20.97
		15	0	22.00	20.91	21.18	21.08

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	23.50	22.15	22.62	22.64
		1	12	23.50	22.41	22.77	22.85
		1	24	23.50	22.11	22.41	22.36
		12	0	22.50	21.59	21.80	21.91
		12	6	22.50	21.55	21.86	21.94
		12	13	22.50	21.49	21.75	21.76
		25	0	22.50	21.55	21.76	21.72
	16QAM	1	0	22.50	21.42	21.79	21.72
		1	12	22.50	21.66	21.96	21.87
		1	24	22.50	21.29	21.58	21.45
		12	0	22.00	21.03	21.27	21.25
		12	6	22.00	21.01	21.32	21.27
		12	13	22.00	20.95	21.21	21.16
		25	0	22.00	20.87	21.18	21.08
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	23.50	22.19	22.60	22.55
		1	24	23.50	22.51	22.78	22.85
		1	49	23.50	22.24	22.40	22.35
		25	0	22.50	21.44	21.77	21.80
		25	12	22.50	21.49	21.80	21.79
		25	25	22.50	21.41	21.68	21.62
		50	0	22.50	21.45	21.75	21.74
	16QAM	1	0	22.50	21.39	21.82	21.57
		1	24	22.50	21.66	22.01	21.81
		1	49	22.50	21.38	21.63	21.33
		25	0	22.00	20.82	21.18	21.13
		25	12	22.00	20.88	21.21	21.11
		25	25	22.00	20.81	21.08	20.98
		50	0	22.00	20.81	21.11	21.04

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	23.50	22.07	22.40	22.28
		1	37	23.50	22.60	22.72	22.75
		1	74	23.50	22.06	22.01	22.14
		36	0	22.50	21.45	22.01	21.76
		36	19	22.50	21.54	21.78	21.82
		36	39	22.50	21.41	21.54	21.51
		75	0	22.50	21.45	21.65	21.59
	16QAM	1	0	22.50	21.27	21.60	21.39
		1	37	22.50	21.71	21.95	21.83
		1	74	22.50	21.22	21.25	21.14
		36	0	22.00	20.83	21.25	21.11
		36	19	22.00	20.94	21.23	21.15
		36	39	22.00	20.80	20.94	20.89
		75	0	22.00	20.84	20.99	20.96
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	23.50	22.00	22.39	22.24
		1	50	23.50	22.50	22.87	22.82
		1	99	23.50	22.05	22.12	22.34
		50	0	22.50	21.40	21.69	21.65
		50	25	22.50	21.54	21.73	21.66
		50	50	22.50	21.37	21.43	21.40
		100	0	22.50	21.43	21.58	21.52
	16QAM	1	0	22.50	21.59	21.97	21.83
		1	50	22.50	22.07	20.75	22.48
		1	99	22.50	21.50	21.76	21.76
		50	0	22.00	20.75	21.11	21.00
		50	25	22.00	20.88	21.14	21.17
		50	50	22.00	20.75	20.80	20.79
		100	0	22.00	20.83	20.93	20.85

FDD LTE B2(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	23.50	21.88	22.39	22.43
		1	2	23.50	21.97	22.43	22.47
		1	5	23.50	21.88	22.28	22.23
		3	0	23.50	21.91	22.43	22.41
		3	1	23.50	21.99	22.43	22.42
		3	3	23.50	21.98	22.41	22.39
		6	0	22.50	21.00	21.41	21.36
	16QAM	1	0	22.50	20.78	21.60	21.27
		1	2	22.50	20.85	21.61	21.31
		1	5	22.50	20.75	21.48	21.15
		3	0	22.50	20.89	21.31	21.24
		3	1	22.50	20.92	21.31	21.25
		3	3	22.50	20.90	21.28	21.24
		6	0	22.00	20.35	20.77	20.77
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	23.50	21.66	22.31	22.41
		1	7	23.50	21.89	22.38	22.51
		1	14	23.50	21.66	22.03	22.07
		8	0	22.50	20.98	21.45	21.48
		8	3	22.50	21.00	21.41	21.39
		8	7	22.50	20.93	21.31	21.22
		15	0	22.50	20.95	21.40	21.35
	16QAM	1	0	22.50	20.92	21.50	21.39
		1	7	22.50	21.12	21.55	21.42
		1	14	22.50	20.91	21.21	21.07
		8	0	22.00	20.46	20.85	20.85
		8	3	22.00	20.48	20.85	20.76
		8	7	22.00	20.44	20.75	20.66
		15	0	22.00	20.41	20.80	20.75

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	23.50	21.73	22.40	22.48
		1	12	23.50	22.01	22.35	22.62
		1	24	23.50	21.63	21.86	22.05
		12	0	22.50	21.03	21.57	21.62
		12	6	22.50	21.04	21.51	21.65
		12	13	22.50	20.98	21.36	21.47
		25	0	22.50	20.94	21.40	21.43
	16QAM	1	0	22.50	20.80	21.60	21.60
		1	12	22.50	21.05	21.63	21.77
		1	24	22.50	20.73	21.15	21.18
		12	0	22.00	20.48	21.05	20.96
		12	6	22.00	20.50	20.98	21.00
		12	13	22.00	20.43	20.84	20.80
		25	0	22.00	20.40	20.84	20.75
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	23.50	21.69	22.52	22.26
		1	24	23.50	21.99	22.46	22.72
		1	49	23.50	21.77	21.89	22.07
		25	0	22.50	20.94	21.59	21.60
		25	12	22.50	20.98	21.48	21.59
		25	25	22.50	20.95	21.24	21.32
		50	0	22.50	21.01	21.39	21.40
	16QAM	1	0	22.50	20.97	21.45	21.31
		1	24	22.50	21.25	21.47	21.73
		1	49	22.50	20.96	20.88	21.13
		25	0	22.00	20.34	20.95	20.91
		25	12	22.00	20.43	20.83	20.95
		25	25	22.00	20.34	20.60	20.68
		50	0	22.00	20.38	20.77	20.77

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	23.50	21.56	22.19	21.94
		1	37	23.50	22.05	22.56	22.66
		1	74	23.50	21.78	21.59	21.85
		36	0	22.50	20.95	21.49	21.33
		36	19	22.50	21.04	21.46	21.60
		36	39	22.50	20.98	21.10	21.29
		75	0	22.50	20.99	21.30	21.28
	16QAM	1	0	22.50	20.71	21.32	20.82
		1	37	22.50	21.19	21.61	21.54
		1	74	22.50	20.87	20.62	20.72
		36	0	22.00	20.35	20.62	20.69
		36	19	22.00	20.44	20.82	20.90
		36	39	22.00	20.37	20.47	20.62
		75	0	22.00	20.36	20.65	20.61
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	23.50	21.67	22.07	21.66
		1	50	23.50	22.19	22.83	22.72
		1	99	23.50	22.17	21.56	22.03
		50	0	22.50	20.95	21.39	21.11
		50	25	22.50	21.08	21.62	21.54
		50	50	22.50	21.13	20.95	21.15
		100	0	22.50	21.10	21.19	21.12
	16QAM	1	0	22.50	21.33	21.60	21.27
		1	50	22.50	21.84	20.90	22.24
		1	99	22.50	21.84	20.89	21.61
		50	0	22.00	20.35	20.74	20.44
		50	25	22.00	20.46	20.78	20.80
		50	50	22.00	20.50	20.37	20.50
		100	0	22.00	20.47	20.59	20.44

2）Conducted power measurement results of LTE Band 2 (Power Sensor)

FDD LTE B2(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	22.50	20.98	21.58	21.56
		1	12	22.50	21.23	22.01	22.06
		1	24	22.50	20.84	21.35	21.46
		12	0	21.50	20.26	20.94	21.03
		12	6	21.50	20.29	20.89	20.94
		12	13	21.50	20.15	20.76	20.63
		25	0	21.50	20.14	20.69	20.72
	16QAM	1	0	21.50	20.06	20.76	20.78
		1	12	21.50	20.38	20.98	20.86
		1	24	21.50	19.88	20.87	20.72
		12	0	21.00	19.74	20.54	20.46
		12	6	21.00	19.71	20.61	20.51
		12	13	21.00	19.57	20.41	20.68
		25	0	21.00	19.55	20.18	20.36
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	22.50	20.99	21.58	21.53
		1	24	22.50	21.23	22.06	22.08
		1	49	22.50	20.85	21.56	21.46
		25	0	21.50	20.25	20.86	20.93
		25	12	21.50	20.21	20.83	20.76
		25	25	21.50	20.06	20.61	20.59
		50	0	21.50	20.02	20.46	20.38
	16QAM	1	0	21.50	20.09	20.63	20.43
		1	24	21.50	20.24	20.83	20.75
		1	49	21.50	19.83	20.48	20.53
		25	0	21.00	19.61	20.43	20.37
		25	12	21.00	19.67	20.35	20.28
		25	25	21.00	19.47	20.04	20.12
		50	0	21.00	19.44	20.08	20.07

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	22.50	20.85	21.33	21.01
		1	37	22.50	21.16	21.89	21.56
		1	74	22.50	20.67	21.60	21.93
		36	0	21.50	20.14	20.26	20.86
		36	19	21.50	20.03	20.69	20.63
		36	39	21.50	20.11	20.75	20.69
		75	0	21.50	20.03	20.63	20.26
	16QAM	1	0	21.50	20.34	20.76	20.59
		1	37	21.50	19.87	20.46	20.06
		1	74	21.50	19.57	20.67	19.98
		36	0	21.00	19.47	20.59	19.86
		36	19	21.00	19.57	20.98	19.76
		36	39	21.00	19.36	20.11	19.53
		75	0	21.00	19.39	20.03	19.49
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	22.50	21.06	21.52	21.33
		1	50	22.50	21.49	22.13	22.08
		1	99	22.50	21.06	21.16	21.43
		50	0	21.50	20.03	20.56	20.68
		50	25	21.50	20.03	20.69	20.35
		50	50	21.50	19.84	20.24	20.27
		100	0	21.50	20.01	20.41	20.45
	16QAM	1	0	21.50	20.23	20.72	20.54
		1	50	21.50	20.61	21.25	21.26
		1	99	21.50	20.18	20.26	20.54
		50	0	21.00	19.45	20.04	19.75
		50	25	21.00	19.47	20.11	19.96
		50	50	21.00	19.31	19.65	19.65
		100	0	21.00	19.36	19.81	19.68

3）Conducted power measurement results of LTE Band 2 (Power Hotspot)

FDD LTE B2(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	17.50	16.65	17.13	16.88
		1	2	17.50	16.73	17.14	16.85
		1	5	17.50	16.64	16.99	16.70
		3	0	17.50	16.71	17.13	16.75
		3	1	17.50	16.70	17.12	16.77
		3	3	17.50	16.68	17.09	16.75
		6	0	17.50	16.68	17.06	16.70
	16QAM	1	0	17.50	16.74	17.05	16.93
		1	2	17.50	16.75	17.03	16.95
		1	5	17.50	16.71	16.92	16.78
		3	0	17.50	16.64	17.08	16.79
		3	1	17.50	16.63	17.08	16.81
		3	3	17.50	16.62	17.06	16.77
		6	0	17.50	16.54	16.96	16.64
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	17.50	16.61	17.06	16.65
		1	7	17.50	16.74	17.19	16.98
		1	14	17.50	16.47	16.88	16.42
		8	0	17.50	16.67	17.12	16.84
		8	3	17.50	16.67	17.07	16.82
		8	7	17.50	16.71	16.98	16.60
		15	0	17.50	16.73	17.05	16.76
	16QAM	1	0	17.50	16.65	17.16	16.64
		1	7	17.50	16.76	17.31	16.89
		1	14	17.50	16.52	17.04	16.40
		8	0	17.50	16.60	17.02	16.73
		8	3	17.50	16.58	16.96	16.67
		8	7	17.50	16.53	16.88	16.49
		15	0	17.50	16.57	16.98	16.63

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	17.50	16.63	17.01	16.81
		1	12	17.50	16.79	17.16	16.96
		1	24	17.50	16.38	16.70	16.32
		12	0	17.50	16.77	17.15	17.00
		12	6	17.50	16.76	17.20	16.97
		12	13	17.50	16.67	17.06	16.81
		25	0	17.50	16.65	17.08	16.78
	16QAM	1	0	17.50	16.60	17.22	17.15
		1	12	17.50	16.75	17.36	17.21
		1	24	17.50	16.35	16.94	16.60
		12	0	17.50	16.69	17.16	16.84
		12	6	17.50	16.71	17.19	16.83
		12	13	17.50	16.62	17.02	16.62
		25	0	17.50	16.59	16.96	16.57
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	17.50	16.55	17.02	16.91
		1	24	17.50	16.71	17.23	17.14
		1	49	17.50	16.29	16.74	16.38
		25	0	17.50	16.63	17.13	17.07
		25	12	17.50	16.62	17.14	17.00
		25	25	17.50	16.49	16.97	16.72
		50	0	17.50	16.55	17.07	16.85
	16QAM	1	0	17.50	16.65	17.20	16.83
		1	24	17.50	16.79	17.23	17.10
		1	49	17.50	16.40	16.94	16.28
		25	0	17.50	16.45	16.97	16.93
		25	12	17.50	16.49	16.98	16.85
		25	25	17.50	16.36	16.80	16.53
		50	0	17.50	16.44	16.91	16.70

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	17.50	16.40	16.84	16.49
		1	37	17.50	16.69	17.23	17.15
		1	74	17.50	16.14	16.40	15.99
		36	0	17.50	16.60	16.40	16.98
		36	19	17.50	16.61	17.16	17.14
		36	39	17.50	16.45	16.85	16.71
		75	0	17.50	16.54	16.99	16.84
	16QAM	1	0	17.50	16.62	16.93	16.69
		1	37	17.50	16.88	17.22	17.18
		1	74	17.50	16.42	16.45	16.23
		36	0	17.50	16.49	16.45	16.86
		36	19	17.50	16.52	17.05	16.97
		36	39	17.50	16.36	16.73	16.55
		75	0	17.50	16.43	16.83	16.67
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	17.50	16.36	16.71	16.28
		1	50	17.50	16.70	17.45	17.15
		1	99	17.50	16.28	16.33	15.87
		50	0	17.50	16.49	17.05	16.73
		50	25	17.50	16.56	17.08	17.05
		50	50	17.50	16.45	16.71	16.53
		100	0	17.50	16.53	16.89	16.58
	16QAM	1	0	17.50	16.38	16.97	16.83
		1	50	17.50	16.78	16.34	17.21
		1	99	17.50	16.43	16.54	16.22
		50	0	17.50	16.37	16.94	16.62
		50	25	17.50	16.44	16.98	16.97
		50	50	17.50	16.34	16.57	16.44
		100	0	17.50	16.45	16.73	16.48

FDD LTE B2(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	14.80	13.31	14.20	13.91
		1	2	14.80	13.47	14.27	13.94
		1	5	14.80	13.35	14.10	13.75
		3	0	14.80	13.32	14.21	13.87
		3	1	14.80	13.35	14.23	13.91
		3	3	14.80	13.34	14.21	13.95
		6	0	14.80	13.31	14.16	13.89
	16QAM	1	0	14.80	13.58	14.13	13.84
		1	2	14.80	13.70	14.20	13.87
		1	5	14.80	13.55	14.33	13.77
		3	0	14.80	13.36	14.29	13.93
		3	1	14.80	13.40	14.30	13.95
		3	3	14.80	13.40	14.09	13.92
		6	0	14.80	13.40	14.12	13.80
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	14.80	12.97	14.09	13.74
		1	7	14.80	13.44	14.29	13.95
		1	14	14.80	12.92	13.84	13.54
		8	0	14.80	13.26	14.15	13.89
		8	3	14.80	13.31	14.16	13.88
		8	7	14.80	13.21	14.04	13.75
		15	0	14.80	13.21	14.10	13.82
	16QAM	1	0	14.80	13.45	14.23	13.77
		1	7	14.80	13.83	14.02	13.95
		1	14	14.80	13.32	13.99	13.50
		8	0	14.80	13.33	14.06	13.83
		8	3	14.80	13.39	14.06	13.84
		8	7	14.80	13.29	13.96	13.69
		15	0	14.80	13.24	14.05	13.76

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	14.80	12.98	14.09	13.82
		1	12	14.80	13.35	14.25	13.98
		1	24	14.80	12.88	13.68	13.42
		12	0	14.80	13.27	14.26	14.01
		12	6	14.80	13.35	14.23	14.02
		12	13	14.80	13.23	14.09	13.88
		25	0	14.80	13.17	14.09	13.84
	16QAM	1	0	14.80	13.36	14.29	14.08
		1	12	14.80	13.68	14.18	14.24
		1	24	14.80	13.08	13.90	13.69
		12	0	14.80	13.27	14.19	13.86
		12	6	14.80	13.30	14.15	13.89
		12	13	14.80	13.19	14.01	13.75
		25	0	14.80	13.19	14.02	13.72
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	14.80	13.04	14.13	13.85
		1	24	14.80	13.41	14.16	14.13
		1	49	14.80	12.82	13.75	13.52
		25	0	14.80	13.15	14.24	14.09
		25	12	14.80	13.24	14.20	14.07
		25	25	14.80	13.05	14.00	13.79
		50	0	14.80	13.12	14.08	13.88
	16QAM	1	0	14.80	13.43	14.04	13.80
		1	24	14.80	13.81	14.27	14.08
		1	49	14.80	13.20	13.66	13.44
		25	0	14.80	13.15	14.14	13.97
		25	12	14.80	13.24	14.14	13.95
		25	25	14.80	13.05	13.89	13.68
		50	0	14.80	13.12	13.92	13.74

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	14.80	12.83	13.65	13.69
		1	37	14.80	13.39	14.15	14.19
		1	74	14.80	12.87	13.19	13.18
		36	0	14.80	13.20	13.19	13.95
		36	19	14.80	13.30	14.16	14.08
		36	39	14.80	13.06	13.84	13.74
		75	0	14.80	13.18	13.96	13.84
	16QAM	1	0	14.80	13.17	13.75	13.81
		1	37	14.80	13.73	14.34	14.30
		1	74	14.80	13.03	13.27	13.33
		36	0	14.80	13.15	13.27	13.85
		36	19	14.80	13.26	14.07	13.98
		36	39	14.80	13.03	13.75	13.64
		75	0	14.80	13.16	13.83	13.72
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	14.80	12.81	13.52	13.46
		1	50	14.80	13.47	14.31	14.15
		1	99	14.80	12.98	13.14	13.12
		50	0	14.80	13.05	13.93	13.82
		50	25	14.80	13.23	14.09	14.07
		50	50	14.80	13.11	13.67	13.61
		100	0	14.80	13.13	13.82	13.74
	16QAM	1	0	14.80	13.23	13.88	13.78
		1	50	14.80	13.85	13.04	14.16
		1	99	14.80	13.33	13.48	13.50
		50	0	14.80	13.03	13.83	13.77
		50	25	14.80	13.15	13.98	14.03
		50	50	14.80	13.04	13.60	13.49
		100	0	14.80	13.14	13.73	13.59

4）Conducted power measurement results of LTE Band 2 (Power Sensor + Hotspot)

FDD LTE B2(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	17.00	15.98	16.36	16.22
		1	12	17.00	16.28	16.37	16.31
		1	24	17.00	15.70	16.13	16.08
		12	0	17.00	16.14	16.02	16.19
		12	6	17.00	16.13	16.25	16.03
		12	13	17.00	15.92	15.89	15.89
		25	0	17.00	16.02	16.13	16.13
	16QAM	1	0	17.00	16.14	16.23	15.79
		1	12	17.00	16.11	16.23	15.98
		1	24	17.00	15.87	16.03	16.17
		12	0	17.00	16.07	16.17	16.13
		12	6	17.00	16.04	16.09	16.04
		12	13	17.00	15.85	15.94	15.68
		25	0	17.00	15.90	15.97	15.78
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	17.00	15.94	16.34	16.31
		1	24	17.00	16.17	16.35	16.39
		1	49	17.00	15.63	16.03	16.13
		25	0	17.00	16.04	16.12	16.23
		25	12	17.00	16.06	16.09	16.12
		25	25	17.00	15.84	15.96	16.03
		50	0	17.00	15.91	16.13	16.11
	16QAM	1	0	17.00	16.10	16.22	16.24
		1	24	17.00	16.34	16.34	16.12
		1	49	17.00	15.78	15.89	15.96
		25	0	17.00	15.91	16.12	16.08
		25	12	17.00	15.95	16.10	16.04
		25	25	17.00	15.73	15.97	15.89
		50	0	17.00	15.78	15.89	15.83

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	17.00	15.82	16.16	16.09
		1	37	17.00	16.09	16.25	16.15
		1	74	17.00	15.50	16.23	16.31
		36	0	17.00	16.01	16.15	16.15
		36	19	17.00	16.00	16.17	16.08
		36	39	17.00	15.85	16.03	16.03
		75	0	17.00	15.93	16.12	16.11
	16QAM	1	0	17.00	16.03	16.06	16.18
		1	37	17.00	16.23	16.19	16.34
		1	74	17.00	15.69	15.98	16.17
		36	0	17.00	15.91	15.79	15.92
		36	19	17.00	15.90	16.04	15.69
		36	39	17.00	15.74	15.93	16.13
		75	0	17.00	15.80	15.92	16.02
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	17.00	15.85	16.07	16.01
		1	50	17.00	16.14	16.45	16.44
		1	99	17.00	15.61	15.71	15.53
		50	0	17.00	15.84	16.49	16.24
		50	25	17.00	15.92	16.41	16.43
		50	50	17.00	15.85	16.04	15.94
		100	0	17.00	15.94	16.17	16.05
	16QAM	1	0	17.00	15.97	16.21	16.17
		1	50	17.00	16.28	16.71	16.70
		1	99	17.00	15.76	15.88	15.69
		50	0	17.00	15.71	16.25	16.11
		50	25	17.00	15.81	16.28	16.29
		50	50	17.00	15.68	15.89	15.81
		100	0	17.00	15.81	16.07	15.92

5）Conducted power measurement results of LTE Band 2 (Receiver On)

FDD LTE B2(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	16.50	15.36	16.00	15.67
		1	2	16.50	15.45	16.03	15.65
		1	5	16.50	15.32	15.87	15.53
		3	0	16.50	15.35	16.01	15.61
		3	1	16.50	15.37	16.02	15.62
		3	3	16.50	15.35	15.99	15.59
		6	0	16.80	15.31	15.95	15.56
	16QAM	1	0	16.80	15.38	16.36	15.82
		1	2	16.80	15.46	16.38	15.78
		1	5	16.80	15.35	16.24	15.68
		3	0	16.80	15.32	16.14	15.69
		3	1	16.80	15.31	16.12	15.71
		3	3	16.80	15.31	16.10	15.72
		6	0	16.80	15.29	15.97	15.67
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	16.50	15.16	15.79	15.75
		1	7	16.50	15.35	15.95	15.88
		1	14	16.50	14.99	15.67	15.57
		8	0	16.80	15.27	16.01	15.84
		8	3	16.80	15.27	15.98	15.78
		8	7	16.80	15.20	15.90	15.66
		15	0	16.80	15.25	16.02	15.76
	16QAM	1	0	16.80	15.34	16.03	15.90
		1	7	16.80	15.47	16.18	15.98
		1	14	16.80	15.19	15.84	15.71
		8	0	16.80	15.22	15.99	15.78
		8	3	16.80	15.27	15.94	15.69
		8	7	16.80	15.20	15.83	15.59
		15	0	16.80	15.22	15.86	15.62

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	16.50	15.20	16.03	15.82
		1	12	16.50	15.38	16.16	15.92
		1	24	16.50	14.97	15.66	15.45
		12	0	16.80	15.45	16.10	15.95
		12	6	16.80	15.40	16.13	15.92
		12	13	16.80	15.30	15.98	15.78
		25	0	16.80	15.36	16.01	15.76
	16QAM	1	0	16.80	15.47	16.15	16.01
		1	12	16.80	15.65	16.29	16.09
		1	24	16.80	15.23	15.82	15.68
		12	0	16.80	15.41	16.04	15.83
		12	6	16.80	15.39	16.10	15.79
		12	13	16.80	15.31	15.95	15.67
		25	0	16.80	15.23	15.92	15.64
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	16.50	15.22	16.02	15.96
		1	24	16.50	15.33	16.18	16.05
		1	49	16.50	15.00	15.65	15.46
		25	0	16.80	15.32	16.10	16.01
		25	12	16.80	15.29	16.08	15.91
		25	25	16.80	15.18	15.89	15.70
		50	0	16.80	15.22	16.02	15.85
	16QAM	1	0	16.80	15.35	16.07	16.21
		1	24	16.80	15.48	16.25	16.29
		1	49	16.80	15.18	15.75	15.79
		25	0	16.80	15.17	15.97	15.92
		25	12	16.80	15.13	15.98	15.83
		25	25	16.80	15.04	15.79	15.59
		50	0	16.80	15.15	15.91	15.73

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	16.50	15.08	15.79	15.69
		1	37	16.50	15.38	16.13	16.13
		1	74	16.50	14.96	15.24	15.24
		36	0	16.80	15.26	15.24	16.07
		36	19	16.80	15.28	16.05	16.07
		36	39	16.80	15.20	15.71	15.68
		75	0	16.80	15.23	15.89	15.84
	16QAM	1	0	16.80	15.10	15.93	16.00
		1	37	16.80	15.42	16.27	16.41
		1	74	16.80	15.05	15.42	15.53
		36	0	16.80	15.17	15.42	15.96
		36	19	16.80	15.18	15.98	15.97
		36	39	16.80	15.11	15.65	15.59
		75	0	16.80	15.14	15.81	15.72
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	16.50	15.02	15.71	15.57
		1	50	16.50	15.45	16.31	16.20
		1	99	16.50	15.25	15.34	15.20
		50	0	16.80	15.16	16.19	15.93
		50	25	16.80	15.32	16.07	16.09
		50	50	16.80	15.31	15.67	15.61
		100	0	16.80	15.33	15.89	15.75
	16QAM	1	0	16.80	15.20	15.95	15.77
		1	50	16.80	15.65	15.24	16.41
		1	99	16.80	15.49	15.43	15.42
		50	0	16.80	15.10	15.99	15.80
		50	25	16.80	15.23	15.96	15.96
		50	50	16.80	15.24	15.57	15.50
		100	0	16.80	15.26	15.79	15.62

6）Conducted power measurement results of LTE Band 2 (Receiver On+Wifi)

FDD LTE B2(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18607	18900	19193
					1850.7	1880	1909.3
1.4MHz	QPSK	1	0	14.50	13.31	14.20	13.91
		1	2	14.50	13.47	14.27	13.94
		1	5	14.50	13.35	14.10	13.75
		3	0	14.50	13.32	14.21	13.87
		3	1	14.50	13.35	14.23	13.91
		3	3	14.50	13.34	14.21	13.95
		6	0	14.50	13.31	14.16	13.89
	16QAM	1	0	14.50	13.58	14.13	13.84
		1	2	14.50	13.70	14.20	13.87
		1	5	14.50	13.55	14.33	13.77
		3	0	14.50	13.36	14.29	13.93
		3	1	14.50	13.40	14.30	13.95
		3	3	14.50	13.40	14.09	13.92
		6	0	14.50	13.40	14.12	13.80
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18615	18900	19185
					1851.5	1880	1908.5
3MHz	QPSK	1	0	14.50	12.97	14.09	13.74
		1	7	14.50	13.44	14.29	13.95
		1	14	14.50	12.92	13.84	13.54
		8	0	14.50	13.26	14.15	13.89
		8	3	14.50	13.31	14.16	13.88
		8	7	14.50	13.21	14.04	13.75
		15	0	14.50	13.21	14.10	13.82
	16QAM	1	0	14.50	13.45	14.23	13.77
		1	7	14.50	13.83	14.02	13.95
		1	14	14.50	13.32	13.99	13.50
		8	0	14.50	13.33	14.06	13.83
		8	3	14.50	13.39	14.06	13.84
		8	7	14.50	13.29	13.96	13.69
		15	0	14.50	13.24	14.05	13.76

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18625	18900	19175
					1852.5	1880	1907.5
5MHz	QPSK	1	0	14.50	12.98	14.09	13.82
		1	12	14.50	13.35	14.25	13.98
		1	24	14.50	12.78	13.68	13.42
		12	0	14.50	13.27	14.26	14.01
		12	6	14.50	13.35	14.23	14.02
		12	13	14.50	13.23	14.09	13.88
		25	0	14.50	13.17	14.09	13.84
	16QAM	1	0	14.50	13.36	14.29	14.08
		1	12	14.50	13.68	14.18	14.24
		1	24	14.50	13.08	13.90	13.69
		12	0	14.50	13.27	14.19	13.86
		12	6	14.50	13.30	14.15	13.89
		12	13	14.50	13.19	14.01	13.75
		25	0	14.50	13.19	14.02	13.72
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18650	18900	19150
					1855	1880	1905
10MHz	QPSK	1	0	14.50	13.04	14.13	13.85
		1	24	14.50	13.41	14.16	14.13
		1	49	14.50	12.82	13.75	13.52
		25	0	14.50	13.15	14.24	14.09
		25	12	14.50	13.24	14.20	14.07
		25	25	14.50	13.05	14.00	13.79
		50	0	14.50	13.12	14.08	13.88
	16QAM	1	0	14.50	13.43	14.04	13.80
		1	24	14.50	13.81	14.27	14.08
		1	49	14.50	13.20	13.66	13.44
		25	0	14.50	13.15	14.14	13.97
		25	12	14.50	13.24	14.14	13.95
		25	25	14.50	13.05	13.89	13.68
		50	0	14.50	13.12	13.92	13.74

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18675	18900	19125
					1857.5	1880	1902.5
15MHz	QPSK	1	0	14.50	12.83	13.65	13.69
		1	37	14.50	13.39	14.15	14.19
		1	74	14.50	12.57	13.19	13.18
		36	0	14.50	13.20	13.19	13.95
		36	19	14.50	13.30	14.16	14.08
		36	39	14.50	13.06	13.84	13.74
		75	0	14.50	13.18	13.96	13.84
	16QAM	1	0	14.50	13.17	13.75	13.81
		1	37	14.50	13.73	14.34	14.30
		1	74	14.50	13.03	13.27	13.33
		36	0	14.50	13.15	13.27	13.85
		36	19	14.50	13.26	14.07	13.98
		36	39	14.50	13.03	13.75	13.64
		75	0	14.50	13.16	13.83	13.72
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					18700	18900	19100
					1860	1880	1900
20MHz	QPSK	1	0	14.50	12.81	13.52	13.46
		1	50	14.50	13.47	14.31	14.15
		1	99	14.50	12.98	13.14	13.12
		50	0	14.50	13.05	13.93	13.82
		50	25	14.50	13.23	14.09	14.07
		50	50	14.50	13.11	13.67	13.61
		100	0	14.50	13.13	13.82	13.74
	16QAM	1	0	14.50	13.23	13.88	13.78
		1	50	14.50	13.85	13.04	14.16
		1	99	14.50	13.33	13.48	13.50
		50	0	14.50	13.03	13.83	13.77
		50	25	14.50	13.15	13.98	14.03
		50	50	14.50	13.04	13.60	13.49
		100	0	14.50	13.14	13.73	13.59

8.1.7CONDUCTED POWER MEASUREMENTS OF LTE Band 4

1）Conducted power measurement results of LTE Band 4 (Power Full)

FDD LTE B4(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	23.50	22.18	22.64	22.46
		1	2	23.50	22.44	22.71	22.59
		1	5	23.50	22.37	22.58	22.36
		3	0	23.50	22.43	22.64	22.51
		3	1	23.50	22.49	22.65	22.49
		3	3	23.50	22.49	22.63	22.44
		6	0	22.50	21.54	21.66	21.49
	16QAM	1	0	22.50	21.47	21.88	21.49
		1	2	22.50	21.55	21.95	21.57
		1	5	22.50	21.43	21.80	21.37
		3	0	22.50	21.56	21.77	21.52
		3	1	22.50	21.60	21.77	21.50
		3	3	22.50	21.56	21.76	21.45
		6	0	22.00	21.05	21.14	20.98
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	23.50	22.32	22.44	22.40
		1	7	23.50	22.59	22.77	22.59
		1	14	23.50	22.37	22.40	22.18
		8	0	22.50	21.57	21.62	21.52
		8	3	22.50	21.58	21.70	21.53
		8	7	22.50	21.51	21.62	21.44
		15	0	22.50	21.53	21.65	21.49
	16QAM	1	0	22.50	21.56	21.73	21.43
		1	7	22.50	21.80	22.00	21.57
		1	14	22.50	21.53	21.69	21.22
		8	0	22.00	21.06	21.11	20.89
		8	3	22.00	21.13	21.21	20.94
		8	7	22.00	21.07	21.13	20.85
		15	0	22.00	21.07	21.16	20.91

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	23.50	22.32	22.45	22.42
		1	12	23.50	22.67	22.75	22.57
		1	24	23.50	22.34	22.24	22.03
		12	0	22.50	21.54	21.67	21.63
		12	6	22.50	21.64	21.79	21.66
		12	13	22.50	21.59	21.68	21.53
		25	0	22.50	21.55	21.67	21.57
	16QAM	1	0	22.50	21.65	21.69	21.69
		1	12	22.50	21.93	22.00	21.85
		1	24	22.50	21.53	21.51	21.35
		12	0	22.00	21.17	21.11	20.98
		12	6	22.00	21.27	21.23	21.02
		12	13	22.00	21.24	21.12	20.94
		25	0	22.00	21.07	21.08	21.00
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	23.50	22.31	22.46	22.59
		1	24	23.50	22.82	22.82	22.72
		1	49	23.50	22.36	22.31	22.06
		25	0	22.50	21.53	21.70	21.64
		25	12	22.50	21.70	21.73	21.62
		25	25	22.50	21.65	21.56	21.40
		50	0	22.50	21.56	21.62	21.57
	16QAM	1	0	22.50	21.59	21.71	21.55
		1	24	22.50	22.08	22.07	21.73
		1	49	22.50	21.70	21.56	21.10
		25	0	22.00	21.07	21.17	21.11
		25	12	22.00	21.16	21.15	21.00
		25	25	22.00	21.11	20.97	20.79
		50	0	22.00	21.10	21.02	20.99

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	23.50	22.39	22.49	22.46
		1	37	23.50	22.81	22.64	22.74
		1	74	23.50	22.33	22.50	22.13
		36	0	22.50	21.60	22.50	21.77
		36	19	22.50	21.71	21.78	21.76
		36	39	22.50	21.57	21.66	21.57
		75	0	22.50	21.61	21.62	21.65
	16QAM	1	0	22.50	21.57	21.75	21.64
		1	37	22.50	22.07	22.02	21.88
		1	74	22.50	21.67	21.75	21.36
		36	0	22.00	21.20	21.75	21.26
		36	19	22.00	21.23	21.19	21.21
		36	39	22.00	21.09	21.14	20.96
		75	0	22.00	21.11	21.07	21.07
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	23.50	22.35	22.47	22.40
		1	50	23.50	22.71	22.84	22.80
		1	99	23.50	22.37	22.48	22.00
		50	0	22.50	21.56	21.65	21.73
		50	25	22.50	21.68	21.87	21.69
		50	50	22.50	21.58	21.62	21.56
		100	0	22.50	21.60	21.65	21.65
	16QAM	1	0	22.50	21.63	21.69	21.78
		1	50	22.50	22.04	21.04	22.16
		1	99	22.50	21.76	21.68	21.41
		50	0	22.00	21.12	21.11	21.21
		50	25	22.00	21.14	21.13	21.15
		50	50	22.00	21.04	21.15	20.95
		100	0	22.00	21.03	21.08	21.11

FDD LTE B4(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	22.50	21.29	21.93	21.88
		1	2	22.50	21.31	21.97	22.02
		1	5	22.50	21.20	21.77	21.81
		3	0	22.50	21.28	21.87	21.93
		3	1	22.50	21.28	21.88	21.92
		3	3	22.50	21.24	21.86	21.88
		6	0	21.50	20.24	20.98	20.87
	16QAM	1	0	21.50	20.31	21.22	20.96
		1	2	21.50	20.36	21.29	21.02
		1	5	21.50	20.17	21.14	20.87
		3	0	21.50	20.29	21.06	20.99
		3	1	21.50	20.34	21.06	20.98
		3	3	21.50	20.27	21.05	20.99
		6	0	21.00	19.75	20.48	20.48
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	22.50	21.05	21.76	21.78
		1	7	22.50	21.28	21.99	22.04
		1	14	22.50	20.94	21.53	21.68
		8	0	21.50	20.20	20.92	20.83
		8	3	21.50	20.19	20.98	20.88
		8	7	21.50	20.11	20.86	20.82
		15	0	21.50	20.15	20.94	20.83
	16QAM	1	0	21.50	20.36	20.99	20.68
		1	7	21.50	20.53	21.25	20.88
		1	14	21.50	20.23	20.85	20.56
		8	0	21.00	19.77	20.50	20.31
		8	3	21.00	19.77	20.55	20.35
		8	7	21.00	19.70	20.41	20.33
		15	0	21.00	19.73	20.41	20.32

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	22.50	21.10	21.72	21.59
		1	12	22.50	21.39	21.95	21.96
		1	24	22.50	20.99	21.64	21.51
		12	0	21.50	20.21	20.96	20.80
		12	6	21.50	20.28	21.05	20.92
		12	13	21.50	20.21	20.89	20.85
		25	0	21.50	20.17	20.91	20.84
	16QAM	1	0	21.50	20.18	21.12	20.83
		1	12	21.50	20.43	21.36	21.20
		1	24	21.50	20.02	20.79	20.77
		12	0	21.00	19.74	20.47	20.27
		12	6	21.00	19.81	20.56	20.38
		12	13	21.00	19.79	20.38	20.32
		25	0	21.00	19.75	20.38	20.33
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	22.50	21.04	21.80	21.79
		1	24	22.50	21.54	21.93	21.90
		1	49	22.50	21.24	21.55	21.62
		25	0	21.50	20.29	21.03	20.57
		25	12	21.50	20.37	20.96	20.69
		25	25	21.50	20.37	20.68	20.69
		50	0	21.50	20.26	20.86	20.65
	16QAM	1	0	21.50	20.37	21.05	20.55
		1	24	21.50	20.79	21.27	20.85
		1	49	21.50	20.56	20.56	20.58
		25	0	21.00	19.77	20.54	20.04
		25	12	21.00	19.85	20.47	20.13
		25	25	21.00	19.86	20.17	20.14
		50	0	21.00	19.77	20.30	20.12

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	22.50	21.15	21.89	21.52
		1	37	22.50	21.61	21.94	21.63
		1	74	22.50	21.67	21.64	21.67
		36	0	21.50	20.35	21.34	20.51
		36	19	21.50	20.50	21.00	20.62
		36	39	21.50	20.65	20.76	20.77
		75	0	21.50	20.48	20.88	20.63
	16QAM	1	0	21.50	20.36	21.14	20.58
		1	37	21.50	20.86	21.26	20.84
		1	74	21.50	20.90	20.66	20.83
		36	0	21.00	19.81	20.66	20.00
		36	19	21.00	19.97	20.49	20.10
		36	39	21.00	20.12	20.25	20.26
		75	0	21.00	19.97	20.36	20.08
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	22.50	21.05	21.76	21.67
		1	50	22.50	21.60	22.11	21.56
		1	99	22.50	21.69	21.66	21.59
		50	0	21.50	20.34	21.07	20.62
		50	25	21.50	20.56	20.91	20.60
		50	50	21.50	20.81	20.66	20.66
		100	0	21.50	20.54	20.86	20.69
	16QAM	1	0	21.50	20.42	21.06	20.87
		1	50	21.50	21.01	21.28	20.94
		1	99	21.50	21.04	20.55	20.87
		50	0	21.00	19.84	20.51	20.06
		50	25	21.00	20.10	20.41	20.94
		50	50	21.00	20.28	20.16	20.09
		100	0	21.00	20.01	20.35	20.13

2）Conducted power measurement results of LTE Band 4 (Power Sensor)

FDD LTE B4(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	22.50	21.39	21.55	21.09
		1	2	22.50	21.46	21.69	21.16
		1	5	22.50	21.28	21.48	21.03
		3	0	22.50	21.40	21.68	21.06
		3	1	22.50	21.41	21.48	21.09
		3	3	22.50	21.33	21.59	21.12
		6	0	21.50	20.41	20.69	20.16
	16QAM	1	0	21.50	20.87	20.91	20.64
		1	2	21.50	20.76	20.93	20.53
		1	5	21.50	20.57	20.78	20.34
		3	0	21.50	20.55	20.74	20.36
		3	1	21.50	20.44	20.63	20.49
		3	3	21.50	20.42	20.65	20.38
		6	0	21.00	20.08	20.29	20.01
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	22.50	21.18	21.28	21.04
		1	7	22.50	21.38	21.49	21.26
		1	14	22.50	21.12	21.26	21.01
		8	0	21.50	20.35	20.46	20.26
		8	3	21.50	20.37	20.49	20.26
		8	7	21.50	20.30	20.46	20.21
		15	0	21.50	20.33	20.36	20.23
	16QAM	1	0	21.50	20.59	20.48	20.41
		1	7	21.50	20.80	20.75	20.68
		1	14	21.50	20.54	20.69	20.35
		8	0	21.00	20.24	20.37	20.16
		8	3	21.00	20.14	20.29	20.19
		8	7	21.00	19.95	20.06	20.03
		15	0	21.00	19.97	20.03	20.12

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	22.50	21.39	21.26	21.03
		1	12	22.50	21.48	21.36	21.36
		1	24	22.50	20.93	20.86	20.63
		12	0	21.50	20.34	20.27	20.14
		12	6	21.50	20.42	20.36	20.11
		12	13	21.50	20.29	20.16	20.03
		25	0	21.50	20.25	20.14	20.01
	16QAM	1	0	21.50	20.56	20.36	20.12
		1	12	21.50	21.03	20.97	20.72
		1	24	21.50	20.27	20.16	20.01
		12	0	21.00	20.16	20.26	20.01
		12	6	21.00	20.07	20.13	19.89
		12	13	21.00	20.12	20.04	19.92
		25	0	21.00	20.07	20.03	19.06
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	22.50	21.78	21.73	21.82
		1	24	22.50	21.84	21.39	21.69
		1	49	22.50	21.24	21.16	21.26
		25	0	21.50	21.13	21.06	21.13
		25	12	21.50	21.03	20.98	21.16
		25	25	21.50	20.83	20.74	20.96
		50	0	21.50	21.04	20.97	21.11
	16QAM	1	0	21.50	21.49	20.37	20.56
		1	24	21.50	21.32	21.26	21.36
		1	49	21.50	21.08	20.98	21.12
		25	0	21.00	20.85	20.71	20.63
		25	12	21.00	20.95	20.69	20.86
		25	25	21.00	20.90	20.75	20.99
		50	0	21.00	20.54	20.42	20.93

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	22.50	21.08	21.06	21.12
		1	37	22.50	21.24	21.21	21.36
		1	74	22.50	20.81	20.93	20.96
		36	0	21.50	20.27	20.56	20.36
		36	19	21.50	20.24	20.36	20.45
		36	39	21.50	20.00	20.03	20.16
		75	0	21.50	20.17	20.26	20.36
	16QAM	1	0	21.50	20.57	20.46	20.46
		1	37	21.50	20.84	20.75	20.96
		1	74	21.50	20.15	20.36	20.60
		36	0	21.00	20.16	20.15	20.36
		36	19	21.00	20.20	20.36	20.46
		36	39	21.00	20.04	20.15	20.51
		75	0	21.00	19.86	20.03	20.69
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	22.50	21.02	21.02	21.17
		1	50	22.50	21.19	21.86	21.45
		1	99	22.50	20.88	21.02	20.51
		50	0	21.50	20.20	20.24	20.58
		50	25	21.50	21.11	21.32	20.42
		50	50	21.50	20.01	20.38	20.25
		100	0	21.50	20.07	20.26	20.45
	16QAM	1	0	21.50	20.51	20.19	20.61
		1	50	21.50	20.58	20.80	20.87
		1	99	21.50	20.15	20.55	19.96
		50	0	21.00	19.95	20.04	20.05
		50	25	21.00	19.86	20.11	19.91
		50	50	21.00	19.50	20.13	20.02
		100	0	21.00	19.55	20.20	20.04

3）Conducted power measurement results of LTE Band 4 (Power Hotspot)

FDD LTE B4(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	17.80	16.65	16.77	16.53
		1	2	17.80	16.77	16.85	16.65
		1	5	17.80	16.65	16.75	16.43
		3	0	17.80	16.68	16.76	16.59
		3	1	17.80	16.76	16.78	16.60
		3	3	17.80	16.75	16.78	16.63
		6	0	17.80	16.60	16.65	16.48
	16QAM	1	0	17.80	16.75	16.71	16.55
		1	2	17.80	16.87	16.83	16.68
		1	5	17.80	16.70	16.73	16.51
		3	0	17.80	16.83	16.52	16.67
		3	1	17.80	16.83	16.64	16.67
		3	3	17.80	16.83	16.63	16.64
		6	0	17.80	16.76	16.59	16.49
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	17.80	17.04	16.72	16.39
		1	7	17.80	17.11	16.97	16.70
		1	14	17.80	16.73	16.62	16.26
		8	0	17.80	16.83	16.63	16.41
		8	3	17.80	16.85	16.70	16.44
		8	7	17.80	16.76	16.63	16.40
		15	0	17.80	16.83	16.68	16.42
	16QAM	1	0	17.80	16.83	16.48	16.32
		1	7	17.80	17.09	16.77	16.66
		1	14	17.80	16.73	16.61	16.18
		8	0	17.80	16.79	16.48	16.41
		8	3	17.80	16.81	16.61	16.44
		8	7	17.80	16.65	16.56	16.35
		15	0	17.80	16.66	16.58	16.33

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	17.80	16.81	16.44	16.48
		1	12	17.80	17.06	16.82	16.63
		1	24	17.80	16.65	16.48	16.12
		12	0	17.80	16.91	16.53	16.97
		12	6	17.80	16.96	16.71	16.92
		12	13	17.80	16.83	16.69	16.82
		25	0	17.80	16.76	16.64	16.83
	16QAM	1	0	17.80	16.65	16.63	16.67
		1	12	17.80	16.95	16.94	16.82
		1	24	17.80	16.61	16.66	16.30
		12	0	17.80	16.79	16.50	16.48
		12	6	17.80	16.83	16.68	16.52
		12	13	17.80	16.76	16.60	16.40
		25	0	17.80	16.66	16.55	16.39
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	17.80	16.68	16.34	16.64
		1	24	17.80	17.06	16.82	16.81
		1	49	17.80	16.47	16.58	16.14
		25	0	17.80	16.75	16.59	16.60
		25	12	17.80	16.78	16.66	16.54
		25	25	17.80	16.69	16.56	16.31
		50	0	17.80	16.74	16.60	16.50
	16QAM	1	0	17.80	17.01	16.40	16.50
		1	24	17.80	17.13	16.93	16.66
		1	49	17.80	16.62	16.60	16.00
		25	0	17.80	16.65	16.50	16.55
		25	12	17.80	16.70	16.61	16.50
		25	25	17.80	16.58	16.54	16.26
		50	0	17.80	16.65	16.52	16.44

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	17.80	16.89	16.41	16.88
		1	37	17.80	17.07	16.89	16.85
		1	74	17.80	16.54	16.84	16.19
		36	0	17.80	16.83	16.74	16.79
		36	19	17.80	16.82	16.72	16.72
		36	39	17.80	16.58	16.76	16.47
		75	0	17.80	16.75	16.62	16.59
	16QAM	1	0	17.80	17.08	16.38	16.98
		1	37	17.80	17.15	16.88	16.96
		1	74	17.80	16.59	16.81	16.31
		36	0	17.80	16.78	16.81	16.76
		36	19	17.80	16.72	16.67	16.69
		36	39	17.80	16.46	16.70	16.44
		75	0	17.80	16.62	16.52	16.52
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	17.80	17.05	16.60	16.63
		1	50	17.80	17.02	17.29	17.17
		1	99	17.80	16.50	16.59	16.57
		50	0	17.80	16.83	16.68	16.81
		50	25	17.80	16.71	16.89	16.74
		50	50	17.80	16.59	16.76	16.87
		100	0	17.80	16.65	16.65	16.97
	16QAM	1	0	17.80	17.15	16.70	16.76
		1	50	17.80	17.08	16.45	17.28
		1	99	17.80	16.58	16.68	16.75
		50	0	17.80	16.70	16.58	16.68
		50	25	17.80	16.59	16.55	16.89
		50	50	17.80	16.45	16.63	16.79
		100	0	17.80	16.51	16.48	16.86

FDD LTE B4(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	20.00	18.29	19.17	19.09
		1	2	20.00	18.37	19.26	19.21
		1	5	20.00	18.19	19.07	19.04
		3	0	20.00	18.29	19.20	19.06
		3	1	20.00	18.31	19.22	19.08
		3	3	20.00	18.29	19.21	19.05
		6	0	20.00	18.27	19.11	19.09
	16QAM	1	0	20.00	18.33	19.35	19.20
		1	2	20.00	18.45	19.21	19.11
		1	5	20.00	18.26	19.23	19.15
		3	0	20.00	18.37	19.27	19.20
		3	1	20.00	18.39	19.18	19.23
		3	3	20.00	18.36	19.26	19.19
		6	0	20.00	18.33	19.10	19.08
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	20.00	18.07	18.84	18.83
		1	7	20.00	18.34	19.23	19.17
		1	14	20.00	18.92	18.70	18.82
		8	0	20.00	18.37	19.04	18.97
		8	3	20.00	18.36	19.12	19.04
		8	7	20.00	18.26	18.99	18.98
		15	0	20.00	18.29	19.04	18.98
	16QAM	1	0	20.00	18.23	19.11	19.01
		1	7	20.00	18.53	19.28	19.33
		1	14	20.00	18.11	18.97	18.92
		8	0	20.00	18.27	19.05	18.97
		8	3	20.00	18.28	19.13	19.04
		8	7	20.00	18.17	19.00	18.98
		15	0	20.00	18.17	19.04	18.95

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	20.00	18.13	18.90	18.60
		1	12	20.00	18.38	19.14	19.08
		1	24	20.00	18.11	18.49	18.66
		12	0	20.00	18.34	19.05	18.92
		12	6	20.00	18.40	19.15	19.05
		12	13	20.00	18.33	18.99	18.98
		25	0	20.00	18.28	18.99	18.95
	16QAM	1	0	20.00	18.31	19.24	19.12
		1	12	20.00	18.57	19.02	19.18
		1	24	20.00	18.15	18.89	19.10
		12	0	20.00	18.26	19.08	18.93
		12	6	20.00	18.33	19.19	19.10
		12	13	20.00	18.40	19.03	19.05
		25	0	20.00	18.30	19.02	19.00
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	20.00	19.00	18.96	18.42
		1	24	20.00	18.58	19.22	19.02
		1	49	20.00	18.19	18.37	18.75
		25	0	20.00	18.33	19.13	18.70
		25	12	20.00	18.33	19.08	18.82
		25	25	20.00	18.33	18.78	18.82
		50	0	20.00	18.24	18.95	18.77
	16QAM	1	0	20.00	18.20	19.30	18.64
		1	24	20.00	18.66	19.19	19.18
		1	49	20.00	18.41	18.76	18.90
		25	0	20.00	18.36	19.09	18.70
		25	12	20.00	18.36	19.03	18.82
		25	25	20.00	18.38	18.73	18.83
		50	0	20.00	18.22	18.90	18.77

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	20.00	18.14	19.06	18.48
		1	37	20.00	18.65	19.25	18.82
		1	74	20.00	18.73	18.60	18.81
		36	0	20.00	18.34	18.60	18.65
		36	19	20.00	18.50	19.13	18.74
		36	39	20.00	18.66	18.87	18.90
		75	0	20.00	18.48	18.99	18.75
	16QAM	1	0	20.00	18.32	19.44	18.75
		1	37	20.00	18.82	19.27	19.08
		1	74	20.00	18.90	18.94	19.13
		36	0	20.00	18.32	18.94	18.63
		36	19	20.00	18.48	19.08	18.74
		36	39	20.00	18.64	18.82	18.90
		75	0	20.00	18.47	18.92	18.71
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	20.00	18.17	18.80	18.69
		1	50	20.00	18.68	19.25	18.75
		1	99	20.00	18.86	18.41	18.72
		50	0	20.00	18.36	19.13	18.77
		50	25	20.00	18.59	19.02	18.62
		50	50	20.00	18.85	18.75	18.77
		100	0	20.00	18.56	18.92	18.81
	16QAM	1	0	20.00	18.57	19.08	19.02
		1	50	20.00	19.24	18.84	19.14
		1	99	20.00	19.30	18.62	19.15
		50	0	20.00	18.35	19.04	18.66
		50	25	20.00	18.60	18.96	18.53
		50	50	20.00	18.84	18.70	18.73
		100	0	20.00	18.55	18.89	18.78

4）Conducted power measurement results of LTE Band 4 (Power Sensor + Hotspot)

FDD LTE B4(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	16.70	15.77	16.24	15.98
		1	2	16.70	15.86	16.34	16.12
		1	5	16.70	15.73	16.15	16.03
		3	0	16.70	15.80	16.26	15.96
		3	1	16.70	15.82	16.23	16.03
		3	3	16.70	15.77	16.12	16.01
		6	0	16.70	15.78	15.76	15.96
	16QAM	1	0	16.70	15.93	15.99	15.69
		1	2	16.70	16.02	16.23	16.13
		1	5	16.70	15.89	16.12	16.06
		3	0	16.70	15.81	16.11	16.11
		3	1	16.70	15.84	16.08	15.89
		3	3	16.70	15.79	15.89	15.96
		6	0	16.70	15.76	15.93	15.86
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	16.70	16.01	15.65	15.84
		1	7	16.70	16.25	15.96	16.02
		1	14	16.70	15.89	15.69	15.77
		8	0	16.70	16.16	15.69	15.83
		8	3	16.70	16.18	15.79	15.89
		8	7	16.70	16.06	15.83	15.93
		15	0	16.70	16.06	15.84	15.91
	16QAM	1	0	16.70	16.14	15.94	16.03
		1	7	16.70	16.28	15.99	16.02
		1	14	16.70	15.97	15.67	15.73
		8	0	16.70	16.03	15.89	16.02
		8	3	16.70	16.08	15.93	15.79
		8	7	16.70	15.95	15.84	15.93
		15	0	16.70	15.94	15.79	15.71

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	16.70	15.99	15.57	15.85
		1	12	16.70	16.30	16.12	16.22
		1	24	16.70	15.79	15.86	15.63
		12	0	16.70	16.18	16.03	15.03
		12	6	16.70	16.23	16.01	16.12
		12	13	16.70	16.07	15.79	16.09
		25	0	16.70	16.05	15.83	16.13
	16QAM	1	0	16.70	16.12	15.92	16.19
		1	12	16.70	16.42	16.12	16.32
		1	24	16.70	15.96	16.03	16.02
		12	0	16.70	16.08	15.83	16.01
		12	6	16.70	16.13	15.99	15.79
		12	13	16.70	15.98	15.76	15.92
		25	0	16.70	15.93	15.96	15.93
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	16.70	16.04	16.02	15.92
		1	24	16.70	16.37	16.34	16.24
		1	49	16.70	15.81	15.93	15.93
		25	0	16.70	16.11	16.12	16.02
		25	12	16.70	16.15	16.12	16.07
		25	25	16.70	16.07	16.03	16.01
		50	0	16.70	16.12	16.18	16.03
	16QAM	1	0	16.70	16.19	16.23	16.02
		1	24	16.70	16.41	16.34	16.26
		1	49	16.70	16.06	16.13	16.01
		25	0	16.70	16.01	15.69	15.93
		25	12	16.70	16.07	15.96	15.91
		25	25	16.70	15.97	16.02	15.89
		50	0	16.70	16.01	16.11	15.93

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	16.70	16.07	16.14	16.14
		1	37	16.70	16.31	16.34	16.39
		1	74	16.70	15.87	15.98	15.89
		36	0	16.70	16.23	16.26	16.15
		36	19	16.70	16.26	16.33	16.13
		36	39	16.70	16.07	16.15	16.11
		75	0	16.70	16.09	16.15	16.06
	16QAM	1	0	16.70	16.17	16.23	16.22
		1	37	16.70	16.35	16.34	16.29
		1	74	16.70	16.01	15.99	16.09
		36	0	16.70	16.11	16.21	16.00
		36	19	16.70	16.15	16.31	16.29
		36	39	16.70	15.98	16.02	16.09
		75	0	16.70	15.60	15.78	15.78
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	16.70	16.04	16.08	16.07
		1	50	16.70	16.27	16.43	16.23
		1	99	16.70	15.81	15.81	15.61
		50	0	16.70	16.60	16.24	16.22
		50	25	16.70	16.19	16.31	16.13
		50	50	16.70	16.05	16.11	15.95
		100	0	16.70	16.13	16.18	16.12
	16QAM	1	0	16.70	16.15	16.40	16.17
		1	50	16.70	16.37	16.38	16.39
		1	99	16.70	15.97	15.91	15.77
		50	0	16.70	16.04	16.06	16.08
		50	25	16.70	16.08	16.02	15.98
		50	50	16.70	15.94	15.93	15.82
		100	0	16.70	16.05	15.97	15.98

5）Conducted power measurement results of LTE Band 4 (Receiver On)

FDD LTE B4(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	21.80	20.42	21.13	20.84
		1	2	21.80	20.52	21.18	20.94
		1	5	21.80	20.37	21.02	20.84
		3	0	21.80	20.45	21.16	20.92
		3	1	21.80	20.44	21.17	20.92
		3	3	21.80	20.41	21.14	20.90
		6	0	21.30	20.43	20.72	20.89
	16QAM	1	0	21.30	20.52	20.91	20.90
		1	2	21.30	20.56	20.96	20.97
		1	5	21.30	20.39	20.81	20.83
		3	0	21.30	20.46	20.97	20.93
		3	1	21.30	20.44	20.97	20.92
		3	3	21.30	20.45	20.94	20.91
		6	0	21.00	19.85	20.41	20.38
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	21.80	20.22	20.99	20.65
		1	7	21.80	20.40	21.23	20.97
		1	14	21.80	20.09	20.78	20.66
		8	0	21.30	20.37	20.94	20.73
		8	3	21.30	20.35	20.98	20.80
		8	7	21.30	20.26	20.87	20.77
		15	0	21.30	20.30	20.95	20.74
	16QAM	1	0	21.30	20.60	20.91	20.78
		1	7	21.30	20.81	20.87	20.95
		1	14	21.30	20.53	20.99	20.75
		8	0	21.00	19.94	20.45	20.24
		8	3	21.00	19.93	20.47	20.31
		8	7	21.00	19.88	20.37	20.27
		15	0	21.00	19.82	20.49	20.20

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	21.80	20.24	20.94	20.46
		1	12	21.80	20.49	21.17	20.83
		1	24	21.80	20.07	20.56	20.49
		12	0	21.30	20.37	20.93	20.65
		12	6	21.30	20.41	20.99	20.79
		12	13	21.30	20.34	20.80	20.75
		25	0	21.30	20.24	20.81	20.70
	16QAM	1	0	21.30	20.46	20.90	20.72
		1	12	21.30	20.72	20.98	20.98
		1	24	21.30	20.32	20.75	20.74
		12	0	21.00	19.94	20.42	20.08
		12	6	21.00	19.98	20.49	20.27
		12	13	21.00	19.91	20.35	20.24
		25	0	21.00	19.81	20.32	20.18
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	21.80	20.15	20.96	20.26
		1	24	21.80	20.52	21.22	20.68
		1	49	21.80	20.17	20.33	20.50
		25	0	21.30	20.26	20.86	20.37
		25	12	21.30	20.28	20.79	20.51
		25	25	21.30	20.28	20.49	20.51
		50	0	21.30	20.30	20.67	20.48
	16QAM	1	0	21.30	20.41	20.87	20.49
		1	24	21.30	20.74	20.91	20.90
		1	49	21.30	20.40	20.29	20.67
		25	0	21.00	19.75	20.31	19.82
		25	12	21.00	19.81	20.25	19.97
		25	25	21.00	19.82	20.26	20.03
		50	0	21.00	19.79	20.41	19.98

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	21.80	20.22	20.95	20.31
		1	37	21.80	20.55	21.18	20.54
		1	74	21.80	20.65	20.46	20.56
		36	0	21.30	20.37	20.46	20.46
		36	19	21.30	20.40	20.82	20.49
		36	39	21.30	20.57	20.65	20.58
		75	0	21.30	20.39	20.86	20.46
	16QAM	1	0	21.30	20.58	20.75	20.39
		1	37	21.30	20.87	20.95	20.68
		1	74	21.30	20.94	20.31	20.72
		36	0	21.00	19.87	20.31	19.98
		36	19	21.00	19.96	20.33	19.96
		36	39	21.00	20.05	20.33	20.11
		75	0	21.00	19.94	20.40	19.93
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	21.80	20.15	20.70	20.55
		1	50	21.80	21.23	21.32	21.07
		1	99	21.80	20.87	20.19	20.46
		50	0	21.30	20.33	20.80	20.57
		50	25	21.30	20.63	20.73	20.40
		50	50	21.30	20.79	20.43	20.45
		100	0	21.30	20.59	20.91	20.49
	16QAM	1	0	21.30	20.46	20.83	20.82
		1	50	21.30	20.78	20.08	20.96
		1	99	21.30	20.92	20.16	20.92
		50	0	21.00	19.70	20.38	20.13
		50	25	21.00	19.93	20.33	19.96
		50	50	21.00	20.28	20.29	19.93
		100	0	21.00	20.07	20.41	20.02

6）Conducted power measurement results of LTE Band 4 (Receiver on+Wifi)

FDD LTE B4(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19957	20175	20393
					1710.7	1732.5	1754.3
1.4MHz	QPSK	1	0	19.70	18.29	19.17	19.09
		1	2	19.70	18.37	19.26	19.21
		1	5	19.70	18.19	19.07	19.04
		3	0	19.70	18.29	19.20	19.06
		3	1	19.70	18.31	19.22	19.08
		3	3	19.70	18.29	19.21	19.05
		6	0	19.70	18.27	19.11	19.09
	16QAM	1	0	19.70	18.33	19.35	19.20
		1	2	19.70	18.45	19.21	19.31
		1	5	19.70	18.26	19.23	19.15
		3	0	19.70	18.37	19.27	19.20
		3	1	19.70	18.39	19.28	19.23
		3	3	19.70	18.36	19.26	19.19
		6	0	19.70	18.33	19.10	19.08
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19965	20175	20385
					1711.5	1732.5	1753.5
3MHz	QPSK	1	0	19.70	18.07	18.84	18.83
		1	7	19.70	18.34	19.23	19.17
		1	14	19.70	18.92	18.70	18.82
		8	0	19.70	18.37	19.04	18.97
		8	3	19.70	18.36	19.12	19.04
		8	7	19.70	18.26	18.99	18.98
		15	0	19.70	18.29	19.04	18.98
	16QAM	1	0	19.70	18.23	19.11	19.01
		1	7	19.70	18.53	19.48	19.33
		1	14	19.70	18.11	18.97	18.92
		8	0	19.70	18.27	19.05	18.97
		8	3	19.70	18.28	19.13	19.04
		8	7	19.70	18.17	19.00	18.98
		15	0	19.70	18.17	19.04	18.95

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					19975	20175	20375
					1712.5	1732.5	1752.5
5MHz	QPSK	1	0	19.70	18.13	18.90	18.60
		1	12	19.70	18.38	19.14	19.08
		1	24	19.70	18.11	18.49	18.66
		12	0	19.70	18.34	19.05	18.92
		12	6	19.70	18.40	19.15	19.05
		12	13	19.70	18.33	18.99	18.98
		25	0	19.70	18.28	18.99	18.95
	16QAM	1	0	19.70	18.31	19.24	19.12
		1	12	19.70	18.57	19.02	19.28
		1	24	19.70	18.15	18.89	19.10
		12	0	19.70	18.26	19.08	18.93
		12	6	19.70	18.33	19.19	19.10
		12	13	19.70	18.40	19.03	19.05
		25	0	19.70	18.30	19.02	19.00
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20000	20175	20350
					1715	1732.5	1750
10MHz	QPSK	1	0	19.70	19.00	18.96	18.42
		1	24	19.70	18.58	19.22	19.02
		1	49	19.70	18.19	18.37	18.75
		25	0	19.70	18.33	19.13	18.70
		25	12	19.70	18.33	19.08	18.82
		25	25	19.70	18.33	18.78	18.82
		50	0	19.70	18.24	18.95	18.77
	16QAM	1	0	19.70	18.20	19.10	18.64
		1	24	19.70	18.66	19.19	19.18
		1	49	19.70	18.41	18.76	18.90
		25	0	19.70	18.36	19.09	18.70
		25	12	19.70	18.36	19.03	18.82
		25	25	19.70	18.38	18.73	18.83
		50	0	19.70	18.22	18.90	18.77

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20025	20175	20325
					1717.5	1732.5	1747.5
15MHz	QPSK	1	0	19.70	18.14	19.06	18.48
		1	37	19.70	18.65	19.25	18.82
		1	74	19.70	18.73	18.60	18.81
		36	0	19.70	18.34	18.60	18.65
		36	19	19.70	18.50	19.13	18.74
		36	39	19.70	18.66	18.87	18.90
		75	0	19.70	18.48	18.99	18.75
	16QAM	1	0	19.70	18.32	19.04	18.75
		1	37	19.70	18.82	19.17	19.08
		1	74	19.70	18.90	18.94	19.13
		36	0	19.70	18.32	18.94	18.63
		36	19	19.70	18.48	19.08	18.74
		36	39	19.70	18.64	18.82	18.90
		75	0	19.70	18.47	18.92	18.71
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20050	20175	20300
					1720	1732.5	1745
20MHz	QPSK	1	0	19.70	18.17	18.80	18.69
		1	50	19.70	18.68	19.35	18.75
		1	99	19.70	18.86	18.41	18.72
		50	0	19.70	18.36	19.13	18.77
		50	25	19.70	18.59	19.02	18.62
		50	50	19.70	18.85	18.75	18.77
		100	0	19.70	18.56	18.92	18.81
	16QAM	1	0	19.70	18.57	19.08	19.02
		1	50	19.70	19.24	18.84	19.14
		1	99	19.70	19.30	18.62	19.15
		50	0	19.70	18.35	19.04	18.66
		50	25	19.70	18.60	18.96	18.53
		50	50	19.70	18.84	18.70	18.73
		100	0	19.70	18.55	18.89	18.78

8.1.8CONDUCTED POWER MEASUREMENTS OF LTE Band 5

1）Conducted power measurement results of LTE Band 5 (Full Power)

FDD LTE B5(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20407	20525	20643
					824.7	836.5	848.3
1.4MHz	QPSK	1	0	24.00	22.80	23.25	23.13
		1	2	24.00	22.93	23.40	23.21
		1	5	24.00	22.82	23.26	23.00
		3	0	24.00	22.88	23.26	23.12
		3	1	24.00	22.95	23.28	23.11
		3	3	24.00	22.94	23.27	23.08
		6	0	23.00	21.96	22.30	22.17
	16QAM	1	0	23.00	22.02	22.60	22.39
		1	2	23.00	22.17	22.70	22.52
		1	5	23.00	22.04	22.55	22.33
		3	0	23.00	22.06	22.36	22.38
		3	1	23.00	22.15	22.39	22.35
		3	3	23.00	22.15	22.44	22.31
		6	0	22.00	21.05	21.32	21.31
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20415	20525	20635
					825.5	836.5	847.5
3MHz	QPSK	1	0	24.00	22.65	23.07	23.08
		1	7	24.00	23.03	23.37	23.34
		1	14	24.00	22.63	22.98	22.91
		8	0	23.00	21.93	22.25	22.23
		8	3	23.00	21.97	22.31	22.26
		8	7	23.00	21.88	22.17	22.12
		15	0	23.00	21.94	22.23	22.20
	16QAM	1	0	23.00	22.00	22.36	22.24
		1	7	23.00	22.37	22.66	22.60
		1	14	23.00	21.94	22.30	22.14
		8	0	22.00	21.05	21.27	21.19
		8	3	22.00	21.15	21.37	21.21
		8	7	22.00	21.01	21.24	21.14
		15	0	22.00	20.99	21.26	21.22

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20425	20525	20625
					826.5	836.5	846.5
5MHz	QPSK	1	0	24.00	22.59	23.01	22.87
		1	12	24.00	22.95	23.32	23.17
		1	24	24.00	22.55	22.73	22.65
		12	0	23.00	21.91	22.21	22.17
		12	6	23.00	22.00	22.31	22.26
		12	13	23.00	21.93	22.16	22.18
		25	0	23.00	21.85	22.10	22.09
	16QAM	1	0	23.00	21.87	22.38	22.48
		1	12	23.00	22.21	22.67	22.82
		1	24	23.00	21.83	22.10	22.31
		12	0	22.00	21.03	21.25	21.12
		12	6	22.00	21.09	21.34	21.20
		12	13	22.00	21.01	21.21	21.12
		25	0	22.00	20.90	21.07	21.06
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20450	20525	20600
					829	836.5	844
10MHz	QPSK	1	0	24.00	22.07	22.81	22.78
		1	24	24.00	23.12	23.43	23.22
		1	49	24.00	22.51	22.51	22.43
		25	0	23.00	21.79	21.98	22.05
		25	12	23.00	21.93	22.19	22.12
		25	25	23.00	21.75	21.87	21.89
		50	0	23.00	21.72	21.94	21.96
	16QAM	1	0	23.00	21.83	22.06	21.84
		1	24	23.00	22.51	22.60	22.38
		1	49	23.00	21.93	21.79	21.65
		25	0	22.00	20.79	21.00	21.02
		25	12	22.00	20.92	21.16	21.12
		25	25	22.00	20.74	20.92	20.88
		50	0	22.00	20.73	20.91	20.97

FDD LTE B5(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20407	20525	20643
					824.7	836.5	848.3
1.4MHz	QPSK	1	0	24.00	22.70	22.84	22.85
		1	2	24.00	22.88	22.90	23.01
		1	5	24.00	22.80	22.81	22.84
		3	0	24.00	22.77	22.78	22.88
		3	1	24.00	22.82	22.84	22.91
		3	3	24.00	22.83	22.87	22.88
		6	0	23.00	21.85	21.88	21.92
	16QAM	1	0	23.00	21.92	22.19	22.02
		1	2	23.00	22.10	22.27	22.15
		1	5	23.00	22.01	22.15	21.99
		3	0	23.00	21.84	22.04	22.08
		3	1	23.00	21.89	22.07	22.10
		3	3	23.00	21.88	22.06	22.08
		6	0	22.00	20.96	20.98	21.03
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20415	20525	20635
					825.5	836.5	847.5
3MHz	QPSK	1	0	24.00	22.51	22.64	22.79
		1	7	24.00	22.98	22.98	23.05
		1	14	24.00	22.60	22.70	22.62
		8	0	23.00	21.84	21.81	21.87
		8	3	23.00	21.88	21.89	21.92
		8	7	23.00	21.79	21.84	21.86
		15	0	23.00	21.78	21.82	21.90
	16QAM	1	0	23.00	21.64	21.95	21.98
		1	7	23.00	22.12	22.27	22.18
		1	14	23.00	21.73	21.96	21.83
		8	0	22.00	20.94	20.97	20.99
		8	3	22.00	21.05	21.03	21.05
		8	7	22.00	20.90	20.97	20.98
		15	0	22.00	20.86	20.89	20.93

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20425	20525	20625
					826.5	836.5	846.5
5MHz	QPSK	1	0	24.00	22.47	22.58	22.77
		1	12	24.00	22.88	22.88	22.93
		1	24	24.00	22.34	22.44	22.45
		12	0	23.00	21.84	21.76	21.99
		12	6	23.00	21.90	21.89	21.97
		12	13	23.00	21.81	21.84	21.86
		25	0	23.00	21.71	21.75	21.84
	16QAM	1	0	23.00	21.75	21.99	22.10
		1	12	23.00	22.14	22.31	22.28
		1	24	23.00	21.64	21.86	21.85
		12	0	22.00	20.93	20.86	20.95
		12	6	22.00	20.97	20.99	21.00
		12	13	22.00	20.89	20.94	20.89
		25	0	22.00	20.82	20.85	20.85
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20450	20525	20600
					829	836.5	844
10MHz	QPSK	1	0	24.00	22.36	22.36	22.59
		1	24	24.00	22.87	23.26	23.10
		1	49	24.00	22.08	22.33	22.24
		25	0	23.00	21.69	21.57	21.87
		25	12	23.00	21.71	21.96	21.56
		25	25	23.00	21.41	21.61	21.64
		50	0	23.00	21.57	21.58	21.85
	16QAM	1	0	23.00	21.42	21.71	21.71
		1	24	23.00	22.01	22.18	22.25
		1	49	23.00	21.20	21.59	21.42
		25	0	22.00	20.74	20.66	20.89
		25	12	22.00	20.74	20.86	20.94
		25	25	22.00	20.45	20.68	20.69
		50	0	22.00	20.57	20.67	20.83

2）Conducted power measurement results of LTE Band 5(Receiver on)

FDD LTE B5(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20407	20525	20643
					824.7	836.5	848.3
1.4MHz	QPSK	1	0	19.50	18.33	18.57	18.64
		1	2	19.50	18.48	18.68	18.79
		1	5	19.50	18.43	18.56	18.59
		3	0	19.50	18.44	18.66	18.72
		3	1	19.50	18.49	18.70	18.75
		3	3	19.50	18.50	18.71	18.72
		6	0	19.50	18.44	18.67	18.68
	16QAM	1	0	19.50	18.87	18.76	18.88
		1	2	19.50	18.61	18.89	18.83
		1	5	19.50	18.51	18.76	18.81
		3	0	19.50	18.53	18.69	18.70
		3	1	19.50	18.58	18.73	18.73
		3	3	19.50	18.59	18.73	18.70
		6	0	19.50	18.47	18.71	18.64
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20415	20525	20635
					825.5	836.5	847.5
3MHz	QPSK	1	0	19.50	18.13	18.38	18.46
		1	7	19.50	18.64	18.81	18.80
		1	14	19.50	18.15	18.36	18.33
		8	0	19.50	18.40	18.59	18.65
		8	3	19.50	18.51	18.67	18.66
		8	7	19.50	18.41	18.54	18.58
		15	0	19.50	18.39	18.59	18.61
	16QAM	1	0	19.50	18.38	18.78	18.40
		1	7	19.50	18.90	18.79	18.73
		1	14	19.50	18.45	18.74	18.26
		8	0	19.50	18.47	18.60	18.59
		8	3	19.50	18.58	18.69	18.64
		8	7	19.50	18.46	18.56	18.52
		15	0	19.50	18.42	18.58	18.54

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20425	20525	20625
					826.5	836.5	846.5
5MHz	QPSK	1	0	19.50	18.13	18.38	18.48
		1	12	19.50	18.55	18.73	18.78
		1	24	19.50	18.04	18.21	18.20
		12	0	19.50	18.41	18.55	18.64
		12	6	19.50	18.56	18.67	18.71
		12	13	19.50	18.49	18.55	18.61
		25	0	19.50	18.39	18.47	18.55
	16QAM	1	0	19.50	18.48	18.73	18.74
		1	12	19.50	18.87	18.91	18.62
		1	24	19.50	18.33	18.58	18.42
		12	0	19.50	18.45	18.54	18.63
		12	6	19.50	18.51	18.65	18.69
		12	13	19.50	18.43	18.52	18.59
		25	0	19.50	18.28	18.43	18.48
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20450	20525	20600
					829	836.5	844
10MHz	QPSK	1	0	19.50	17.83	18.06	18.21
		1	24	19.50	18.85	18.91	18.82
		1	49	19.50	17.80	17.99	18.00
		25	0	19.50	18.29	18.34	18.34
		25	12	19.50	18.38	18.48	18.46
		25	25	19.50	18.14	18.29	18.37
		50	0	19.50	18.16	18.34	18.48
	16QAM	1	0	19.50	18.01	18.39	18.50
		1	24	19.50	18.70	18.71	18.67
		1	49	19.50	18.00	18.28	18.26
		25	0	19.50	18.24	18.29	18.48
		25	12	19.50	18.34	18.41	18.59
		25	25	19.50	18.10	18.23	18.31
		50	0	19.50	18.16	18.29	18.40

2）Conducted power measurement results of LTE Band 5(Receiver on+Wifi)

FDD LTE B5(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20407	20525	20643
					824.7	836.5	848.3
1.4MHz	QPSK	1	0	17.50	16.54	16.71	16.74
		1	2	17.50	16.62	16.79	16.84
		1	5	17.50	16.63	16.70	16.75
		3	0	17.50	16.62	16.68	16.77
		3	1	17.50	16.68	16.72	16.78
		3	3	17.50	16.69	16.71	16.77
		6	0	17.50	16.62	16.65	16.73
	16QAM	1	0	17.50	16.50	16.87	16.93
		1	2	17.50	16.66	16.93	17.00
		1	5	17.50	16.58	16.85	16.93
		3	0	17.50	16.55	16.64	16.83
		3	1	17.50	16.62	16.69	16.83
		3	3	17.50	16.65	16.74	16.83
		6	0	17.50	16.57	16.62	16.71
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20415	20525	20635
					825.5	836.5	847.5
3MHz	QPSK	1	0	17.50	16.33	16.46	16.71
		1	7	17.50	16.84	16.79	16.86
		1	14	17.50	16.45	16.54	16.55
		8	0	17.50	16.64	16.61	16.75
		8	3	17.50	16.74	16.68	16.71
		8	7	17.50	16.65	16.64	16.66
		15	0	17.50	16.65	16.62	16.71
	16QAM	1	0	17.50	16.42	16.79	16.80
		1	7	17.50	16.92	17.10	16.90
		1	14	17.50	16.53	16.85	16.64
		8	0	17.50	16.61	16.54	16.72
		8	3	17.50	16.70	16.61	16.69
		8	7	17.50	16.62	16.56	16.63
		15	0	17.50	16.56	16.54	16.62

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20425	20525	20625
					826.5	836.5	846.5
5MHz	QPSK	1	0	17.50	16.35	16.40	16.70
		1	12	17.50	16.80	16.71	16.85
		1	24	17.50	16.21	16.34	16.38
		12	0	17.50	16.64	16.55	16.83
		12	6	17.50	16.73	16.67	16.85
		12	13	17.50	16.64	16.63	16.68
		25	0	17.50	16.55	16.55	16.72
	16QAM	1	0	17.50	16.57	16.79	16.99
		1	12	17.50	16.99	17.08	17.12
		1	24	17.50	16.40	16.70	16.67
		12	0	17.50	16.56	16.48	16.75
		12	6	17.50	16.65	16.60	16.78
		12	13	17.50	16.56	16.56	16.60
		25	0	17.50	16.47	16.47	16.63
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20450	20525	20600
					829	836.5	844
10MHz	QPSK	1	0	17.50	16.23	16.27	16.39
		1	24	17.50	16.72	16.70	16.96
		1	49	17.50	15.93	16.28	16.11
		25	0	17.50	16.48	16.37	16.71
		25	12	17.50	16.50	16.55	16.79
		25	25	17.50	16.21	16.41	16.54
		50	0	17.50	16.37	16.37	16.69
	16QAM	1	0	17.50	16.42	16.57	16.46
		1	24	17.50	16.90	17.02	17.03
		1	49	17.50	16.13	16.56	16.17
		25	0	17.50	16.40	16.31	16.63
		25	12	17.50	16.43	16.48	16.72
		25	25	17.50	16.14	16.34	16.47
		50	0	17.50	16.28	16.28	16.59

2）Conducted power measurement results of LTE Band 5(Power Hotspot)

FDD LTE B5(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20407	20525	20643
					824.7	836.5	848.3
1.4MHz	QPSK	1	0	17.50	16.54	16.71	16.74
		1	2	17.50	16.62	16.79	16.84
		1	5	17.50	16.63	16.70	16.75
		3	0	17.50	16.62	16.68	16.77
		3	1	17.50	16.68	16.72	16.78
		3	3	17.50	16.69	16.71	16.77
		6	0	17.50	16.62	16.65	16.73
	16QAM	1	0	17.50	16.50	16.87	16.93
		1	2	17.50	16.66	16.93	17.00
		1	5	17.50	16.58	16.85	16.93
		3	0	17.50	16.55	16.64	16.83
		3	1	17.50	16.62	16.69	16.83
		3	3	17.50	16.65	16.74	16.83
		6	0	17.50	16.57	16.62	16.71
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20415	20525	20635
					825.5	836.5	847.5
3MHz	QPSK	1	0	17.50	16.33	16.46	16.71
		1	7	17.50	16.84	16.79	16.86
		1	14	17.50	16.45	16.54	16.55
		8	0	17.50	16.64	16.61	16.75
		8	3	17.50	16.74	16.68	16.71
		8	7	17.50	16.65	16.64	16.66
		15	0	17.50	16.65	16.62	16.71
	16QAM	1	0	17.50	16.42	16.79	16.80
		1	7	17.50	16.92	17.10	16.90
		1	14	17.50	16.53	16.85	16.64
		8	0	17.50	16.61	16.54	16.72
		8	3	17.50	16.70	16.61	16.69
		8	7	17.50	16.62	16.56	16.63
		15	0	17.50	16.56	16.54	16.62

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20425	20525	20625
					826.5	836.5	846.5
5MHz	QPSK	1	0	17.50	16.35	16.40	16.70
		1	12	17.50	16.80	16.71	16.85
		1	24	17.50	16.21	16.34	16.38
		12	0	17.50	16.64	16.55	16.83
		12	6	17.50	16.73	16.67	16.85
		12	13	17.50	16.64	16.63	16.68
		25	0	17.50	16.55	16.55	16.72
	16QAM	1	0	17.50	16.57	16.79	16.99
		1	12	17.50	16.99	17.08	17.12
		1	24	17.50	16.40	16.70	16.67
		12	0	17.50	16.56	16.48	16.75
		12	6	17.50	16.65	16.60	16.78
		12	13	17.50	16.56	16.56	16.60
		25	0	17.50	16.47	16.47	16.63
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20450	20525	20600
					829	836.5	844
10MHz	QPSK	1	0	17.50	16.23	16.27	16.39
		1	24	17.50	16.72	16.90	16.36
		1	49	17.50	15.93	16.28	16.11
		25	0	17.50	16.48	16.37	16.71
		25	12	17.50	16.50	16.85	16.79
		25	25	17.50	16.21	16.41	16.54
		50	0	17.50	16.37	16.37	16.69
	16QAM	1	0	17.50	16.42	16.57	16.46
		1	24	17.50	16.90	17.02	17.03
		1	49	17.50	16.13	16.56	16.17
		25	0	17.50	16.40	16.31	16.63
		25	12	17.50	16.43	16.48	16.72
		25	25	17.50	16.14	16.34	16.47
		50	0	17.50	16.28	16.28	16.59

8.1.9CONDUCTED POWER MEASUREMENTS OF LTE Band 7

1）Conducted power measurement results of LTE Band 7 (Power Full)

FDD LTE B7(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	23.00	21.30	21.84	21.43
		1	12	23.00	21.81	22.01	21.63
		1	24	23.00	21.52	21.62	21.03
		12	0	22.00	20.78	21.09	20.69
		12	6	22.00	20.96	21.12	20.63
		12	13	22.00	20.88	20.96	20.58
		25	0	22.00	20.83	20.95	20.60
	16QAM	1	0	22.00	20.64	21.12	20.81
		1	12	22.00	21.07	21.27	21.00
		1	24	22.00	20.79	20.89	20.44
		12	0	21.50	20.34	20.64	20.23
		12	6	21.50	20.47	20.67	20.21
		12	13	21.50	20.39	20.51	20.06
		25	0	21.50	20.37	20.48	20.05
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	23.00	21.31	21.73	21.47
		1	24	23.00	21.88	22.01	21.69
		1	49	23.00	21.47	21.64	21.11
		25	0	22.00	20.81	21.00	20.57
		25	12	22.00	20.95	21.00	20.58
		25	25	22.00	20.85	20.90	20.53
		50	0	22.00	20.85	20.92	20.58
	16QAM	1	0	22.00	20.68	20.97	20.52
		1	24	22.00	21.20	21.22	20.64
		1	49	22.00	20.80	20.87	20.14
		25	0	21.50	20.30	20.54	20.09
		25	12	21.50	20.41	20.54	20.11
		25	25	21.50	20.33	20.44	20.02
		50	0	21.50	20.36	20.40	20.13

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	23.00	21.23	21.53	21.20
		1	37	23.00	21.88	21.94	21.58
		1	74	23.00	21.27	21.45	21.16
		36	0	22.00	20.83	20.88	20.60
		36	19	22.00	21.01	21.04	20.62
		36	39	22.00	20.76	20.84	20.42
		75	0	22.00	20.81	20.84	20.61
	16QAM	1	0	22.00	20.46	20.84	20.53
		1	37	22.00	21.14	21.26	20.87
		1	74	22.00	20.55	20.73	20.27
		36	0	21.50	20.35	20.42	20.16
		36	19	21.50	20.52	20.57	20.15
		36	39	21.50	20.26	20.38	19.96
		75	0	21.50	20.29	20.33	20.13
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	23.00	21.53	21.81	21.73
		1	50	23.00	21.92	22.09	21.82
		1	99	23.00	21.60	21.71	21.31
		50	0	22.00	20.97	20.98	20.82
		50	25	22.00	20.94	21.09	20.81
		50	50	22.00	20.74	21.00	20.65
		100	0	22.00	20.88	21.01	20.82
	16QAM	1	0	22.00	20.90	21.04	21.08
		1	50	22.00	21.34	21.34	21.23
		1	99	22.00	20.92	20.97	20.69
		50	0	21.50	20.42	20.40	20.27
		50	25	21.50	20.43	20.51	20.26
		50	50	21.50	20.22	20.42	20.13
		100	0	21.50	20.38	20.42	20.29

FDD LTE B7(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	22.00	20.57	21.09	20.71
		1	12	22.00	21.18	21.30	20.92
		1	24	22.00	21.14	21.08	20.57
		12	0	21.00	20.04	20.43	19.93
		12	6	21.00	20.24	20.48	19.94
		12	13	21.00	20.32	20.35	19.85
		25	0	21.00	20.17	20.28	19.87
	16QAM	1	0	21.50	19.77	20.47	19.98
		1	12	21.50	20.37	20.69	20.21
		1	24	21.50	20.32	20.39	19.76
		12	0	20.50	19.60	19.94	19.52
		12	6	20.50	19.81	20.02	19.50
		12	13	20.50	19.84	19.92	19.42
		25	0	20.50	19.68	19.86	19.47
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	22.00	20.50	20.91	20.83
		1	24	22.00	21.54	21.36	21.00
		1	49	22.00	21.41	21.28	20.59
		25	0	21.00	20.24	20.30	19.93
		25	12	21.00	20.63	20.40	19.89
		25	25	21.00	20.76	20.37	19.79
		50	0	21.00	20.46	20.27	19.90
	16QAM	1	0	21.50	20.01	20.12	20.00
		1	24	21.50	21.02	20.58	20.08
		1	49	21.50	20.90	20.49	19.71
		25	0	20.50	19.72	19.84	19.45
		25	12	20.50	20.10	19.93	19.45
		25	25	20.50	20.23	19.93	19.36
		50	0	20.50	19.95	19.73	19.44

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	22.00	20.58	20.75	20.86
		1	37	22.00	21.75	21.36	20.94
		1	74	22.00	21.08	21.22	20.55
		36	0	21.00	20.38	20.18	20.07
		36	19	21.00	20.86	20.45	19.97
		36	39	21.00	20.76	20.47	19.74
		75	0	21.00	20.55	20.30	19.99
	16QAM	1	0	21.50	19.95	19.99	20.18
		1	37	21.50	21.37	20.57	20.17
		1	74	21.50	20.67	20.48	19.65
		36	0	20.50	19.86	19.63	19.56
		36	19	20.50	20.30	19.90	19.44
		36	39	20.50	20.24	19.92	19.32
		75	0	20.50	20.01	19.72	19.56
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	22.00	20.94	21.24	21.79
		1	50	22.00	21.90	21.92	21.41
		1	99	22.00	21.30	21.78	20.91
		50	0	21.00	20.76	20.30	20.58
		50	25	21.00	20.85	20.99	20.35
		50	50	21.00	20.77	20.67	20.00
		100	0	21.00	20.75	20.48	20.39
	16QAM	1	0	21.50	20.24	20.49	21.03
		1	50	21.50	21.32	20.88	20.56
		1	99	21.50	20.45	21.04	20.04
		50	0	20.50	20.20	19.73	20.07
		50	25	20.50	20.49	19.97	19.84
		50	50	20.50	20.21	20.14	19.50
		100	0	20.50	20.18	19.96	19.88

2）Conducted power measurement results of LTE Band 7 (Power Hotspot)

FDD LTE B7(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	22.00	20.76	21.11	20.75
		1	12	22.00	21.21	21.20	20.88
		1	24	22.00	20.85	20.78	20.32
		12	0	21.50	20.63	20.79	20.44
		12	6	21.50	20.76	20.83	20.40
		12	13	21.50	20.65	20.68	20.22
		25	0	21.50	20.66	20.68	20.25
	16QAM	1	0	21.50	20.33	20.91	20.48
		1	12	21.50	20.76	20.51	20.53
		1	24	21.50	20.47	20.60	19.98
		12	0	21.00	20.12	20.39	19.96
		12	6	21.00	20.24	20.41	19.94
		12	13	21.00	20.15	20.24	19.77
		25	0	21.00	20.14	20.18	19.79
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	22.00	20.69	21.03	20.90
		1	24	22.00	21.21	21.23	20.91
		1	49	22.00	20.87	20.83	20.35
		25	0	21.50	20.63	20.73	20.42
		25	12	21.50	20.76	20.71	20.38
		25	25	21.50	20.72	20.58	20.24
		50	0	21.50	20.70	20.62	20.40
	16QAM	1	0	21.50	20.61	20.63	20.68
		1	24	21.50	20.80	20.88	20.78
		1	49	21.50	20.79	20.47	20.11
		25	0	21.00	20.13	20.22	19.97
		25	12	21.00	20.23	20.17	19.93
		25	25	21.00	20.16	20.05	19.77
		50	0	21.00	20.18	20.12	19.92

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	22.00	20.53	20.87	20.73
		1	37	22.00	21.25	21.18	20.95
		1	74	22.00	20.74	20.68	20.19
		36	0	21.50	20.61	20.65	20.56
		36	19	21.50	20.82	20.72	20.46
		36	39	21.50	20.63	20.52	20.21
		75	0	21.50	20.61	20.53	20.52
	16QAM	1	0	21.50	20.46	20.74	20.38
		1	37	21.50	20.30	20.40	20.58
		1	74	21.50	20.61	20.56	19.80
		36	0	21.00	20.11	20.23	20.10
		36	19	21.00	20.32	20.34	20.02
		36	39	21.00	20.13	20.11	19.74
		75	0	21.00	20.09	20.05	20.01
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	22.00	20.89	21.20	21.21
		1	50	22.00	21.36	21.38	21.26
		1	99	22.00	21.03	21.03	20.54
		50	0	21.50	20.76	20.70	20.77
		50	25	21.50	20.80	20.81	20.65
		50	50	21.50	20.69	20.60	20.46
		100	0	21.50	20.76	20.65	20.72
	16QAM	1	0	21.50	20.71	20.91	20.89
		1	50	21.50	20.98	20.82	20.92
		1	99	21.50	20.79	20.74	20.17
		50	0	21.00	20.19	20.15	20.25
		50	25	21.00	20.26	20.18	20.18
		50	50	21.00	20.13	20.09	19.95
		100	0	21.00	20.22	20.13	20.19

FDD LTE B7(Sub)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	11.00	9.13	9.67	9.33
		1	12	11.00	9.93	10.03	9.58
		1	24	11.00	9.59	9.49	9.94
		12	0	11.00	9.60	9.91	9.45
		12	6	11.00	9.85	10.01	9.46
		12	13	11.00	9.83	9.82	9.36
		25	0	11.00	9.65	9.76	9.35
	16QAM	1	0	11.00	9.32	10.21	9.73
		1	12	11.00	10.22	10.57	10.02
		1	24	11.00	9.95	10.01	9.41
		12	0	11.00	9.65	10.04	9.61
		12	6	11.00	9.93	10.15	9.62
		12	13	11.00	9.88	9.96	9.44
		25	0	11.00	9.68	9.79	9.48
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	11.00	9.11	9.48	9.59
		1	24	11.00	10.37	10.04	9.79
		1	49	11.00	10.13	9.66	9.10
		25	0	11.00	9.77	9.79	9.50
		25	12	11.00	10.22	9.88	9.53
		25	25	11.00	10.32	9.81	9.30
		50	0	11.00	10.01	9.73	9.41
	16QAM	1	0	11.00	9.61	9.81	9.74
		1	24	11.00	10.86	10.47	9.98
		1	49	11.00	10.66	10.06	9.29
		25	0	11.00	9.73	9.81	9.57
		25	12	11.00	10.16	9.98	9.61
		25	25	11.00	10.31	9.92	9.46
		50	0	11.00	9.96	9.78	9.54

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	11.00	9.92	9.23	9.47
		1	37	11.00	10.73	10.04	9.73
		1	74	11.00	9.77	9.51	9.74
		36	0	11.00	9.88	9.64	9.68
		36	19	11.00	10.45	9.94	9.67
		36	39	11.00	10.36	9.81	9.27
		75	0	11.00	10.11	9.68	9.63
	16QAM	1	0	11.00	9.48	9.52	9.93
		1	37	11.00	10.36	10.43	10.21
		1	74	11.00	10.44	9.90	9.22
		36	0	11.00	9.90	9.67	9.84
		36	19	11.00	10.52	9.99	9.78
		36	39	11.00	10.48	9.92	9.40
		75	0	11.00	10.18	9.77	9.63
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	11.00	9.29	9.65	10.20
		1	50	11.00	10.62	10.80	9.99
		1	99	11.00	9.76	9.97	9.06
		50	0	11.00	10.19	9.63	10.09
		50	25	11.00	10.56	9.85	9.84
		50	50	11.00	10.27	9.93	9.42
		100	0	11.00	10.19	9.79	9.80
	16QAM	1	0	11.00	9.78	9.96	10.64
		1	50	11.00	10.36	10.57	10.54
		1	99	11.00	10.17	10.39	9.61
		50	0	11.00	10.17	9.69	10.12
		50	25	11.00	10.65	9.91	9.93
		50	50	11.00	10.34	9.99	9.43
		100	0	11.00	10.19	9.83	9.88

3）Conducted power measurement results of LTE Band 7 (Receiver On)

FDD LTE B7(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	14.00	12.56	12.97	12.77
		1	12	14.00	13.30	13.26	12.99
		1	24	14.00	12.99	12.95	12.57
		12	0	14.00	12.97	13.22	12.91
		12	6	14.00	13.20	13.31	12.90
		12	13	14.00	13.18	13.17	12.82
		25	0	14.00	13.01	13.13	12.84
	16QAM	1	0	14.00	13.07	13.30	13.18
		1	12	14.00	13.30	13.59	13.38
		1	24	14.00	13.49	13.26	12.99
		12	0	14.00	13.12	13.22	12.86
		12	6	14.00	13.35	13.30	12.83
		12	13	14.00	13.34	13.17	12.76
		25	0	14.00	13.16	13.07	12.76
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	14.00	12.50	12.79	13.01
		1	24	14.00	13.73	13.31	13.05
		1	49	14.00	13.51	13.17	12.63
		25	0	14.00	13.13	13.10	12.95
		25	12	14.00	13.55	13.20	12.92
		25	25	14.00	13.63	13.21	12.80
		50	0	14.00	13.35	13.12	12.92
	16QAM	1	0	14.00	13.06	12.94	12.91
		1	24	14.00	13.27	13.42	12.95
		1	49	14.00	13.08	13.29	12.54
		25	0	14.00	13.22	13.04	12.85
		25	12	14.00	13.64	13.14	12.84
		25	25	14.00	13.72	13.15	12.71
		50	0	14.00	13.41	13.02	12.80

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	14.00	12.26	12.62	13.14
		1	37	14.00	13.81	13.27	13.11
		1	74	14.00	13.14	13.15	12.44
		36	0	14.00	13.25	12.99	13.16
		36	19	14.00	13.79	13.24	13.05
		36	39	14.00	13.78	13.25	12.77
		75	0	14.00	13.44	13.08	13.05
	16QAM	1	0	14.00	12.79	12.83	13.20
		1	37	14.00	13.56	13.49	13.18
		1	74	14.00	13.64	13.37	12.51
		36	0	14.00	13.42	12.88	13.09
		36	19	14.00	13.55	13.13	12.97
		36	39	14.00	13.61	13.15	12.70
		75	0	14.00	13.56	12.97	12.94
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	14.00	12.74	12.90	13.72
		1	50	14.00	13.21	13.90	13.31
		1	99	14.00	13.11	13.53	12.60
		50	0	14.00	13.51	12.99	13.56
		50	25	14.00	13.57	13.60	13.58
		50	50	14.00	13.46	13.39	12.87
		100	0	14.00	13.53	13.19	13.28
	16QAM	1	0	14.00	13.40	13.21	13.15
		1	50	14.00	13.87	13.65	13.71
		1	99	14.00	13.70	13.89	13.05
		50	0	14.00	13.60	12.89	13.46
		50	25	14.00	13.04	13.11	13.18
		50	50	14.00	13.72	13.30	12.78
		100	0	14.00	13.62	13.09	13.19

3）Conducted power measurement results of LTE Band 7 (Receiver On+Wifi)

FDD LTE B7(Main)					Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20775	21100	21425
					2502.5	2535	2567.5
5MHz	QPSK	1	0	11.00	9.13	9.67	9.33
		1	12	11.00	9.93	10.03	9.58
		1	24	11.00	9.59	9.49	9.94
		12	0	11.00	9.60	9.91	9.45
		12	6	11.00	9.85	10.01	9.46
		12	13	11.00	9.83	9.82	9.36
		25	0	11.00	9.65	9.76	9.35
	16QAM	1	0	11.00	9.32	10.21	9.73
		1	12	11.00	10.22	10.57	10.02
		1	24	11.00	9.95	10.01	9.41
		12	0	11.00	9.65	10.04	9.61
		12	6	11.00	9.93	10.15	9.62
		12	13	11.00	9.88	9.96	9.44
		25	0	11.00	9.68	9.79	9.48
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20800	21100	21400
					2505	2535	2565
10MHz	QPSK	1	0	11.00	9.11	9.48	9.59
		1	24	11.00	10.37	10.04	9.79
		1	49	11.00	10.13	9.66	9.10
		25	0	11.00	9.77	9.79	9.50
		25	12	11.00	10.22	9.88	9.53
		25	25	11.00	10.32	9.81	9.30
		50	0	11.00	10.01	9.73	9.41
	16QAM	1	0	11.00	9.61	9.81	9.74
		1	24	11.00	10.86	10.47	9.98
		1	49	11.00	10.66	10.06	9.29
		25	0	11.00	9.73	9.81	9.57
		25	12	11.00	10.16	9.98	9.61
		25	25	11.00	10.31	9.92	9.46
		50	0	11.00	9.96	9.78	9.54

Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20825	21100	21375
					2507.5	2535	2562.5
15MHz	QPSK	1	0	11.00	9.92	9.23	9.47
		1	37	11.00	10.73	10.04	9.73
		1	74	11.00	9.77	9.51	9.74
		36	0	11.00	9.88	9.64	9.68
		36	19	11.00	10.45	9.94	9.67
		36	39	11.00	10.36	9.81	9.27
		75	0	11.00	10.11	9.68	9.63
	16QAM	1	0	11.00	9.48	9.52	9.93
		1	37	11.00	10.36	10.43	10.21
		1	74	11.00	10.44	9.90	9.22
		36	0	11.00	9.90	9.67	9.84
		36	19	11.00	10.52	9.99	9.78
		36	39	11.00	10.48	9.92	9.40
		75	0	11.00	10.18	9.77	9.63
Bandwidth	Modulation	RB size	RB offset	Tune-up	Low	Mid	High
					20850	21100	21350
					2510	2535	2560
20MHz	QPSK	1	0	11.00	9.29	9.65	10.20
		1	50	11.00	10.82	10.10	9.99
		1	99	11.00	9.76	9.97	9.06
		50	0	11.00	10.19	9.63	10.09
		50	25	11.00	10.56	9.85	9.84
		50	50	11.00	10.27	9.93	9.42
		100	0	11.00	10.19	9.79	9.80
	16QAM	1	0	11.00	9.78	9.96	10.64
		1	50	11.00	10.36	10.57	10.54
		1	99	11.00	10.17	10.39	9.61
		50	0	11.00	10.17	9.69	10.12
		50	25	11.00	10.65	9.91	9.93
		50	50	11.00	10.34	9.99	9.43
		100	0	11.00	10.19	9.83	9.88

8.1.10 CONDUCTED POWER MEASUREMENTS OF WiFi 2.4G (Full Power)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Setting	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11b	1	2412	1	17.00	17.50	15.71	Yes
	6	2437		17.00	17.50	15.53	No
	11	2462		17.00	17.50	15.56	No
802.11g	1	2412	6	Not Required	17.00	Not Required	No
	6	2437		Not Required	17.00	Not Required	No
	11	2462		Not Required	17.00	Not Required	No
802.11n HT20	1	2412	6.5	Not Required	17.00	Not Required	No
	6	2437		Not Required	17.00	Not Required	No
	11	2462		Not Required	17.00	Not Required	No
802.11n HT40	3	2422	13.5	Not Required	17.00	Not Required	No
	6	2437		Not Required	17.00	Not Required	No
	9	2452		Not Required	17.00	Not Required	No

Note:

1) The Average conducted power of WiFi is measured with RMS detector.

2) Per KDB248227 D01, for WiFi 2.4GHz, the highest measured maximum output power Channel for DSSS modes(802.11b)was selected for SAR measurement. SAR for OFDM modes(2.4GHz 802.11g/n) was not required When the highest reported SAR for DSSS is adjusted by the ratio of OFDM modes(802.11g/n)to DSSS modes(802.11b)specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

8.1.11 CONDUCTED POWER MEASUREMENTS OF WiFi 2.4G (Reduce Power)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Setting	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11b	1	2412	1	11.00	12.00	10.44	No
	6	2437		11.00	12.00	10.53	Yes
	11	2462		11.00	12.00	10.21	No
802.11g	1	2412	6	Not Required	10.00	Not Required	No
	6	2437		Not Required	10.00	Not Required	No
	11	2462		Not Required	10.00	Not Required	No
802.11n HT20	1	2412	6.5	Not Required	9.00	Not Required	No
	6	2437		Not Required	9.00	Not Required	No
	11	2462		Not Required	9.00	Not Required	No
802.11n HT40	3	2422	13.5	Not Required	9.00	Not Required	No
	6	2437		Not Required	9.00	Not Required	No
	9	2452		Not Required	9.00	Not Required	No

Note:

1) The Average conducted power of WiFi is measured with RMS detector.

2) Per KDB248227 D01, for WiFi 2.4GHz, the highest measured maximum output power Channel for DSSS modes(802.11b)was selected for SAR measurement. SAR for OFDM modes(2.4GHz 802.11g/n) was not required When the highest reported SAR for DSSS is adjusted by the ratio of OFDM modes(802.11g/n)to DSSS modes(802.11b)specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

8.1.12CONDUCTED POWER MEASUREMENTS OF BT

BT	Tune Up	Average Conducted Power (dBm)			SAR Test (Yes/No)
		DH5	No	3DH5	
CH0	8.50	6.93	6.86	6.64	No
CH39	6.00	5.14	4.72	4.25	No
CH78	6.00	5.12	4.71	4.23	No

BT	Tune Up	Average Conducted Power (dBm)			SAR Test (Yes/No
		CH0	CH19	CH39	
BLE	3.00	2.59	1.81	1.08	No

Note:
1) The conducted power of BT is measured with RMS detector.

8.2SAR TEST RESULTS

General Notes:

1) Per KDB447498 D01, all measurement SAR results are scaled to the maximum tune-up tolerance limit to demonstrate compliant.
2) Per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:≤0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is≤100 MHz. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
3) Per KDB865664 D01,for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg; if the deviation among the repeated measurement is ≤ 20%,and the measured SAR <1.45W/kg, only one repeated measurement is required.
4) Per KDB941225 D06, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
5) Per KDB648474 D04, SAR is evaluated without a headset connected to the device. When the standalone reported body-worn SAR is ≤1.2 W/kg, no additional SAR evaluations using a headset are required.
6) Per KDB865664 D02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is > 1.5 W/kg, or > 7.0 W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing.

GSM Notes:

1) Per KDB648474 D04, body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2) Per KDB941225 D01, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

UMTS Notes:

Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

LTE notes:

1) The LTE test configurations are determined according to KDB941225 D05 SAR for LTE Devices.The general test procedures used for SAR testing can be found in Section 7.1.3.
2) A-MPR was disabled for all SAR test by setting NS_01 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames(maximum TTI)

WLAN Notes:

1. For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated(peak)SAR is used as the initial test position. 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. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 for 2.4GHZ WIFI single transmission chain operations, the highest measured maximum output power Channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.1.4 for more information.

8.2.1 SAR MEASUREMENT RESULT OF HEAD

1. Head SAR test results of GSM

Test No.	Band	Mode	CH	Test Position	Ant	State	SIM	Battery	Tune-up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T01	GSM 850	GSM	190	Right Cheek	1	1	1	1	33.3	32.3	0.02	0.197	0.156	0.248
T02	GSM 850	GSM	190	Right Cheek	1	2	1	1	33.3	32.3	-0.06	0.179	0.141	0.225
T03	GSM 850	GSM	190	Right Tilted	1	1	1	1	33.3	32.3	0.01	0.168	0.140	0.211
T04	GSM 850	GSM	190	Left Cheek	1	1	1	1	33.3	32.3	0.05	0.167	0.138	0.210
T05	GSM 850	GSM	190	Left Tilted	1	1	1	1	33.3	32.3	0.02	0.143	0.120	0.180
T06	GSM 850	GSM	190	Right Cheek	1	1	2	1	33.3	32.3	0.02	0.210	0.166	0.264
T07	GSM 850	GSM	190	Right Cheek	1	1	2	2	33.3	32.3	-0.04	0.247	0.194	**0.311**
T08	GSM 850	GSM	190	Right Cheek	1	1	2	3	33.3	32.3	0.07	0.168	0.132	0.211
T09	GSM 850	GSM	190	Right Cheek	1	2	2	2	33.3	32.3	0.07	0.217	0.170	0.273
T11	GSM 850	GSM	190	Right Cheek	2	-	1	1	29.3	28.02	0.02	0.596	0.278	0.800
T12	GSM 850	GSM	190	Right Tilted	2	-	1	1	29.3	28.02	0.01	0.508	0.248	0.682
T13	GSM 850	GSM	190	Left Cheek	2	-	1	1	29.3	28.02	-0.03	0.376	0.212	0.505
T14	GSM 850	GSM	190	Left Tilted	2	-	1	1	29.3	28.02	0.06	0.318	0.172	0.427
T15	GSM 850	GSM	128	Right Cheek	2	-	1	1	29.3	28.02	0.05	0.607	0.280	0.815
T16	GSM 850	GSM	251	Right Cheek	2	-	1	1	29.3	28.01	-0.08	0.608	0.284	0.818
T17	GSM 850	GSM	251	Right Cheek	2	-	2	1	29.3	28.01	0.05	0.543	0.271	0.731
T18	GSM 850	GSM	251	Right Cheek	2	-	1	2	29.3	28.01	-0.06	0.610	0.284	**0.821**
T19	GSM 850	GSM	251	Right Cheek	2	-	1	3	29.3	28.01	0.02	0.603	0.277	0.812
T21	GSM 1900	GSM	661	Right Cheek	1	-	1	1	30.5	29.85	0.03	0.040	0.023	0.046
T22	GSM 1900	GSM	661	Right Tilted	1	-	1	1	30.5	29.85	0.07	0.017	0.007	0.020
T23	GSM 1900	GSM	661	Left Cheek	1	-	1	1	30.5	29.85	0.02	0.032	0.020	0.037
T24	GSM 1900	GSM	661	Left Tilted	1	-	1	1	30.5	29.85	0.02	0.016	0.006	0.019
T25	GSM 1900	GSM	661	Right Cheek	1	-	2	1	30.5	29.85	0.01	0.038	0.023	0.044
T26	GSM 1900	GSM	661	Right Cheek	1	-	1	2	30.5	29.85	0.09	0.041	0.025	**0.048**
T27	GSM 1900	GSM	661	Right Cheek	1	-	1	3	30.5	29.85	-0.03	0.033	0.019	0.038
T31	GSM 1900	GSM	661	Right Cheek	2	-	1	1	26.5	25.54	0.04	0.767	0.392	**0.957**
T32	GSM 1900	GSM	661	Right Tilted	2	-	1	1	26.5	25.54	0.03	0.602	0.291	0.751
T33	GSM 1900	GSM	661	Left Cheek	2	-	1	1	26.5	25.54	0.01	0.400	0.203	0.499
T34	GSM 1900	GSM	661	Left Tilted	2	-	1	1	26.5	25.54	-0.02	0.318	0.166	0.397
T35	GSM 1900	GSM	512	Right Cheek	2	-	1	1	26.5	25.62	0.02	0.562	0.312	0.688
T36	GSM 1900	GSM	810	Right Cheek	2	-	1	1	26.5	25.54	0.02	0.612	0.327	0.763
T37	GSM 1900	GSM	661	Right Cheek	2	-	2	1	26.5	25.54	0.07	0.716	0.371	0.893
T38	GSM 1900	GSM	661	Right Cheek	2	-	1	2	26.5	25.54	-0.03	0.742	0.381	0.926
T39	GSM 1900	GSM	661	Right Cheek	2	-	1	3	26.5	25.54	-0.03	0.679	0.348	0.847

2. Head SAR test results of UMTS

Test No.	Band	Mode	CH	Test Position	Ant	State	SIM	Battery	Tune-up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T41	UMTS B2	RMC12.2K	9400	Right Cheek	1	-	1	1	23.8	22.87	0.04	0.103	0.064	**0.128**
T42	UMTS B2	RMC12.2K	9400	Right Tilted	1	-	1	1	23.8	22.87	0.07	0.074	0.034	0.092
T43	UMTS B2	RMC12.2K	9400	Left Cheek	1	-	1	1	23.8	22.87	0.05	0.067	0.038	0.083
T44	UMTS B2	RMC12.2K	9400	Left Tilted	1	-	1	1	23.8	22.87	0.01	0.054	0.020	0.067
T45	UMTS B2	RMC12.2K	9400	Right Cheek	1	-	2	1	23.8	22.87	-0.03	0.091	0.052	0.113
T46	UMTS B2	RMC12.2K	9400	Right Cheek	1	-	1	2	23.8	22.87	-0.07	0.089	0.058	0.110
T47	UMTS B2	RMC12.2K	9400	Right Cheek	1	-	1	3	23.8	22.87	-0.05	0.082	0.042	0.101
T51	UMTS B2	RMC12.2K	9400	Right Cheek	2	-	1	1	17.8	16.74	0.04	0.688	0.357	**0.878**
T52	UMTS B2	RMC12.2K	9400	Right Tilted	2	-	1	1	17.8	16.74	0.03	0.606	0.302	0.774
T53	UMTS B2	RMC12.2K	9400	Left Cheek	2	-	1	1	17.8	16.74	0.01	0.356	0.190	0.454
T54	UMTS B2	RMC12.2K	9400	Left Tilted	2	-	1	1	17.8	16.74	0.01	0.343	0.173	0.438
T55	UMTS B2	RMC12.2K	9262	Right Cheek	2	-	1	1	17.8	16.63	0.04	0.526	0.276	0.689
T56	UMTS B2	RMC12.2K	9538	Right Cheek	2	-	1	1	17.8	16.74	-0.03	0.428	0.245	0.546
T57	UMTS B2	RMC12.2K	9400	Right Cheek	2	-	2	1	17.8	16.74	0.05	0.631	0.341	0.805
T58	UMTS B2	RMC12.2K	9400	Right Cheek	2	-	1	2	17.8	16.74	0.01	0.669	0.353	0.854
T59	UMTS B2	RMC12.2K	9400	Right Cheek	2	-	1	3	17.8	16.74	-0.03	0.631	0.331	0.805
T61	UMTS B4	RMC12.2K	1413	Right Cheek	1	1	1	1	23.5	22.32	0.01	0.099	0.061	**0.130**
T62	UMTS B4	RMC12.2K	1413	Right Cheek	1	2	1	1	23.5	22.32	0.02	0.063	0.042	0.083
T63	UMTS B4	RMC12.2K	1413	Right Tilted	1	1	1	1	23.5	22.32	0.01	0.073	0.048	0.096
T64	UMTS B4	RMC12.2K	1413	Left Cheek	1	1	1	1	23.5	22.32	-0.09	0.069	0.044	0.091
T65	UMTS B4	RMC12.2K	1413	Left Tilted	1	1	1	1	23.5	22.32	0.08	0.062	0.033	0.081
T66	UMTS B4	RMC12.2K	1413	Right Cheek	1	1	2	1	23.5	22.32	0.04	0.084	0.052	0.110
T67	UMTS B4	RMC12.2K	1413	Right Cheek	1	1	1	2	23.5	22.32	0.02	0.087	0.055	0.114
T68	UMTS B4	RMC12.2K	1413	Right Cheek	1	1	1	3	23.5	22.32	0.01	0.088	0.059	0.115
T69	UMTS B4	RMC12.2K	1413	Right Cheek	1	2	1	1	23.5	22.32	-0.01	0.067	0.045	0.088
T71	UMTS B4	RMC12.2K	1413	Right Cheek	2	-	1	1	21.5	20.2	0.01	0.563	0.278	0.759
T72	UMTS B4	RMC12.2K	1413	Right Tilted	2	-	1	1	21.5	20.2	-0.06	0.469	0.212	0.633
T73	UMTS B4	RMC12.2K	1413	Left Cheek	2	-	1	1	21.5	20.2	0.02	0.282	0.146	0.380
T74	UMTS B4	RMC12.2K	1413	Left Tilted	2	-	1	1	21.5	20.2	-0.03	0.257	0.127	0.347
T75	UMTS B4	RMC12.2K	1413	Right Cheek	2	-	2	1	21.5	20.2	0.02	0.513	0.254	0.692
T76	UMTS B4	RMC12.2K	1413	Right Cheek	2	-	1	2	21.5	20.2	0.06	0.608	0.293	**0.820**
T77	UMTS B4	RMC12.2K	1312	Right Cheek	2	-	1	2	21.5	20.31	-0.05	0.512	0.215	0.673
T78	UMTS B4	RMC12.2K	1513	Right Cheek	2	-	1	2	21.5	20.07	-0.02	0.456	0.226	0.634
T79	UMTS B4	RMC12.2K	1413	Right Cheek	2	-	1	3	21.5	20.2	0.01	0.561	0.269	0.757

Test No.	Band	Mode	CH	Test Position	Ant	State	SIM	Battery	Tune-up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T81	UMTS B5	RMC12.2K	4182	Right Cheek	1	1	1	1	24.5	23.33	-0.09	0.168	0.132	**0.220**
T82	UMTS B5	RMC12.2K	4182	Right Cheek	1	2	1	1	24.5	23.33	0.02	0.118	0.097	0.154
T83	UMTS B5	RMC12.2K	4182	Right Tilted	1	1	1	1	24.5	23.33	0.08	0.101	0.086	0.132
T84	UMTS B5	RMC12.2K	4182	Left Cheek	1	1	1	1	24.5	23.33	-0.03	0.138	0.113	0.181
T85	UMTS B5	RMC12.2K	4182	Left Tilted	1	1	1	1	24.5	23.33	0.04	0.085	0.072	0.111
T86	UMTS B5	RMC12.2K	4182	Right Cheek	1	1	2	1	24.5	23.33	-0.03	0.158	0.127	0.207
T87	UMTS B5	RMC12.2K	4182	Right Cheek	1	1	1	2	24.5	23.33	0.05	0.163	0.129	0.213
T88	UMTS B5	RMC12.2K	4182	Right Cheek	1	1	1	3	24.5	23.33	0.01	0.156	0.124	0.204
T89	UMTS B5	RMC12.2K	4182	Right Cheek	1	2	1	1	24.5	23.33	0.04	0.121	0.098	0.158
T91	UMTS B5	RMC12.2K	4182	Right Cheek	2	-	1	1	19.5	18.44	0.07	0.592	0.282	**0.756**
T92	UMTS B5	RMC12.2K	4182	Right Tilted	2	-	1	1	19.5	18.44	0.02	0.540	0.249	0.689
T93	UMTS B5	RMC12.2K	4182	Left Cheek	2	-	1	1	19.5	18.44	0.04	0.353	0.200	0.451
T94	UMTS B5	RMC12.2K	4182	Left Tilted	2	-	1	1	19.5	18.44	-0.03	0.345	0.184	0.440
T95	UMTS B5	RMC12.2K	4182	Right Cheek	2	-	2	1	19.5	18.44	-0.01	0.547	0.271	0.698
T96	UMTS B5	RMC12.2K	4182	Right Cheek	2	-	1	2	19.5	18.44	0.01	0.559	0.271	0.714
T97	UMTS B5	RMC12.2K	4182	Right Cheek	2	-	1	3	19.5	18.44	0.05	0.497	0.248	0.634

3. Head SAR test results of LTE B2 & B4

Test No.	Band	Mode	CH	RB	offset	Test Position	Ant	State	SIM	Battery	Tune-up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T101	LTE B2	QPSK20M	18900	1	50	Right Cheek	1	-	1	1	23.5	22.87	0.01	0.061	0.032	0.071
T102	LTE B2	QPSK20M	18900	1	50	Right Tilted	1	-	1	1	23.5	22.87	0.05	0.068	0.027	0.079
T103	LTE B2	QPSK20M	18900	1	50	Left Cheek	1	-	1	1	23.5	22.87	0.02	0.053	0.027	0.061
T104	LTE B2	QPSK20M	18900	1	50	Left Tilted	1	-	1	1	23.5	22.87	0.06	0.039	0.015	0.045
T105	LTE B2	QPSK20M	18900	50	25	Right Cheek	1	-	1	1	22.5	21.73	-0.03	0.050	0.025	0.060
T106	LTE B2	QPSK20M	18900	50	25	Right Tilted	1	-	1	1	22.5	21.73	0.07	0.065	0.025	0.078
T107	LTE B2	QPSK20M	18900	50	25	Left Cheek	1	-	1	1	22.5	21.73	-0.04	0.051	0.026	0.061
T108	LTE B2	QPSK20M	18900	50	25	Left Tilted	1	-	1	1	22.5	21.73	0.05	0.036	0.014	0.043
T109	LTE B2	QPSK20M	18900	1	50	Right Tilted	1	-	2	1	23.5	22.87	0.01	0.074	0.029	0.086
T110	LTE B2	QPSK20M	18900	1	50	Right Tilted	1	-	2	2	23.5	22.87	0.02	0.078	0.032	0.090
T111	LTE B2	QPSK20M	18900	1	50	Right Tilted	1	-	2	3	23.5	22.87	0.09	0.085	0.040	**0.098**
T121	LTE B2	QPSK20M	18900	1	50	Right Cheek	2	-	1	1	16.5	16.31	0.01	0.512	0.257	**0.535**
T122	LTE B2	QPSK20M	18900	1	50	Right Tilted	2	-	1	1	16.5	16.31	0.02	0.409	0.203	0.427
T123	LTE B2	QPSK20M	18900	1	50	Left Cheek	2	-	1	1	16.5	16.31	-0.03	0.242	0.125	0.253
T124	LTE B2	QPSK20M	18900	1	50	Left Tilted	2	-	1	1	16.5	16.31	0.01	0.210	0.112	0.219
T125	LTE B2	QPSK20M	18900	50	25	Right Cheek	2	-	1	1	16.8	16.19	-0.02	0.456	0.254	0.524
T126	LTE B2	QPSK20M	18900	50	25	Right Tilted	2	-	1	1	16.8	16.19	0.08	0.463	0.240	0.532
T127	LTE B2	QPSK20M	18900	50	25	Left Cheek	2	-	1	1	16.8	16.19	0.04	0.272	0.143	0.313
T128	LTE B2	QPSK20M	18900	50	25	Left Tilted	2	-	1	1	16.8	16.19	0.06	0.282	0.137	0.324
T129	LTE B2	QPSK20M	18900	1	50	Right Cheek	2	-	2	1	16.5	16.31	-0.13	0.484	0.250	0.505
T130	LTE B2	QPSK20M	18900	1	50	Right Cheek	2	-	1	2	16.5	16.31	0.18	0.453	0.220	0.473
T131	LTE B2	QPSK20M	18900	1	50	Right Cheek	2	-	1	3	16.5	16.31	0.03	0.427	0.210	0.446
T141	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	1	1	1	23.5	22.84	0.02	0.075	0.048	0.087
T142	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	2	1	1	23.5	22.84	0.01	0.052	0.032	0.060
T143	LTE B4	QPSK20M	20175	1	50	Right Tilted	1	1	1	1	23.5	22.84	0.01	0.037	0.019	0.043
T144	LTE B4	QPSK20M	20175	1	50	Left Cheek	1	1	1	1	23.5	22.84	-0.03	0.070	0.044	0.082
T145	LTE B4	QPSK20M	20175	1	50	Left Tilted	1	1	1	1	23.5	22.84	-0.03	0.061	0.033	0.071
T146	LTE B4	QPSK20M	20175	50	0	Right Cheek	1	1	1	1	22.5	21.87	0.02	0.066	0.043	0.077
T147	LTE B4	QPSK20M	20175	50	0	Right Tilted	1	1	1	1	22.5	21.87	0.08	0.032	0.016	0.037
T148	LTE B4	QPSK20M	20175	50	0	Left Cheek	1	1	1	1	22.5	21.87	0.02	0.061	0.039	0.070
T149	LTE B4	QPSK20M	20175	50	0	Left Tilted	1	1	1	1	22.5	21.87	0.01	0.050	0.027	0.058
T150	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	1	2	1	23.5	22.84	0.02	0.085	0.054	0.099
T151	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	1	2	2	23.5	22.84	-0.09	0.099	0.061	**0.115**
T152	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	1	2	3	23.5	22.84	0.03	0.081	0.050	0.094
T153	LTE B4	QPSK20M	20175	1	50	Right Cheek	1	2	2	2	23.5	22.84	0.03	0.065	0.034	0.076
T161	LTE B4	QPSK20M	20175	1	50	Right Cheek	2	-	1	1	21.8	21.32	0.05	0.651	0.321	**0.727**
T162	LTE B4	QPSK20M	20175	1	50	Right Tilted	2	-	1	1	21.8	21.32	0.02	0.460	0.222	0.514
T163	LTE B4	QPSK20M	20175	1	50	Left Cheek	2	-	1	1	21.8	21.32	0.01	0.316	0.168	0.353
T164	LTE B4	QPSK20M	20175	1	50	Left Tilted	2	-	1	1	21.8	21.32	-0.03	0.270	0.135	0.301
T165	LTE B4	QPSK20M	20175	50	0	Right Cheek	2	-	1	1	21.3	20.80	0.06	0.644	0.318	0.723
T166	LTE B4	QPSK20M	20175	50	0	Right Tilted	2	-	1	1	21.3	20.80	-0.02	0.422	0.204	0.474
T167	LTE B4	QPSK20M	20175	50	0	Left Cheek	2	-	1	1	21.3	20.80	0.05	0.312	0.164	0.351
T168	LTE B4	QPSK20M	20175	50	0	Left Tilted	2	-	1	1	21.3	20.80	-0.02	0.242	0.119	0.272
T169	LTE B4	QPSK20M	20175	1	50	Right Cheek	2	-	2	1	21.8	21.32	0.01	0.590	0.293	0.659
T170	LTE B4	QPSK20M	20175	1	50	Right Cheek	2	-	1	2	21.8	21.32	0.06	0.540	0.260	0.603
T171	LTE B4	QPSK20M	20175	1	50	Right Cheek	2	-	1	3	21.8	21.32	0.08	0.545	0.271	0.609

4. Head SAR test results of LTE B5 & B7

Test No.	Band	Mode	CH	RB	offset	Test Position	Ant	State	SIM	Battery	Tune-up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T181	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	1	1	1	24	23.43	0.02	0.146	0.112	0.166
T182	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	2	1	1	24	23.43	-0.01	0.139	0.106	0.158
T183	LTE B5	QPSK10M	20525	1	50	Right Tilted	1	1	1	1	24	23.43	0.03	0.082	0.065	0.094
T184	LTE B5	QPSK10M	20525	1	50	Left Cheek	1	1	1	1	24	23.43	0.05	0.121	0.094	0.138
T185	LTE B5	QPSK10M	20525	1	50	Left Tilted	1	1	1	1	24	23.43	0.06	0.087	0.069	0.100
T186	LTE B5	QPSK10M	20525	25	25	Right Cheek	1	1	1	1	23	22.19	-0.07	0.125	0.097	0.151
T187	LTE B5	QPSK10M	20525	25	25	Right Tilted	1	1	1	1	23	22.19	-0.06	0.070	0.057	0.084
T188	LTE B5	QPSK10M	20525	25	25	Left Cheek	1	1	1	1	23	22.19	0.03	0.103	0.080	0.125
T189	LTE B5	QPSK10M	20525	25	25	Left Tilted	1	1	1	1	23	22.19	0.05	0.073	0.059	0.088
T190	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	1	2	1	24	23.43	-0.04	0.152	0.117	**0.173**
T191	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	1	2	2	24	23.43	0.09	0.135	0.105	0.154
T192	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	1	2	3	24	23.43	-0.04	0.110	0.085	0.126
T193	LTE B5	QPSK10M	20525	1	50	Right Cheek	1	2	2	3	24	23.43	-0.01	0.138	0.105	0.157
T201	LTE B5	QPSK10M	20525	1	25	Right Cheek	2	-	1	1	19.5	18.91	0.01	0.621	0.294	0.711
T202	LTE B5	QPSK10M	20525	1	25	Right Tilted	2	-	1	1	19.5	18.91	-0.03	0.519	0.244	0.595
T203	LTE B5	QPSK10M	20525	1	25	Left Cheek	2	-	1	1	19.5	18.91	0.04	0.366	0.201	0.420
T204	LTE B5	QPSK10M	20525	1	25	Left Tilted	2	-	1	1	19.5	18.91	-0.02	0.335	0.176	0.384
T205	LTE B5	QPSK10M	20525	25	12	Right Cheek	2	-	1	1	19.5	18.48	0.09	0.636	0.302	0.805
T206	LTE B5	QPSK10M	20525	25	12	Right Tilted	2	-	1	1	19.5	18.48	0.08	0.526	0.248	0.666
T207	LTE B5	QPSK10M	20525	25	12	Left Cheek	2	-	1	1	19.5	18.48	-0.05	0.386	0.212	0.489
T208	LTE B5	QPSK10M	20525	25	12	Left Tilted	2	-	1	1	19.5	18.48	-0.01	0.356	0.186	0.451
T212	LTE B5	QPSK10M	20450	25	12	Right Cheek	2	-	1	1	19.5	18.38	0.05	0.615	0.302	0.795
T213	LTE B5	QPSK10M	20650	25	12	Right Cheek	2	-	1	1	19.5	18.46	0.03	0.589	0.298	0.749
T209	LTE B5	QPSK10M	20525	25	12	Right Cheek	2	-	2	1	19.5	18.48	0.01	0.714	0.336	**0.904**
T210	LTE B5	QPSK10M	20525	25	12	Right Cheek	2	-	2	2	19.5	18.48	-0.07	0.549	0.308	0.695
T211	LTE B5	QPSK10M	20525	25	12	Right Cheek	2	-	2	3	19.5	18.48	0.02	0.481	0.260	0.609
T212	LTE B5	QPSK10M	20600	50	0	Right Cheek	2	-	2	1	19.5	18.48	0.04	0.563	0.315	0.713
T221	LTE B7	QPSK20M	21100	1	50	Right Cheek	1	-	1	1	23	22.09	0.02	0.138	0.070	0.170
T222	LTE B7	QPSK20M	21100	1	50	Right Tilted	1	-	1	1	23	22.09	0.01	0.077	0.057	0.095
T223	LTE B7	QPSK20M	21100	1	50	Left Cheek	1	-	1	1	23	22.09	-0.05	0.083	0.042	0.102
T224	LTE B7	QPSK20M	21100	1	50	Left Tilted	1	-	1	1	23	22.09	0.01	0.082	0.042	0.101
T225	LTE B7	QPSK20M	21100	50	25	Right Cheek	1	-	1	1	22	21.09	0.06	0.114	0.057	0.141
T226	LTE B7	QPSK20M	21100	50	25	Right Tilted	1	-	1	1	22	21.09	0.04	0.124	0.055	0.153
T227	LTE B7	QPSK20M	21100	50	25	Left Cheek	1	-	1	1	22	21.09	0.02	0.071	0.035	0.087
T228	LTE B7	QPSK20M	21100	50	25	Left Tilted	1	-	1	1	22	21.09	0.01	0.067	0.035	0.083
T229	LTE B7	QPSK20M	21100	1	50	Right Cheek	1	-	2	1	23	22.09	0.05	0.151	0.076	0.186
T230	LTE B7	QPSK20M	21100	1	50	Right Cheek	1	-	2	2	23	22.09	0.02	0.159	0.078	0.196
T231	LTE B7	QPSK20M	21100	1	50	Right Cheek	1	-	2	3	23	22.09	0.05	0.209	0.104	**0.258**
T241	LTE B7	QPSK20M	21100	1	50	Right Cheek	2	-	1	1	14	13.90	-0.04	0.673	0.311	0.689
T242	LTE B7	QPSK20M	21100	1	50	Right Tilted	2	-	1	1	14	13.90	0.02	0.441	0.193	0.451
T243	LTE B7	QPSK20M	21100	1	50	Left Cheek	2	-	1	1	14	13.90	0.01	0.258	0.128	0.264
T244	LTE B7	QPSK20M	21100	1	50	Left Tilted	2	-	1	1	14	13.90	-0.03	0.226	0.108	0.231
T245	LTE B7	QPSK20M	21100	50	25	Right Cheek	2	-	1	1	14	13.60	0.08	0.673	0.312	**0.738**
T246	LTE B7	QPSK20M	21100	50	25	Right Tilted	2	-	1	1	14	13.60	0.01	0.458	0.201	0.502
T247	LTE B7	QPSK20M	21100	50	25	Left Cheek	2	-	1	1	14	13.60	0.05	0.258	0.134	0.283
T248	LTE B7	QPSK20M	21100	50	25	Left Tilted	2	-	1	1	14	13.60	0.02	0.233	0.113	0.255
T253	LTE B7	QPSK20M	21100	1	50	Right Cheek	2	-	2	1	14	13.90	0.06	0.663	0.302	0.679
T254	LTE B7	QPSK20M	21100	1	50	Right Cheek	2	-	1	2	14	13.90	0.02	0.514	0.239	0.526
T255	LTE B7	QPSK20M	21100	1	50	Right Cheek	2	-	1	3	14	13.90	0.01	0.495	0.231	0.507

5. Head SAR test results of WIFI

Test No.	Band	CH	Test Position	Battery	Data Rate	Tune up	Measured	Drift (dB)	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T261	802.11b	6	Right Cheek	1	1	12	10.53	0.02	0.312	0.142	0.438
T262	802.11b	6	Right Tilted	1	1	12	10.53	0.05	0.303	0.138	0.425
T263	802.11b	6	Left Cheek	1	1	12	10.53	0.04	0.401	0.186	0.563
T264	802.11b	6	Left Tilted	1	1	12	10.53	-0.03	0.396	182	0.556
T267	802.11b	6	Left Cheek	2	1	12	10.53	-0.01	0.428	0.2	**0.600**
T268	802.11b	6	Left Cheek	3	1	12	10.53	0.06	0.426	0.195	0.598

8.2.2SAR MEASUREMENT RESULT OF BODY-WORN

1. Body-worn SAR test results of GSM850

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported SAR 1g (W/kg)
T271	GSM 850	GSM	190	Front Face	1.5	1	1	-	1	1	33.3	32.3	0.03	0.154	0.118	0.194
T272	GSM 850	GSM	190	Front Face	1.5	1	2	-	1	1	33.3	32.3	-0.02	0.078	0.060	0.098
T273	GSM 850	GSM	190	Rear Face	1.5	1	1	-	1	1	33.3	32.3	0.01	0.271	0.212	0.341
T274	GSM 850	GSM	190	Rear Face	1.5	1	1	-	2	1	33.3	32.3	-0.03	0.317	0.249	**0.399**
T275	GSM 850	GSM	190	Rear Face	1.5	1	1	-	2	2	33.3	32.3	0.02	0.265	0.200	0.334
T276	GSM 850	GSM	190	Rear Face	1.5	1	1	-	2	3	33.3	32.3	0.05	0.243	0.188	0.306
T277	GSM 850	GSM	190	Rear Face	1.5	1	2	-	2	3	33.3	32.3	0.05	0.163	0.123	0.205
T281	GSM 850	GPRS 1TX	190	Front Face	1	1	1	-	1	1	33.3	32.3	0.02	0.195	0.148	0.245
T282	GSM 850	GPRS 1TX	190	Front Face	1	1	2	-	1	1	33.3	32.3	0.01	0.159	0.106	0.200
T283	GSM 850	GPRS 1TX	190	Rear Face	1	1	1	-	1	1	33.3	32.3	0.06	0.293	0.224	0.369
T284	GSM 850	GPRS 1TX	190	Left Side	1	1	1	-	1	1	33.3	32.3	-0.03	0.084	0.061	0.106
T285	GSM 850	GPRS 1TX	190	Right Side	1	1	1	-	1	1	33.3	32.3	0.05	0.123	0.093	0.155
T286	GSM 850	GPRS 1TX	190	Bottom Side	1	1	1	-	1	1	33.3	32.3	-0.03	0.097	0.054	0.122
T287	GSM 850	GPRS 1TX	190	Rear Face	1	1	1	-	2	1	33.3	32.3	-0.02	0.323	0.256	**0.407**
T288	GSM 850	GPRS 1TX	190	Rear Face	1	1	1	-	2	2	33.3	32.3	0.02	0.261	0.206	0.329
T289	GSM 850	GPRS 1TX	190	Rear Face	1	1	1	-	2	3	33.3	32.3	0.04	0.275	0.231	0.346
T290	GSM 850	GPRS 1TX	190	Rear Face	1	1	2	-	2	3	33.3	32.3	0.04	0.235	0.182	0.296
T291	GSM 850	GSM	190	Front Face	1.5	2	-	-	1	1	33.3	32.09	0.02	0.210	0.146	0.277
T292	GSM 850	GSM	190	Rear Face	1.5	2	-	-	1	1	33.3	32.09	-0.03	0.212	0.151	0.280
T293	GSM 850	GSM	190	Rear Face	1.5	2	-	-	2	1	33.3	32.09	0.01	0.207	0.149	0.274
T294	GSM 850	GSM	190	Rear Face	1.5	2	-	-	1	2	33.3	32.09	0.02	0.178	0.138	0.235
T295	GSM 850	GSM	190	Rear Face	1.5	2	-	-	1	3	33.3	32.09	0.08	0.171	0.142	0.226
T301	GSM 850	GPRS 1TX	190	Front Face	1	2	-	-	1	1	26.3	24.95	0.02	0.064	0.037	0.087
T302	GSM 850	GPRS 1TX	190	Rear Face	1	2	-	-	1	1	26.3	24.95	0.01	0.055	0.032	0.075
T303	GSM 850	GPRS 1TX	190	Left Side	1	2	-	-	1	1	26.3	24.95	-0.06	0.031	0.021	0.042
T304	GSM 850	GPRS 1TX	190	Top Side	1	2	-	-	1	1	26.3	24.95	0.08	0.036	0.019	0.049
T305	GSM 850	GPRS 1TX	190	Front Face	1	2	-	-	2	1	26.3	24.95	0.09	0.064	0.036	0.087
T306	GSM 850	GPRS 1TX	190	Front Face	1	2	-	-	2	2	26.3	24.95	-0.02	0.066	0.037	0.090
T307	GSM 850	GPRS 1TX	190	Front Face	1	2	-	-	2	3	26.3	24.95	-0.05	0.068	0.037	0.093

2. Body-worn SAR test results of GSM1900

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T311	GSM 1900	GSM	661	Front Face	1.5	1	-	-	1	1	30.5	29.85	0.05	0.262	0.147	0.304
T312	GSM 1900	GSM	661	Rear Face	1.5	1	-	-	1	1	30.5	29.85	0.15	0.546	0.302	**0.634**
T313	GSM 1900	GSM	661	Rear Face	1.5	1	-	-	2	1	30.5	29.85	0.02	0.516	0.287	0.599
T314	GSM 1900	GSM	661	Rear Face	1.5	1	-	-	1	2	30.5	29.85	0.11	0.523	0.273	0.607
T315	GSM 1900	GSM	661	Rear Face	1.5	1	-	-	1	3	30.5	29.85	0.06	0.467	0.235	0.542
T321	GSM 1900	GPRS 1TX	661	Front Face	1	1	-	-	1	1	30.5	29.85	0.02	0.093	0.054	0.108
T322	GSM 1900	GPRS 1TX	661	Rear Face	1	1	-	-	1	1	30.5	29.85	0.02	0.183	0.102	0.213
T323	GSM 1900	GPRS 1TX	661	Left Side	1	1	-	-	1	1	30.5	29.85	-0.09	0.008	0.004	0.010
T324	GSM 1900	GPRS 1TX	661	Right Side	1	1	-	-	1	1	30.5	29.85	0.13	0.013	0.007	0.015
T325	GSM 1900	GPRS 1TX	661	Bottom Side	1	1	-	-	1	1	30.5	29.85	0.09	0.229	0.116	0.266
T326	GSM 1900	GPRS 1TX	661	Bottom Side	1	1	-	-	2	1	30.5	29.85	0.17	0.252	0.135	**0.293**
T327	GSM 1900	GPRS 1TX	661	Bottom Side	1	1	-	-	2	2	30.5	29.85	-0.02	0.216	0.121	0.251
T328	GSM 1900	GPRS 1TX	661	Bottom Side	1	1	-	-	2	3	30.5	29.85	0.03	0.220	0.123	0.256
T331	GSM 1900	GSM	661	Front Face	1.5	2	-	-	1	1	30.5	29.58	0.01	0.071	0.045	0.088
T332	GSM 1900	GSM	661	Rear Face	1.5	2	-	-	1	1	30.5	29.58	-0.03	0.062	0.042	0.076
T333	GSM 1900	GSM	661	Front Face	1.5	2	-	-	2	1	30.5	29.58	0.05	0.072	0.044	0.089
T334	GSM 1900	GSM	661	Front Face	1.5	2	-	-	2	2	30.5	29.58	0	0.074	0.049	**0.092**
T335	GSM 1900	GSM	661	Front Face	1.5	2	-	-	1	3	30.5	29.58	0.01	0.068	0.045	0.084
T341	GSM 1900	GPRS 1TX	661	Front Face	1	2	-	-	1	1	23.5	22.69	-0.07	0.039	0.019	**0.047**
T342	GSM 1900	GPRS 1TX	661	Rear Face	1	2	-	-	1	1	23.5	22.69	0.02	0.022	0.012	0.027
T343	GSM 1900	GPRS 1TX	661	Left Side	1	2	-	-	1	1	23.5	22.69	0.02	0.035	0.019	0.042
T344	GSM 1900	GPRS 1TX	661	Top Side	1	2	-	-	1	1	23.5	22.69	-0.02	0.026	0.011	0.031
T345	GSM 1900	GPRS 1TX	661	Front Face	1	2	-	-	2	1	23.5	22.69	-0.05	0.036	0.018	0.044
T346	GSM 1900	GPRS 1TX	661	Front Face	1	2	-	-	1	2	23.5	22.69	0.01	0.037	0.018	0.045
T347	GSM 1900	GPRS 1TX	661	Front Face	1	2	-	-	1	3	23.5	22.69	-0.01	0.037	0.018	0.045

3. Body-worn SAR test results of UMTS Band II

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T351	UMTS B2	RMC12.2K	9400	Front Face	1.5	1	-	on	1	1	22.8	21.92	-0.03	0.304	0.176	0.372
T352	UMTS B2	RMC12.2K	9400	Rear Face	1.5	1	-	on	1	1	22.8	21.92	0	0.658	0.372	0.806
T353	UMTS B2	RMC12.2K	9262	Rear Face	1.5	1	-	on	1	1	22.8	21.89	0.01	0.545	0.274	0.672
T354	UMTS B2	RMC12.2K	9538	Rear Face	1.5	1	-	on	1	1	22.8	21.88	0.02	0.673	0.367	0.832
T355	UMTS B2	RMC12.2K	9538	Rear Face	1.5	1	-	on	2	1	22.8	21.88	-0.01	0.655	0.342	0.810
T356	UMTS B2	RMC12.2K	9538	Rear Face	1.5	1	-	on	1	2	22.8	21.88	0.08	0.679	0.384	0.839
T357	UMTS B2	RMC12.2K	9538	Rear Face	1.5	1	-	on	1	3	22.8	21.88	-0.13	0.683	0.385	0.844
T361	UMTS B2	RMC12.2K	9400	Front Face	1	1	-	on	1	1	16.8	15.89	0.01	0.154	0.078	0.190
T362	UMTS B2	RMC12.2K	9400	Rear Face	1	1	-	on	1	1	16.8	15.89	-0.02	0.288	0.139	0.355
T363	UMTS B2	RMC12.2K	9400	Left Side	1	1	-	-	1	1	17.8	16.77	0.03	0.013	0.007	0.017
T364	UMTS B2	RMC12.2K	9400	Right Side	1	1	-	-	1	1	17.8	16.77	0.02	0.026	0.012	0.033
T365	UMTS B2	RMC12.2K	9400	Bottom Side	1	1	-	on	1	1	16.8	15.89	0.08	0.390	0.204	0.481
T366	UMTS B2	RMC12.2K	9400	Bottom Side	1	1	-	on	2	1	16.8	15.89	0.01	0.379	0.16	0.467
T367	UMTS B2	RMC12.2K	9400	Bottom Side	1	1	-	on	1	2	16.8	15.89	-0.03	0.374	0.177	0.461
T368	UMTS B2	RMC12.2K	9400	Bottom Side	1	1	-	on	1	3	16.8	15.89	0.02	0.281	0.136	0.347
T371	UMTS B2	RMC12.2K	9400	Front Face	1.7	1	-	off	1	1	23.8	22.87	0.02	0.309	0.169	0.383
T372	UMTS B2	RMC12.2K	9400	Rear Face	1.7	1	-	off	1	1	23.8	22.87	-0.01	0.558	0.311	0.691
T373	UMTS B2	RMC12.2K	9400	Bottom Side	1.7	1	-	off	1	1	23.8	22.87	-0.13	0.775	0.446	**0.960**
T374	UMTS B2	RMC12.2K	9262	Bottom Side	1.7	1	-	off	1	1	23.8	22.85	0	0.559	0.309	0.696
T375	UMTS B2	RMC12.2K	9538	Bottom Side	1.7	1	-	off	1	1	23.8	22.81	0.04	0.762	0.432	0.957
T376	UMTS B2	RMC12.2K	9400	Bottom Side	1.7	1	-	off	2	1	23.8	22.87	0.03	0.648	0.34	0.803
T377	UMTS B2	RMC12.2K	9400	Bottom Side	1.7	1	-	off	1	2	23.8	22.87	-0.02	0.769	0.413	0.953
T378	UMTS B2	RMC12.2K	9400	Bottom Side	1.7	1	-	off	1	3	23.8	22.87	0.02	0.731	0.402	0.906
T381	UMTS B2	RMC12.2K	9400	Front Face	1.5	2	-	-	1	1	23.8	22.65	0.01	0.164	0.088	0.214
T382	UMTS B2	RMC12.2K	9400	Rear Face	1.5	2	-	-	1	1	23.8	22.65	0.01	0.151	0.084	0.197
T383	UMTS B2	RMC12.2K	9400	Front Face	1.5	2	-	-	2	1	23.8	22.65	-0.01	0.152	0.084	0.198
T384	UMTS B2	RMC12.2K	9400	Front Face	1.5	2	-	-	1	2	23.8	22.65	0.03	0.161	0.086	0.210
T385	UMTS B2	RMC12.2K	9400	Front Face	1.5	2	-	-	1	3	23.8	22.65	-0.02	0.163	0.088	0.212
T391	UMTS B2	RMC12.2K	9400	Front Face	1	2	-	-	1	1	15.8	14.69	0.03	0.058	0.027	0.075
T392	UMTS B2	RMC12.2K	9400	Rear Face	1	2	-	-	1	1	15.8	14.69	-0.02	0.038	0.019	0.049
T393	UMTS B2	RMC12.2K	9400	Left Side	1	2	-	-	1	1	15.8	14.69	0.02	0.054	0.026	0.070
T394	UMTS B2	RMC12.2K	9400	Top Side	1	2	-	-	1	1	15.8	14.69	0.05	0.032	0.014	0.041
T395	UMTS B2	RMC12.2K	9400	Front Face	1	2	-	-	2	1	15.8	14.69	0.03	0.053	0.026	0.068
T396	UMTS B2	RMC12.2K	9400	Front Face	1	2	-	-	1	2	15.8	14.69	0.04	0.059	0.028	0.076
T397	UMTS B2	RMC12.2K	9400	Front Face	1	2	-	-	1	3	15.8	14.69	-0.07	0.053	0.026	0.068

4. Body-worn SAR test results of UMTS Band II

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T401	UMTS B4	RMC12.2K	1413	Front Face	1.5	1	1	on	1	1	22.5	21.47	0.02	0.381	0.194	0.483
T402	UMTS B4	RMC12.2K	1413	Front Face	1.5	1	2	on	1	1	22.5	21.47	0.01	0.337	0.139	0.427
T403	UMTS B4	RMC12.2K	1413	Rear Face	1.5	1	1	on	1	1	22.5	21.47	0.05	0.477	0.229	0.605
T404	UMTS B4	RMC12.2K	1413	Rear Face	1.5	1	1	on	2	1	22.5	21.47	0.05	0.493	0.235	0.625
T405	UMTS B4	RMC12.2K	1413	Rear Face	1.5	1	1	on	2	2	22.5	21.47	-0.08	0.509	0.258	**0.645**
T406	UMTS B4	RMC12.2K	1413	Rear Face	1.5	1	1	on	2	3	22.5	21.47	0.01	0.465	0.224	0.589
T407	UMTS B4	RMC12.2K	1413	Rear Face	1.5	1	2	on	2	2	22.5	21.47	0.01	0.449	0.213	0.569
T411	UMTS B4	RMC12.2K	1413	Front Face	1	1	1	on	1	1	16.5	16.37	0.03	0.271	0.148	0.279
T412	UMTS B4	RMC12.2K	1413	Front Face	1	1	2	on	1	1	16.5	16.37	0.02	0.215	0.111	0.222
T413	UMTS B4	RMC12.2K	1413	Rear Face	1	1	1	on	1	1	16.5	16.37	-0.03	0.280	0.158	0.289
T414	UMTS B4	RMC12.2K	1413	Left Side	1	1	1	-	1	1	17.5	17.42	-0.07	0.005	0.002	0.005
T415	UMTS B4	RMC12.2K	1413	Right Side	1	1	1	-	1	1	17.5	17.42	0.03	0.011	0.006	0.012
T416	UMTS B4	RMC12.2K	1413	Bottom Side	1	1	1	on	1	1	16.5	16.37	0.01	0.408	0.219	0.420
T417	UMTS B4	RMC12.2K	1413	Bottom Side	1	1	1	on	2	1	16.5	16.37	0.08	0.411	0.217	0.423
T418	UMTS B4	RMC12.2K	1413	Bottom Side	1	1	1	on	2	2	16.5	16.37	0.03	0.415	0.215	0.428
T419	UMTS B4	RMC12.2K	1413	Bottom Side	1	1	1	on	2	3	16.5	16.37	0.07	0.380	0.172	0.392
T420	UMTS B4	RMC12.2K	1413	Bottom Side	1	1	1	on	2	2	16.5	16.37	-0.06	0.352	0.193	0.363
T421	UMTS B4	RMC12.2K	1413	Front Face	1.7	1	1	off	1	1	23.5	22.32	0.03	0.245	0.152	0.321
T422	UMTS B4	RMC12.2K	1413	Front Face	1.7	1	2	off	1	1	23.5	22.32	0.02	0.155	0.097	0.203
T423	UMTS B4	RMC12.2K	1413	Rear Face	1.7	1	1	off	1	1	23.5	22.32	0.01	0.350	0.216	0.459
T424	UMTS B4	RMC12.2K	1413	Bottom Side	1.7	1	1	off	1	1	23.5	22.32	-0.08	0.462	0.257	0.606
T425	UMTS B4	RMC12.2K	1413	Bottom Side	1.7	1	1	off	2	1	23.5	22.32	0.02	0.469	0.261	0.615
T426	UMTS B4	RMC12.2K	1413	Bottom Side	1.7	1	1	off	2	2	23.5	22.32	0.08	0.483	0.276	0.634
T427	UMTS B4	RMC12.2K	1413	Bottom Side	1.7	1	1	off	2	3	23.5	22.32	0.09	0.476	0.267	0.625
T428	UMTS B4	RMC12.2K	1413	Bottom Side	1.7	1	2	off	2	2	23.5	22.32	-0.02	0.358	0.201	0.470
T431	UMTS B4	RMC12.2K	1413	Front Face	1.5	2	-	-	1	1	23.5	22.15	0.02	0.033	0.023	0.046
T432	UMTS B4	RMC12.2K	1413	Rear Face	1.5	2	-	-	1	1	23.5	22.15	0.01	0.044	0.028	0.060
T433	UMTS B4	RMC12.2K	1413	Rear Face	1.5	2	-	-	2	1	23.5	22.15	0.08	0.043	0.029	0.059
T434	UMTS B4	RMC12.2K	1413	Rear Face	1.5	2	-	-	1	2	23.5	22.15	0.03	0.043	0.028	0.058
T435	UMTS B4	RMC12.2K	1413	Rear Face	1.5	2	-	-	1	3	23.5	22.15	-0.02	0.047	0.030	0.064
T441	UMTS B4	RMC12.2K	1413	Front Face	1	2	-	-	1	1	19.5	18.17	0.07	0.020	0.009	0.028
T442	UMTS B4	RMC12.2K	1413	Rear Face	1	2	-	-	1	1	19.5	18.17	0.03	0.023	0.011	0.032
T443	UMTS B4	RMC12.2K	1413	Left Side	1	2	-	-	1	1	19.5	18.17	0.05	0.018	0.007	0.024
T444	UMTS B4	RMC12.2K	1413	Top Side	1	2	-	-	1	1	19.5	18.17	0.08	0.007	0.002	0.009
T445	UMTS B4	RMC12.2K	1413	Front Face	1	2	-	-	2	1	19.5	18.17	0.04	0.024	0.011	0.033
T446	UMTS B4	RMC12.2K	1413	Front Face	1	2	-	-	2	2	19.5	18.17	-0.02	0.024	0.011	0.032
T447	UMTS B4	RMC12.2K	1413	Front Face	1	2	-	-	2	3	19.5	18.17	0.07	0.025	0.011	0.034

5. Body-worn SAR test results of UMTS Band V

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T451	UMTS B5	RMC12.2K	4182	Front Face	1.5	1	1	-	1	1	24.5	23.33	0.02	0.172	0.134	0.225
T452	UMTS B5	RMC12.2K	4182	Front Face	1.5	1	2	-	1	1	24.5	23.33	0.01	0.095	0.074	0.124
T453	UMTS B5	RMC12.2K	4182	Rear Face	1.5	1	1	-	1	1	24.5	23.33	0.02	0.299	0.235	0.391
T454	UMTS B5	RMC12.2K	4182	Rear Face	1.5	1	1	-	2	1	24.5	23.33	-0.03	0.290	0.231	0.380
T455	UMTS B5	RMC12.2K	4182	Rear Face	1.5	1	1	-	1	2	24.5	23.33	0.05	0.262	0.197	0.343
T456	UMTS B5	RMC12.2K	4182	Rear Face	1.5	1	1	-	1	3	24.5	23.33	0.06	0.246	0.191	0.322
T457	UMTS B5	RMC12.2K	4182	Rear Face	1.5	1	2	-	1	1	24.5	23.33	-0.03	0.135	0.107	0.177
T461	UMTS B5	RMC12.2K	4182	Front Face	1	1	1	-	1	1	24.5	23.33	0.06	0.168	0.128	0.220
T462	UMTS B5	RMC12.2K	4182	Front Face	1	1	2	-	1	1	24.5	23.33	0.01	0.099	0.075	0.130
T463	UMTS B5	RMC12.2K	4182	Rear Face	1	1	1	-	1	1	24.5	23.33	-0.03	0.314	0.246	0.411
T464	UMTS B5	RMC12.2K	4182	Left Side	1	1	1	-	1	1	24.5	23.33	-0.08	0.150	0.103	0.196
T465	UMTS B5	RMC12.2K	4182	Right Side	1	1	1	-	1	1	24.5	23.33	0.07	0.211	0.149	0.276
T466	UMTS B5	RMC12.2K	4182	Bottom Side	1	1	1	-	1	1	24.5	23.33	0	0.097	0.057	0.127
T467	UMTS B5	RMC12.2K	4182	Rear Face	1	1	1	-	2	1	24.5	23.33	0.05	0.317	0.252	**0.415**
T468	UMTS B5	RMC12.2K	4182	Rear Face	1	1	1	-	2	2	24.5	23.33	0.02	0.264	0.207	0.346
T469	UMTS B5	RMC12.2K	4182	Rear Face	1	1	1	-	2	3	24.5	23.33	0.06	0.187	0.139	0.245
T470	UMTS B5	RMC12.2K	4182	Rear Face	1	1	1	-	2	1	24.5	23.33	0.06	0.191	0.142	0.250
T471	UMTS B5	RMC12.2K	4182	Front Face	1.5	2	-	-	1	1	24.5	23.21	0.03	0.209	0.118	0.281
T472	UMTS B5	RMC12.2K	4182	Rear Face	1.5	2	-	-	1	1	24.5	23.21	0.05	0.198	0.115	0.266
T473	UMTS B5	RMC12.2K	4182	Front Face	1.5	2	-	-	2	1	24.5	23.21	0.01	0.190	0.115	0.256
T474	UMTS B5	RMC12.2K	4182	Front Face	1.5	2	-	-	1	2	24.5	23.21	-0.06	0.206	0.120	0.277
T475	UMTS B5	RMC12.2K	4182	Front Face	1.5	2	-	-	1	3	24.5	23.21	0.06	0.192	0.114	0.258
T481	UMTS B5	RMC12.2K	4182	Front Face	1	2	-	-	1	1	17.5	16.22	0.03	0.079	0.050	0.106
T482	UMTS B5	RMC12.2K	4182	Rear Face	1	2	-	-	1	1	17.5	16.22	0.02	0.069	0.044	0.093
T483	UMTS B5	RMC12.2K	4182	Right Side	1	2	-	-	1	1	17.5	16.22	0.03	0.013	0.009	0.017
T484	UMTS B5	RMC12.2K	4182	Top Side	1	2	-	-	1	1	17.5	16.22	-0.05	0.036	0.020	0.048
T485	UMTS B5	RMC12.2K	4182	Front Face	1	2	-	-	2	1	17.5	16.22	0.07	0.079	0.048	0.106
T486	UMTS B5	RMC12.2K	4182	Front Face	1	2	-	-	2	2	17.5	16.22	0.03	0.093	0.050	0.124
T487	UMTS B5	RMC12.2K	4182	Front Face	1	2	-	-	2	3	17.5	16.22	-0.01	0.076	0.048	0.102

4. Body-worn SAR test results of LTE

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T491	LTE B2	QPSK20M	18900	1	50	Front Face	1.5	1	-	on	1	1	22.5	22.13	0.02	0.374	0.208	0.407
T492	LTE B2	QPSK20M	18900	1	50	Rear Face	1.5	1	-	on	1	1	22.5	22.13	0.01	0.564	0.296	0.614
T493	LTE B2	QPSK20M	18900	50	25	Front Face	1.5	1	-	on	1	1	21.5	20.69	0.06	0.343	0.184	0.413
T494	LTE B2	QPSK20M	18900	50	25	Rear Face	1.5	1	-	on	1	1	21.5	20.69	-0.03	0.51	0.267	0.615
T495	LTE B2	QPSK20M	18900	1	50	Rear Face	1.5	1	-	on	2	1	22.5	22.13	0.09	0.601	0.337	0.654
T496	LTE B2	QPSK20M	18900	1	50	Rear Face	1.5	1	-	on	2	2	22.5	22.13	0.03	0.521	0.289	0.567
T497	LTE B2	QPSK20M	18900	1	50	Rear Face	1.5	1	-	on	2	3	22.5	22.13	0.01	0.567	0.326	0.617
T501	LTE B2	QPSK20M	18900	1	0	Front Face	1	1	-	on	1	1	17	16.45	0.06	0.151	0.078	0.171
T502	LTE B2	QPSK20M	18900	1	0	Rear Face	1	1	-	on	1	1	17	16.45	-0.03	0.291	0.137	0.330
T503	LTE B2	QPSK20M	18900	1	50	Left Side	1	1	-	-	1	1	17.5	17.45	0.03	0.008	0.003	0.008
T504	LTE B2	QPSK20M	18900	1	50	Right Side	1	1	-	-	1	1	17.5	17.45	0.03	0.019	0.010	0.019
T505	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	1	-	on	1	1	17	16.45	0.02	0.395	0.174	0.448
T506	LTE B2	QPSK20M	18900	50	0	Front Face	1	1	-	on	1	1	17	16.49	-0.03	0.189	0.095	0.213
T507	LTE B2	QPSK20M	18900	50	0	Rear Face	1	1	-	on	1	1	17	16.49	-0.06	0.327	0.162	0.368
T508	LTE B2	QPSK20M	18900	50	25	Left Side	1	1	-	-	1	1	17.5	17.08	-0.05	0.009	0.003	0.009
T509	LTE B2	QPSK20M	18900	50	25	Right Side	1	1	-	-	1	1	17.5	17.08	0.06	0.025	0.014	0.027
T510	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	1	-	on	1	1	17	16.49	-0.01	0.406	0.192	0.457
T511	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	1	-	on	2	1	17	16.49	0.01	0.48	0.247	0.540
T512	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	1	-	on	2	2	17	16.49	-0.02	0.461	0.232	0.518
T513	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	1	-	on	2	3	17	16.49	0.06	0.482	0.256	0.542
T521	LTE B2	QPSK20M	18900	1	50	Front Face	1.7	1	-	off	1	1	23.5	22.87	0.02	0.282	0.182	0.326
T522	LTE B2	QPSK20M	18900	1	50	Rear Face	1.7	1	-	off	1	1	23.5	22.87	0.01	0.557	0.337	0.644
T523	LTE B2	QPSK20M	18900	1	50	Bottom Side	1.7	1	-	off	1	1	23.5	22.87	-0.03	0.692	0.385	0.800
T524	LTE B2	QPSK20M	18900	50	25	Front Face	1.7	1	-	off	1	1	22.5	21.73	0.05	0.352	0.192	0.420
T525	LTE B2	QPSK20M	18900	50	25	Rear Face	1.7	1	-	off	1	1	22.5	21.73	0.08	0.49	0.298	0.585
T526	LTE B2	QPSK20M	18900	50	25	Bottom Side	1.7	1	-	off	1	1	22.5	21.73	0.04	0.638	0.358	0.761
T527	LTE B2	QPSK20M	18700	1	50	Bottom Side	1.7	1	-	off	1	1	23.5	22.50	0.01	0.522	0.292	0.657
T528	LTE B2	QPSK20M	19100	1	50	Bottom Side	1.7	1	-	off	1	1	23.5	22.82	0.06	0.563	0.315	0.658
T531	LTE B2	QPSK20M	18900	1	50	Bottom Side	1.7	1	-	off	2	1	23.5	22.87	0.01	0.734	0.414	0.849
T532	LTE B2	QPSK20M	18900	1	50	Bottom Side	1.7	1	-	off	2	2	23.5	22.87	0.09	0.762	0.44	0.881
T533	LTE B2	QPSK20M	18900	1	50	Bottom Side	1.7	1	-	off	2	3	23.5	22.87	0	0.77	0.437	**0.891**
T541	LTE B2	QPSK20M	18900	1	50	Front Face	1.5	2	-	-	1	1	23.5	22.83	0.12	0.122	0.066	0.142
T542	LTE B2	QPSK20M	18900	1	50	Rear Face	1.5	2	-	-	1	1	23.5	22.83	0.02	0.117	0.07	0.136
T543	LTE B2	QPSK20M	18900	50	25	Front Face	1.5	2	-	-	1	1	22.5	21.62	0.01	0.106	0.058	0.130
T544	LTE B2	QPSK20M	18900	50	25	Rear Face	1.5	2	-	-	1	1	22.5	21.62	-0.03	0.097	0.059	0.119
T545	LTE B2	QPSK20M	18900	1	50	Front Face	1.5	2	-	-	2	1	23.5	22.83	-0.04	0.093	0.053	0.108
T546	LTE B2	QPSK20M	18900	1	50	Front Face	1.5	2	-	-	1	2	23.5	22.83	0.02	0.116	0.064	0.135
T547	LTE B2	QPSK20M	18900	1	50	Front Face	1.5	2	-	-	1	3	23.5	22.83	0.01	0.112	0.064	0.131
T551	LTE B2	QPSK20M	18900	1	50	Front Face	1	2	-	-	1	1	14.8	14.31	0.02	0.047	0.028	0.053
T552	LTE B2	QPSK20M	18900	1	50	Rear Face	1	2	-	-	1	1	14.8	14.31	0.01	0.037	0.021	0.041
T553	LTE B2	QPSK20M	18900	1	50	Left Side	1	2	-	-	1	1	14.8	14.31	-0.02	0.039	0.022	0.043
T554	LTE B2	QPSK20M	18900	1	50	Top Side	1	2	-	-	1	1	14.8	14.31	-0.03	0.026	0.012	0.029
T555	LTE B2	QPSK20M	18900	50	25	Front Face	1	2	-	-	1	1	14.8	14.09	0.02	0.052	0.029	0.061
T556	LTE B2	QPSK20M	18900	50	25	Rear Face	1	2	-	-	1	1	14.8	14.09	0.01	0.043	0.024	0.051
T557	LTE B2	QPSK20M	18900	50	25	Left Side	1	2	-	-	1	1	14.8	14.09	0.05	0.053	0.031	0.062
T558	LTE B2	QPSK20M	18900	50	25	Top Side	1	2	-	-	1	1	14.8	14.09	0.05	0.029	0.014	0.034
T559	LTE B2	QPSK20M	18900	50	25	Left Side	1	2	-	-	2	1	14.8	14.09	0.05	0.049	0.031	0.058
T560	LTE B2	QPSK20M	18900	50	25	Left Side	1	2	-	-	1	2	14.8	14.09	0.03	0.049	0.022	0.058
T561	LTE B2	QPSK20M	18900	50	25	Left Side	1	2	-	-	1	3	14.8	14.09	0.11	0.057	0.033	0.067

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T571	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	1	1	on	1	1	22.5	21.86	0.03	0.317	0.186	0.367
T572	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	1	2	on	1	1	22.5	21.86	0.01	0.283	0.139	0.328
T573	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	1	1	on	1	1	22.5	21.86	-0.06	0.402	0.22	0.466
T574	LTE B4	QPSK20M	20175	50	25	Front Face	1.5	1	1	on	1	1	21.5	21.32	0.04	0.283	0.166	0.295
T575	LTE B4	QPSK20M	20175	50	25	Rear Face	1.5	1	1	on	1	1	21.5	21.32	0.02	0.351	0.191	0.366
T576	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	1	1	on	2	1	22.5	21.86	0.02	0.435	0.246	0.504
T577	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	1	1	on	2	2	22.5	21.86	0.01	0.411	0.238	0.476
T578	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	1	1	on	2	3	22.5	21.86	-0.08	0.351	0.189	0.407
T579	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	1	2	on	2	1	22.5	21.86	-0.02	0.397	0.219	0.460
T581	LTE B4	QPSK20M	20175	1	50	Front Face	1	1	1	on	1	1	16.7	16.43	0.02	0.135	0.079	0.144
T582	LTE B4	QPSK20M	20175	1	50	Front Face	1	1	2	on	1	1	16.7	16.43	0.01	0.123	0.073	0.131
T583	LTE B4	QPSK20M	20175	1	50	Rear Face	1	1	1	on	1	1	16.7	16.43	-0.03	0.204	0.115	0.217
T584	LTE B4	QPSK20M	20175	1	50	Left Side	1	1	1	-	1	1	17.8	17.29	-0.06	0.017	0.009	0.019
T585	LTE B4	QPSK20M	20175	1	50	Right Side	1	1	1	-	1	1	17.8	17.29	-0.01	0.061	0.035	0.068
T586	LTE B4	QPSK20M	20175	1	50	Bottom Side	1	1	1	on	1	1	16.7	16.43	0.05	0.281	0.143	0.299
T587	LTE B4	QPSK20M	20175	50	25	Front Face	1	1	1	on	1	1	16.7	16.31	0.01	0.145	0.084	0.159
T588	LTE B4	QPSK20M	20175	50	25	Rear Face	1	1	1	on	1	1	16.7	16.31	-0.09	0.222	0.125	0.243
T589	LTE B4	QPSK20M	20175	50	25	Left Side	1	1	1	-	1	1	17.8	16.89	-0.06	0.005	0.002	0.007
T590	LTE B4	QPSK20M	20175	50	25	Right Side	1	1	1	-	1	1	17.8	16.89	0	0.052	0.030	0.064
T591	LTE B4	QPSK20M	20175	50	25	Bottom Side	1	1	1	on	1	1	16.7	16.31	0.02	0.302	0.154	0.330
T592	LTE B4	QPSK20M	20175	50	25	Bottom Side	1	1	1	on	2	1	16.7	16.31	0.01	0.328	0.169	0.359
T593	LTE B4	QPSK20M	20175	50	25	Bottom Side	1	1	1	on	2	2	16.7	16.31	0.02	0.323	0.188	0.353
T594	LTE B4	QPSK20M	20175	50	25	Bottom Side	1	1	1	on	2	3	16.7	16.31	0.01	0.25	0.139	0.273
T595	LTE B4	QPSK20M	20175	50	25	Bottom Side	1	1	2	on	2	1	16.7	16.31	0.01	0.301	0.162	0.329
T601	LTE B4	QPSK20M	20175	1	50	Front Face	1.7	1	1	off	1	1	23.5	22.84	0.05	0.285	0.163	0.332
T602	LTE B4	QPSK20M	20175	1	50	Front Face	1.7	1	2	off	1	1	23.5	22.84	0.06	0.239	0.143	0.278
T603	LTE B4	QPSK20M	20175	1	50	Rear Face	1.7	1	1	off	1	1	23.5	22.84	-0.03	0.416	0.236	0.484
T604	LTE B4	QPSK20M	20175	1	50	Bottom Side	1.7	1	1	off	1	1	23.5	22.84	0.02	0.418	0.238	0.486
T605	LTE B4	QPSK20M	20175	50	25	Front Face	1.7	1	1	off	1	1	22.5	21.87	-0.02	0.271	0.157	0.313
T606	LTE B4	QPSK20M	20175	50	25	Rear Face	1.7	1	1	off	1	1	22.5	21.87	0.01	0.376	0.212	0.434
T607	LTE B4	QPSK20M	20175	50	25	Bottom Side	1.7	1	1	off	1	1	22.5	21.87	0.06	0.297	0.167	0.343
T608	LTE B4	QPSK20M	20175	1	50	Bottom Side	1.7	1	1	off	2	1	23.5	22.84	0.01	0.369	0.22	0.429
T609	LTE B4	QPSK20M	20175	1	50	Bottom Side	1.7	1	1	off	2	2	23.5	22.84	0.03	0.39	0.23	0.454
T610	LTE B4	QPSK20M	20175	1	50	Bottom Side	1.7	1	1	off	2	3	23.5	22.84	0.02	0.438	0.248	**0.510**
T611	LTE B4	QPSK20M	20175	1	50	Bottom Side	1.7	1	2	off	2	3	23.5	22.84	0.02	0.408	0.232	0.475
T621	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	2	-	-	1	1	22.5	22.11	0.03	0.043	0.029	0.047
T622	LTE B4	QPSK20M	20175	1	50	Rear Face	1.5	2	-	-	1	1	22.5	22.11	0.01	0.031	0.022	0.034
T623	LTE B4	QPSK20M	20175	50	25	Front Face	1.5	2	-	-	1	1	21.5	20.91	0.06	0.033	0.021	0.038
T624	LTE B4	QPSK20M	20175	50	25	Rear Face	1.5	2	-	-	1	1	21.5	20.91	0.06	0.040	0.024	0.046
T625	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	2	-	-	2	1	22.5	22.11	-0.01	0.040	0.026	0.044
T626	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	2	-	-	1	2	22.5	22.11	0.08	0.042	0.029	0.046
T627	LTE B4	QPSK20M	20175	1	50	Front Face	1.5	2	-	-	1	3	22.5	22.11	0.02	0.046	0.029	0.050
T631	LTE B4	QPSK20M	20175	1	50	Front Face	1	2	-	-	1	1	20	19.35	0.03	0.037	0.023	0.043
T632	LTE B4	QPSK20M	20175	1	50	Rear Face	1	2	-	-	1	1	20	19.35	0.01	0.046	0.027	0.053
T633	LTE B4	QPSK20M	20175	1	50	Left Side	1	2	-	-	1	1	20	19.35	-0.05	0.042	0.024	0.049
T634	LTE B4	QPSK20M	20175	1	50	Top Side	1	2	-	-	1	1	20	19.35	0.08	0.011	0.005	0.013
T635	LTE B4	QPSK20M	20175	50	0	Front Face	1	2	-	-	1	1	20	19.13	-0.03	0.032	0.019	0.039
T636	LTE B4	QPSK20M	20175	50	0	Rear Face	1	2	-	-	1	1	20	19.13	-0.03	0.039	0.023	0.048
T637	LTE B4	QPSK20M	20175	50	0	Left Side	1	2	-	-	1	1	20	19.13	0.02	0.036	0.021	0.044
T638	LTE B4	QPSK20M	20175	50	0	Top Side	1	2	-	-	1	1	20	19.13	0.03	0.011	0.005	0.013
T639	LTE B4	QPSK20M	20175	1	50	Rear Face	1	2	-	-	2	1	20	19.35	0.05	0.048	0.027	0.056
T640	LTE B4	QPSK20M	20175	1	50	Rear Face	1	2	-	-	2	2	20	19.35	0.09	0.043	0.026	0.050
T641	LTE B4	QPSK20M	20175	1	50	Rear Face	1	2	-	-	2	3	20	19.35	-0.04	0.056	0.033	0.065

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T651	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	1	1	-	1	1	24	23.43	0.02	0.139	0.091	0.159
T652	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	1	2	-	1	1	24	23.43	0.08	0.13	0.081	0.148
T653	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	1	1	-	1	1	24	23.43	-0.03	0.272	0.214	0.310
T654	LTE B5	QPSK10M	20525	25	12	Front Face	1.5	1	1	-	1	1	23	22.19	0.01	0.117	0.076	0.141
T655	LTE B5	QPSK10M	20525	25	12	Rear Face	1.5	1	1	-	1	1	23	22.19	-0.03	0.222	0.147	0.268
T656	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	1	1	-	2	1	24	23.43	0.02	0.255	0.165	0.291
T657	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	1	1	-	1	2	24	23.43	0.06	0.243	0.163	0.277
T658	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	1	1	-	1	3	24	23.43	0.01	0.243	0.158	0.277
T659	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	1	2	-	1	1	24	23.43	-0.01	0.25	0.162	**0.285**
T661	LTE B5	QPSK10M	20525	1	25	Front Face	1	1	1	-	1	1	24	23.43	0.02	0.135	0.088	0.154
T662	LTE B5	QPSK10M	20525	1	25	Front Face	1	1	2	-	1	1	24	23.43	0.01	0.13	0.083	0.148
T663	LTE B5	QPSK10M	20525	1	25	Rear Face	1	1	1	-	1	1	24	23.43	-0.02	0.249	0.164	0.284
T664	LTE B5	QPSK10M	20525	1	25	Left Side	1	1	1	-	1	1	24	23.43	-0.03	0.108	0.061	0.123
T665	LTE B5	QPSK10M	20525	1	25	Right Side	1	1	1	-	1	1	24	23.43	0.05	0.121	0.07	0.138
T666	LTE B5	QPSK10M	20525	1	25	Bottom Side	1	1	1	-	1	1	24	23.43	0.04	0.069	0.035	0.079
T667	LTE B5	QPSK10M	20525	25	12	Front Face	1	1	1	-	1	1	23	22.19	0.01	0.108	0.069	0.130
T668	LTE B5	QPSK10M	20525	25	12	Rear Face	1	1	1	-	1	1	23	22.19	0.08	0.216	0.141	0.261
T669	LTE B5	QPSK10M	20525	25	12	Left Side	1	1	1	-	1	1	23	22.19	0.06	0.054	0.034	0.065
T670	LTE B5	QPSK10M	20525	25	12	Right Side	1	1	1	-	1	1	23	22.19	0.01	0.128	0.076	0.154
T671	LTE B5	QPSK10M	20525	25	12	Bottom Side	1	1	1	-	1	1	23	22.19	0.03	0.058	0.028	0.070
T672	LTE B5	QPSK10M	20525	1	25	Rear Face	1	1	1	-	2	1	24	23.43	0.02	0.239	0.158	0.273
T673	LTE B5	QPSK10M	20525	1	25	Rear Face	1	1	1	-	1	2	24	23.43	-0.07	0.228	0.15	0.260
T674	LTE B5	QPSK10M	20525	1	25	Rear Face	1	1	1	-	1	3	24	23.43	-0.03	0.221	0.146	0.252
T675	LTE B5	QPSK10M	20525	1	25	Rear Face	1	1	2	-	1	1	24	23.43	-0.03	0.241	0.161	0.275
T681	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	2	-	-	1	1	24	23.26	0.01	0.16	0.095	0.190
T682	LTE B5	QPSK10M	20525	1	25	Rear Face	1.5	2	-	-	1	1	24	23.26	-0.03	0.144	0.085	0.171
T683	LTE B5	QPSK10M	20525	25	12	Front Face	1.5	2	-	-	1	1	23	21.96	0.01	0.152	0.085	0.193
T684	LTE B5	QPSK10M	20525	25	12	Rear Face	1.5	2	-	-	1	1	23	21.96	-0.05	0.128	0.076	0.162
T685	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	2	-	-	2	1	24	23.26	0.09	0.148	0.091	0.176
T686	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	2	-	-	1	2	24	23.26	-0.06	0.138	0.088	0.164
T687	LTE B5	QPSK10M	20525	1	25	Front Face	1.5	2	-	-	1	3	24	23.26	0.01	0.133	0.085	0.158
T691	LTE B5	QPSK10M	20525	1	25	Front Face	1	2	-	-	1	1	17.5	16.90	0.05	0.058	0.035	0.067
T692	LTE B5	QPSK10M	20525	1	25	Rear Face	1	2	-	-	1	1	17.5	16.90	0.01	0.046	0.028	0.053
T693	LTE B5	QPSK10M	20525	1	25	Left Side	1	2	-	-	1	1	17.5	16.90	0.06	0.030	0.012	0.034
T694	LTE B5	QPSK10M	20525	1	25	Top Side	1	2	-	-	1	1	17.5	16.90	-0.03	0.024	0.013	0.028
T695	LTE B5	QPSK10M	20525	25	12	Front Face	1	2	-	-	1	1	17.5	16.85	0.04	0.071	0.039	0.082
T696	LTE B5	QPSK10M	20525	25	12	Rear Face	1	2	-	-	1	1	17.5	16.85	0.02	0.052	0.032	0.060
T697	LTE B5	QPSK10M	20525	25	12	Left Side	1	2	-	-	1	1	17.5	16.85	0.04	0.013	0.007	0.015
T698	LTE B5	QPSK10M	20525	25	12	Top Side	1	2	-	-	1	1	17.5	16.85	0.01	0.033	0.016	0.038
T699	LTE B5	QPSK10M	20525	25	12	Front Face	1	2	-	-	2	1	17.5	16.85	0.06	0.067	0.042	0.078
T700	LTE B5	QPSK10M	20525	25	12	Front Face	1	2	-	-	1	2	17.5	16.85	0.01	0.060	0.034	0.070
T701	LTE B5	QPSK10M	20525	25	12	Front Face	1	2	-	-	1	3	17.5	16.85	0.03	0.060	0.034	0.070

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Ant	State	Sensor	SIM	Battery	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T711	LTE B7	QPKS20M	21100	1	50	Front Face	1.5	1	-	-	1	1	23	22.09	0.05	0.186	0.102	0.229
T712	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	1	-	-	1	1	23	22.09	0.04	0.317	0.161	0.391
T713	LTE B7	QPKS20M	21100	50	25	Front Face	1.5	1	-	-	1	1	22	21.09	0.06	0.148	0.083	0.183
T714	LTE B7	QPKS20M	21100	50	25	Rear Face	1.5	1	-	-	1	1	22	21.09	0.01	0.262	0.132	0.323
T715	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	1	-	-	2	1	23	22.09	-0.03	0.288	0.163	0.355
T716	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	1	-	-	1	2	23	22.09	-0.05	0.282	0.158	0.348
T717	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	1	-	-	1	3	23	22.09	0.01	0.276	0.15	0.340
T721	LTE B7	QPSK20M	21100	1	50	Front Face	1	1	-	-	1	1	22	21.38	-0.03	0.309	0.159	0.356
T722	LTE B7	QPSK20M	21100	1	50	Rear Face	1	1	-	-	1	1	22	21.38	-0.02	0.405	0.225	0.467
T723	LTE B7	QPSK20M	21100	1	50	Left Side	1	1	-	-	1	1	22	21.38	0.08	0.119	0.058	0.137
T724	LTE B7	QPSK20M	21100	1	50	Right Side	1	1	-	-	1	1	22	21.38	0.06	0.22	0.106	0.254
T725	LTE B7	QPSK20M	21100	1	50	Bottom Side	1	1	-	-	1	1	22	21.38	0.03	0.493	0.234	**0.568**
T726	LTE B7	QPSK20M	21100	50	25	Front Face	1	1	-	-	1	1	21.5	20.81	0.01	0.275	0.14	0.323
T727	LTE B7	QPSK20M	21100	50	25	Rear Face	1	1	-	-	1	1	21.5	20.81	0.06	0.421	0.221	0.494
T728	LTE B7	QPSK20M	21100	50	25	Left Side	1	1	-	-	1	1	21.5	20.81	-0.02	0.131	0.06	0.154
T729	LTE B7	QPSK20M	21100	50	25	Right Side	1	1	-	-	1	1	21.5	20.81	0.01	0.194	0.096	0.228
T730	LTE B7	QPSK20M	21100	1	50	Bottom Side	1	1	-	-	1	1	21.5	20.81	0.06	0.468	0.22	0.549
T735	LTE B7	QPSK20M	21100	1	50	Bottom Side	1	1	-	-	2	1	22	21.38	0.01	0.48	0.227	0.553
T736	LTE B7	QPSK20M	21100	1	50	Bottom Side	1	1	-	-	1	2	22	21.38	-0.03	0.47	0.226	0.542
T737	LTE B7	QPSK20M	21100	1	50	Bottom Side	1	1	-	-	1	3	22	21.38	0.01	0.487	0.216	0.561
T741	LTE B7	QPKS20M	21100	1	50	Front Face	1.5	2	-	-	1	1	22	21.92	0.03	0.157	0.094	0.160
T742	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	2	-	-	1	1	22	21.92	0.04	0.158	0.096	0.161
T743	LTE B7	QPKS20M	21100	50	25	Front Face	1.5	2	-	-	1	1	21	20.99	-0.03	0.137	0.082	0.137
T744	LTE B7	QPKS20M	21100	50	25	Rear Face	1.5	2	-	-	1	1	21	20.99	-0.08	0.137	0.082	0.137
T745	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	2	-	-	2	1	22	21.92	0.01	0.145	0.089	0.148
T746	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	2	-	-	1	2	22	21.92	-0.08	0.193	0.109	0.197
T747	LTE B7	QPKS20M	21100	1	50	Rear Face	1.5	2	-	-	1	3	22	21.92	0.02	0.14	0.087	0.143
T751	LTE B7	QPSK20M	21100	1	50	Front Face	1	2	-	-	1	1	11	10.80	-0.01	0.025	0.012	0.026
T752	LTE B7	QPSK20M	21100	1	50	Rear Face	1	2	-	-	1	1	11	10.80	-0.09	0.023	0.010	0.024
T753	LTE B7	QPSK20M	21100	1	50	Left Side	1	2	-	-	1	1	11	10.80	0.06	0.023	0.002	0.024
T754	LTE B7	QPSK20M	21100	1	50	Top Side	1	2	-	-	1	1	11	10.80	0.01	0.011	0.004	0.011
T755	LTE B7	QPSK20M	20850	50	25	Front Face	1	2	-	-	1	1	11	10.56	0.06	0.027	0.013	0.030
T756	LTE B7	QPSK20M	20850	50	25	Rear Face	1	2	-	-	1	1	11	10.56	0.04	0.022	0.002	0.024
T757	LTE B7	QPSK20M	20850	50	25	Left Side	1	2	-	-	1	1	11	10.56	0.04	0.021	0.010	0.023
T758	LTE B7	QPSK20M	20850	50	25	Top Side	1	2	-	-	1	1	11	10.56	0.09	0.011	0.006	0.013
T759	LTE B7	QPSK20M	20850	50	25	Rear Face	1	2	-	-	2	1	11	10.56	-0.02	0.023	0.014	0.026
T760	LTE B7	QPSK20M	20850	50	25	Rear Face	1	2	-	-	1	2	11	10.56	0.09	0.016	0.007	0.018
T761	LTE B7	QPSK20M	20850	50	25	Rear Face	1	2	-	-	1	3	11	10.56	0.01	0.011	0.004	0.012

5. Body-worn SAR test results of WIFI

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Earphone	Battery	Data Rate	Power Setting	Tune up	Measured	Power Drift	SAR 1g	SAR 10g	Reported 1g SAR (W/kg)
T771	802.11b	-	1	Front Face	1.5	V	1	1	17	17.5	15.71	0.05	0.037	0.018	0.056
T772	802.11b	-	1	Rear Face	1.5	V	1	1	17	17.5	15.71	0.01	0.034	0.018	0.051
T773	802.11b	-	1	Front Face	1.5	V	2	1	17	17.5	15.71	-0.03	0.034	0.015	0.051
T774	802.11b	-	1	Front Face	1.5	V	3	1	17	17.5	15.71	-0.04	0.038	0.019	0.057
T781	802.11b	-	1	Front Face	1	-	1	1	17	17.5	15.71	0.05	0.066	0.036	0.100
T782	802.11b	-	1	Rear Face	1	-	1	1	17	17.5	15.71	-0.05	0.068	0.038	0.103
T783	802.11b	-	1	Right Side	1	-	1	1	17	17.5	15.71	-0.04	0.041	0.015	0.062
T784	802.11b	-	1	Top Side	1	-	1	1	17	17.5	15.71	0.03	0.077	0.042	0.116
T785	802.11b	-	1	Top Side	1	-	2	1	17	17.5	15.71	0.01	0.072	0.041	0.109
T786	802.11b	-	1	Top Side	1	-	3	1	17	17.5	15.71	0.12	0.083	0.043	**0.125**

8.2.3 STAND-ALONE SAR TEST EXCLUSION

Per FCC KDB 447498 D01, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance,mm)][√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for product specific 10-g SAR, where:

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Standalone SAR test exclusion for BT

Mode	Position	P_{max} (dBm)*	P_{max} (mW)	Distance (mm)	f (GHz)	Calculation Result	SAR Exclusion threshold	SAR test exclusion
BT	Body-Worn	9.8	9.55	15	2.48	1.00	3	Yes
BT	product specific 10-g SAR	9.8	9.55	5	2.48	3.01	7.5	Yes

Note:

1)* - maximum possible output power declared by manufacturer

2) Held to ear configurations are not applicable to Bluetooth for this device.

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)/x] W/kg for test separation distances≤50 mm,where x = 7.5 for 1-g SAR and x = 18.75 for 10-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

According to KDB 447498 D01,when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standslone SAR was estimated according to following formula to result in substantially conservative SAR values of≤0.4W/kg to determine simultaneous transmission SAR test exclusion.

$$\text{Estimated SAR} = \frac{\text{Max. Tune up Power}_{(mW)}}{\text{Min. Test Separation Distance}_{(mm)}} \times \frac{\sqrt{f_{(GHz)}}}{7.5}$$

Estimated SAR calculation

Mode	Position	P_{max} (dBm)*	P_{max} (mW)	Distance (mm)	f (GHz)	X	Estimated SAR (W/kg)*
BT	Body-Worn	9.8	9.55	15	2.48	7.5	0.134
BT	product specific 10-g SAR	9.8	9.55	5	2.48	18.75	0.160

Note: * - maximum possible output power declared by manufacturer

8.2.4 STAND-ALONE SAR TEST EXCLUSION

Per FCC KDB 447498D01, SAR compliance for simultaneous transmission must be considered when the maximum duration of overlapping transmissions, including network hand-offs, is greater than 30 seconds. This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis.

The Simultaneous Transmission Possibilities of this device are as below:

NO.	Simultaneous Tx Combination	Head	Body-worn	Hotspot (10mm)	Product Specific 10-g (0mm)
1	GSM Voice(Main ant) + BT	Yes	Yes	NA	Yes
2	GSM DATA(Main ant) + BT	N/A	Yes	NA	Yes
3	GSM Voice(Second ant) + BT	Yes	Yes	NA	Yes
4	GSM DATA(Second ant)+ BT	N/A	Yes	NA	Yes
5	GSM Voice(Main ant) + WiFi	Yes	Yes	NA	Yes
6	GSM DATA(Main ant) + WiFi	N/A	Yes	Yes	Yes
7	GSM Voice(Second ant) + WiFi	Yes	Yes	NA	Yes
8	GSM DATA(Second ant) + WiFi	N/A	Yes	Yes	Yes
9	UMTS Voice(Main ant) + BT	Yes	Yes	NA	Yes
10	UMTS Data(Main ant) + BT	N/A	Yes	NA	Yes
11	UMTS Voice(Second ant) + BT	Yes	Yes	NA	Yes
12	UMTS Data(Second ant) + BT	N/A	Yes	NA	Yes
13	UMTS Voice(Main ant) + WiFi	Yes	Yes	NA	Yes
14	UMTS Data (Main ant) + WiFi	Yes*	Yes	Yes	Yes
15	UMTS Voice (Second ant)+ WiFi	Yes	Yes	NA	Yes
16	UMTS Data (Second ant)+ WiFi	Yes*	Yes	Yes	Yes
17	LTE(Main ant) + WiFi	Yes*	Yes*	Yes	Yes
18	LTE(Main ant) + BT	Yes*	Yes*	NA	Yes
19	LTE (Second ant)+ WiFi	Yes*	Yes*	Yes	Yes
20	LTE (Second ant) + BT	Yes*	Yes*	NA	Yes

Note:
1) Wi-Fi and Bluetooth share the same Tx antenna and can't transmit simultaneously.
2) The device does not support DTM function.
3) * VoLTE or pre-installed VOIP applications are considered.
4) The Main Antenna and Second Antenna can't transmit simultaneously.
5) The device supports Vo-WIFI function.

8.2.5 SAR SUMMATION SCENARIO

About BT/ WiFi and GSM/UMTS/LTE Main antenna

Position	Head				Body-worn		Hotspot					
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (1.5cm)	Rear Face (1.5cm)	Front Face (1cm)	Rear Face (1cm)	Left Side (1cm)	Right Side (1cm)	Top Side (1cm)	Bottom Side (1cm)
GSM 850	0.311	0.211	0.210	0.180	0.194	0.399	0.245	0.407	0.106	0.155	-	0.122
GSM 1900	0.048	0.020	0.037	0.019	0.304	0.634	0.108	0.213	0.010	0.015	-	0.293
UMTS B2	0.128	0.092	0.083	0.067	0.372	0.844	0.383	0.691	0.017	0.033	-	0.960
UMTS B4	0.130	0.096	0.091	0.081	0.483	0.645	0.321	0.459	0.005	0.012	-	0.634
UMTS B5	0.220	0.132	0.181	0.111	0.225	0.391	0.220	0.415	0.196	0.276	-	0.127
LTE B2	0.071	0.098	0.061	0.045	0.413	0.654	0.326	0.644	0.009	0.027	-	0.891
LTE B4	0.115	0.043	0.082	0.071	0.367	0.504	0.332	0.484	0.019	0.068	-	0.510
LTE B5	0.173	0.094	0.138	0.100	0.159	0.310	0.154	0.284	0.123	0.154	-	0.079
LTE B7	0.258	0.095	0.102	0.101	0.229	0.391	0.356	0.494	0.154	0.254	-	0.568
802.11b/g	0.438	0.425	0.600	0.556	0.057	0.051	0.100	0.103	-	0.062	0.125	-
Bluetooth	-	-	-	-	0.134	0.134	-	-	-	-	-	-
Max. SAR Summation	0.749	0.637	0.811	0.736	0.540	0.895	0.483	0.794	-	0.338	-	-
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-
SPLSR	-	-	-	-	-	-	-	-	-	-	-	-

About BT/ WiFi and GSM/UMTS/LTE Sub antenna

Position	Head				Body-worn		Hotspot					
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (1.5cm)	Rear Face (1.5cm)	Front Face (1cm)	Rear Face (1cm)	Left Side (1cm)	Right Side (1cm)	Top Side (1cm)	Bottom Side (1cm)
GSM 850	0.821	0.682	0.505	0.427	0.277	0.280	0.093	0.075	0.042	-	0.049	-
GSM 1900	0.957	0.751	0.499	0.397	0.092	0.076	0.047	0.027	0.042	-	0.031	-
UMTS B2	0.878	0.774	0.454	0.438	0.214	0.197	0.076	0.049	0.070	-	0.041	-
UMTS B4	0.820	0.633	0.380	0.347	0.046	0.064	0.034	0.032	0.024	-	0.009	-
UMTS B5	0.756	0.689	0.451	0.440	0.277	0.266	0.124	0.093	0.017	-	0.048	-
LTE B2	0.535	0.427	0.253	0.219	0.142	0.136	0.061	0.051	0.067	-	0.034	-
LTE B4	0.727	0.514	0.353	0.301	0.050	0.046	0.043	0.065	0.049	-	0.013	-
LTE B5	0.904	0.595	0.420	0.384	0.190	0.171	0.082	0.060	0.034	-	0.038	-
LTE B7	0.689	0.451	0.264	0.231	0.160	0.197	0.030	0.024	0.024	-	0.013	-
802.11b/g	0.438	0.425	0.600	0.556	0.057	0.051	0.100	0.103	-	0.062	0.125	-
Bluetooth	-	-	-	-	0.134	0.134	-	-	-	-	-	-
Max. SAR Summation	1.394	1.199	1.105	0.996	0.334	0.331	0.225	0.195	-	-	0.174	-
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-
SPLSR	-	-	-	-	-	-	-	-	-	-	-	-

MAX. $\sum SAR_{1g}$=1.394W/kg<1.6 W/kg, so the SAR to peak location separation ratio should not be considered.

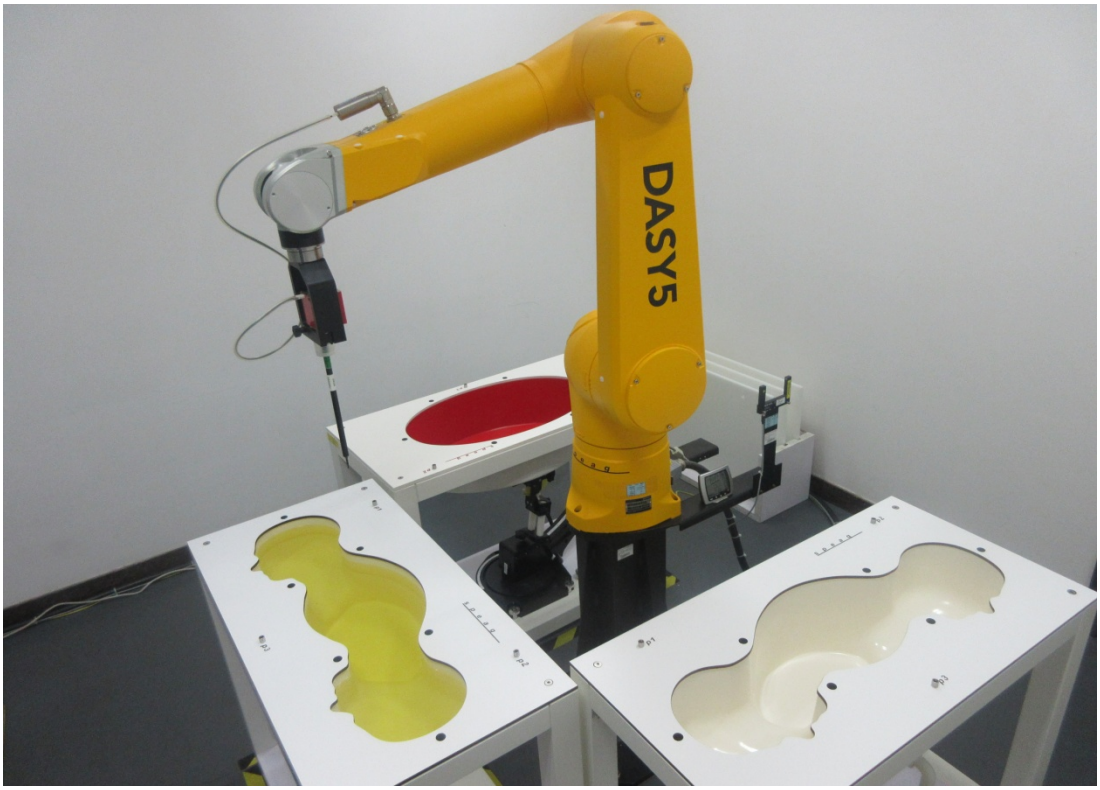
Note:

1. MAX. $\sum SAR_{1g}$ <1.6 W/kg, the SAR to peak location separation ratio should not be considered, otherwise, see section 8.3.4 for more information.
2. MAX. $\sum SAR_{10g}$ <4 W/kg, the SAR to peak location separation ratio should not be considered, otherwise, see section 8.3.4 for more information.

APPENDIX

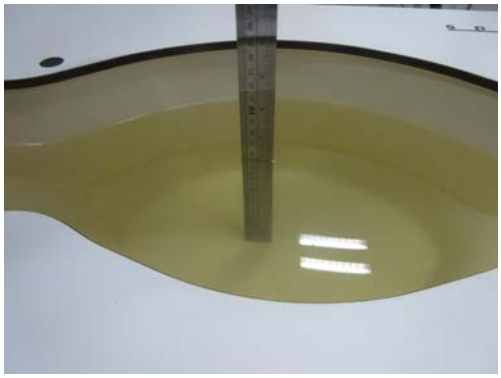
1. Test Layout

Specific Absorption Rate Test Layout



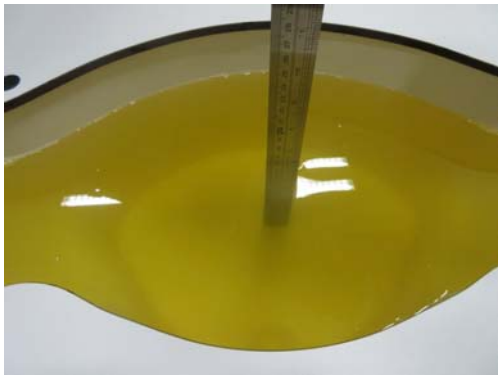
Liquid depth in the flat Phantom (≥15cm depth)

Body(835MHz)_15.6cm



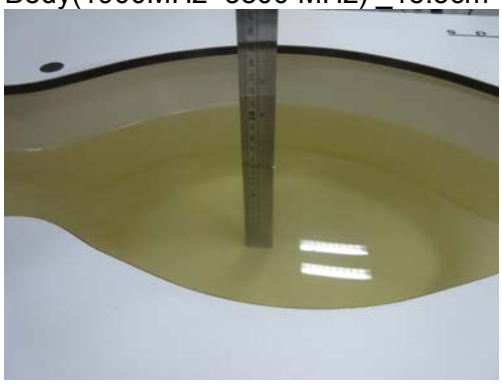
Head(835MHz))_15.9cm

Body(1750MHz)_16.00cm



Head(1750MHz))_15.9cm

Body(1900MHz~3800 MHz) _15.5cm



Head (1900MHz~3800 MHz) _15.5cm

Appendix A. SAR Plots of System Verification

(Pls See Appendix A.)

Appendix B. SAR Plots of SAR Measurement

(Pls See Appendix B.)

Appendix C. Calibration Certificate for Probe and Dipole

(Pls See Appendix C.)

Appendix D. Photographs of the Test Set-Up

(Pls See Appendix D.)

End