

FCC SAR Test Report

FCC ID: QISJSN-L23

Project No. : 1807C157
Equipment : Smart Phone
Model Name : JSN-L23
Applicant : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCC SAR-1-1807C157	Original Issue	Sep. 08, 2018

1. GENERAL SUMMARY

Equipment	Smart Phone
Brand Name	honor
Model Name	JSN-L23
Model difference	N/A
Manufacturer	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-1-1807C157) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NALAP 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, Dongguan, Guangdong, 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(Ant)	Mode	Highest Head Reported SAR-1g (W/kg)	Highest Body-worn(15mm) Reported SAR-1g (W/kg)*	Highest Hotspot(10mm) Reported SAR-1g (W/kg)
PCE(Main Ant)	GSM850	0.06	0.23	0.32
	GSM1900	0.06	0.16	0.24
	UMTS Band 2	0.14	0.34	0.51
	UMTS Band 4	0.18	0.40	0.42
	UMTS Band 5	0.09	0.31	0.43
	LTE Band 2	0.14	0.32	0.42
	LTE Band 4	0.18	0.36	0.42
	LTE Band 5	0.04	0.24	0.36
	LTE Band 7	0.07	0.30	0.34
	LTE Band 41	0.09	0.22	0.35
PCE(DIV Ant)	GSM850	0.40	0.27	0.41
	GSM1900	0.05	0.01	0.04
	UMTS Band 2	0.24	0.02	0.06
	UMTS Band 4	0.17	0.02	0.06
	UMTS Band 5	0.60	0.36	0.27
	LTE Band 2	0.16	0.02	0.18
	LTE Band 4	0.18	0.04	0.10
	LTE Band 5	0.41	0.26	0.35
	LTE Band 7	0.40	0.04	0.11
	LTE Band 41	0.57	0.08	0.18
DTS	2.4G WLAN	0.11	0.05	0.10
The highest reported SAR for head, body-worn accessory, hotspot and simultaneous transmission exposure conditions are 0.60W/kg, 0.40W/kg, 0.51W/kg and 0.71W/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.

2)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		
Brand Name	honor		
Model Name	JSN-L23		
IMEI Code	Sample 1	IMEI 1: 860060040008842	
		IMEI 2: 860060040009899	
	Sample 2	IMEI 1: 860060040009261	
		IMEI 2: 860060040010319	
S/N	Sample 1: ESU0118729000122		
	Sample 2: ESU0118729000164		
HW Version	HL1JSNM		
SW Version	JSN-L23 8.2.0.106		
Modulation	GSM(GMSK/8PSK),UMTS(QPSK),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
	LTE Band 41	2545-2655	2545-2655
	Bluetooth	2400-2483.5	
	2.4GWIFI	2412-2462	
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	6		
DC-HSDPA UE Category	24		
Power Class:	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(UMTS Band 2/4/5)		
	3, tested with power control “all Max” (LTE Band 2/4/5/7/41)		
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)		
	40240-40540-40840-41140(LTE Band 41 BW=20MHz)		
	1-6 -11 (2.4G WIFI 802.11b/g/n HT20)		
	3-6- 9 (2.4G WIFI 802.11n HT40)		

Antenna Gain	Band	ANT Main(dBi)	ANT DIV(dBi)
	GSM 850	-7.2	-0.7
	GSM 1900	-1.2	-6.7
	UMTS B2	-1.2	-6.7
	UMTS B4	-1.1	-6.5
	UMTS B5	-7.2	-0.7
	LTE B2	-1.2	-6.7
	LTE B4	-1.1	-6.5
	LTE B5	-7.2	-0.7
	LTE B7	-1.8	-0.7
	LTE B41	-1.4	-0.5
	BT	0.2	
	2.4G WIFI	0.2	
Other Information			
Battery	Huawei Technologies Co., Ltd.		
	Battery Model: HB386590ECW		
	Rated capacity: 3650mAh		
	Nominal Voltage:  + 3.82V		
	Charging Voltage:  + 4.40V		
	1. SCUD(Fujian)Electronics Co., Ltd.		
	2. Desay Battery Co., Ltd.		
With Earphone(Yes/No)	Yes		

3.3 LABORATORY ENVIRONMENT

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5Ω
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	May 11, 2018	1 Year
2	E-field Probe	Speag	EX3DV4	7396	May 29, 2018	1 Year
3	Electro Optical Converter	Speag	ECO90	1151	N/A	N/A
4	System Validation Dipole	Speag	D835V2	4d160	Jun. 05, 2018	3 Years
5	System Validation Dipole	Speag	D1750V2	1101	Jun. 07, 2018	3 Years
6	System Validation Dipole	Speag	D1900V2	5d179	Jun. 07, 2018	3 Years
7	System Validation Dipole	Speag	D2450V2	919	Jun. 11, 2018	3 Years
8	System Validation Dipole	Speag	D2600V2	1067	Jun. 11, 2018	3 Years
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*	8960 Series 10 Wireless Com Test set	Agilent	E5515E	MY52112163	Aug. 11, 2018	1 Year
13	CMW500-Wideband Radio Communication Tester	RS	CMW500	153083	Mar. 11, 2018	1Year
14	Power Amplifier	Mini-Circuits	ZHL-42W+	QA1333003	Mar. 09, 2018	1Year
15	MXG Analog Signal Generator	Agilent	N5181A	MY49060710	Aug. 20, 2017	1 Year
16*	MXG Analog Signal Generator	Agilent	N5181A	MY49060710	Aug. 11, 2018	1 Year
17	P-series power meter	Agilent	N1911A	MY45100473	Aug. 20, 2017	1 Year
18*	P-series power meter	Agilent	N1911A	MY45100473	Aug. 11, 2018	1 Year
19	wideband power sensor	Agilent	N1921A	MY51100041	Aug. 20, 2017	1 Year
20*	wideband power sensor	Agilent	N1921A	MY51100041	Aug. 01, 2018	1 Year
21	power Meter	Anritsu	ML2495A	1128009	Mar. 11, 2018	1 Year
22	Pulse Power Sensor	Anritsu	MA 2411B	1027500	Mar. 11, 2018	1 Year
23	Dielectric Assessment Kit	Speag	DAK-3.5	1226	N/A	N/A
24	Dual directional coupler	Woken	TS-PCC0M-05	107090019	Mar. 11, 2018	1 Year
25	coupler	Woken	0110A05601O-10	COM5BNW1A2	Mar. 11, 2018	1 Year
26	Bluetooth Test Set	Anritsu	Mt8852B-042	1132009	Aug. 20, 2017	1 Year
27*	Bluetooth Test Set	Anritsu	Mt8852B-042	1132009	Aug. 11, 2018	1 Year
28	Digital Thermometer	LKM	DTM3000	3519	Jul. 19, 2018	1 Year
29	Thermohygrometer	TESTO	608-H1	1341359457/304	Oct. 12, 2017	1 Year

Note 1: Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

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

3: * These test equipments have been recalibrated between the test periods. All these test equipments were within the valid period when the tests were performed.

4:

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 5 Ω from the previous measurement.

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

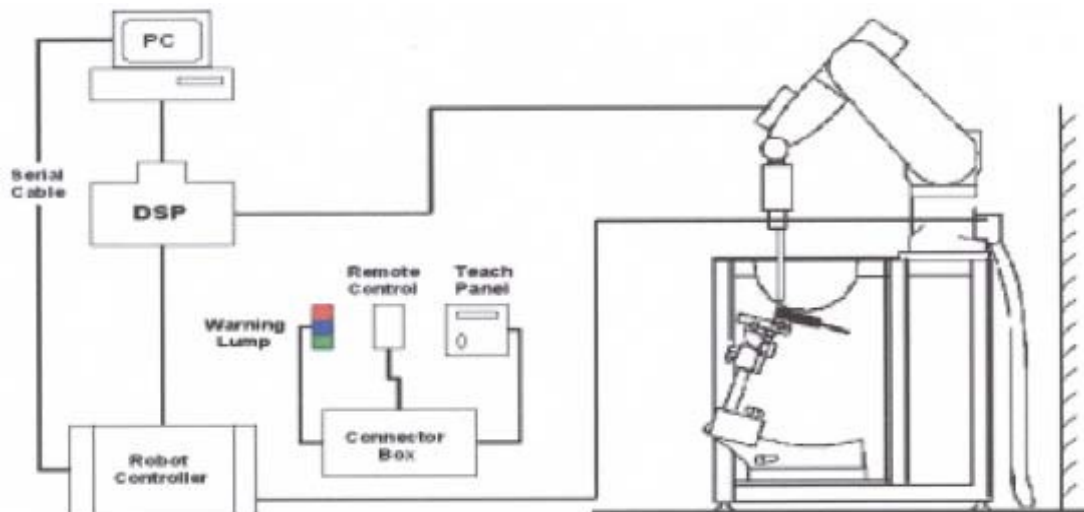
4.SAR MEASUREMENTS SYSTEM CONFIGURATION

4.1SAR 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. The DASY5 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.

4.1.1Test 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.

4.2.1EX3DV4 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 μ W/g to > 100 mW/g Linearity: ± 0.2 dB
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

4.2.2E-FIELD PROBE CALIBRATION

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than $\pm 0.25\text{dB}$. 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 below 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.

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

Where: Δt = Exposure time (30 seconds),

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

ΔT = Temperature increase due to RF exposure.

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

Where: σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

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, ELI4 and SAM v6.0 Phantoms.

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	
Available	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	
Available	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. $\pm 5\%$.

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 $\pm 0.1\text{mm}$). 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 $\pm 30^\circ$.)

- 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 ($\leq 2\text{GHz}$), 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: $\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}} \leq 2\text{GHz} - \leq 8\text{mm}$, 2-4GHz - $\leq 5\text{ mm}$ and 4-6 GHz - $\leq 4\text{mm}$; $\Delta z_{\text{zoom}} \leq 3\text{GHz} - \leq 5\text{ mm}$, 3-4 GHz - $\leq 4\text{mm}$ and 4-6GHz - $\leq 2\text{mm}$ 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 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 ($\Delta x_{\text{area}}, \Delta y_{\text{area}}$)	Maximun Zoom Scan spatial resolution ($\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$)	Maximun Zoom Scan spatial resolution			Minimum zoom scan volume (x,y,z)
			Uniform Grid	Graded Grad		
			$\Delta z_{\text{Zoom}}(n)$	$\Delta z_{\text{Zoom}}(1)^*$	$\Delta z_{\text{Zoom}}(n>1)^*$	
$\leq 2\text{GHz}$	$\leq 15\text{mm}$	$\leq 8\text{mm}$	$\leq 5\text{mm}$	$\leq 4\text{mm}$	$\leq 1.5^* \Delta z_{\text{Zoom}}(n-1)$	$\geq 30\text{mm}$
2-3GHz	$\leq 12\text{mm}$	$\leq 5\text{mm}$	$\leq 5\text{mm}$	$\leq 4\text{mm}$	$\leq 1.5^* \Delta z_{\text{Zoom}}(n-1)$	$\geq 30\text{mm}$
3-4GHz	$\leq 12\text{mm}$	$\leq 5\text{mm}$	$\leq 4\text{mm}$	$\leq 3\text{mm}$	$\leq 1.5^* \Delta z_{\text{Zoom}}(n-1)$	$\geq 28\text{mm}$
4-5GHz	$\leq 10\text{mm}$	$\leq 4\text{mm}$	$\leq 3\text{mm}$	$\leq 2.5\text{mm}$	$\leq 1.5^* \Delta z_{\text{Zoom}}(n-1)$	$\geq 25\text{mm}$
5-6GHz	$\leq 10\text{mm}$	$\leq 4\text{mm}$	$\leq 2\text{mm}$	$\leq 2\text{mm}$	$\leq 1.5^* \Delta z_{\text{Zoom}}(n-1)$	$\geq 22\text{mm}$

4.2.5 SPATIAL 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, Computermathematik, 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, Computermathematik, 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 compensate boundary effects on E-field probes.

4.2.6 DATA STORAGE AND EVALUATION

4.2.5.1 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:

$$\text{E-field probes: } E_i = (V_i / \text{Norm}_i \cdot \text{ConvF})^{1/2}$$

$$\text{H-field probes: } H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$$

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

Norm_i = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)²] for E-field Probes

ConvF = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

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/cm³

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

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

With P_{pwe} = equivalent power density of a plane wave in mW/cm²

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 if the dielectric parameters are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within $\pm 5\%$ 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. (°C)	Conductivity (σ)	Permittivity (εr)	Targeted Conductivity (σ)	Targeted Permittivity (εr)	Deviation Conductivity (σ) (%)	Deviation Permittivity (εr) (%)	Date
Head	835	22.5	0.887	42.467	0.90	41.5	-1.44	2.33	Aug. 05, 2018
Head	1750	22.4	1.414	41.384	1.37	40.1	3.21	3.20	Aug. 20, 2018
Head	1900	22.3	1.425	39.171	1.40	40.0	1.79	-2.07	Aug. 06, 2018
Head	1900	22.4	1.429	40.369	1.40	40.0	2.07	0.92	Aug. 20, 2018
Head	2450	22.2	1.878	38.208	1.80	39.2	4.33	-2.53	Aug. 07, 2018
Head	2600	23.3	2.024	38.631	1.96	39.0	3.27	-0.95	Aug. 07, 2018
Body	835	22.3	0.960	57.003	0.97	55.2	-1.03	3.27	Aug. 11, 2018
Body	835	22.4	0.990	55.185	0.97	55.2	2.06	-0.03	Aug. 12, 2018
Body	1750	22.5	1.525	51.578	1.49	53.4	2.35	-3.41	Aug. 19, 2018
Body	1750	22.3	1.497	52.238	1.49	53.4	0.47	-2.18	Aug. 30, 2018
Body	1900	22.6	1.557	53.534	1.52	53.3	2.43	0.44	Aug. 12, 2018
Body	1900	22.4	1.511	51.053	1.52	53.3	-0.59	-4.22	Aug. 18, 2018
Body	1900	22.2	1.559	54.440	1.52	53.3	2.57	2.14	Aug. 29, 2018
Body	2450	22.4	1.982	51.386	1.95	52.7	1.64	-2.49	Aug. 18, 2018
Body	2600	22.3	2.234	52.085	2.16	52.5	3.43	-0.79	Aug. 13, 2018

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

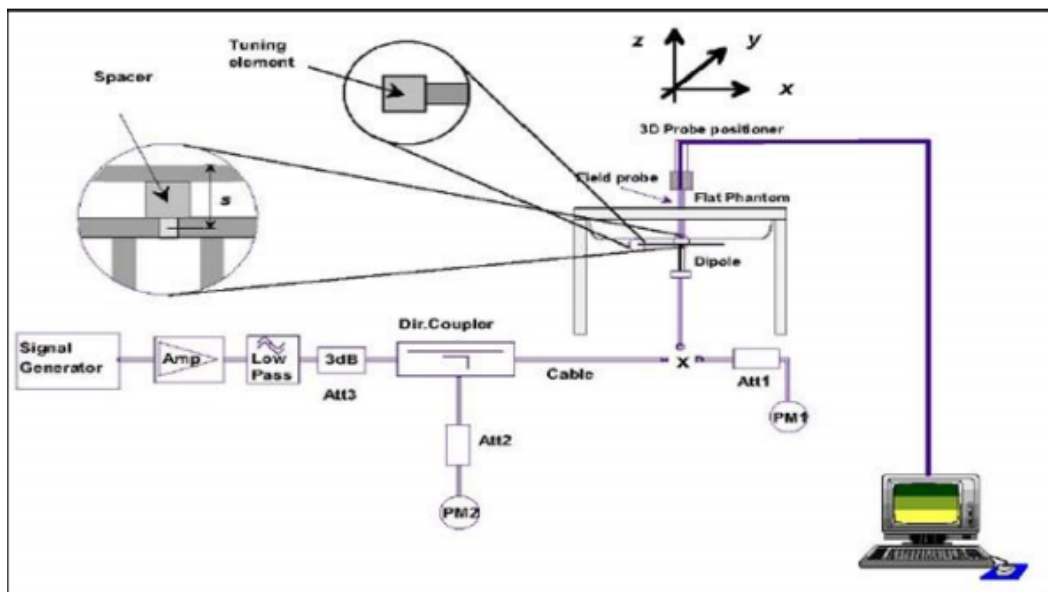
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE Std 1528 (described above). The following table shows system check results for all frequency bands 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	Aug. 05, 2018	835	9.23	2.39	9.56	3.58	4d160
Head	Aug. 20, 2018	1750	37.00	9.25	37.00	0.00	1101
Head	Aug. 06, 2018	1900	39.50	9.62	38.48	-2.58	5d179
Head	Aug. 20, 2018	1900	39.50	9.41	37.64	-4.71	5d179
Head	Aug. 07, 2018	2450	52.10	13.61	54.44	4.49	919
Head	Aug. 07, 2018	2600	56.10	13.80	55.20	-1.60	1067
Body	Aug. 11, 2018	835	9.53	2.48	9.92	4.09	4d160
Body	Aug. 12, 2018	835	9.53	2.46	9.84	3.25	4d160
Body	Aug. 19, 2018	1750	37.40	9.71	38.84	3.85	1101
Body	Aug. 30, 2018	1750	37.40	9.73	38.92	4.06	1101
Body	Aug. 12, 2018	1900	39.80	10.40	41.60	4.52	5d179
Body	Aug. 18, 2018	1900	39.80	10.00	40.00	0.50	5d179
Body	Aug. 29, 2018	1900	39.80	10.30	41.20	3.52	5d179
Body	Aug. 18, 2018	2450	50.80	12.30	49.20	-3.15	919
Body	Aug. 13, 2018	2600	55.20	13.30	53.20	-3.62	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 Plexiglas's 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 3GHz) or 100mW(3-6GHz). 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 ($\pm 10\%$).



6.SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

6.1SAR 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.

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 8PSK.

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	1 TX slot	0.0	0.0	6.4
	2 TX slots	3.0	3.0	9.4
	3 TX slots	4.8	4.8	11.2
	4 TX slots	6.0	6.0	12.4
GSM1900	1 TX slot	0.0	0.0	4.3
	2 TX slots	3.0	3.0	7.3
	3 TX slots	4.8	4.8	9.1
	4 TX slots	6.0	6.0	10.3

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

(2). Body SAR Measurements

SAR for body-worn accessory is measured using the 12.2 kbps RMC with the TPC bits configured to all "1s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by handset with 12.2 kbps RMC as the primary mode.

3. HSDPA

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as "otherwise" in the applicable procedures; SAR measurement is required for the secondary mode.

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

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 $\Delta ACK, \Delta NACK, \Delta CQI = 8$. The variation of the β_c / β_d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test ^o	β_c ^o	β_d ^o	β_d (SF) ^o	β_c / β_d ^o	β_{hs} (1) ^o	CM(dB)(2) ^o	MPR (dB) ^o
1 ^o	2/15 ^o	15/15 ^o	64 ^o	2/15 ^o	4/15 ^o	0.0 ^o	0 ^o
2 ^o	12/15(3) ^o	15/15(3) ^o	64 ^o	12/15(3) ^o	24/15 ^o	1.0 ^o	0 ^o
3 ^o	15/15 ^o	8/15 ^o	64 ^o	15/8 ^o	30/15 ^o	1.5 ^o	0.5 ^o
4 ^o	15/15 ^o	4/15 ^o	64 ^o	15/4 ^o	30/15 ^o	1.5 ^o	0.5 ^o

Note 1: $\Delta ACK, \Delta NACK$ and $\Delta CQI = 8$ $A_{hs} = \beta_{hs} / \beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$
Note 2: CM=1 for $\beta_c / \beta_d = 12/15$, $\beta_{hs} / \beta_c = 24/15$. For all other combinations of DPDCH, DPCCH 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.^o
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 $\beta_c = 11/15$ and $\beta_d = 15/15$ ^o

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 $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is $\leq 1.2\text{W/kg}$, 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 ¹	β_c ²	β_d ²	β_d (SF) ²	β_c/β_d ²	β_{hs} ⁽¹⁾²	β_{ec} ²	β_{ed} ²	β_{ec} (SF) ²	β_{ed} (code) ²	CM ⁽²⁾² (dB) ²	MP R ² (dB) ²	AG ⁽⁴⁾² Index ²	E-TFC I ²
1 ²	11/15 ⁽³⁾²	15/15 ⁽³⁾²	64 ²	11/15 ⁽³⁾²	22/15 ²	209/225 ²	1039/225 ²	4 ²	1 ²	1.0 ²	0.0 ²	20 ²	75 ²
2 ²	6/15 ²	15/15 ²	64 ²	6/15 ²	12/15 ²	12/15 ²	94/75 ²	4 ²	1 ²	3.0 ²	2.0 ²	12 ²	67 ²
3 ²	15/15 ²	9/15 ²	64 ²	15/9 ²	30/15 ²	30/15 ²	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$ ²	4 ²	2 ²	2.0 ²	1.0 ²	15 ²	92 ²
4 ²	2/15 ²	15/15 ²	64 ²	2/15 ²	4/15 ²	2/15 ²	56/75 ²	4 ²	1 ²	3.0 ²	2.0 ²	17 ²	71 ²
5 ²	15/15 ⁽⁴⁾²	15/15 ⁽⁴⁾²	64 ²	15/15 ⁽⁴⁾²	30/15 ²	24/15 ²	134/15 ²	4 ²	1 ²	1.0 ²	0.0 ²	21 ²	81 ²
Note 1: ΔACK , ΔNACK and $\Delta \text{CQI} = 8$ $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$ 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 ² 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 $\beta_d = 15/15$ ² 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 $\beta_d = 15/15$ ² 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 ² Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value. ²													

HSUPA UE category

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

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel.5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH cell are required to perform the power measurement and for the results to be acceptable.

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.

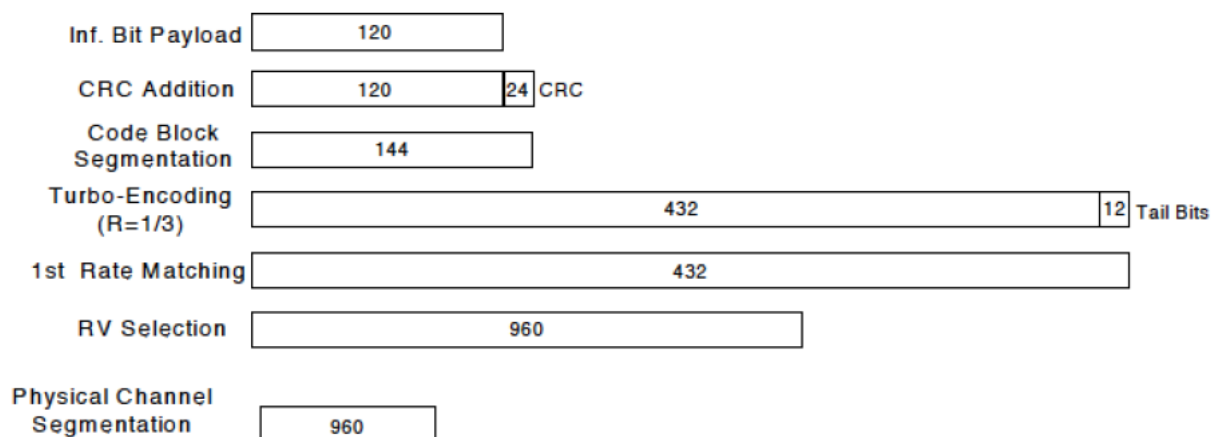


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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 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 $\beta_c = 11/15$ and $\beta_d = 15/15$

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.

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
64 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 $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

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 $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

LTE (TDD) Test Configuration

According to KDB 941225 D05 SAR for LTE Devices V02r05, for Time-Division Duplex(TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band 41 supports 3GPP TS 36 For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Figure 4.2-1: Frame structure type 2

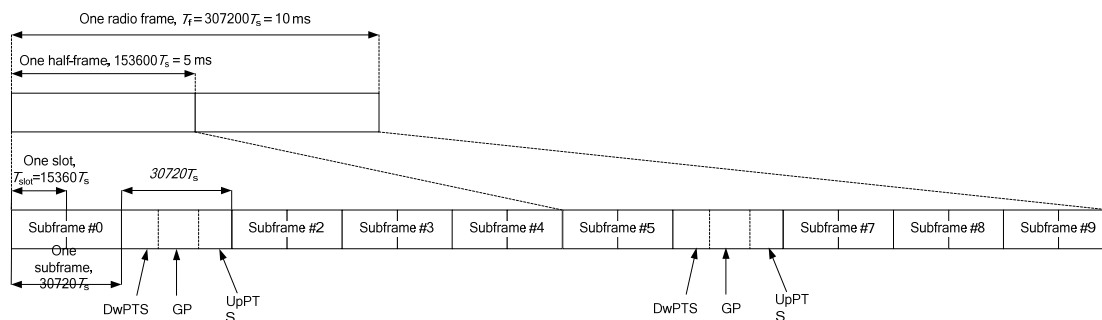


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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

Table 4.2-2: Uplink-downlink configurations

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

According to Figure 4.2-1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table 4.2-2:

$$\text{Duty cycle} = (30720Ts \cdot \text{Ups} + \text{Uplink Component} \cdot \text{Specials}) / (307200Ts)$$

About the uplink component of Special subframes, we can figure out by Table 4.2-1:

$$\text{Uplink Component} = \text{UpPTS}$$

In conclusion, for the TDD LTE Band 41, Duty Cycle can be calculated with formula as below. All these sets are OK when we test, or we can set as below.

$$\text{Duty cycle} = [(30720Ts \cdot \text{Ups}) + \text{UpPTS} \cdot \text{Specials}] / (307200Ts)$$

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
				Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
	D	S	U	configuration 0-4	configuration 5-9	configuration 0-4	configuration 5-9	configuration 0-3	configuration 4-7	configuration 0-3	configuration 4-7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type 2.

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 OPERATIONAL CONDITIONS DURING TEST

7.2.1 General description of Receiver detection mechanism

This device uses the 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 receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 2G&3G&4G and WiFi antennas accordingly.

7.2.2 Summary SAR test Plan

Main Antenna Power Reduction											
	Power scenario	GSM850	GSM1900	UMTS B2	UMTS B4	UMTS B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B41
full power level	full power	33.4	30.2	24.6	24.5	25	24.5	24.5	24.8	23.2	24.5
reduction level	Receiver on	0	0	0	0	0	0	0	0	0	0
	Receiver off	0	0	0	0	0	0	0	0	0	0
	Receiver on+hotspot	0	0	0	0	0	0	0	0	0	0
	Receiver off+hotspot	1	3	3	3	1	3	3	1	3	2

Second Antenna Power Reduction											
	Power scenario	GSM850	GSM1900	UMTS B2	UMTS B4	UMTS B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B41
full power level	full power	33.4	25.2	19.6	19.5	25	19.5	19.5	24.8	15.2	19.5
reduction level	Receiver on	5	0	0	0	5	0	0	5	0	0
	Receiver off	0	0	0	0	0	0	0	0	0	0
	Receiver on+hotspot	6	0	0	0	6	0	0	6	0	0
	Receiver off+hotspot	1	0	0	0	1	0	0	1	0	0

Wifi Antenna Power Reduction								
	Power scenario	802.11b	802.11g (CH1/11)	802.11g (CH2-10)	802.11n20 (CH1/11)	802.11n20 (CH2-10)	802.11n40 (CH3/9)	802.11n40 (CH2-8)
full power level	full power	17	16	18	15	17	15	16
Reduction level	Receiver on	7	5	7	4	6	4	5
	Receiver off	0	0	0	0	0	0	0

Based on the summary table of Receiver detection mechanism above.

For Head SAR test,

- 1) Standalone Head SAR of 2G&3G&4G second ant is evaluated at receiver on;
- 2) Standalone Head SAR of 2G&3G&4G Main ant is evaluated at receiver on;
- 3) Standalone Head SAR of Wifi ant is evaluated at receiver on;

Note: As the receiver only works in voice mode when the user is making a call in head scenario, In LTE Data/ WCDMA RMC(Data) mode, the mobile phone won't ring and answer, it just can be connected with the test instrument. Therefore, for Head SAR test of UMTS and LTE, we're planning to test LTE Data/ WCDMA RMC(Data) mode through triggering the receiver on by test command test scripts in order to simulate the users' scene (LTE VOIP, WCDMA VOIP).

For Body SAR test,

- 1) Standalone Body SAR of 2G&3G&4G second ant is evaluated at receiver off;
- 2) Standalone Body SAR of 2G&3G&4G Main ant is evaluated at receiver off;
- 3) Standalone Body SAR of Wifi ant is evaluated at receiver off;

Note: As the receiver will not work during body-worn voice mode operation with the headset connected. When the receiver is off, the power level with headset connected is the same as those without headset connected. So body-worn SAR with headset is tested at the body SAR worst case without headset connected at the same power level.

7.3 DYNAMIC ANTENNA SWITCHING TEST CONSIDERATIONS

In this section, the following list is used to prepare an inquiry seeking SAR test guidance for dynamic antenna switching. A summary SAR test plan is provided at the end of the inquiry to help expedite the process.

7.3.1 Implementation details of dynamic switching

ANS: We have a series of mobile phone devices including JSN-L23. The band differences between these mobile phones are as below:

Model	JSN-L23
SIM Card	double
FCC bands	GSM850/1900 ; WCDMA B2/4/5 FDD LTE : B2/4/5/7 TDD LTE: B41 WiFi

The device supports the dynamic antenna switching function to optimize transmission efficiency for wide range frequency operations. It has two 2G/3G/4G Tx antennas (Main Antenna and Secondary Antenna). It can transmit from either Main Antenna (Ant1) or Secondary Antenna (Ant 2).

7.3.2 Summary test plan for Dynamic antenna switching

Summary test plan: For Dynamic antenna switching SAR test, we will set the Main Antenna / Secondary Antenna to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some AT commands or test scripts are supplied to fix the DPDT operation state and choose the antenna, so that only one TX antenna (the Main Antenna or Secondary Antenna) is chosen at a time. All independent antennas and modems will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered.

7.4 TEST POSITION

7.4.1 Head test configuration

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

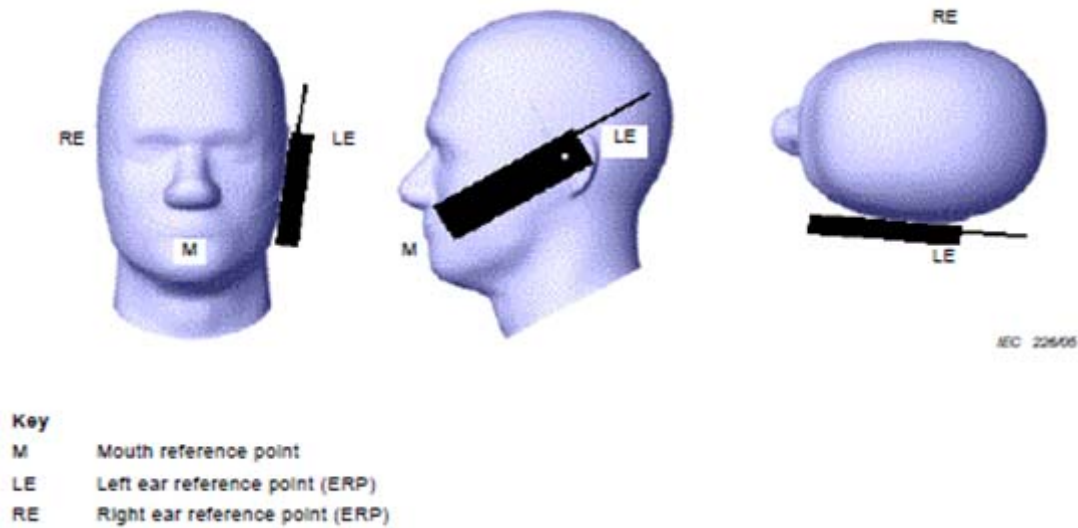


Figure 1 Cheek position of the wireless device on the left side of SAM

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

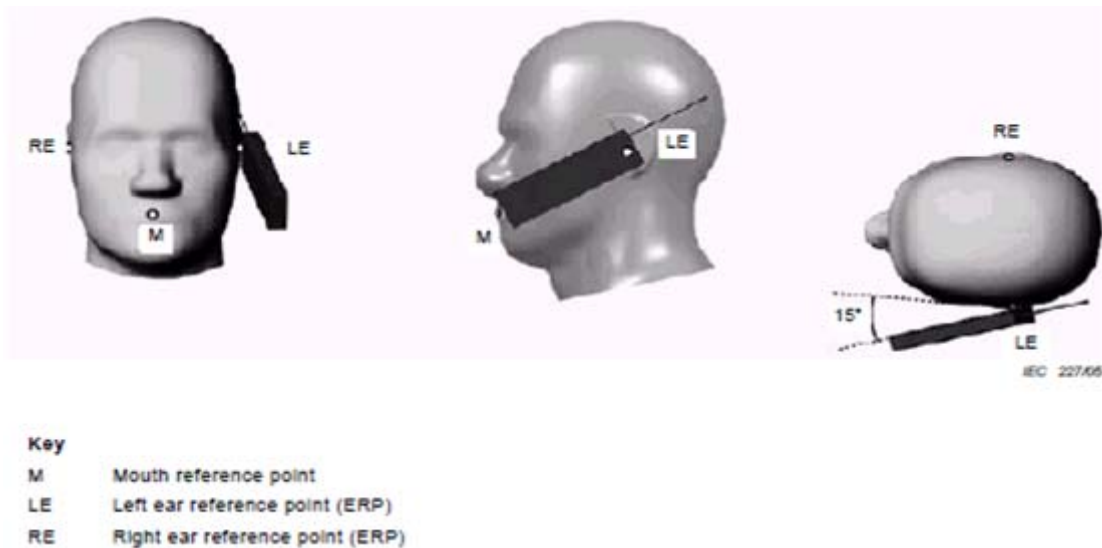


Figure 2 Tilt position of the wireless device on the left side of SAM

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

7.4.2 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.

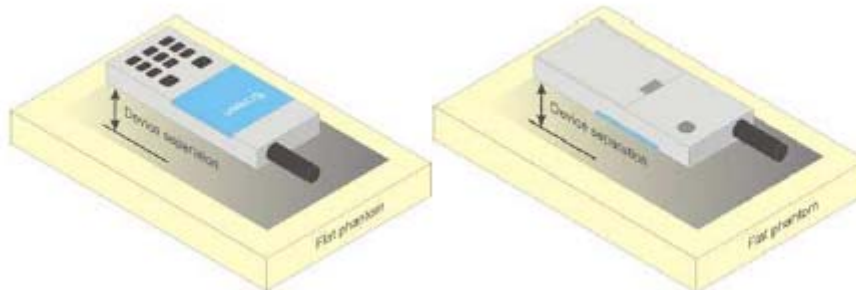


Figure 3 Test positions for body-worn device

7.4.3 Hotspot test configuration

Per FCC KDB 941225D06, 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 $>9\text{cm} \times 5\text{cm}$, 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.

7.4.4 Product specific 10-g SAR test configuration

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

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

The size of the mobile phone is 160mm (length)X 76.6mm (width), the length of the diagonal is 167mm.

The location of the antennas inside mobile phone is shown as below picture:

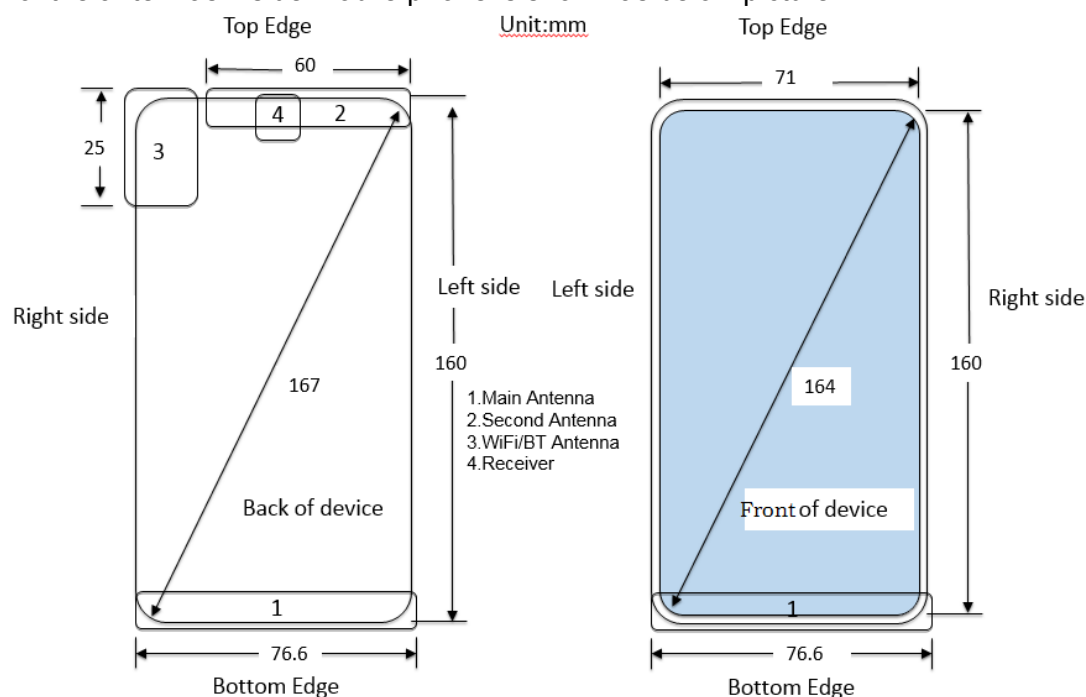


Table 7.2.2 Sides For Hotspot and product specific 10-g SAR Testing

Ant	Mode	Front Side	Rear Side	Left Side	Right Side	Top Side	Bottom Side
Ant 1(Main)	GSM850/1900	YES	YES	YES	YES	NO	YES
	UMTS Band 2/4/5	YES	YES	YES	YES	NO	YES
	LTE Band 2/4/5/7/41	YES	YES	YES	YES	NO	YES
Ant 2(DIV)	GSM850/1900	YES	YES	YES	YES	YES	NO
	UMTS Band 2/4/5	YES	YES	YES	YES	YES	NO
	LTE Band 2/4/5/7/41	YES	YES	YES	YES	YES	NO
Ant 3	2.4GWiFi	YES	YES	NO	YES	YES	NO

Note: 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.

8.TEST RESULT

8.1CONDUCTED POWER RESULTS

8.1.1CONDUCTED POWER MEASUREMENTS OF GSM850 AND GSM 1900

Main Ant _ Full Power:

GSM850		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			128CH	190CH	251CH		128CH	190CH	251CH
			824.2 MHz	836.6 MHz	848.8 MHz		824.2 MHz	836.6 MHz	848.8 MHz
GSM (CS)		33.40	32.50	32.51	32.55	24.21	23.31	23.32	23.36
GPRS/ EDGE (GMSK)	1 Tx Slot	33.40	32.50	32.54	32.57	24.21	23.31	23.35	23.38
	2 Tx Slots	30.40	29.50	29.57	29.63	24.27	23.37	23.44	23.50
	3 Tx Slots	28.60	27.69	27.72	27.76	24.18	23.27	23.30	23.34
	4 Tx Slots	27.40	26.44	26.47	26.49	24.22	23.26	23.29	23.31
EDGE (8PSK)	1 Tx Slot	27.00	26.16	26.23	26.12	17.81	16.97	17.04	16.93
	2 Tx Slots	24.00	23.12	23.35	23.24	17.87	16.99	17.22	17.11
	3 Tx Slots	22.20	21.50	21.65	21.45	17.78	17.08	17.23	17.03
	4 Tx Slots	21.00	20.08	20.14	19.96	17.82	16.90	16.96	16.78
GSM1900		Tune-up	Max Burst Average Power (dBm)			Tune-up	Max Frame Average Power (dBm)		
			512CH	661CH	810CH		512CH	661CH	810CH
			1850.2 MHz	1880 MHz	1909.8 MHz		1850.2 MHz	1880 MHz	1909.8 MHz
GSM (CS)		30.20	28.71	28.95	29.30	21.01	19.52	19.76	20.11
GPRS/ EDGE (GMSK)	1 Tx Slot	30.20	28.71	28.95	29.30	21.01	19.52	19.76	20.11
	2 Tx Slots	27.20	25.77	25.95	26.32	21.07	19.64	19.82	20.19
	3 Tx Slots	25.40	23.95	24.14	24.36	20.98	19.53	19.72	19.94
	4 Tx Slots	24.20	22.73	22.95	23.34	21.02	19.55	19.77	20.16
EDGE (8PSK)	1 Tx Slot	25.90	24.57	24.84	25.05	16.71	15.38	15.65	15.86
	2 Tx Slots	22.90	21.23	21.58	21.83	16.77	15.10	15.45	15.70
	3 Tx Slots	21.10	19.55	19.99	20.21	16.68	15.13	15.57	15.79
	4 Tx Slots	19.90	18.81	18.86	18.87	16.72	15.63	15.68	15.69

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) 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:

$$\text{Frame-averaged power} = 10 \times \log(\text{Burst-averaged power mW} \times \text{Slot used}/8)$$

Main Ant _ Hotspot on:

GSM850		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)		32.40	31.46	31.51	31.57	23.21	22.27	22.32	22.38
GPRS/ EDGE (GMSK)	1 Tx Slot	32.40	31.45	31.53	31.57	23.21	22.26	22.34	22.38
	2 Tx Slots	29.40	28.49	28.55	28.59	23.27	22.36	22.42	22.46
	3 Tx Slots	27.60	26.66	26.71	26.72	23.18	22.24	22.29	22.30
	4 Tx Slots	26.40	25.48	25.52	25.53	23.22	22.30	22.34	22.35
EDGE (8PSK)	1 Tx Slot	26.00	25.06	25.14	25.07	16.81	15.87	15.95	15.88
	2 Tx Slots	23.00	22.16	22.18	22.08	16.87	16.03	16.05	15.95
	3 Tx Slots	21.20	20.66	20.56	20.43	16.78	16.24	16.14	16.01
	4 Tx Slots	20.00	19.17	19.34	19.44	16.82	15.99	16.16	16.26
GSM1900		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)		27.20	25.25	25.35	25.58	18.01	16.06	16.16	16.39
GPRS/ EDGE (GMSK)	1 Tx Slot	27.20	25.25	25.34	25.57	18.01	16.06	16.15	16.38
	2 Tx Slots	24.20	22.20	22.40	22.68	18.07	16.07	16.27	16.55
	3 Tx Slots	22.40	20.41	20.57	20.89	17.98	15.99	16.15	16.47
	4 Tx Slots	21.20	19.22	19.30	19.74	18.02	16.04	16.12	16.56
EDGE (8PSK)	1 Tx Slot	22.90	20.94	20.94	21.31	13.71	11.75	11.75	12.12
	2 Tx Slots	19.90	18.02	18.37	18.34	13.77	11.89	12.24	12.21
	3 Tx Slots	18.10	16.53	16.46	16.76	13.68	12.11	12.04	12.34
	4 Tx Slots	16.90	14.92	15.22	15.51	13.72	11.74	12.04	12.33

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 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)

Div Ant _ Receiver off:

GSM850		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)		33.40	32.57	32.58	32.59	24.21	23.38	23.39	23.40
GPRS/ EDGE (GMSK)	1 Tx Slot	33.40	32.58	32.59	32.58	24.21	23.39	23.40	23.39
	2 Tx Slots	30.40	29.63	29.69	29.74	24.27	23.50	23.56	23.61
	3 Tx Slots	28.60	27.77	27.80	27.83	24.18	23.35	23.38	23.41
	4 Tx Slots	27.40	26.52	26.55	26.56	24.22	23.34	23.37	23.38
EDGE (8PSK)	1 Tx Slot	27.00	25.92	26.05	25.87	17.81	16.73	16.86	16.68
	2 Tx Slots	24.00	23.01	23.15	22.92	17.87	16.88	17.02	16.79
	3 Tx Slots	22.20	21.22	21.32	21.11	17.78	16.80	16.90	16.69
	4 Tx Slots	21.00	20.04	20.11	19.97	17.82	16.86	16.93	16.79
GSM1900		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)		25.20	23.85	23.86	24.29	16.01	14.66	14.67	15.10
GPRS/ EDGE (GMSK)	1 Tx Slot	25.20	23.85	23.86	24.29	16.01	14.66	14.67	15.10
	2 Tx Slots	22.20	20.90	20.95	21.41	16.07	14.77	14.82	15.28
	3 Tx Slots	20.40	19.21	19.32	19.74	15.98	14.79	14.90	15.32
	4 Tx Slots	19.20	17.92	18.33	18.61	16.02	14.74	15.15	15.43
EDGE (8PSK)	1 Tx Slot	20.90	19.52	19.32	19.34	11.71	10.33	10.13	10.15
	2 Tx Slots	17.90	16.05	16.45	16.61	11.77	9.92	10.32	10.48
	3 Tx Slots	16.10	14.74	14.88	14.92	11.68	10.32	10.46	10.50
	4 Tx Slots	14.90	13.31	13.44	13.54	11.72	10.13	10.26	10.36

Div Ant _ Receiver on:

GSM850		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)		28.40	27.56	27.61	27.63	19.21	18.37	18.42	18.44
GPRS/ EDGE (GMSK)	1 Tx Slot	28.40	27.58	27.63	27.65	19.21	18.39	18.44	18.46
	2 Tx Slots	25.40	24.62	24.64	24.63	19.27	18.49	18.51	18.50
	3 Tx Slots	23.60	22.86	22.88	22.87	19.18	18.44	18.46	18.45
	4 Tx Slots	22.40	21.59	21.62	21.61	19.22	18.41	18.44	18.43
EDGE (8PSK)	1 Tx Slot	22.00	21.02	21.11	21.17	12.81	11.83	11.92	11.98
	2 Tx Slots	19.00	18.31	18.21	18.12	12.87	12.18	12.08	11.99
	3 Tx Slots	17.20	16.25	16.36	16.19	12.78	11.83	11.94	11.77
	4 Tx Slots	16.00	15.21	15.12	15.08	12.82	12.03	11.94	11.90

Div Ant _ Hotspot on and Receiver off:

GSM850		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)		32.40	31.56	31.62	31.65	23.21	22.37	22.43	22.46
GPRS/ EDGE (GMSK)	1 Tx Slot	32.40	31.57	31.62	31.66	23.21	22.38	22.43	22.47
	2 Tx Slots	29.40	28.58	28.64	28.67	23.27	22.45	22.51	22.54
	3 Tx Slots	27.60	26.75	26.77	26.80	23.18	22.33	22.35	22.38
	4 Tx Slots	26.40	25.55	25.57	25.59	23.22	22.37	22.39	22.41
EDGE (8PSK)	1 Tx Slot	26.00	25.25	25.31	25.22	16.81	16.06	16.12	16.03
	2 Tx Slots	23.00	22.07	22.23	22.31	16.87	15.94	16.10	16.18
	3 Tx Slots	21.20	20.19	20.22	20.37	16.78	15.77	15.80	15.95
	4 Tx Slots	20.00	19.04	19.13	19.32	16.82	15.86	15.95	16.14

Div Ant _ Hotspot on and Receiver on:

GSM850		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)		27.40	26.58	26.60	26.61	18.21	17.39	17.41	17.42
GPRS/ EDGE (GMSK)	1 Tx Slot	27.40	26.58	26.60	26.62	18.21	17.39	17.41	17.43
	2 Tx Slot	24.40	23.67	23.68	23.68	18.27	17.54	17.55	17.55
	3 Tx Slot	22.60	21.83	21.84	21.83	18.18	17.41	17.42	17.41
	4 Tx Slot	21.40	20.58	20.59	20.58	18.22	17.40	17.41	17.40
EDGE (8PSK)	1 Tx Slot	21.00	20.09	20.22	20.05	11.81	10.90	11.03	10.86
	2 Tx Slot	18.00	17.12	17.24	17.18	11.87	10.99	11.11	11.05
	3 Tx Slot	16.20	15.16	15.03	15.28	11.78	10.74	10.61	10.86
	4 Tx Slot	15.00	14.17	14.29	14.25	11.82	10.99	11.11	11.07

8.1.2 CONDUCTED POWER MEASUREMENTS OF UMTS Band 2

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

UMTS Band 2		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	24.60	23.32	23.30	23.16
	12.2kbps RMC	24.60	23.32	23.30	23.16
	64kbps RMC	24.60	23.37	23.36	23.27
	144kbps RMC	24.60	23.26	23.27	23.23
	384kbps RMC	24.60	23.27	23.26	23.21
HSDPA	Subtest 1	24.40	23.09	23.14	23.01
	Subtest 2	24.30	23.15	23.25	23.05
	Subtest 3	24.30	23.11	23.15	23.03
	Subtest 4	24.30	23.12	23.23	22.99
HSUPA	Subtest 1	22.70	21.28	21.34	21.15
	Subtest 2	20.20	19.23	19.18	19.01
	Subtest 3	21.30	20.32	20.37	20.34
	Subtest 4	20.60	19.37	19.67	19.28
	Subtest 5	24.40	22.48	22.43	22.51
DC-HSDPA	Subtest 1	24.40	23.09	23.14	23.01
	Subtest 2	24.30	23.15	23.25	23.05
	Subtest 3	24.30	23.11	23.15	23.03
	Subtest 4	24.30	23.12	23.23	22.99

Note:

1) The conducted power of UMTS Band 2 is measured with RMS detector.

2) Note: Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

2) Conducted power measurement results of UMTS Band 2 (Main Ant_ Hotspot on)

UMTS Band 2		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	21.60	19.74	19.77	19.72
	12.2kbps RMC	21.60	19.74	19.77	19.72
	64kbps RMC	21.60	19.72	19.78	19.76
	144kbps RMC	21.60	19.74	19.77	19.79
	384kbps RMC	21.60	19.76	19.76	19.79
HSDPA	Subtest 1	21.40	19.45	19.58	19.48
	Subtest 2	21.30	19.69	19.53	19.52
	Subtest 3	21.30	19.63	19.77	19.68
	Subtest 4	21.30	19.66	19.68	19.74
HSUPA	Subtest 1	19.70	17.92	18.01	17.94
	Subtest 2	17.50	16.35	16.29	16.56
	Subtest 3	19.20	17.72	18.32	17.41
	Subtest 4	17.60	16.43	16.62	16.58
	Subtest 5	21.40	19.69	19.66	19.74
DC-HSDPA	Subtest 1	21.40	19.45	19.58	19.48
	Subtest 2	21.30	19.69	19.53	19.52
	Subtest 3	21.30	19.63	19.77	19.68
	Subtest 4	21.30	19.66	19.68	19.74

Note:

1) The conducted power of UMTS Band 2 is measured with RMS detector.

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

3) Conducted power measurement results of UMTS Band 2 (Div Ant_ Receiver off)

UMTS Band 2		Tune-up	SAR Conducted Power (dBm)		
			9262CH	9400CH	9538CH
			1852.4	1880	1907.6
WCDMA	AMR Voice	19.60	18.15	18.27	18.14
	12.2kbps RMC	19.60	18.15	18.27	18.14
	64kbps RMC	19.60	18.12	18.19	18.17
	144kbps RMC	19.60	18.15	18.27	18.18
	384kbps RMC	19.60	18.17	18.14	18.13
HSDPA	Subtest 1	19.40	17.96	18.07	18.03
	Subtest 2	19.30	18.00	18.03	18.06
	Subtest 3	19.30	17.93	18.05	18.01
	Subtest 4	19.30	17.97	18.03	18.06
HSUPA	Subtest 1	17.70	15.92	15.83	15.72
	Subtest 2	16.00	14.58	14.32	14.21
	Subtest 3	17.20	15.75	15.94	15.38
	Subtest 4	15.60	14.43	14.55	14.17
	Subtest 5	19.40	18.04	18.17	18.06
DC-HSDPA	Subtest 1	19.40	17.96	18.07	18.03
	Subtest 2	19.30	18.00	18.03	18.06
	Subtest 3	19.30	17.93	18.05	18.01
	Subtest 4	19.30	17.97	18.03	18.06

Note:

1) The conducted power of UMTS Band 2 is measured with RMS detector.

2) Note: Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

8.1.3 CONDUCTED POWER MEASUREMENTS OF UMTS Band 4

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

UMTS Band 4		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	24.50	22.84	23.03	22.98
	12.2kbps RMC	24.50	22.84	23.03	22.98
	64kbps RMC	24.50	22.90	23.07	23.00
	144kbps RMC	24.50	22.81	22.93	23.04
	384kbps RMC	24.50	22.78	23.05	23.01
HSDPA	Subtest 1	24.30	22.79	22.83	22.81
	Subtest 2	24.20	22.66	22.85	22.79
	Subtest 3	24.20	22.69	22.88	22.87
	Subtest 4	24.20	22.68	22.86	22.85
HSUPA	Subtest 1	22.80	21.22	21.33	21.15
	Subtest 2	21.70	19.71	19.76	19.89
	Subtest 3	22.30	20.65	20.88	20.86
	Subtest 4	21.50	19.81	20.05	20.05
	Subtest 5	24.20	22.59	22.78	22.86
DC-HSDPA	Subtest 1	24.30	22.79	22.83	22.81
	Subtest 2	24.20	22.66	22.85	22.79
	Subtest 3	24.20	22.69	22.88	22.87
	Subtest 4	24.20	22.68	22.86	22.85

Note:

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

2) Conducted power measurement results of UMTS Band 4 (Main Ant_ Hotspot on)

UMTS Band 4		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	21.50	19.87	20.05	20.02
	12.2kbps RMC	21.50	19.87	20.05	20.02
	64kbps RMC	21.50	19.91	20.14	20.06
	144kbps RMC	21.50	19.92	20.08	19.99
	384kbps RMC	21.50	19.89	20.11	20.04
HSDPA	Subtest 1	21.30	19.66	19.85	19.53
	Subtest 2	21.20	19.74	19.93	19.82
	Subtest 3	21.20	19.65	19.87	19.84
	Subtest 4	21.20	19.65	19.92	19.80
HSUPA	Subtest 1	19.70	18.14	18.25	18.15
	Subtest 2	18.50	17.15	16.82	16.58
	Subtest 3	19.60	18.25	18.16	18.23
	Subtest 4	18.40	17.01	16.89	16.85
	Subtest 5	21.20	19.67	19.91	19.82
DC-HSDPA	Subtest 1	21.30	19.66	19.85	19.53
	Subtest 2	21.20	19.74	19.93	19.82
	Subtest 3	21.20	19.65	19.87	19.84
	Subtest 4	21.20	19.65	19.92	19.80

Note:

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

3) Conducted power measurement results of UMTS Band 4 (Div Ant_ Receiver off)

UMTS Band 4		Tune-up	SAR Conducted Power (dBm)		
			1312CH	1413CH	1513CH
			1712.4	1732.6	1752.6
WCDMA	AMR Voice	19.50	17.89	18.00	17.92
	12.2kbps RMC	19.50	17.89	18.00	17.92
	64kbps RMC	19.50	17.88	18.01	17.96
	144kbps RMC	19.50	17.88	18.00	17.96
	384kbps RMC	19.50	17.90	18.04	17.95
HSDPA	Subtest 1	19.30	17.68	17.86	17.78
	Subtest 2	19.20	17.68	17.78	17.74
	Subtest 3	19.20	17.67	17.84	17.71
	Subtest 4	19.20	17.64	17.83	17.71
HSUPA	Subtest 1	17.60	16.01	16.32	16.17
	Subtest 2	16.40	15.41	14.74	15.16
	Subtest 3	17.60	16.25	16.57	16.42
	Subtest 4	16.30	14.73	15.01	15.13
	Subtest 5	19.20	17.75	17.88	17.82
DC-HSDPA	Subtest 1	19.30	17.68	17.86	17.78
	Subtest 2	19.20	17.68	17.78	17.74
	Subtest 3	19.20	17.67	17.84	17.71
	Subtest 4	19.20	17.64	17.83	17.71

Note:

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

8.1.4 CONDUCTED POWER MEASUREMENTS OF UMTS Band 5

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

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	25.00	23.85	23.74	23.84
	12.2kbps RMC	25.00	23.85	23.74	23.84
	64kbps RMC	25.00	23.77	23.69	23.85
	144kbps RMC	25.00	23.82	23.73	23.75
	384kbps RMC	25.00	23.83	23.75	23.84
HSDPA	Subtest 1	24.90	23.97	23.93	23.96
	Subtest 2	24.80	23.97	23.90	23.98
	Subtest 3	24.80	23.99	23.87	24.02
	Subtest 4	24.80	24.01	23.93	24.02
HSUPA	Subtest 1	24.20	22.26	22.20	22.44
	Subtest 2	21.60	21.19	20.41	21.05
	Subtest 3	22.90	21.72	21.24	21.56
	Subtest 4	21.70	21.28	21.22	20.82
	Subtest 5	25.00	23.06	23.01	23.04
DC-HSDPA	Subtest 1	24.90	23.97	23.93	23.96
	Subtest 2	24.80	23.97	23.90	23.98
	Subtest 3	24.80	23.99	23.87	24.02
	Subtest 4	24.80	24.01	23.93	24.02

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

2) Conducted power measurement results of UMTS Band 5 (Main Ant_ Hotspot on)

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	24.00	22.18	22.24	22.20
	12.2kbps RMC	24.00	22.18	22.24	22.20
	64kbps RMC	24.00	22.13	22.28	22.14
	144kbps RMC	24.00	22.17	22.22	22.16
	384kbps RMC	24.00	22.20	22.25	22.13
HSDPA	Subtest 1	23.90	22.27	22.24	22.32
	Subtest 2	23.80	22.35	22.24	22.22
	Subtest 3	23.80	22.33	22.25	22.29
	Subtest 4	23.80	22.31	22.25	22.34
HSUPA	Subtest 1	23.00	21.03	21.06	21.07
	Subtest 2	20.90	20.54	19.93	20.22
	Subtest 3	21.80	19.85	21.19	20.85
	Subtest 4	21.00	19.63	19.42	19.92
	Subtest 5	24.00	22.25	22.22	22.24
DC-HSDPA	Subtest 1	23.90	22.27	22.24	22.32
	Subtest 2	23.80	22.35	22.24	22.22
	Subtest 3	23.80	22.33	22.25	22.29
	Subtest 4	23.80	22.31	22.25	22.34

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

3) Conducted power measurement results of UMTS Band 5 (Div Ant_ Receiver off)

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	25.00	23.77	23.73	23.75
	12.2kbps RMC	25.00	23.77	23.73	23.75
	64kbps RMC	25.00	23.78	23.76	23.74
	144kbps RMC	25.00	23.76	23.78	23.71
	384kbps RMC	25.00	23.78	23.78	23.74
HSDPA	Subtest 1	24.90	23.27	23.11	23.26
	Subtest 2	24.80	23.33	23.16	23.27
	Subtest 3	24.80	23.25	23.15	23.24
	Subtest 4	24.80	23.26	23.14	23.22
HSUPA	Subtest 1	24.20	22.21	22.35	22.24
	Subtest 2	21.60	21.18	21.03	20.92
	Subtest 3	22.90	21.95	21.97	21.52
	Subtest 4	21.70	21.05	20.83	20.88
	Subtest 5	25.00	23.85	23.76	23.82
DC-HSDPA	Subtest 1	24.90	23.27	23.11	23.26
	Subtest 2	24.80	23.33	23.16	23.27
	Subtest 3	24.80	23.25	23.15	23.24
	Subtest 4	24.80	23.26	23.14	23.22

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

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

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	20.00	18.17	18.06	18.18
	12.2kbps RMC	20.00	18.17	18.06	18.18
	64kbps RMC	20.00	18.13	18.05	18.11
	144kbps RMC	20.00	18.12	18.02	18.12
	384kbps RMC	20.00	18.12	18.02	18.07
HSDPA	Subtest 1	19.90	18.13	18.01	18.15
	Subtest 2	19.80	18.13	18.09	18.02
	Subtest 3	19.80	18.14	18.08	18.14
	Subtest 4	19.80	18.13	18.07	18.15
HSUPA	Subtest 1	19.60	18.06	17.69	17.61
	Subtest 2	16.60	15.53	15.53	15.67
	Subtest 3	17.90	17.01	16.98	16.94
	Subtest 4	16.70	15.73	15.64	15.49
	Subtest 5	20.00	18.65	18.52	18.59
DC-HSDPA	Subtest 1	19.90	18.13	18.01	18.15
	Subtest 2	19.80	18.13	18.09	18.02
	Subtest 3	19.80	18.14	18.08	18.14
	Subtest 4	19.80	18.13	18.07	18.15

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

5) Conducted power measurement results of UMTS Band 5 (Div Ant_ Hotspot on and Receiver off)

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	24.00	22.21	22.18	22.21
	12.2kbps RMC	24.00	22.21	22.18	22.21
	64kbps RMC	24.00	22.32	22.19	22.23
	144kbps RMC	24.00	22.31	22.15	22.24
	384kbps RMC	24.00	22.27	22.15	22.22
HSDPA	Subtest 1	23.90	22.43	22.40	22.50
	Subtest 2	23.80	22.49	22.38	22.39
	Subtest 3	23.80	22.45	22.37	22.46
	Subtest 4	23.80	22.48	22.39	22.51
HSUPA	Subtest 1	23.20	21.23	21.26	21.21
	Subtest 2	20.60	20.33	20.11	19.85
	Subtest 3	21.90	20.72	20.66	21.04
	Subtest 4	20.70	20.31	19.97	20.34
	Subtest 5	24.00	22.10	22.06	22.05
DC-HSDPA	Subtest 1	23.90	22.43	22.40	22.50
	Subtest 2	23.80	22.49	22.38	22.39
	Subtest 3	23.80	22.45	22.37	22.46
	Subtest 4	23.80	22.48	22.39	22.51

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

6) Conducted power measurement results of UMTS Band 5 (Div Ant_ Hotspot on and Receiver on)

UMTS Band 5		Tune-up	SAR Conducted Power (dBm)		
			4132CH	4182CH	4233CH
			826.4	836.4	846.6
WCDMA	AMR Voice	19.00	17.27	17.14	17.28
	12.2kbps RMC	19.00	17.27	17.14	17.28
	64kbps RMC	19.00	17.27	17.17	17.22
	144kbps RMC	19.00	17.25	17.17	17.23
	384kbps RMC	19.00	17.26	17.16	17.21
HSDPA	Subtest 1	18.90	17.14	17.09	17.16
	Subtest 2	18.80	17.13	17.08	17.15
	Subtest 3	18.80	17.14	17.01	17.16
	Subtest 4	18.80	17.15	17.01	17.16
HSUPA	Subtest 1	17.70	15.87	15.70	15.84
	Subtest 2	15.90	14.61	14.68	14.63
	Subtest 3	17.80	16.06	16.18	16.16
	Subtest 4	16.10	14.79	14.86	14.76
	Subtest 5	19.00	17.18	17.07	17.23
DC-HSDPA	Subtest 1	18.90	17.14	17.09	17.16
	Subtest 2	18.80	17.13	17.08	17.15
	Subtest 3	18.80	17.14	17.01	17.16
	Subtest 4	18.80	17.15	17.01	17.16

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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

8.1.5 CONDUCTED POWER MEASUREMENTS OF LTE Band 2

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

Band / BW	Modulation	RB Size/Offset	Tune-up	CH18607 1850.7MHz	CH18900 1880MHz	CH19193 1909.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18615 1851.5MHz	CH18900 1880MHz	CH19185 1908.5MHz
2 / 1.4M	QPSK	1/0	24.50	23.12	23.17	23.02	2 / 3M	QPSK	1/0	24.50	23.12	23.18	23.09
		1/2	24.50	22.96	23.20	22.88			1/7	24.50	22.98	22.66	22.55
		1/5	24.50	23.13	23.14	23.08			1/14	24.50	23.09	23.17	23.16
		3/0	24.50	23.07	22.96	22.91			8/0	23.50	22.05	22.01	21.97
		3/1	24.50	22.91	22.74	22.89			8/3	23.50	22.02	22.02	21.97
		3/3	24.50	23.06	22.94	22.73			8/7	23.50	22.02	22.06	22.01
		6/0	23.50	21.95	22.10	21.97			15/0	23.50	22.06	22.09	22.01
	16QAM	1/0	23.50	22.17	22.34	22.26		16QAM	1/0	23.50	22.37	22.31	22.21
		1/2	23.50	22.12	22.00	22.15			1/7	23.50	21.77	21.87	21.55
		1/5	23.50	22.17	22.23	22.28			1/14	23.50	22.36	22.40	22.23
		3/0	23.50	22.09	21.98	21.97			8/0	22.50	21.02	21.09	20.87
		3/1	23.50	21.95	22.05	22.05			8/3	22.50	21.09	21.10	20.93
		3/3	23.50	21.99	21.98	21.98			8/7	22.50	21.08	21.01	20.95
		6/0	22.50	21.04	20.88	21.05			15/0	22.50	21.04	20.99	20.95
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18625 1852.5MHz	CH18900 1880MHz	CH19175 1907.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18650 1855MHz	CH18900 1880MHz	CH19150 1905MHz
2 / 5M	QPSK	1/0	24.50	23.12	23.17	22.96	2 / 10M	QPSK	1/0	24.50	23.07	23.12	23.04
		1/12	24.50	23.14	23.19	22.99			1/24	24.50	22.87	22.68	22.79
		1/24	24.50	23.12	23.14	23.02			1/49	24.50	23.07	23.10	23.07
		12/0	23.50	22.17	22.19	22.07			25/0	23.50	22.10	22.12	22.03
		12/6	23.50	22.12	22.11	22.01			25/12	23.50	22.12	22.09	21.99
		12/13	23.50	22.07	22.08	22.02			25/25	23.50	22.08	22.03	21.95
		25/0	23.50	22.09	22.11	22.04			50/0	23.50	22.12	22.02	21.97
	16QAM	1/0	23.50	22.35	22.35	22.36		16QAM	1/0	23.50	22.26	22.37	22.18
		1/12	23.50	22.31	22.39	22.38			1/24	23.50	21.79	22.01	21.76
		1/24	23.50	22.30	22.29	22.44			1/49	23.50	22.31	22.38	22.17
		12/0	22.50	21.13	21.15	20.99			25/0	22.50	21.04	21.01	20.94
		12/6	22.50	21.08	21.12	20.99			25/12	22.50	21.05	21.01	20.89
		12/13	22.50	21.05	21.11	20.97			25/25	22.50	21.04	20.98	20.84
		25/0	22.50	20.99	21.05	20.95			50/0	22.50	21.06	21.03	20.88
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18675 1857.5MHz	CH18900 1880MHz	CH19125 1902.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18700 1860MHz	CH18900 1880MHz	CH19100 1900MHz
2 / 15M	QPSK	1/0	24.50	23.12	23.18	23.04	2 / 20M	QPSK	1/0	24.50	23.37	23.35	23.23
		1/37	24.50	23.16	23.20	23.06			1/50	24.50	23.02	22.54	22.87
		1/74	24.50	23.10	23.07	23.01			1/99	24.50	23.32	23.21	23.20
		36/0	23.50	22.14	23.07	22.06			50/0	23.50	22.20	22.16	22.07
		36/19	23.50	22.14	22.11	22.00			50/25	23.50	22.15	22.09	22.01
		36/39	23.50	22.18	22.08	21.99			50/50	23.50	22.14	22.12	22.03
		75/0	23.50	22.15	22.02	22.05			100/0	23.50	22.17	22.08	22.08
	16QAM	1/0	23.50	22.28	22.39	22.19		16QAM	1/0	23.50	22.57	22.66	22.58
		1/37	23.50	22.34	22.37	22.18			1/50	23.50	22.31	22.59	22.08
		1/74	23.50	22.24	22.33	22.17			1/99	23.50	22.62	22.52	22.57
		36/0	22.50	21.07	22.33	21.02			50/0	22.50	21.14	21.12	21.00
		36/19	22.50	21.07	21.02	20.95			50/25	22.50	21.09	21.05	20.90
		36/39	22.50	21.12	20.98	20.96			50/50	22.50	21.11	21.07	20.97
		75/0	22.50	21.07	20.98	21.01			100/0	22.50	21.11	21.03	21.01

2) Conducted power measurement results of LTE Band 2 (Main Ant_ Hotspot on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH18607 1850.7MHz	CH18900 1880MHz	CH19193 1909.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18615 1851.5MHz	CH18900 1880MHz	CH19185 1908.5MHz
2 / 1.4M	QPSK	1/0	21.50	20.25	20.28	20.31	2 / 3M	QPSK	1/0	21.50	20.24	20.33	20.21
		1/2	21.50	20.19	19.98	20.29			1/7	21.50	19.51	19.83	19.98
		1/5	21.50	20.32	20.25	20.32			1/14	21.50	20.26	20.26	20.14
		3/0	21.50	20.20	20.29	20.22			8/0	21.50	20.16	20.16	20.12
		3/1	21.50	19.88	20.28	19.95			8/3	21.50	20.22	20.22	20.16
		3/3	21.50	20.07	19.57	20.08			8/7	21.50	20.25	20.26	20.18
		6/0	21.50	20.20	20.18	20.15			15/0	21.50	20.27	20.26	20.16
	16QAM	1/0	21.50	20.25	20.50	20.57		16QAM	1/0	21.50	20.40	20.47	20.02
		1/2	21.50	20.06	20.39	20.49			1/7	21.50	19.59	20.23	19.62
		1/5	21.50	20.35	20.48	20.55			1/14	21.50	20.49	20.50	20.12
		3/0	21.50	20.24	20.22	20.18			8/0	21.50	20.24	20.27	20.09
		3/1	21.50	20.31	19.90	19.98			8/3	21.50	20.23	20.29	20.11
		3/3	21.50	20.11	20.32	20.07			8/7	21.50	20.15	20.24	20.07
		6/0	21.50	20.27	20.16	20.03			15/0	21.50	20.17	20.27	20.10
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18625 1852.5MHz	CH18900 1880MHz	CH19175 1907.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18650 1855MHz	CH18900 1880MHz	CH19150 1905MHz
2 / 5M	QPSK	1/0	21.50	20.26	20.33	20.12	2 / 10M	QPSK	1/0	21.50	20.21	20.22	20.20
		1/12	21.50	20.30	20.26	20.17			1/24	21.50	20.07	19.88	19.95
		1/24	21.50	20.28	20.23	20.17			1/49	21.50	20.26	20.20	20.20
		12/0	21.50	20.34	20.26	20.22			25/0	21.50	20.29	20.25	20.15
		12/6	21.50	20.23	20.13	20.14			25/12	21.50	20.26	20.24	20.15
		12/13	21.50	20.24	20.32	20.12			25/25	21.50	20.27	20.19	20.12
		25/0	21.50	20.25	20.24	20.17			50/0	21.50	20.23	20.19	20.10
	16QAM	1/0	21.50	20.69	20.63	20.47		16QAM	1/0	21.50	20.46	20.56	20.12
		1/12	21.50	20.66	20.58	20.55			1/24	21.50	19.85	20.17	19.57
		1/24	21.50	20.64	20.62	20.50			1/49	21.50	20.41	20.48	20.15
		12/0	21.50	20.28	20.39	20.17			25/0	21.50	20.24	20.25	20.13
		12/6	21.50	20.14	20.24	20.07			25/12	21.50	20.20	20.19	20.08
		12/13	21.50	20.30	20.28	20.06			25/25	21.50	20.27	20.15	20.06
		25/0	21.50	20.18	20.28	20.15			50/0	21.50	20.18	20.11	20.07
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18675 1857.5MHz	CH18900 1880MHz	CH19125 1902.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18700 1860MHz	CH18900 1880MHz	CH19100 1900MHz
2 / 15M	QPSK	1/0	21.50	20.17	20.32	20.20	2 / 20M	QPSK	1/0	21.50	20.48	20.63	20.36
		1/37	21.50	20.26	20.25	20.12			1/50	21.50	19.98	20.39	19.91
		1/74	21.50	20.19	20.23	20.12			1/99	21.50	20.47	20.38	20.28
		36/0	21.50	20.35	20.23	20.18			50/0	21.50	20.32	20.35	20.22
		36/19	21.50	20.26	20.22	20.20			50/25	21.50	20.27	20.21	20.13
		36/39	21.50	20.30	20.19	20.15			50/50	21.50	20.29	20.23	20.22
		75/0	21.50	20.30	20.18	20.23			100/0	21.50	20.25	20.27	20.17
	16QAM	1/0	21.50	20.44	20.49	20.36		16QAM	1/0	21.50	20.75	20.80	20.79
		1/37	21.50	20.47	20.49	20.33			1/50	21.50	20.08	20.34	20.00
		1/74	21.50	20.38	20.41	20.30			1/99	21.50	20.75	20.63	20.73
		36/0	21.50	20.21	20.41	20.18			50/0	21.50	20.26	20.22	20.12
		36/19	21.50	20.24	20.24	20.14			50/25	21.50	20.22	20.11	20.07
		36/39	21.50	20.25	20.21	20.15			50/50	21.50	20.34	20.14	20.13
		75/0	21.50	20.19	20.14	20.14			100/0	21.50	20.24	20.24	20.17

3) Conducted power measurement results of LTE Band 2 (Div Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH18607 1850.7MHz	CH18900 1880MHz	CH19193 1909.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18615 1851.5MHz	CH18900 1880MHz	CH19185 1908.5MHz
2 / 1.4M	QPSK	1/0	19.50	18.18	18.15	18.16	2 / 3M	QPSK	1/0	19.50	18.13	18.20	18.10
		1/2	19.50	18.21	17.73	17.86			1/7	19.50	17.98	17.65	17.64
		1/5	19.50	18.20	18.23	18.20			1/14	19.50	18.07	18.14	18.12
		3/0	19.50	17.85	18.15	18.14			8/0	19.50	18.02	18.15	17.95
		3/1	19.50	17.82	18.05	17.84			8/3	19.50	18.00	18.11	18.04
		3/3	19.50	17.90	18.03	17.86			8/7	19.50	18.09	18.06	18.12
		6/0	19.50	17.94	17.96	18.24			15/0	19.50	18.05	18.20	18.14
	16QAM	1/0	19.50	18.06	18.00	18.34		16QAM	1/0	19.50	18.01	18.35	18.27
		1/2	19.50	18.03	17.95	18.42			1/7	19.50	17.55	17.85	18.07
		1/5	19.50	18.14	18.27	18.40			1/14	19.50	18.26	18.40	18.14
		3/0	19.50	18.29	18.08	18.12			8/0	19.50	18.05	18.06	18.04
		3/1	19.50	17.91	17.98	17.75			8/3	19.50	17.99	18.14	18.05
		3/3	19.50	18.00	17.97	18.04			8/7	19.50	18.01	18.10	18.12
		6/0	19.50	18.12	18.09	17.92			15/0	19.50	18.09	18.08	18.11
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18625 1852.5MHz	CH18900 1880MHz	CH19175 1907.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18650 1855MHz	CH18900 1880MHz	CH19150 1905MHz
2 / 5M	QPSK	1/0	19.50	18.11	18.22	18.04	2 / 10M	QPSK	1/0	19.50	18.04	18.08	18.12
		1/12	19.50	18.16	18.17	18.10			1/24	19.50	17.87	17.87	17.81
		1/24	19.50	18.12	18.10	18.08			1/49	19.50	18.10	18.07	18.12
		12/0	19.50	18.17	18.18	18.18			25/0	19.50	18.08	18.17	18.14
		12/6	19.50	18.10	18.12	18.05			25/12	19.50	18.13	18.19	18.08
		12/13	19.50	18.15	18.15	18.04			25/25	19.50	18.08	18.12	18.09
		25/0	19.50	18.15	18.18	18.07			50/0	19.50	18.10	18.09	18.11
	16QAM	1/0	19.50	18.24	18.41	18.23		16QAM	1/0	19.50	18.18	18.30	18.14
		1/12	19.50	18.26	18.35	18.25			1/24	19.50	17.84	18.18	17.92
		1/24	19.50	18.20	18.43	18.26			1/49	19.50	18.30	18.43	18.30
		12/0	19.50	18.21	18.22	18.11			25/0	19.50	18.06	18.10	18.07
		12/6	19.50	18.14	18.16	18.09			25/12	19.50	18.06	18.08	18.03
		12/13	19.50	18.15	18.10	18.05			25/25	19.50	18.07	18.08	18.06
		25/0	19.50	18.03	18.15	18.02			50/0	19.50	18.01	18.08	18.07
Band / BW	Modulation	RB Size/Offset	Tune-up	CH18675 1857.5MHz	CH18900 1880MHz	CH19125 1902.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH18700 1860MHz	CH18900 1880MHz	CH19100 1900MHz
2 / 15M	QPSK	1/0	19.50	18.03	18.12	18.07	2 / 20M	QPSK	1/0	19.50	18.41	18.44	18.39
		1/37	19.50	18.17	18.20	18.12			1/50	19.50	17.92	18.35	17.87
		1/74	19.50	18.03	18.05	18.09			1/99	19.50	18.40	18.35	18.36
		36/0	19.50	18.13	18.05	18.11			50/0	19.50	18.16	18.19	18.17
		36/19	19.50	18.13	18.16	18.15			50/25	19.50	18.12	18.13	18.07
		36/39	19.50	18.14	18.12	18.13			50/50	19.50	18.18	18.14	18.12
		75/0	19.50	18.12	18.07	18.13			100/0	19.50	18.15	18.18	18.17
	16QAM	1/0	19.50	18.16	18.33	18.17		16QAM	1/0	19.50	18.30	18.43	18.36
		1/37	19.50	18.23	18.40	18.22			1/50	19.50	17.97	18.01	17.98
		1/74	19.50	18.18	18.28	18.07			1/99	19.50	18.39	18.34	18.41
		36/0	19.50	18.11	18.42	18.06			50/0	19.50	18.11	18.15	18.12
		36/19	19.50	18.09	18.08	18.03			50/25	19.50	18.03	18.09	18.03
		36/39	19.50	18.11	18.05	18.03			50/50	19.50	18.15	18.11	18.01
		75/0	19.50	18.08	18.03	18.06			100/0	19.50	18.08	18.07	18.06

8.1.6 CONDUCTED POWER MEASUREMENTS OF LTE Band 4

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

Band / BW	Modulation	RB Size/Offset	Tune-up	CH19957 1710.7MHz	CH20175 1732.5MHz	CH20393 1754.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH19965 1711.5MHz	CH20175 1732.5MHz	CH20385 1753.5MHz
4 / 1.4M	QPSK	1/0	24.50	22.90	22.82	22.90	4 / 3M	QPSK	1/0	24.50	22.87	22.83	22.88
		1/2	24.50	22.63	22.51	22.79			1/7	24.50	22.59	22.60	23.06
		1/5	24.50	22.91	22.83	22.91			1/14	24.50	22.92	22.84	22.85
		3/0	24.50	22.87	22.77	22.89			8/0	23.50	21.87	21.82	21.83
		3/1	24.50	22.84	22.72	22.76			8/3	23.50	21.75	21.75	21.82
		3/3	24.50	22.51	22.57	22.81			8/7	23.50	21.81	21.80	21.85
		6/0	23.50	21.71	21.88	21.80			15/0	23.50	21.82	21.79	21.85
	16QAM	1/0	23.50	22.27	22.07	21.80		16QAM	1/0	23.50	21.85	22.08	22.25
		1/2	23.50	21.83	21.97	21.52			1/7	23.50	21.57	21.73	22.23
		1/5	23.50	22.29	22.02	21.83			1/14	23.50	22.18	22.03	22.25
		3/0	23.50	21.89	21.87	21.79			8/0	22.50	20.85	20.75	20.73
		3/1	23.50	21.83	21.80	21.63			8/3	22.50	20.81	20.84	20.86
		3/3	23.50	21.99	21.69	21.73			8/7	22.50	20.77	20.77	20.69
		6/0	22.50	20.78	20.73	20.61			15/0	22.50	20.71	20.74	20.82
Band / BW	Modulation	RB Size/Offset	Tune-up	CH19975 1712.5MHz	CH20175 1732.5MHz	CH20375 1752.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20000 1715MHz	CH20175 1732.5MHz	CH20350 1750MHz
4 / 5M	QPSK	1/0	24.50	22.79	22.73	22.78	4 / 10M	QPSK	1/0	24.50	22.84	22.76	22.80
		1/12	24.50	22.74	22.69	22.80			1/24	24.50	22.54	22.51	22.61
		1/24	24.50	22.74	22.70	22.80			1/49	24.50	22.81	22.79	22.84
		12/0	23.50	21.82	21.80	21.85			25/0	23.50	21.84	21.88	21.77
		12/6	23.50	21.73	21.74	21.75			25/12	23.50	21.82	21.81	21.85
		12/13	23.50	21.70	21.67	21.76			25/25	23.50	21.80	21.82	21.87
		25/0	23.50	21.69	21.72	21.79			50/0	23.50	21.81	21.85	21.82
	16QAM	1/0	23.50	21.87	21.97	22.24		16QAM	1/0	23.50	21.68	22.01	22.14
		1/12	23.50	21.85	22.03	22.26			1/24	23.50	21.57	21.87	21.78
		1/24	23.50	21.82	22.02	22.29			1/49	23.50	21.73	22.06	22.14
		12/0	22.50	20.82	20.73	20.75			25/0	22.50	20.73	20.84	20.78
		12/6	22.50	20.71	20.66	20.69			25/12	22.50	20.71	20.77	20.74
		12/13	22.50	20.67	20.68	20.71			25/25	22.50	20.80	20.77	20.77
		25/0	22.50	20.61	20.63	20.69			50/0	22.50	20.78	20.79	20.71
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20025 1717.5MHz	CH20175 1732.5MHz	CH20325 1747.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20050 1720MHz	CH20175 1732.5MHz	CH20300 1745MHz
4 / 15M	QPSK	1/0	24.50	22.71	22.72	22.71	4 / 20M	QPSK	1/0	24.50	23.07	22.99	23.01
		1/37	24.50	22.70	22.72	22.73			1/50	24.50	22.57	22.52	22.67
		1/74	24.50	22.62	22.68	22.69			1/99	24.50	22.99	22.97	22.98
		36/0	23.50	21.73	22.68	21.75			50/0	23.50	21.96	21.92	21.90
		36/19	23.50	21.76	21.71	21.72			50/25	23.50	21.79	21.79	21.84
		36/39	23.50	21.70	21.70	21.76			50/50	23.50	21.84	21.83	21.91
		75/0	23.50	21.75	21.74	21.75			100/0	23.50	21.92	21.89	21.81
	16QAM	1/0	23.50	21.95	21.92	21.93		16QAM	1/0	23.50	22.31	22.24	22.45
		1/37	23.50	21.95	21.93	21.90			1/50	23.50	21.79	21.53	21.85
		1/74	23.50	21.85	21.86	21.89			1/99	23.50	22.22	22.27	22.46
		36/0	22.50	20.73	21.86	20.69			50/0	22.50	20.83	20.87	20.79
		36/19	22.50	20.67	20.65	20.65			50/25	22.50	20.79	20.72	20.77
		36/39	22.50	20.73	20.66	20.64			50/50	22.50	20.77	20.76	20.83
		75/0	22.50	20.64	20.66	20.69			100/0	22.50	20.80	20.83	20.81

2) Conducted power measurement results of LTE Band 4 (Main Ant_ Hotspot on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH19957	CH20175	CH20393	Band / BW	Modulation	RB Size/Offset	Tune-up	CH19965	CH20175	CH20385
				1710.7MHz	1732.5MHz	1754.3MHz					1711.5MHz	1732.5MHz	1753.5MHz
4 / 1.4M	QPSK	1/0	21.50	19.88	19.86	19.90	4 / 3M	QPSK	1/0	21.50	19.96	19.81	19.99
		1/2	21.50	19.55	20.07	19.70			1/7	21.50	19.56	19.90	19.58
		1/5	21.50	19.87	19.87	19.95			1/14	21.50	19.87	19.90	19.96
		3/0	21.50	19.95	19.85	19.90			8/0	21.50	19.77	19.82	19.85
		3/1	21.50	19.90	19.61	19.76			8/3	21.50	19.78	19.77	19.80
		3/3	21.50	19.76	19.77	19.81			8/7	21.50	19.80	19.79	19.80
		6/0	21.50	19.61	19.72	19.72			15/0	21.50	19.84	19.80	19.87
	16QAM	1/0	21.50	19.98	20.11	20.15		16QAM	1/0	21.50	19.93	20.06	19.87
		1/2	21.50	19.51	19.61	20.07			1/7	21.50	19.62	19.84	19.81
		1/5	21.50	20.08	20.09	20.22			1/14	21.50	19.90	19.93	19.96
		3/0	21.50	19.85	19.82	20.03			8/0	21.50	19.87	19.76	19.87
		3/1	21.50	19.80	19.79	20.13			8/3	21.50	19.78	19.76	19.88
		3/3	21.50	19.92	19.68	19.94			8/7	21.50	19.80	19.82	19.84
		6/0	21.50	19.85	19.78	19.65			15/0	21.50	19.78	19.80	19.87
Band / BW	Modulation	RB Size/Offset	Tune-up	CH19975	CH20175	CH20375	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20000	CH20175	CH20350
				1712.5MHz	1732.5MHz	1752.5MHz					1715MHz	1732.5MHz	1750MHz
4 / 5M	QPSK	1/0	21.50	19.89	19.88	19.86	4 / 10M	QPSK	1/0	21.50	19.85	19.87	19.87
		1/12	21.50	19.87	19.87	19.90			1/24	21.50	19.55	19.56	19.63
		1/24	21.50	19.82	19.83	19.87			1/49	21.50	19.79	19.80	19.91
		12/0	21.50	19.94	19.86	19.94			25/0	21.50	19.80	19.86	19.84
		12/6	21.50	19.80	19.76	19.90			25/12	21.50	19.83	19.82	19.86
		12/13	21.50	19.76	19.83	19.86			25/25	21.50	19.82	19.81	19.79
		25/0	21.50	19.80	19.86	19.87			50/0	21.50	19.81	19.85	19.83
	16QAM	1/0	21.50	20.11	19.92	20.19		16QAM	1/0	21.50	20.11	20.24	19.80
		1/12	21.50	20.07	19.92	20.20			1/24	21.50	19.82	19.82	19.54
		1/24	21.50	20.04	19.89	20.17			1/49	21.50	20.03	20.20	19.80
		12/0	21.50	19.84	19.79	19.93			25/0	21.50	19.83	19.85	19.81
		12/6	21.50	19.75	19.82	19.77			25/12	21.50	19.74	19.77	19.80
		12/13	21.50	19.78	19.77	19.85			25/25	21.50	19.80	19.76	19.84
		25/0	21.50	19.81	19.81	19.85			50/0	21.50	19.78	19.77	19.77
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20025	CH20175	CH20325	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20050	CH20175	CH20300
				1717.5MHz	1732.5MHz	1747.5MHz					1720MHz	1732.5MHz	1745MHz
4 / 15M	QPSK	1/0	21.50	19.85	19.79	19.81	4 / 20M	QPSK	1/0	21.50	20.22	20.03	19.96
		1/37	21.50	19.84	19.86	19.85			1/50	21.50	19.65	19.90	19.61
		1/74	21.50	19.78	19.78	19.78			1/99	21.50	20.00	20.00	20.07
		36/0	21.50	19.84	19.78	19.81			50/0	21.50	19.95	19.87	19.85
		36/19	21.50	19.90	19.84	19.90			50/25	21.50	19.82	19.84	19.80
		36/39	21.50	19.92	19.80	19.86			50/50	21.50	19.90	19.85	19.93
		75/0	21.50	19.80	19.84	19.87			100/0	21.50	19.83	19.82	19.80
	16QAM	1/0	21.50	20.18	20.24	20.08		16QAM	1/0	21.50	20.44	20.33	20.19
		1/37	21.50	20.15	20.21	20.06			1/50	21.50	19.99	19.84	19.68
		1/74	21.50	20.08	20.15	20.01			1/99	21.50	20.33	20.30	20.20
		36/0	21.50	19.81	20.15	19.81			50/0	21.50	19.77	19.86	19.85
		36/19	21.50	19.79	19.77	19.85			50/25	21.50	19.80	19.74	19.78
		36/39	21.50	19.86	19.75	19.85			50/50	21.50	19.84	19.76	19.80
		75/0	21.50	19.75	19.79	19.79			100/0	21.50	19.76	19.83	19.77

3) Conducted power measurement results of LTE Band 4 (Div Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH19957 1710.7MHz	CH20175 1732.5MHz	CH20393 1754.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH19965 1711.5MHz	CH20175 1732.5MHz	CH20385 1753.5MHz
4 / 1.4M	QPSK	1/0	19.50	17.96	17.93	17.93	4 / 3M	QPSK	1/0	19.50	17.90	17.80	17.79
		1/2	19.50	17.88	17.75	17.78			1/7	19.50	17.67	17.82	17.58
		1/5	19.50	17.89	17.83	17.86			1/14	19.50	17.86	17.83	17.84
		3/0	19.50	17.73	17.79	17.76			8/0	19.50	17.87	17.70	17.78
		3/1	19.50	17.67	17.65	17.59			8/3	19.50	17.80	17.78	17.82
		3/3	19.50	17.78	17.64	17.54			8/7	19.50	17.79	17.79	17.83
		6/0	19.50	17.89	17.78	17.76			15/0	19.50	17.88	17.85	17.84
	16QAM	1/0	19.50	18.10	18.05	18.11		16QAM	1/0	19.50	18.14	18.01	18.09
		1/2	19.50	17.94	17.64	17.89			1/7	19.50	18.05	17.72	17.73
		1/5	19.50	17.92	18.08	18.14			1/14	19.50	18.10	17.93	17.84
		3/0	19.50	17.96	17.83	18.00			8/0	19.50	17.89	17.69	17.68
		3/1	19.50	17.74	17.60	17.66			8/3	19.50	17.81	17.79	17.75
		3/3	19.50	17.65	17.78	17.77			8/7	19.50	17.82	17.68	17.73
		6/0	19.50	17.83	17.70	17.78			15/0	19.50	17.84	17.80	17.78
Band / BW	Modulation	RB Size/Offset	Tune-up	CH19975 1712.5MHz	CH20175 1732.5MHz	CH20375 1752.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20000 1715MHz	CH20175 1732.5MHz	CH20350 1750MHz
4 / 5M	QPSK	1/0	19.50	17.89	17.87	17.80	4 / 10M	QPSK	1/0	19.50	17.86	17.84	17.81
		1/12	19.50	17.85	17.87	17.86			1/24	19.50	17.60	17.59	17.59
		1/24	19.50	17.85	17.82	17.82			1/49	19.50	17.86	17.78	17.78
		12/0	19.50	17.94	17.90	17.91			25/0	19.50	17.85	17.80	17.82
		12/6	19.50	17.84	17.84	17.86			25/12	19.50	17.82	17.78	17.83
		12/13	19.50	17.84	17.80	17.79			25/25	19.50	17.86	17.78	17.80
		25/0	19.50	17.83	17.81	17.84			50/0	19.50	17.82	17.77	17.80
	16QAM	1/0	19.50	18.13	18.06	18.06		16QAM	1/0	19.50	18.10	18.06	17.87
		1/12	19.50	18.10	18.06	18.13			1/24	19.50	17.75	17.62	17.60
		1/24	19.50	18.10	18.05	18.07			1/49	19.50	18.05	18.03	17.85
		12/0	19.50	17.95	17.78	17.85			25/0	19.50	17.81	17.80	17.79
		12/6	19.50	17.88	17.72	17.81			25/12	19.50	17.82	17.77	17.80
		12/13	19.50	17.90	17.78	17.80			25/25	19.50	17.86	17.72	17.77
		25/0	19.50	17.83	17.86	17.77			50/0	19.50	17.76	17.76	17.78
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20025 1717.5MHz	CH20175 1732.5MHz	CH20325 1747.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20050 1720MHz	CH20175 1732.5MHz	CH20300 1745MHz
4 / 15M	QPSK	1/0	19.50	17.88	17.87	17.87	4 / 20M	QPSK	1/0	19.50	18.12	18.10	18.15
		1/37	19.50	17.85	17.89	17.85			1/50	19.50	17.56	17.99	17.52
		1/74	19.50	17.72	17.75	17.79			1/99	19.50	18.10	18.08	18.06
		36/0	19.50	17.89	17.75	17.83			50/0	19.50	17.89	17.89	17.95
		36/19	19.50	17.88	17.84	17.79			50/25	19.50	17.84	17.84	17.79
		36/39	19.50	17.89	17.81	17.88			50/50	19.50	17.87	17.83	17.81
		75/0	19.50	17.88	17.83	17.78			100/0	19.50	17.92	17.85	17.82
	16QAM	1/0	19.50	18.07	18.11	18.14		16QAM	1/0	19.50	18.12	18.09	18.13
		1/37	19.50	18.13	18.03	18.11			1/50	19.50	17.83	17.77	17.95
		1/74	19.50	18.01	18.08	18.14			1/99	19.50	18.02	18.07	18.03
		36/0	19.50	17.88	18.08	17.77			50/0	19.50	17.83	17.86	17.82
		36/19	19.50	17.79	17.79	17.78			50/25	19.50	17.82	17.77	17.67
		36/39	19.50	17.86	17.80	17.78			50/50	19.50	17.77	17.81	17.81
		75/0	19.50	17.82	17.81	17.74			100/0	19.50	17.81	17.88	17.76

8.1.7 CONDUCTED POWER MEASUREMENTS OF LTE Band 5

1) Conducted power measurement results of LTE Band 5 (Main Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	24.80	23.81	23.74	23.73	5 / 3M	QPSK	1/0	24.80	23.70	23.79	23.74
		1/2	24.80	23.59	23.39	23.57			1/7	24.80	22.83	23.07	22.90
		1/5	24.80	23.77	23.64	23.77			1/14	24.80	23.73	23.81	23.71
		3/0	24.80	23.62	23.79	23.71			8/0	23.80	22.62	22.69	22.65
		3/1	24.80	23.72	23.40	23.63			8/3	23.80	22.68	22.74	22.70
		3/3	24.80	23.63	23.30	23.38			8/7	23.80	22.68	22.71	22.68
		6/0	23.80	22.63	22.69	22.70			15/0	23.80	22.73	22.72	22.65
	16QAM	1/0	23.80	22.98	22.80	23.02		16QAM	1/0	23.80	23.21	22.85	22.82
		1/2	23.80	22.79	23.00	22.98			1/7	23.80	22.14	22.26	22.67
		1/5	23.80	22.99	23.12	22.98			1/14	23.80	22.98	22.87	22.80
		3/0	23.80	22.65	22.70	22.91			8/0	22.80	21.73	21.69	21.57
		3/1	23.80	22.68	22.63	22.47			8/3	22.80	21.74	21.65	21.64
		3/3	23.80	22.31	22.39	22.58			8/7	22.80	21.60	21.61	21.67
		6/0	22.80	21.68	21.60	21.64			15/0	22.80	21.70	21.71	21.61
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	24.80	23.76	23.68	23.70	5 / 10M	QPSK	1/0	24.80	23.87	23.77	23.69
		1/12	24.80	23.73	23.75	23.78			1/24	24.80	23.44	23.35	23.36
		1/24	24.80	23.67	23.76	23.78			1/49	24.80	23.68	23.71	23.64
		12/0	23.80	22.76	22.77	22.75			25/0	23.80	22.80	22.76	22.70
		12/6	23.80	22.74	22.71	22.68			25/12	23.80	22.72	22.75	22.67
		12/13	23.80	22.68	22.69	22.70			25/25	23.80	22.71	22.75	22.71
		25/0	23.80	22.70	22.73	22.73			50/0	23.80	22.69	22.68	22.63
	16QAM	1/0	23.80	22.94	22.80	22.79		16QAM	1/0	23.80	22.99	22.83	22.89
		1/12	23.80	22.89	22.87	22.80			1/24	23.80	22.61	22.71	22.53
		1/24	23.80	22.72	22.86	22.82			1/49	23.80	22.93	22.88	22.87
		12/0	22.80	21.70	21.75	21.70			25/0	22.80	21.68	21.63	21.64
		12/6	22.80	21.69	21.64	21.59			25/12	22.80	21.63	21.65	21.63
		12/13	22.80	21.66	21.65	21.65			25/25	22.80	21.64	21.66	21.62
		25/0	22.80	21.63	21.66	21.62			50/0	22.80	21.61	21.59	21.62

2) Conducted power measurement results of LTE Band 5 (Main Ant_ Hotspot on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	23.80	22.69	22.79	22.75	5 / 3M	QPSK	1/0	23.80	22.69	22.80	22.71
		1/2	23.80	22.25	22.45	22.51			1/7	23.80	22.45	22.40	22.30
		1/5	23.80	22.78	22.78	22.77			1/14	23.80	22.71	22.75	22.76
		3/0	23.80	22.69	22.63	22.77			8/0	23.80	22.70	22.78	22.61
		3/1	23.80	22.55	22.52	22.35			8/3	23.80	22.72	22.73	22.63
		3/3	23.80	22.32	22.48	22.70			8/7	23.80	22.63	22.58	22.66
		6/0	23.80	22.60	22.64	22.64			15/0	23.80	22.69	22.72	22.68
	16QAM	1/0	23.80	22.66	22.62	22.76		16QAM	1/0	23.80	22.75	22.63	22.79
		1/2	23.80	22.41	22.52	22.75			1/7	23.80	22.43	22.67	22.30
		1/5	23.80	22.62	22.64	22.81			1/14	23.80	22.86	22.85	22.63
		3/0	23.80	22.60	22.54	22.71			8/0	23.80	22.18	22.15	21.94
		3/1	23.80	22.68	22.43	22.63			8/3	23.80	22.14	22.11	21.95
		3/3	23.80	22.54	22.39	22.47			8/7	23.80	22.06	21.89	22.08
		6/0	23.80	22.02	22.07	21.98			15/0	22.80	22.10	22.05	22.06
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	23.80	22.74	22.74	22.69	5 / 10M	QPSK	1/0	23.80	22.87	22.69	22.67
		1/12	23.80	22.78	22.74	22.71			1/24	23.80	22.33	22.42	22.12
		1/24	23.80	22.71	22.78	22.72			1/49	23.80	22.63	22.66	22.66
		12/0	23.80	22.76	22.80	22.77			25/0	23.80	22.69	22.63	22.63
		12/6	23.80	22.71	22.72	22.71			25/12	23.80	22.66	22.62	22.64
		12/13	23.80	22.69	22.71	22.73			25/25	23.80	22.65	22.65	22.63
		25/0	23.80	22.69	22.71	22.70			50/0	23.80	22.72	22.67	22.67
	16QAM	1/0	23.80	22.64	22.66	22.57		16QAM	1/0	23.80	22.60	22.73	22.70
		1/12	23.80	22.75	22.67	22.58			1/24	23.80	22.53	22.55	22.71
		1/24	23.80	22.63	22.77	22.69			1/49	23.80	22.73	22.58	22.72
		12/0	23.80	22.21	22.16	22.19			25/0	23.80	22.16	22.10	22.04
		12/6	23.80	22.08	22.11	22.04			25/12	23.80	22.06	22.09	21.99
		12/13	23.80	22.07	22.08	22.09			25/25	23.80	22.02	22.08	22.01
		25/0	22.80	22.10	22.06	22.13			50/0	22.80	22.07	22.08	22.01

3) Conducted power measurement results of LTE Band 5 (Div Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	24.80	23.25	22.94	22.99	5 / 3M	QPSK	1/0	24.80	23.30	22.92	23.10
		1/2	24.80	23.31	22.88	22.89			1/7	24.80	23.35	22.84	22.86
		1/5	24.80	23.40	22.96	22.92			1/14	24.80	23.37	23.08	22.83
		3/0	24.80	23.39	22.89	22.97			8/0	23.80	22.50	22.01	22.08
		3/1	24.80	23.33	22.87	22.90			8/3	23.80	22.46	22.08	21.94
		3/3	24.80	23.32	22.97	22.81			8/7	23.80	22.50	22.10	22.04
		6/0	23.80	22.46	22.05	21.98			15/0	23.80	22.51	22.07	21.94
	16QAM	1/0	23.80	22.75	22.32	22.05		16QAM	1/0	23.80	22.68	22.23	22.54
		1/2	23.80	22.81	22.30	22.04			1/7	23.80	22.09	22.18	22.15
		1/5	23.80	22.94	22.34	22.05			1/14	23.80	22.72	22.40	22.12
		3/0	23.80	22.42	22.05	21.93			8/0	22.80	21.44	21.01	21.14
		3/1	23.80	22.37	22.03	21.88			8/3	22.80	21.44	21.02	21.05
		3/3	23.80	22.46	21.97	21.95			8/7	22.80	21.41	21.11	20.98
		6/0	22.80	21.35	21.06	20.87			15/0	22.80	21.46	21.02	20.99
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	24.80	23.41	23.06	23.60	5 / 10M	QPSK	1/0	24.80	23.62	23.23	23.56
		1/12	24.80	23.46	22.88	23.06			1/24	24.80	23.18	22.93	22.97
		1/24	24.80	23.37	23.20	22.81			1/49	24.80	22.97	23.61	22.86
		12/0	23.80	22.63	22.03	22.58			25/0	23.80	22.64	22.29	22.62
		12/6	23.80	22.51	22.04	22.26			25/12	23.80	22.45	22.15	22.57
		12/13	23.80	22.47	22.13	22.05			25/25	23.80	22.20	22.30	22.19
		25/0	23.80	22.55	22.17	22.23			50/0	23.80	22.54	22.31	22.49
	16QAM	1/0	23.80	22.74	22.28	22.89		16QAM	1/0	23.80	23.00	22.56	22.77
		1/12	23.80	22.80	22.12	22.35			1/24	23.80	22.60	22.18	22.43
		1/24	23.80	22.71	22.42	22.23			1/49	23.80	22.43	22.84	22.12
		12/0	22.80	21.54	21.05	21.45			25/0	22.80	21.58	21.22	21.61
		12/6	22.80	21.45	21.01	21.15			25/12	22.80	21.30	21.00	21.55
		12/13	22.80	21.40	21.09	21.01			25/25	22.80	21.12	21.19	21.14
		25/0	22.80	21.46	20.98	21.09			50/0	22.80	21.34	21.14	21.42

4) Conducted power measurement results of LTE Band 5 (Div Ant_ Receiver on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	19.80	18.73	18.63	18.59	5 / 3M	QPSK	1/0	19.80	18.71	18.67	18.67
		1/2	19.80	18.62	18.12	18.46			1/7	19.80	18.40	18.23	18.20
		1/5	19.80	18.73	18.60	18.62			1/14	19.80	18.66	18.62	18.64
		3/0	19.80	18.66	18.60	18.59			8/0	19.80	18.54	18.61	18.58
		3/1	19.80	18.54	18.48	18.50			8/3	19.80	18.65	18.45	18.61
		3/3	19.80	18.67	18.36	18.45			8/7	19.80	18.63	18.52	18.52
		6/0	19.80	18.50	18.58	18.55			15/0	19.80	18.67	18.64	18.66
	16QAM	1/0	19.80	18.66	18.61	18.81		16QAM	1/0	19.80	18.79	18.64	18.75
		1/2	19.80	18.69	18.65	18.88			1/7	19.80	18.70	18.22	18.65
		1/5	19.80	18.65	18.58	18.81			1/14	19.80	18.65	18.73	18.62
		3/0	19.80	18.57	18.53	18.64			8/0	19.80	18.58	18.51	18.57
		3/1	19.80	18.54	18.49	18.40			8/3	19.80	18.64	18.49	18.60
		3/3	19.80	18.64	18.57	18.43			8/7	19.80	18.64	18.52	18.56
		6/0	19.80	18.50	18.42	18.56			15/0	19.80	18.59	18.57	18.49
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	19.80	18.72	18.66	18.76	5 / 10M	QPSK	1/0	19.80	18.97	18.61	18.75
		1/12	19.80	18.73	18.67	18.69			1/24	19.80	18.55	18.46	18.42
		1/24	19.80	18.71	18.70	18.62			1/49	19.80	18.50	18.66	18.59
		12/0	19.80	18.71	18.67	18.75			25/0	19.80	18.73	18.64	18.72
		12/6	19.80	18.59	18.59	18.59			25/12	19.80	18.63	18.56	18.61
		12/13	19.80	18.62	18.63	18.63			25/25	19.80	18.58	18.63	18.57
		25/0	19.80	18.67	18.61	18.61			50/0	19.80	18.65	18.61	18.62
	16QAM	1/0	19.80	18.75	18.66	18.72		16QAM	1/0	19.80	18.78	18.79	18.97
		1/12	19.80	18.76	18.70	18.66			1/24	19.80	18.55	18.44	18.71
		1/24	19.80	18.71	18.77	18.63			1/49	19.80	18.75	18.90	18.78
		12/0	19.80	18.66	18.57	18.67			25/0	19.80	18.59	18.54	18.67
		12/6	19.80	18.54	18.53	18.48			25/12	19.80	18.57	18.52	18.53
		12/13	19.80	18.56	18.64	18.54			25/25	19.80	18.52	18.54	18.52
		25/0	19.80	18.59	18.47	18.52			50/0	19.80	18.55	18.56	18.56

5) Conducted power measurement results of LTE Band 5 (Div Ant_ Hotspot on and Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	23.80	22.51	22.13	22.08	5 / 3M	QPSK	1/0	23.80	22.51	22.24	22.46
		1/2	23.80	22.59	22.21	22.06			1/7	23.80	22.53	21.92	21.94
		1/5	23.80	22.68	22.17	21.92			1/14	23.80	22.59	22.25	21.85
		3/0	23.80	22.43	22.18	22.13			8/0	23.80	22.49	21.98	22.11
		3/1	23.80	22.48	22.15	22.08			8/3	23.80	22.58	22.04	22.01
		3/3	23.80	22.27	22.08	22.01			8/7	23.80	22.48	22.11	21.87
		6/0	23.80	22.43	22.01	21.84			15/0	23.80	22.50	22.02	22.00
	16QAM	1/0	23.80	22.67	22.18	22.03		16QAM	1/0	23.80	22.76	22.28	22.42
		1/2	23.80	22.71	22.16	22.00			1/7	23.80	22.70	22.70	22.73
		1/5	23.80	22.71	22.18	22.03			1/14	23.80	22.81	22.38	21.99
		3/0	23.80	22.45	22.01	22.17			8/0	22.80	21.43	20.98	21.07
		3/1	23.80	22.28	21.99	22.01			8/3	22.80	21.51	20.98	21.14
		3/3	23.80	22.49	21.96	22.07			8/7	22.80	21.42	21.04	21.12
		6/0	22.80	21.46	20.95	20.93			15/0	22.80	21.42	20.97	21.11
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	23.80	22.64	22.30	22.67	5 / 10M	QPSK	1/0	23.80	22.83	22.54	22.47
		1/12	23.80	22.66	22.15	22.26			1/24	23.80	22.39	22.12	22.45
		1/24	23.80	22.62	22.33	21.93			1/49	23.80	22.21	22.60	22.55
		12/0	23.80	22.62	22.02	22.61			25/0	23.80	22.73	22.31	22.71
		12/6	23.80	22.52	22.02	22.17			25/12	23.80	22.43	22.14	22.70
		12/13	23.80	22.46	22.10	22.06			25/25	23.80	22.23	22.66	22.69
		25/0	23.80	22.56	22.13	22.25			50/0	23.80	22.65	22.60	22.58
	16QAM	1/0	23.80	22.70	22.38	22.73		16QAM	1/0	23.80	22.79	22.53	22.74
		1/12	23.80	22.77	22.21	22.30			1/24	23.80	22.38	22.16	22.51
		1/24	23.80	22.73	22.50	22.17			1/49	23.80	22.41	22.70	22.13
		12/0	22.80	21.50	20.99	21.47			25/0	22.80	21.56	21.17	21.61
		12/6	22.80	21.43	20.94	21.13			25/12	22.80	21.28	20.94	21.54
		12/13	22.80	21.38	21.02	20.98			25/25	22.80	21.10	21.10	21.16
		25/0	22.80	21.47	20.94	21.08			50/0	22.80	21.42	21.12	21.40

6) Conducted power measurement results of LTE Band 5 (Div Ant_ Hotspot on and Receiver on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20407 824.7MHz	CH20525 836.5MHz	CH20643 848.3MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20415 825.5MHz	CH20525 836.5MHz	CH20635 847.5MHz
5 / 1.4M	QPSK	1/0	18.80	17.77	17.66	17.64	5 / 3M	QPSK	1/0	18.80	17.69	17.71	17.70
		1/2	18.80	17.77	17.62	17.27			1/7	18.80	17.79	17.22	17.04
		1/5	18.80	17.76	17.66	17.63			1/14	18.80	17.72	17.69	17.62
		3/0	18.80	17.59	17.55	17.66			8/0	18.80	17.65	17.59	17.64
		3/1	18.80	17.75	17.44	17.68			8/3	18.80	17.68	17.56	17.62
		3/3	18.80	17.48	17.52	17.62			8/7	18.80	17.65	17.59	17.64
		6/0	18.80	17.70	17.71	17.62			15/0	18.80	17.73	17.67	17.67
	16QAM	1/0	18.80	17.99	17.86	17.76		16QAM	1/0	18.80	18.06	17.92	17.86
		1/2	18.80	17.84	17.72	17.71			1/7	18.80	17.90	17.19	17.67
		1/5	18.80	17.99	17.84	17.77			1/14	18.80	18.05	17.91	17.79
		3/0	18.80	17.75	17.69	17.60			8/0	18.80	17.66	17.49	17.63
		3/1	18.80	17.53	17.58	17.49			8/3	18.80	17.70	17.64	17.55
		3/3	18.80	17.48	17.58	17.58			8/7	18.80	17.61	17.60	17.59
		6/0	18.80	17.64	17.51	17.53			15/0	18.80	17.71	17.64	17.63
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20425 826.5MHz	CH20525 836.5MHz	CH20625 846.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20450 829MHz	CH20525 836.5MHz	CH20600 844MHz
5 / 5M	QPSK	1/0	18.80	17.49	17.60	17.85	5 / 10M	QPSK	1/0	18.80	17.81	17.62	17.79
		1/12	18.80	17.65	17.13	17.72			1/24	18.80	17.52	17.27	17.53
		1/24	18.80	17.59	17.41	17.66			1/49	18.80	17.60	17.72	17.60
		12/0	18.80	17.58	17.03	17.79			25/0	18.80	17.82	17.69	17.84
		12/6	18.80	17.52	17.05	17.67			25/12	18.80	17.67	17.69	17.78
		12/13	18.80	17.45	17.40	17.60			25/25	18.80	17.63	17.68	17.70
		25/0	18.80	17.56	17.21	17.73			50/0	18.80	17.67	17.68	17.66
	16QAM	1/0	18.80	17.69	17.24	18.13		16QAM	1/0	18.80	18.11	17.87	17.97
		1/12	18.80	17.71	17.18	18.01			1/24	18.80	17.79	17.68	17.66
		1/24	18.80	17.65	17.46	17.98			1/49	18.80	17.97	18.01	17.77
		12/0	18.80	17.62	17.07	17.73			25/0	18.80	17.69	17.62	17.75
		12/6	18.80	17.52	17.08	17.60			25/12	18.80	17.64	17.61	17.61
		12/13	18.80	17.45	17.17	17.67			25/25	18.80	17.59	17.61	17.57
		25/0	18.80	17.50	17.94	17.60			50/0	18.80	17.59	17.61	17.61

8.1.8 CONDUCTED POWER MEASUREMENTS OF LTE Band 7

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

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20775	CH21100	CH21425	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20800	CH21100	CH21400
				2502.5MHz	2535MHz	2567.5MHz					2505MHz	2535MHz	2565MHz
7 / 5M	QPSK	1/0	23.20	22.00	21.99	21.84	7 / 10M	QPSK	1/0	23.20	21.97	21.94	21.78
		1/12	23.20	22.07	22.04	21.88			1/24	23.20	21.94	21.83	21.59
		1/24	23.20	21.99	21.99	21.90			1/49	23.20	21.93	21.86	21.73
		12/0	22.20	21.10	20.97	20.84			25/0	22.20	20.97	20.95	20.87
		12/6	22.20	20.97	20.90	20.84			25/12	22.20	21.04	20.97	20.81
		12/13	22.20	20.97	20.94	20.92			25/25	22.20	21.01	20.87	20.87
		25/0	22.20	21.00	20.92	20.82			50/0	22.20	21.03	20.92	20.87
	16QAM	1/0	22.20	21.29	21.13	20.93		16QAM	1/0	22.20	21.15	21.15	21.09
		1/12	22.20	21.23	21.16	20.95			1/24	22.20	20.93	21.00	20.98
		1/24	22.20	21.35	21.15	21.00			1/49	22.20	21.13	21.12	21.03
		12/0	21.20	20.02	19.94	19.82			25/0	21.20	19.98	19.88	19.73
		12/6	21.20	19.94	19.88	19.76			25/12	21.20	19.87	19.88	19.73
		12/13	21.20	19.95	19.82	19.78			25/25	21.20	19.96	19.92	19.76
		25/0	21.20	19.97	19.83	19.79			50/0	21.20	19.93	19.82	19.77
7 / 15M	QPSK	1/0	23.20	21.98	21.93	21.76	7 / 20M	QPSK	1/0	23.20	22.10	21.98	21.86
		1/37	23.20	22.06	22.09	21.89			1/50	23.20	21.87	21.80	21.79
		1/74	23.20	21.97	21.87	21.72			1/99	23.20	21.98	21.92	21.85
		36/0	22.20	21.01	20.98	20.92			50/0	22.20	21.02	20.96	20.89
		36/19	22.20	21.02	20.96	20.93			50/25	22.20	21.01	20.93	20.82
		36/39	22.20	21.00	20.93	20.91			50/50	22.20	20.98	20.91	20.87
		75/0	22.20	21.04	20.95	20.80			100/0	22.20	21.05	20.93	20.87
	16QAM	1/0	22.20	21.07	21.05	21.15		16QAM	1/0	22.20	21.15	21.14	21.22
		1/37	22.20	21.16	21.06	21.29			1/50	22.20	20.99	20.92	21.06
		1/74	22.20	21.08	20.98	21.06			1/99	22.20	21.19	21.11	21.19
		36/0	21.20	20.01	19.95	19.85			50/0	21.20	19.95	19.88	19.77
		36/19	21.20	19.97	19.87	19.87			50/25	21.20	19.92	19.90	19.75
		36/39	21.20	19.92	19.88	19.87			50/50	21.20	19.92	19.89	19.79
		75/0	21.20	19.94	19.81	19.74			100/0	21.20	19.95	19.87	19.82

2) Conducted power measurement results of LTE Band 7 (Main Ant_ Hotspot on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20775 2502.5MHz	CH21100 2535MHz	CH21425 2567.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20800 2505MHz	CH21100 2535MHz	CH21400 2565MHz
7 / 5M	QPSK	1/0	20.20	19.07	18.99	18.83	7 / 10M	QPSK	1/0	20.20	18.99	19.00	18.86
		1/12	20.20	19.10	18.97	18.88			1/24	20.20	18.84	18.81	18.53
		1/24	20.20	19.04	18.98	18.94			1/49	20.20	18.96	18.93	18.78
		12/0	20.20	19.15	19.03	18.91			25/0	20.20	19.05	18.97	18.85
		12/6	20.20	19.03	18.96	18.87			25/12	20.20	19.04	18.94	18.86
		12/13	20.20	19.02	18.97	18.82			25/25	20.20	18.98	18.98	18.89
		25/0	20.20	19.04	18.97	18.87			50/0	20.20	19.05	18.95	18.87
	16QAM	1/0	20.20	19.16	18.95	18.90		16QAM	1/0	20.20	19.26	19.18	19.01
		1/12	20.20	19.15	18.96	18.99			1/24	20.20	19.05	18.95	18.86
		1/24	20.20	19.14	18.97	18.94			1/49	20.20	19.29	19.13	18.96
		12/0	20.20	19.01	19.00	18.88			25/0	20.20	18.97	18.97	18.85
		12/6	20.20	18.97	18.93	18.86			25/12	20.20	18.92	18.92	18.81
		12/13	20.20	18.98	18.97	18.73			25/25	20.20	18.98	18.96	18.77
		25/0	20.20	18.98	18.90	18.80			50/0	20.20	18.92	18.91	18.83
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20825 2507.5MHz	CH21100 2535MHz	CH21375 2562.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20850 2510MHz	CH21100 2535MHz	CH21350 2560MHz
7 / 15M	QPSK	1/0	20.20	18.94	18.86	18.84	7 / 20M	QPSK	1/0	20.20	19.34	19.23	19.14
		1/37	20.20	19.07	18.98	18.92			1/50	20.20	19.04	19.02	19.05
		1/74	20.20	18.88	18.81	18.72			1/99	20.20	19.32	19.10	19.11
		36/0	20.20	19.06	19.03	18.92			50/0	20.20	18.99	18.93	18.87
		36/19	20.20	19.06	18.97	18.94			50/25	20.20	18.90	18.94	18.85
		36/39	20.20	19.04	18.95	18.85			50/50	20.20	18.90	18.95	18.91
		75/0	20.20	19.01	18.97	18.89			100/0	20.20	19.05	18.95	18.89
	16QAM	1/0	20.20	18.96	19.28	18.97		16QAM	1/0	20.20	19.10	19.27	19.11
		1/37	20.20	19.06	19.22	19.12			1/50	20.20	18.80	19.09	18.93
		1/74	20.20	18.97	19.20	18.91			1/99	20.20	18.99	19.21	19.09
		36/0	20.20	18.97	19.00	18.90			50/0	20.20	18.90	18.91	18.84
		36/19	20.20	19.00	18.93	18.89			50/25	20.20	18.97	18.93	18.81
		36/39	20.20	18.96	18.93	18.82			50/50	20.20	18.95	18.93	18.83
		75/0	20.20	18.96	18.88	18.78			100/0	20.20	18.94	18.91	18.85

3) Conducted power measurement results of LTE Band 7 (Div Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH20775 2502.5MHz	CH21100 2535MHz	CH21425 2567.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20800 2505MHz	CH21100 2535MHz	CH21400 2565MHz
7 / 5M	QPSK	1/0	15.20	13.82	14.24	13.82	7 / 10M	QPSK	1/0	15.20	14.06	14.34	13.97
		1/12	15.20	13.83	14.12	13.85			1/24	15.20	13.92	14.15	13.61
		1/24	15.20	13.80	13.96	13.73			1/49	15.20	13.78	14.02	13.62
		12/0	15.20	13.75	14.07	13.86			25/0	15.20	13.84	14.23	13.73
		12/6	15.20	13.75	14.05	13.76			25/12	15.20	13.74	14.02	13.53
		12/13	15.20	13.72	13.96	13.89			25/25	15.20	13.71	14.00	13.72
		25/0	15.20	13.69	14.00	13.82			50/0	15.20	13.81	14.04	13.77
	16QAM	1/0	15.20	13.86	14.23	13.77		16QAM	1/0	15.20	14.16	14.32	14.09
		1/12	15.20	13.94	14.14	13.87			1/24	15.20	13.99	14.03	13.74
		1/24	15.20	13.90	13.96	13.73			1/49	15.20	13.83	14.10	13.89
		12/0	15.20	13.67	14.00	13.74			25/0	15.20	13.74	13.94	13.78
		12/6	15.20	13.65	14.01	13.63			25/12	15.20	13.71	14.17	13.58
		12/13	15.20	13.62	13.92	13.89			25/25	15.20	13.53	13.89	13.69
		25/0	15.20	13.58	13.94	13.78			50/0	15.20	13.54	13.97	13.60
Band / BW	Modulation	RB Size/Offset	Tune-up	CH20825 2507.5MHz	CH21100 2535MHz	CH21375 2562.5MHz	Band / BW	Modulation	RB Size/Offset	Tune-up	CH20850 2510MHz	CH21100 2535MHz	CH21350 2560MHz
7 / 15M	QPSK	1/0	15.20	13.95	14.35	13.98	7 / 20M	QPSK	1/0	15.20	14.37	13.97	14.35
		1/37	15.20	13.94	14.14	13.61			1/50	15.20	13.88	14.24	13.72
		1/74	15.20	13.82	13.93	13.58			1/99	15.20	14.01	14.14	13.88
		36/0	15.20	13.93	14.18	13.75			50/0	15.20	14.04	14.02	13.86
		36/19	15.20	13.94	14.07	13.55			50/25	15.20	13.91	14.01	13.60
		36/39	15.20	13.95	13.96	13.63			50/50	15.20	13.92	13.94	13.72
		75/0	15.20	13.93	14.12	13.56			100/0	15.20	13.98	13.95	13.71
	16QAM	1/0	15.20	14.11	14.13	14.10		16QAM	1/0	15.20	14.31	14.14	14.36
		1/37	15.20	14.00	14.19	13.73			1/50	15.20	14.00	14.13	13.82
		1/74	15.20	13.79	14.00	13.80			1/99	15.20	13.90	14.04	14.08
		36/0	15.20	13.91	14.05	13.75			50/0	15.20	13.95	14.07	13.86
		36/19	15.20	13.77	13.96	13.52			50/25	15.20	13.65	13.94	13.56
		36/39	15.20	13.59	13.88	13.51			50/50	15.20	13.51	13.89	13.59
		75/0	15.20	13.77	14.03	13.55			100/0	15.20	13.71	14.09	13.66

8.1.9 CONDUCTED POWER MEASUREMENTS OF LTE BAND 41

1) Conducted power measurement results of LTE Band 41 (Main Ant_ Full power)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40165	CH40515	CH40865	CH41215
				2547.5MHz	2582.5MHz	2617.5MHz	2652.5MHz
41 / 5M	QPSK	1/0	24.50	23.41	23.32	23.29	23.43
		1/12	24.50	23.40	23.28	23.19	23.37
		1/24	24.50	23.41	23.36	23.31	23.43
		12/0	23.50	22.26	22.11	22.13	22.26
		12/6	23.50	22.09	22.23	22.18	22.20
		12/13	23.50	22.14	22.16	22.12	22.25
		25/0	23.50	22.18	22.15	22.08	22.02
	16QAM	1/0	23.50	22.34	22.19	22.15	22.91
		1/12	23.50	22.03	22.09	22.06	21.71
		1/24	23.50	22.35	22.26	22.19	22.91
		12/0	22.50	21.22	21.18	21.25	21.25
		12/6	22.50	21.16	21.19	21.15	21.24
		12/13	22.50	21.10	21.14	21.13	21.25
		25/0	22.50	21.13	21.15	21.22	21.19

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40190	CH40520	CH40850	CH41190
				2550MHz	2583MHz	2616MHz	2650MHz
41 / 10M	QPSK	1/0	24.50	23.43	23.38	23.31	23.35
		1/24	24.50	23.31	23.29	23.26	22.89
		1/49	24.50	23.03	23.12	23.15	23.36
		25/0	23.50	21.88	22.03	22.08	22.05
		25/12	23.50	21.87	21.96	22.16	22.07
		25/25	23.50	21.89	21.86	22.05	22.07
		50/0	23.50	21.90	21.96	21.99	22.08
	16QAM	1/0	23.50	22.29	22.13	22.09	22.35
		1/24	23.50	22.53	22.38	22.39	22.38
		1/49	23.50	22.29	22.11	22.16	22.33
		25/0	22.50	21.04	21.06	21.20	21.02
		25/12	22.50	21.03	21.08	21.15	21.00
		25/25	22.50	20.99	21.11	21.06	21.13
		50/0	22.50	21.06	21.15	21.06	21.06

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40215	CH40535	CH40855	CH41165
				2552.5MHz	2584.5MHz	2616.5MHz	2647.5MHz
41 / 15M	QPSK	1/0	24.50	23.35	23.29	23.25	23.22
		1/37	24.50	23.35	23.26	23.19	23.34
		1/74	24.50	23.34	23.19	23.22	23.21
		36/0	23.50	21.92	22.02	22.05	22.19
		36/19	23.50	21.92	22.06	22.11	22.14
		36/39	23.50	21.89	21.95	21.98	22.17
		75/0	23.50	21.94	21.92	21.95	22.15
	16QAM	1/0	23.50	22.15	22.06	22.04	22.14
		1/37	23.50	22.46	22.35	22.31	21.74
		1/74	23.50	21.93	22.02	22.05	22.29
		36/0	22.50	20.89	21.02	21.05	21.17
		36/19	22.50	20.91	20.95	20.96	21.10
		36/39	22.50	20.89	21.03	21.01	21.15
		75/0	22.50	20.82	20.88	20.86	21.12

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40240	CH40540	CH40840	CH41140
				2555MHz	2585MHz	2615MHz	2645MHz
41 / 20M	QPSK	1/0	24.50	23.28	23.16	23.18	23.36
		1/50	24.50	23.24	23.06	23.12	23.15
		1/99	24.50	23.19	23.11	23.12	23.33
		50/0	23.50	21.90	21.95	21.98	22.05
		50/25	23.50	21.88	21.85	22.02	22.07
		50/50	23.50	21.84	21.89	21.95	22.18
		100/0	23.50	21.86	21.81	21.83	22.01
	16QAM	1/0	23.50	22.01	21.92	21.86	22.36
		1/50	23.50	21.75	21.82	21.93	21.99
		1/99	23.50	21.92	21.88	22.02	22.47
		50/0	22.50	20.83	20.92	20.96	21.06
		50/25	22.50	20.81	20.83	21.05	21.01
		50/50	22.50	20.77	20.79	20.89	21.04
		100/0	22.50	20.78	20.81	20.87	21.10

2) Conducted power measurement results of LTE Band 41 (Main Ant_ Hotspot on)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40165	CH40515	CH40865	CH41215
				2547.5MHz	2582.5MHz	2617.5MHz	2652.5MHz
41 / 5M	QPSK	1/0	22.50	21.30	21.29	21.32	21.38
		1/12	22.50	20.68	20.89	21.02	21.27
		1/24	22.50	21.26	21.15	21.09	21.42
		12/0	22.50	21.41	21.26	21.11	21.29
		12/6	22.50	21.11	21.18	21.09	21.20
		12/13	22.50	21.33	21.28	21.31	21.52
		25/0	22.50	21.35	21.06	21.15	21.40
	16QAM	1/0	22.50	21.36	21.12	21.15	21.33
		1/12	22.50	21.41	21.19	21.08	20.53
		1/24	22.50	21.54	21.29	21.22	21.37
		12/0	22.50	21.28	21.16	21.15	21.28
		12/6	22.50	21.03	21.08	21.13	21.22
		12/13	22.50	21.25	21.19	21.14	21.20
		25/0	22.50	21.03	21.09	21.14	21.15

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40190	CH40520	CH40850	CH41190
				2550MHz	2583MHz	2616MHz	2650MHz
41 / 10M	QPSK	1/0	22.50	21.34	21.29	21.22	21.33
		1/24	22.50	21.09	21.11	21.16	21.01
		1/49	22.50	21.30	21.22	21.17	21.35
		25/0	22.50	21.27	21.22	21.24	21.32
		25/12	22.50	21.34	21.29	21.25	21.41
		25/25	22.50	21.31	21.26	21.23	21.46
		50/0	22.50	21.28	21.21	21.31	21.45
	16QAM	1/0	22.50	21.50	21.42	21.38	21.51
		1/24	22.50	21.42	21.38	21.28	21.25
		1/49	22.50	21.48	21.41	21.31	21.36
		25/0	22.50	21.15	21.19	21.12	21.12
		25/12	22.50	21.12	21.14	21.18	21.10
		25/25	22.50	21.09	21.13	21.21	21.13
		50/0	22.50	21.05	21.07	21.09	21.17

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40215	CH40535	CH40855	CH41165
				2552.5MHz	2584.5MHz	2616.5MHz	2647.5MHz
41 / 15M	QPSK	1/0	22.50	21.42	21.38	21.23	21.34
		1/37	22.50	21.24	21.29	21.28	21.21
		1/74	22.50	21.07	21.11	21.29	21.44
		36/0	22.50	21.42	21.32	21.18	21.42
		36/19	22.50	21.41	21.33	21.23	21.46
		36/39	22.50	21.28	21.26	21.29	21.50
		75/0	22.50	21.33	21.23	21.36	21.51
	16QAM	1/0	22.50	21.36	21.31	21.27	21.42
		1/37	22.50	21.49	21.41	21.13	21.06
		1/74	22.50	21.36	21.37	21.33	21.41
		36/0	22.50	21.13	21.18	21.19	21.12
		36/19	22.50	21.07	21.11	21.22	21.17
		36/39	22.50	21.06	21.08	21.14	21.13
		75/0	22.50	21.05	21.08	21.15	21.22

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40240	CH40540	CH40840	CH41140
				2555MHz	2585MHz	2615MHz	2645MHz
41 / 20M	QPSK	1/0	22.50	21.34	21.28	21.26	21.38
		1/50	22.50	21.12	21.17	21.19	21.14
		1/99	22.50	21.29	21.23	21.25	21.36
		50/0	22.50	21.36	21.29	21.25	21.34
		50/25	22.50	21.34	21.22	21.23	21.34
		50/50	22.50	21.35	21.17	21.27	21.32
		100/0	22.50	21.31	21.26	21.21	21.35
	16QAM	1/0	22.50	21.43	21.32	21.29	21.57
		1/50	22.50	21.00	21.15	21.19	21.39
		1/99	22.50	21.38	21.12	21.19	21.47
		50/0	22.50	21.06	21.19	21.14	21.17
		50/25	22.50	21.05	21.11	21.13	21.15
		50/50	22.50	21.02	21.08	21.16	21.18
		100/0	22.50	21.00	21.08	21.07	21.13

3) Conducted power measurement results of LTE Band 41 (Div Ant_ Receiver off)

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40165	CH40515	CH40865	CH41215
				2547.5MHz	2582.5MHz	2617.5MHz	2652.5MHz
41 / 5M	QPSK	1/0	19.50	18.10	18.01	18.05	18.25
		1/12	19.50	17.78	17.95	17.91	18.08
		1/24	19.50	17.93	17.88	17.86	18.02
		12/0	19.50	17.87	17.91	17.96	18.22
		12/6	19.50	17.82	17.83	17.84	18.05
		12/13	19.50	17.82	17.77	17.93	18.12
		25/0	19.50	17.87	17.81	17.94	18.18
	16QAM	1/0	19.50	17.80	17.72	17.78	18.23
		1/12	19.50	17.69	17.83	17.77	17.67
		1/24	19.50	17.64	17.75	17.89	17.99
		12/0	19.50	17.87	17.82	17.96	18.20
		12/6	19.50	17.81	17.76	17.88	18.21
		12/13	19.50	17.83	17.75	17.96	18.13
		25/0	19.50	17.81	17.80	17.90	18.15

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40190	CH40520	CH40850	CH41190
				2550MHz	2583MHz	2616MHz	2650MHz
41 / 10M	QPSK	1/0	19.50	18.08	18.11	18.06	18.20
		1/24	19.50	17.96	17.93	17.96	17.97
		1/49	19.50	17.73	17.85	17.88	17.93
		25/0	19.50	18.04	18.01	17.93	18.14
		25/12	19.50	17.86	17.96	17.82	18.12
		25/25	19.50	17.81	17.94	17.77	18.06
		50/0	19.50	17.95	18.03	18.09	18.14
	16QAM	1/0	19.50	18.27	18.11	18.17	18.43
		1/24	19.50	18.05	18.02	18.22	18.53
		1/49	19.50	17.84	17.89	18.07	18.28
		25/0	19.50	17.98	17.93	17.98	18.16
		25/12	19.50	17.82	17.71	18.01	18.09
		25/25	19.50	17.76	17.78	18.03	18.08
		50/0	19.50	17.81	17.73	17.93	18.06

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40215	CH40535	CH40855	CH41165
				2552.5MHz	2584.5MHz	2616.5MHz	2647.5MHz
41 / 15M	QPSK	1/0	19.50	18.06	18.02	17.97	18.12
		1/37	19.50	18.03	17.96	17.96	18.04
		1/74	19.50	17.65	18.11	17.93	17.89
		36/0	19.50	18.06	18.08	18.11	18.22
		36/19	19.50	17.92	17.93	17.97	18.16
		36/39	19.50	17.74	17.89	17.93	18.04
		75/0	19.50	17.95	17.92	18.02	18.15
	16QAM	1/0	19.50	18.02	17.96	17.91	18.42
		1/37	19.50	17.88	17.93	17.88	18.23
		1/74	19.50	17.56	17.76	17.89	18.19
		36/0	19.50	18.00	18.05	17.95	18.21
		36/19	19.50	17.87	17.91	17.78	18.13
		36/39	19.50	17.68	17.83	17.66	18.04
		75/0	19.50	17.86	17.76	17.74	18.09

Band / BW	Modulation	RB Size/Offset	Tune-up	CH40240	CH40540	CH40840	CH41140
				2555MHz	2585MHz	2615MHz	2645MHz
41 / 20M	QPSK	1/0	19.50	18.48	18.36	18.28	18.37
		1/50	19.50	17.92	18.03	18.12	18.39
		1/99	19.50	18.16	18.11	18.08	18.37
		50/0	19.50	18.41	18.25	18.25	18.35
		50/25	19.50	18.14	18.18	18.21	18.29
		50/50	19.50	17.98	18.06	18.16	18.25
		100/0	19.50	18.35	18.24	18.17	18.34
	16QAM	1/0	19.50	18.41	18.36	18.27	18.47
		1/50	19.50	18.01	17.95	17.88	17.64
		1/99	19.50	17.99	17.96	18.04	18.31
		50/0	19.50	18.07	18.03	17.98	18.07
		50/25	19.50	17.92	18.03	17.95	18.03
		50/50	19.50	17.74	17.86	17.95	17.98
		100/0	19.50	17.95	17.91	18.01	18.10

8.1.10 CONDUCTED POWER MEASUREMENTS OF WiFi 2.4G

1) Full Power

FCC 2.4G	Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power(dBm)	SAR Test(Yes/No)
	802.11b	1	2412	1	17.00	15.06	No
		6	2437		17.00	15.36	No
		11	2462		17.00	15.53	Yes
	802.11g	1	2412	6	16.00	15.10	No
		6	2437		18.00	17.37	No
		11	2462		16.00	15.31	No
	802.11n HT20	1	2412	6.5	15.00	13.62	No
		6	2437		17.00	15.97	No
		11	2462		15.00	13.89	No
	802.11n HT40	3	2422	13.5	15.00	13.03	No
		6	2437		16.00	15.52	No
		9	2452		15.00	13.23	No

2) WiFi Antenna Simutanuous with 2G&3G&4G receiver on

FCC 2.4G	Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power(dBm)	SAR Test(Yes/No)
	802.11b	1	2412	1	10.00	8.95	No
		6	2437		10.00	9.54	Yes
		11	2462		10.00	9.53	No
	802.11g	1	2412	6	11.00	10.49	No
		6	2437		11.00	10.56	No
		11	2462		11.00	10.42	No
	802.11n HT20	1	2412	6.5	11.00	9.94	No
		6	2437		11.00	10.56	No
		11	2462		11.00	10.53	No
	802.11n HT40	3	2422	13.5	11.00	9.32	No
		6	2437		11.00	10.94	No
		9	2452		11.00	9.51	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 BT

BT	Tune Up	Average Conducted Power (dBm)			SAR Test(Yes/No)
		CH0	CH39	CH78	
DH5	9.00	7.02	7.05	7.10	No
2DH5	9.00	5.20	5.15	5.11	No
3DH5	9.00	5.13	5.11	5.09	No

BT	Tune Up	Average Conducted Power (dBm)			SAR Test(Yes/No)
		CH0	CH19	CH39	
BLE	6.00	2.34	1.87	0.97	No

Note:

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

8.2 SAR 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 $> \frac{1}{2}$ 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 ≥ 0.8 W/kg; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR < 1.45 W/kg, only one repeated measurement is required.
- 4) Per KDB941225 D06, the DUT Dimension is bigger than $9\text{ cm} \times 5\text{ cm}$, so 10 mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5 cm , 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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 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	Channel	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T361	GSM 850	GSM	190	Right Cheek	Main	1	1	33.4	32.51	0.03	0.028	0.019	0.034
T362	GSM 850	GSM	190	Right Tilted	Main	1	1	33.4	32.51	0.06	0.013	0.009	0.016
T363	GSM 850	GSM	190	Left Cheek	Main	1	1	33.4	32.51	0.02	0.031	0.021	0.038
T364	GSM 850	GSM	190	Left Tilted	Main	1	1	33.4	32.51	-0.01	0.013	0.009	0.016
T365	GSM 850	GSM	190	Left Cheek	Main	2	1	33.4	32.51	0.09	0.048	0.036	0.059
T366	GSM 850	GSM	190	Left Cheek	Main	1	2	33.4	32.51	-0.02	0.040	0.028	0.049
T371	GSM 850	GSM	190	Right Cheek	DIV	1	1	28.4	27.61	0.02	0.248	0.143	0.297
T372	GSM 850	GSM	190	Right Tilted	DIV	1	1	28.4	27.61	0.03	0.234	0.132	0.281
T373	GSM 850	GSM	190	Left Cheek	DIV	1	1	28.4	27.61	-0.05	0.329	0.177	0.395
T374	GSM 850	GSM	190	Left Tilted	DIV	1	1	28.4	27.61	0.09	0.285	0.145	0.342
T375	GSM 850	GSM	190	Left Cheek	DIV	2	1	28.4	27.61	0.11	0.290	0.168	0.348
T376	GSM 850	GSM	190	Left Cheek	DIV	1	2	28.4	27.61	0.01	0.274	0.153	0.329
T381	GSM 1900	GSM	661	Right Cheek	Main	1	1	30.2	28.95	0.01	0.048	0.027	0.064
T382	GSM 1900	GSM	661	Right Tilted	Main	1	1	30.2	28.95	-0.03	0.041	0.021	0.054
T383	GSM 1900	GSM	661	Left Cheek	Main	1	1	30.2	28.95	0.07	0.036	0.021	0.048
T384	GSM 1900	GSM	661	Left Tilted	Main	1	1	30.2	28.95	-0.03	0.039	0.021	0.051
T385	GSM 1900	GSM	661	Right Cheek	Main	2	1	30.2	28.95	0.04	0.041	0.022	0.055
T386	GSM 1900	GSM	661	Right Cheek	Main	1	2	30.2	28.95	-0.01	0.040	0.025	0.053
T391	GSM 1900	GSM	661	Right Cheek	DIV	1	1	25.2	23.86	0.05	0.025	0.012	0.035
T392	GSM 1900	GSM	661	Right Tilted	DIV	1	1	25.2	23.86	0.02	0.031	0.015	0.042
T393	GSM 1900	GSM	661	Left Cheek	DIV	1	1	25.2	23.86	0.08	0.026	0.013	0.035
T394	GSM 1900	GSM	661	Left Tilted	DIV	1	1	25.2	23.86	0.05	0.034	0.015	0.046
T395	GSM 1900	GSM	661	Left Tilted	DIV	2	1	25.2	23.86	-0.12	0.029	0.015	0.039
T396	GSM 1900	GSM	661	Left Tilted	DIV	1	2	25.2	23.86	0.15	0.027	0.015	0.037

2. Head SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T401	UMTS B2	RMC12.2K	9400	Right Cheek	Main	1	1	24.6	23.3	0.06	0.079	0.048	0.106
T402	UMTS B2	RMC12.2K	9400	Right Tilted	Main	1	1	24.6	23.3	-0.05	0.104	0.054	0.140
T403	UMTS B2	RMC12.2K	9400	Left Cheek	Main	1	1	24.6	23.3	0.03	0.095	0.052	0.128
T404	UMTS B2	RMC12.2K	9400	Left Tilted	Main	1	1	24.6	23.3	0.07	0.092	0.048	0.124
T405	UMTS B2	RMC12.2K	9400	Right Tilted	Main	2	1	24.6	23.3	-0.03	0.086	0.040	0.116
T406	UMTS B2	RMC12.2K	9400	Right Tilted	Main	1	2	24.6	23.3	0.04	0.100	0.052	0.135
T411	UMTS B2	RMC12.2K	9400	Right Cheek	DIV	1	1	19.6	18.27	-0.08	0.178	0.095	0.242
T412	UMTS B2	RMC12.2K	9400	Right Tilted	DIV	1	1	19.6	18.27	0.02	0.139	0.063	0.189
T413	UMTS B2	RMC12.2K	9400	Left Cheek	DIV	1	1	19.6	18.27	-0.04	0.110	0.067	0.149
T414	UMTS B2	RMC12.2K	9400	Right Cheek	DIV	1	1	19.6	18.27	0.02	0.107	0.048	0.145
T415	UMTS B2	RMC12.2K	9400	Right Cheek	DIV	2	1	19.6	18.27	0.09	0.154	0.095	0.209
T416	UMTS B2	RMC12.2K	9400	Right Cheek	DIV	1	2	19.6	18.27	0.07	0.163	0.085	0.221
T421	UMTS B4	RMC12.2K	1413	Right Cheek	Main	1	1	24.5	23.03	0.02	0.096	0.064	0.134
T422	UMTS B4	RMC12.2K	1413	Right Tilted	Main	1	1	24.5	23.03	0.06	0.080	0.057	0.113
T423	UMTS B4	RMC12.2K	1413	Left Cheek	Main	1	1	24.5	23.03	0.14	0.070	0.041	0.099
T424	UMTS B4	RMC12.2K	1413	Left Tilted	Main	1	1	24.5	23.03	0.02	0.061	0.038	0.085
T425	UMTS B4	RMC12.2K	1413	Right Cheek	Main	2	1	24.5	23.03	-0.06	0.126	0.078	0.177
T426	UMTS B4	RMC12.2K	1413	Right Cheek	Main	2	2	24.5	23.03	0.06	0.125	0.077	0.175
T431	UMTS B4	RMC12.2K	1413	Right Cheek	DIV	1	1	19.5	18	0.04	0.097	0.047	0.136
T432	UMTS B4	RMC12.2K	1413	Right Tilted	DIV	1	1	19.5	18	0.07	0.097	0.048	0.137
T433	UMTS B4	RMC12.2K	1413	Left Cheek	DIV	1	1	19.5	18	0.02	0.109	0.053	0.154
T434	UMTS B4	RMC12.2K	1413	Left Tilted	DIV	1	1	19.5	18	0.15	0.118	0.055	0.167
T435	UMTS B4	RMC12.2K	1413	Left Tilted	DIV	2	1	19.5	18	0.06	0.105	0.050	0.148
T436	UMTS B4	RMC12.2K	1413	Left Tilted	DIV	1	2	19.5	18	0.03	0.106	0.051	0.150
T441	UMTS B5	RMC12.2K	4182	Right Cheek	Main	1	1	25	23.74	0.03	0.048	0.033	0.064
T442	UMTS B5	RMC12.2K	4182	Right Tilted	Main	1	1	25	23.74	0.09	0.017	0.012	0.023
T443	UMTS B5	RMC12.2K	4182	Left Cheek	Main	1	1	25	23.74	-0.02	0.047	0.032	0.063
T444	UMTS B5	RMC12.2K	4182	Left Tilted	Main	1	1	25	23.74	0.09	0.016	0.011	0.021
T445	UMTS B5	RMC12.2K	4182	Right Cheek	Main	2	1	25	23.74	0.01	0.039	0.030	0.052
T446	UMTS B5	RMC12.2K	4182	Right Cheek	Main	1	2	25	23.74	0.03	0.065	0.050	0.087
T451	UMTS B5	RMC12.2K	4182	Right Cheek	DIV	1	1	20	18.06	0.03	0.265	0.166	0.414
T452	UMTS B5	RMC12.2K	4182	Right Tilted	DIV	1	1	20	18.06	0.09	0.251	0.147	0.392
T453	UMTS B5	RMC12.2K	4182	Left Cheek	DIV	1	1	20	18.06	-0.12	0.353	0.199	0.552
T454	UMTS B5	RMC12.2K	4182	Left Tilted	DIV	1	1	20	18.06	0.05	0.328	0.179	0.513
T455	UMTS B5	RMC12.2K	4182	Left Cheek	DIV	2	1	20	18.06	-0.07	0.381	0.209	0.596
T456	UMTS B5	RMC12.2K	4182	Left Cheek	DIV	2	2	20	18.06	0.04	0.338	0.193	0.528

3. Head SAR test results of LTE B2

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T461	LTE B2	QPSK20M	18700	1	0	Right Cheek	Main	1	1	24.5	23.37	0.01	0.091	0.057	0.118
T462	LTE B2	QPSK20M	18700	1	0	Right Tilted	Main	1	1	24.5	23.37	-0.04	0.063	0.031	0.081
T463	LTE B2	QPSK20M	18700	1	0	Left Cheek	Main	1	1	24.5	23.37	0.05	0.108	0.065	0.140
T464	LTE B2	QPSK20M	18700	1	0	Left Tilted	Main	1	1	24.5	23.37	0.06	0.099	0.055	0.128
T465	LTE B2	QPSK20M	18700	50	0	Right Cheek	Main	1	1	23.5	22.20	0.04	0.102	0.055	0.138
T466	LTE B2	QPSK20M	18700	50	0	Right Tilted	Main	1	1	23.5	22.20	-0.03	0.07	0.041	0.094
T467	LTE B2	QPSK20M	18700	50	0	Left Cheek	Main	1	1	23.5	22.20	0.18	0.089	0.055	0.120
T468	LTE B2	QPSK20M	18700	50	0	Left Tilted	Main	1	1	23.5	22.20	0.12	0.078	0.043	0.105
T469	LTE B2	QPSK20M	18700	1	0	Left Cheek	Main	2	1	24.5	23.37	-0.06	0.078	0.035	0.101
T470	LTE B2	QPSK20M	18700	1	0	Left Cheek	Main	1	2	24.5	23.37	0.04	0.097	0.058	0.126
T481	LTE B2	QPSK20M	18900	1	0	Right Cheek	DIV	1	1	19.5	18.44	0.03	0.127	0.068	0.162
T482	LTE B2	QPSK20M	18900	1	0	Right Tilted	DIV	1	1	19.5	18.44	-0.06	0.098	0.045	0.125
T483	LTE B2	QPSK20M	18900	1	0	Left Cheek	DIV	1	1	19.5	18.44	0.06	0.092	0.054	0.117
T484	LTE B2	QPSK20M	18900	1	0	Left Tilted	DIV	1	1	19.5	18.44	0.04	0.074	0.041	0.094
T485	LTE B2	QPSK20M	18900	50	0	Right Cheek	DIV	1	1	19.5	18.19	-0.04	0.108	0.056	0.146
T486	LTE B2	QPSK20M	18900	50	0	Right Tilted	DIV	1	1	19.5	18.19	-0.15	0.074	0.044	0.100
T487	LTE B2	QPSK20M	18900	50	0	Left Cheek	DIV	1	1	19.5	18.19	0.06	0.088	0.05	0.119
T488	LTE B2	QPSK20M	18900	50	0	Left Tilted	DIV	1	1	19.5	18.19	0.07	0.086	0.047	0.116
T489	LTE B2	QPSK20M	18900	1	0	Right Cheek	DIV	2	1	19.5	18.44	0.04	0.112	0.061	0.143
T490	LTE B2	QPSK20M	18900	1	0	Right Cheek	DIV	1	2	19.5	18.44	0.06	0.109	0.059	0.139

4. Head SAR test results of LTE B4

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T501	LTE B4	QPSK20M	20050	1	0	Right Cheek	Main	1	1	24.5	23.07	0.03	0.102	0.062	0.142
T502	LTE B4	QPSK20M	20050	1	0	Right Tilted	Main	1	1	24.5	23.07	0.02	0.088	0.050	0.122
T503	LTE B4	QPSK20M	20050	1	0	Left Cheek	Main	1	1	24.5	23.07	0.09	0.083	0.051	0.115
T504	LTE B4	QPSK20M	20050	1	0	Left Tilted	Main	1	1	24.5	23.07	0.11	0.073	0.044	0.101
T505	LTE B4	QPSK20M	20050	50	0	Right Cheek	Main	1	1	23.5	21.96	0.02	0.083	0.050	0.118
T506	LTE B4	QPSK20M	20050	50	0	Right Tilted	Main	1	1	23.5	21.96	0.05	0.069	0.039	0.098
T507	LTE B4	QPSK20M	20050	50	0	Left Cheek	Main	1	1	23.5	21.96	-0.12	0.066	0.040	0.094
T508	LTE B4	QPSK20M	20050	50	0	Left Tilted	Main	1	1	23.5	21.96	0.03	0.056	0.033	0.080
T509	LTE B4	QPSK20M	20050	1	0	Right Cheek	Main	2	1	24.5	23.07	-0.01	0.126	0.078	0.175
T510	LTE B4	QPSK20M	20050	1	0	Right Cheek	Main	2	2	24.5	23.07	0.03	0.109	0.062	0.151
T521	LTE B4	QPSK20M	20300	1	0	Right Cheek	DIV	1	1	19.5	18.15	0.02	0.117	0.073	0.160
T522	LTE B4	QPSK20M	20300	1	0	Right Tilted	DIV	1	1	19.5	18.15	0.06	0.096	0.058	0.131
T523	LTE B4	QPSK20M	20300	1	0	Left Cheek	DIV	1	1	19.5	18.15	0.03	0.110	0.068	0.150
T524	LTE B4	QPSK20M	20300	1	0	Left Tilted	DIV	1	1	19.5	18.15	0.01	0.112	0.076	0.153
T525	LTE B4	QPSK20M	20300	50	0	Right Cheek	DIV	1	1	19.5	17.95	-0.02	0.089	0.056	0.127
T526	LTE B4	QPSK20M	20300	50	0	Right Tilted	DIV	1	1	19.5	17.95	0.1	0.096	0.059	0.137
T527	LTE B4	QPSK20M	20300	50	0	Left Cheek	DIV	1	1	19.5	17.95	0.06	0.082	0.053	0.117
T528	LTE B4	QPSK20M	20300	50	0	Left Tilted	DIV	1	1	19.5	17.95	0.04	0.091	0.062	0.130
T529	LTE B4	QPSK20M	20300	1	0	Right Cheek	DIV	2	1	19.5	18.15	0.02	0.103	0.067	0.141
T530	LTE B4	QPSK20M	20300	1	0	Right Cheek	DIV	1	2	19.5	18.15	-0.09	0.130	0.085	0.178

5. Head SAR test results of LTE B5

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T541	LTE B5	QPSK10M	20450	1	0	Right Cheek	Main	1	1	24.8	23.87	0.05	0.031	0.021	0.038
T542	LTE B5	QPSK10M	20450	1	0	Right Tilted	Main	1	1	24.8	23.87	0.04	0.014	0.009	0.017
T543	LTE B5	QPSK10M	20450	1	0	Left Cheek	Main	1	1	24.8	23.87	0.05	0.035	0.025	0.043
T544	LTE B5	QPSK10M	20450	1	0	Left Tilted	Main	1	1	24.8	23.87	0.09	0.014	0.010	0.018
T545	LTE B5	QPSK10M	20450	25	0	Right Cheek	Main	1	1	23.8	22.80	0.09	0.024	0.016	0.030
T546	LTE B5	QPSK10M	20450	25	0	Right Tilted	Main	1	1	23.8	22.80	0.07	0.010	0.007	0.013
T547	LTE B5	QPSK10M	20450	25	0	Left Cheek	Main	1	1	23.8	22.80	0.07	0.029	0.020	0.036
T548	LTE B5	QPSK10M	20450	25	0	Left Tilted	Main	1	1	23.8	22.80	0.03	0.011	0.007	0.013
T549	LTE B5	QPSK10M	20450	1	0	Left Cheek	Main	2	1	24.8	23.87	0.08	0.030	0.020	0.037
T550	LTE B5	QPSK10M	20450	1	0	Left Cheek	Main	1	2	24.8	23.87	-0.08	0.025	0.017	0.031
T561	LTE B5	QPSK10M	20450	1	0	Right Cheek	DIV	1	1	19.8	18.97	0.15	0.339	0.192	0.410
T562	LTE B5	QPSK10M	20450	1	0	Right Tilted	DIV	1	1	19.8	18.97	0.02	0.285	0.168	0.345
T563	LTE B5	QPSK10M	20450	1	0	Left Cheek	DIV	1	1	19.8	18.97	-0.05	0.321	0.172	0.388
T564	LTE B5	QPSK10M	20450	1	0	Left Tilted	DIV	1	1	19.8	18.97	0.06	0.258	0.167	0.312
T565	LTE B5	QPSK10M	20450	25	0	Right Cheek	DIV	1	1	19.8	18.73	0.03	0.279	0.185	0.357
T566	LTE B5	QPSK10M	20450	25	0	Right Tilted	DIV	1	1	19.8	18.73	0.04	0.252	0.162	0.322
T567	LTE B5	QPSK10M	20450	25	0	Left Cheek	DIV	1	1	19.8	18.73	0.01	0.284	0.164	0.363
T568	LTE B5	QPSK10M	20450	25	0	Left Tilted	DIV	1	1	19.8	18.73	0.02	0.229	0.155	0.293
T569	LTE B5	QPSK10M	20450	1	0	Right Cheek	DIV	2	1	19.8	18.97	0.02	0.288	0.169	0.348
T570	LTE B5	QPSK10M	20450	1	0	Right Cheek	DIV	1	2	19.8	18.97	-0.06	0.304	0.174	0.368

6. Head SAR test results of LTE B7

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T581	LTE B7	QPSK20M	20850	1	0	Right Cheek	Main	1	1	23.2	22.10	0.04	0.057	0.030	0.074
T582	LTE B7	QPSK20M	20850	1	0	Right Tilted	Main	1	1	23.2	22.10	0.05	0.041	0.017	0.052
T583	LTE B7	QPSK20M	20850	1	0	Left Cheek	Main	1	1	23.2	22.10	0.02	0.053	0.027	0.068
T584	LTE B7	QPSK20M	20850	1	0	Left Tilted	Main	1	1	23.2	22.10	-0.03	0.028	0.014	0.036
T585	LTE B7	QPSK20M	20850	50	0	Right Cheek	Main	1	1	22.2	21.02	0.01	0.045	0.023	0.059
T586	LTE B7	QPSK20M	20850	50	0	Right Tilted	Main	1	1	22.2	21.02	0.06	0.029	0.015	0.038
T587	LTE B7	QPSK20M	20850	50	0	Left Cheek	Main	1	1	22.2	21.02	-0.11	0.039	0.020	0.051
T588	LTE B7	QPSK20M	20850	50	0	Left Tilted	Main	1	1	22.2	21.02	0.01	0.022	0.010	0.029
T589	LTE B7	QPSK20M	20850	1	0	Right Cheek	Main	2	1	22.2	22.10	0.1	0.055	0.027	0.056
T590	LTE B7	QPSK20M	20850	1	0	Right Cheek	Main	1	2	22.2	22.10	0.02	0.056	0.029	0.058
T601	LTE B7	QPSK20M	20850	1	0	Right Cheek	DIV	1	1	15.2	14.37	0.1	0.328	0.145	0.397
T602	LTE B7	QPSK20M	20850	1	0	Right Tilted	DIV	1	1	15.2	14.37	-0.06	0.267	0.119	0.323
T603	LTE B7	QPSK20M	20850	1	0	Left Cheek	DIV	1	1	15.2	14.37	0.03	0.095	0.043	0.115
T604	LTE B7	QPSK20M	20850	1	0	Left Tilted	DIV	1	1	15.2	14.37	0.01	0.074	0.037	0.090
T605	LTE B7	QPSK20M	20850	50	0	Right Cheek	DIV	1	1	15.2	14.04	0.06	0.295	0.133	0.385
T606	LTE B7	QPSK20M	20850	50	0	Right Tilted	DIV	1	1	15.2	14.04	-0.02	0.187	0.103	0.244
T607	LTE B7	QPSK20M	20850	50	0	Left Cheek	DIV	1	1	15.2	14.04	0.07	0.087	0.039	0.114
T608	LTE B7	QPSK20M	20850	50	0	Left Tilted	DIV	1	1	15.2	14.04	0.08	0.071	0.037	0.093
T609	LTE B7	QPSK20M	20850	1	0	Right Cheek	DIV	2	1	15.2	14.37	-0.02	0.280	0.144	0.339
T610	LTE B7	QPSK20M	20850	1	0	Right Cheek	DIV	1	2	15.2	14.37	0.06	0.219	0.110	0.265

7. Head SAR test results of LTE B41

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T621	LTE B41	QPSK20M	41140	1	0	Right Cheek	Main	1	1	24.5	23.36	0.03	0.050	0.022	0.064
T622	LTE B41	QPSK20M	41140	1	0	Right Tilted	Main	1	1	24.5	23.36	0.07	0.014	0.005	0.018
T623	LTE B41	QPSK20M	41140	1	0	Left Cheek	Main	1	1	24.5	23.36	0.02	0.032	0.015	0.041
T624	LTE B41	QPSK20M	41140	1	0	Left Tilted	Main	1	1	24.5	23.36	0.06	0.017	0.006	0.022
T625	LTE B41	QPSK20M	41140	50	0	Right Cheek	Main	1	1	23.5	22.18	-0.02	0.041	0.019	0.056
T626	LTE B41	QPSK20M	41140	50	0	Right Tilted	Main	1	1	23.5	22.18	0.04	0.010	0.004	0.014
T627	LTE B41	QPSK20M	41140	50	0	Left Cheek	Main	1	1	23.5	22.18	-0.03	0.021	0.011	0.029
T628	LTE B41	QPSK20M	41140	50	0	Left Tilted	Main	1	1	23.5	22.18	0.01	0.013	0.005	0.017
T629	LTE B41	QPSK20M	41140	1	0	Right Cheek	Main	2	1	24.5	23.36	0.02	0.069	0.032	0.090
T630	LTE B41	QPSK20M	41140	1	0	Right Cheek	Main	2	2	24.5	23.36	0.07	0.054	0.025	0.070
T641	LTE B41	QPSK20M	40240	1	0	Right Cheek	DIV	1	1	19.5	18.48	0.02	0.310	0.136	0.392
T642	LTE B41	QPSK20M	40240	1	0	Right Tilted	DIV	1	1	19.5	18.48	0.02	0.209	0.100	0.264
T643	LTE B41	QPSK20M	40240	1	0	Left Cheek	DIV	1	1	19.5	18.48	0.03	0.062	0.031	0.078
T644	LTE B41	QPSK20M	40240	1	0	Left Tilted	DIV	1	1	19.5	18.48	-0.05	0.057	0.029	0.072
T645	LTE B41	QPSK20M	40240	50	0	Right Cheek	DIV	1	1	19.5	18.41	0.06	0.281	0.106	0.361
T646	LTE B41	QPSK20M	40240	50	0	Right Tilted	DIV	1	1	19.5	18.41	-0.1	0.183	0.085	0.235
T647	LTE B41	QPSK20M	40240	50	0	Left Cheek	DIV	1	1	19.5	18.41	0.12	0.055	0.028	0.071
T648	LTE B41	QPSK20M	40240	50	0	Left Tilted	DIV	1	1	19.5	18.41	0.16	0.038	0.021	0.049
T649	LTE B41	QPSK20M	40240	1	0	Right Cheek	DIV	2	1	19.5	18.48	0.16	0.451	0.195	0.570
T650	LTE B41	QPSK20M	40240	1	0	Right Cheek	DIV	2	2	19.5	18.48	0.06	0.375	0.111	0.474

8. Head SAR test results of WIFI

Test No.	Band	Channel	Test Position	Battery	Data Rate	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T651	802.11b	6	Right Cheek	1	1	10	9.54	-0.06	0.029	0.014	0.032
T652	802.11b	6	Right Tilted	1	1	10	9.54	0.09	0.029	0.014	0.032
T653	802.11b	6	Left Cheek	1	1	10	9.54	-0.11	0.099	0.041	0.110
T654	802.11b	6	Left Tilted	1	1	10	9.54	0.03	0.054	0.027	0.060
T655	802.11b	6	Left Cheek	2	1	10	9.54	0.09	0.08	0.037	0.089

8.2.2 SAR MEASUREMENT RESULT OF BODY-WORN

1. Body-worn SAR test results of GSM

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T01	GSM 850	GSM	190	Front Face	1.5	Main	1	1	33.4	32.51	0.06	0.134	0.090	0.164
T02	GSM 850	GSM	190	Rear Face	1.5	Main	1	1	33.4	32.51	-0.02	0.178	0.120	0.218
T03	GSM 850	GSM	190	Rear Face	1.5	Main	2	1	33.4	32.51	0.05	0.191	0.131	0.234
T04	GSM 850	GSM	190	Rear Face	1.5	Main	2	2	33.4	32.51	0.08	0.172	0.116	0.211
T16	GSM 850	GSM	190	Front Face	1.5	DIV	1	1	33.4	32.58	0.06	0.185	0.185	0.223
T17	GSM 850	GSM	190	Rear Face	1.5	DIV	1	1	33.4	32.58	-0.1	0.197	0.197	0.238
T18	GSM 850	GSM	190	Rear Face	1.5	DIV	2	1	33.4	32.58	-0.1	0.196	0.196	0.237
T19	GSM 850	GSM	190	Rear Face	1.5	DIV	1	2	33.4	32.58	-0.09	0.220	0.136	0.266
T31	GSM 1900	GSM	661	Front Face	1.5	Main	1	1	30.2	28.95	-0.14	0.089	0.053	0.119
T32	GSM 1900	GSM	661	Rear Face	1.5	Main	1	1	30.2	28.95	0	0.119	0.074	0.159
T33	GSM 1900	GSM	661	Rear Face	1.5	Main	2	1	30.2	28.95	-0.08	0.112	0.067	0.149
T34	GSM 1900	GSM	661	Rear Face	1.5	Main	1	2	30.2	28.95	0.08	0.104	0.061	0.139
T46	GSM 1900	GSM	661	Front Face	1.5	DIV	1	1	25.2	23.86	-0.01	0.001	<0.001	0.002
T47	GSM 1900	GSM	661	Rear Face	1.5	DIV	1	1	25.2	23.86	0.04	0.006	0.003	0.008
T48	GSM 1900	GSM	661	Rear Face	1.5	DIV	2	1	25.2	23.86	-0.07	0.008	0.003	0.010
T49	GSM 1900	GSM	661	Rear Face	1.5	DIV	2	2	25.2	23.86	0.05	0.003	0.001	0.003

2. Body-worn SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T61	UMTS B2	RMC12.2K	9400	Front Face	1.5	Main	1	1	24.6	23.3	-0.06	0.178	0.106	0.240
T62	UMTS B2	RMC12.2K	9400	Rear Face	1.5	Main	1	1	24.6	23.3	0.02	0.247	0.153	0.333
T63	UMTS B2	RMC12.2K	9400	Rear Face	1.5	Main	2	1	24.6	23.3	-0.03	0.248	0.154	0.335
T64	UMTS B2	RMC12.2K	9400	Rear Face	1.5	Main	2	2	24.6	23.3	0.06	0.221	0.142	0.298
T76	UMTS B2	RMC12.2K	9400	Front Face	1.5	DIV	1	1	19.6	18.27	-0.04	0.010	0.006	0.013
T77	UMTS B2	RMC12.2K	9400	Rear Face	1.5	DIV	1	1	19.6	18.27	-0.04	0.010	0.006	0.014
T78	UMTS B2	RMC12.2K	9400	Rear Face	1.5	DIV	2	1	19.6	18.27	-0.09	0.010	0.005	0.014
T79	UMTS B2	RMC12.2K	9400	Rear Face	1.5	DIV	1	2	19.6	18.27	-0.02	0.013	0.006	0.017
T91	UMTS B4	RMC12.2K	1413	Front Face	1.5	Main	1	1	24.5	23.03	-0.03	0.276	0.165	0.387
T92	UMTS B4	RMC12.2K	1413	Rear Face	1.5	Main	1	1	24.5	23.03	-0.05	0.279	0.169	0.391
T93	UMTS B4	RMC12.2K	1413	Rear Face	1.5	Main	2	1	24.5	23.03	-0.08	0.286	0.177	0.401
T94	UMTS B4	RMC12.2K	1413	Rear Face	1.5	Main	2	2	24.5	23.03	0.03	0.268	0.159	0.376
T106	UMTS B4	RMC12.2K	1413	Front Face	1.5	DIV	1	1	19.5	18	0.01	0.009	0.004	0.013
T107	UMTS B4	RMC12.2K	1413	Rear Face	1.5	DIV	1	1	19.5	18	-0.04	0.012	0.005	0.017
T108	UMTS B4	RMC12.2K	1413	Rear Face	1.5	DIV	2	1	19.5	18	-0.07	0.010	0.004	0.014
T109	UMTS B4	RMC12.2K	1413	Rear Face	1.5	DIV	1	2	19.5	18	0.05	0.011	0.004	0.016
T121	UMTS B5	RMC12.2K	4182	Front Face	1.5	Main	1	1	25	23.74	-0.05	0.168	0.112	0.225
T122	UMTS B5	RMC12.2K	4182	Rear Face	1.5	Main	1	1	25	23.74	0.02	0.225	0.153	0.301
T123	UMTS B5	RMC12.2K	4182	Rear Face	1.5	Main	2	1	25	23.74	-0.02	0.235	0.166	0.314
T124	UMTS B5	RMC12.2K	4182	Rear Face	1.5	Main	2	2	25	23.74	-0.08	0.212	0.142	0.283
T136	UMTS B5	RMC12.2K	4182	Front Face	1.5	DIV	1	1	25	23.73	0.02	0.222	0.145	0.297
T137	UMTS B5	RMC12.2K	4182	Rear Face	1.5	DIV	1	1	25	23.73	-0.07	0.267	0.164	0.358
T138	UMTS B5	RMC12.2K	4182	Rear Face	1.5	DIV	2	1	25	23.73	-0.07	0.235	0.157	0.315
T139	UMTS B5	RMC12.2K	4182	Rear Face	1.5	DIV	1	2	25	23.73	-0.11	0.229	0.159	0.307

3. Body-worn SAR test results of LTE B2

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T155	LTE B2	QPSK20M	18700	1	0	Front Face	1.5	Main	1	1	24.5	23.37	-0.11	0.201	0.118	0.261
T156	LTE B2	QPSK20M	18700	1	0	Rear Face	1.5	Main	1	1	24.5	23.37	-0.01	0.243	0.151	0.315
T157	LTE B2	QPSK20M	18700	50	0	Front Face	1.5	Main	1	1	23.5	22.20	-0.12	0.155	0.091	0.209
T158	LTE B2	QPSK20M	18700	50	0	Rear Face	1.5	Main	1	1	23.5	22.20	-0.01	0.185	0.111	0.250
T159	LTE B2	QPSK20M	18700	1	0	Rear Face	1.5	Main	2	1	24.5	23.37	-0.1	0.249	0.155	0.323
T160	LTE B2	QPSK20M	18700	1	0	Rear Face	1.5	Main	2	2	24.5	23.37	0.07	0.236	0.146	0.306
T175	LTE B2	QPSK20M	18900	1	0	Front Face	1.5	DIV	1	1	19.5	18.44	-0.01	0.008	0.004	0.010
T176	LTE B2	QPSK20M	18900	1	0	Rear Face	1.5	DIV	1	1	19.5	18.44	0.01	0.016	0.007	0.020
T177	LTE B2	QPSK20M	18900	50	0	Front Face	1.5	DIV	1	1	19.5	18.19	0.06	0.008	0.004	0.011
T178	LTE B2	QPSK20M	18900	50	0	Rear Face	1.5	DIV	1	1	19.5	18.19	0.07	0.018	0.009	0.024
T179	LTE B2	QPSK20M	18900	50	0	Rear Face	1.5	DIV	2	1	19.5	18.19	0.08	0.017	0.008	0.023
T180	LTE B2	QPSK20M	18900	50	0	Rear Face	1.5	DIV	1	2	19.5	18.19	-0.18	0.015	0.005	0.020

4. Body-worn SAR test results of LTE B4

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T195	LTE B4	QPSK20M	20050	1	0	Front Face	1.5	Main	1	1	24.5	23.07	-0.06	0.251	0.156	0.348
T196	LTE B4	QPSK20M	20050	1	0	Rear Face	1.5	Main	1	1	24.5	23.07	-0.12	0.253	0.159	0.351
T197	LTE B4	QPSK20M	20050	50	0	Front Face	1.5	Main	1	1	23.5	21.96	-0.02	0.208	0.136	0.296
T198	LTE B4	QPSK20M	20050	50	0	Rear Face	1.5	Main	1	1	23.5	21.96	-0.04	0.210	0.123	0.299
T199	LTE B4	QPSK20M	20050	1	0	Rear Face	1.5	Main	2	1	24.5	23.07	-0.02	0.256	0.161	0.355
T200	LTE B4	QPSK20M	20050	1	0	Rear Face	1.5	Main	1	2	24.5	23.07	-0.05	0.243	0.149	0.337
T215	LTE B4	QPSK20M	20300	1	0	Front Face	1.5	DIV	1	1	19.5	18.15	0.09	0.022	0.011	0.030
T216	LTE B4	QPSK20M	20300	1	0	Rear Face	1.5	DIV	1	1	19.5	18.15	0.09	0.026	0.013	0.035
T217	LTE B4	QPSK20M	20300	50	0	Front Face	1.5	DIV	1	1	19.5	17.95	0.05	0.015	0.008	0.022
T218	LTE B4	QPSK20M	20300	50	0	Rear Face	1.5	DIV	1	1	19.5	17.95	0.04	0.021	0.013	0.029
T219	LTE B4	QPSK20M	20300	1	0	Rear Face	1.5	DIV	2	1	19.5	18.15	0.05	0.023	0.014	0.031
T220	LTE B4	QPSK20M	20300	1	0	Rear Face	1.5	DIV	1	2	19.5	18.15	-0.05	0.021	0.011	0.028

5. Body-worn SAR test results of LTE B5

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T235	LTE B5	QPSK10M	20450	1	0	Front Face	1.5	Main	1	1	24.8	23.87	-0.06	0.129	0.087	0.160
T236	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	Main	1	1	24.8	23.87	0.01	0.186	0.125	0.230
T237	LTE B5	QPSK10M	20450	25	0	Front Face	1.5	Main	1	1	23.8	22.80	0.03	0.105	0.071	0.132
T238	LTE B5	QPSK10M	20450	25	0	Rear Face	1.5	Main	1	1	23.8	22.80	0	0.147	0.098	0.185
T239	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	Main	2	1	24.8	23.87	-0.09	0.196	0.130	0.243
T240	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	Main	2	2	24.8	23.87	-0.01	0.153	0.102	0.189
T255	LTE B5	QPSK10M	20450	1	0	Front Face	1.5	DIV	1	1	24.8	23.62	0.05	0.156	0.104	0.205
T256	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	DIV	1	1	24.8	23.62	0	0.169	0.105	0.222
T257	LTE B5	QPSK10M	20450	25	0	Front Face	1.5	DIV	1	1	23.8	22.64	0.03	0.125	0.084	0.163
T258	LTE B5	QPSK10M	20450	25	0	Rear Face	1.5	DIV	1	1	23.8	22.64	-0.1	0.135	0.096	0.176
T259	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	DIV	2	1	24.8	23.62	-0.06	0.199	0.123	0.261
T260	LTE B5	QPSK10M	20450	1	0	Rear Face	1.5	DIV	2	2	24.8	23.62	-0.07	0.197	0.154	0.258

6. Body-worn SAR test results of LTE B7

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T275	LTE B7	QPKS20M	20850	1	0	Front Face	1.5	Main	1	1	23.2	22.10	-0.02	0.167	0.088	0.215
T276	LTE B7	QPKS20M	20850	1	0	Rear Face	1.5	Main	1	1	23.2	22.10	0.04	0.198	0.101	0.255
T277	LTE B7	QPKS20M	20850	50	0	Front Face	1.5	Main	1	1	22.2	21.02	0.08	0.143	0.073	0.188
T278	LTE B7	QPKS20M	20850	50	0	Rear Face	1.5	Main	1	1	22.2	21.02	0.09	0.168	0.081	0.220
T279	LTE B7	QPKS20M	20850	1	0	Rear Face	1.5	Main	2	1	23.2	22.10	-0.09	0.234	0.117	0.301
T280	LTE B7	QPKS20M	20850	1	0	Rear Face	1.5	Main	2	2	23.2	22.10	0.13	0.183	0.092	0.236
T295	LTE B7	QPKS20M	20850	1	0	Front Face	1.5	DIV	1	1	15.2	14.37	-0.05	0.016	0.007	0.019
T296	LTE B7	QPKS20M	20850	1	0	Rear Face	1.5	DIV	1	1	15.2	14.37	-0.09	0.025	0.011	0.031
T297	LTE B7	QPKS20M	20850	50	0	Front Face	1.5	DIV	1	1	15.2	14.04	0.09	0.016	0.008	0.021
T298	LTE B7	QPKS20M	20850	50	0	Rear Face	1.5	DIV	1	1	15.2	14.04	0.07	0.025	0.001	0.033
T299	LTE B7	QPKS20M	20850	50	0	Rear Face	1.5	DIV	2	1	15.2	14.04	0.09	0.029	0.013	0.037
T300	LTE B7	QPKS20M	20850	50	0	Rear Face	1.5	DIV	2	2	15.2	14.04	0.02	0.025	0.010	0.032

7. Body-worn SAR test results of LTE B41

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T315	LTE B41	QPSK20M	41140	1	0	Front Face	1.5	Main	1	1	24.5	23.36	0.02	0.099	0.055	0.129
T316	LTE B41	QPSK20M	41140	1	0	Rear Face	1.5	Main	1	1	24.5	23.36	0.05	0.17	0.083	0.221
T317	LTE B41	QPSK20M	41140	50	0	Front Face	1.5	Main	1	1	23.5	22.18	0.03	0.076	0.041	0.103
T318	LTE B41	QPSK20M	41140	50	0	Rear Face	1.5	Main	1	1	23.5	22.18	0.07	0.119	0.063	0.161
T319	LTE B41	QPSK20M	41140	1	0	Rear Face	1.5	Main	2	1	24.5	23.36	0.06	0.138	0.066	0.179
T320	LTE B41	QPSK20M	41140	1	0	Rear Face	1.5	Main	1	2	24.5	23.36	0.01	0.161	0.082	0.209
T335	LTE B41	QPSK20M	40240	1	0	Front Face	1.5	DIV	1	1	19.5	18.48	0.05	0.035	0.019	0.045
T336	LTE B41	QPSK20M	40240	1	0	Rear Face	1.5	DIV	1	1	19.5	18.48	0.06	0.056	0.031	0.071
T337	LTE B41	QPSK20M	40240	50	0	Front Face	1.5	DIV	1	1	19.5	18.41	0.02	0.034	0.018	0.043
T338	LTE B41	QPSK20M	40240	50	0	Rear Face	1.5	DIV	1	1	19.5	18.41	-0.06	0.052	0.028	0.067
T339	LTE B41	QPSK20M	40240	1	0	Rear Face	1.5	DIV	2	1	19.5	18.48	0.09	0.066	0.034	0.083
T340	LTE B41	QPSK20M	40240	1	0	Rear Face	1.5	DIV	2	2	19.5	18.48	-0.17	0.059	0.032	0.075

8. Body-worn SAR test results of WIFI

Test No.	Band	Channel	Test Position	Separation Distance (cm)	Battery	Data Rate	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T660	802.11b	11	Front Face	1.5	1	1	17	15.53	-0.06	0.022	0.011	0.031
T661	802.11b	11	Rear Face	1.5	1	1	17	15.53	0.14	0.036	0.018	0.051
T662	802.11b	11	Rear Face	1.5	2	1	17	15.53	0.02	0.033	0.015	0.046

8.2.3 SAR MEASUREMENT RESULT OF HOTSPOT

1. Hotspot SAR test results of GSM

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T06	GSM 850	GPRS 2TX	190	Front Face	1	Main	1	1	29.4	28.55	0.13	0.158	0.107	0.192
T07	GSM 850	GPRS 2TX	190	Rear Face	1	Main	1	1	29.4	28.55	-0.05	0.238	0.154	0.289
T08	GSM 850	GPRS 2TX	190	Left Side	1	Main	1	1	29.4	28.55	0.01	0.126	0.072	0.153
T09	GSM 850	GPRS 2TX	190	Right Side	1	Main	1	1	29.4	28.55	0.15	0.048	0.028	0.058
T10	GSM 850	GPRS 2TX	190	Bottom Side	1	Main	1	1	29.4	28.55	0.06	0.107	0.064	0.130
T13	GSM 850	GPRS 2TX	190	Rear Face	1	Main	2	1	29.4	28.55	-0.07	0.265	0.165	0.322
T14	GSM 850	GPRS 2TX	190	Rear Face	1	Main	2	2	29.4	28.55	-0.06	0.231	0.149	0.281
T21	GSM 850	GPRS 2TX	190	Front Face	1	DIV	1	1	29.4	28.64	-0.03	0.309	0.185	0.368
T22	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	1	1	29.4	28.64	-0.08	0.341	0.199	0.406
T23	GSM 850	GPRS 2TX	190	Left Side	1	DIV	1	1	29.4	28.64	-0.05	0.234	0.158	0.279
T24	GSM 850	GPRS 2TX	190	Right Side	1	DIV	1	1	29.4	28.64	0.02	0.157	0.086	0.187
T25	GSM 850	GPRS 2TX	190	Top Side	1	DIV	1	1	29.4	28.64	0.04	0.211	0.112	0.251
T28	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	2	1	29.4	28.64	-0.05	0.319	0.188	0.380
T29	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	1	2	29.4	28.64	-0.06	0.313	0.184	0.373
T36	GSM 1900	GPRS 2TX	661	Front Face	1	Main	1	1	24.2	22.4	-0.09	0.101	0.052	0.153
T37	GSM 1900	GPRS 2TX	661	Rear Face	1	Main	1	1	24.2	22.4	0.09	0.110	0.063	0.166
T38	GSM 1900	GPRS 2TX	661	Left Side	1	Main	1	1	24.2	22.4	-0.03	0.048	0.027	0.073
T39	GSM 1900	GPRS 2TX	661	Right Side	1	Main	1	1	24.2	22.4	0.07	0.024	0.014	0.036
T40	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	1	1	24.2	22.4	-0.07	0.157	0.090	0.238
T41	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	2	1	24.2	22.4	0	0.152	0.087	0.230
T42	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	1	2	24.2	22.4	0.02	0.147	0.081	0.222
T51	GSM 1900	GPRS 2TX	661	Front Face	1	DIV	1	1	22.2	20.95	-0.08	0.008	0.004	0.010
T52	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	1	1	22.2	20.95	-0.1	0.027	0.012	0.036
T53	GSM 1900	GPRS 2TX	661	Left Side	1	DIV	1	1	22.2	20.95	-0.03	0.005	0.002	0.007
T54	GSM 1900	GPRS 2TX	661	Right Side	1	DIV	1	1	22.2	20.95	0	<0.001	<0.001	<0.001
T55	GSM 1900	GPRS 2TX	661	Top Side	1	DIV	1	1	22.2	20.95	0.07	0.008	0.003	0.011
T56	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	2	1	22.2	20.95	-0.06	0.021	0.011	0.028
T57	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	1	2	22.2	20.95	0.08	0.021	0.009	0.027

2. Hotspot SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T66	UMTS B2	RMC12.2K	9400	Front Face	1	Main	1	1	21.6	19.77	-0.17	0.188	0.114	0.287
T67	UMTS B2	RMC12.2K	9400	Rear Face	1	Main	1	1	21.6	19.77	-0.04	0.232	0.137	0.354
T68	UMTS B2	RMC12.2K	9400	Left Side	1	Main	1	1	21.6	19.77	-0.05	0.099	0.055	0.151
T69	UMTS B2	RMC12.2K	9400	Right Side	1	Main	1	1	21.6	19.77	-0.1	0.060	0.035	0.092
T70	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	1	1	21.6	19.77	-0.05	0.335	0.193	0.511
T73	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	2	1	21.6	19.77	-0.04	0.325	0.187	0.495
T74	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	2	2	21.6	19.77	0.06	0.312	0.179	0.476
T81	UMTS B2	RMC12.2K	9400	Front Face	1	DIV	1	1	19.6	18.27	-0.09	0.019	0.010	0.026
T82	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	1	1	19.6	18.27	0.02	0.037	0.017	0.050
T83	UMTS B2	RMC12.2K	9400	Left Side	1	DIV	1	1	19.6	18.27	0.02	0.016	0.009	0.022
T84	UMTS B2	RMC12.2K	9400	Right Side	1	DIV	1	1	19.6	18.27	0	<0.001	<0.001	<0.001
T85	UMTS B2	RMC12.2K	9400	Top Side	1	DIV	1	1	19.6	18.27	0.06	0.012	0.006	0.017
T86	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	2	1	19.6	18.27	-0.07	0.033	0.015	0.045
T87	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	1	2	19.6	18.27	-0.08	0.047	0.022	0.064
T96	UMTS B4	RMC12.2K	1413	Front Face	1	Main	1	1	21.5	20.05	-0.06	0.209	0.137	0.292
T97	UMTS B4	RMC12.2K	1413	Rear Face	1	Main	1	1	21.5	20.05	0.02	0.252	0.150	0.352
T98	UMTS B4	RMC12.2K	1413	Left Side	1	Main	1	1	21.5	20.05	0.07	0.109	0.061	0.152
T99	UMTS B4	RMC12.2K	1413	Right Side	1	Main	1	1	21.5	20.05	0	0.067	0.039	0.093
T100	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	1	1	21.5	20.05	0.03	0.297	0.171	0.415
T103	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	2	1	21.5	20.05	0.08	0.303	0.176	0.423
T104	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	2	2	21.5	20.05	-0.09	0.285	0.166	0.398
T111	UMTS B4	RMC12.2K	1413	Front Face	1	DIV	1	1	19.5	18	0.17	0.031	0.015	0.044
T112	UMTS B4	RMC12.2K	1413	Rear Face	1	DIV	1	1	19.5	18	-0.06	0.041	0.019	0.057
T113	UMTS B4	RMC12.2K	1413	Left Side	1	DIV	1	1	19.5	18	0.02	0.020	0.011	0.028
T114	UMTS B4	RMC12.2K	1413	Right Side	1	DIV	1	1	19.5	18	0.02	0.009	0.001	0.013
T115	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	1	1	19.5	18	-0.1	0.045	0.023	0.064
T118	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	2	1	19.5	18	0.05	0.041	0.020	0.058
T119	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	1	2	19.5	18	0.09	0.043	0.021	0.060
T126	UMTS B5	RMC12.2K	4182	Front Face	1	Main	1	1	24	22.24	0.06	0.195	0.129	0.292
T127	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	1	1	24	22.24	0.09	0.285	0.187	0.427
T128	UMTS B5	RMC12.2K	4182	Left Side	1	Main	1	1	24	22.24	0.1	0.157	0.087	0.235
T129	UMTS B5	RMC12.2K	4182	Right Side	1	Main	1	1	24	22.24	0.1	0.054	0.031	0.081
T130	UMTS B5	RMC12.2K	4182	Bottom Side	1	Main	1	1	24	22.24	-0.02	0.139	0.083	0.208
T131	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	2	1	24	22.24	0.04	0.289	0.182	0.433
T132	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	2	2	24	22.24	-0.02	0.280	0.186	0.420
T141	UMTS B5	RMC12.2K	4182	Front Face	1	DIV	1	1	24	22.18	0.07	0.147	0.093	0.224
T142	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	1	1	24	22.18	-0.08	0.174	0.100	0.265
T143	UMTS B5	RMC12.2K	4182	Left Side	1	DIV	1	1	24	22.18	-0.07	0.114	0.077	0.173
T144	UMTS B5	RMC12.2K	4182	Right Side	1	DIV	1	1	24	22.18	0.03	0.074	0.036	0.113
T145	UMTS B5	RMC12.2K	4182	Top Side	1	DIV	1	1	24	22.18	0.02	0.108	0.060	0.164
T146	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	2	1	24	22.18	0.06	0.146	0.092	0.222
T147	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	1	2	24	22.18	0.06	0.140	0.091	0.213

3. Hotspot SAR test results of LTE B2

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T162	LTE B2	QPSK20M	18900	1	0	Front Face	1	Main	1	1	21.5	20.63	-0.07	0.197	0.113	0.241
T163	LTE B2	QPSK20M	18900	1	0	Rear Face	1	Main	1	1	21.5	20.63	-0.09	0.224	0.132	0.274
T164	LTE B2	QPSK20M	18900	1	0	Left Side	1	Main	1	1	21.5	20.63	0.05	0.098	0.055	0.120
T165	LTE B2	QPSK20M	18900	1	0	Right Side	1	Main	1	1	21.5	20.63	-0.07	0.058	0.034	0.071
T166	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	1	1	21.5	20.63	-0.09	0.345	0.199	0.422
T167	LTE B2	QPSK20M	18900	50	0	Front Face	1	Main	1	1	21.5	20.35	-0.1	0.186	0.106	0.242
T168	LTE B2	QPSK20M	18900	50	0	Rear Face	1	Main	1	1	21.5	20.35	-0.08	0.215	0.127	0.280
T169	LTE B2	QPSK20M	18900	50	0	Left Side	1	Main	1	1	21.5	20.35	-0.01	0.100	0.055	0.130
T170	LTE B2	QPSK20M	18900	50	0	Right Side	1	Main	1	1	21.5	20.35	-0.03	0.057	0.033	0.074
T171	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	Main	1	1	21.5	20.35	-0.17	0.320	0.188	0.417
T172	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	2	1	21.5	20.63	-0.02	0.331	0.185	0.404
T173	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	1	2	21.5	20.63	0.06	0.327	0.179	0.400
T181	LTE B2	QPSK20M	18900	1	0	Front Face	1	DIV	1	1	19.5	18.44	0.05	0.077	0.029	0.098
T182	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	1	1	19.5	18.44	0.03	0.136	0.057	0.174
T183	LTE B2	QPSK20M	18900	1	0	Left Side	1	DIV	1	1	19.5	18.44	0.02	0.060	0.027	0.077
T184	LTE B2	QPSK20M	18900	1	0	Right Side	1	DIV	1	1	19.5	18.44	0.02	0.043	0.021	0.055
T185	LTE B2	QPSK20M	18900	1	0	Top Side	1	DIV	1	1	19.5	18.44	0.02	0.086	0.027	0.110
T186	LTE B2	QPSK20M	18900	50	0	Front Face	1	DIV	1	1	19.5	18.19	-0.05	0.077	0.028	0.104
T187	LTE B2	QPSK20M	18900	50	0	Rear Face	1	DIV	1	1	19.5	18.19	-0.09	0.124	0.051	0.168
T188	LTE B2	QPSK20M	18900	50	0	Left Side	1	DIV	1	1	19.5	18.19	0.04	0.059	0.024	0.080
T189	LTE B2	QPSK20M	18900	50	0	Right Side	1	DIV	1	1	19.5	18.19	0.04	0.038	0.019	0.051
T190	LTE B2	QPSK20M	18900	50	0	Top Side	1	DIV	1	1	19.5	18.19	0.02	0.083	0.026	0.112
T191	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	2	1	19.5	18.44	-0.03	0.137	0.054	0.175
T192	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	2	2	19.5	18.44	0.04	0.142	0.061	0.181

4. Hotspot SAR test results of LTE B4

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T202	LTE B4	QPSK20M	20050	1	0	Front Face	1	Main	1	1	21.5	20.22	-0.11	0.209	0.130	0.281
T203	LTE B4	QPSK20M	20050	1	0	Rear Face	1	Main	1	1	21.5	20.22	-0.04	0.229	0.136	0.307
T204	LTE B4	QPSK20M	20050	1	0	Left Side	1	Main	1	1	21.5	20.22	-0.07	0.099	0.055	0.133
T205	LTE B4	QPSK20M	20050	1	0	Right Side	1	Main	1	1	21.5	20.22	0.02	0.064	0.038	0.086
T206	LTE B4	QPSK20M	20050	1	0	Bottom Side	1	Main	1	1	21.5	20.22	-0.05	0.290	0.168	0.389
T207	LTE B4	QPSK20M	20050	50	0	Front Face	1	Main	1	1	21.5	19.95	-0.07	0.211	0.131	0.301
T208	LTE B4	QPSK20M	20050	50	0	Rear Face	1	Main	1	1	21.5	19.95	-0.05	0.230	0.137	0.329
T209	LTE B4	QPSK20M	20050	50	0	Left Side	1	Main	1	1	21.5	19.95	-0.03	0.103	0.057	0.147
T210	LTE B4	QPSK20M	20050	50	0	Right Side	1	Main	1	1	21.5	19.95	-0.02	0.065	0.038	0.093
T211	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	1	1	21.5	19.95	-0.15	0.291	0.169	0.416
T212	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	2	1	21.5	19.95	-0.06	0.283	0.164	0.404
T213	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	1	2	21.5	19.95	0.09	0.272	0.157	0.389
T222	LTE B4	QPSK20M	20300	1	0	Front Face	1	DIV	1	1	19.5	18.15	-0.19	0.052	0.026	0.071
T223	LTE B4	QPSK20M	20300	1	0	Rear Face	1	DIV	1	1	19.5	18.15	0.05	0.061	0.034	0.083
T224	LTE B4	QPSK20M	20300	1	0	Left Side	1	DIV	1	1	19.5	18.15	-0.05	0.027	0.016	0.036
T225	LTE B4	QPSK20M	20300	1	0	Right Side	1	DIV	1	1	19.5	18.15	0.03	0.016	0.011	0.022
T226	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	1	1	19.5	18.15	0.14	0.066	0.033	0.090
T227	LTE B4	QPSK20M	20300	50	0	Front Face	1	DIV	1	1	19.5	17.95	0.02	0.042	0.020	0.060
T228	LTE B4	QPSK20M	20300	50	0	Rear Face	1	DIV	1	1	19.5	17.95	0	0.055	0.029	0.078
T229	LTE B4	QPSK20M	20300	50	0	Left Side	1	DIV	1	1	19.5	17.95	0.1	0.023	0.013	0.032
T230	LTE B4	QPSK20M	20300	50	0	Right Side	1	DIV	1	1	19.5	17.95	0.06	0.010	0.006	0.015
T231	LTE B4	QPSK20M	20300	50	0	Top Side	1	DIV	1	1	19.5	17.95	0.06	0.062	0.030	0.088
T232	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	2	1	19.5	18.15	0.18	0.061	0.031	0.083
T233	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	1	2	19.5	18.15	0.19	0.071	0.036	0.097

5. Hotspot SAR test results of LTE B5

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T242	LTE B5	QPSK10M	20450	1	0	Front Face	1	Main	1	1	23.8	22.87	0	0.148	0.096	0.183
T243	LTE B5	QPSK10M	20450	1	0	Rear Face	1	Main	1	1	23.8	22.87	-0.13	0.258	0.171	0.320
T244	LTE B5	QPSK10M	20450	1	0	Left Side	1	Main	1	1	23.8	22.87	-0.13	0.118	0.069	0.146
T245	LTE B5	QPSK10M	20450	1	0	Right Side	1	Main	1	1	23.8	22.87	-0.1	0.037	0.023	0.046
T246	LTE B5	QPSK10M	20450	1	0	Bottom Side	1	Main	1	1	23.8	22.87	-0.03	0.104	0.061	0.129
T247	LTE B5	QPSK10M	20450	25	0	Front Face	1	Main	1	1	23.8	22.69	0	0.152	0.099	0.196
T248	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	1	1	23.8	22.69	-0.08	0.265	0.175	0.342
T249	LTE B5	QPSK10M	20450	25	0	Left Side	1	Main	1	1	23.8	22.69	-0.01	0.123	0.072	0.159
T250	LTE B5	QPSK10M	20450	25	0	Right Side	1	Main	1	1	23.8	22.69	-0.01	0.039	0.024	0.050
T251	LTE B5	QPSK10M	20450	25	0	Bottom Side	1	Main	1	1	23.8	22.69	0.06	0.108	0.063	0.140
T252	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	2	1	23.8	22.69	-0.11	0.279	0.167	0.361
T253	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	2	2	23.8	22.69	-0.02	0.238	0.155	0.308
T262	LTE B5	QPSK10M	20450	1	0	Front Face	1	DIV	1	1	23.8	22.83	-0.01	0.194	0.115	0.243
T263	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	1	1	23.8	22.83	-0.07	0.282	0.165	0.353
T264	LTE B5	QPSK10M	20450	1	0	Left Side	1	DIV	1	1	23.8	22.83	-0.07	0.142	0.091	0.178
T265	LTE B5	QPSK10M	20450	1	0	Right Side	1	DIV	1	1	23.8	22.83	0.02	0.074	0.047	0.093
T266	LTE B5	QPSK10M	20450	1	0	Top Side	1	DIV	1	1	23.8	22.83	0.05	0.164	0.087	0.205
T267	LTE B5	QPSK10M	20450	25	0	Front Face	1	DIV	1	1	23.8	22.73	-0.06	0.206	0.121	0.264
T268	LTE B5	QPSK10M	20450	25	0	Rear Face	1	DIV	1	1	23.8	22.73	0.12	0.249	0.146	0.319
T269	LTE B5	QPSK10M	20450	25	0	Left Side	1	DIV	1	1	23.8	22.73	0.02	0.153	0.098	0.196
T270	LTE B5	QPSK10M	20450	25	0	Right Side	1	DIV	1	1	23.8	22.73	0.07	0.067	0.042	0.086
T271	LTE B5	QPSK10M	20450	25	0	Top Side	1	DIV	1	1	23.8	22.73	0.01	0.171	0.092	0.219
T272	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	2	1	23.8	22.83	-0.06	0.257	0.163	0.322
T273	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	1	2	23.8	22.83	-0.09	0.254	0.145	0.318

6. Hotspot SAR test results of LTE B7

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T282	LTE B7	QPSK20M	20850	1	0	Front Face	1	Main	1	1	20.2	19.34	0.02	0.160	0.078	0.195
T283	LTE B7	QPSK20M	20850	1	0	Rear Face	1	Main	1	1	20.2	19.34	0.04	0.205	0.099	0.250
T284	LTE B7	QPSK20M	20850	1	0	Left Side	1	Main	1	1	20.2	19.34	0.03	0.036	0.017	0.044
T285	LTE B7	QPSK20M	20850	1	0	Right Side	1	Main	1	1	20.2	19.34	0.14	0.028	0.015	0.034
T286	LTE B7	QPSK20M	20850	1	0	Bottom Side	1	Main	1	1	20.2	19.34	0.01	0.253	0.118	0.309
T287	LTE B7	QPSK20M	20850	50	0	Front Face	1	Main	1	1	20.2	18.99	-0.06	0.163	0.079	0.215
T288	LTE B7	QPSK20M	20850	50	0	Rear Face	1	Main	1	1	20.2	18.99	-0.07	0.209	0.100	0.276
T289	LTE B7	QPSK20M	20850	50	0	Left Side	1	Main	1	1	20.2	18.99	0.08	0.038	0.018	0.050
T290	LTE B7	QPSK20M	20850	50	0	Right Side	1	Main	1	1	20.2	18.99	0.05	0.036	0.016	0.048
T291	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	1	1	20.2	18.99	0.03	0.255	0.119	0.337
T292	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	2	1	20.2	18.99	0.09	0.226	0.105	0.299
T293	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	1	2	20.2	18.99	0.03	0.219	0.094	0.289
T302	LTE B7	QPSK20M	20850	1	0	Front Face	1	DIV	1	1	15.2	14.37	0.13	0.053	0.026	0.064
T303	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	1	1	15.2	14.37	0.19	0.090	0.043	0.109
T304	LTE B7	QPSK20M	20850	1	0	Left Side	1	DIV	1	1	15.2	14.37	0.17	0.055	0.028	0.066
T305	LTE B7	QPSK20M	20850	1	0	Right Side	1	DIV	1	1	15.2	14.37	0.17	0.035	0.018	0.042
T306	LTE B7	QPSK20M	20850	1	0	Top Side	1	DIV	1	1	15.2	14.37	0.1	0.039	0.015	0.047
T307	LTE B7	QPSK20M	20850	50	0	Front Face	1	DIV	1	1	15.2	14.04	0.05	0.048	0.029	0.062
T308	LTE B7	QPSK20M	20850	50	0	Rear Face	1	DIV	1	1	15.2	14.04	0.17	0.081	0.041	0.106
T309	LTE B7	QPSK20M	20850	50	0	Left Side	1	DIV	1	1	15.2	14.04	-0.06	0.050	0.026	0.065
T310	LTE B7	QPSK20M	20850	50	0	Right Side	1	DIV	1	1	15.2	14.04	-0.06	0.030	0.016	0.039
T311	LTE B7	QPSK20M	20850	50	0	Top Side	1	DIV	1	1	15.2	14.04	-0.09	0.035	0.015	0.046
T312	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	2	1	15.2	14.37	-0.14	0.083	0.041	0.101
T313	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	1	2	15.2	14.37	-0.05	0.086	0.042	0.104

7. Hotspot SAR test results of LTE B41

Test No.	Band	Mode	Channel	RB	Offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T322	LTE B41	QPSK20M	41140	1	0	Front Face	1	Main	1	1	22.5	21.38	0.02	0.157	0.067	0.203
T323	LTE B41	QPSK20M	41140	1	0	Rear Face	1	Main	1	1	22.5	21.38	-0.05	0.206	0.106	0.267
T324	LTE B41	QPSK20M	41140	1	0	Left Side	1	Main	1	1	22.5	21.38	0.04	0.0361	0.018	0.047
T325	LTE B41	QPSK20M	41140	1	0	Right Side	1	Main	1	1	22.5	21.38	0.12	0.0456	0.024	0.059
T326	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	1	1	22.5	21.38	0.04	0.249	0.116	0.322
T327	LTE B41	QPSK20M	40240	50	0	Front Face	1	Main	1	1	22.5	21.36	0.08	0.133	0.062	0.173
T328	LTE B41	QPSK20M	40240	50	0	Rear Face	1	Main	1	1	22.5	21.36	0.01	0.187	0.090	0.243
T329	LTE B41	QPSK20M	40240	50	0	Left Side	1	Main	1	1	22.5	21.36	-0.03	0.0315	0.016	0.041
T330	LTE B41	QPSK20M	40240	50	0	Right Side	1	Main	1	1	22.5	21.36	0.06	0.0421	0.021	0.055
T331	LTE B41	QPSK20M	40240	50	0	Bottom Side	1	Main	1	1	22.5	21.36	0.07	0.204	0.102	0.265
T332	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	2	1	22.5	21.38	0.09	0.218	0.108	0.282
T333	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	1	2	22.5	21.38	-0.01	0.272	0.129	0.352
T342	LTE B41	QPSK20M	40240	1	0	Front Face	1	DIV	1	1	19.5	18.48	0.19	0.073	0.039	0.092
T343	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	1	1	19.5	18.48	0.09	0.124	0.070	0.157
T344	LTE B41	QPSK20M	40240	1	0	Left Side	1	DIV	1	1	19.5	18.48	-0.04	0.078	0.041	0.099
T345	LTE B41	QPSK20M	40240	1	0	Right Side	1	DIV	1	1	19.5	18.48	-0.04	0.068	0.031	0.086
T346	LTE B41	QPSK20M	40240	1	0	Top Side	1	DIV	1	1	19.5	18.48	0.17	0.053	0.025	0.067
T347	LTE B41	QPSK20M	40240	50	0	Front Face	1	DIV	1	1	19.5	18.41	0.03	0.067	0.035	0.087
T348	LTE B41	QPSK20M	40240	50	0	Rear Face	1	DIV	1	1	19.5	18.41	-0.06	0.117	0.066	0.150
T349	LTE B41	QPSK20M	40240	50	0	Left Side	1	DIV	1	1	19.5	18.41	-0.08	0.073	0.038	0.094
T350	LTE B41	QPSK20M	40240	50	0	Right Side	1	DIV	1	1	19.5	18.41	-0.08	0.063	0.028	0.081
T351	LTE B41	QPSK20M	40240	50	0	Top Side	1	DIV	1	1	19.5	18.41	0.02	0.049	0.022	0.063
T352	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	2	1	19.5	18.48	0.13	0.144	0.071	0.182
T353	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	2	2	19.5	18.48	0.03	0.126	0.072	0.159

Note: According to 201610 FCC TCB workshop RF exposure slides, when the highest reported SAR of an antenna is $> 1.2\text{W/kg}$, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.

8. Hotspot SAR test results of WIFI

Test No.	Band	Channel	Test Position	Separation Distance (cm)	Battery	Data Rate	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift	SAR 1g	SAR 10g	Scaled 1g SAR
T664	802.11b	11	Front Face	1	1	1	17	15.53	0.05	0.060	0.031	0.084
T665	802.11b	11	Rear Face	1	1	1	17	15.53	0.07	0.072	0.034	0.101
T666	802.11b	11	Right Side	1	1	1	17	15.53	-0.1	0.059	0.030	0.083
T667	802.11b	11	Top Side	1	1	1	17	15.53	-0.01	0.066	0.025	0.093
T668	802.11b	11	Rear Face	1	2	1	17	15.53	0.03	0.068	0.030	0.095

Note: Per KDB248227 D01, the highest SAR measured for the initial test position or initial test configuration should be used to determine SAR test exclusion according to the sum of 1-g SAR and SAR peak to location ratio provisions in KDB 447498. In addition, a test lab may also choose to perform standalone SAR measurements for test positions and 802.11 configurations that are not required by the initial test position or initial test configuration procedures and apply the results to determine simultaneous transmission SAR test exclusion, according to sum of 1-g and SAR peak to location ratio requirements to reduce the number of simultaneous transmission SAR measurements.

8.2.4 SAR MEASUREMENT RESULT OF PRODUCT SPECIFIC 10-G SAR

Per KDB648474D04, when hotspot mode applies, product specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T06	GSM 850	GPRS 2TX	190	Front Face	1	Main	1	1	30.4	28.55	0.158	0.242	Yes
T07	GSM 850	GPRS 2TX	190	Rear Face	1	Main	1	1	30.4	28.55	0.238	0.364	Yes
T08	GSM 850	GPRS 2TX	190	Left Side	1	Main	1	1	30.4	28.55	0.126	0.193	Yes
T09	GSM 850	GPRS 2TX	190	Right Side	1	Main	1	1	30.4	28.55	0.048	0.073	Yes
T10	GSM 850	GPRS 2TX	190	Bottom Side	1	Main	1	1	30.4	28.55	0.107	0.164	Yes
T13	GSM 850	GPRS 2TX	190	Rear Face	1	Main	2	1	30.4	28.55	0.265	0.406	Yes
T14	GSM 850	GPRS 2TX	190	Rear Face	1	Main	2	2	30.4	28.55	0.231	0.354	Yes
T21	GSM 850	GPRS 2TX	190	Front Face	1	DIV	1	1	30.4	28.64	0.309	0.463	Yes
T22	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	1	1	30.4	28.64	0.341	0.511	Yes
T23	GSM 850	GPRS 2TX	190	Left Side	1	DIV	1	1	30.4	28.64	0.234	0.351	Yes
T24	GSM 850	GPRS 2TX	190	Right Side	1	DIV	1	1	30.4	28.64	0.157	0.235	Yes
T25	GSM 850	GPRS 2TX	190	Top Side	1	DIV	1	1	30.4	28.64	0.211	0.316	Yes
T28	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	2	1	30.4	28.64	0.319	0.478	Yes
T29	GSM 850	GPRS 2TX	190	Rear Face	1	DIV	1	2	30.4	28.64	0.313	0.469	Yes
T36	GSM 1900	GPRS 2TX	661	Front Face	1	Main	1	1	27.2	22.4	0.101	0.305	Yes
T37	GSM 1900	GPRS 2TX	661	Rear Face	1	Main	1	1	27.2	22.4	0.110	0.332	Yes
T38	GSM 1900	GPRS 2TX	661	Left Side	1	Main	1	1	27.2	22.4	0.048	0.145	Yes
T39	GSM 1900	GPRS 2TX	661	Right Side	1	Main	1	1	27.2	22.4	0.024	0.071	Yes
T40	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	1	1	27.2	22.4	0.157	0.474	Yes
T41	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	2	1	27.2	22.4	0.152	0.459	Yes
T42	GSM 1900	GPRS 2TX	661	Bottom Side	1	Main	1	2	27.2	22.4	0.147	0.444	Yes
T51	GSM 1900	GPRS 2TX	661	Front Face	1	DIV	1	1	22.2	20.95	0.008	0.010	Yes
T52	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	1	1	22.2	20.95	0.027	0.036	Yes
T53	GSM 1900	GPRS 2TX	661	Left Side	1	DIV	1	1	22.2	20.95	0.005	0.007	Yes
T54	GSM 1900	GPRS 2TX	661	Right Side	1	DIV	1	1	22.2	20.95	<0.001	<0.001	Yes
T55	GSM 1900	GPRS 2TX	661	Top Side	1	DIV	1	1	22.2	20.95	0.008	0.011	Yes
T56	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	2	1	22.2	20.95	0.021	0.028	Yes
T57	GSM 1900	GPRS 2TX	661	Rear Face	1	DIV	1	2	22.2	20.95	0.021	0.027	Yes

Test No.	Band	Mode	Channel	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T66	UMTS B2	RMC12.2K	9400	Front Face	1	Main	1	1	24.6	19.77	0.188	0.572	Yes
T67	UMTS B2	RMC12.2K	9400	Rear Face	1	Main	1	1	24.6	19.77	0.232	0.705	Yes
T68	UMTS B2	RMC12.2K	9400	Left Side	1	Main	1	1	24.6	19.77	0.099	0.302	Yes
T69	UMTS B2	RMC12.2K	9400	Right Side	1	Main	1	1	24.6	19.77	0.060	0.183	Yes
T70	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	1	1	24.6	19.77	0.335	1.019	Yes
T73	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	2	1	24.6	19.77	0.325	0.988	Yes
T74	UMTS B2	RMC12.2K	9400	Bottom Side	1	Main	2	2	24.6	19.77	0.312	0.949	Yes
T81	UMTS B2	RMC12.2K	9400	Front Face	1	DIV	1	1	19.6	18.27	0.019	0.026	Yes
T82	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	1	1	19.6	18.27	0.037	0.050	Yes
T83	UMTS B2	RMC12.2K	9400	Left Side	1	DIV	1	1	19.6	18.27	0.016	0.022	Yes
T84	UMTS B2	RMC12.2K	9400	Right Side	1	DIV	1	1	19.6	18.27	<0.001	<0.001	Yes
T85	UMTS B2	RMC12.2K	9400	Top Side	1	DIV	1	1	19.6	18.27	0.012	0.017	Yes
T86	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	2	1	19.6	18.27	0.033	0.045	Yes
T87	UMTS B2	RMC12.2K	9400	Rear Face	1	DIV	1	2	19.6	18.27	0.047	0.064	Yes
T96	UMTS B4	RMC12.2K	1413	Front Face	1	Main	1	1	24.5	20.05	0.209	0.582	Yes
T97	UMTS B4	RMC12.2K	1413	Rear Face	1	Main	1	1	24.5	20.05	0.252	0.702	Yes
T98	UMTS B4	RMC12.2K	1413	Left Side	1	Main	1	1	24.5	20.05	0.109	0.304	Yes
T99	UMTS B4	RMC12.2K	1413	Right Side	1	Main	1	1	24.5	20.05	0.067	0.186	Yes
T100	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	1	1	24.5	20.05	0.297	0.827	Yes
T103	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	2	1	24.5	20.05	0.303	0.844	Yes
T104	UMTS B4	RMC12.2K	1413	Bottom Side	1	Main	2	2	24.5	20.05	0.285	0.794	Yes
T111	UMTS B4	RMC12.2K	1413	Front Face	1	DIV	1	1	19.5	18	0.031	0.044	Yes
T112	UMTS B4	RMC12.2K	1413	Rear Face	1	DIV	1	1	19.5	18	0.041	0.057	Yes
T113	UMTS B4	RMC12.2K	1413	Left Side	1	DIV	1	1	19.5	18	0.020	0.028	Yes
T114	UMTS B4	RMC12.2K	1413	Right Side	1	DIV	1	1	19.5	18	0.009	0.013	Yes
T115	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	1	1	19.5	18	0.045	0.064	Yes
T118	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	2	1	19.5	18	0.041	0.058	Yes
T119	UMTS B4	RMC12.2K	1413	Top Side	1	DIV	1	2	19.5	18	0.043	0.060	Yes
T126	UMTS B5	RMC12.2K	4182	Front Face	1	Main	1	1	25	22.24	0.195	0.368	Yes
T127	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	1	1	25	22.24	0.285	0.538	Yes
T128	UMTS B5	RMC12.2K	4182	Left Side	1	Main	1	1	25	22.24	0.157	0.296	Yes
T129	UMTS B5	RMC12.2K	4182	Right Side	1	Main	1	1	25	22.24	0.054	0.102	Yes
T130	UMTS B5	RMC12.2K	4182	Bottom Side	1	Main	1	1	25	22.24	0.139	0.262	Yes
T131	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	2	1	25	22.24	0.289	0.546	Yes
T132	UMTS B5	RMC12.2K	4182	Rear Face	1	Main	2	2	25	22.24	0.280	0.529	Yes
T141	UMTS B5	RMC12.2K	4182	Front Face	1	DIV	1	1	25	22.18	0.147	0.281	Yes
T142	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	1	1	25	22.18	0.174	0.333	Yes
T143	UMTS B5	RMC12.2K	4182	Left Side	1	DIV	1	1	25	22.18	0.114	0.218	Yes
T144	UMTS B5	RMC12.2K	4182	Right Side	1	DIV	1	1	25	22.18	0.074	0.142	Yes
T145	UMTS B5	RMC12.2K	4182	Top Side	1	DIV	1	1	25	22.18	0.108	0.207	Yes
T146	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	2	1	25	22.18	0.146	0.279	Yes
T147	UMTS B5	RMC12.2K	4182	Rear Face	1	DIV	1	2	25	22.18	0.140	0.268	Yes

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T162	LTE B2	QPSK20M	18900	1	0	Front Face	1	Main	1	1	24.5	20.63	0.197	0.480	Yes
T163	LTE B2	QPSK20M	18900	1	0	Rear Face	1	Main	1	1	24.5	20.63	0.224	0.546	Yes
T164	LTE B2	QPSK20M	18900	1	0	Left Side	1	Main	1	1	24.5	20.63	0.098	0.239	Yes
T165	LTE B2	QPSK20M	18900	1	0	Right Side	1	Main	1	1	24.5	20.63	0.058	0.142	Yes
T166	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	1	1	24.5	20.63	0.345	0.841	Yes
T167	LTE B2	QPSK20M	18900	50	0	Front Face	1	Main	1	1	23.5	20.35	0.186	0.384	Yes
T168	LTE B2	QPSK20M	18900	50	0	Rear Face	1	Main	1	1	23.5	20.35	0.215	0.444	Yes
T169	LTE B2	QPSK20M	18900	50	0	Left Side	1	Main	1	1	23.5	20.35	0.100	0.206	Yes
T170	LTE B2	QPSK20M	18900	50	0	Right Side	1	Main	1	1	23.5	20.35	0.057	0.117	Yes
T171	LTE B2	QPSK20M	18900	50	0	Bottom Side	1	Main	1	1	23.5	20.35	0.320	0.661	Yes
T172	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	2	1	24.5	20.63	0.331	0.807	Yes
T173	LTE B2	QPSK20M	18900	1	0	Bottom Side	1	Main	1	2	24.5	20.63	0.327	0.797	Yes
T181	LTE B2	QPSK20M	18900	1	0	Front Face	1	DIV	1	1	19.5	18.44	0.077	0.098	Yes
T182	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	1	1	19.5	18.44	0.136	0.174	Yes
T183	LTE B2	QPSK20M	18900	1	0	Left Side	1	DIV	1	1	19.5	18.44	0.060	0.077	Yes
T184	LTE B2	QPSK20M	18900	1	0	Right Side	1	DIV	1	1	19.5	18.44	0.043	0.055	Yes
T185	LTE B2	QPSK20M	18900	1	0	Top Side	1	DIV	1	1	19.5	18.44	0.086	0.110	Yes
T186	LTE B2	QPSK20M	18900	50	0	Front Face	1	DIV	1	1	19.5	18.19	0.077	0.104	Yes
T187	LTE B2	QPSK20M	18900	50	0	Rear Face	1	DIV	1	1	19.5	18.19	0.124	0.168	Yes
T188	LTE B2	QPSK20M	18900	50	0	Left Side	1	DIV	1	1	19.5	18.19	0.059	0.080	Yes
T189	LTE B2	QPSK20M	18900	50	0	Right Side	1	DIV	1	1	19.5	18.19	0.038	0.051	Yes
T190	LTE B2	QPSK20M	18900	50	0	Top Side	1	DIV	1	1	19.5	18.19	0.083	0.112	Yes
T191	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	2	1	19.5	18.44	0.137	0.175	Yes
T192	LTE B2	QPSK20M	18900	1	0	Rear Face	1	DIV	2	2	19.5	18.44	0.142	0.181	Yes

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T202	LTE B4	QPSK20M	20050	1	0	Front Face	1	Main	1	1	24.5	20.22	0.209	0.560	Yes
T203	LTE B4	QPSK20M	20050	1	0	Rear Face	1	Main	1	1	24.5	20.22	0.229	0.613	Yes
T204	LTE B4	QPSK20M	20050	1	0	Left Side	1	Main	1	1	24.5	20.22	0.099	0.266	Yes
T205	LTE B4	QPSK20M	20050	1	0	Right Side	1	Main	1	1	24.5	20.22	0.064	0.172	Yes
T206	LTE B4	QPSK20M	20050	1	0	Bottom Side	1	Main	1	1	24.5	20.22	0.290	0.777	Yes
T207	LTE B4	QPSK20M	20050	50	0	Front Face	1	Main	1	1	23.5	19.95	0.211	0.478	Yes
T208	LTE B4	QPSK20M	20050	50	0	Rear Face	1	Main	1	1	23.5	19.95	0.230	0.521	Yes
T209	LTE B4	QPSK20M	20050	50	0	Left Side	1	Main	1	1	23.5	19.95	0.103	0.233	Yes
T210	LTE B4	QPSK20M	20050	50	0	Right Side	1	Main	1	1	23.5	19.95	0.065	0.147	Yes
T211	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	1	1	23.5	19.95	0.291	0.659	Yes
T212	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	2	1	23.5	19.95	0.283	0.641	Yes
T213	LTE B4	QPSK20M	20050	50	0	Bottom Side	1	Main	1	2	23.5	19.95	0.272	0.616	Yes
T222	LTE B4	QPSK20M	20300	1	0	Front Face	1	DIV	1	1	19.5	18.15	0.052	0.071	Yes
T223	LTE B4	QPSK20M	20300	1	0	Rear Face	1	DIV	1	1	19.5	18.15	0.061	0.083	Yes
T224	LTE B4	QPSK20M	20300	1	0	Left Side	1	DIV	1	1	19.5	18.15	0.027	0.036	Yes
T225	LTE B4	QPSK20M	20300	1	0	Right Side	1	DIV	1	1	19.5	18.15	0.016	0.022	Yes
T226	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	1	1	19.5	18.15	0.066	0.090	Yes
T227	LTE B4	QPSK20M	20300	50	0	Front Face	1	DIV	1	1	19.5	17.95	0.042	0.060	Yes
T228	LTE B4	QPSK20M	20300	50	0	Rear Face	1	DIV	1	1	19.5	17.95	0.055	0.078	Yes
T229	LTE B4	QPSK20M	20300	50	0	Left Side	1	DIV	1	1	19.5	17.95	0.023	0.032	Yes
T230	LTE B4	QPSK20M	20300	50	0	Right Side	1	DIV	1	1	19.5	17.95	0.010	0.015	Yes
T231	LTE B4	QPSK20M	20300	50	0	Top Side	1	DIV	1	1	19.5	17.95	0.062	0.088	Yes
T232	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	2	1	19.5	18.15	0.061	0.083	Yes
T233	LTE B4	QPSK20M	20300	1	0	Top Side	1	DIV	1	2	19.5	18.15	0.071	0.097	Yes

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T242	LTE B5	QPSK10M	20450	1	0	Front Face	1	Main	1	1	24.8	22.87	0.148	0.231	Yes
T243	LTE B5	QPSK10M	20450	1	0	Rear Face	1	Main	1	1	24.8	22.87	0.258	0.402	Yes
T244	LTE B5	QPSK10M	20450	1	0	Left Side	1	Main	1	1	24.8	22.87	0.118	0.184	Yes
T245	LTE B5	QPSK10M	20450	1	0	Right Side	1	Main	1	1	24.8	22.87	0.037	0.058	Yes
T246	LTE B5	QPSK10M	20450	1	0	Bottom Side	1	Main	1	1	24.8	22.87	0.104	0.162	Yes
T247	LTE B5	QPSK10M	20450	25	0	Front Face	1	Main	1	1	23.8	22.69	0.152	0.196	Yes
T248	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	1	1	23.8	22.69	0.265	0.342	Yes
T249	LTE B5	QPSK10M	20450	25	0	Left Side	1	Main	1	1	23.8	22.69	0.123	0.159	Yes
T250	LTE B5	QPSK10M	20450	25	0	Right Side	1	Main	1	1	23.8	22.69	0.039	0.050	Yes
T251	LTE B5	QPSK10M	20450	25	0	Bottom Side	1	Main	1	1	23.8	22.69	0.108	0.140	Yes
T252	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	2	1	23.8	22.69	0.279	0.361	Yes
T253	LTE B5	QPSK10M	20450	25	0	Rear Face	1	Main	2	2	23.8	22.69	0.238	0.308	Yes
T262	LTE B5	QPSK10M	20450	1	0	Front Face	1	DIV	1	1	24.8	22.83	0.194	0.306	Yes
T263	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	1	1	24.8	22.83	0.282	0.444	Yes
T264	LTE B5	QPSK10M	20450	1	0	Left Side	1	DIV	1	1	24.8	22.83	0.142	0.224	Yes
T265	LTE B5	QPSK10M	20450	1	0	Right Side	1	DIV	1	1	24.8	22.83	0.074	0.117	Yes
T266	LTE B5	QPSK10M	20450	1	0	Top Side	1	DIV	1	1	24.8	22.83	0.164	0.258	Yes
T267	LTE B5	QPSK10M	20450	25	0	Front Face	1	DIV	1	1	23.8	22.73	0.206	0.264	Yes
T268	LTE B5	QPSK10M	20450	25	0	Rear Face	1	DIV	1	1	23.8	22.73	0.249	0.319	Yes
T269	LTE B5	QPSK10M	20450	25	0	Left Side	1	DIV	1	1	23.8	22.73	0.153	0.196	Yes
T270	LTE B5	QPSK10M	20450	25	0	Right Side	1	DIV	1	1	23.8	22.73	0.067	0.086	Yes
T271	LTE B5	QPSK10M	20450	25	0	Top Side	1	DIV	1	1	23.8	22.73	0.171	0.219	Yes
T272	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	2	1	24.8	22.83	0.257	0.405	Yes
T273	LTE B5	QPSK10M	20450	1	0	Rear Face	1	DIV	1	2	24.8	22.83	0.254	0.400	Yes

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T282	LTE B7	QPSK20M	20850	1	0	Front Face	1	Main	1	1	23.2	19.34	0.160	0.390	Yes
T283	LTE B7	QPSK20M	20850	1	0	Rear Face	1	Main	1	1	23.2	19.34	0.205	0.499	Yes
T284	LTE B7	QPSK20M	20850	1	0	Left Side	1	Main	1	1	23.2	19.34	0.036	0.088	Yes
T285	LTE B7	QPSK20M	20850	1	0	Right Side	1	Main	1	1	23.2	19.34	0.028	0.068	Yes
T286	LTE B7	QPSK20M	20850	1	0	Bottom Side	1	Main	1	1	23.2	19.34	0.253	0.616	Yes
T287	LTE B7	QPSK20M	20850	50	0	Front Face	1	Main	1	1	22.2	18.99	0.163	0.341	Yes
T288	LTE B7	QPSK20M	20850	50	0	Rear Face	1	Main	1	1	22.2	18.99	0.209	0.438	Yes
T289	LTE B7	QPSK20M	20850	50	0	Left Side	1	Main	1	1	22.2	18.99	0.038	0.079	Yes
T290	LTE B7	QPSK20M	20850	50	0	Right Side	1	Main	1	1	22.2	18.99	0.036	0.075	Yes
T291	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	1	1	22.2	18.99	0.255	0.534	Yes
T292	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	2	1	22.2	18.99	0.226	0.473	Yes
T293	LTE B7	QPSK20M	20850	50	0	Bottom Side	1	Main	1	2	22.2	18.99	0.219	0.459	Yes
T302	LTE B7	QPSK20M	20850	1	0	Front Face	1	DIV	1	1	15.2	14.37	0.053	0.064	Yes
T303	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	1	1	15.2	14.37	0.090	0.109	Yes
T304	LTE B7	QPSK20M	20850	1	0	Left Side	1	DIV	1	1	15.2	14.37	0.055	0.066	Yes
T305	LTE B7	QPSK20M	20850	1	0	Right Side	1	DIV	1	1	15.2	14.37	0.035	0.042	Yes
T306	LTE B7	QPSK20M	20850	1	0	Top Side	1	DIV	1	1	15.2	14.37	0.039	0.047	Yes
T307	LTE B7	QPSK20M	20850	50	0	Front Face	1	DIV	1	1	15.2	14.04	0.048	0.062	Yes
T308	LTE B7	QPSK20M	20850	50	0	Rear Face	1	DIV	1	1	15.2	14.04	0.081	0.106	Yes
T309	LTE B7	QPSK20M	20850	50	0	Left Side	1	DIV	1	1	15.2	14.04	0.050	0.065	Yes
T310	LTE B7	QPSK20M	20850	50	0	Right Side	1	DIV	1	1	15.2	14.04	0.030	0.039	Yes
T311	LTE B7	QPSK20M	20850	50	0	Top Side	1	DIV	1	1	15.2	14.04	0.035	0.046	Yes
T312	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	2	1	15.2	14.37	0.083	0.101	Yes
T313	LTE B7	QPSK20M	20850	1	0	Rear Face	1	DIV	1	2	15.2	14.37	0.086	0.104	Yes

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (cm)	Ant	SIM	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T322	LTE B41	QPSK20M	41140	1	0	Front Face	1	Main	1	1	24.5	21.38	0.157	0.322	Yes
T323	LTE B41	QPSK20M	41140	1	0	Rear Face	1	Main	1	1	24.5	21.38	0.206	0.423	Yes
T324	LTE B41	QPSK20M	41140	1	0	Left Side	1	Main	1	1	24.5	21.38	0.036	0.074	Yes
T325	LTE B41	QPSK20M	41140	1	0	Right Side	1	Main	1	1	24.5	21.38	0.046	0.094	Yes
T326	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	1	1	24.5	21.38	0.249	0.511	Yes
T327	LTE B41	QPSK20M	40240	50	0	Front Face	1	Main	1	1	23.5	21.36	0.133	0.218	Yes
T328	LTE B41	QPSK20M	40240	50	0	Rear Face	1	Main	1	1	23.5	21.36	0.187	0.306	Yes
T329	LTE B41	QPSK20M	40240	50	0	Left Side	1	Main	1	1	23.5	21.36	0.032	0.052	Yes
T330	LTE B41	QPSK20M	40240	50	0	Right Side	1	Main	1	1	23.5	21.36	0.042	0.069	Yes
T331	LTE B41	QPSK20M	40240	50	0	Bottom Side	1	Main	1	1	23.5	21.36	0.204	0.334	Yes
T332	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	2	1	24.5	21.38	0.218	0.447	Yes
T333	LTE B41	QPSK20M	41140	1	0	Bottom Side	1	Main	1	2	24.5	21.38	0.272	0.558	Yes
T342	LTE B41	QPSK20M	40240	1	0	Front Face	1	DIV	1	1	19.5	18.48	0.073	0.092	Yes
T343	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	1	1	19.5	18.48	0.124	0.157	Yes
T344	LTE B41	QPSK20M	40240	1	0	Left Side	1	DIV	1	1	19.5	18.48	0.078	0.099	Yes
T345	LTE B41	QPSK20M	40240	1	0	Right Side	1	DIV	1	1	19.5	18.48	0.068	0.086	Yes
T346	LTE B41	QPSK20M	40240	1	0	Top Side	1	DIV	1	1	19.5	18.48	0.053	0.067	Yes
T347	LTE B41	QPSK20M	40240	50	0	Front Face	1	DIV	1	1	19.5	18.41	0.067	0.087	Yes
T348	LTE B41	QPSK20M	40240	50	0	Rear Face	1	DIV	1	1	19.5	18.41	0.117	0.150	Yes
T349	LTE B41	QPSK20M	40240	50	0	Left Side	1	DIV	1	1	19.5	18.41	0.073	0.094	Yes
T350	LTE B41	QPSK20M	40240	50	0	Right Side	1	DIV	1	1	19.5	18.41	0.063	0.081	Yes
T351	LTE B41	QPSK20M	40240	50	0	Top Side	1	DIV	1	1	19.5	18.41	0.049	0.063	Yes
T352	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	2	1	19.5	18.48	0.144	0.182	Yes
T353	LTE B41	QPSK20M	40240	1	0	Rear Face	1	DIV	2	2	19.5	18.48	0.126	0.159	Yes

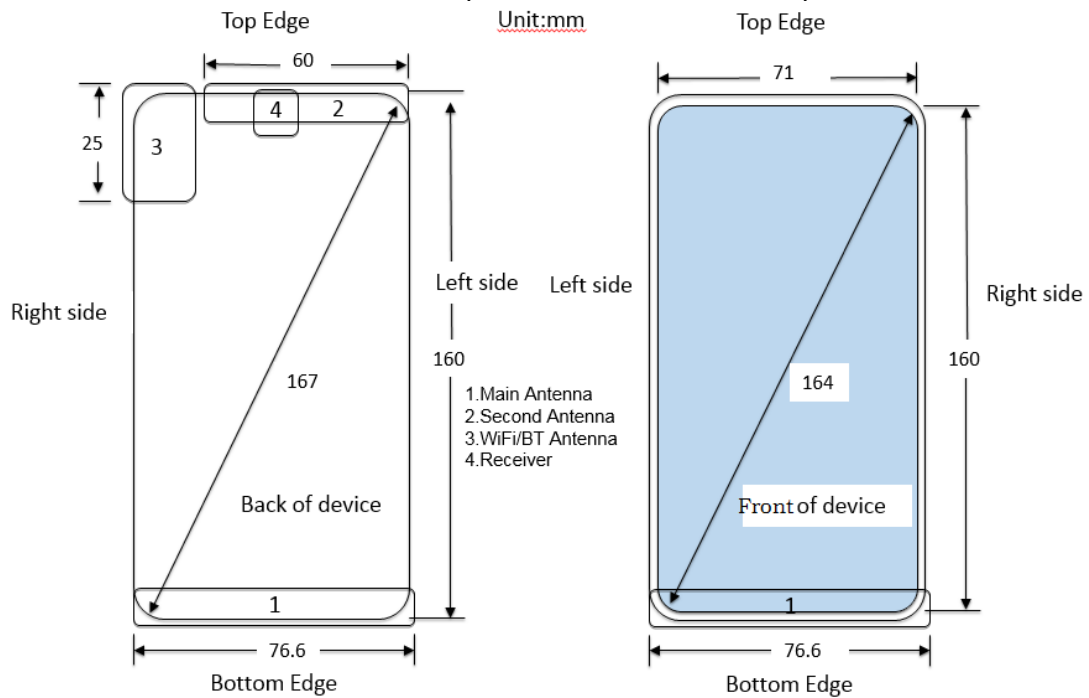
Test No.	Band	Channel	Test Position	Separation Distance (cm)	Battery	Data Rate	Maximum Tune-up (dBm)	Conducted Power (dBm)	SAR 1g	Scaled 1g SAR	product specific 10-g SAR Exclusion
T664	802.11b	11	Front Face	1	1	1	17	15.53	0.060	0.084	Yes
T665	802.11b	11	Rear Face	1	1	1	17	15.53	0.072	0.101	Yes
T666	802.11b	11	Right Side	1	1	1	17	15.53	0.059	0.083	Yes
T667	802.11b	11	Top Side	1	1	1	17	15.53	0.066	0.093	Yes
T668	802.11b	11	Rear Face	1	2	1	17	15.53	0.068	0.095	Yes

8.3 MULTIPLE TRANSMITTER EVALUATION

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498 D01 General RF Exposure Guidance.

The length of the diagonal of the mobile phone is 167mm.

The location of the antennas inside mobile phone is shown as below picture:



- Note: 1. The equipment under test(EUT) is a Dual-SIM-Card Mobile Phone. SIM1 and SIM2 both support 2G/3G/LTE.
2. Main antenna (Ant1) and Secondary antenna (Ant 2) can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4Gtransmission at a time.

8.3.1 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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})][\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for product specific 10-g SAR, where:

- $f(\text{GHz})$ 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	Head	9	7.94	5	2.48	2.50	3	Yes
BT	Body- Worn	9	7.94	15	2.48	0.83	3	Yes
BT	Hotspot	9	7.94	10	2.48	1.25	3	Yes
BT	product specific 10-g SAR	9	7.94	5	2.48	2.50	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:

$(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})}/x] \text{ W/kg}$ 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 standalone SAR was estimated according to following formula to result in substantially conservative SAR values of $\leq 0.4 \text{ W/kg}$ to determine simultaneous transmission SAR test exclusion.

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

Estimated SAR calculation

Mode	Position	$P_{\max}$ (dBm)*	$P_{\max}$ (mW)	Distance (mm)	f (GHz)	X	Estimated SAR (W/kg)*
BT	Body- Worn	9	7.94	15	2.48	7.5	0.111
BT	Head	9	7.94	5	2.48	7.5	0.334
BT	Hotspot	9	7.94	10	2.48	7.5	0.167
BT	product specific 10-g SAR	9	7.94	5	2.48	18.75	0.133

Note: * - maximum possible output power declared by manufacturer

8.3.2 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	Hotspot (10mm)	Product Specific 10-g (0mm)
1	GSM Voice(Ant 1) + BT	Yes	Yes	NA	Yes
2	GSM DATA(Ant 1) + BT	N/A	Yes	NA	Yes
3	GSM Voice(Ant 2) + BT	Yes	Yes	NA	Yes
4	GSM DATA (Ant 2)+ BT	N/A	Yes	NA	Yes
5	GSM Voice(Ant 1) + WiFi2.4G	Yes	Yes	NA	Yes
6	GSM DATA(Ant 1) + WiFi2.4G	N/A	Yes	Yes	Yes
7	GSM Voice(Ant 2) + WiFi2.4G	Yes	Yes	NA	Yes
8	GSM DATA(Ant 2) + WiFi2.4G	N/A	Yes	Yes	Yes
9	UMTS (Ant 1) + BT	Yes	Yes	NA	Yes
10	UMTS (Ant 2) + BT	Yes	Yes	NA	Yes
11	UMTS (Ant 1) + WiFi2.4G	Yes	Yes	Yes	Yes
12	UMTS (Ant 2) + WiFi2.4G	Yes	Yes	Yes	Yes
13	LTE (Ant 1) + WiFi2.4G	Yes*	Yes*	Yes	Yes
14	LTE (Ant 1) + BT	Yes	Yes*	NA	Yes
15	LTE (Ant 2) + WiFi2.4G	Yes*	Yes*	Yes	Yes
16	LTE (Ant 2) + BT	Yes	Yes*	NA	Yes

Note:

- 1) Wi-Fi 2.4G and Bluetooth share the same Tx antenna 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 (Ant1) and Second Antenna(Ant 2) can't transmit simultaneously.
- 5) The device supports VoWIFI function.

8.3.3 SAR SUMMATION SCENARIO

1) About BT/ WiFi and Main antenna

Position	Head				Bodyworn		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	0.034	0.016	0.059	0.016	0.164	0.234	0.192	0.322	0.153	0.058	/	0.130
GSM 1900	0.064	0.054	0.048	0.051	0.119	0.159	0.153	0.166	0.073	0.036	/	0.238
UMTS B2	0.106	0.140	0.128	0.124	0.240	0.335	0.287	0.354	0.151	0.092	/	0.511
UMTS B4	0.177	0.113	0.099	0.085	0.387	0.401	0.292	0.352	0.152	0.093	/	0.423
UMTS B5	0.087	0.023	0.063	0.021	0.225	0.314	0.292	0.433	0.235	0.081	/	0.208
LTE B2	0.138	0.094	0.140	0.128	0.261	0.323	0.242	0.280	0.130	0.074	/	0.422
LTE B4	0.175	0.122	0.115	0.101	0.348	0.355	0.301	0.329	0.147	0.093	/	0.416
LTE B5	0.038	0.017	0.043	0.018	0.160	0.243	0.196	0.361	0.159	0.050	/	0.140
LTE B7	0.074	0.052	0.068	0.036	0.215	0.301	0.215	0.276	0.050	0.048	/	0.337
LTE B41	0.090	0.018	0.041	0.022	0.129	0.221	0.203	0.267	0.047	0.059	/	0.352
802.11b/g	0.032	0.032	0.110	0.060	0.031	0.051	0.084	0.101	/	0.083	0.093	/
Bluetooth	0.334	0.334	0.334	0.334	0.111	0.111	0.167	0.167	/	0.167	0.167	/
Max. SAR Summation For main antenna and wifi	0.209	0.173	0.250	0.188	0.418	0.452	0.386	0.534	0.235	0.176	0.093	0.511
Max. SAR Summation For main antenna and BT	0.510	0.474	0.474	0.462	0.498	0.512	0.468	0.600	0.235	0.260	0.167	0.511

Position	Product specific 10-g SAR					
	Front Face (0cm)	Rear Face (0cm)	Left Side (0cm)	Right Side (0cm)	Top Side (0cm)	Bottom Side (0cm)
GSM 850	/	/	/	/	/	/
GSM 1900	/	/	/	/	/	/
UMTS B2	/	/	/	/	/	/
UMTS B4	/	/	/	/	/	/
UMTS B5	/	/	/	/	/	/
LTE B2	/	/	/	/	/	/
LTE B4	/	/	/	/	/	/
LTE B5	/	/	/	/	/	/
LTE B7	/	/	/	/	/	/
LTE B41	/	/	/	/	/	/
802.11b/g	/	/	/	/	/	/
Bluetooth	0.133	0.133	/	0.133	0.133	/
Max. SAR Summation	0.133	0.133	/	0.133	0.133	/

Note: 1.For main antenna and wifi,MAX. $\sum SAR_{1g} = 0.534 W/Kg < 1.6 W/Kg$, so the SAR to peak location separation ratio should not be considered.
 2.For main antenna and BT,MAX. $\sum SAR_{1g} = 0.600 W/Kg < 1.6 W/Kg$, so the SAR to peak location separation ratio should not be considered.

2) About BT/ WiFi and Div antenna

Position	Head				Bodyworn		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	0.297	0.281	0.395	0.342	0.223	0.266	0.368	0.406	0.279	0.187	0.251	/
GSM 1900	0.035	0.042	0.035	0.046	0.002	0.010	0.010	0.036	0.007	<0.001	0.011	/
UMTS B2	0.242	0.189	0.149	0.145	0.013	0.017	0.026	0.064	0.022	<0.001	0.017	/
UMTS B4	0.136	0.137	0.154	0.167	0.013	0.017	0.044	0.057	0.028	0.013	0.064	/
UMTS B5	0.414	0.392	0.596	0.513	0.297	0.358	0.224	0.265	0.173	0.113	0.164	/
LTE B2	0.162	0.125	0.119	0.116	0.011	0.024	0.104	0.181	0.080	0.055	0.112	/
LTE B4	0.178	0.137	0.150	0.153	0.030	0.035	0.071	0.083	0.036	0.022	0.097	/
LTE B5	0.410	0.345	0.388	0.312	0.205	0.261	0.264	0.353	0.196	0.086	0.219	/
LTE B7	0.397	0.323	0.115	0.093	0.021	0.037	0.064	0.109	0.066	0.042	0.047	/
LTE B41	0.570	0.264	0.078	0.072	0.045	0.083	0.092	0.182	0.099	0.086	0.067	/
802.11b/g	0.032	0.032	0.110	0.060	0.031	0.051	0.084	0.101	/	0.083	0.093	/
Bluetooth	0.334	0.334	0.334	0.334	0.111	0.111	0.167	0.167	/	0.167	0.167	/
Max. SAR Summation For main antenna and wifi	0.603	0.425	0.706	0.573	0.328	0.408	0.452	0.507	0.279	0.270	0.344	/
Max. SAR Summation For main antenna and BT	0.904	0.726	0.930	0.846	0.409	0.469	0.535	0.573	0.279	0.354	0.418	/

Position	Product specific 10-g SAR					
	Front Face (0cm)	Rear Face (0cm)	Left Side (0cm)	Right Side (0cm)	Top Side (0cm)	Bottom Side (0cm)
GSM 850	/	/	/	/	/	/
GSM 1900	/	/	/	/	/	/
UMTS B2	/	/	/	/	/	/
UMTS B4	/	/	/	/	/	/
UMTS B5	/	/	/	/	/	/
LTE B2	/	/	/	/	/	/
LTE B4	/	/	/	/	/	/
LTE B5	/	/	/	/	/	/
LTE B7	/	/	/	/	/	/
LTE B41	/	/	/	/	/	/
802.11b/g	/	/	/	/	/	/
Bluetooth	0.133	0.133	/	0.133	0.133	/
Max. SAR Summation	0.133	0.133	/	0.133	0.133	/

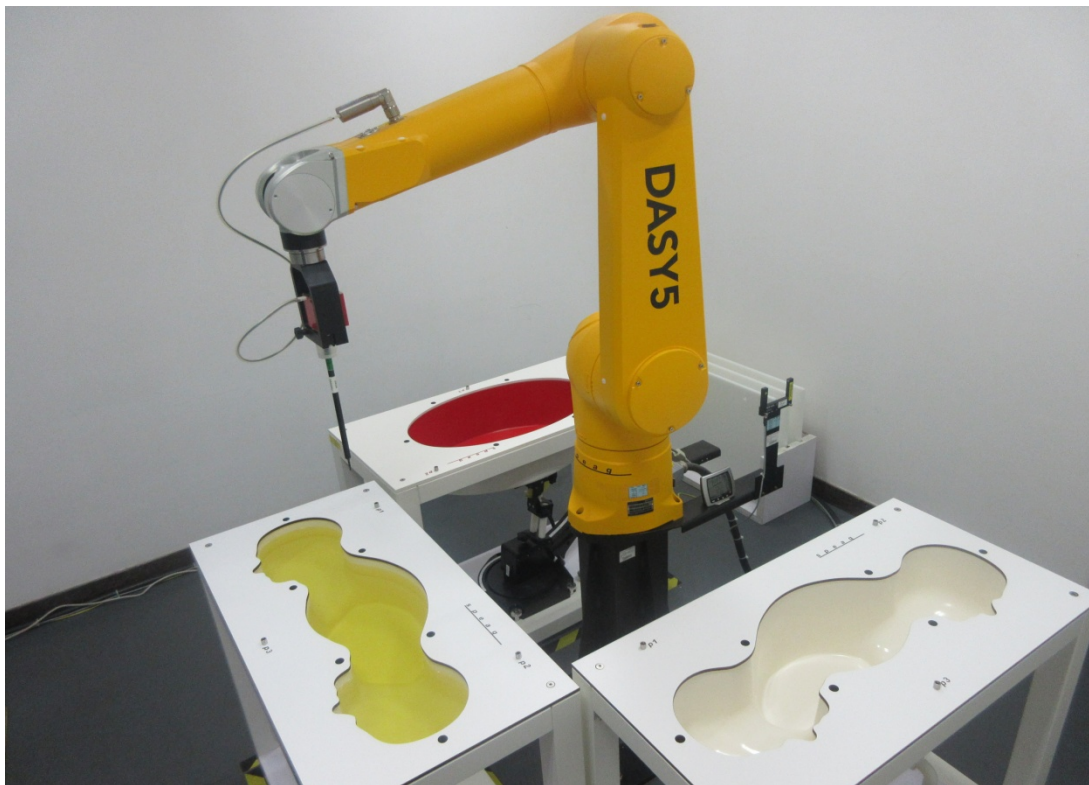
Note: 1. For div antenna and wifi, MAX. $\sum \text{SAR}_{1g} = 0.706 \text{ W/Kg} < 1.6 \text{ W/Kg}$, so the SAR to peak location separation ratio should not be considered.

2. For div antenna and BT, MAX. $\sum \text{SAR}_{1g} = 0.930 \text{ W/Kg} < 1.6 \text{ W/Kg}$, so the SAR to peak location separation ratio should not be considered.

APPENDIX

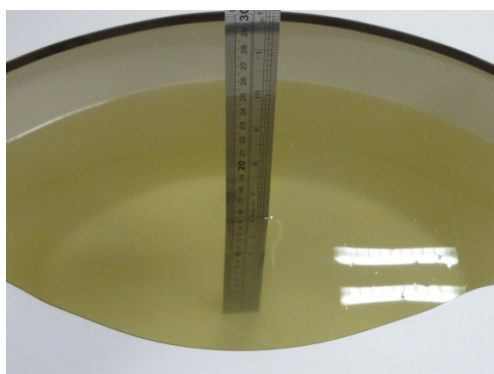
1. Test Layout

Specific Absorption Rate Test Layout



Liquid depth in the flat Phantom ($\geq 15\text{cm}$ depth)

Body(835MHz) 15.5cm



Head(835MHz) 15.9cm



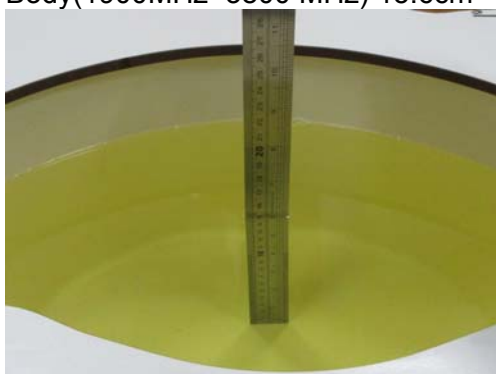
Body(1750MHz) 16.3cm



Head(1750MHz) 15.3cm



Body(1900MHz~3800 MHz) 15.6cm



Head (1900MHz~3800MHz) 16.3cm



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