REPORT No. : SZ15050187S01

FCC SAR TEST REPORT

APPLICANT	:	ZTE Corporation
PRODUCT NAME	:	Mobile Broadband Internet Device
MODEL NAME	:	ZTE K85
TRADE NAME	:	ZTE
BRAND NAME	:	ZTE
FCC ID	:	SRQ-K85
STANDARD(S)	:	47CFR 2.1093 IEEE 1528-2013
ISSUE DATE	:	2015-07-27

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DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	2015-07-27	First edition

TEST REPORT DECLARATION

Applicant	ZTE Corporation		
Applicant Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China		
Manufacturer	ZTE Corporation		
Manufacturer Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China		
Product Name	Mobile Broadband Internet Device		
Model Name	ZTE K85		
Brand Name	ZTE		
HW Version	K85MB_D		
SW Version	K85_Bell_V1.05		
Test Standards	47CFR 2.1093; IEEE 1528-2013		
Test Date	2015-07-15 to 2015-07-22		
The Highest Reported 1g-SAR(W/kg)	Body	1.334 W/kg	Limit(W/kg): 1.6W/kg
	Simultaneous	1.587 W/kg	

Tested by : Liu Jun
Liu Jun

Reviewed by : Zhu Zhan
Zhu Zhan

Approved by : Zeng Dexin
Zeng Dexin

1.TECHNICAL INFORMATION

Note: the Following data is based on the information by the applicant.

1.1 Identification of Applicant

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China

1.2 Identification of Manufacturer

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China

1.3 Equipment Under Test (EUT)

Model Name:	ZTE K85
Trade Name:	ZTE
Brand Name:	ZTE
Hardware Version:	K85MB_D
Software Version:	K85_Bell_V1.05
Tx Frequency Bands:	WCDMA Band 2 : 1850-1910MHz; WCDMA Band 5: 824-849MHz; LTE Band 2: 1850-1910MHz; LTE Band 4: 1710-1755MHz; LTE Band 5: 824-849MHz; LTE Band 7: 2500-2570MHz; LTE Band 12:699-716MHz; LTE Band 17:704-716MHz; 802.11 b/g/n20/n40: 2412-2462 MHz; Bluetooth2.1+EDR; Bluetooth4.0;2402-2480 MHz;
Uplink Modulations:	WCDMA/HSDPA/HSUPA/HSPA+:QPSK; FDD-LTE:QPSK/16QAM; WIFI 802.11b: DSSS; WIFI 802.11g: OFDM; WIFI 802.11n20:OFDM; WIFI 802.11n40:OFDM; Bluetooth: GFSK/π/4-DQPSK/8-DPSK; Bluetooth4.0: GFSK
Antenna type:	Fixed Internal Antenna
Development Stage:	Identical prototype
Hotspot function:	Support

1.3.1 Photographs of the EUT

Please refer to the External Photos for the Photos of the EUT

1.3.2 Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the Following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	K85MB_D	K85_Bell_V1.05

1.4 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1093**	Radiofrequency Radiation Exposure Evaluation: Portable Devices
2	**IEEE 1528-2013**	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
3	**KDB 447498 D01v05r02**	General RF Exposure Guidance
4	**KDB 616217 D04v01r01**	SAR for Laptop and Tablets
5	**KDB 248227 D01v02**	802.11 Wi-Fi SAR
6	**KDB 941225 D01v03**	SAR Measurement Procedures for 3G Devices
7	**KDB 941225 D02v02r02**	HSPA and 1x Advanced
8	**KDB941225 D05v02r03**	SAR for LTE Devices
9	**KDB 865664 D01v01r03**	SAR Measurement 100 MHz to 6 GHz
10	**KDB 865664 D02v01r01**	SAR Reporting

1.5 Device Category and SAR Limits

Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Note: This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

2. SPECIFIC ABSORPTION RATE (SAR)

2.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are Middle than the limits for general population/uncontrolled.

2.2 SAR Definition

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

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

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

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where C is the specific head capacity, δT is the temperature rise and δt the exposure duration, or related to the electrical field in the tissue by

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

Where σ is the conductivity of the tissue, ρ is the mass density of the tissue and $|E|$ is the rms electrical field strength.

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

3. SAR MEASUREMENT SETUP

3.1 The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the Following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The Following figure shows the system.

The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

3.2 Probe

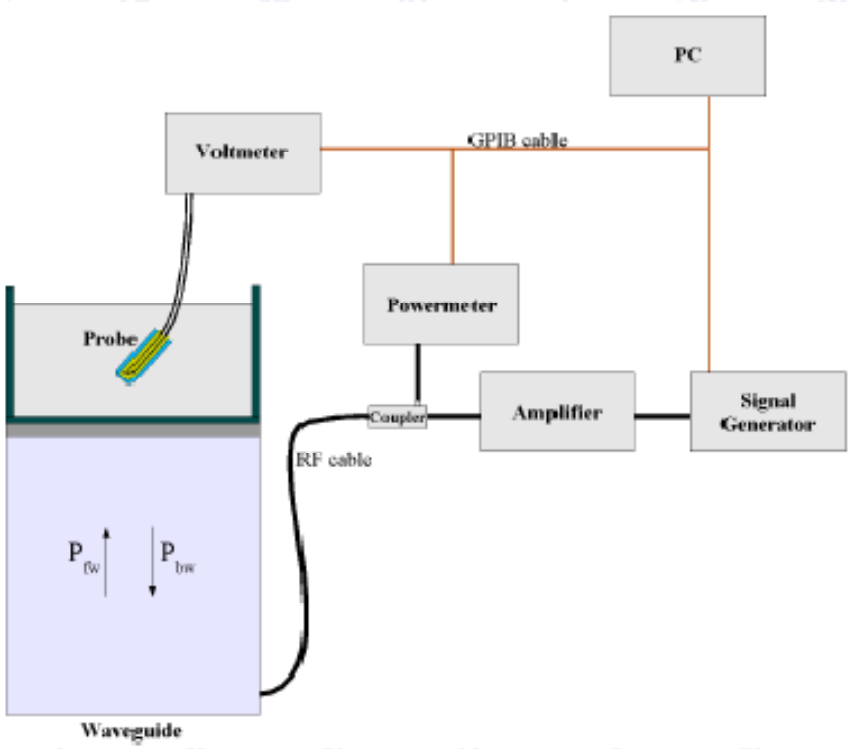
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with Following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 6.5 mm

- Distance between probe tip and sensor center: 2.5mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm)
- Probe linearity: <0.25 dB
- Axial Isotropy: <0.25 dB
- Spherical Isotropy: <0.25 dB
- Calibration range: 835to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and surface normal line: less than 30°

Probe calibration is realized, in compliance with CENELEC EN 62209 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 622091 annex technique using reference guide at the five frequencies.



$$SAR = \frac{4\left(P_{fw} - P_{bw}\right)}{ab\delta} \cos^2\left(\pi \frac{y}{a}\right) e^{(2z/\delta)}$$

Where :

Pfw = Forward Power

Pbw = Backward Power

a and b = Waveguide dimensions

ı = Skin depth

Keithley configuration:

Rate = Medium; Filter =ON; RDGS=10; FILTER TYPE =MOVING AVERAGE; RANGE AUTO
After each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

$$CF(N)=SAR(N)/Vlin(N) \qquad (N=1,2,3)$$

The linearised output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

$$Vlin(N)=V(N)*(1+V(N)/DCP(N)) \qquad (N=1,2,3)$$

Where DCP is the diode compression point in mV.

3.3 Probe Calibration Process

3.3.1 Dosimetric Assessment Procedure

Each E-Probe/Probe Amplifier combination has unique calibration parameters. SATIMO Probe calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm^2) using an with CALISAR, Antenna proprietary calibration system.

3.3.2 Free Space Assessment Procedure

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm^2.

3.3.3 Temperature Assessment Procedure

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

Where:

δt = exposure time (30 seconds),

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

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

δT = temperature increase due to RF exposure.

SAR is proportional to ΔT/Δt, the initial rate of tissue heating, before thermal diffusion takes place. The electric field in the simulated tissue can be used to estimate SAR by equating the thermally derived SAR to that with the E- field component.

Where:

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

σ = simulated tissue conductivity,

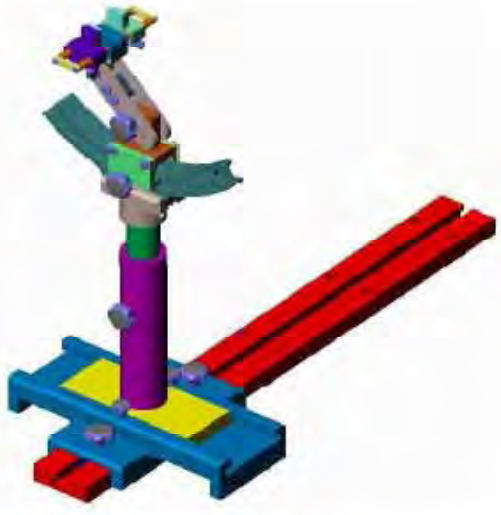
ρ = Tissue density (1.25 g/cm³ for brain tissue)

3.4 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

3.5 Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is Middle than 1°.



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

4. TISSUE SIMULATING LIQUIDS

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in below table.

The following table gives the recipes for tissue simulating liquids

Frequency Band (MHz)	750	835	1750	1900	2450	2600
Tissue Type	Body	Body	Body	Body	Body	Body
Ingredients (% by weight)						
Deionised Water	50.00	50.20	68.80	40.40	73.20	68.1
Salt(NaCl)	0.80	0.90	0.20	0.50	0.10	0.10
Sugar	48.80	48.50	0.00	58.00	0.00	0.00
Tween 20	0.00	0.00	0.00	0.00	0.00	0.00
HEC	0.20	0.20	0.00	1.00	0.00	0.00
Bactericide	0.20	0.20	0.00	0.10	0.00	0.00
Triton X-100	0.00	0.00	0.00	0.00	0.00	0.00
DGBE	0.00	0.00	31.00	0.00	26.70	31.8
Diethylenglycol monohexylether	0.00	0.00	0.00	0.00	0.00	0.00
Measured dielectric parameters						
Dielectric Constant	55.50	56.10	53.40	53.30	52.70	52.5
Conductivity (S/m)	0.96	0.95	1.49	1.52	1.95	2.16

Note: Please refer to the validation results for dielectric parameters of each frequency band.

The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using an Agilent 85033E Dielectric Probe Kit and an Agilent Network Analyzer.

Table 1: Dielectric Performance of Tissue Simulating Liquid

Temperature: 22.0~23.8°C, humidity: 54~60%.						
Date	Freq.(MHz)	Liquid Parameters	Meas.	Target	Delta(%)	Limit±(%)
2015/07/15	Body 750	Relative Permittivity(εr):	54.48	55.55	-1.93	5
		Conductivity(σ):	0.93	0.96	-3.12	5
2015/07/16	Body 750	Relative Permittivity(εr):	54.68	55.55	-1.57	5
		Conductivity(σ):	0.97	0.96	1.04	5
2015/07/17	Body 835	Relative Permittivity(εr):	55.87	56.10	-0.41	5
		Conductivity(σ):	0.94	0.95	-1.05	5
2015/07/18	Body 835	Relative Permittivity(εr):	55.92	56.10	-0.32	5
		Conductivity(σ):	0.96	0.95	1.05	5
2015/07/19	Body 1750	Relative Permittivity(εr):	53.55	53.40	0.28	5
		Conductivity(σ):	1.46	1.49	-2.01	5
2015/07/20	Body 1900	Relative Permittivity(εr):	53.21	53.3	-0.17	5
		Conductivity(σ):	1.53	1.52	0.66	5
2015/07/21	Body 1900	Relative Permittivity(εr):	53.44	53.3	0.26	5
		Conductivity(σ):	1.50	1.52	-1.32	5
2015/07/22	Body 2450	Relative Permittivity(εr):	52.52	52.70	-0.34	5
		Conductivity(σ):	1.93	1.95	-1.03	5
2015/07/22	Body 2600	Relative Permittivity(εr):	52.45	52.50	-0.10	5
		Conductivity(σ):	2.10	2.16	-2.78	5

5. UNCERTAINTY ASSESSMENT

The Following table includes the uncertainty table of the IEEE 1528. The values are determined by Antennessa.

5.1 UNCERTAINTY EVALUATION FOR EUT SAR TEST

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/ e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	4.76	N	1	1	1	4.76	4.7	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.01	1.0	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	1.62	1.6	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.8	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.0	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test sample Related									
Test sample positioning	E.4.2.1	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1.	5.00	N	1	1	1	5.00	5.0	N-

	1							0	1
Output power Power drift - SAR drift measurement	6.6.2	4.04	R	$\sqrt{3}$	1	1	2.33	2.33	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Liquid conductivity - deviation from target value	E.3.2	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				11.55	10.67	
Expanded Uncertainty (95% Confidence interval)			K=2				23.11	21.33	

5.2 UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

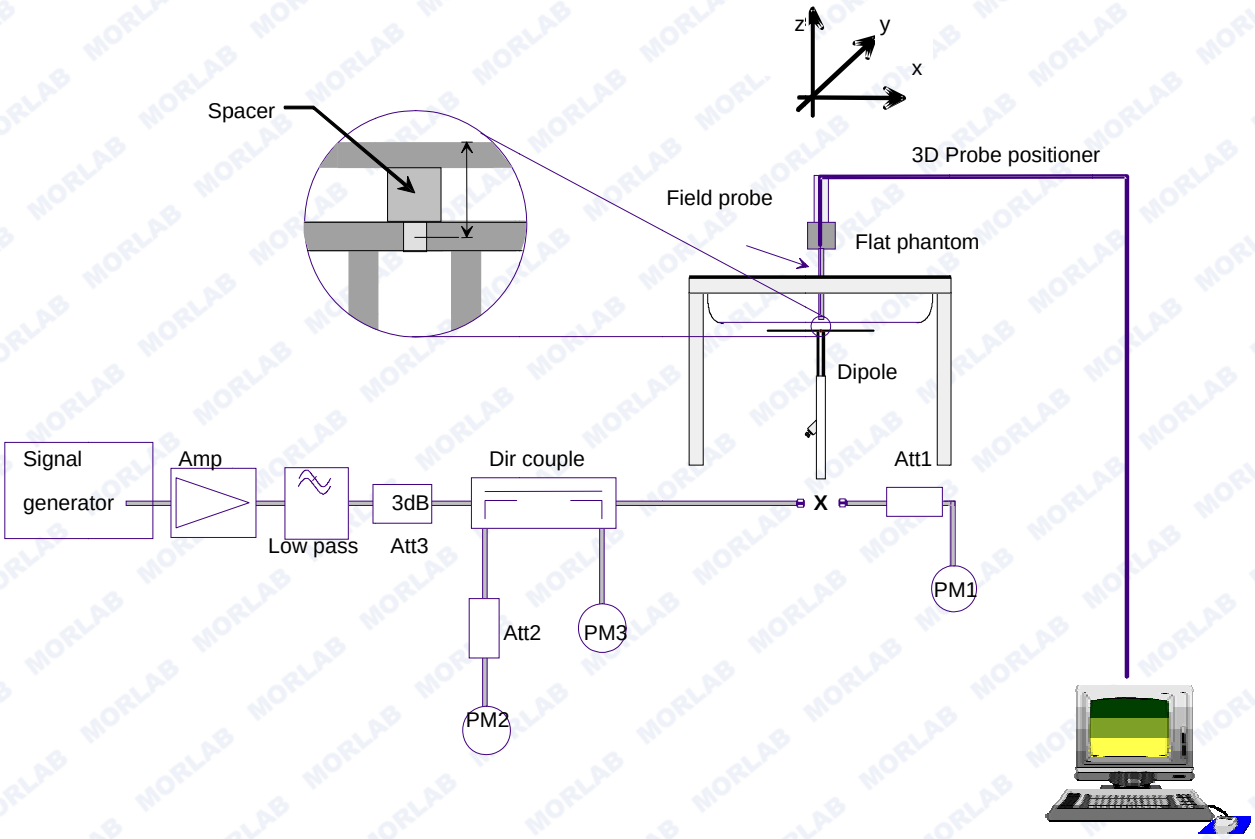
a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	4.76	N	1	1	1	4.76	4.7	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.01	1.0	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	1.62	1.6	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.8	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.0	∞

Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	$\sqrt{3}$	1	1	0.58	0.58	∞
Input power and SAR drift measurement	8,6.6.2	4.04	R	$\sqrt{3}$	1	1	2.33	2.33	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Liquid conductivity - deviation from target value	E.3.2	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	$\sqrt{3}$	0.64	0.43	1.85	1.24	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	$\sqrt{3}$	0.6	0.49	3.46	2.83	M
Combined Standard Uncertainty			RSS				8.83	8.37	
Expanded Uncertainty (95% Confidence interval)			K=2				17.66	16.73	

6. SAR MEASUREMENT EVALUATION

6.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below



The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The power meter PM1 measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz,100 mW is used for 3.5 GHz to

6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

6.2 Validation Results

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

Frequency	750MHz(B)	750MHz(B)	835MHz(B)	835MHz(B)
Target value 1W (1g)	8.83 W/Kg	8.83 W/Kg	10.04 W/Kg	10.04 W/Kg
Test value 1g (100 mW input power)	0.837 W/Kg (07.15)	0.856 W/Kg (07.16)	0.951 W/Kg (07.17)	0.987 W/Kg (07.18)
Normalized to 1W value(1g)	8.37 W/Kg	8.56 W/Kg	9.51 W/Kg	9.87 W/Kg

Frequency	1750MHz(B)	1900MHz(B)	1900MHz(B)	2450MHz(B)	2600MHz(B)
Target value 1W (1g)	40.14 W/Kg	42.36 W/Kg	42.36 W/Kg	56.13 W/Kg	57.73 W/Kg
Test value 1g (100 mW input power)	3.903 W/Kg (07.19)	4.065 W/Kg (07.20)	4.313 W/Kg (07.21)	5.106 W/Kg (07.22)	5.452 W/Kg (07.22)
Normalized to 1W value(1g)	39.03 W/Kg	40.65 W/Kg	43.13 W/Kg	51.06 W/Kg	54.52 W/Kg

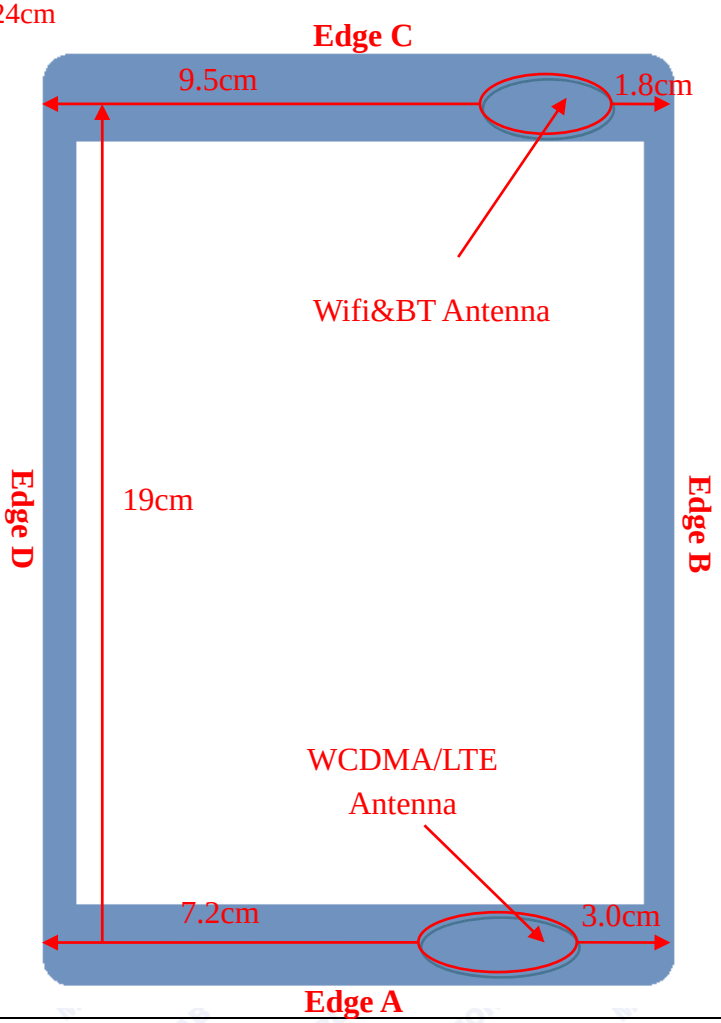
Note: System checks the specific test data please see Annex D

7. Antenna Location And Test Position

For tablets with a display and overall diagonal dimension 24cm >20cm, the SAR procedure in KDB 447498 should be used. The tablet procedures required by KDB 447498 generally do not require separate hotspot mode testing.

According to KDB 447498 D01, the bottom face (back of the device) is required to be tested touching the flat phantom. Per KDB 447498, SAR testing applies for the tablet edges with antenna located within 5cm of each tablet edge close to the user.

Diagonal Dimension: 24cm



Assessment	SAR Test Position					
					Test distance: 0mm	
Antennas	**Back**	**Front**	**Edge A**	**Edge B**	**Edge C**	**Edge D**
WCDMA/LTE	**Yes**	**No**	**Yes**	**Yes**	No	No
WLAN&BT	**Yes**	**No**	No	**Yes**	**Yes**	No

8. Proximity Sensor Triggering Test

Per FCC KDB Publication 616217 D04v01, this device was tested by the manufacturer to determine the proximity sensor triggering distances for the back and top edge of the device. The measured output power within ± 5 mm of the triggering points (or until touching the phantom) is included for back side and each applicable edge.

The proximity sensor is only used for power reduction is 3G/4G antenna. It can cover the back side and the left edge of EUT. When users approach the back side and the edge A of EUT within 15mm, the power of 3G/4G antenna will be reduced.

Back side and edge A of Tablet (0 degree angle) Distance from the user in 3G/4G antenna

Distance in mm	0-10	11	12	13	14	15	16	17	18
Condition of Sensor in the back side and edge A of the device	On	On	On	On	On	On	Off	Off	Off

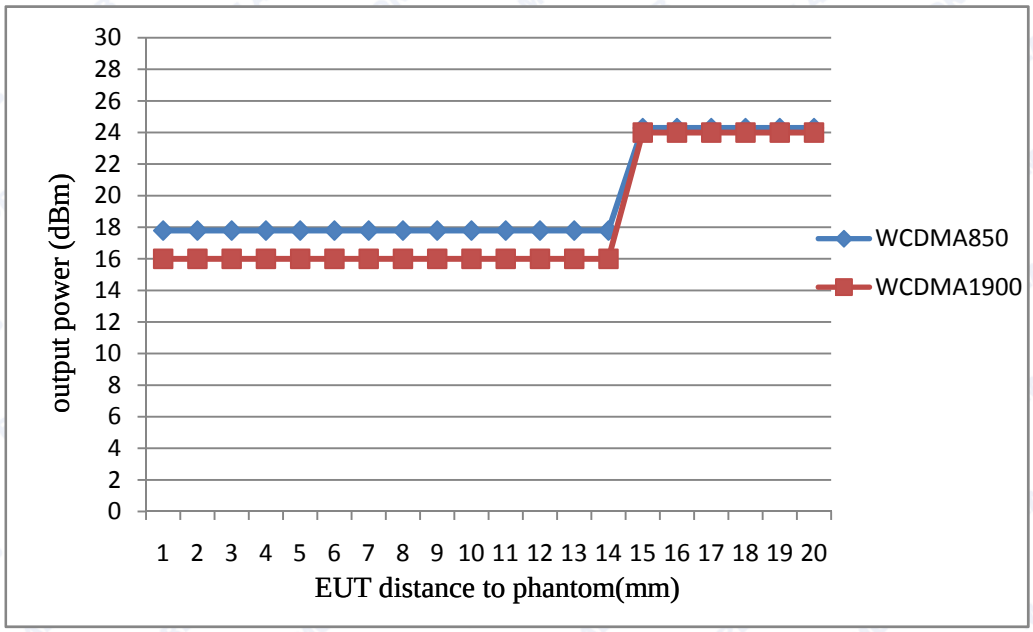
Proximity sensor power reduction

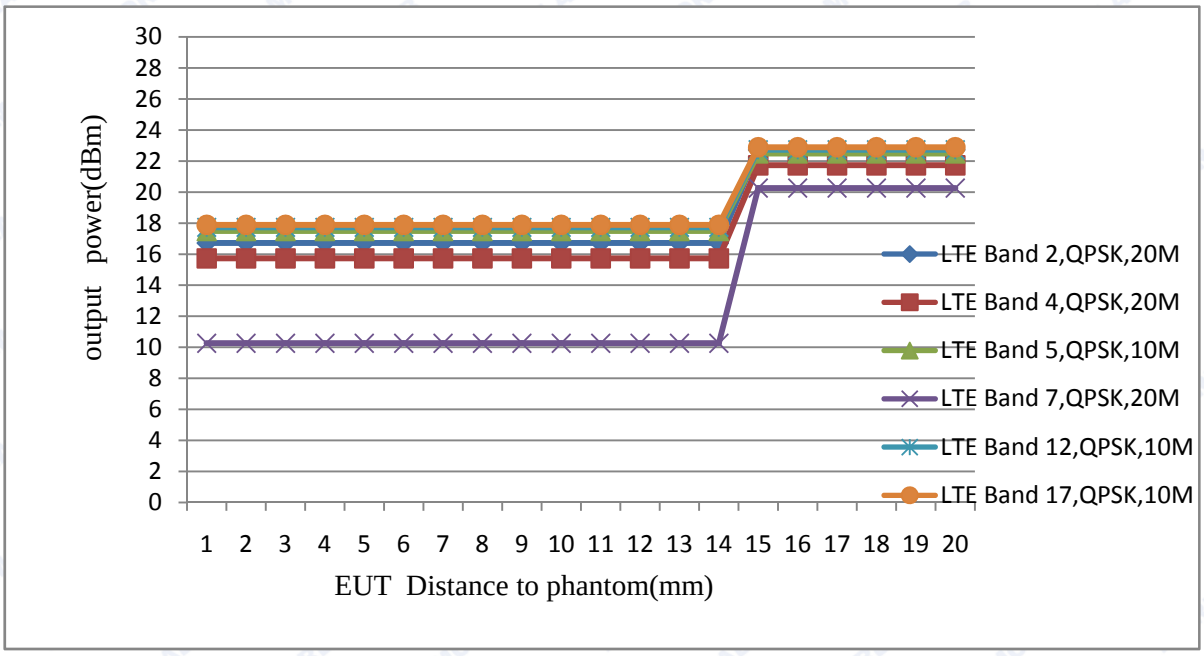
Wireless Mode	Back upward	Edge A	Edge B	Edge C	Edge D
WCDMA Band 2	6dB	6dB	6dB	/	/
WCDMA Band 5	5dB	5dB	5dB	/	/
LTE Band 2	6dB	6dB	6dB	/	/
LTE Band 4	6dB	6dB	6dB	/	/
LTE Band 5	5dB	5dB	5dB	/	/
LTE Band 7	10dB	10dB	10dB	/	/
LTE Band 12	5dB	5dB	5dB	/	/
LTE Band 17	5dB	5dB	5dB	/	

Note:

1. Power reduction is not applicable for WLAN and Bluetooth.

The plots show the relationship between the output power (dBm) and the EUT distance to phantom





9. Information Related to LTE Test Parameter(Per 941225 D05v02r03)

<table>
<tr><td>1</td><td>Identify the operating frequency range of each LTE transmission FCC band used by the device</td><td colspan="7">Band 2
Tx:1850-1910 MHz Rx:1930-1990 MHz
Band 4
Tx:1710-1755 MHz Rx:2110-2155 MHz
Band 5
Tx:824-849 MHz Rx:869-894 MHz
Band 7
Tx:2500-2570 MHz Rx:2620-2690 MHz
Band 12
Tx:699-716MHz Rx:729-746 MHz
Band 17
Tx:704-716MHz Rx:734-746 MHz</td></tr>
<tr><td rowspan="15">2</td><td rowspan="15">Identify the high, middle and low (L, M, H) channel numbers and frequencies tested in each LTE frequency band</td><td rowspan="2">Band2</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>20050/ 1720</td><td>20025/ 1717.5</td><td>20000/ 1715</td><td>19975/ 1712.5</td><td>19965/ 1711.5</td><td>19957/ 1710.7</td></tr>
<tr><td>Middle</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td></tr>
<tr><td>High</td><td>20300/ 1745</td><td>20325/ 1747.5</td><td>20350/ 1750</td><td>20375/ 1752.5</td><td>20384/ 1753.5</td><td>20392/ 1754.2</td></tr>
<tr><td rowspan="2">Band4</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>20050/ 1720</td><td>20025/ 1717.5</td><td>20000/ 1715</td><td>19975/ 1712.5</td><td>19965/ 1711.5</td><td>19957/ 1710.7</td></tr>
<tr><td>Middle</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td><td>20175/ 1732.5</td></tr>
<tr><td>High</td><td>20300/ 1745</td><td>20325/ 1747.5</td><td>20350/ 1750</td><td>20375/ 1752.5</td><td>20384/ 1753.5</td><td>20392/ 1754.2</td></tr>
<tr><td rowspan="2">Band5</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>/</td><td>/</td><td>20450/ 829.0</td><td>20425/ 826.5</td><td>20415/ 825.5</td><td>20407/ 824.7</td></tr>
<tr><td>Middle</td><td>/</td><td>/</td><td>20525/ 836.5</td><td>20525/ 836.5</td><td>20525/ 836.5</td><td>20525/ 836.5</td></tr>
<tr><td>High</td><td>/</td><td>/</td><td>20600/ 844</td><td>23825/ 713.5</td><td>20635/ 847.5</td><td>20643/ 848.3</td></tr>
</table>

<table>
<tr><td rowspan="15"></td><td rowspan="15"></td><td>Band7</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>20850/ 2510</td><td>20825/ 2507.2</td><td>20800/ 2505</td><td>20775/ 2502.5</td><td>/</td><td>/</td></tr>
<tr><td>Middle</td><td>21100/ 2535</td><td>21100/ 2535</td><td>21100/ 2535</td><td>21100/ 2535</td><td>/</td><td>/</td></tr>
<tr><td>High</td><td>21350/ 2560</td><td>21375/ 2562.5</td><td>21400/ 2565</td><td>21425/ 2567.5</td><td>/</td><td>/</td></tr>
<tr><td>Band12</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>/</td><td>/</td><td>23060/ 704.0</td><td>23035/ 701.5</td><td>23025/ 700.5</td><td>23017/ 699.7</td></tr>
<tr><td>Middle</td><td>/</td><td>/</td><td>23095/ 707.5</td><td>23095/ 707.5</td><td>23095/ 707.5</td><td>23095/ 707.5</td></tr>
<tr><td>High</td><td>/</td><td>/</td><td>23130/ 711</td><td>23155/ 714.5</td><td>23165/ 714.5</td><td>23173/ 715.3</td></tr>
<tr><td>Band17</td><td colspan="6">Channel Bandwidth</td></tr>
<tr><td></td><td>20Mhz</td><td>15MHz</td><td>10MHz</td><td>5MHz</td><td>3MHz</td><td>1.4MHz</td></tr>
<tr><td>Low</td><td>/</td><td>/</td><td>23780/ 709.0</td><td>23775/ 706.5</td><td>/</td><td>/</td></tr>
<tr><td>Middle</td><td>/</td><td>/</td><td>23790/ 710.0</td><td>21100/ 710.0</td><td>/</td><td>/</td></tr>
<tr><td>High</td><td>/</td><td>/</td><td>23800/ 711.0</td><td>23825/ 713.5</td><td>/</td><td></td></tr>
<tr><td>3</td><td>Specify the UE category and uplink modulations used</td><td colspan="7">The UE Category is 4 and the uplink modulations used are QPSK and 16QAM.</td></tr>
<tr><td>4</td><td>Descriptions of the LTE transmitter and antenna implementation & identify whether it is a standalone transmitter operating independently of other wireless transmitters in the device or sharing hardware components and/or antenna(s) with other transmitters etc.</td><td colspan="7">The module has a primary antenna for all LTE&UMTS bands, a Wi-Fi Tx/Rx antenna.</td></tr>
</table>

<table>
<tr><td>5</td><td>Identify the LTE Band Voice/data requirements in each operating mode and exposure condition with respect to head and body test configurations, antenna locations, handset flip-cover or slide positions, antenna diversity conditions, etc.</td><td>Mobile Hotspot Mode will be tested according to Section 9 of this report.</td></tr>
<tr><td>6</td><td>Identify if Maximum Power Reduction (MPR) is optional or mandatory, i.e. built-in by design:
only mandatory MPR may be considered during SAR testing, when the maximum output power is permanently limited by the MPR implemented within the UE; and only for the applicable RB (resource block) configurations specified in LTE standards

b) A-MPR (additional MPR) must be disabled.</td><td>As per 3GPP TS 36.101 v11.0.0 (2012-03)
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table>
A-MPR is supported by design, but disable for SAR testing.</td></tr>
<tr><td>7</td><td>Include the maximum average conducted output power measured on the required test channels for each channel bandwidth and UL modulation used in each frequency band:
a) with 1 RB allocated at the low, centred, high end of a channel
b) using 50% RB allocation low, centered, high end within a channel</td><td>This is included in the section 11 of this report.</td></tr>
</table>

<table>
<tr><td></td><td>c) using 100% RB allocation</td><td></td></tr>
<tr><td>8</td><td>Include the maximum average conducted output power measured for the other wireless mode and frequency bands</td><td>This is included in the section 13 of this report.</td></tr>
<tr><td>10</td><td>Identify the simultaneous transmission conditions for the voice and data configurations supported by all wireless modes, device configurations and frequency bands, for the head and body exposure conditions and device operating configurations (handset flip or cover positions, antenna diversity conditions etc.)</td><td>
<table>
<tr><td rowspan="2"></td><td colspan="4">Simultaneous transmission conditions</td></tr>
<tr><td colspan="2">WWAN</td><td>WLAN</td><td rowspan="2">Sum of WWAN& WLAN</td></tr>
<tr><td>#</td><td>LTE Data</td><td>UMTS</td><td>802.11b/g/n</td><td>BT</td></tr>
<tr><td>1</td><td>×</td><td></td><td>×</td><td></td><td>×</td></tr>
<tr><td>2</td><td></td><td>×</td><td>×</td><td></td><td>×</td></tr>
<tr><td>3</td><td>×</td><td></td><td></td><td>×</td><td>×</td></tr>
<tr><td>4</td><td></td><td>×</td><td></td><td>×</td><td>×</td></tr>
</table>
</td></tr>
<tr><td>11</td><td>When power reduction is applied to certain wireless modes to satisfy SAR compliance for simultaneous transmission conditions, other equipment certification or operating requirements, include the maximum average conducted output power measured in each power reduction mode applicable to the simultaneous voice/data transmission configurations for such wireless configurations and frequency bands; and also include details of the power reduction implementation and measurement setup</td><td>Not applicable.</td></tr>
</table>

10.SAR EVALUATION PROCEDURES&POWER MEASUREMENT FOR LTE

"1. QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and *required test channel* combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each *required test channel*. When the *reported* SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and *required test channels* is not required for 1 RB allocation; otherwise, SAR is required for the remaining r*equired test channels* and only for the RB offset configuration with the highest output power for that channel.6 When the *reported* SAR of a *required test channel* is > 1.45 W/kg, SAR is required for all three RB offset configurations for that *required test channel*.

2. QPSK with 50% RB allocation

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

3. QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest *reported* SAR for 1 RB and 50% RB allocation in 1. and 2. are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the *reported* SAR is > 1.45 W/kg, the remaining *required test channels* must also be tested.

Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 1. and 2.and 3. to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the *reported* SAR for the QPSK configuration is > 1.45 W/kg.

4. 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 5.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the

reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.
The equivalent channel configuration for the RB allocation, RB offset and modulation etc. Is determined for the smaller channel bandwidth according to the same number of RB allocated in The largest channel bandwidth. For example, 50 RB in 10 MHz channel bandwidth does not apply to 5MHz channel bandwidth; therefore, this cannot be tested in the smaller channel bandwidth. However, 50% RB allocation in 10 MHz channel bandwidth is equivalent to 100% RB allocation in 5 MHz channel bandwidth; therefore, these are the equivalent configurations to be compared to determine the specific channel and configuration in the smaller channel bandwidth that need SAR testing."

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 18700	1860	QPSK	1	0	22.60
				1	49	22.44
				1	99	22.27
				50	0	21.24
				50	25	21.23
				50	49	21.18
				100	0	20.65
			16-QAM	1	0	21.56
				1	49	21.61
				1	99	21.40
				50	0	21.35
				50	25	21.33
				50	49	21.40
				100	0	20.05
	M 18900	1880	QPSK	1	0	22.68
				1	49	22.54
				1	99	22.36
				50	0	21.22
				50	25	21.34
				50	49	21.19
				100	0	20.78
			16-QAM	1	0	21.35
				1	49	21.21
				1	99	21.08
				50	0	21.27
				50	25	21.33
				50	49	21.28
				100	0	20.06
	H 19100	1900	QPSK	1	0	22.72
				1	49	22.58
				1	99	22.34
				50	0	21.19
				50	25	21.21
				50	49	21.18
				100	0	20.62
			16-QAM	1	0	22.45
				1	49	22.35
				1	99	22.12
				50	0	21.23
				50	25	21.27
				50	49	21.22
				100	0	20.78

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 18675	1857.5	QPSK	1	0	22.37
				1	37	22.30
				1	74	22.13
				36	0	21.15
				36	18	21.16
				36	35	21.11
				75	0	20.58
			16-QAM	1	0	21.52
				1	37	21.59
				1	74	21.71
				36	0	21.68
				36	18	21.63
				36	35	21.49
				75	0	20.08
	M 18900	1880	QPSK	1	0	22.10
				1	37	22.09
				1	74	21.96
				36	0	21.12
				36	18	21.15
				36	35	21.09
				75	0	20.65
			16-QAM	1	0	21.24
				1	37	21.28
				1	74	21.37
				36	0	21.36
				36	18	21.33
				36	35	21.29
				75	0	20.16
	H 19125	1902.5	QPSK	1	0	22.45
				1	37	21.89
				1	74	21.69
				36	0	20.89
				36	18	20.71
				36	35	20.68
				75	0	20.70
			16-QAM	1	0	21.55
				1	37	21.49
				1	74	21.25
				36	0	20.34
				36	18	20.29
				36	35	20.35
				75	0	19.95

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 18650	1855	QPSK	1	0	22.07
				1	24	22.15
				1	49	22.16
				25	0	20.87
				25	12	20.78
				25	24	20.76
				50	0	20.65
			16-QAM	1	0	21.73
				1	24	21.64
				1	49	21.42
				25	0	20.55
				25	12	20.57
				25	24	20.61
				50	0	20.45
	M 18900	1880	QPSK	1	0	21.99
				1	24	22.06
				1	49	22.02
				25	0	20.91
				25	12	20.94
				25	24	20.91
				50	0	20.96
			16-QAM	1	0	21.15
				1	24	21.16
				1	49	21.11
				25	0	21.13
				25	12	21.10
				25	24	21.08
				50	0	19.87
	H 19150	1905	QPSK	1	0	21.68
				1	24	21.73
				1	49	21.74
				25	0	21.65
				25	12	21.58
				25	24	20.89
				50	0	20.80
			16-QAM	1	0	20.65
				1	24	20.58
				1	49	20.48
				25	0	20.43
				25	12	20.39
				25	24	20.32
				50	0	19.78

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 18625	1852.5	QPSK	1	0	22.08
				1	12	22.06
				1	24	21.95
				12	0	20.89
				12	6	20.87
				12	11	20.81
				25	0	20.85
			16-QAM	1	0	21.44
				1	12	21.46
				1	24	21.38
				12	0	20.03
				12	6	20.01
				12	11	19.92
				25	0	19.81
	M 18900	1880	QPSK	1	0	21.71
				1	12	21.57
				1	24	21.68
				12	0	20.77
				12	6	20.69
				12	11	20.70
				25	0	20.71
			16-QAM	1	0	20.92
				1	12	20.89
				1	24	20.69
				12	0	20.58
				12	6	20.57
				12	11	20.52
				25	0	19.72
	H 19175	1907.5	QPSK	1	0	21.83
				1	12	21.92
				1	24	21.91
				12	0	20.86
				12	6	20.81
				12	11	20.76
				25	0	20.68
			16-QAM	1	0	21.07
				1	12	21.05
				1	24	20.94
				12	0	19.92
				12	6	19.84
				12	11	19.91
				25	0	19.83

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 18615	1851.5	QPSK	1	0	22.03
				1	7	22.01
				1	14	22.09
				8	0	21.01
				8	4	20.91
				8	7	20.85
				15	0	20.87
			16-QAM	1	0	21.32
				1	7	21.25
				1	14	21.30
				8	0	20.14
				8	4	19.72
				8	7	19.49
				15	0	19.51
	M 18900	1880	QPSK	1	0	21.67
				1	7	21.66
				1	14	21.48
				8	0	20.81
				8	4	20.68
				8	7	20.82
				15	0	20.70
			16-QAM	1	0	21.11
				1	7	21.12
				1	14	21.15
				8	0	20.38
				8	4	20.22
				8	7	20.02
				15	0	19.65
	H 19185	1908.5	QPSK	1	0	21.63
				1	7	21.67
				1	14	21.86
				8	0	20.79
				8	4	20.73
				8	7	20.80
				15	0	20.81
			16-QAM	1	0	20.78
				1	7	20.73
				1	14	20.82
				8	0	19.60
				8	4	19.63
				8	7	19.54
				15	0	19.62

LTE BAND 2 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 18607	1850.7	QPSK	1	0	22.12
				1	2	22.01
				1	5	22.02
				3	0	21.61
				3	1	21.52
				3	2	21.48
				6	0	20.55
			16-QAM	1	0	21.16
				1	2	21.13
				1	5	21.03
				3	0	21.02
				3	1	21.03
				3	2	21.08
				6	0	19.96
	M 18900	1880	QPSK	1	0	21.61
				1	2	21.56
				1	5	21.67
				3	0	21.52
				3	1	21.58
				3	2	21.60
				6	0	20.67
			16-QAM	1	0	20.99
				1	2	20.87
				1	5	20.96
				3	0	20.82
				3	2	20.81
				3	5	20.80
				6	0	19.79
	H 19193	1909.3	QPSK	1	0	21.53
				1	2	21.55
				1	5	21.66
				3	0	21.65
				3	1	21.48
				3	2	21.59
				6	0	20.59
			16-QAM	1	0	20.68
				1	2	20.95
				1	5	20.89
				3	0	20.81
				3	1	20.82
				3	2	20.88
				6	0	19.91

LTE BAND 4(Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 20050	1720.0	QPSK	1	0	21.73
				1	49	21.70
				1	99	21.34
				50	0	20.40
				50	25	20.35
				50	49	20.33
				100	0	19.85
			16-QAM	1	0	20.95
				1	49	20.78
				1	99	20.63
				50	0	19.58
				50	25	19.60
				50	49	19.62
				100	0	19.30
	M 20175	1732.5	QPSK	1	0	21.63
				1	49	21.52
				1	99	21.35
				50	0	20.33
				50	25	20.32
				50	49	20.38
				100	0	19.75
			16-QAM	1	0	20.85
				1	49	20.19
				1	99	20.72
				50	0	19.68
				50	25	19.69
				50	49	19.59
				100	0	19.52
	H 20300	1745.0	QPSK	1	0	21.65
				1	49	21.46
				1	99	21.28
				50	0	20.32
				50	25	20.41
				50	49	20.49
				100	0	19.72
			16-QAM	1	0	20.96
				1	49	20.95
				1	99	20.89
				50	0	19.59
				50	25	19.52
				50	49	19.48
				100	0	19.85

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 20025	1717.5	QPSK	1	0	21.58
				1	37	21.62
				1	74	21.66
				36	0	20.63
				36	18	20.50
				36	35	20.48
				75	0	19.52
			16-QAM	1	0	21.11
				1	37	21.08
				1	74	20.73
				36	0	19.34
				36	18	19.40
				36	35	19.38
				75	0	19.39
	M 20175	1732.5	QPSK	1	0	21.49
				1	37	21.43
				1	74	21.30
				36	0	20.42
				36	18	20.39
				36	35	20.41
				75	0	19.38
			16-QAM	1	0	20.62
				1	37	20.49
				1	74	20.66
				36	0	19.45
				36	18	19.46
				36	35	19.40
				75	0	19.39
	H 20325	1747.5	QPSK	1	0	21.20
				1	37	21.23
				1	74	21.25
				36	0	20.52
				36	18	20.45
				36	35	20.43
				75	0	19.48
			16-QAM	1	0	20.95
				1	37	20.89
				1	74	20.71
				36	0	19.52
				36	18	19.41
				36	35	19.51
				75	0	19.42

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20000	1715.0	QPSK	1	0	21.63
				1	24	21.2
				1	49	21.67
				25	0	20.62
				25	12	20.44
				25	24	20.45
				50	0	19.43
			16-QAM	1	0	21.07
				1	24	20.98
				1	49	20.94
				25	0	19.52
				25	12	19.55
				25	24	19.51
				50	0	19.46
	M 20175	1732.5	QPSK	1	0	21.38
				1	24	21.31
				1	49	21.19
				25	0	20.43
				25	12	20.35
				25	24	20.45
				50	0	19.48
			16-QAM	1	0	20.93
				1	24	20.92
				1	49	20.95
				25	0	19.58
				25	12	19.62
				25	24	19.51
				50	0	19.48
	H 20350	1750.0	QPSK	1	0	21.52
				1	24	21.35
				1	49	21.25
				25	0	20.52
				25	12	20.46
				25	24	20.51
				50	0	19.58
			16-QAM	1	0	20.29
				1	24	20.18
				1	49	20.13
				25	0	19.35
				25	12	19.33
				25	24	19.39
				50	0	19.42

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 19975	1712.5	QPSK	1	0	21.52
				1	12	21.45
				1	24	21.43
				12	0	20.30
				12	6	20.35
				12	11	20.34
				25	0	19.62
			16-QAM	1	0	21.10
				1	12	21.05
				1	24	20.86
				12	0	19.35
				12	6	19.40
				12	11	19.33
				25	0	19.26
	M 20175	1732.5	QPSK	1	0	21.15
				1	12	21.06
				1	24	21.03
				12	0	20.33
				12	6	20.24
				12	11	20.37
				25	0	19.46
			16-QAM	1	0	19.96
				1	12	20.11
				1	24	20.10
				12	0	19.28
				12	6	19.30
				12	11	19.29
				25	0	19.35
	H 20375	1752.5	QPSK	1	0	21.67
				1	12	21.51
				1	24	21.62
				12	0	20.46
				12	6	20.43
				12	11	20.44
				25	0	19.61
			16-QAM	1	0	20.78
				1	12	20.68
				1	24	20.42
				12	0	19.35
				12	6	19.36
				12	11	19.40
				25	0	19.39

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 19965	1711.5	QPSK	1	0	21.50
				1	7	21.48
				1	14	21.58
				8	0	20.48
				8	4	20.42
				8	7	20.31
				15	0	19.79
			16-QAM	1	0	20.60
				1	7	20.68
				1	14	20.55
				8	0	19.35
				8	4	19.40
				8	7	19.23
				15	0	19.21
	M 20175	1732.5	QPSK	1	0	21.09
				1	7	21.07
				1	14	21.15
				8	0	20.28
				8	4	20.21
				8	7	20.33
				15	0	19.62
			16-QAM	1	0	20.67
				1	7	20.64
				1	14	20.66
				8	0	19.41
				8	4	19.35
				8	7	19.37
				15	0	19.36
	H 20384	1753.4	QPSK	1	0	21.22
				1	7	21.06
				1	14	21.07
				8	0	20.23
				8	4	20.20
				8	7	20.26
				15	0	19.63
			16-QAM	1	0	20.27
				1	7	20.13
				1	14	19.70
				8	0	19.10
				8	4	19.09
				8	7	19.11
				15	0	19.14

LTE BAND 4 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 19957	1710.7	QPSK	1	0	21.48
				1	2	20.44
				1	5	21.49
				3	0	20.26
				3	1	20.32
				3	2	20.38
				6	0	19.64
			16-QAM	1	0	20.81
				1	2	20.78
				1	5	20.75
				3	0	19.62
				3	1	19.78
				3	2	19.71
				6	0	19.71
	M 20175	1732.5	QPSK	1	0	21.19
				1	2	21.18
				1	5	21.15
				3	0	20.14
				3	1	20.26
				3	2	20.28
				6	0	19.73
			16-QAM	1	0	20.62
				1	2	20.58
				1	5	20.57
				3	0	19.43
				3	2	19.38
				3	5	19.40
				6	0	19.45
	H 20392	1754.2	QPSK	1	0	21.01
				1	2	21.05
				1	5	21.06
				3	0	20.14
				3	1	20.23
				3	2	20.26
				6	0	19.81
			16-QAM	1	0	19.91
				1	2	20.05
				1	5	20.01
				3	0	19.13
				3	1	19.15
				3	2	19.20
				6	0	19.17

LTE BAND 5(Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20450	829	QPSK	1	0	22.34
				1	24	22.35
				1	49	22.42
				25	0	21.49
				25	12	21.41
				25	24	21.48
				50	0	20.49
			16-QAM	1	0	21.62
				1	24	21.72
				1	49	21.88
				25	0	20.62
				25	12	20.63
				25	24	20.49
				50	0	20.52
	M 20525	836.5	QPSK	1	0	22.49
				1	24	22.38
				1	49	22.35
				25	0	21.34
				25	12	21.36
				25	24	21.41
				50	0	20.40
			16-QAM	1	0	21.50
				1	24	21.84
				1	49	21.55
				25	0	20.32
				25	12	20.42
				25	24	20.30
				50	0	20.49
	H 20600	844	QPSK	1	0	22.27
				1	24	22.25
				1	49	22.23
				25	0	21.24
				25	12	20.92
				25	24	20.79
				50	0	20.38
			16-QAM	1	0	21.02
				1	24	21.04
				1	49	20.89
				25	0	20.05
				25	12	20.02
				25	24	20.03
				50	0	19.77

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 20425	826.5	QPSK	1	0	22.27
				1	12	22.23
				1	24	22.25
				12	0	21.15
				12	6	21.18
				12	11	21.13
				25	0	20.44
			16-QAM	1	0	21.17
				1	12	21.15
				1	24	21.04
				12	0	20.03
				12	6	20.04
				12	11	20.05
				25	0	20.06
	M 20525	836.5	QPSK	1	0	21.96
				1	12	21.86
				1	24	21.82
				12	0	21.03
				12	6	21.05
				12	11	21.09
				25	0	20.48
			16-QAM	1	0	20.97
				1	12	20.96
				1	24	20.29
				12	0	19.82
				12	6	19.81
				12	11	19.89
				25	0	19.86
	H 20625	846.5	QPSK	1	0	21.93
				1	12	22.05
				1	24	22.07
				12	0	21.07
				12	6	21.08
				12	11	21.05
				25	0	20.43
			16-QAM	1	0	21.43
				1	12	21.39
				1	24	21.38
				12	0	20.25
				12	6	20.15
				12	11	20.08
				25	0	20.04

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 20415	825.5	QPSK	1	0	22.15
				1	7	22.13
				1	14	21.16
				8	0	21.18
				8	4	21.22
				8	7	21.19
				15	0	20.34
			16-QAM	1	0	21.64
				1	7	21.65
				1	14	21.77
				8	0	20.58
				8	4	20.63
				8	7	20.62
				15	0	20.69
	M 20525	836.5	QPSK	1	0	22.15
				1	7	22.12
				1	14	21.92
				8	0	21.18
				8	4	21.19
				8	7	21.18
				15	0	20.31
			16-QAM	1	0	21.21
				1	7	21.34
				1	14	21.13
				8	0	20.12
				8	4	20.15
				8	7	20.14
				15	0	20.12
	H 20635	847.5	QPSK	1	0	21.93
				1	7	21.92
				1	14	21.90
				8	0	21.07
				8	4	21.08
				8	7	21.10
				15	0	20.41
			16-QAM	1	0	20.21
				1	7	20.15
				1	14	20.16
				8	0	19.52
				8	4	19.65
				8	7	19.50
				15	0	19.68

LTE BAND 5 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 20407	824.7	QPSK	1	0	22.37
				1	2	22.32
				1	5	22.30
				3	0	22.32
				3	1	22.29
				3	2	22.27
				6	0	20.34
			16-QAM	1	0	21.53
				1	2	21.54
				1	5	21.56
				3	0	21.45
				3	1	21.39
				3	2	21.41
				6	0	20.38
	M 20525	836.5	QPSK	1	0	22.01
				1	2	22.06
				1	5	22.08
				3	0	22.03
				3	1	22.05
				3	2	22.01
				6	0	20.35
			16-QAM	1	0	21.03
				1	2	21.15
				1	5	21.00
				3	0	21.06
				3	2	21.08
				3	5	21.12
				6	0	20.33
	H 20643	848.3	QPSK	1	0	21.93
				1	2	21.90
				1	5	21.94
				3	0	22.06
				3	1	22.05
				3	2	21.98
				6	0	20.29
			16-QAM	1	0	20.73
				1	2	20.71
				1	5	20.61
				3	0	20.69
				3	1	20.62
				3	2	20.58
				6	0	20.05

LTE BAND 7(Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
20MHz	L 20850	2510	QPSK	1	0	20.26
				1	49	20.05
				1	99	19.80
				50	0	18.87
				50	25	18.85
				50	49	18.62
				100	0	18.38
			16-QAM	1	0	19.11
				1	49	19.08
				1	99	19.05
				50	0	17.95
				50	25	18.03
				50	49	17.72
				100	0	17.79
	M 21100	2535	QPSK	1	0	20.07
				1	49	20.05
				1	99	20.03
				50	0	18.87
				50	25	18.85
				50	49	18.88
				100	0	18.40
			16-QAM	1	0	18.91
				1	49	18.78
				1	99	19.09
				50	0	17.95
				50	25	18.03
				50	49	18.02
				100	0	17.93
	H 21350	2560	QPSK	1	0	20.05
				1	49	20.05
				1	99	20.00
				50	0	18.83
				50	25	18.85
				50	49	18.90
				100	0	18.44
			16-QAM	1	0	19.44
				1	49	19.42
				1	99	18.96
				50	0	17.95
				50	25	18.02
				50	49	18.01
				100	0	18.44

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
15MHz	L 20825	2507.5	QPSK	1	0	20.06
				1	37	20.08
				1	74	20.10
				36	0	19.07
				36	18	18.95
				36	35	18.87
				75	0	18.40
			16-QAM	1	0	19.93
				1	37	19.55
				1	74	19.39
				36	0	17.94
				36	18	17.93
				36	35	18.01
				75	0	17.92
	M 21100	2535	QPSK	1	0	20.05
				1	37	20.02
				1	74	18.89
				36	0	18.92
				36	18	19.04
				36	35	19.01
				75	0	18.45
			16-QAM	1	0	19.02
				1	37	18.89
				1	74	19.01
				36	0	18.07
				36	18	18.02
				36	35	18.01
				75	0	18.05
	H 21375	2562.5	QPSK	1	0	20.04
				1	37	20.03
				1	74	20.05
				36	0	19.04
				36	18	19.03
				36	35	19.02
				75	0	18.43
			16-QAM	1	0	19.05
				1	37	19.08
				1	74	19.02
				36	0	18.02
				36	18	18.07
				36	35	18.05
				75	0	18.03

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 20800	2505	QPSK	1	0	20.04
				1	24	20.03
				1	49	19.00
				25	0	18.93
				25	12	19.02
				25	24	19.00
				50	0	18.39
			16-QAM	1	0	19.02
				1	24	18.98
				1	49	19.02
				25	0	18.05
				25	12	18.02
				25	24	18.04
				50	0	18.04
	M 21100	2535	QPSK	1	0	20.02
				1	24	20.08
				1	49	20.06
				25	0	19.05
				25	12	19.04
				25	24	18.92
				50	0	18.35
			16-QAM	1	0	19.04
				1	24	19.06
				1	49	19.02
				25	0	18.04
				25	12	18.05
				25	24	18.02
				50	0	18.01
	H 21400	2565	QPSK	1	0	20.03
				1	24	20.04
				1	49	20.06
				25	0	19.02
				25	12	19.01
				25	24	18.90
				50	0	18.45
			16-QAM	1	0	19.01
				1	24	18.89
				1	49	18.92
				25	0	18.03
				25	12	18.01
				25	24	18.00
				50	0	18.02

LTE BAND 7 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 20775	2502.5	QPSK	1	0	20.05
				1	12	20.02
				1	24	20.04
				12	0	19.03
				12	6	19.10
				12	11	19.02
				25	0	18.24
			16-QAM	1	0	19.02
				1	12	19.01
				1	24	19.03
				12	0	18.04
				12	6	18.10
				12	11	18.01
				25	0	18.00
	M 21100	2535	QPSK	1	0	20.04
				1	12	20.02
				1	24	20.05
				12	0	19.06
				12	6	19.03
				12	11	19.04
				25	0	18.31
			16-QAM	1	0	19.03
				1	12	19.05
				1	24	19.02
				12	0	18.01
				12	6	18.03
				12	11	18.02
				25	0	18.02
	H 21425	2567.5	QPSK	1	0	20.05
				1	12	20.02
				1	24	20.01
				12	0	19.02
				12	6	19.05
				12	11	19.02
				25	0	18.31
			16-QAM	1	0	19.01
				1	12	19.02
				1	24	19.05
				12	0	18.07
				12	6	18.06
				12	11	18.02
				25	0	18.01

LTE BAND 12(Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 23060	704.0	QPSK	1	0	22.88
				1	24	22.66
				1	49	22.43
				25	0	21.70
				25	12	21.71
				25	24	21.70
				50	0	20.77
			16-QAM	1	0	21.89
				1	24	21.95
				1	49	21.81
				25	0	20.73
				25	12	20.71
				25	24	20.77
				50	0	20.76
	M 23095	707.5	QPSK	1	0	22.53
				1	24	22.82
				1	49	22.55
				25	0	21.82
				25	12	21.79
				25	24	21.80
				50	0	20.73
			16-QAM	1	0	21.60
				1	24	21.67
				1	49	21.43
				25	0	20.62
				25	12	20.58
				25	24	20.57
				50	0	20.64
	H 23130	711.0	QPSK	1	0	22.68
				1	24	22.84
				1	49	22.60
				25	0	21.66
				25	12	21.53
				25	24	21.84
				50	0	20.88
			16-QAM	1	0	21.03
				1	24	21.02
				1	49	20.87
				25	0	20.75
				25	12	20.78
				25	24	20.69
				50	0	20.88

LTE BAND 12 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 23035	701.5	QPSK	1	0	22.43
				1	12	22.51
				1	24	22.49
				12	0	21.62
				12	6	21.68
				12	11	21.62
				25	0	20.67
			16-QAM	1	0	21.90
				1	12	21.95
				1	24	21.90
				12	0	20.74
				12	6	20.80
				12	11	20.79
				25	0	20.78
	M 23095	707.5	QPSK	1	0	22.44
				1	12	22.50
				1	24	22.51
				12	0	21.58
				12	6	21.61
				12	11	21.60
				25	0	20.52
			16-QAM	1	0	21.60
				1	12	21.50
				1	24	21.44
				12	0	20.62
				12	6	20.57
				12	11	20.55
				25	0	20.58
	H 23155	713.5	QPSK	1	0	22.41
				1	12	22.43
				1	24	22.52
				12	0	21.49
				12	6	21.51
				12	11	21.52
				25	0	20.50
			16-QAM	1	0	21.03
				1	12	21.08
				1	24	20.97
				12	0	21.04
				12	6	21.03
				12	11	21.01
				25	0	20.94

LTE BAND 12 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
3MHz	L 23025	700.5	QPSK	1	0	22.35
				1	7	22.41
				1	14	22.40
				8	0	21.35
				8	4	21.52
				8	7	21.41
				15	0	20.38
			16-QAM	1	0	21.02
				1	7	21.06
				1	14	21.07
				8	0	20.02
				8	4	20.02
				8	7	20.00
				15	0	20.05
	M 23095	707.5	QPSK	1	0	22.23
				1	7	22.25
				1	14	22.26
				8	0	21.28
				8	4	21.19
				8	7	21.21
				15	0	20.19
			16-QAM	1	0	21.20
				1	7	21.19
				1	14	21.21
				8	0	20.15
				8	4	20.17
				8	7	20.16
				15	0	20.11
	H 23165	714.5	QPSK	1	0	22.09
				1	7	22.11
				1	14	22.15
				8	0	21.12
				8	4	21.11
				8	7	21.08
				15	0	20.09
			16-QAM	1	0	21.08
				1	7	20.88
				1	14	20.92
				8	0	20.12
				8	4	20.20
				8	7	20.11
				15	0	20.06

LTE BAND 12 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
1.4MHz	L 23017	699.7	QPSK	1	0	22.33
				1	2	22.32
				1	5	22.30
				3	0	22.30
				3	1	22.22
				3	2	21.32
				6	0	20.45
			16-QAM	1	0	21.05
				1	2	21.08
				1	5	21.06
				3	0	21.02
				3	1	21.02
				3	2	21.00
				6	0	20.95
	M 23095	707.5	QPSK	1	0	22.33
				1	2	22.25
				1	5	22.26
				3	0	21.28
				3	1	21.17
				3	2	21.21
				6	0	20.29
			16-QAM	1	0	21.20
				1	2	21.19
				1	5	21.21
				3	0	21.16
				3	2	21.12
				3	5	21.13
				6	0	20.12
	H 23173	715.3	QPSK	1	0	22.09
				1	2	22.12
				1	5	22.04
				3	0	22.10
				3	1	22.06
				3	2	22.08
				6	0	20.29
			16-QAM	1	0	21.08
				1	2	20.91
				1	5	20.92
				3	0	21.02
				3	1	21.05
				3	2	21.08
				6	0	20.06

LTE BAND 17(Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
10MHz	L 23780	709.0	QPSK	1	0	22.89
				1	24	22.81
				1	49	22.78
				25	0	21.63
				25	12	21.65
				25	24	21.68
				50	0	20.61
			16-QAM	1	0	22.10
				1	24	21.75
				1	49	21.82
				25	0	21.01
				25	12	20.88
				25	24	20.91
				50	0	20.65
	M 23790	710.0	QPSK	1	0	22.75
				1	24	22.78
				1	49	22.61
				25	0	21.78
				25	12	21.79
				25	24	21.68
				50	0	20.67
			16-QAM	1	0	22.14
				1	24	22.09
				1	49	21.50
				25	0	20.46
				25	12	20.45
				25	24	20.41
				50	0	20.67
	H 23800	711.0	QPSK	1	0	22.72
				1	24	22.65
				1	49	22.67
				25	0	21.71
				25	12	21.72
				25	24	21.69
				50	0	20.62
			16-QAM	1	0	20.85
				1	24	21.01
				1	49	21.34
				25	0	20.22
				25	12	20.23
				25	24	20.42
				50	0	20.55

LTE BAND 17 (Continue)

Band Width	Channel	Freq.(MHZ)	Modulation	RB Configuration		Average Power (dBm)
				RB Size	RB Offset	
5MHz	L 23755	706.5	QPSK	1	0	22.81
				1	12	22.78
				1	24	22.68
				12	0	21.62
				12	6	21.61
				12	11	21.56
				25	0	20.62
			16-QAM	1	0	22.51
				1	12	22.45
				1	24	22.19
				12	0	20.42
				12	6	20.45
				12	11	20.53
				25	0	20.57
	M 23790	710.0	QPSK	1	0	22.52
				1	12	22.42
				1	24	22.34
				12	0	21.52
				12	6	21.55
				12	11	21.60
				25	0	20.54
			16-QAM	1	0	21.34
				1	12	21.52
				1	24	21.61
				12	0	20.85
				12	6	20.83
				12	11	20.87
				25	0	20.90
	H 23825	713.5	QPSK	1	0	22.55
				1	12	22.50
				1	24	22.45
				12	0	21.38
				12	6	21.42
				12	11	21.53
				25	0	20.63
			16-QAM	1	0	21.96
				1	12	21.82
				1	24	21.22
				12	0	20.26
				12	6	20.32
				12	11	20.42
				25	0	20.50

11. MEASUREMENT OF CONDUCTED OUTPUT POWER

1. WCDMA mode conducted output power values

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	24.29	24.21	24.05	24.00	23.72	23.67
HSDPA	1	23.50	23.31	23.71	23.39	22.98	22.31
	2	23.53	23.26	23.66	23.42	22.93	22.28
	3	23.04	22.86	23.11	22.91	22.44	21.93
	4	22.98	22.80	23.05	22.85	22.51	21.88
HSUPA	1	23.39	23.31	23.68	23.35	23.04	22.36
	2	21.41	21.35	21.72	21.43	21.11	20.45
	3	22.36	22.27	22.62	22.32	22.01	21.33
	4	21.33	21.30	21.65	21.38	21.06	20.38
	5	23.42	23.24	23.70	23.43	22.96	22.38
HSPA+	1	23.28	23.31	23.65	23.40	22.99	22.35
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA/HSPA+ was tested by power meter.						

2. WiFi Average output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			802.11b (DSSS)	802.11g (OFDM)	802.11n20 (OFDM)
WiFi	1	2412	15.42	12.77	11.72
	6	2437	15.28	11.94	10.81
	11	2462	15.34	12.21	11.26

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (OFDM)
Wifi	3	2422	10.37
	6	2437	10.25
	9	2452	10.64

3. BT 2.1+EDR and BT 4.0 peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			GFSK	π/4-DQPSK	8-DPSK
BT	0	2402	9.98	9.70	9.75
	39	2441	10.85	10.55	10.62
	78	2480	9.72	9.41	9.49

Band	Channel	Frequency (MHz)	Output Power(dBm)
			GFSK
BT	0	2402	1.27
	19	2441	2.13
	39	2480	1.20

12. SCALING FACTOR CALCULATION

Band	Tune-up power tolerance(dBm)	Conducted Power (dBm)	Reduced Power (dBm)	Scaling Factor
WCDMA 850	Max output power =23.5/18.5(+1/-2)	24.29	19.29	1.050
		24.21	19.21	1.069
		24.05	19.05	1.109
WCDMA 1900	Max output power =23/17(+1/-2)	24.00	18.00	1.000
		23.72	17.72	1.067
		23.67	17.67	1.079
LTE BAND2 (QPSK)	Max output power =22.5/16.5+-0.5(20M-1RB)	22.60	16.60	1.096
		22.68	16.68	1.076
		22.72	16.72	1.067
	Max output power =21/15+-0.5(20M-50RB)	21.23	15.23	1.064
		21.34	15.34	1.038
		21.21	15.21	1.069
	Max output power =20.5/14.5+-0.5(20M-100RB)	20.78	14.78	1.052
LTE BAND4 (QPSK)	Max output power =21.5/15.5+-0.5(20M-1RB)	21.73	15.73	1.064
		21.63	15.63	1.088
		21.65	15.65	1.083
	Max output power =20/14+-0.5(20M-50RB)	20.33	14.33	1.040
		20.38	14.38	1.028
		20.49	14.49	1.002
	Max output power =19.5/13.5+-0.5(20M-100RB)	19.85	13.85	1.035
LTE BAND5 (QPSK)	Max output power =22/17+-0.5(10M-1RB)	22.34	17.34	1.037
		22.49	17.49	1.002
		22.27	17.27	1.054
	Max output power =21/16+-0.5(10M-25RB)	21.49	16.49	1.002
		21.34	16.34	1.038
		21.24	16.24	1.062
	Max output power =20/15+-0.5(10M-50RB)	20.49	15.49	1.002
LTE BAND7 (QPSK)	Max output power =20/10+-0.5(20M-1RB)	20.26	10.26	1.057
		20.07	10.07	1.104
		20.05	10.05	1.109
	Max output power =18.5/8.5+-0.5(20M-50RB)	18.62	8.62	1.091
		18.88	8.88	1.028
		18.90	8.90	1.023

	Max output power =18/8+-0.5(20M-100RB)	18.44	8.44	1.014
LTE BAND12 (QPSK)	Max output power =22.5/17.5+-0.5(10M-1RB)	22.86	17.86	1.033
		22.82	17.82	1.042
		22.89	17.89	1.027
	Max output power =21.5/16.5 +-0.5(10M-25RB)	21.70	16.70	1.071
		21.80	16.80	1.047
		21.84	16.84	1.037
	Max output power =20.5/15.5+-0.5(50RB)	20.88	15.88	1.028
LTE BAND17 (QPSK)	Max output power =22.5/17.5+-0.5(10M-1RB)	22.89	17.89	1.026
		22.75	17.75	1.059
		22.72	17.72	1.067
	Max output power =21.5/16.5+-0.5(10M-25RB)	21.65	16.65	1.084
		21.79	16.79	1.050
		21.72	16.72	1.067
	Max output power =20.5/15.5+-0.5(10M-50RB)	20.67	15.67	1.079
802.11b	Max output power =15+-0.5	15.42	/	1.019
		15.28	/	1.052
		15.34	/	1.038
Bluetooth	Max output power =10.5+-0.5	10.85	/	1.035

13. TEST RESULTS LIST

Summary of Measurement Results (WCDMA 850MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g	Plot No.
On	Body (0mm Separation)	Back upward	4132	0.881	1.050	**0.925**	**1**
			4182	0.843	1.069	0.901	
			4233	0.831	1.109	0.922	
		Edge A	4132	0.644	1.050	0.676	
		Edge B	4132	0.158	1.050	0.166	
Off	Body (15mm Separation)	Back upward	4132	0.657	1.050	0.690	
		Edge A		0.235		0.247	
		Edge B		0.030		0.032	

Summary of Measurement Results (WCDMA 1900MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g	Plot No.
On	Body (0mm Separation)	Back upward	9262	0.852	1.000	0.852	
			9400	0.836	1.067	0.892	
			9538	0.824	1.079	0.889	
		Edge A	9262	1.047	1.000	1.047	
			9400	1.028	1.067	**1.097**	**2**
			9538	1.011	1.079	1.091	
		Edge B	9262	0.483	1.000	0.483	
Off	Body (15mm Separation)	Back upward	9262	0.734	1.000	0.734	
		Edge A	9262	0.812	1.000	0.812	
			9400	0.791	1.067	0.844	
			9538	0.785	1.079	0.847	
		Edge B	9262	0.331	1.000	0.331	

Notes:

1. When the 1-g SAR for the mid-band channel or the channel with the highest output power satisfy the following conditions, testing of the other channels in the band is not required. (Per KDB 447498 D01 General RF Exposure Guidance v05r02)
   ≤ 0.8 W/kg and transmission band ≤ 100 MHz
   ≤ 0.6 W/kg and, 100 MHz < transmission bandwidth ≤ 200 MHz
   ≤ 0.4 W/kg and transmission band > 200 MHz

12. The WCDMA mode is test with 12.2kbps RMC and TPC set to all "1", if maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit (i.e. 1.2W/Kg 1g) and maximum average output of each RF channel with HSDPA/HSUPA active is less than 1/4 dB Middle than that measured without HSDPA/HSUPA using 12.2kbps RMC, according to KDB 941225D01v02, SAR is not required for this handset with HSPA capabilities.

3. Per FCC KDB Publication 447498 D01v05, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

4. The WCDMA mode is test with 12.2kbps RMC and TPC set to all “1”, if maximum SAR for 12.2kbps RMC is ≤ 75% of the SAR limit (i.e. 1.2W/Kg 1g) and maximum average output of each RF channel with HSDPA/HSUPA active is less than 1/4 dB higher than that measured without HSDPA/HSUPA using 12.2kbps RMC, according to KDB 941225D01v02, SAR is not required for this handset with HSPA capabilities. This module supports 3GPP release R7 HSPA+ using QPSK only without 16QAM in the uplink. So PBA is not required for HSPA+.

Summary of Measurement Results (LTE Band 2 bandwidth 20MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	18700	0.864	1.096	0.947	
			18900	0.879	1.076	0.946	
			19100	0.900	1.067	0.960	
		Edge A	18700	1.094	1.096	1.199	
			18900	1.108	1.076	1.192	
			19100	1.152	1.067	**1.229**	**3**
		Edge B	19100	0.559	1.067	0.596	
Off	Body (15mm Separation)	Back upward	19100	0.712	1.067	0.760	
		Edge A	18700	0.831	1.096	0.911	
			18900	0.843	1.076	0.907	
			19100	0.858	1.067	0.915	
		Edge B	19100	0.316	1.067	0.337	

Summary of Measurement Results (LTE Band 2 bandwidth 20MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	18900	0.778	1.038	0.808	
		Edge A	18700	0.813	1.064	0.865	
			18900	0.842	1.038	0.874	
			19100	0.809	1.069	0.865	
		Edge B	18900	0.351	1.038	0.364	
Off	Body (15mm Separation)	Back upward	18900	0.619	1.038	0.643	
		Edge A		0.725		0.753	
		Edge B		0.212		0.220	

Summary of Measurement Results (LTE Band 2 bandwidth 20MHz with QPSK 100RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	18900	0.721	1.052	0.758	
		Edge A		0.772		0.812	
Off	Body (15mm Separation)	Edge A	18900	0.655	1.052	0.373	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Summary of Measurement Results (LTE Band 4 bandwidth 20MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20050	0.846	1.064	0.900	
			20175	0.827	1.088	0.900	
			20300	0.830	1.083	0.899	
		Edge A	20050	0.981	1.064	1.044	
			20175	0.967	1.088	1.052	
			20300	0.972	1.083	**1.053**	**4**
		Edge B	20050	0.401	1.064	0.427	
Off	Body (15mm Separation)	Back upward	20050	0.722	1.064	0.768	
		Edge A	20050	0.812	1.064	0.864	
			20175	0.792	1.088	0.862	
			20300	0.797	1.083	0.863	
		Edge B	20050	0.285	1.064	0.303	

Summary of Measurement Results (LTE Band 4 bandwidth 20MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20300	0.729	1.002	0.730	
		Edge A	20050	0.823	1.040	0.856	
			20175	0.834	1.028	0.857	
			20300	0.844	1.002	0.846	
		Edge B	20300	0.248	1.002	0.248	
Off	Body (15mm Separation)	Back upward	20300	0.618	1.002	0.619	
		Edge A		0.721		0.722	
		Edge B		0.186		0.186	

Summary of Measurement Results (LTE Band 4 bandwidth 20MHz with QPSK 100RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20050	0.757	1.035	0.783	
		Edge A		0.842		0.871	
Off	Body (15mm Separation)	Edge A	20050	0.724	1.035	0.749	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Summary of Measurement Results (LTE Band 5 bandwidth 10MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20450	0.915	1.037	**0.949**	**5**
			20525	0.923	1.002	0.925	
			20600	0.898	1.054	0.946	
		Edge A	20525	0.707	1.002	0.708	
		Edge B	20525	0.263	1.002	0.264	
Off	Body (15mm Separation)	Back upward	20525	0.737	1.002	0.738	
		Edge A		0.615		0.616	
		Edge B		0.201		0.201	

Summary of Measurement Results (LTE Band 5 bandwidth 10MHz with QPSK 25RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20450	0.711	1.002	0.712	
		Edge A		0.684		0.685	
		Edge B		0.198		0.198	
Off	Body (15mm Separation)	Back upward	20450	0.628	1.002	0.629	
		Edge A		0.511		0.512	
		Edge B		0.105		0.105	

Summary of Measurement Results (LTE Band 5 bandwidth 10MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20450	0.729	1.002	0.730	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Summary of Measurement Results (LTE Band 7 bandwidth 20MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20850	0.920	1.057	0.972	
			21100	0.911	1.104	1.006	
			21350	0.908	1.109	1.007	
		Edge A	20850	1.216	1.057	1.285	
			21100	1.208	1.104	**1.334**	**6**
			21350	1.199	1.109	1.330	
		Edge B	20850	0.607	1.057	0.642	
Off	Body (15mm Separation)	Back upward	20850	0.823	1.057	0.870	
			21100	0.818	1.104	0.903	
			21350	0.811	1.109	0.899	
		Edge A	20850	1.058	1.057	1.118	
			21100	1.044	1.104	1.153	
			21350	1.042	1.109	1.156	
		Edge B	20850	0.548	1.057	0.579	

Summary of Measurement Results (LTE Band 7 bandwidth 20MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	20850	0.812	1.091	0.886	
			21100	0.828	1.028	0.851	
			21350	0.839	1.023	0.858	
		Edge A	20850	1.018	1.091	1.111	
			21100	1.043	1.028	1.072	
			21350	1.085	1.023	1.110	
		Edge B	21350	0.511	1.023	0.523	
Off	Body (15mm Separation)	Back upward	21350	0.719	1.023	0.736	
		Edge A		0.757		0.774	
		Edge B		0.358		0.366	

Summary of Measurement Results (LTE Band 7 bandwidth 20MHz with QPSK 100RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	21350	0.811	1.014	0.822	
		Edge A		0.984		0.998	
Off	Body (15mm Separation)	Edge A	21350	0.725	1.014	0.735	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Summary of Measurement Results (LTE Band 12 bandwidth 10MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23060	0.998	1.033	1.031	
			23095	0.975	1.042	1.016	
			23130	1.008	1.027	**1.035**	**7**
		Edge A	23130	0.651	1.027	0.669	
		Edge B	23130	0.139	1.027	0.143	
Off	Body (15mm Separation)	Back upward	23060	0.848	1.033	0.876	
			23095	0.839	1.042	0.874	
			23130	0.881	1.027	0.905	
		Edge A	23130	0.534	1.027	0.548	
		Edge B	23130	0.101	1.027	0.104	

Summary of Measurement Results (LTE Band 12 bandwidth 10MHz with QPSK 25RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23060	0.812	1.071	0.870	
			23095	0.825	1.047	0.864	
			23130	0.831	1.037	0.862	
		Edge A	23130	0.511	1.037	0.530	
		Edge B	23130	0.108	1.037	0.112	
Off	Body (15mm Separation)	Back upward	23130	0.751	1.037	0.779	
		Edge A		0.428		0.444	
		Edge B		0.089		0.092	

Summary of Measurement Results (LTE Band 12 bandwidth 10MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23130	0.884	1.028	0.909	
Off	Body (15mm Separation)	Back upward	23130	0.759	1.028	0.780	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Summary of Measurement Results (LTE Band 17 bandwidth 10MHz with QPSK 1RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23780	0.869	1.026	0.892	
			23790	0.849	1.059	**0.899**	**8**
			23800	0.840	1.067	0.896	
		Edge A	23780	0.587	1.026	0.602	
		Edge B	23780	0.146	1.026	0.150	
Off	Body (15mm Separation)	Back upward	23780	0.759	1.026	0.779	
		Edge A		0.418		0.429	
		Edge B		0.112		0.115	

Summary of Measurement Results (LTE Band 17 bandwidth 10MHz with QPSK 25RB)

Temperature: 21.0~23.8°C, humidity: 50~60%.
Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak

Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23790	0.761	1.050	0.799	
		Edge A		0.445		0.467	
		Edge B		0.122		0.128	
Off	Body (15mm Separation)	Back upward	23790	0.688	1.050	0.722	
		Edge A		0.352		0.370	
		Edge B		0.091		0.096	

Summary of Measurement Results (LTE Band 17 bandwidth 10MHz with QPSK 50RB)

Temperature: 21.0~23.8°C, humidity: 50~60%. Power Drift limit:-5%~+5% SAR Limit: 1.6W/Kg averaged over 1gram, Spatial Peak							
Proximity Sensor State	Phantom Configurations	Device Test Positions	Device Test channel	SAR (W/Kg)	Scaling Factor	Scaled SAR	Plot No.
On	Body (0mm Separation)	Back upward	23790	0.747	1.079	0.806	

Additional LTE test requirement for 16QAM
Not required.
Additional LTE test requirement for other bandwidth
Not required.

Note :

1. IEEE Std 1528-2013 require the middle channel to be tested first. This generally applies to wireless devices that are designed to operate in technologies with tight tolerances for maximum output power variations across channels in the band. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

2. Per KDB 447498, when the SAR procedures require multiple channels to be tested and the 1-g SAR for the highest output channel is less than 0.8 W/kg and peak SAR is less than 1.6W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.
3. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r01.

Summary of Measurement Results (WLAN 802.11b Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.								
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g	Plot No.
Body (0mm Separation)	Back upward	1	0.542	99.1%	1.009	1.019	0.552	
	Edge B	1	0.251			1.019	0.258	
	Edge C	1	0.838			1.019	0.862	
		6	0.815			1.052	**0.865**	**9**
		11	0.825			1.038	0.864	

Summary of Measurement Results (Bluetooth)

Temperature: 21.0~23.8°C, humidity: 54~60%.						
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g	Plot No.
Body (0mm Separation)	Back upward	GFSK-39	0.044	1.035	0.046	
	Edge B		0.012		0.012	
	Edge C		0.062		**0.064**	**10**

Notes:

1. SAR is measured for 2.4 GHz 802.11b DSSS using either the 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 position 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. 2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

13. For held-to-ear and hotspot operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.

4. Justification for test configurations for WLAN per KDB Publication 248227 D01DR02-41929 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.6.5 for more information.

14. REPEATED SAR MEASUREMENT

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz. These 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.

Band	Test Position	Test Channel	Meas.SAR(W/kg)		Largest to Smallest SAR Ratio
			Original	Repeated	
WCDMA850	Body	4132	0.881	0.890	1.010
WCDMA1900	Body	9262	1.047	1.044	1.003
LTE Band 2	Body	19100	1.152	1.158	1.005
LTE Band 4	Body	20050	0.981	0.977	1.004
LTE Band 5	Body	20525	0.923	0.915	1.009
LTE Band 7	Body	20850	1.216	1.207	1.007
LTE Band 7 （second）	Body	20850	1.207	1.211	1.003
LTE Band 12	Body	23130	1.008	1.005	1.003
LTE Band 17	Body	23780	0.869	0.871	1.002

15.MULTIPLE TRANSMITTERS EVALUATION

Stand-alone SAR

Test distance: 0mm			
Band	**Highest power(mW) per tune up**	**1-g SAR test threshold**	**Test required?**
WIFI(2.4G)	35.48	[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR	Yes
Bluetooth	12.59		Yes

Note:

Per KDB 447498 D01v05r02, when the minimum test separation diastance < 5mm, a distance of 5mm is applied to determine SAR test exclusion.

Simultaneous SAR

	Simultaneous transmission conditions				
	WWAN		WLAN		Sum of WWAN& WLAN
#	LTE Data	UMTS	802.11b/g/n	BT	
1	×		×		×
2		×	×		×
3	×			×	×
4		×		×	×

Note:

1. When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the Wi-Fi transmitter and another WWAN transmitter. Both transmitter often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions.

2. Simultaneous Transmission SAR evaluation is not required for BT and WiFi, because the software mechanism have been incorporated to guarantee that the WLAN and Bluetooth transmitters would not simultaneously operate.

3. Per KDB 447498D01v05r01, Simultaneous Transmission SAR Evaluation procedures is as followed:

Step 1: If sum of 1 g SAR < 1.6 W/kg, Simultaneous SAR measurement is not required.

Step 2: If sum of 1 g SAR > 1.6 W/kg, ratio of SAR to peak separation distance for pair of transmitters calculated.

Step 3: If the ratio of SAR to peak separation distance is ≤ 0.04, Simultaneous SAR measurement is not required.

Step 4: If the ratio of SAR to peak separation distance is > 0.04, Simultaneous SAR measurement is required and simultaneous transmission SAR value is calculated.

(The ratio is determined by: (SAR1 + SAR2) ^ 1.5/Ri ≤ 0.04,

Ri is the separation distance between the peak SAR locations for the antenna pair in mm)

6. Sum of the SAR for WCDMA850+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.925	0.552	0.046	1.477	No
	Edge A	0.676	/	/	0.676	No
	Edge B	0.166	0.258	0.012	0.424	No
	Edge C	/	0.865	0.064	0.865	No

7. Sum of the SAR for WCDMA1900+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.892	0.552	0.046	1.444	No
	Edge A	1.097	/	/	1.097	No
	Edge B	0.483	0.258	0.012	0.741	No
	Edge C	/	0.865	0.064	0.865	No

8. Sum of the SAR for LTE Band 2+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.960	0.552	0.046	1.512	No
	Edge A	1.229	/	/	1.229	No
	Edge B	0.596	0.258	0.012	0.854	No
	Edge C	/	0.865	0.064	0.865	No

9. Sum of the SAR for LTE Band 4+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.900	0.552	0.046	1.452	No
	Edge A	1.053	/	/	1.053	No
	Edge B	0.427	0.258	0.012	0.685	No
	Edge C	/	0.865	0.064	0.865	No

10. Sum of the SAR for LTE Band 5+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.949	0.552	0.046	1.501	No
	Edge A	0.708	/	/	0.708	No
	Edge B	0.264	0.258	0.012	0.522	No
	Edge C	/	0.865	0.064	0.865	No

11. Sum of the SAR for LTE Band 7+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	1.007	0.552	0.046	1.559	No
	Edge A	1.334	/	/	1.334	No
	Edge B	0.642	0.258	0.012	0.900	No
	Edge C	/	0.865	0.064	0.865	No

12. Sum of the SAR for LTE Band 12+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	1.035	0.552	0.046	1.587	No
	Edge A	0.693	/	/	0.693	No
	Edge B	0.148	0.258	0.012	0.406	No
	Edge C	/	0.865	0.064	0.865	No

13. Sum of the SAR for LTE Band 17+Wi-Fi+ Bluetooth

RF Exposure condition	Test position	Simultaneous Transmission Scenario			Max ∑1-g SAR(W/Kg)	SPLSR (Yes/ No)
		WCDMA850	Wi-Fi	Bluetooth		
Body	Back upward	0.899	0.552	0.046	1.451	No
	Edge A	0.602	/	/	0.602	No
	Edge B	0.150	0.258	0.012	0.408	No
	Edge C	/	0.865	0.064	0.865	No

Note:

1. The Sum of the SAR is not greater than 1.6W/Kg SPLSR assessment is not required.
2. WLAN and Bluetooth can not transmit simultaneously.

16. ANNEX A GENERAL INFORMATION

17. ANNEX B PHOTOGRAPHS OF THE EUT

18. ANNEX C PLOTS OF HIGH SAR TEST RESULTS

19. ANNEX D SYSTEM PERFORMANCE CHECK DATA

16. ANNEX A GENERAL INFORMATION

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. List of Test Equipments

No.	Instrument	Type	Cal. Date	Cal. Due
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)	(n.a)	(n.a)
2	Network Emulator	Aglient (8960, SN:10752)	2015-2-21	1year
3	Network Analyzer	Agilent(E5071B ,SN:MY42404762)	2014-9-26	1year
4	Voltmeter	Keithley (2000, SN:1000572)	2014-9-24	1year
5	Signal Generator	Rohde&Schwarz (SMP_02)	2014-9-24	1year
6	Power Amplifier	PRANA (Ap32 SV125AZ)	2014-9-24	1year
7	Power Meter	Agilent (E4416A, SN:MY45102093)	2015-5-07	1year
8	Power Sensor	Agilent (N8482A, SN:MY41091706)	2015-5-07	1year
9	Directional coupler	Giga-tronics(SN:1829112)	2014-9-24	1year
10	Probe	Satimo (SN:SN 37/08 EP80)	2014-9-22	1year
11	Dielectric Probe Kit	Agilent (85033E)	2014-9-24	1year
12	Phantom	Satimo (SN:SN_36_08_SAM62)	2014-9-24	1year
13	Liquid	Satimo(Last Calibration: 2015-07-15 to 2015-07-22)	N/A	N/A
14	Dipole 750MHz	Satimo (SN 30/13 DIP0G750-259)	2014-9-22	1year
15	Dipole 835MHz	Satimo (SN 20/08 DIPC 99)	2014-9-22	1year
16	Dipole 1750MHz	Satimo (SN 30/13 DIP1G750-260)	2014-9-22	1year
17	Dipole 1900MHz	Satimo (SN 30/13 DIP1G900-261)	2014-9-22	1year
18	Dipole 2450MHz	Satimo (SN 30/13 DIP2G450-263)	2014-9-22	1year
19	Dipole 2600MHz	Satimo (SN 30/13 DIP2G600-265)	2014-9-22	1year

***** END OF REPORT *****