FCC SAR Test Report

FCC ID: 2AOUD-TP00098A

Project No.	:	1711C206A
Equipment	:	Tablet PC
Test Model	:	TP00098A
Applicant	:	Shenzhen Bitland Information Technology Co.,Ltd
Address	:	6F,#7 Building,XiLi Tongfuyu Industrial Town,Nanshan District,Shenzhen Guangdong 518055 China

Date of Receipt	:	Dec. 06, 2017
Date of Test	:	Dec. 10, 2017 ~ Dec. 21, 2017
Issued Date	:	Jan. 13, 2018
Tested by	:	BTL Inc.

PREPARED BY	:	(Rot Liang)
APPROVED BY	:	(Steven Lu)

BTL INC.

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Testing Laboratory 2640

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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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-4-1711C206A	Original Issue	Jan. 13, 2018

1. GENERAL SUMMARY

Equipment	Tablet PC
Brand Name	Lenovo
Test Model	TP00098A
Manufacturer	Lenovo PC HK Limited
Address	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
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 **KDB616217 D04** SAR for laptop and tablets v01r02 **KDB941225 D01** 3G SAR Procedures v03r01 **KDB941225 D05** SAR for LTE Devices v02r05 **KDB447498 D01** General RF Exposure Guidance v06 **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-4-1711C206A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. RF EMISSIONS MEASUREMENT

2.1 TEST FACILITY

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

2.2 MEASUREMENT UNCERTAINTY

Note:Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz,when the highest measured1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described inIEEE 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

3.1STATEMENT OF COMPLIANCE

Tablet Mode

Equipment Class	Mode	Highest Body (0cm) SAR-1g(W/kg)
PCE	UMTS Band 2	0.93
	UMTS Band 4	1.00
	UMTS Band 5	1.29
	LTE Band 4	0.94
	LTE Band 7	0.78
	LTE Band 12	0.53
	LTE Band 13	0.69
	LTE Band 25	1.22
	LTE Band 26	1.28
	LTE Band 41	0.48
DTS	2.4G WLAN	1.00
	BT	0.27
UNII	5.3G WLAN	1.09
	5.5G WLAN	1.09
	5.8G WLAN	1.18
Note：The highest SAR for simultaneous transmission exposure condition is 3.26 W/kg.		

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 0mm 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) According to TCB workshop October, 2014 RF Exposure Procedures Update (Overlapping LTE Bands): SAR for LTE Band 2 (Frequency range: 1850 – 1910 MHz) is covered by LTE Band 26 (Frequency range: 1850 – 1915 MHz) and LTE Band 5 (Frequency range: 824-849 MHz) is covered by LTE Band 26(Frequency range: 814-849 MHz) due to similar frequency range, the same maximum tune up limit and same channel bandwidth.

4) NFC Power=0.319 uW. According to KDB447498 D01, SAR testing for NFC(Module Card : T77H747) is not required because its maximum output power is less than 474 mW.

5) The WWAN SAR value is for EM7455 Module Card. And the WLAN SAR value is for Intel 9560NGW Module Card.

NB Mode

Equipment Class	Mode	Highest Body (0cm) SAR-1g(W/kg)
PCE	UMTS Band 2	0.28
	UMTS Band 4	0.20
	UMTS Band 5	0.15
	LTE Band 4	0.17
	LTE Band 7	0.09
	LTE Band 12	0.02
	LTE Band 13	0.10
	LTE Band 25	0.21
	LTE Band 26	0.13
	LTE Band 41	0.08
DTS	2.4G WLAN	0.43
	BT	0.02
UNII	5.3G WLAN	0.21
	5.5G WLAN	0.17
	5.8G WLAN	0.25
Note：The highest SAR for simultaneous transmission exposure condition is 0.88 W/kg.		

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 0mm 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 .

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3.2 GENERAL DESCRIPTION OF EUT

Equipment	Tablet PC			
Test Model	TP00098A			
Module Card	WWAN	EM7455		
	WLAN:	9560NGW		
	NFC	T77H747(Option Function)		
Modulation For EM7455	UMTS(QPSK) ,LTE(QPSK/16QAM)			
Modulation For 9560NGW	WiFi(DSSS/OFDM),BT(GFSK/ π /4-DQPSK/8-DPSK)			
Modulation For T77H747	NFC(ASK)			
Operation Frequency Range(s)	Module	Band	TX (MHz)	RX (MHz)
	EM7455	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 12	699 ~ 716	729 ~ 746
		LTE Band 13	777 ~ 787	746 ~ 756
		LTE Band 25	1850 ~ 1915	1930 ~ 1995
		LTE Band 26	814 ~ 849	859 ~ 894
		LTE Band 41	2496 ~ 2690	
	9560NGW	Bluetooth	2400 ~ 2483.5	
		2.4G WIFI	2400 ~ 2480	
		5G WIFI Band I	5150 ~ 5250	
		5G WIFI Band II	5250 ~ 5350	
		5G WIFI Band III	5470 ~ 5725	
		5G WIFI Band IV	5725 ~ 5850	
	T77H747	NFC	13.56	
Test Channels (low-mid-high):	Module	Band	Channel	
	EM7455	UMTS Band 2	9262-9400-9538	
		UMTS Band 4	1312-1413-1513	
		UMTS Band 5	4132-4182-4233	
		LTE Band 2	18700-18900-19100	
		LTE Band 4	20050-20175-20300	
		LTE Band 5	20450-20525-20600	
		LTE Band 7	20850-21100-21350	
		LTE Band 12	23060-23095-23130	
		LTE Band 13	23230	
		LTE Band 25	26140-26365-26590	
		LTE Band 26	26765-26865-26965	
		LTE Band 41	39750-40185-40620-41055-41490	
	9560NGW	2.4G WIFI	1-6-11	
		5G WiFi Band I	36-40-44-48	
		5G WiFi Band II	52-56-60-64	
		5G WiFi Band III	100-104-108-112-116-132-136-140	
		5G WiFi Band IV	149-153-157-161-165	
		BT	0-39-78	
	T77H747	NFC	13.56	

Note: 1. Implementation in the following platform. Model number: TP00098A

Product name: Tablet PC

Antenna Gain	Ant status	Band	Ant Gain(dBi)	Vendor
	WWAN Main Ant	UMTS Band 2 / LTE Band 2 / 25	2.64	South Star (Shenzhen) Technology
		UMTS Band 4 / LTE Band 4	2.9	
		UMTS Band 5 / LTE Band 5	1.72	
		LTE Band 7 / 41	3.1	
		LTE Band 12 /13	-3.37	
	WLAN Main P/N:N12-4149-R0A (NDX)	2.4G WIFI / BT	1.68	Shenzhen South Star Technology Co., LTD
		5.2G	-0.92	
		5.3G	-0.94	
		5.5G	1.07	
		5.8G	1.43	
	Aux P/N:N12-4150-R0A (NDX)	2.4G WIFI / BT	2.51	
		5.2G	0.45	
		5.3G	2	
		5.5G	2.36	
		5.8G	2.28	
	WLAN Main P/N:ATC1010-BL001B72RA (ATC)	2.4G WIFI / BT	0.78	Advanced Technology & Communications
		5.2G	-0.5	
		5.3G	-0.5	
		5.5G	-0.34	
		5.8G	-0.94	
	Aux P/N:ATC1010-BL001B73RA (ATC)	2.4G WIFI / BT	-1.97	
		5.2G	0.76	
		5.3G	0.76	
		5.5G	1.12	
		5.8G	1.12	
Other Information				
Battery1	Model	L17M2P51		
	Capacitance	7.68 Vdc		
	Rated Voltage	5080 mAh		
	Manufacturer	SIMPLO TECHNOLOGY CO. LTD.		
Battery2	Model	L17M2P52		
	Capacitance	7.68 Vdc		
	Rated Voltage	5080 mAh		
	Manufacturer	SIMPLO TECHNOLOGY CO. LTD.		
Battery3	Model	L17C2P51		
	Capacitance	7.68 Vdc		
	Rated Voltage	5080 mAh		
	Manufacturer	CELXPERT ENERGY CORP		

3.3LABORATORY ENVIRONMENT

Temperature	Min. = 18ºC, Max. = 25ºC
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	Sep. 15, 2017	1 Year
2	E-field Probe	Speag	EX3DV4	7396	May. 25, 2017	1 Year
3	System Validation Dipole	Speag	D750V3	1095	Sep. 30, 2015	3 Years
4	System Validation Dipole	Speag	D835V2	4d160	Sep. 30, 2015	3 Years
5	System Validation Dipole	Speag	D1750V2	1101	Sep. 22, 2015	3 Years
6	System Validation Dipole	Speag	D1900V2	5d179	Sep. 29, 2015	3 Years
7	System Validation Dipole	Speag	D2450V2	919	Sep. 28, 2015	3 Years
8	System Validation Dipole	Speag	D2600V2	1067	Sep. 28, 2015	3 Years
9	System Validation Dipole	Speag	D5GHzV2	1160	Oct. 05, 2015	3 Years
10	ELI4 Phantom	Speag	ELI4 Phantom V5.0	1222	N/A	N/A
11	8960 Series 10 Wireless Com Test set	Agilent	E5515E	MY52112163	Aug. 20, 2017	1 Year
12	CMW500-Wideband Radio Communication Tester	RS	CMW500	153883	May. 03, 2017	1Year
13	Power Amplifier	Mini-Circuits	ZHL-42W+	QA1333003	N/A	N/A
14	Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	N/A	N/A
15	ENA Network Analyzer	Agilent	E5071C	MY46102965	Mar. 26, 2017	1 Year
16	MXG Analog Signal Generator	Agilent	N5181A	MY49060477	Jun. 30, 2017	1 Year
17	P-series power meter	Agilent	N1911A	MY45100473	Aug. 20, 2017	1 Year
18	wideband power sensor	Agilent	N1921A	MY51100041	Aug. 20, 2017	1 Year
19	power Meter	Anritsu	ML2495A	1128009	Mar. 26, 2017	1 Year
20	Pulse Power Sensor	Anritsu	MA 2411B	1027500	Mar. 26, 2017	1 Year
21	Dielectric Assessment Kit	Speag	DAK-3.5	1226	N/A	N/A
22	Dual directional coupler	Woken	TS-PCC0M-05	107090019	Mar. 09, 2017	1 Year

Note:
1.” N/A” denotes no model name,serial No. orcalibration specified.
2.
1) Per KDB865664 D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) The most recent return-loss result , measured at least annually, deviates by no more than 20% from the previous measurement;
d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5 Ω from the previous measurement.

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

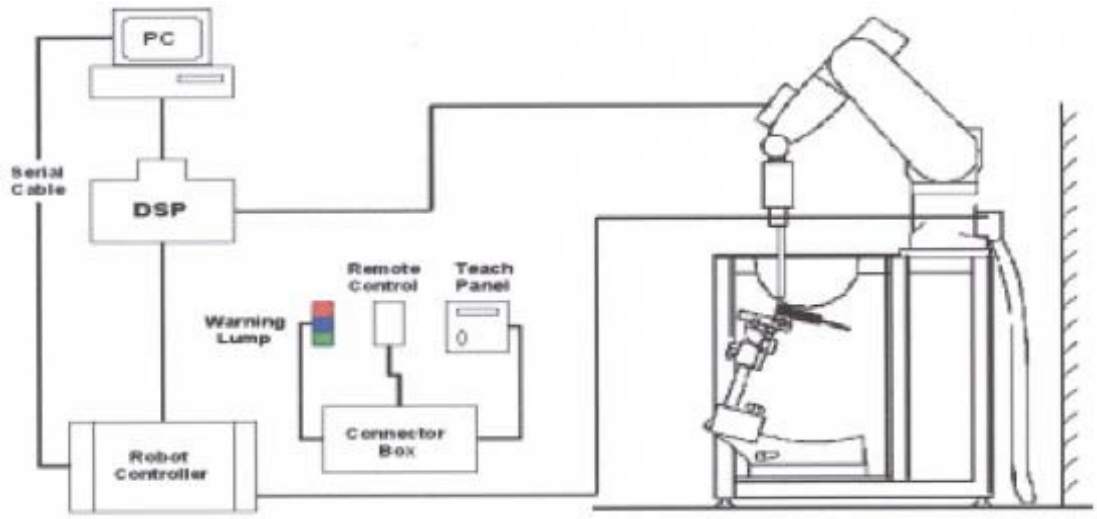
4.SAR MEASUREMENTS SYSTEM CONFIGURATION

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. ☐TheDASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 7
7. ☐DASY5 software and SEMCAD data evaluation software.
8. ☐Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. ☐The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. ☐The device holder for handheld mobile phones.
11. ☐Tissue simulating liquid mixed according to the given recipes.
12. ☐System validation dipoles allowing to validate the proper functioning of the system.

4.1.1Test Setup Layout



4.2DASY5E-FIELDPROBESYSTEM

The SAR measurementswere conducted with thedosimetric probe EX3DV4(manufactured bySPEAG),designed intheclassicaltriangular configuration and optimized fordosimetricevaluation.

4.2.1EX3DV4 PROBE SPECIFICATION

Construction	Symmetricaldesign with triangular coreInterleavedsensorsBuilt-inshieldingagainst static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibrationservice available
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity:± 0.2dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Distance from probe tip to dipole centers: 1.0 mm

EX3DV4 E-field Probe

4.2.2E-FIELD PROBE CALIBRATION

Eachprobeiscalibratedaccordingtoadosimetricassessmentprocedurewithaccuracybetterthan±10 %.The sphericalisotropywas evaluatedandfoundtobebetterthan±0.25dB.The sensitivity parameters (NormX,NormY,NormZ),thediode compression parameter (DCP) and the conversion factor(ConvF) ofthe probe are tested.

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

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

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

Where: Δt=Exposure time(30 seconds),

C =Heat capacityoftissue (brain or muscle),

ΔT=Temperature increase due to RF exposure.

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

Where:σ=Simulatedtissueconductivity,

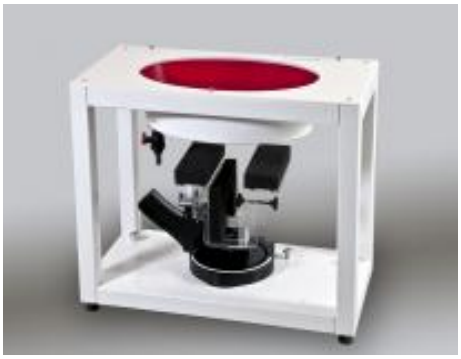
ρ=Tissue density (kg/m3).

4.2.3OTHER TEST EQUIPMENT

4.2.3.1. Device Holder forTransmitters

Construction: Simple buteffectiveandeasy-to-use extension forMounting Device thatfacilitates the testingoflargerdevices(e.g.,laptops,cameras,etc.)Itislightweight andfitseasilyontheupperpartoftheMountingDeviceinplaceof the phonepositioner.The extension isfullycompatible withtheTwinSAM, ELI4and SAM v6.0Phantoms.
Material: POM, Acrylic glass,Foam

4.2.3.2 Phantom

Model	ELI4 Phantom	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
ShellThickness	2±0.1 mm	
Filling Volume	Approx. 30 liters	
Dimensions	Length: 600 mm ; Width: 190mm Height: adjustable feet	
Aailable	Special	

4.2.4SCANNING 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. Theindicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

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

- Area Scan

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

- Zoom Scan

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

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

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

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

4.2.5SPATIAL PEAK SAR EVALUATION

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

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

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, 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 compansate boundary effects on E-field probes.

4.2.6DATA STORAGE AND EVALUATION

4.2.5.1Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (inmicrovolt readings from the probe sensors), together with all necessary software parameters for thedata evaluation (probe calibration data, liquid parameters and device frequency and modulation data) inmeasurement files with the extension ".DAE4". The software evaluates the desired unit and format foroutput each time the data is visualized or exported. This allows verification of the complete softwaresetup 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, theparameter 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 theselected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are notavailable in certain situations or show meaningless results, e.g., a SAR output in a lossless media willalways be zero. Raw data can also be exported to perform the evaluation with other software packages.

4.2.7Data Evaluation by SEMCAD

TheSEMCADsoftwareautomaticallyexecutesthefollowingprocedurestocalculatethefieldunitsfrom the microvolt readings atthe probe connector. The parameters used inthe evaluation arestored in the configurationmodules ofthe software:

Probe parameters:	Sensitivity	Normi, a_{i0}, a_{i1},a_{i2}
	Conversionfactor	$ConvF_i$
	Diode compression point	Dcp_i
Device parameters:	Frequency	f
	Crestfactor	cf
Media parameters:	Conductivity	☐
	Density	☐

These parametersmust be setcorrectly in the software. They can be found in the component documents ortheycanbeimported into thesoftware fromtheconfiguration files issued forthe DASY5 components. Inthedirectmeasuring mode of the multimeter option,theparametersoftheactual systemsetup are used. Inthescan visualization and exportmodes,theparametersstored inthe corresponding document files are used.

Thefirst stepoftheevaluation isalinearization ofthe filtered input signal toaccount for the compression characteristics ofthe detector diode.The compensation depends on the input signal, the diode type and the DC-transmission factor fromthe diode tothe evaluation electronics.

If theexciting field ispulsed, thecrest factorof thesignal must beknown tocorrectly 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 channeli (i = x,y,z)
U_i= input signal of channel i (i = x, y,z)
cf=crestfactorofexciting field (DASY parameter)
dcp_i=diode compressionpoint (DASYparameter)

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

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

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

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

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

ConvF = sensitivity enhancement in solution

aij=sensorsensitivityfactorsfor H-field probes

f=carrier frequency [GHz]

E_i=electric fieldstrength of channel i in V/m

H_i= magnetic field strength ofchannel i in A/m

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

$$E_{tot} = (E_X^2 + E_Y^2 + E_Z^2)^{1/2}$$

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

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

With SAR=local specific absorption rateinmW/g

E_{tot}=total field strength in V/m
=conductivity in[mho/m]or[Siemens/m]
=equivalenttissuedensityin g/cm^3

Note thatthedensity isnormally setto 1(or1.06),toaccount for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

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

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

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

H_{tot}=totalmagnetic field strength in A/m

5. SYSTEM VERIFICATION PROCEDURE

5.1 TISSUE VERIFICATION

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

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
Body 750	0.2	-	0.2	0.8	48.8	-	50.0	-
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 2000	-	30.0	-	0.2	-	-	69.8	-
Body 2450	-	31.4	-	0.1	-	-	68.5	-
Body 2600	-	31.8	-	0.1	-	-	68.1	-
Body 5G	-	-	-	-	-	10.7	78.6	10.7

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

Tissue Verification									
Tissue Type	Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Targeted Conductivity (σ)	Targeted Permittivity (εr)	Deviation Conductivity (σ) (%)	Deviation Permittivity (εr) (%)	Date
Body	750	22.5	0.967	55.252	0.96	55.5	0.73	-0.45	Dec. 27, 2017
Body	835	22.4	0.991	55.377	0.97	55.2	2.16	0.32	Dec. 26, 2017
Body	1750	22.4	1.498	52.487	1.49	53.4	0.54	-1.71	Dec. 25, 2017
Body	1900	22.3	1.537	54.914	1.52	53.3	1.12	3.03	Dec. 22, 2017
Body	2450	22.4	2.045	50.242	1.95	52.7	4.87	-4.66	Dec. 14, 2017
Body	2450	22.4	1.990	51.538	1.95	52.7	2.05	-2.20	Dec. 21, 2017
Body	2600	22.1	2.234	52.085	2.16	52.5	3.43	-0.79	Dec. 23, 2017
Body	2600	22.2	2.234	52.087	2.16	52.5	3.43	-0.79	Dec. 24, 2017
Body	5200	22.4	5.400	47.596	5.30	49.0	1.89	-2.87	Dec. 15, 2017
Body	5200	22.3	5.233	49.383	5.30	49.0	-1.26	0.78	Dec. 18, 2017
Body	5300	22.4	5.481	47.372	5.42	48.9	1.13	-3.12	Dec. 15, 2017
Body	5300	22.3	5.373	49.215	5.42	48.9	-0.87	0.64	Dec. 18, 2017
Body	5600	22.1	5.885	46.750	5.77	48.5	1.99	-3.61	Dec. 16, 2017
Body	5600	23.6	5.844	48.635	5.77	48.5	1.28	0.28	Dec. 19, 2017
Body	5800	22.5	6.162	46.418	6.00	48.2	2.70	-3.70	Dec. 17, 2017
Body	5800	22.5	6.104	48.140	6.00	48.2	1.73	-0.12	Dec. 20, 2017

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

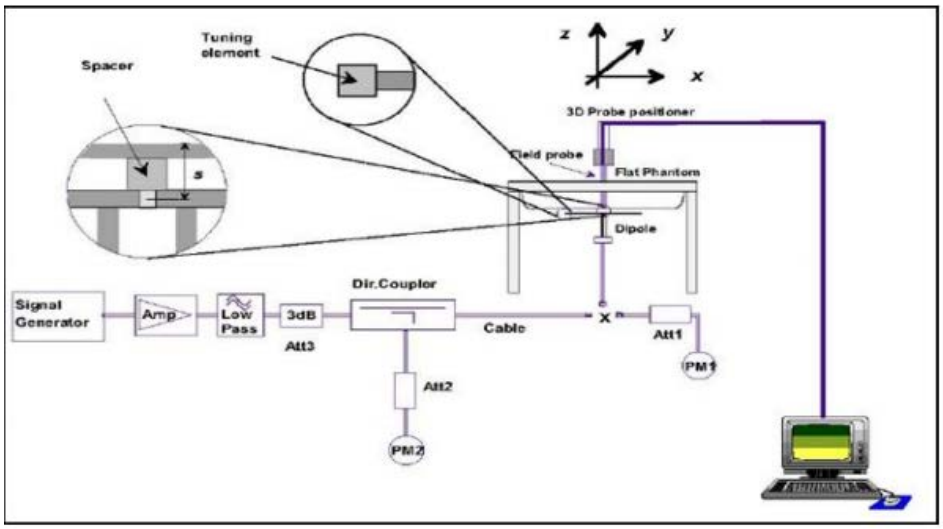
5.2 SYSTEM CHECK

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

System Check	Frequency (MHz)	Date	Targeted SAR-1g (W/kg)	Measured SAR-1g (W/kg)	normalized SAR-1g (W/kg)	Deviation (%)	Dipole S/N
Body	750	Dec. 27, 2017	750	8.65	2.17	8.68	0.35
Body	835	Dec. 26, 2017	835	9.52	2.36	9.44	-0.84
Body	1750	Dec. 25, 2017	1750	35.70	9.35	37.40	4.76
Body	1900	Dec. 22, 2017	1900	39.60	9.81	39.24	-0.91
Body	2450	Dec. 14, 2017	2450	51.10	13.20	52.80	3.33
Body	2450	Dec. 21, 2017	2450	51.10	12.40	49.60	-2.94
Body	2600	Dec. 23, 2017	2600	54.10	13.60	54.40	0.55
Body	2600	Dec. 24, 2017	2600	54.10	13.10	52.40	-3.14
Body	5200	Dec. 15, 2017	5200	77.80	7.42	74.20	-4.63
Body	5200	Dec. 18, 2017	5200	77.80	7.58	75.80	-2.57
Body	5300	Dec. 15, 2017	5300	78.40	7.54	75.40	-3.83
Body	5300	Dec. 18, 2017	5300	78.40	7.47	74.70	-4.72
Body	5600	Dec. 16, 2017	5600	81.50	7.89	78.90	-3.19
Body	5600	Dec. 19, 2017	5600	81.50	8.06	80.60	-1.10
Body	5800	Dec. 17, 2017	5800	78.30	7.67	76.70	-2.04
Body	5800	Dec. 20, 2017	5800	78.30	7.45	74.50	-4.85

5.3 SYSTEM CHECK PROCEDURE

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250 mW(below 5GHz) or 100mW(above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test. System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system(±10 %).



6.SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

6.1SAR 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 repeatedmeasurements 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

7.1SAR TEST CONFIGURATION

7.1.1UMTS TEST CONFIGURATION

1. Output Power Verification

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

2. WCDMA

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

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

3. HSDPA

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

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

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

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

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

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

HSDPA UE category

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

4. HSUPA

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

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

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

Subtests for WCDMA Release 6 HSUPA

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

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

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

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

Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$

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

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

HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?

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

5. DC-HSDPA

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

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

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

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

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

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

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

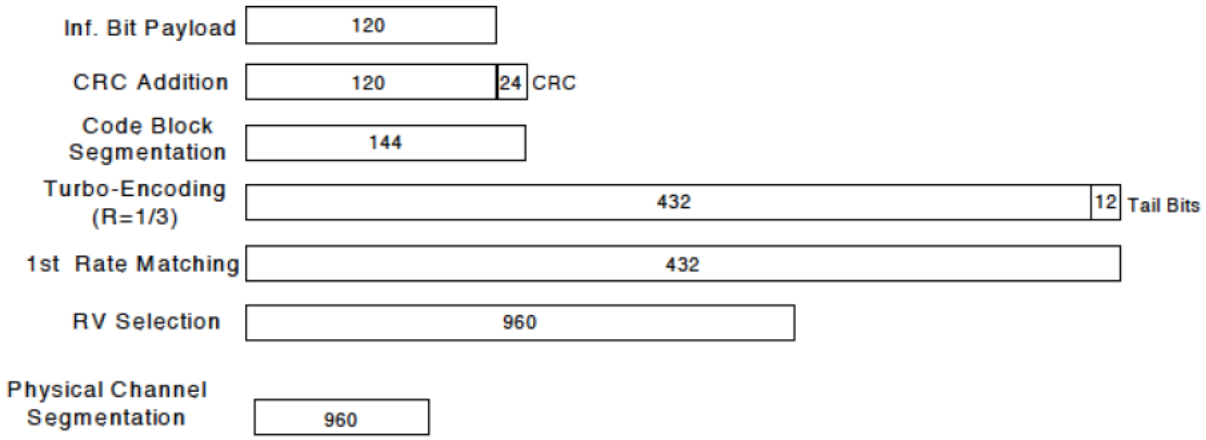


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

Note 1: Δ ACK, Δ NACK and Δ CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$
Note 2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. 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.

7.1.2LTE TEST CONFIGURATION

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

1. Spectrum Plots for RB configurations

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

2. MPR

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

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

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

3. A-MPR

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

4. LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

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

ii) QPSK with 50% RB allocation

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

iii) QPSK with 100% RB allocation

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

iv) Higher order modulations

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

B) Other channel bandwidth standalone SAR test requirements

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

LTE (TDD) Test Configuration

TDD LTE Band 41supports 3GPP TS 36for Time-Division Duplex (TDD) systems, SAR must be tested using a fixedperiodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDDconfigurations.
TDD LTE Band 41supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations andTable 4.2-1 for Special subframe configurations.

Figure 4.2-1: Frame structure type 2

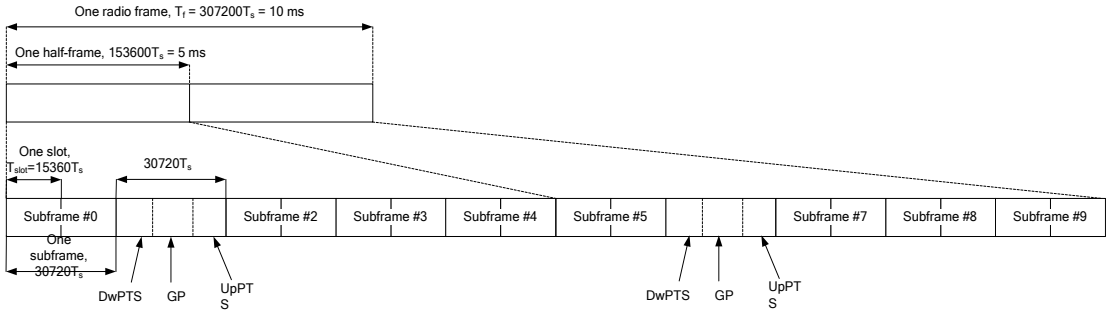


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
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 subframecontaining 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:

Dutycycle =(30720Ts*Ups+Uplink Component*Specials)/(307200Ts)

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

Uplink Component=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.

Dutycycle =[(30720Ts*Ups)+UpPTS *Specials]/(307200Ts)

And we can get different Duty cycles under different configurations:

Uplink-downlink configuratin	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
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

7.2 SAR SENSOR WORKING

When the sensor is active，the active distance and SAR power reduce as below：

Band	Sensor Trigger Distance	Full power level(dBm)	Reduced power level(dBm)
UMTS B2	Top side: 14mm	24	19
	Back side: 14mm		
UMTS B4	Top side:14mm	24	19
	Back side: 14mm		
LTE B2	Top side: 14mm	24	20
	Back side: 14mm		
LTE B4	Top side: 14mm	24	19
	Back side: 14mm		
LTE B7	Top side: 14mm	23	22
	Back side: 14mm		
LTE B13	Top side: 14mm	24	2
	Back side: 14mm		
LTE B25	Top side: 14mm	24	18
	Back side: 14mm		
LTE B41	Top side: 14mm	23	20
	Back side: 14mm		

Note:

1. Since the capacitive proximity sensor triggering distance for the top/back/right side is N mm , a conservative distance of N-1 mm was requried for addtional SAR test at maximum power level with sensor off.

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

7.3 POWER REDUCTION BY PROXIMITY SENSOR

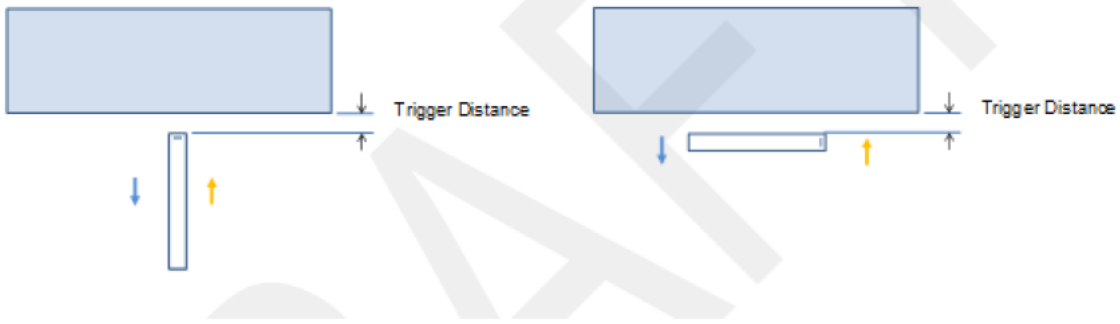
7.3.1 Proximity Sensor Triggering Distance

The bottom of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.

The measurement was then repeated for the Rear surface.

The DUT featured a sound indicator on its player that showed the status of the proximity sensor (Triggered or not triggered). This was used to determine the status of the sensor during the proximity sensor assessment as monitoring the output power directly was not practical without affecting the measurement.

It was confirmed separately that the output power was altered according to the proximity sensor status indication. This was achieved by observing the proximity sensor status at the same time as monitoring the conducted power. Section 9 contains both the full and reduced conducted power measurements.



Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Edge 1

Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Rear

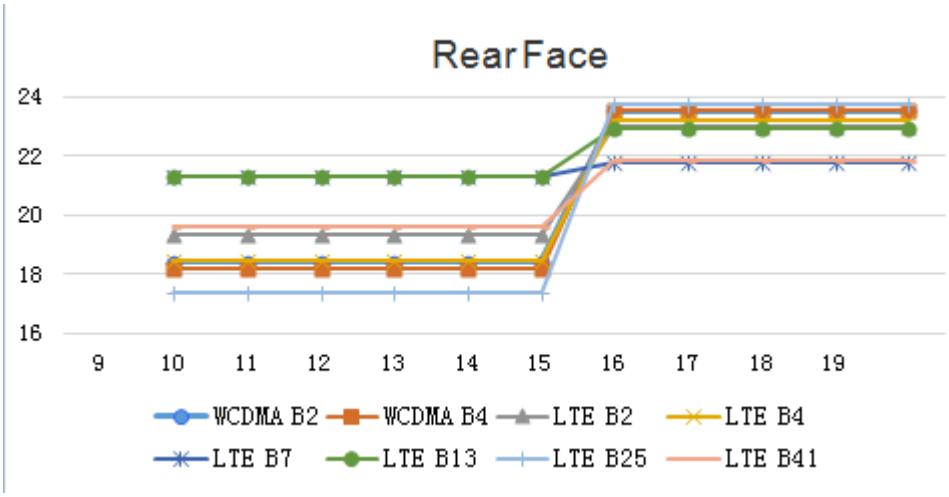
LEGEND

Direction of DUT travel for determination of power reduction triggering point

Direction of DUT travel for determination of full power resumption triggering point

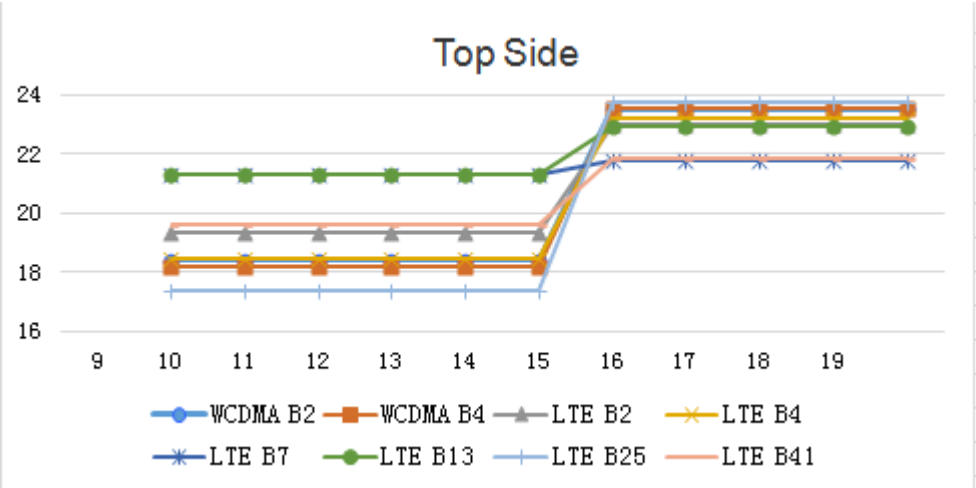
Proximity Sensor Triggering Distance Measurement Results For Rear Face

mode	distance(mm)										
	Rear Face										
	Sensor on						Sensor off				
	9	10	11	12	13	14	15	16	17	18	19
WCDMA B2	18.38	18.38	18.38	18.38	18.38	18.38	23.51	23.51	23.51	23.51	23.51
WCDMA B4	18.19	18.19	18.19	18.19	18.19	18.19	23.56	23.56	23.56	23.56	23.56
LTE B2	19.33	19.33	19.33	19.33	19.33	19.33	22.99	22.99	22.99	22.99	22.99
LTE B4	18.47	18.47	18.47	18.47	18.47	18.47	23.18	23.18	23.18	23.18	23.18
LTE B7	21.29	21.29	21.29	21.29	21.29	21.29	21.76	21.76	21.76	21.76	21.76
LTE B13	21.27	21.27	21.27	21.27	21.27	21.27	22.91	22.91	22.91	22.91	22.91
LTE B25	17.39	17.39	17.39	17.39	17.39	17.39	23.71	23.71	23.71	23.71	23.71
LTE B41	19.57	19.57	19.57	19.57	19.57	19.57	21.83	21.83	21.83	21.83	21.83



Proximity Sensor Triggering Distance Measurement Results For Top Side

mode	distance(mm)										
	Top Side										
	Sensor on						Sensor off				
	9	10	11	12	13	14	15	16	17	18	19
WCDMA B2	18.38	18.38	18.38	18.38	18.38	18.38	23.51	23.51	23.51	23.51	23.51
WCDMA B4	18.19	18.19	18.19	18.19	18.19	18.19	23.56	23.56	23.56	23.56	23.56
LTE B2	19.33	19.33	19.33	19.33	19.33	19.33	22.99	22.99	22.99	22.99	22.99
LTE B4	18.47	18.47	18.47	18.47	18.47	18.47	23.18	23.18	23.18	23.18	23.18
LTE B7	21.29	21.29	21.29	21.29	21.29	21.29	21.76	21.76	21.76	21.76	21.76
LTE B13	21.27	21.27	21.27	21.27	21.27	21.27	22.91	22.91	22.91	22.91	22.91
LTE B25	17.39	17.39	17.39	17.39	17.39	17.39	23.71	23.71	23.71	23.71	23.71
LTE B41	19.57	19.57	19.57	19.57	19.57	19.57	21.83	21.83	21.83	21.83	21.83



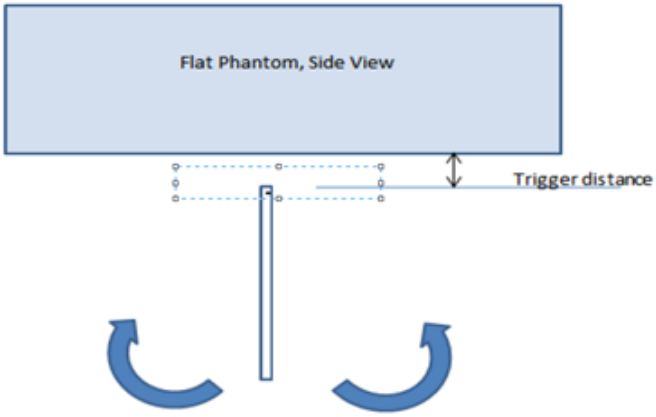
7.3.2. Proximity Sensor Coverage (KDB 616217 §6.3)

As there is no spatial offset between the antenna and the proximity sensor element, proximity sensor coverage did not need to be assessed.

7.3.3. Proximity Sensor Tilt Angle Assessment (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom parallel to the base of the flat phantom for each band.

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



Proximity sensor tilt angle assessment (bottom)

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Top

Mode	Minimum distance at which power reduction was maintained over +/-45°		Power reduction status(ON/OFF)										
			-45°	-40°	-30°	-20°	-10°	-0°	10°	20°	30°	40°	45°
	Rear Face	Top Side											
WCDMA B2	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B7	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B13	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B25	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B41	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on

7.4 LTE CARRIER AGGREGATION POWER

LTE Rel.10 Carrier Aggregation

When downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than 1/4dB higher than the maximum output power measured when downlink carrier aggregation is inactive, the CA test is not required.

Table 1-1：LTE CA Inter-band Bandwidth Support

E-UTRA CA configuration	E-UTRA bands	1.4 [MHz]	3 [MHz]	5 [MHz]	10 [MHz]	15 [MHz]	20 [MHz]	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-5A	2			Y	Y	Y	Y	30	0
	5			Y	Y				
CA_2A-12A	2			Y	Y	Y	Y	30	0
	12			Y	Y				
	2			Y	Y	Y	Y	30	1
	12		Y	Y	Y				
CA_2A-13A	2			Y	Y	Y	Y	30	0
	13				Y				
	2			Y	Y			20	1
	13				Y				
CA_4A-5A	4			Y	Y			20	0
	5			Y	Y				
	4			Y	Y	Y	Y	30	1
	5			Y	Y				
CA_4A-12A	4	Y	Y	Y	Y			20	0
	12			Y	Y				
	4	Y	Y	Y	Y	Y	Y	30	1
	12			Y	Y				
	4			Y	Y	Y	Y	30	2
	12		Y	Y	Y				
	4			Y	Y			20	3
	12			Y	Y				
	4			Y	Y	Y	Y	30	4
	12			Y	Y				
CA_4A-13A	4			Y	Y	Y	Y	30	0
	13				Y				
	4			Y	Y			20	1
	13				Y				

Note:
1）For the inter-band CA combinations, all the listed bands above can be used as PCC or SCC.
2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.2.0.
3) The reference test frequencies for CA refers to3GPP TS 36.508 V13.1.0

Table 1-2：LTE CA Intra-band (Contiguous) Bandwidth Support

E-UTRA CA configuration	Component carriers in order of increasing carrier frequency		Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	15	15	40	0
	20	20		
	10	20	40	1
	15	15,20		
	20	10, 15,20		
CA_41C	10	20	40	0
	15	15,20		
	20	10,15,20		
	5,10	20	40	1
	15	15,20		
	20	5,10,15,20		

Note:
1) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.2.0.
2) The reference test frequencies for CA refers to3GPP TS 36.508 V13.1.0

1) Carrier Aggregation power test results (Main full Power)

E-UTRA CA configuration	CC-Combo	PCC									SCC				Power	
		Band	BW [MHZ]	Modulation	RB Size	RB Offset	Channel (UL)	Frequency [MHZ]	Channel (DL)	Frequency [MHZ]	Band	BW [MHZ]	Channel (DL)	Frequency [MHZ]	TX power with DL CA	TX Power Single Carrier
CA_2A-5A	5M+5M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B5	5	2525	881.5	22.68	22.95
	5M+10M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B5	10	2525	881.5	22.64	22.95
	10M+5M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B5	5	2525	881.5	22.76	22.90
	10M+10M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B5	10	2525	881.5	22.78	22.90
	15M+5M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B5	5	2525	881.5	22.52	22.88
	15M+10M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B5	10	2525	881.5	22.54	22.88
	20M+5M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B5	5	2525	881.5	22.42	22.67
	20M+10M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B5	10	2525	881.5	22.45	22.67
CA_2A-12A	5M+5M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B12	5	5095	737.5	22.58	22.95
	5M+10M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B12	10	5095	737.5	22.64	22.95
	10M+5M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B12	5	5095	737.5	22.81	22.90
	10M+10M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B12	10	5095	737.5	22.77	22.90
	15M+5M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B12	5	5095	737.5	22.48	22.88
	15M+10M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B12	10	5095	737.5	22.54	22.88
	20M+5M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B12	5	5095	737.5	22.4	22.67
	20M+10M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B12	10	5095	737.5	22.42	22.67
CA_2A-13A	5M+10M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B13	10	5230	751	22.74	22.95
	10M+10M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B13	10	5230	751	22.85	22.90
	15M+10M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B13	10	5230	751	22.55	22.88
	20M+10M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B13	10	5230	751	22.41	22.67
CA_4A-5A	5M+5M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B5	5	2525	881.5	22.96	23.10
	5M+10M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B5	10	2525	881.5	22.94	23.10
	10M+5M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B5	5	2525	881.5	22.84	23.09
	10M+10M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B5	10	2525	881.5	22.91	23.09
	15M+5M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B5	5	2525	881.5	22.72	22.99
	15M+10M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B5	10	2525	881.5	22.67	22.99
	20M+5M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B5	5	2525	881.5	22.04	22.12
	20M+10M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B5	10	2525	881.5	21.93	22.12

E-UTRA CA configuration	CC-Combo	PCC									SCC				Power	
		Band	BW [MHZ]	Modulation	RB Size	RB Offset	Channel (UL)	Frequency [MHZ]	Channel (DL)	Frequency [MHZ]	Band	BW [MHZ]	Channel (DL)	Frequency [MHZ]	TX power with DL CA	TX Power Single Carrier
CA_4A-12A	5M+5M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B12	5	5095	737.5	22.84	23.10
	5M+10M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B12	10	5095	737.5	22.87	23.10
	10M+5M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B12	5	5095	737.5	22.92	23.09
	10M+10M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B12	10	5095	737.5	22.88	23.09
	15M+5M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B12	5	5095	737.5	22.75	22.99
	15M+10M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B12	10	5095	737.5	22.69	22.99
	20M+5M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B12	5	5095	737.5	21.98	22.12
	20M+10M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B12	10	5095	737.5	21.87	22.12
CA_4A-13A	5M+10M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	23.03	23.10
	10M+10M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	22.92	23.09
	15M+10M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	22.73	22.99
	20M+10M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	21.86	22.12
CA_7C	10M+20M	LTE B7	10	QPSK	1	0	21006	2525.6	3006	2645.6	LTE B7	20	3150	2660	21.42	21.63
	15M+15M	LTE B7	15	QPSK	1	0	21225	2547.5	3225	2667.5	LTE B7	15	3375	2682.5	21.46	21.56
	15M+20M	LTE B7	15	QPSK	1	0	21003	2525.3	3003	2645.3	LTE B7	20	3174	2662.4	21.38	21.56
	20M+10M	LTE B7	20	QPSK	1	0	21051	2530.1	3051	2650.1	LTE B7	10	3195	2664.5	21.62	21.76
	20M+15M	LTE B7	20	QPSK	1	0	21026	2527.6	3026	2647.6	LTE B7	15	3197	2664.7	21.59	21.76
	20M+20M	LTE B7	20	QPSK	1	0	21001	2525.1	3001	2645.1	LTE B7	20	3199	2664.9	21.54	21.76
CA_41C	10M+20M	LTE B41	10	QPSK	1	24	40596	2590.6	40596	2590.6	LTE B41	20	40740	2565	21.68	21.96
	15M+15M	LTE B41	15	QPSK	1	37	40615	2592.5	40615	2592.5	LTE B41	15	40765	2607.5	21.81	21.95
	15M+20M	LTE B41	15	QPSK	1	37	40593	2590.3	40593	2590.3	LTE B41	20	40764	2607.4	21.75	21.95
	20M+10M	LTE B41	20	QPSK	1	50	40641	2595.1	40641	2595.1	LTE B41	10	40785	2609.5	21.62	21.88
	20M+15M	LTE B41	20	QPSK	1	50	40616	2592.6	40616	2592.6	LTE B41	15	40787	2609.7	21.72	21.88
	20M+20M	LTE B41	20	QPSK	1	50	40591	2590.1	40591	2590.1	LTE B41	20	40789	2609.9	21.67	21.88

2) Carrier Aggregation power test results (Main Power sensor)

E-UTRA CA configuration	CC-Combo	PCC									SCC				Power	
		Band	BW [MHZ]	Modulation	RB Size	RB Offset	Channel (UL)	Frequency [MHZ]	Channel (DL)	Frequency [MHZ]	Band	BW [MHZ]	Channel (DL)	Frequency [MHZ]	TX power with DL CA	TX Power Single Carrier
CA_2A-13A	5M+10M	LTE B2	5	QPSK	1	12	18900	1880	900	1960	LTE B13	10	5230	751	18.84	19.09
	10M+10M	LTE B2	10	QPSK	1	24	18900	1880	900	1960	LTE B13	10	5230	751	19.16	19.31
	15M+10M	LTE B2	15	QPSK	1	37	18900	1880	900	1960	LTE B13	10	5230	751	19.03	19.21
	20M+10M	LTE B2	20	QPSK	1	50	18900	1880	900	1960	LTE B13	10	5230	751	18.97	19.19
CA_4A-13A	5M+10M	LTE B4	5	QPSK	1	12	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	17.64	17.94
	10M+10M	LTE B4	10	QPSK	1	24	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	17.82	17.90
	15M+10M	LTE B4	15	QPSK	1	37	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	17.91	18.07
	20M+10M	LTE B4	20	QPSK	1	50	20175	1732.5	2175	2132.5	LTE B13	10	5230	751	17.94	18.26
CA_7C	10M+20M	LTE B7	10	QPSK	1	0	21006	2525.6	3006	2645.6	LTE B7	20	3150	2660	21.04	21.15
	15M+15M	LTE B7	15	QPSK	1	0	21225	2547.5	3225	2667.5	LTE B7	15	3375	2682.5	21.08	21.33
	15M+20M	LTE B7	15	QPSK	1	0	21003	2525.3	3003	2645.3	LTE B7	20	3174	2662.4	21.13	21.33
	20M+10M	LTE B7	20	QPSK	1	0	21051	2530.1	3051	2650.1	LTE B7	10	3195	2664.5	21.03	21.29
	20M+15M	LTE B7	20	QPSK	1	0	21026	2527.6	3026	2647.6	LTE B7	15	3197	2664.7	21.06	21.29
	20M+20M	LTE B7	20	QPSK	1	0	21001	2525.1	3001	2645.1	LTE B7	20	3199	2664.9	20.98	21.29
CA_41C	10M+20M	LTE B41	10	QPSK	1	24	40596	2590.6	40596	2590.6	LTE B41	20	40740	2565	19.14	19.30
	15M+15M	LTE B41	15	QPSK	1	37	40615	2592.5	40615	2592.5	LTE B41	15	40765	2607.5	18.87	19.12
	15M+20M	LTE B41	15	QPSK	1	37	40593	2590.3	40593	2590.3	LTE B41	20	40764	2607.4	18.93	19.12
	20M+10M	LTE B41	20	QPSK	1	50	40641	2595.1	40641	2595.1	LTE B41	10	40785	2609.5	19.17	19.43
	20M+15M	LTE B41	20	QPSK	1	50	40616	2592.6	40616	2592.6	LTE B41	15	40787	2609.7	19.12	19.43
	20M+20M	LTE B41	20	QPSK	1	50	40591	2590.1	40591	2590.1	LTE B41	20	40789	2609.9	19.16	19.43

7.5 WIFI TEST CONFIGURATION

For WLAN SAR testing, WLAN engineering testing software installed on the DUT can providecontinuous transmitting RF signal.

2.4G

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

5G

Mode	802.11a	802.11n HT20/40	802.11ac VHT20/40/80
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.

7.5.1 WLAN2.4G 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.

SAR Test Requirements for OFDM configurations

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, each standalone And frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

7.5.2 WLAN5G SAR Test Requirements

✧ **U-NII-1 and U-NII-2A Band**

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR. When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.

✧ **U-NII-2C, U-NII-3 Bands**

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification.

Unless band gap channels are permanently disabled, they must be considered for SAR testing. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels.11 When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

7.5.3 OFDM transmission mode and SAR test channel selection

For the 2.4GHz and 5GHz bands, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations(for example 802.11a,802.11n and 802.11ac,or 802.11g and 802.11n,with the same channel bandwidth, modulation, and data rate, etc.),the lower order 802.11 mode(i.e.802.11a then 802.11n and 802.11ac,or 802.11g then 802.11n) is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

7.5.4 Initial test configuration procedure

For OFDM, in both 2.4G and 5GHz bands, an initial test configuration is determined for each frequency band and aggregated band,according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output powers is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output power will be the initial test configuration.

When the reported SAR is≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SARis evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurement.

7.6 SAR SENSOR WORKING

When the sensor is active，the active distance and SAR power reduce as below：

Band	Sensor Trigger Distance	Full power level(dBm)	Reduced power level(dBm)
UMTS B2	Top side: 14mm	24	19
	Back side: 14mm		
UMTS B4	Top side:14mm	24	19
	Back side: 14mm		
LTE B2	Top side: 14mm	24	20
	Back side: 14mm		
LTE B4	Top side: 14mm	24	19
	Back side: 14mm		
LTE B7	Top side: 14mm	23	22
	Back side: 14mm		
LTE B13	Top side: 14mm	24	2
	Back side: 14mm		
LTE B25	Top side: 14mm	24	18
	Back side: 14mm		
LTE B41	Top side: 14mm	23	20
	Back side: 14mm		

Note:

1. Since the capacitive proximity sensor triggering distance for the top/back/right side is N mm , a conservative distance of N-1 mm was requried for addtional SAR test at maximum power level with sensor off.

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

7.7 POWER REDUCTION BY PROXIMITY SENSOR

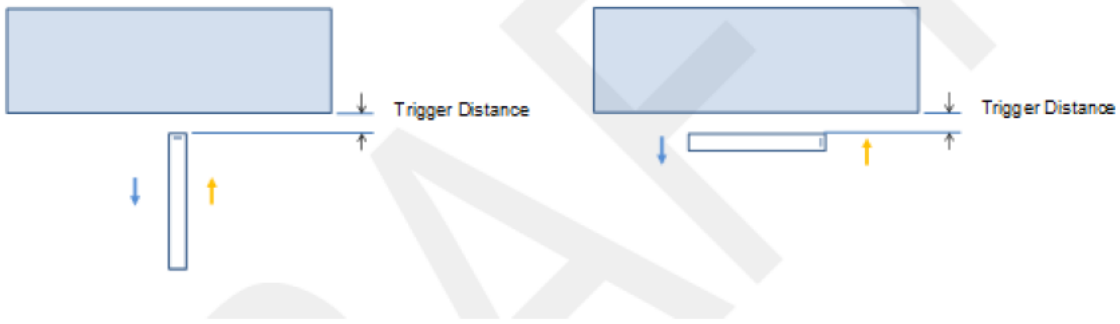
7.7.1 Proximity Sensor Triggering Distance

The bottom of the DUT was placed directly below the flat phantom. The DUT was moved toward the phantom in accordance with the steps outlined in KDB 616217 §6.2 to determine the trigger distance for enabling power reduction. The DUT was moved away from the phantom to determine the trigger distance for resuming full power.

The measurement was then repeated for the Rear surface.

The DUT featured a sound indicator on its player that showed the status of the proximity sensor (Triggered or not triggered). This was used to determine the status of the sensor during the proximity sensor assessment as monitoring the output power directly was not practical without affecting the measurement.

It was confirmed separately that the output power was altered according to the proximity sensor status indication. This was achieved by observing the proximity sensor status at the same time as monitoring the conducted power. Section 9 contains both the full and reduced conducted power measurements.



Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Edge 1

Proximity Sensor Trigger Distance Assessment
KDB 616219 §6.2, Rear

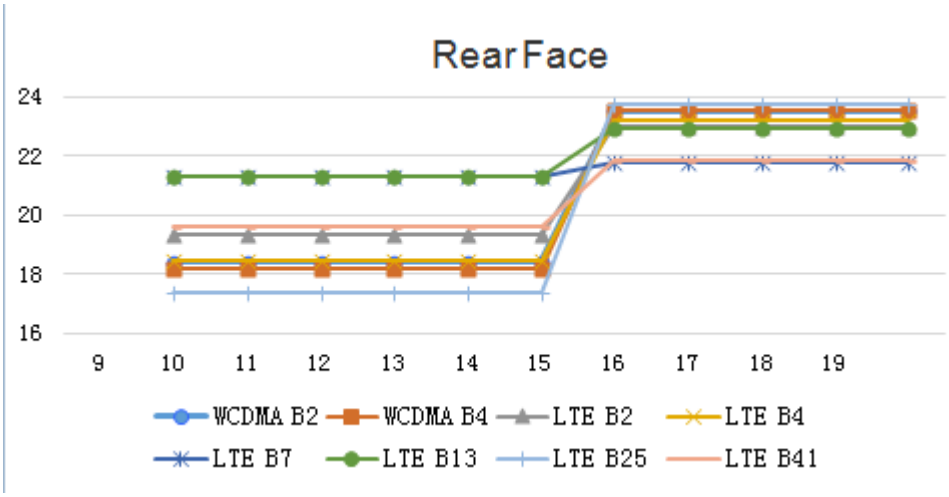
LEGEND

Direction of DUT travel for determination of power reduction triggering point

Direction of DUT travel for determination of full power resumption triggering point

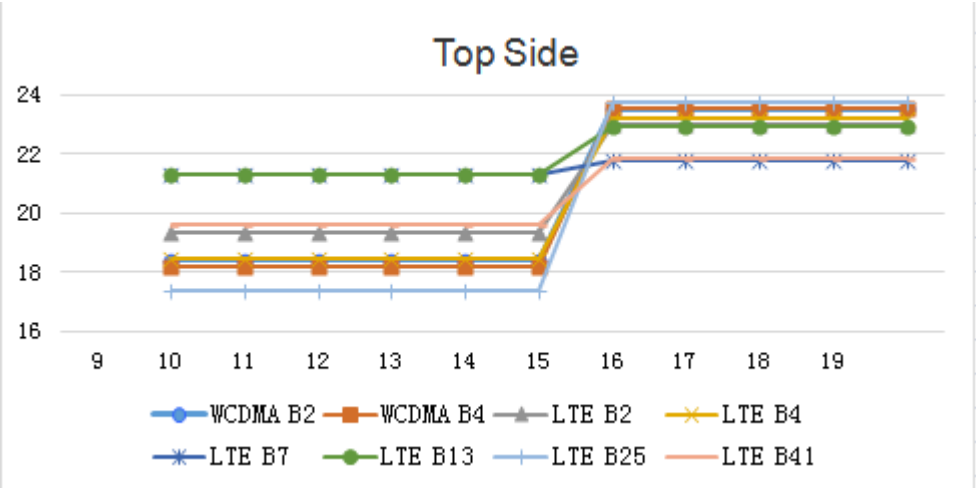
Proximity Sensor Triggering Distance Measurement Results For Rear Face

mode	distance(mm)										
	Rear Face										
	Sensor on						Sensor off				
	9	10	11	12	13	14	15	16	17	18	19
WCDMA B2	18.38	18.38	18.38	18.38	18.38	18.38	23.51	23.51	23.51	23.51	23.51
WCDMA B4	18.19	18.19	18.19	18.19	18.19	18.19	23.56	23.56	23.56	23.56	23.56
LTE B2	19.33	19.33	19.33	19.33	19.33	19.33	22.99	22.99	22.99	22.99	22.99
LTE B4	18.47	18.47	18.47	18.47	18.47	18.47	23.18	23.18	23.18	23.18	23.18
LTE B7	21.29	21.29	21.29	21.29	21.29	21.29	21.76	21.76	21.76	21.76	21.76
LTE B13	21.27	21.27	21.27	21.27	21.27	21.27	22.91	22.91	22.91	22.91	22.91
LTE B25	17.39	17.39	17.39	17.39	17.39	17.39	23.71	23.71	23.71	23.71	23.71
LTE B41	19.57	19.57	19.57	19.57	19.57	19.57	21.83	21.83	21.83	21.83	21.83



Proximity Sensor Triggering Distance Measurement Results For Top Side

mode	distance(mm)										
	Top Side										
	Sensor on						Sensor off				
	9	10	11	12	13	14	15	16	17	18	19
WCDMA B2	18.38	18.38	18.38	18.38	18.38	18.38	23.51	23.51	23.51	23.51	23.51
WCDMA B4	18.19	18.19	18.19	18.19	18.19	18.19	23.56	23.56	23.56	23.56	23.56
LTE B2	19.33	19.33	19.33	19.33	19.33	19.33	22.99	22.99	22.99	22.99	22.99
LTE B4	18.47	18.47	18.47	18.47	18.47	18.47	23.18	23.18	23.18	23.18	23.18
LTE B7	21.29	21.29	21.29	21.29	21.29	21.29	21.76	21.76	21.76	21.76	21.76
LTE B13	21.27	21.27	21.27	21.27	21.27	21.27	22.91	22.91	22.91	22.91	22.91
LTE B25	17.39	17.39	17.39	17.39	17.39	17.39	23.71	23.71	23.71	23.71	23.71
LTE B41	19.57	19.57	19.57	19.57	19.57	19.57	21.83	21.83	21.83	21.83	21.83



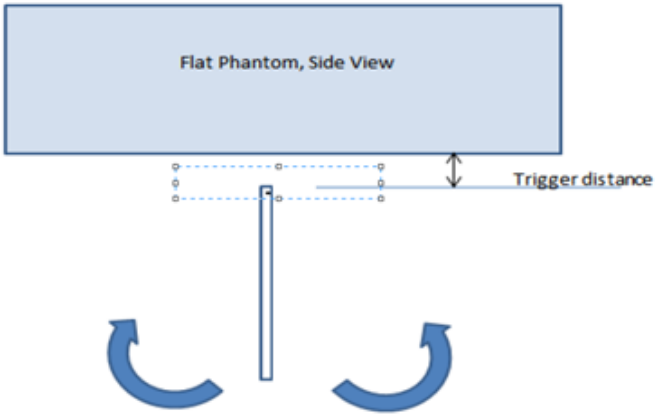
7.7.2. Proximity Sensor Coverage (KDB 616217 §6.3)

As there is no spatial offset between the antenna and the proximity sensor element, proximity sensor coverage did not need to be assessed.

7.7.3. Proximity Sensor Tilt Angle Assessment (KDB 616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom parallel to the base of the flat phantom for each band.

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



Proximity sensor tilt angle assessment (bottom)

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Top

Mode	Minimum distance at which power reduction was maintained over +/-45°		Power reduction status(ON/OFF)										
			-45°	-40°	-30°	-20°	-10°	-0°	10°	20°	30°	40°	45°
	Rear Face	Top Side											
WCDMA B2	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B7	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B13	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B25	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on
LTE B41	14mm	14mm	on	on	on	on	on	on	on	on	on	on	on

7.8 TEST POSITION

7.8.1 Body test configuration

The overall diagonal dimension of the display section of a tablet is 27.2cm>20cm,Per FCC KDB 616217,the back surface and edges of the tablet should be tested for SAR compliance with the Tablet touching the phantom.SAR evaluation for the front surface of tablet display screens are generally not necessary.
The SAR Exclusion Threshold in KDB 447498 D01can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned adjacent the phantom and the edge containing the antenna positioned perpendicular to the phantom.

SAR test reduction and exclusion guidance

(1)The SAR exclusion threshold for distances<50mm is defined by the following equation:

$$\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \sqrt{\text{Frequency (GHz)}} \leq 3.0$$

The test exclusions are applicable only when the minimum test separation distance is ≤50mm and for transmission frequencies between 100MHz and 6GHz. When the minimum test separation distance is<5mm, a distance of 5mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

(2)The SAR exclusion threshold for distances>50mm is defined by the following equation, as illustrated in KDB 447498 D01 Appendix B:

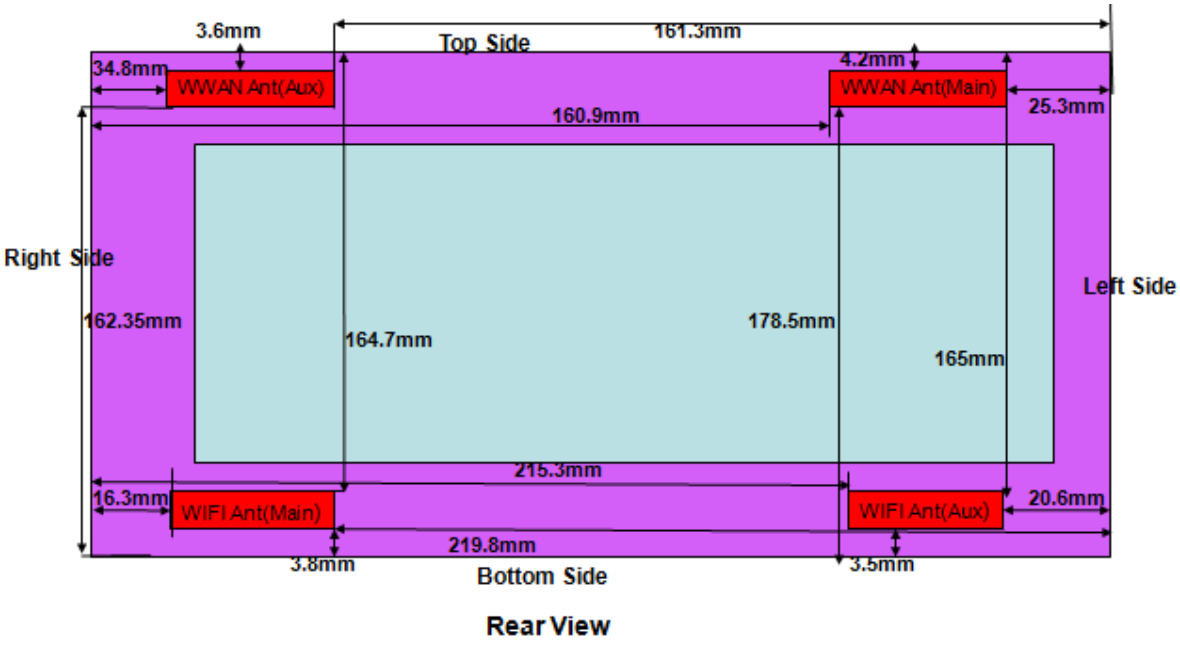
a) at 100 MHz to1500 MHz

[Power allowed at numeric Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · ($f_{(MHz)}$/150)] mW

b) at >1500MHz and ≤6GHz

[Power allowed at numeric Threshold at 50 mm in step 1) + (test separation distance - 50 mm) ·10] mW

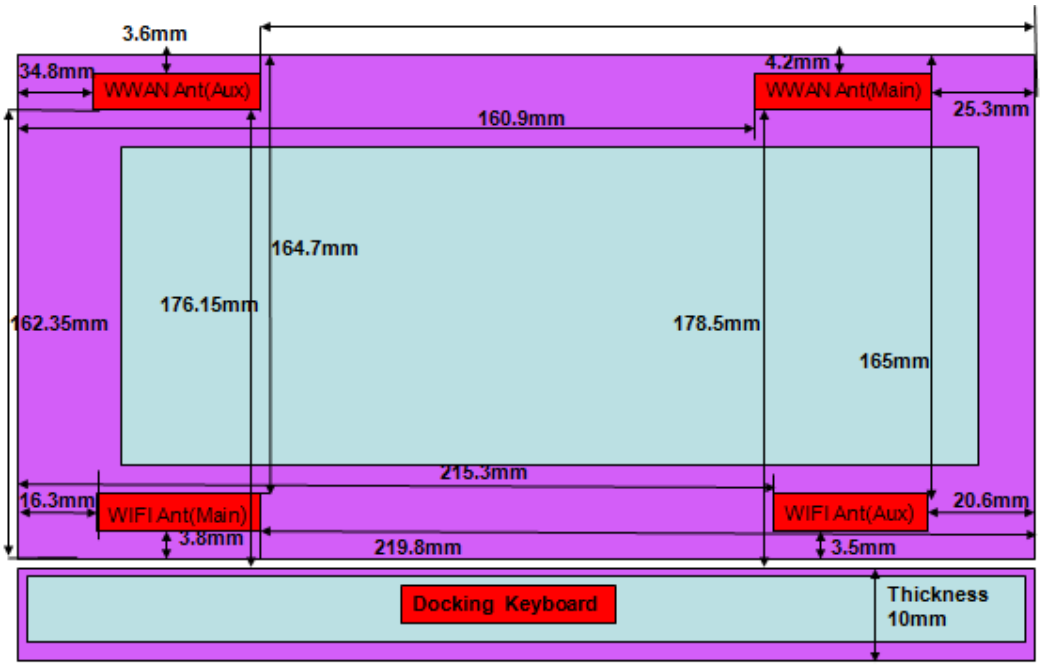
The location of the antenna for table mode is as below:



Antenna	Front Face	Rear Face	Right Side	Left Side	Top Side	Bottom Side
WWAN Main	5mm	5mm	160.9mm	25.3mm	4.2mm	178.5mm
WLAN Main	5mm	5mm	16.3mm	219.8mm	164.7mm	3.8mm
WLAN Aux	5mm	5mm	215.3mm	20.6mm	165mm	3.5mm

Note:
1) WWAN Aux is used to improve the acceptance of performance of the main antenna, it does not have a transmitter function.

The location of the antenna for notebook mode is as below:



Antenna	Bottom Side
WWAN Main	188.5mm
WLAN Main	13.8mm
WLAN Aux	13.5mm

The distance <50mm

WWAN Ant_Sensor off

Antennas ≦ 50mm to edges (100M~6G)									
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)			Calculated Threshold		
		dBm	mW	Rear	Left	Top	Rear	Left	Top
UMTS II	1907.6	24.0	251.2	5.0	25.3	4.2	11	55	9
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
UMTS IV	1752.6	24.0	251.2	5.0	25.3	4.2	11	57	10
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
UMTS V	846.4	24.0	251.2	5.0	25.3	4.2	16	83	14
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 2	1900	24.00	251.19	5.0	25.3	4.2	11	55	9
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 4	1745	24.00	251.19	5.0	25.3	4.2	11	57	10
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 5	844	24.00	251.19	5.0	25.3	4.2	16	83	14
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 7	2560	24.00	251.19	5.0	25.3	4.2	9	47	8
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 12	711	24.00	251.19	5.0	25.3	4.2	18	90	15
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 13	782	24.00	251.19	5.0	25.3	4.2	17	86	14
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 25	1905	24.00	251.19	5.0	25.3	4.2	11	55	9
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 26	842	24.00	251.19	5.0	25.3	4.2	16	83	14
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**
LTE 41	2593	24.00	251.19	5.0	25.3	4.2	9	47	8
Test Requirement(Yes/No)							**Yes**	**Yes**	**Yes**

WWAN Ant_Sensor on

Antennas ≦ 50mm to edges (100M~6G)							
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)		Calculated Threshold	
		dBm	mW	Rear	Top	Rear	Top
UMTS II	1907.6	19.0	79.4	5.0	4.2	11	9
Test Requirement(Yes/No)						**Yes**	**Yes**
UMTS IV	1752.6	19.0	79.4	5.0	4.2	11	10
Test Requirement(Yes/No)						**Yes**	**Yes**
UMTS V	846.4	19.0	79.4	5.0	4.2	16	14
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 2	1900	20.00	100.00	5.0	4.2	11	9
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 4	1745	19.00	79.43	5.0	4.2	11	10
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 7	2560	22.00	158.49	5.0	4.2	9	8
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 13	782	22.00	158.49	5.0	4.2	17	14
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 25	1905	18.00	63.10	5.0	4.2	11	9
Test Requirement(Yes/No)						**Yes**	**Yes**
LTE 41	2593	20.00	100.00	5.0	4.2	9	8
Test Requirement(Yes/No)						**Yes**	**Yes**

WLAN Main_Ant

Antennas ≦ 50mm to edges (100M~6G)											
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)				Calculated Threshold			
		dBm	mW	Rear	Front	Right	Bottom	Rear	Front	Right	Bottom
802.11b	2462	18.00	63.10	5.00	5.00	16.30	3.80	10	10	31	7
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5240	15.00	31.62	5.00	5.00	16.30	3.80	7	7	21	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5320	15.00	31.62	5.00	5.00	16.30	3.80	7	7	21	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5700	15.00	31.62	5.00	5.00	16.30	3.80	6	6	20	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5825	15.00	31.62	5.00	5.00	16.30	3.80	6	6	20	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**

WLAN Aux_Ant

Antennas ≦ 50mm to edges (100M~6G)											
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)				Calculated Threshold			
		dBm	mW	Rear	Front	Left	Bottom	Rear	Front	Left	Bottom
802.11b	2462	18.00	63.10	5.00	5.00	20.60	3.50	10	10	39	7
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
BT	2480	11.50	14.13	5.00	5.00	20.60	3.50	10	10	39	7
Test Requirement(Yes/No)								**Yes**	**Yes**	**NO**	**Yes**
802.11a	5240	15.00	31.62	5.00	5.00	20.60	3.50	7	7	27	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5320	15.00	31.62	5.00	5.00	20.60	3.50	7	7	27	5
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5700	15.00	31.62	5.00	5.00	20.60	3.50	6	6	26	4
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**
802.11a	5825	15.00	31.62	5.00	5.00	20.60	3.50	6	6	26	4
Test Requirement(Yes/No)								**Yes**	**Yes**	**Yes**	**Yes**

The distance >50mm

WWAM Ant_Sensor off

Antennas > 50mm edges (1500~6G)							
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)		Calculated Threshold	
		dBm	mW	Right	Bottom	Right	Bottom
UMTS II	1907.6	24.0	251.2	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
UMTS IV	1752.6	24.0	251.2	160.9	178.5	1222	1398
Test Requirement(Yes/No)						**NO**	**NO**
UMTS V	846.4	24.0	251.2	160.9	178.5	1272	1448
Test Requirement(Yes/No)						**NO**	**NO**
LTE 2	1900	24.00	251.19	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
LTE 4	1745	24.00	251.19	160.9	178.5	1223	1399
Test Requirement(Yes/No)						**NO**	**NO**
LTE 5	844	24.00	251.19	160.9	178.5	1272	1448
Test Requirement(Yes/No)						**NO**	**NO**
LTE 7	2560	24.00	251.19	160.9	178.5	1203	1379
Test Requirement(Yes/No)						**NO**	**NO**
LTE 12	711	24.00	251.19	160.9	178.5	1287	1463
Test Requirement(Yes/No)						**NO**	**NO**
LTE 13	782	24.00	251.19	160.9	178.5	1279	1455
Test Requirement(Yes/No)						**NO**	**NO**
LTE 25	1905	24.00	251.19	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
LTE 26	842	24.00	251.19	160.9	178.5	1273	1449
Test Requirement(Yes/No)						**NO**	**NO**
LTE 26	842	24.00	251.19	160.9	178.5	1273	1449
Test Requirement(Yes/No)						**NO**	**NO**
LTE 41	2593	24.00	251.19	160.9	178.5	1202	1378
Test Requirement(Yes/No)						**NO**	**NO**

WWAM Ant_Sensor on

Antennas > 50mm edges (1500~6G)							
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)		Calculated Threshold	
		dBm	mW	Right	Bottom	Right	Bottom
UMTS II	1907.6	19.0	79.4	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
UMTS IV	1752.6	19.0	79.4	160.9	178.5	1222	1398
Test Requirement(Yes/No)						**NO**	**NO**
UMTS V	846.4	19.0	79.4	160.9	178.5	1272	1448
Test Requirement(Yes/No)						**NO**	**NO**
LTE 2	1900	20.00	100.00	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
LTE 4	1745	19.00	79.43	160.9	178.5	1223	1399
Test Requirement(Yes/No)						**NO**	**NO**
LTE 7	2560	22.00	158.49	160.9	178.5	1203	1379
Test Requirement(Yes/No)						**NO**	**NO**
LTE 13	782	22.00	158.49	160.9	178.5	1279	1455
Test Requirement(Yes/No)						**NO**	**NO**
LTE 25	1905	18.00	63.10	160.9	178.5	1218	1394
Test Requirement(Yes/No)						**NO**	**NO**
LTE 41	2593	20.00	100.00	160.9	178.5	1273	1449
Test Requirement(Yes/No)						**NO**	**NO**

WLAN Main_Ant

Antennas > 50mm edges (1500~6G)							
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)		Calculated Threshold	
		dBm	mW	Left	Top	Left	Top
802.11b	2462	18.00	63.10	219.80	164.70	1794	1243
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5240	15.00	31.62	219.80	164.70	1764	1213
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5320	15.00	31.62	219.80	164.70	1763	1212
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5700	15.00	31.62	219.80	164.70	1761	1210
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5825	15.00	31.62	219.80	164.70	1760	1209
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5800	10.02	10.05	55.00	50.80	112	70
Test Requirement(Yes/No)						**NO**	**NO**

WLAN Aux_Ant

Antennas > 50mm edges (1500~6G)							
Radio	Frq. (MHz)	Tune-up Power		Separation distances (mm)		Calculated Threshold	
		dBm	mW	Right	Top	Right	Top
802.11b	2462	18.00	63.10	215.30	165.00	1749	1246
Test Requirement(Yes/No)						**NO**	**NO**
BT	2480	11.50	14.13	215.30	165.00	1748	1245
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5240	15.00	31.62	215.30	165.00	1719	1216
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5320	15.00	31.62	215.30	165.00	1718	1215
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5700	15.00	31.62	215.30	165.00	1716	1213
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5825	15.00	31.62	215.30	165.00	1715	1212
Test Requirement(Yes/No)						**NO**	**NO**
802.11a	5800	10.02	10.05	215.30	165.00	1715	1212
Test Requirement(Yes/No)						**NO**	**NO**

8.TEST RESULT

8.1CONDUCTED POWER RESULTS

8.1.1 SENSOR OFF CONDUCTED POWER MEASUREMENTS OF UMTS

Band	UMTS II				UMTS IV				UMTS V			
Tx Channel	Max.	9262	9400	9538	Max.	1312	1413	1513	Max.	4132	4182	4233
Rx Channel	Tune-up	9662	9800	9938	Tune-up	1537	1638	1738	Tune-up	4357	4407	4458
Frequency	Power	1852.4	1880	1907.6	Power	1712.4	1732.6	1752.6	Power	826.4	836.4	846.6
RMC 12.2K	24.00	23.66	23.51	23.45	24.00	23.67	23.56	23.53	24.00	22.98	22.80	22.97
HSDPA Subtest-1	23.00	22.32	22.40	22.47	23.00	22.55	22.28	22.40	23.00	21.78	21.65	21.77
HSDPA Subtest-2	23.00	22.35	22.41	22.50	23.00	22.62	22.31	22.43	23.00	21.75	21.62	21.72
HSDPA Subtest-3	22.50	21.83	21.96	21.95	22.50	22.12	21.85	21.94	22.50	21.45	21.36	21.43
HSDPA Subtest-4	22.50	21.86	21.91	21.96	22.50	22.11	21.87	21.97	22.50	21.51	21.44	21.45
HSUPA Subtest-1	23.00	22.61	22.56	22.47	23.00	22.59	22.30	22.42	23.00	22.01	21.80	21.91
HSUPA Subtest-2	22.50	22.01	22.02	21.93	22.50	22.17	21.94	21.91	22.50	21.47	21.41	21.39
HSUPA Subtest-3	23.00	22.68	22.53	22.54	23.00	22.72	22.55	22.52	23.00	21.97	21.82	21.88
HSUPA Subtest-4	23.00	22.62	22.48	22.50	23.00	22.68	22.50	22.45	23.00	21.95	21.76	21.84
HSUPA Subtest-5	23.00	22.63	22.50	22.48	23.00	22.69	22.53	22.50	23.00	21.95	21.82	21.89
DC-HSDPA Subtest-1	23.00	22.32	22.40	22.47	23.00	22.55	22.28	22.40	23.00	21.78	21.65	21.77
DC-HSDPA Subtest-2	23.00	22.35	22.41	22.50	23.00	22.62	22.31	22.43	23.00	21.75	21.62	21.72
DC-HSDPA Subtest-3	22.50	21.83	21.96	21.95	22.50	22.12	21.85	21.94	22.50	21.45	21.36	21.43
DC-HSDPA Subtest-4	22.50	21.86	21.91	21.96	22.50	22.11	21.87	21.97	22.50	21.51	21.44	21.45

8.1.2 SENSOR ON CONDUCTED POWER MEASUREMENTS OF UMTS

Band	UMTS II				UMTS IV			
Tx Channel	Max. Tune-up Power	9262	9400	9538	Max. Tune-up Power	1312	1413	1513
Rx Channel		9662	9800	9938		1537	1638	1738
Frequency		1852.4	1880	1907.6		1712.4	1732.6	1752.6
RMC 12.2K	19.00	18.32	18.38	18.23	19.00	18.26	18.19	18.18
RMC 64K	19.00	18.42	18.44	18.29	19.00	18.32	18.21	18.20
RMC 144K	19.00	18.42	18.45	18.29	19.00	18.34	18.20	18.23
RMC 384K	19.00	18.41	18.44	18.30	19.00	18.33	18.21	18.24
HSDPA Subtest-1	18.00	17.26	17.31	17.31	18.00	17.26	17.14	17.12
HSDPA Subtest-2	18.00	17.29	17.33	17.30	18.00	17.27	17.13	17.14
HSDPA Subtest-3	17.50	16.79	16.84	16.84	17.50	16.76	16.66	16.63
HSDPA Subtest-4	17.50	16.81	16.84	16.84	17.50	16.77	16.64	16.63
HSUPA Subtest-1	18.00	16.99	17.03	16.99	18.00	16.67	16.50	16.56
HSUPA Subtest-2	17.50	16.39	16.39	16.33	17.50	16.32	16.15	16.22
HSUPA Subtest-3	17.50	15.68	15.72	15.65	17.50	15.67	15.51	15.62
HSUPA Subtest-4	18.00	16.88	16.97	16.82	18.00	16.82	16.67	16.70
HSUPA Subtest-5	18.00	17.38	17.33	17.29	18.00	17.31	17.18	17.21
DC-HSDPA Subtest-1	18.00	17.25	17.29	17.30	18.00	17.26	17.14	17.12
DC-HSDPA Subtest-2	18.00	17.29	17.32	17.30	18.00	17.27	17.13	17.14
DC-HSDPA Subtest-3	17.50	16.77	16.80	16.81	17.50	16.76	16.66	16.63
DC-HSDPA Subtest-4	17.50	16.79	16.81	16.82	17.50	16.77	16.64	16.63

8.1.3 SENSOR OFF CONDUCTED POWER MEASUREMENTS OF LTE

LTE FDD Band 2

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18607	18900	19193
					1850.7	1880	1909.3
					MHz	MHz	MHz
2 / 1.4M	QPSK	1	0	24.00	22.72	22.74	22.83
		1	2	24.00	22.75	22.66	22.74
		1	5	24.00	22.64	22.91	22.77
		3	0	24.00	22.59	22.61	22.68
		3	1	24.00	22.64	22.73	22.77
		3	3	24.00	22.67	22.77	22.78
		6	0	23.00	21.69	21.73	21.74
	16QAM	1	0	23.00	21.94	22.20	21.96
		1	2	23.00	22.07	22.27	22.13
		1	5	23.00	22.15	22.28	22.04
		3	0	23.00	21.81	21.95	22.01
		3	1	23.00	21.87	22.01	22.06
		3	3	23.00	21.90	22.04	22.05
		6	0	22.00	20.89	20.72	21.05
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18615	18900	19185
					1851.5	1880	1908.5
					MHz	MHz	MHz
2 / 3M	QPSK	1	0	24.00	22.89	22.92	22.96
		1	7	24.00	22.89	22.93	22.85
		1	14	24.00	22.90	22.98	22.97
		8	0	23.00	21.74	21.80	21.84
		8	3	23.00	21.78	21.83	21.90
		8	7	23.00	21.77	21.85	21.86
		15	0	23.00	21.75	21.78	21.86
	16QAM	1	0	23.00	21.77	22.38	21.94
		1	7	23.00	21.77	22.29	22.09
		1	14	23.00	21.77	22.39	21.98
		8	0	22.00	20.89	20.92	20.84
		8	3	22.00	20.91	20.95	20.90
		8	7	22.00	20.91	20.92	20.93
		15	0	22.00	20.84	20.87	20.84

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18625	18900	19175
					1852.5	1880	1907.5
					MHz	MHz	MHz
2 / 5M	QPSK	1	0	24.00	22.93	22.81	22.95
		1	12	24.00	22.90	22.95	22.96
		1	24	24.00	22.89	22.77	22.93
		12	0	23.00	21.74	21.71	21.81
		12	6	23.00	21.84	21.82	21.86
		12	13	23.00	21.79	21.84	21.91
		25	0	23.00	21.82	21.80	21.81
	16QAM	1	0	23.00	21.94	22.33	22.03
		1	12	23.00	22.06	22.42	22.21
		1	24	23.00	21.94	22.30	22.06
		12	0	22.00	20.86	20.93	20.90
		12	6	22.00	20.92	20.95	20.97
		12	13	22.00	20.89	20.99	20.92
		25	0	22.00	20.86	20.86	20.77
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18650	18900	19150
					1855	1880	1905
					MHz	MHz	MHz
2 / 10M	QPSK	1	0	24.00	22.90	22.96	22.94
		1	24	24.00	22.91	22.90	22.86
		1	49	24.00	22.84	22.94	22.90
		25	0	23.00	21.74	21.74	21.84
		25	12	23.00	21.79	21.86	21.86
		25	25	23.00	21.75	21.71	21.86
		50	0	23.00	21.72	21.74	21.79
	16QAM	1	0	23.00	21.94	22.12	22.70
		1	24	23.00	21.81	22.17	21.97
		1	49	23.00	21.80	22.14	22.14
		25	0	22.00	20.76	20.77	20.91
		25	12	22.00	20.87	20.92	20.92
		25	25	22.00	20.81	20.73	20.87
		50	0	22.00	20.72	20.75	20.81

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18675	18900	19125
					1857.5	1880	1902.5
					MHz	MHz	MHz
2 / 15M	QPSK	1	0	24.00	22.80	22.88	22.98
		1	37	24.00	22.70	22.88	22.96
		1	74	24.00	22.49	22.86	22.80
		36	0	23.00	21.71	22.86	21.81
		36	19	23.00	21.77	21.79	21.94
		36	39	23.00	21.61	21.85	21.87
		75	0	23.00	21.62	21.77	21.79
	16QAM	1	0	23.00	21.63	22.11	22.36
		1	37	23.00	21.56	22.16	22.55
		1	74	23.00	21.49	22.10	22.11
		36	0	22.00	20.72	20.01	20.75
		36	19	22.00	20.80	20.81	20.87
		36	39	22.00	20.68	20.86	20.81
		75	0	22.00	20.66	20.73	20.78
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18700	18900	19100
					1860	1880	1900
					MHz	MHz	MHz
2 / 20M	QPSK	1	0	24.00	22.87	22.90	22.96
		1	50	24.00	22.91	22.67	22.99
		1	99	24.00	22.68	22.74	22.82
		50	0	23.00	21.84	21.82	21.98
		50	25	23.00	21.81	21.98	21.99
		50	50	23.00	21.67	21.89	21.96
		100	0	23.00	21.76	21.92	22.01
	16QAM	1	0	23.00	22.29	22.31	22.25
		1	50	23.00	22.44	22.73	22.33
		1	99	23.00	22.13	22.09	22.11
		50	0	22.00	20.89	20.80	20.90
		50	25	22.00	20.85	20.96	20.94
		50	50	22.00	20.73	20.89	20.94
		100	0	22.00	20.79	20.94	21.00

LTE FDD Band 4

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					19957	20175	20393
					1710.7	1732.5	1754.3
					MHz	MHz	MHz
4 / 1.4M	QPSK	1	0	24.00	23.12	23.02	23.20
		1	2	24.00	23.07	23.08	22.90
		1	5	24.00	23.20	22.97	23.23
		3	0	24.00	22.90	22.85	22.84
		3	1	24.00	22.99	22.92	22.87
		3	3	24.00	23.05	22.96	22.92
		6	0	23.00	22.02	21.87	21.80
	16QAM	1	0	23.00	22.36	22.42	21.92
		1	2	23.00	22.37	22.42	22.11
		1	5	23.00	22.54	22.23	21.99
		3	0	23.00	22.10	22.01	21.92
		3	1	23.00	22.23	22.06	21.97
		3	3	23.00	22.34	22.13	21.99
		6	0	22.00	21.14	20.78	20.97
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					19965	20175	20385
					1711.5	1732.5	1753.5
					MHz	MHz	MHz
4 / 3M	QPSK	1	0	24.00	23.13	23.19	22.94
		1	7	24.00	23.18	23.11	22.88
		1	14	24.00	23.32	23.14	22.94
		8	0	23.00	22.09	21.93	21.83
		8	3	23.00	22.11	21.87	21.86
		8	7	23.00	22.06	21.93	21.85
		15	0	23.00	22.11	21.92	21.86
	16QAM	1	0	23.00	22.11	22.56	22.09
		1	7	23.00	22.21	22.42	22.09
		1	14	23.00	22.29	22.43	21.99
		8	0	22.00	21.18	20.99	20.77
		8	3	22.00	21.15	20.86	20.84
		8	7	22.00	21.15	20.94	20.82
		15	0	22.00	21.13	20.92	20.73

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					19975	20175	20375
					1712.5	1732.5	1752.5
					MHz	MHz	MHz
4 / 5M	QPSK	1	0	24.00	23.28	23.02	23.11
		1	12	24.00	23.35	23.10	23.19
		1	24	24.00	23.37	23.08	23.16
		12	0	23.00	22.10	21.93	21.93
		12	6	23.00	22.16	21.96	21.99
		12	13	23.00	22.08	21.94	21.94
		25	0	23.00	22.15	21.81	21.92
	16QAM	1	0	23.00	22.31	22.56	22.06
		1	12	23.00	22.48	22.53	22.24
		1	24	23.00	22.42	22.59	22.13
		12	0	22.00	21.13	21.07	20.96
		12	6	22.00	21.20	21.06	20.98
		12	13	22.00	21.14	21.06	20.94
		25	0	22.00	21.13	20.84	20.83
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20000	20175	20350
					1715	1732.5	1750
					MHz	MHz	MHz
4 / 10M	QPSK	1	0	24.00	23.10	23.21	22.96
		1	24	24.00	23.18	23.09	22.86
		1	49	24.00	23.16	23.06	22.83
		25	0	23.00	22.10	21.97	21.89
		25	12	23.00	22.11	21.89	21.80
		25	25	23.00	22.10	21.91	21.83
		50	0	23.00	22.12	21.90	21.77
	16QAM	1	0	23.00	22.29	22.25	22.44
		1	24	23.00	22.23	22.34	21.97
		1	49	23.00	22.45	22.26	22.13
		25	0	22.00	21.07	20.87	20.96
		25	12	22.00	21.12	20.89	20.86
		25	25	22.00	21.09	20.86	20.83
		50	0	22.00	21.07	20.90	20.77

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20025	20175	20325
					1717.5	1732.5	1747.5
					MHz	MHz	MHz
4 / 15M	QPSK	1	0	24.00	23.10	23.11	22.95
		1	37	24.00	23.11	22.99	22.91
		1	74	24.00	22.89	22.88	22.84
		36	0	23.00	22.10	22.88	21.91
		36	19	23.00	22.12	22.03	21.94
		36	39	23.00	22.06	21.90	21.88
		75	0	23.00	22.06	21.95	21.86
	16QAM	1	0	23.00	22.11	22.32	22.46
		1	37	23.00	22.18	22.26	22.45
		1	74	23.00	21.96	22.19	22.33
		36	0	22.00	21.06	21.97	20.89
		36	19	22.00	21.08	21.01	20.85
		36	39	22.00	20.98	20.88	20.79
		75	0	22.00	21.05	20.92	20.81
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20050	20175	20300
					1720	1732.5	1745
					MHz	MHz	MHz
4 / 20M	QPSK	1	0	24.00	23.10	22.88	22.93
		1	50	24.00	23.18	22.12	23.00
		1	99	24.00	23.06	22.75	22.74
		50	0	23.00	21.99	22.06	21.88
		50	25	23.00	22.13	22.02	21.94
		50	50	23.00	22.12	21.90	21.83
		100	0	23.00	22.02	21.90	21.89
	16QAM	1	0	23.00	22.75	22.82	22.22
		1	50	23.00	22.86	21.12	22.30
		1	99	23.00	22.59	22.20	22.07
		50	0	22.00	21.05	21.00	20.83
		50	25	22.00	21.15	20.98	20.87
		50	50	22.00	21.12	20.85	20.75
		100	0	22.00	21.06	20.87	20.87

LTE FDD Band 5

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20407	20525	20643
					824.7	836.5	848.3
					MHz	MHz	MHz
5 / 1.4M	QPSK	1	0	24.00	22.91	22.72	22.76
		1	2	24.00	22.77	22.80	22.64
		1	5	24.00	22.90	22.72	22.80
		3	0	24.00	22.63	22.58	22.61
		3	1	24.00	22.69	22.52	22.67
		3	3	24.00	22.63	22.55	22.69
		6	0	23.00	21.55	21.45	21.57
	16QAM	1	0	23.00	21.76	21.81	22.01
		1	2	23.00	22.08	21.73	22.17
		1	5	23.00	21.75	21.82	22.03
		3	0	23.00	21.78	21.52	21.84
		3	1	23.00	21.78	21.60	21.86
		3	3	23.00	21.81	21.61	21.89
		6	0	22.00	20.80	20.63	20.52
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20415	20525	20635
					825.5	836.5	847.5
					MHz	MHz	MHz
5 / 3M	QPSK	1	0	24.00	22.62	22.57	22.53
		1	7	24.00	22.63	22.87	22.66
		1	14	24.00	22.57	22.75	22.70
		8	0	23.00	21.54	21.48	21.56
		8	3	23.00	21.53	21.56	21.63
		8	7	23.00	21.40	21.54	21.65
		15	0	23.00	21.51	21.49	21.61
	16QAM	1	0	23.00	21.65	22.09	21.68
		1	7	23.00	21.53	22.02	21.83
		1	14	23.00	21.56	22.12	21.68
		8	0	22.00	20.65	20.55	20.54
		8	3	22.00	20.69	20.62	20.67
		8	7	22.00	20.61	20.57	20.72
		15	0	22.00	20.62	20.55	20.56

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20425	20525	20625
					826.5	836.5	846.5
					MHz	MHz	MHz
5 / 5M	QPSK	1	0	24.00	22.70	22.56	22.58
		1	12	24.00	22.70	22.71	22.74
		1	24	24.00	22.55	22.50	22.74
		12	0	23.00	21.50	21.43	21.47
		12	6	23.00	21.55	21.54	21.49
		12	13	23.00	21.54	21.49	21.54
		25	0	23.00	21.53	21.43	21.46
	16QAM	1	0	23.00	21.80	22.09	21.57
		1	12	23.00	21.77	22.18	21.75
		1	24	23.00	21.50	22.08	21.78
		12	0	22.00	20.67	20.57	20.51
		12	6	22.00	20.65	20.70	20.59
		12	13	22.00	20.61	20.63	20.60
		25	0	22.00	20.57	20.49	20.46
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20450	20525	20600
					829	836.5	844
					MHz	MHz	MHz
5 / 10M	QPSK	1	0	24.00	22.65	22.68	22.51
		1	24	24.00	22.53	22.72	22.51
		1	49	24.00	22.40	22.63	22.54
		25	0	23.00	21.49	21.40	21.50
		25	12	23.00	21.42	21.51	21.51
		25	25	23.00	21.42	21.48	21.46
		50	0	23.00	21.43	21.49	21.50
	16QAM	1	0	23.00	21.75	21.80	21.77
		1	24	23.00	21.50	21.95	21.66
		1	49	23.00	21.62	21.85	21.86
		25	0	22.00	20.56	20.42	20.65
		25	12	22.00	20.48	20.57	20.60
		25	25	22.00	20.45	20.52	20.52
		50	0	22.00	20.40	20.52	20.56

LTE FDD Band 7

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20775	21100	21425
					2502.5	2535	2567.5
					MHz	MHz	MHz
7 / 5M	QPSK	1	0	23.00	21.45	21.70	21.31
		1	12	23.00	21.60	21.73	21.40
		1	24	23.00	21.61	21.64	21.31
		12	0	22.00	20.53	20.65	20.41
		12	6	22.00	20.49	20.70	20.45
		12	13	22.00	20.55	20.69	20.42
		25	0	22.00	20.57	20.66	20.39
	16QAM	1	0	22.00	20.66	21.33	20.42
		1	12	22.00	20.89	21.35	20.62
		1	24	22.00	20.79	21.33	20.49
		12	0	21.00	19.57	19.68	19.44
		12	6	21.00	19.51	19.76	19.41
		12	13	21.00	19.54	19.72	19.43
		25	0	21.00	19.52	19.61	19.31
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20800	21100	21400
					2505	2535	2565
					MHz	MHz	MHz
7 / 10M	QPSK	1	0	23.00	21.38	21.56	21.13
		1	24	23.00	21.30	21.63	21.11
		1	49	23.00	21.26	21.49	21.09
		25	0	22.00	20.52	20.62	20.33
		25	12	22.00	20.47	20.60	20.33
		25	25	22.00	20.38	20.62	20.29
		50	0	22.00	20.45	20.55	20.26
	16QAM	1	0	22.00	20.46	21.00	20.86
		1	24	22.00	20.49	21.04	20.60
		1	49	22.00	20.76	20.94	20.89
		25	0	21.00	19.52	19.69	19.44
		25	12	21.00	19.52	19.77	19.49
		25	25	21.00	19.37	19.74	19.47
		50	0	21.00	19.43	19.68	19.41

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20825	21100	21375
					2507.5	2535	2562.5
					MHz	MHz	MHz
7 / 15M	QPSK	1	0	23.00	21.19	21.48	21.11
		1	37	23.00	21.44	21.56	21.27
		1	74	23.00	21.29	21.33	21.02
		36	0	22.00	20.55	20.58	20.34
		36	19	22.00	20.59	20.63	20.46
		36	39	22.00	20.44	20.54	20.37
		75	0	22.00	20.50	20.52	20.37
	16QAM	1	0	22.00	20.32	20.86	20.70
		1	37	22.00	20.47	20.93	20.82
		1	74	22.00	20.26	20.72	20.64
		36	0	21.00	19.52	19.62	19.33
		36	19	21.00	19.58	19.65	19.40
		36	39	21.00	19.47	19.57	19.37
		75	0	21.00	19.51	19.56	19.38
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20850	21100	21350
					2510	2535	2560
					MHz	MHz	MHz
7 / 20M	QPSK	1	0	23.00	21.53	21.67	21.44
		1	50	23.00	21.69	21.76	21.64
		1	99	23.00	21.53	21.44	21.38
		50	0	22.00	20.69	20.77	20.54
		50	25	22.00	20.68	20.86	20.55
		50	50	22.00	20.68	20.74	20.52
		100	0	22.00	20.68	20.81	20.49
	16QAM	1	0	22.00	21.25	21.50	20.85
		1	50	22.00	21.39	21.63	20.88
		1	99	22.00	20.99	21.29	20.68
		50	0	21.00	19.74	19.73	19.53
		50	25	21.00	19.72	19.83	19.54
		50	50	21.00	19.73	19.77	19.49
		100	0	21.00	19.72	19.84	19.52

LTE FDD Band 12

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23017	23095	23173
					699.7	707.5	715.3
					MHz	MHz	MHz
12 / 1.4M	QPSK	1	0	24.00	23.26	23.22	23.12
		1	2	24.00	23.30	23.04	23.00
		1	5	24.00	23.27	23.31	23.14
		3	0	24.00	23.13	22.92	22.89
		3	1	24.00	23.14	22.98	22.93
		3	3	24.00	23.16	23.08	22.94
		6	0	23.00	22.10	21.88	21.85
	16QAM	1	0	23.00	22.11	22.19	22.26
		1	2	23.00	22.47	22.04	22.36
		1	5	23.00	22.14	22.20	22.33
		3	0	23.00	22.24	21.91	21.99
		3	1	23.00	22.20	21.95	22.03
		3	3	23.00	22.26	22.05	22.05
		6	0	22.00	21.24	20.93	20.74
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23025	23095	23165
					700.5	707.5	714.5
					MHz	MHz	MHz
12 / 3M	QPSK	1	0	24.00	23.30	23.04	23.10
		1	7	24.00	23.42	23.33	22.95
		1	14	24.00	23.33	22.97	22.96
		8	0	23.00	22.20	21.97	22.01
		8	3	23.00	22.21	22.05	21.91
		8	7	23.00	22.16	21.96	21.94
		15	0	23.00	22.12	21.97	22.03
	16QAM	1	0	23.00	22.21	22.51	22.26
		1	7	23.00	22.23	22.46	22.30
		1	14	23.00	22.15	22.46	22.16
		8	0	22.00	21.22	21.00	21.03
		8	3	22.00	21.23	21.03	20.89
		8	7	22.00	21.19	20.94	20.91
		15	0	22.00	21.15	20.98	20.85

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23035	23095	23155
					701.5	707.5	713.5
					MHz	MHz	MHz
12 / 5M	QPSK	1	0	24.00	23.33	23.03	23.11
		1	12	24.00	23.37	23.11	23.23
		1	24	24.00	23.21	22.92	23.01
		12	0	23.00	22.05	21.93	21.87
		12	6	23.00	22.16	21.94	21.99
		12	13	23.00	22.11	21.96	21.94
		25	0	23.00	22.12	21.93	21.85
	16QAM	1	0	23.00	22.22	22.58	22.13
		1	12	23.00	22.31	22.58	22.29
		1	24	23.00	22.15	22.47	22.01
		12	0	22.00	21.14	21.04	20.90
		12	6	22.00	21.13	21.05	21.07
		12	13	22.00	21.15	21.03	20.93
		25	0	22.00	21.10	20.94	20.77
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23060	23095	23130
					704	707.5	711
					MHz	MHz	MHz
12 / 10M	QPSK	1	0	24.00	23.19	23.24	23.06
		1	24	24.00	23.14	23.28	23.08
		1	49	24.00	22.97	23.14	22.87
		25	0	23.00	22.14	22.00	21.99
		25	12	23.00	22.08	21.96	21.96
		25	25	23.00	22.00	21.96	21.93
		50	0	23.00	22.05	21.94	21.95
	16QAM	1	0	23.00	22.36	22.40	22.35
		1	24	23.00	22.08	22.40	22.48
		1	49	23.00	22.14	22.31	22.35
		25	0	22.00	21.14	21.02	21.05
		25	12	22.00	21.06	20.99	21.08
		25	25	22.00	21.00	20.93	21.06
		50	0	22.00	20.95	20.90	20.96

LTE FDD Band 13

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23205	23230	23255
					779.5	782	784.5
					MHz	MHz	MHz
13 / 5M	QPSK	1	0	24.00	22.92	22.93	22.90
		1	12	24.00	23.00	22.93	22.94
		1	24	24.00	22.81	22.87	22.88
		12	0	23.00	21.77	21.68	21.74
		12	6	23.00	21.81	21.74	21.76
		12	13	23.00	21.70	21.72	21.74
		25	0	23.00	21.78	21.67	21.78
	16QAM	1	0	23.00	21.85	21.88	22.36
		1	12	23.00	22.03	21.94	22.39
		1	24	23.00	21.82	21.87	22.47
		12	0	22.00	20.79	20.80	20.87
		12	6	22.00	20.88	20.83	20.85
		12	13	22.00	20.75	20.79	20.88
		25	0	22.00	20.77	20.74	20.84

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Mid CH
					23230
					782
					MHz
13 / 10M	QPSK	1	0	24.00	22.77
		1	24	24.00	22.91
		1	49	24.00	22.75
		25	0	23.00	21.76
		25	12	23.00	21.79
		25	25	23.00	21.70
		50	0	23.00	21.85
	16QAM	1	0	23.00	21.93
		1	24	23.00	21.92
		1	49	23.00	22.06
		25	0	22.00	20.78
		25	12	22.00	20.84
		25	25	22.00	20.74
		50	0	22.00	20.79

LTE FDD Band 25

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26047	26365	26683
					1850.7	1882.5	1914.3
					MHz	MHz	MHz
25 / 1.4M	QPSK	1	0	24.00	23.39	23.48	23.56
		1	2	24.00	23.35	23.55	23.42
		1	5	24.00	23.46	23.46	23.50
		3	0	24.00	23.21	23.33	23.34
		3	1	24.00	23.32	23.33	23.33
		3	3	24.00	23.21	23.36	23.37
		6	0	23.00	22.37	22.31	22.31
	16QAM	1	0	23.00	22.49	22.71	22.48
		1	2	23.00	22.69	22.83	22.62
		1	5	23.00	22.65	22.64	22.47
		3	0	23.00	22.50	22.65	22.47
		3	1	23.00	22.59	22.68	22.44
		3	3	23.00	22.61	22.72	22.51
		6	0	22.00	21.50	21.27	21.51
Band / BW	**Modulation**	**RB Sizet**	**RB Offset**	**Max. Tune-up Power**	**Low CH**	**Mid CH**	**High CH**
					26055	**26365**	**26675**
					1851.5	**1882.5**	**1913.5**
					MHz	**MHz**	**MHz**
25 / 3M	QPSK	1	0	24.00	23.31	23.76	23.36
		1	7	24.00	23.36	23.67	23.22
		1	14	24.00	23.27	23.68	23.31
		8	0	23.00	22.34	22.34	22.29
		8	3	23.00	22.41	22.39	22.39
		8	7	23.00	22.22	22.38	22.29
		15	0	23.00	22.38	22.37	22.39
	16QAM	1	0	23.00	22.54	22.88	22.46
		1	7	23.00	22.49	22.82	22.55
		1	14	23.00	22.31	22.99	22.41
		8	0	22.00	21.49	21.50	21.29
		8	3	22.00	21.56	21.49	21.38
		8	7	22.00	21.42	21.51	21.36
		15	0	22.00	21.44	21.45	21.42

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26065	26365	26665
					1852.5	1882.5	1912.5
					MHz	MHz	MHz
25 / 5M	QPSK	1	0	24.00	23.44	23.48	23.55
		1	12	24.00	23.61	23.80	23.65
		1	24	24.00	23.42	23.61	23.50
		12	0	23.00	22.29	22.35	22.42
		12	6	23.00	22.36	22.38	22.44
		12	13	23.00	22.27	22.36	22.52
		25	0	23.00	22.36	22.34	22.48
	16QAM	1	0	23.00	22.54	22.75	22.58
		1	12	23.00	22.79	22.75	22.71
		1	24	23.00	22.61	22.78	22.53
		12	0	22.00	21.46	21.56	21.42
		12	6	22.00	21.44	21.59	21.46
		12	13	22.00	21.42	21.53	21.48
		25	0	22.00	21.36	21.43	21.40
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26090	26365	26640
					1855	1882.5	1910
					MHz	MHz	MHz
25 / 10M	QPSK	1	0	24.00	23.51	23.78	23.55
		1	24	24.00	23.25	23.64	23.49
		1	49	24.00	23.27	23.55	23.39
		25	0	23.00	22.27	22.34	22.33
		25	12	23.00	22.30	22.41	22.54
		25	25	23.00	22.25	22.39	22.48
		50	0	23.00	22.29	22.35	22.44
	16QAM	1	0	23.00	22.51	22.79	22.56
		1	24	23.00	22.33	22.77	22.08
		1	49	23.00	22.38	22.76	22.72
		25	0	22.00	21.32	21.39	21.44
		25	12	22.00	21.34	21.47	21.46
		25	25	22.00	21.29	21.41	21.48
		50	0	22.00	21.28	21.42	21.47

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26115	26365	26615
					1857.5	1882.5	1907.5
					MHz	MHz	MHz
25 / 15M	QPSK	1	0	24.00	23.15	23.40	23.49
		1	37	24.00	23.10	23.36	23.58
		1	74	24.00	22.98	23.32	23.25
		36	0	23.00	22.17	22.72	22.39
		36	19	23.00	22.27	22.28	22.52
		36	39	23.00	22.22	22.22	22.35
		75	0	23.00	22.21	22.21	22.32
	16QAM	1	0	23.00	22.34	22.62	22.72
		1	37	23.00	22.07	22.64	22.53
		1	74	23.00	21.96	22.49	22.66
		36	0	22.00	21.19	21.79	21.27
		36	19	22.00	21.31	21.30	21.40
		36	39	22.00	21.24	21.25	21.36
		75	0	22.00	21.20	21.22	21.38
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26140	26365	26590
					1860	1882.5	1905
					MHz	MHz	MHz
25 / 20M	QPSK	1	0	24.00	23.43	23.29	23.55
		1	50	24.00	23.41	22.77	23.71
		1	99	24.00	23.20	23.20	23.27
		50	0	23.00	22.29	22.35	22.38
		50	25	23.00	22.40	22.38	22.40
		50	50	23.00	22.27	22.40	22.37
		100	0	23.00	22.37	22.33	22.48
	16QAM	1	0	23.00	22.96	22.56	22.88
		1	50	23.00	22.54	21.68	22.84
		1	99	23.00	22.65	22.76	22.56
		50	0	22.00	21.39	21.36	21.43
		50	25	22.00	21.46	21.38	21.49
		50	50	22.00	21.32	21.40	21.44
		100	0	22.00	21.36	21.31	21.68

LTE FDD Band 26

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26697	26865	27033
					814.7	831	848.3
					MHz	MHz	MHz
26 / 1.4M	QPSK	1	0	24.00	23.13	22.84	22.85
		1	2	24.00	23.16	22.80	22.96
		1	5	24.00	23.33	22.87	22.84
		3	0	24.00	23.09	22.62	22.70
		3	1	24.00	23.17	22.62	22.74
		3	3	24.00	23.12	22.61	22.77
		6	0	23.00	22.05	21.59	21.68
	16QAM	1	0	23.00	22.24	22.15	21.80
		1	2	23.00	22.38	22.21	21.98
		1	5	23.00	22.40	22.15	21.84
		3	0	23.00	22.12	21.90	21.85
		3	1	23.00	22.26	21.86	21.87
		3	3	23.00	22.17	21.89	21.90
		6	0	22.00	21.17	20.50	20.79
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26705	26865	27025
					815.5	831	847.5
					MHz	MHz	MHz
26 / 3M	QPSK	1	0	24.00	23.17	22.98	22.86
		1	7	24.00	23.13	22.89	22.77
		1	14	24.00	23.15	22.84	22.80
		8	0	23.00	22.07	21.68	21.73
		8	3	23.00	22.10	21.69	21.79
		8	7	23.00	22.05	21.72	21.76
		15	0	23.00	22.04	21.73	21.75
	16QAM	1	0	23.00	22.13	22.27	21.91
		1	7	23.00	22.20	22.13	21.87
		1	14	23.00	22.08	22.25	21.78
		8	0	22.00	21.14	20.72	20.72
		8	3	22.00	21.18	20.70	20.76
		8	7	22.00	21.10	20.74	20.74
		15	0	22.00	21.09	20.74	20.63

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26715	26865	27015
					816.5	831	846.5
					MHz	MHz	MHz
26 / 5M	QPSK	1	0	24.00	23.16	22.78	22.93
		1	12	24.00	23.26	22.83	22.99
		1	24	24.00	23.13	22.71	22.86
		12	0	23.00	22.07	21.60	21.66
		12	6	23.00	22.10	21.76	21.76
		12	13	23.00	21.99	21.61	21.72
		25	0	23.00	22.01	21.61	21.68
	16QAM	1	0	23.00	22.38	22.42	21.96
		1	12	23.00	22.46	22.30	21.97
		1	24	23.00	22.15	22.38	21.90
		12	0	22.00	21.21	20.68	20.68
		12	6	22.00	21.16	20.86	20.79
		12	13	22.00	21.07	20.69	20.75
		25	0	22.00	20.96	20.63	20.64
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26740	26865	26990
					819	831	844
					MHz	MHz	MHz
26 / 10M	QPSK	1	0	24.00	23.06	22.93	22.67
		1	24	24.00	23.06	23.12	22.81
		1	49	24.00	22.84	22.71	22.63
		25	0	23.00	21.96	21.70	21.71
		25	12	23.00	21.99	21.66	21.83
		25	25	23.00	21.86	21.62	21.69
		50	0	23.00	21.99	21.64	21.76
	16QAM	1	0	23.00	22.14	22.19	21.93
		1	24	23.00	22.07	22.05	22.02
		1	49	23.00	22.11	21.87	21.97
		25	0	22.00	20.96	20.68	20.77
		25	12	22.00	21.01	20.71	20.87
		25	25	22.00	20.87	20.66	20.72
		50	0	22.00	20.93	20.60	20.80

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26765	26865	26965
					821.5	831	841.5
					MHz	MHz	MHz
26 / 15M	QPSK	1	0	24.00	23.31	23.14	23.06
		1	37	24.00	23.12	23.01	23.08
		1	74	24.00	22.87	23.05	22.94
		36	0	23.00	22.17	22.85	21.91
		36	19	23.00	22.10	21.97	22.01
		36	39	23.00	21.93	21.83	21.97
		75	0	23.00	22.13	21.91	21.93
	16QAM	1	0	23.00	22.22	22.28	22.22
		1	37	23.00	22.03	22.18	22.26
		1	74	23.00	21.83	22.19	22.13
		36	0	22.00	21.08	21.99	20.91
		36	19	22.00	21.03	20.95	20.94
		36	39	22.00	20.91	20.81	20.88
		75	0	22.00	21.09	20.92	20.92

LTE TDD Band 41

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39675	40148	40620	41093	41565
					2498.5	2545.8	2593	2640.3	2687.5
					MHz	MHz	MHz	MHz	MHz
41 / 5M	QPSK	1	0	23.00	21.69	21.26	21.80	21.57	21.77
		1	12	23.00	21.91	21.51	22.01	21.81	21.91
		1	24	23.00	21.79	21.29	21.89	21.61	21.84
		12	0	22.00	20.72	20.22	20.70	20.63	20.69
		12	6	22.00	20.81	20.37	20.80	20.71	20.81
		12	13	22.00	20.83	20.41	20.72	20.56	20.82
		25	0	22.00	20.75	20.44	20.72	20.58	20.77
	16QAM	1	0	22.00	21.25	20.89	21.02	20.90	21.17
		1	12	22.00	21.43	21.06	21.13	20.95	21.53
		1	24	22.00	21.35	20.01	21.08	20.83	21.35
		12	0	21.00	19.88	19.71	19.79	19.73	19.68
		12	6	21.00	19.97	19.88	19.79	19.68	19.85
		12	13	21.00	19.95	19.92	19.78	19.66	19.79
		25	0	21.00	19.84	19.81	19.71	19.59	19.79
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39700	40160	40620	41080	41540
					2501	2547	2593	2639	2685
					MHz	MHz	MHz	MHz	MHz
41 / 10M	QPSK	1	0	23.00	21.64	21.44	21.94	22.03	21.79
		1	24	23.00	21.97	21.91	21.96	22.07	21.81
		1	49	23.00	21.85	21.76	21.89	22.02	21.90
		25	0	22.00	20.81	20.83	20.71	20.89	20.74
		25	12	22.00	20.92	20.92	20.75	20.92	20.73
		25	25	22.00	20.82	20.87	20.84	20.87	20.82
		50	0	22.00	20.88	20.91	20.74	20.89	20.64
	16QAM	1	0	22.00	21.29	21.31	21.24	21.22	21.33
		1	24	22.00	21.47	21.53	21.35	21.34	21.17
		1	49	22.00	21.57	21.60	21.18	21.21	21.32
		25	0	21.00	19.88	19.83	19.71	19.73	19.75
		25	12	21.00	19.97	19.90	19.76	19.66	19.75
		25	25	21.00	19.91	19.93	19.77	19.82	19.83
		50	0	21.00	19.86	19.88	19.78	19.82	19.65

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39725	40173	40620	41068	41515
					2503.5	2548.3	2593	2637.8	2682.5
					MHz	MHz	MHz	MHz	MHz
41 / 15M	QPSK	1	0	23.00	21.64	21.40	22.11	21.35	21.94
		1	37	23.00	21.88	21.63	21.95	21.31	21.93
		1	74	23.00	21.80	21.82	21.83	21.40	22.03
		36	0	22.00	20.90	20.86	20.83	20.74	20.90
		36	19	22.00	20.99	21.03	20.91	20.77	20.94
		36	39	22.00	20.88	20.95	20.84	20.83	20.82
		75	0	22.00	20.90	20.86	20.83	20.72	20.86
	16QAM	1	0	22.00	21.09	21.07	21.24	21.22	21.01
		1	37	22.00	21.16	21.11	21.33	21.32	21.19
		1	74	22.00	21.02	20.97	21.24	21.28	21.05
		36	0	21.00	19.90	19.91	19.85	19.79	19.92
		36	19	21.00	19.94	19.97	19.87	19.81	19.94
		36	39	21.00	19.86	19.88	19.81	19.88	19.86
		75	0	21.00	19.95	19.92	19.82	19.77	19.87
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39750	40185	40620	41055	41490
					2506	2549.5	2593	2636.5	2680
					MHz	MHz	MHz	MHz	MHz
41 / 20M	QPSK	1	0	23.00	21.66	22.11	21.76	22.08	21.83
		1	50	23.00	21.76	21.85	21.88	21.92	21.76
		1	99	23.00	21.73	21.92	21.65	21.88	21.58
		50	0	22.00	20.78	20.91	20.89	20.92	20.91
		50	25	22.00	20.96	21.01	20.91	20.99	20.88
		50	50	22.00	20.81	20.98	20.83	20.97	20.80
		100	0	22.00	20.85	20.94	20.86	20.95	20.83
	16QAM	1	0	22.00	21.79	21.24	21.08	21.24	21.13
		1	50	22.00	21.60	21.37	21.43	21.35	21.30
		1	99	22.00	21.00	21.25	20.88	21.29	21.13
		50	0	21.00	19.77	19.93	19.86	19.90	19.89
		50	25	21.00	19.90	19.92	19.87	19.92	19.87
		50	50	21.00	19.79	19.95	19.76	19.96	19.77
		100	0	21.00	19.84	19.94	19.82	19.94	19.91

8.1.4 SENSOR ON CONDUCTED POWER MEASUREMENTS OF LTE

LTE FDD Band 2

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18607	18900	19193
					1850.7	1880	1909.3
					MHz	MHz	MHz
2 / 1.4M	QPSK	1	0	20.00	19.08	19.06	19.16
		1	2	20.00	19.08	19.16	19.18
		1	5	20.00	19.16	19.06	19.16
		3	0	20.00	18.93	18.92	19.02
		3	1	20.00	18.98	19.02	19.13
		3	3	20.00	18.97	19.07	19.16
		6	0	20.00	18.99	18.97	19.06
	16QAM	1	0	20.00	19.09	19.34	19.08
		1	2	20.00	19.26	19.48	19.24
		1	5	20.00	19.19	19.26	19.15
		3	0	20.00	19.00	19.05	19.07
		3	1	20.00	19.04	19.11	19.13
		3	3	20.00	19.05	19.14	19.13
		6	0	20.00	19.09	18.84	19.17
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18615	18900	19185
					1851.5	1880	1908.5
					MHz	MHz	MHz
2 / 3M	QPSK	1	0	20.00	19.09	19.17	19.16
		1	7	20.00	19.18	19.24	19.27
		1	14	20.00	19.14	19.23	19.23
		8	0	20.00	19.06	19.00	19.07
		8	3	20.00	19.08	19.06	19.14
		8	7	20.00	19.08	19.06	19.12
		15	0	20.00	19.05	19.03	19.10
	16QAM	1	0	20.00	18.90	19.52	19.17
		1	7	20.00	18.95	19.37	19.24
		1	14	20.00	18.96	19.60	19.17
		8	0	20.00	19.05	18.93	18.96
		8	3	20.00	19.09	19.02	19.02
		8	7	20.00	19.07	18.98	19.04
		15	0	20.00	19.01	18.96	18.94

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18625	18900	19175
					1852.5	1880	1907.5
					MHz	MHz	MHz
2 / 5M	QPSK	1	0	20.00	19.24	19.12	19.29
		1	12	20.00	19.31	19.09	19.24
		1	24	20.00	19.21	19.18	19.28
		12	0	20.00	18.08	18.94	18.97
		12	6	20.00	19.12	19.00	19.06
		12	13	20.00	18.96	18.97	19.07
		25	0	20.00	18.99	18.93	19.05
	16QAM	1	0	20.00	19.11	19.49	19.15
		1	12	20.00	19.23	19.51	19.24
		1	24	20.00	19.12	19.49	19.12
		12	0	20.00	19.04	19.07	18.98
		12	6	20.00	19.06	19.05	19.07
		12	13	20.00	19.00	19.07	19.02
		25	0	20.00	19.01	18.94	18.92
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18650	18900	19150
					1855	1880	1905
					MHz	MHz	MHz
2 / 10M	QPSK	1	0	20.00	19.08	19.29	19.16
		1	24	20.00	18.96	19.31	19.10
		1	49	20.00	19.02	19.14	19.06
		25	0	20.00	19.02	19.02	18.98
		25	12	20.00	18.97	19.03	19.13
		25	25	20.00	18.93	19.08	19.05
		50	0	20.00	18.99	19.01	19.03
	16QAM	1	0	20.00	18.99	19.23	19.53
		1	24	20.00	18.79	19.25	19.22
		1	49	20.00	18.92	19.23	19.40
		25	0	20.00	18.98	18.99	19.00
		25	12	20.00	18.94	19.03	19.08
		25	25	20.00	18.88	19.03	19.02
		50	0	20.00	18.92	18.96	18.96

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18675	18900	19125
					1857.5	1880	1902.5
					MHz	MHz	MHz
2 / 15M	QPSK	1	0	20.00	18.93	19.15	19.07
		1	37	20.00	18.89	19.21	19.03
		1	74	20.00	18.75	19.11	19.20
		36	0	20.00	18.93	19.11	19.09
		36	19	20.00	18.90	19.08	19.09
		36	39	20.00	18.77	19.10	19.02
		75	0	20.00	18.89	19.00	19.04
	16QAM	1	0	20.00	18.74	19.30	19.61
		1	37	20.00	18.60	19.26	19.56
		1	74	20.00	18.63	19.22	19.38
		36	0	20.00	18.86	19.22	18.96
		36	19	20.00	18.88	19.02	18.96
		36	39	20.00	18.69	19.05	18.93
		75	0	20.00	18.82	18.95	19.04
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					18700	18900	19100
					1860	1880	1900
					MHz	MHz	MHz
2 / 20M	QPSK	1	0	20.00	19.45	19.44	19.35
		1	50	20.00	19.16	19.19	19.33
		1	99	20.00	19.14	19.38	19.30
		50	0	20.00	19.12	19.22	19.22
		50	25	20.00	19.03	19.17	19.22
		50	50	20.00	18.97	19.26	19.12
		100	0	20.00	19.08	19.16	19.15
	16QAM	1	0	20.00	19.40	19.33	19.38
		1	50	20.00	19.38	18.83	19.32
		1	99	20.00	19.26	19.24	19.28
		50	0	20.00	18.93	19.04	18.95
		50	25	20.00	18.85	19.00	18.94
		50	50	20.00	18.83	19.06	18.87
		100	0	20.00	18.89	18.97	19.02

LTE FDD Band 4

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH 19957 1710.7 MHz	Mid CH 20175 1732.5 MHz	High CH 20393 1754.3 MHz
4 / 1.4M	QPSK	1	0	19.00	18.09	17.86	18.10
		1	2	19.00	18.16	17.96	18.00
		1	5	19.00	18.10	17.80	18.18
		3	0	19.00	17.92	17.70	17.86
		3	1	19.00	18.09	17.78	17.96
		3	3	19.00	18.03	17.84	17.93
		6	0	19.00	17.98	17.74	17.84
	16QAM	1	0	19.00	17.99	18.11	17.85
		1	2	19.00	18.13	18.12	17.96
		1	5	19.00	18.07	17.96	17.89
		3	0	19.00	17.85	17.78	17.90
		3	1	19.00	17.96	17.86	17.91
		3	3	19.00	17.98	17.87	17.94
		6	0	19.00	17.99	17.55	17.93
Band / BW	**Modulation**	**RB Sizet**	**RB Offset**	**Max. Tune-up Power**	**Low CH 19965 1711.5 MHz**	**Mid CH 20175 1732.5 MHz**	**High CH 20385 1753.5 MHz**
4 / 3M	QPSK	1	0	19.00	18.05	18.06	17.99
		1	7	19.00	18.12	17.92	17.90
		1	14	19.00	18.20	17.92	17.94
		8	0	19.00	17.98	17.80	17.91
		8	3	19.00	18.03	17.76	17.90
		8	7	19.00	17.98	17.81	17.90
		15	0	19.00	18.03	17.76	17.93
	16QAM	1	0	19.00	17.80	18.21	18.01
		1	7	19.00	17.89	18.10	18.00
		1	14	19.00	17.93	18.28	17.86
		8	0	19.00	17.93	17.75	17.79
		8	3	19.00	17.98	17.67	17.84
		8	7	19.00	17.96	17.71	17.82
		15	0	19.00	17.93	17.72	17.76

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					19975	20175	20375
					1712.5	1732.5	1752.5
					MHz	MHz	MHz
4 / 5M	QPSK	1	0	19.00	18.10	17.83	18.11
		1	12	19.00	18.26	17.94	18.16
		1	24	19.00	18.18	17.81	18.09
		12	0	19.00	17.92	17.79	18.03
		12	6	19.00	17.93	17.80	18.04
		12	13	19.00	18.03	17.81	18.01
		25	0	19.00	17.95	17.66	17.99
	16QAM	1	0	19.00	17.98	18.20	18.00
		1	12	19.00	18.13	18.28	18.16
		1	24	19.00	18.06	18.21	18.05
		12	0	19.00	17.91	17.85	17.96
		12	6	19.00	17.91	17.86	17.96
		12	13	19.00	17.95	17.85	17.92
		25	0	19.00	17.84	17.64	17.86
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20000	20175	20350
					1715	1732.5	1750
					MHz	MHz	MHz
4 / 10M	QPSK	1	0	19.00	18.07	17.97	17.91
		1	24	19.00	18.01	17.90	17.82
		1	49	19.00	18.00	17.80	17.85
		25	0	19.00	18.00	17.75	17.82
		25	12	19.00	17.99	17.73	17.87
		25	25	19.00	17.92	17.79	17.91
		50	0	19.00	18.00	17.75	17.82
	16QAM	1	0	19.00	18.01	18.10	18.07
		1	24	19.00	17.92	18.04	17.90
		1	49	19.00	17.97	17.97	18.10
		25	0	19.00	17.95	17.65	17.81
		25	12	19.00	17.94	17.70	17.83
		25	25	19.00	17.84	17.70	17.85
		50	0	19.00	17.87	17.69	17.77

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20025	20175	20325
					1717.5	1732.5	1747.5
					MHz	MHz	MHz
4 / 15M	QPSK	1	0	19.00	18.28	18.17	18.01
		1	37	19.00	18.22	18.07	18.01
		1	74	19.00	18.12	18.05	17.91
		36	0	19.00	18.14	18.05	18.02
		36	19	19.00	18.12	18.07	18.08
		36	39	19.00	18.05	18.02	18.05
		75	0	19.00	18.09	17.99	18.03
	16QAM	1	0	19.00	17.96	18.35	18.23
		1	37	19.00	17.92	18.23	18.37
		1	74	19.00	17.76	18.25	18.15
		36	0	19.00	18.01	18.25	17.90
		36	19	19.00	17.95	17.98	17.96
		36	39	19.00	17.92	17.96	17.93
		75	0	19.00	18.03	17.88	17.93
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20050	20175	20300
					1720	1732.5	1745
					MHz	MHz	MHz
4 / 20M	QPSK	1	0	19.00	18.47	18.22	18.24
		1	50	19.00	18.23	18.26	18.21
		1	99	19.00	18.20	18.10	18.09
		50	0	19.00	18.29	18.21	18.22
		50	25	19.00	18.38	18.28	18.20
		50	50	19.00	18.26	18.24	18.22
		100	0	19.00	18.32	18.22	18.18
	16QAM	1	0	19.00	18.45	18.13	18.21
		1	50	19.00	18.45	17.90	18.16
		1	99	19.00	18.33	18.08	18.10
		50	0	19.00	18.04	17.90	17.88
		50	25	19.00	18.06	17.96	17.88
		50	50	19.00	18.01	17.92	17.87
		100	0	19.00	18.06	17.87	17.89

LTE FDD Band 7

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20775	21100	21425
					2502.5	2535	2567.5
					MHz	MHz	MHz
7 / 5M	QPSK	1	0	22.00	21.18	21.36	21.16
		1	12	22.00	21.24	21.37	21.23
		1	24	22.00	21.06	21.31	21.17
		12	0	22.00	21.07	21.12	20.96
		12	6	22.00	21.05	21.14	21.04
		12	13	22.00	21.08	21.15	21.02
		25	0	22.00	21.02	21.13	21.01
	16QAM	1	0	22.00	21.35	21.87	21.16
		1	12	22.00	21.41	21.86	21.35
		1	24	22.00	21.27	21.77	21.21
		12	0	21.00	20.22	20.36	20.11
		12	6	21.00	20.20	20.38	20.17
		12	13	21.00	20.25	20.33	20.12
		25	0	21.00	20.10	20.22	20.03
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20800	21100	21400
					2505	2535	2565
					MHz	MHz	MHz
7 / 10M	QPSK	1	0	22.00	21.19	21.28	20.86
		1	24	22.00	21.06	21.15	20.96
		1	49	22.00	21.14	21.17	21.13
		25	0	22.00	21.07	21.17	20.87
		25	12	22.00	21.03	21.20	21.07
		25	25	22.00	21.03	21.19	21.06
		50	0	22.00	21.05	21.17	21.00
	16QAM	1	0	22.00	21.39	21.55	21.28
		1	24	22.00	21.01	21.54	21.25
		1	49	22.00	21.28	21.46	21.59
		25	0	21.00	20.09	20.24	19.98
		25	12	21.00	20.16	20.30	20.18
		25	25	21.00	20.13	20.23	20.15
		50	0	21.00	20.10	20.22	20.05

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20825	21100	21375
					2507.5	2535	2562.5
					MHz	MHz	MHz
7 / 15M	QPSK	1	0	22.00	21.15	21.48	21.01
		1	37	22.00	21.26	21.33	21.07
		1	74	22.00	21.19	21.23	21.16
		36	0	22.00	21.19	21.25	21.03
		36	19	22.00	21.22	21.32	21.11
		36	39	22.00	21.11	21.13	21.15
		75	0	22.00	21.13	21.26	21.02
	16QAM	1	0	22.00	20.95	21.70	21.20
		1	37	22.00	21.07	21.63	21.44
		1	74	22.00	21.15	21.49	21.64
		36	0	21.00	20.22	20.36	20.00
		36	19	21.00	20.29	20.39	20.02
		36	39	21.00	20.19	20.20	20.13
		75	0	21.00	20.24	20.27	20.04
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					20850	21100	21350
					2510	2535	2560
					MHz	MHz	MHz
7 / 20M	QPSK	1	0	22.00	21.21	21.20	21.03
		1	50	22.00	21.26	21.29	21.18
		1	99	22.00	21.21	21.14	21.03
		50	0	22.00	21.23	21.29	21.04
		50	25	22.00	21.23	21.36	21.05
		50	50	22.00	21.26	21.19	21.16
		100	0	22.00	21.19	21.28	21.02
	16QAM	1	0	22.00	21.74	21.75	21.41
		1	50	22.00	21.95	21.81	21.39
		1	99	22.00	21.98	21.57	21.46
		50	0	21.00	20.29	20.34	20.03
		50	25	21.00	20.34	20.35	20.04
		50	50	21.00	20.35	20.22	20.14
		100	0	21.00	20.26	20.31	20.07

LTE FDD Band 13

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					23205	23230	23255
					779.5	782	784.5
					MHz	MHz	MHz
13 / 5M	QPSK	1	0	22.00	20.81	20.80	20.91
		1	12	22.00	20.86	21.05	21.01
		1	24	22.00	20.76	20.83	20.96
		12	0	22.00	20.75	20.69	20.77
		12	6	22.00	20.77	20.79	20.83
		12	13	22.00	20.73	20.80	20.81
		25	0	22.00	20.72	20.81	20.87
	16QAM	1	0	22.00	20.71	21.28	20.86
		1	12	22.00	20.95	21.44	20.98
		1	24	22.00	20.84	21.22	20.88
		12	0	22.00	20.71	20.75	20.75
		12	6	22.00	20.77	20.85	20.84
		12	13	22.00	20.66	20.90	20.75
		25	0	22.00	20.67	20.75	20.76

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Mid CH
					23230
					782
					MHz
13 / 10M	QPSK	1	0	22.00	21.20
		1	24	22.00	21.23
		1	49	22.00	21.27
		25	0	22.00	21.10
		25	12	22.00	21.08
		25	25	22.00	21.03
		50	0	22.00	21.12
	16QAM	1	0	22.00	21.12
		1	24	22.00	20.95
		1	49	22.00	21.24
		25	0	22.00	21.01
		25	12	22.00	21.01
		25	25	22.00	20.96
		50	0	22.00	20.94

LTE FDD Band 25

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26047	26365	26683
					1850.7	1882.5	1914.3
					MHz	MHz	MHz
25 / 1.4M	QPSK	1	0	18.00	17.04	16.93	17.06
		1	2	18.00	16.92	17.02	16.98
		1	5	18.00	17.03	16.97	16.99
		3	0	18.00	16.77	16.80	16.85
		3	1	18.00	16.91	16.82	16.92
		3	3	18.00	16.85	16.94	16.91
		6	0	18.00	16.78	16.79	16.83
	16QAM	1	0	18.00	17.09	16.77	16.76
		1	2	18.00	17.30	17.01	16.92
		1	5	18.00	17.18	16.91	16.84
		3	0	18.00	16.96	16.90	16.69
		3	1	18.00	17.02	16.94	16.80
		3	3	18.00	17.06	17.02	16.74
		6	0	18.00	16.65	16.85	16.77
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26055	26365	26675
					1851.5	1882.5	1913.5
					MHz	MHz	MHz
25 / 3M	QPSK	1	0	18.00	16.87	17.06	17.04
		1	7	18.00	16.92	17.23	16.87
		1	14	18.00	16.85	17.02	16.99
		8	0	18.00	16.94	16.87	16.94
		8	3	18.00	16.97	17.04	16.91
		8	7	18.00	16.85	16.97	16.85
		15	0	18.00	16.89	16.94	16.89
	16QAM	1	0	18.00	16.83	17.31	16.76
		1	7	18.00	16.67	17.36	16.84
		1	14	18.00	16.73	17.35	16.78
		8	0	18.00	16.91	16.92	16.77
		8	3	18.00	16.92	16.99	16.77
		8	7	18.00	16.87	16.89	16.76
		15	0	18.00	16.81	16.87	16.67

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26065	26365	26665
					1852.5	1882.5	1912.5
					MHz	MHz	MHz
25 / 5M	QPSK	1	0	18.00	17.05	17.06	17.00
		1	12	18.00	17.07	17.14	17.10
		1	24	18.00	16.98	16.98	16.97
		12	0	18.00	16.96	16.89	17.00
		12	6	18.00	16.92	16.92	16.94
		12	13	18.00	16.86	16.95	16.91
		25	0	18.00	16.92	16.96	16.96
	16QAM	1	0	18.00	17.17	17.50	16.92
		1	12	18.00	17.15	17.56	17.08
		1	24	18.00	17.06	17.39	16.83
		12	0	18.00	17.00	17.01	16.93
		12	6	18.00	16.92	16.96	16.86
		12	13	18.00	16.87	17.02	16.77
		25	0	18.00	16.75	16.90	16.77
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26090	26365	26640
					1855	1882.5	1910
					MHz	MHz	MHz
25 / 10M	QPSK	1	0	18.00	16.99	17.11	16.91
		1	24	18.00	16.83	17.06	16.93
		1	49	18.00	16.81	17.00	16.79
		25	0	18.00	16.97	16.94	16.85
		25	12	18.00	16.92	17.03	17.00
		25	25	18.00	16.88	16.90	16.96
		50	0	18.00	16.97	16.98	17.00
	16QAM	1	0	18.00	16.80	17.30	16.50
		1	24	18.00	16.55	17.23	16.42
		1	49	18.00	16.57	17.19	16.90
		25	0	18.00	16.82	16.85	16.79
		25	12	18.00	16.80	16.93	16.88
		25	25	18.00	16.77	16.80	16.89
		50	0	18.00	16.80	16.88	16.85

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26115	26365	26615
					1857.5	1882.5	1907.5
					MHz	MHz	MHz
25 / 15M	QPSK	1	0	18.00	16.85	16.97	16.84
		1	37	18.00	16.87	17.03	17.22
		1	74	18.00	16.81	16.95	16.88
		36	0	18.00	16.97	16.95	17.10
		36	19	18.00	16.97	17.00	17.20
		36	39	18.00	16.97	17.00	17.08
		75	0	18.00	16.99	16.97	17.17
	16QAM	1	0	18.00	16.50	17.18	16.62
		1	37	18.00	16.54	17.29	16.75
		1	74	18.00	16.27	17.11	17.00
		36	0	18.00	16.87	17.12	16.94
		36	19	18.00	16.92	16.86	17.03
		36	39	18.00	16.88	16.91	16.94
		75	0	18.00	16.83	16.87	17.09
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	Low CH	Mid CH	High CH
					26140	26365	26590
					1860	1882.5	1905
					MHz	MHz	MHz
25 / 20M	QPSK	1	0	18.00	17.33	17.23	17.19
		1	50	18.00	17.35	17.33	17.39
		1	99	18.00	16.99	17.16	17.26
		50	0	18.00	17.15	17.24	17.29
		50	25	18.00	17.15	17.29	17.29
		50	50	18.00	17.14	17.18	17.31
		100	0	18.00	17.18	17.19	17.25
	16QAM	1	0	18.00	17.26	17.32	17.11
		1	50	18.00	17.42	16.72	17.30
		1	99	18.00	17.13	17.09	17.02
		50	0	18.00	16.86	16.92	16.98
		50	25	18.00	16.85	16.93	17.01
		50	50	18.00	16.87	16.90	17.05
		100	0	18.00	16.91	16.91	16.95

LTE TDD Band 41

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39675	40148	40620	41093	41565
					2498.5	2545.8	2593	2640.3	2687.5
					MHz	MHz	MHz	MHz	MHz
41 / 5M	QPSK	1	0	20.00	19.03	18.92	19.28	19.14	19.15
		1	12	20.00	19.22	18.93	19.25	19.01	19.22
		1	24	20.00	19.13	18.96	19.20	19.04	19.04
		12	0	20.00	19.20	18.97	19.25	18.96	19.11
		12	6	20.00	19.35	19.10	19.20	19.07	19.12
		12	13	20.00	19.28	18.99	19.19	19.01	19.07
		25	0	20.00	19.25	19.04	19.16	18.98	19.01
	16QAM	1	0	20.00	19.12	19.03	19.20	19.15	19.44
		1	12	20.00	19.34	18.96	19.27	19.31	19.36
		1	24	20.00	19.21	19.09	19.08	19.07	19.04
		12	0	19.00	18.26	18.03	18.21	18.04	18.21
		12	6	19.00	18.34	18.12	18.20	18.05	18.23
		12	13	19.00	18.34	18.06	18.13	18.06	18.26
		25	0	19.00	18.28	18.03	18.18	17.98	18.07
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39700	40160	40620	41080	41540
					2501	2547	2593	2639	2685
					MHz	MHz	MHz	MHz	MHz
41 / 10M	QPSK	1	0	20.00	19.16	19.05	19.23	19.03	19.05
		1	24	20.00	19.36	19.19	19.30	19.08	19.19
		1	49	20.00	19.25	19.12	19.20	18.96	18.92
		25	0	20.00	19.24	18.99	19.20	19.07	19.18
		25	12	20.00	19.31	19.02	19.20	19.18	19.12
		25	25	20.00	19.29	19.03	19.17	19.06	19.07
		50	0	20.00	19.26	18.99	19.21	18.98	19.05
	16QAM	1	0	20.00	19.25	19.01	19.15	19.46	19.39
		1	24	20.00	19.25	18.99	19.27	19.25	19.15
		1	49	20.00	19.33	18.94	19.17	19.19	18.68
		25	0	19.00	18.29	17.95	18.15	18.12	18.21
		25	12	19.00	18.35	17.97	18.16	18.16	18.23
		25	25	19.00	18.27	17.99	18.12	18.08	18.16
		50	0	19.00	18.22	18.02	18.20	18.01	18.18

Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39725	40173	40620	41068	41515
					2503.5	2548.3	2593	2637.8	2682.5
					MHz	MHz	MHz	MHz	MHz
41 / 15M	QPSK	1	0	20.00	18.89	18.86	19.32	19.14	19.18
		1	37	20.00	19.00	18.94	19.12	19.12	19.01
		1	74	20.00	18.98	18.83	19.03	19.05	19.03
		36	0	20.00	19.08	19.00	19.13	18.98	19.13
		36	19	20.00	19.18	18.97	19.14	19.10	19.13
		36	39	20.00	19.07	18.98	19.09	18.99	19.04
		75	0	20.00	19.07	18.93	19.09	19.04	19.03
	16QAM	1	0	20.00	19.13	19.05	19.39	19.29	19.25
		1	37	20.00	19.20	19.07	19.41	19.33	19.31
		1	74	20.00	19.06	19.02	19.27	19.22	19.14
		36	0	19.00	18.06	17.92	18.07	17.99	18.16
		36	19	19.00	18.13	17.93	18.08	18.05	18.12
		36	39	19.00	18.06	17.96	18.07	17.96	18.06
		75	0	19.00	18.09	17.88	18.08	18.05	18.01
Band / BW	Modulation	RB Sizet	RB Offset	Max. Tune-up Power	L-CH	ADD-CH	M-CH	ADD-CH	H-CH
					39750	40185	40620	41055	41490
					2506	2549.5	2593	2636.5	2680
					MHz	MHz	MHz	MHz	MHz
41 / 20M	QPSK	1	0	20.00	19.49	19.29	19.33	19.31	19.57
		1	50	20.00	19.42	19.32	19.43	19.36	19.34
		1	99	20.00	19.42	19.00	19.28	19.21	19.21
		50	0	20.00	19.28	19.00	19.21	19.20	19.26
		50	25	20.00	19.32	19.05	19.30	19.22	19.23
		50	50	20.00	19.22	19.09	19.15	19.18	19.20
		100	0	20.00	19.26	19.03	19.28	19.19	19.29
	16QAM	1	0	20.00	19.12	19.16	19.30	19.24	19.40
		1	50	20.00	19.36	19.36	19.09	19.30	19.37
		1	99	20.00	19.14	19.10	19.10	19.21	19.24
		50	0	19.00	18.12	17.87	18.04	18.05	18.23
		50	25	19.00	18.13	17.86	18.12	18.15	18.10
		50	50	19.00	18.06	17.94	18.05	18.00	18.04
		100	0	19.00	18.12	17.88	18.08	18.08	18.19

8.1.5 CONDUCTED POWER MEASUREMENTS OF WIFI 2.4G

Siso_Main Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11b	1	2412	1	18.00	17.75	Yes
	6	2437		18.00	17.76	
	11	2462		18.00	17.73	
802.11g	1	2412	6	18.00	17.85	No
	6	2437		18.00	17.86	
	11	2462		18.00	17.83	

Siso_Aux Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11b	1	2412	1	18.00	17.63	Yes
	6	2437		18.00	17.67	
	11	2462		18.00	17.65	
802.11g	1	2412	6	18.00	17.75	No
	6	2437		18.00	17.79	
	11	2462		18.00	17.88	

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.

MIMO_Main+Aux Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Main Ant Power	Aux Ant Power	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11n HT20	1	2412	HT8	14.65	14.91	18.00	17.79	No
	6	2437		14.51	14.52	18.00	17.53	
	11	2462		14.57	14.52	18.00	17.56	
802.11n HT40	3	2422	HT8	14.49	14.86	18.00	17.69	
	6	2437		14.92	14.69	18.00	17.82	
	9	2452		14.46	14.86	18.00	17.67	

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.

8.1.6CONDUCTED POWER MEASUREMENTS OF WIFI 5.2G

Siso_Main Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	36	5180	6	15	14.64	Yes
	40	5200		15	14.69	
	44	5220		15	14.52	
	48	5240		15	14.55	

Siso_Aux Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	36	5180	6	15	14.56	Yes
	40	5200		15	14.69	
	44	5220		15	14.5	
	48	5240		15	14.54	

MIMO_Main+Aux Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Main Ant Power	Aux Ant Power	Tune-up	Average Power (dBm)	SAR Test(Yes/No)
802.11n HT20	36	5180	HT8	11.58	11.54	15	14.57	No
	40	5200		11.41	11.59	15	14.51	
	44	5220		11.38	11.42	15	14.41	
	48	5240		11.37	11.45	15	14.42	
802.11n HT40	38	5190	HT8	10.95	11.09	15	14.03	No
	46	5230		10.87	10.79	15	13.84	
802.11ac VHT80	42	5210	VHT0	10.25	10.29	15	13.28	No
802.11ac VHT160	50	5250	VHT0	9.63	9.7	14	12.68	No

8.1.7CONDUCTED POWER MEASUREMENTS OF WIFI 5.3G

Siso_Main Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	52	5260	6	15	14.53	Yes
	56	5280		15	14.5	
	60	5300		15	14.72	
	64	5320		15	14.63	

Siso_Aux Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	52	5260	6	15	14.47	Yes
	56	5280		15	14.44	
	60	5300		15	14.65	
	64	5320		15	14.62	

MIMO_Main+Aux Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Main Ant Power	Aux Ant Power	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11n HT20	52	5260	HT8	11.47	11.37	15	14.43	No
	56	5280		11.43	11.29	15	14.37	
	60	5300		11.63	11.41	15	14.53	
	64	5320		11.59	11.53	15	14.57	
802.11n HT40	54	5270	HT8	10.9	10.78	15	13.85	No
	62	5310		10.91	10.75	15	13.84	
802.11ac VHT80	58	5290	HT8	10.09	10.13	15	13.12	No
802.11ac VHT160	50	5250	VHT0	9.63	9.7	14	12.68	No

8.1.8CONDUCTED POWER MEASUREMENTS OF WIFI 5.5G

Siso_Main Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	100	5500	6	15	14.65	Yes
	104	5520		15	14.51	
	108	5540		15	14.49	
	112	5560		15	14.54	
	116	5580		15	14.52	
	132	5660		15	14.5	
	136	5680		15	14.47	
	140	5700		15	14.56	

Siso_Aux Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	100	5500	6	15	14.61	Yes
	104	5520		15	14.48	
	108	5540		15	14.53	
	112	5560		15	14.47	
	116	5580		15	14.67	
	132	5660		15	14.53	
	136	5680		15	14.51	
	140	5700		15	14.54	

Mode	Channel	Frequency(MHz)	Data Rate (Mbps)	Main Ant Power	Aux Ant Power	Tune-up	Average Power (dBm)	SAR Test (Yes/No)
802.11n HT20	100	5500	HT8	11.67	11.72	15	14.71	No
	104	5520		11.6	11.7	15	14.66	
	108	5540		11.52	11.65	15	14.60	
	112	5560		11.6	11.54	15	14.58	
	116	5580		11.68	11.53	15	14.62	
	132	5660		11.6	11.52	15	14.57	
	136	5680		11.58	11.6	15	14.60	
	140	5700		11.45	11.45	15	14.46	
802.11n HT40	102	5510	HT8	10.86	11.13	15	14.01	No
	120	5550		10.81	11.14	15	13.99	
	134	5670		10.94	11.09	15	14.03	
802.11ac VHT80	106	5530	VH0	10.13	10.53	15	13.34	No
	138	5690		10.37	10.35	15	13.37	
802.11ac VHT160	114	5570	VH0	9.97	9.87	14	12.93	No

8.1.9CONDUCTED POWER MEASUREMENTS OF WIFI 5.8G

Siso_Main Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	149	5745	6	15	14.64	Yes
	153	5765		15	14.50	
	157	5785		15	14.52	
	161	5805		15	14.51	
	165	5825		15	14.66	

Siso_Aux Ant

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune-up	Average Power(dBm)	SAR Test(Yes/No)
802.11a	149	5745	6	15	14.69	Yes
	153	5765		15	14.57	
	157	5785		15	14.65	
	161	5805		15	14.58	
	165	5825		15	14.63	

MIMO_Main+Aux Ant

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Main Ant Power	Aux Ant Power	Tune-up	Total Avg Power (dBm)	SAR Test (Yes/No)
802.11n HT20	149	5745	HT8	11.32	11.39	15	14.37	No
	153	5765		11.29	11.15	15	14.23	
	157	5785		11.46	11.27	15	14.38	
	161	5805		11.26	11.13	15	14.21	
	165	5825		11.56	11.37	15	14.48	
802.11n HT40	151	5755	HT8	10.78	11.17	15	13.99	No
	159	5795		10.97	11.12	15	14.06	
802.11ac VHT80	155	5775	VHT0	10.48	10.42	14	13.46	No

8.2SAR TEST RESULTS

General Notes:

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

UMTS Notes:

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

LTE notes:

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

WLAN Notes:

1. For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated(peak)SAR is used as the initial test position. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 for 2.4GHZ WIFI single transmission chain operations, the highest measured maximum output powerChannel 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 Section7.1.4 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 for 5GHZ WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed power. Other transmission mode were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than1.2W/kg. See Section 7.1.4 for more information.

8.2.1 WWAN SAR MEASUREMENT RESULT

1. Tablet Mode SAR test results of UMTS, test distance at 0cm.

Test No.	Band	Mode	CH	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T611	UMTS B2	RMC12.2K	9400	Rear Face	on	1	19	18.38	0.08	0.803	0.926
T612	UMTS B2	RMC12.2K	9400	Left Side	off	1	24	23.51	0.02	0.096	0.107
T613	UMTS B2	RMC12.2K	9400	Top Side	on	1	19	18.38	-0.02	0.949	**1.095**
T671	UMTS B2	RMC12.2K	9262	Rear Face	on	1	19	18.32	0.02	0.765	0.895
T672	UMTS B2	RMC12.2K	9538	Rear Face	on	1	19	18.23	0.01	0.733	0.875
T614	UMTS B2	RMC12.2K	9262	Top Side	on	1	19	18.32	0.01	0.868	1.015
T615	UMTS B2	RMC12.2K	9538	Top Side	on	1	19	18.23	-0.03	0.707	0.844
T616	UMTS B2	RMC12.2K	9400	Top Side	on	2	19	18.38	-0.06	0.899	1.037
T617	UMTS B2	RMC12.2K	9400	Top Side	on	3	19	18.38	0.04	0.931	1.074
T618	UMTS B2	RMC12.2K	9400	Top Side (repeat test)	on	1	19	18.38	-0.02	0.928	1.070
T633	UMTS B4	RMC12.2K	1413	Rear Face	on	1	19	18.19	0	0.827	0.997
T634	UMTS B4	RMC12.2K	1413	Left Side	off	1	24	23.56	0.05	0.215	0.238
T635	UMTS B4	RMC12.2K	1413	Top Side	on	1	19	18.19	0.01	0.906	1.092
T674	UMTS B4	RMC12.2K	1312	Rear Face	on	1	19	18.26	0.02	0.792	0.939
T675	UMTS B4	RMC12.2K	1513	Rear Face	on	1	19	18.18	0.04	0.815	0.984
T636	UMTS B4	RMC12.2K	1312	Top Side	on	1	19	18.26	0.03	0.846	1.003
T637	UMTS B4	RMC12.2K	1513	Top Side	on	1	19	18.18	-0.06	0.926	1.118
T638	UMTS B4	RMC12.2K	1513	Top Side	on	2	19	18.18	0.03	0.959	1.158
T639	UMTS B4	RMC12.2K	1513	Top Side	on	3	19	18.18	0.06	1	**1.208**
T640	UMTS B4	RMC12.2K	1513	Top Side (repeat test)	on	3	19	18.18	0.06	0.982	1.186
T655	UMTS B5	RMC12.2K	4182	Rear Face	off	1	24	22.82	0.03	0.986	**1.294**
T656	UMTS B5	RMC12.2K	4182	Left Side	off	1	24	22.82	-0.02	0.216	0.283
T657	UMTS B5	RMC12.2K	4182	Top Side	off	1	24	22.82	0.06	0.598	0.785
T658	UMTS B5	RMC12.2K	4132	Rear Face	off	1	24	22.98	-0.03	0.912	1.153
T659	UMTS B5	RMC12.2K	4233	Rear Face	off	1	24	22.97	0.01	0.847	1.074
T660	UMTS B5	RMC12.2K	4132	Rear Face	off	2	24	22.98	0.05	0.943	1.193
T661	UMTS B5	RMC12.2K	4132	Rear Face	off	3	24	22.98	0.08	0.938	1.186
T662	UMTS B5	RMC12.2K	4182	Rear Face (repeat test)	off	1	24	22.82	0.03	0.973	1.277

2. Tablet Mode SAR test results of UMTS, test distance at 1.3cm.

Test No.	Band	Mode	CH	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T619	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.09	0.777	0.870
T620	UMTS B2	RMC12.2K	9400	Top Side	off	1	24	23.51	0.06	0.979	1.096
T672	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.02	0.579	0.648
T673	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.01	0.683	0.765
T621	UMTS B2	RMC12.2K	9262	Top Side	off	1	24	23.66	-0.06	1.08	**1.168**
T624	UMTS B2	RMC12.2K	9538	Top Side	off	1	24	23.45	-0.01	0.904	1.026
T625	UMTS B2	RMC12.2K	9262	Top Side	off	2	24	23.66	0.02	0.814	0.880
T624	UMTS B2	RMC12.2K	9262	Top Side	off	3	24	23.66	0.06	0.782	0.846
T625	UMTS B2	RMC12.2K	9400	Top Side (repeat test)	off	1	24	23.66	0.06	0.993	1.074
T641	UMTS B4	RMC12.2K	1413	Rear Face	off	1	24	23.56	-0.01	0.777	**0.860**
T642	UMTS B4	RMC12.2K	1413	Top Side	off	1	24	23.56	0.07	0.623	0.689
T643	UMTS B4	RMC12.2K	1312	Rear Face	off	1	24	23.67	0.02	0.629	0.679
T644	UMTS B4	RMC12.2K	1513	Rear Face	off	1	24	23.53	0.11	0.7	0.780
T645	UMTS B4	RMC12.2K	1413	Rear Face	off	2	24	23.56	-0.03	0.672	0.744
T646	UMTS B4	RMC12.2K	1413	Rear Face	off	3	24	23.56	0.01	0.707	0.782
T647	UMTS B4	RMC12.2K	1413	Rear Face (repeat test)	off	1	24	23.56	-0.11	0.735	0.813

3. Tablet Mode SAR test results of LTE Band 4 and Band 7, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T590	LTE B4	QPSK20M	20050	1	0	Rear Face	on	1	19	18.47	0.06	0.626	0.707
T591	LTE B4	QPSK20M	20050	1	50	Left Side	off	1	24	23.18	0.02	0.245	0.296
T592	LTE B4	QPSK20M	20050	1	0	Top Side	on	1	19	18.47	0.05	0.841	**0.950**
T593	LTE B4	QPSK20M	20050	50	25	Rear Face	on	1	19	18.38	0.01	0.602	0.694
T594	LTE B4	QPSK20M	20050	50	25	Left Side	off	1	23	22.13	-0.03	0.224	0.274
T595	LTE B4	QPSK20M	20050	50	25	Top Side	on	1	19	18.38	0.04	0.813	0.937
T596	LTE B4	QPSK20M	20175	1	50	Top Side	on	1	19	18.26	-0.05	0.800	0.949
T597	LTE B4	QPSK20M	20300	1	0	Top Side	on	1	19	18.24	0.08	0.792	0.944
T598	LTE B4	QPSK20M	20050	1	0	Top Side	on	2	19	18.47	-0.09	0.824	0.931
T599	LTE B4	QPSK20M	20050	1	0	Top Side	on	3	19	18.47	0.01	0.820	0.927
T600	LTE B4	QPSK20M	20050	1	0	Top Side (repeat test)	on	1	19	18.47	0.15	0.818	0.924
T370	LTE B7	QPKS20M	21100	1	50	Rear Face	on	1	22	21.29	0.07	0.606	0.713
T371	LTE B7	QPKS20M	20850	1	50	Left Side	off	1	23	21.76	0	0.102	0.136
T372	LTE B7	QPKS20M	21100	1	50	Top Side	on	1	22	21.29	-0.01	0.578	0.680
T373	LTE B7	QPKS20M	21100	50	25	Rear Face	on	1	22	21.36	0.02	0.488	0.566
T374	LTE B7	QPKS20M	20850	50	25	Left Side	off	1	22	20.86	-0.02	0.092	0.119
T375	LTE B7	QPKS20M	21100	50	25	Rear Face	on	1	22	21.36	0.05	0.478	0.555
T376	LTE B7	QPKS20M	20850	1	50	Rear Face	on	1	22	21.26	-0.03	0.484	0.574
T377	LTE B7	QPKS20M	21350	1	50	Rear Face	on	1	22	21.18	0.07	0.645	**0.779**
T378	LTE B7	QPKS20M	21350	1	50	Rear Face	on	2	22	21.18	0.09	0.602	0.727
T379	LTE B7	QPKS20M	21350	1	50	Rear Face	on	3	22	21.18	-0.04	0.636	0.769

4. Tablet Mode SAR test results of LTE Band 12 and Band 13, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T410	LTE B12	QPSK10M	23095	1	24	Rear Face	off	1	24	23.28	0.03	0.321	0.379
T411	LTE B12	QPSK10M	23095	1	24	Left Side	off	1	24	23.28	0.09	0.048	0.057
T412	LTE B12	QPSK10M	23095	1	24	Top Side	off	1	24	23.28	0.06	0.265	0.313
T413	LTE B12	QPSK10M	23060	25	0	Rear Face	off	1	23	22.14	-0.01	0.221	0.270
T414	LTE B12	QPSK10M	23060	25	0	Left Side	off	1	23	22.14	0.04	0.027	0.033
T415	LTE B12	QPSK10M	23060	25	0	Top Side	off	1	23	22.14	0.05	0.244	0.298
T416	LTE B12	QPSK10M	23060	1	0	Rear Face	off	1	24	23.19	0	0.314	0.379
T417	LTE B12	QPSK10M	23130	1	24	Rear Face	off	1	24	23.08	0.08	0.428	**0.529**
T418	LTE B12	QPSK10M	23130	1	24	Rear Face	off	2	24	23.08	0.08	0.422	0.522
T419	LTE B12	QPSK10M	23130	1	24	Rear Face	off	3	24	23.08	-0.06	0.375	0.464
T440	LTE B13	QPSK10M	23230	1	49	Rear Face	on	1	22	21.27	0.01	0.581	**0.687**
T441	LTE B13	QPSK10M	23230	1	24	Left Side	off	1	24	22.91	0.04	0.109	0.140
T442	LTE B13	QPSK10M	23230	1	49	Top Side	on	1	22	21.27	0.01	0.431	0.510
T443	LTE B13	QPSK10M	23230	25	0	Rear Face	on	1	22	21.10	0.09	0.553	0.680
T444	LTE B13	QPSK10M	23230	25	12	Left Side	off	1	23	21.79	-0.04	0.065	0.086
T445	LTE B13	QPSK10M	23230	25	0	Top Side	on	1	22	21.10	-0.06	0.370	0.455
T446	LTE B13	QPSK10M	23230	1	49	Rear Face	on	2	22	21.27	0.03	0.572	0.676
T447	LTE B13	QPSK10M	23230	1	49	Rear Face	on	3	22	21.27	0	0.578	0.683
T410	LTE B12	QPSK10M	23095	1	24	Rear Face	off	1	24	23.28	0.03	0.321	0.379
T411	LTE B12	QPSK10M	23095	1	24	Left Side	off	1	24	23.28	0.09	0.048	0.057
T412	LTE B12	QPSK10M	23095	1	24	Top Side	off	1	24	23.28	0.06	0.265	0.313

5. Tablet Mode SAR test results of LTE Band 25 and Band 26, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T470	LTE B25	QPSK20M	26590	1	50	Rear Face	on	1	18	17.39	0.06	0.772	0.889
T471	LTE B25	QPSK20M	26590	1	50	Left Side	off	1	24	23.71	0.01	0.104	0.111
T472	LTE B25	QPSK20M	26590	1	50	Top Side	on	1	18	17.39	-0.02	0.776	0.893
T473	LTE B25	QPSK20M	26590	50	50	Rear Face	on	1	18	17.31	0.03	0.477	0.559
T474	LTE B25	QPSK20M	26590	50	25	Left Side	off	1	23	22.40	-0.05	0.117	0.134
T475	LTE B25	QPSK20M	26590	50	50	Top Side	on	1	18	22.40	0.03	0.747	0.271
T476	LTE B25	QPSK20M	26140	1	50	Rear Face	on	1	18	17.39	0.06	0.741	0.853
T477	LTE B25	QPSK20M	26365	1	50	Rear Face	on	1	18	17.39	0.06	0.703	0.809
T478	LTE B25	QPSK20M	26140	1	0	Top Side	on	1	18	17.35	-0.04	0.907	1.054
T479	LTE B25	QPSK20M	26365	1	50	Top Side	on	1	18	17.33	0.08	0.985	1.149
T480	LTE B25	QPSK20M	26365	1	50	Top Side	on	2	18	17.33	0.09	1.030	1.201
T481	LTE B25	QPSK20M	26365	1	50	Top Side	on	3	18	17.33	0.08	1.050	**1.225**
T482	LTE B25	QPSK20M	26365	1	50	Top Side (repeat test)	on	3	18	17.33	0.08	1.010	1.178
T511	LTE B26	QPSK15M	26765	1	0	Rear Face	off	1	24	23.31	0.03	1.090	**1.279**
T512	LTE B26	QPSK15M	26765	1	0	Left Side	off	1	24	23.31	0.02	0.276	0.324
T513	LTE B26	QPSK15M	26765	1	0	Top Side	off	1	24	23.31	0.07	1.050	1.232
T514	LTE B26	QPSK15M	26865	36	0	Rear Face	off	1	23	22.85	-0.01	0.730	0.756
T515	LTE B26	QPSK15M	26865	36	0	Left Side	off	1	23	22.85	0	0.267	0.277
T516	LTE B26	QPSK15M	26865	36	0	Top Side	off	1	23	22.85	0.05	0.509	0.527
T517	LTE B26	QPSK15M	26865	1	0	Rear Face	off	1	24	23.14	-0.08	0.967	1.179
T518	LTE B26	QPSK15M	26965	1	37	Rear Face	off	1	24	23.08	0.07	0.922	1.140

6. Tablet Mode SAR test results of LTE Band 41, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T541	LTE B41	QPSK20M	41490	1	0	Rear Face	on	1	20	19.57	0.09	0.432	0.477
T542	LTE B41	QPSK20M	40185	1	0	Left Side	off	1	23	22.11	0	0.055	0.068
T543	LTE B41	QPSK20M	41490	1	0	Top Side	on	1	20	19.57	-0.06	1.170	**1.292**
T544	LTE B41	QPSK20M	39750	50	25	Rear Face	on	1	20	19.32	0.01	0.192	0.225
T545	LTE B41	QPSK20M	40185	50	25	Left Side	off	1	22	21.01	0.06	0.050	0.063
T546	LTE B41	QPSK20M	39750	50	25	Top Side	on	1	20	19.32	0.02	0.408	0.478
T547	LTE B41	QPSK20M	39750	1	0	Top Side	on	1	20	19.57	-0.05	0.248	0.274
T548	LTE B41	QPSK20M	40185	1	50	Top Side	on	1	20	19.32	-0.06	0.307	0.359
T549	LTE B41	QPSK20M	40620	1	50	Top Side	on	1	20	19.43	-0.03	0.522	0.596
T550	LTE B41	QPSK20M	41055	1	50	Top Side	on	1	20	19.36	0.04	0.829	0.961
T551	LTE B41	QPSK20M	41490	1	0	Top Side	on	2	20	19.57	0.01	1.040	1.148
T552	LTE B41	QPSK20M	41490	1	0	Top Side	on	3	20	19.57	-0.03	1.120	1.237
T553	LTE B41	QPSK20M	41490	1	0	Top Side (repeat test)	on	1	20	19.57	-0.06	1.110	1.226

7. Tablet Mode SAR test results of UMTS, test distance at 1.3cm.

Test No.	Band	Mode	CH	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T619	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.09	0.777	0.870
T620	UMTS B2	RMC12.2K	9400	Top Side	off	1	24	23.51	0.06	0.979	1.096
T672	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.02	0.579	0.648
T673	UMTS B2	RMC12.2K	9400	Rear Face	off	1	24	23.51	0.01	0.683	0.765
T621	UMTS B2	RMC12.2K	9262	Top Side	off	1	24	23.66	-0.06	1.08	**1.168**
T624	UMTS B2	RMC12.2K	9538	Top Side	off	1	24	23.45	-0.01	0.904	1.026
T625	UMTS B2	RMC12.2K	9262	Top Side	off	2	24	23.66	0.02	0.814	0.880
T624	UMTS B2	RMC12.2K	9262	Top Side	off	3	24	23.66	0.06	0.782	0.846
T625	UMTS B2	RMC12.2K	9262	Top Side (repeat test)	off	1	24	23.66	0.06	0.993	1.074
T641	UMTS B4	RMC12.2K	1413	Rear Face	off	1	24	23.56	-0.01	0.777	**0.860**
T642	UMTS B4	RMC12.2K	1413	Top Side	off	1	24	23.56	0.07	0.623	0.689
T643	UMTS B4	RMC12.2K	1312	Rear Face	off	1	24	23.67	0.02	0.629	0.679
T644	UMTS B4	RMC12.2K	1513	Rear Face	off	1	24	23.53	0.11	0.7	0.780
T645	UMTS B4	RMC12.2K	1413	Rear Face	off	2	24	23.56	-0.03	0.672	0.744
T646	UMTS B4	RMC12.2K	1413	Rear Face	off	3	24	23.56	0.01	0.707	0.782
T647	UMTS B4	RMC12.2K	1413	Rear Face (repeat test)	off	1	24	23.56	-0.11	0.735	0.813

8. Tablet Mode SAR test results of LTE Band 4, Band 7 and Band 13, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T601	LTE B4	QPSK20M	20050	1	50	Rear Face	off	1	24	23.18	0.09	0.687	0.830
T602	LTE B4	QPSK20M	20050	1	50	Top Side	off	1	24	23.18	0.18	0.568	0.686
T603	LTE B4	QPSK20M	20050	50	25	Rear Face	off	1	23	22.13	-0.04	0.533	0.651
T604	LTE B4	QPSK20M	20050	50	25	Top Side	off	1	23	22.13	-0.06	0.470	0.574
T605	LTE B4	QPSK20M	20175	1	0	Rear Face	off	1	24	22.88	0.03	0.675	0.874
T606	LTE B4	QPSK20M	20300	1	50	Rear Face	off	1	24	23.00	0.01	0.701	0.883
T607	LTE B4	QPSK20M	20300	1	50	Rear Face	off	2	24	23.00	0.03	0.743	**0.936**
T608	LTE B4	QPSK20M	20300	1	50	Rear Face	off	3	24	23.00	0.02	0.709	0.893
T609	LTE B4	QPSK20M	20300	1	50	Rear Face (repeat test)	off	2	24	23.00	0.03	0.734	0.925
T385	LTE B7	QPKS20M	21100	1	50	Rear Face	off	1	23	21.76	0.01	0.153	0.203
T386	LTE B7	QPKS20M	21100	1	50	Top Side	off	1	23	21.76	0	0.157	0.209
T387	LTE B7	QPKS20M	21100	50	25	Rear Face	off	1	22	20.86	-0.03	0.109	0.142
T388	LTE B7	QPKS20M	21100	50	25	Top Side	off	1	22	20.86	0.04	0.176	0.229
T389	LTE B7	QPKS20M	20850	1	50	Top Side	off	1	23	21.69	0.05	0.167	0.226
T390	LTE B7	QPKS20M	21350	1	50	Top Side	off	1	23	21.64	0.06	0.232	0.317
T391	LTE B7	QPKS20M	21350	1	50	Top Side	off	2	23	21.64	0.07	0.247	**0.338**
T392	LTE B7	QPKS20M	21350	1	50	Top Side	off	3	23	21.64	-0.09	0.229	0.313
T451	LTE B13	QPSK10M	23230	1	24	Rear Face	off	1	24	22.91	0.03	0.298	**0.383**
T452	LTE B13	QPSK10M	23230	1	24	Top Side	off	1	24	22.91	0.01	0.158	0.203
T453	LTE B13	QPSK10M	23230	25	12	Rear Face	off	1	23	21.79	0.03	0.233	0.308
T454	LTE B13	QPSK10M	23230	25	12	Top Side	off	1	23	21.79	0	0.184	0.243
T455	LTE B13	QPSK10M	23230	1	24	Rear Face	off	2	24	22.91	-0.06	0.289	0.372
T456	LTE B13	QPSK10M	23230	1	24	Rear Face	off	3	24	22.91	-0.09	0.242	0.311

9. Tablet Mode SAR test results of LTE Band 25 and Band 41, test distance at 0cm.

Test No.	Band	Mode	CH	RB	offset	Test Position	Sensor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T485	LTE B25	QPSK20M	26590	1	50	Rear Face	off	1	24	23.71	-0.01	0.677	0.724
T486	LTE B25	QPSK20M	26590	1	50	Top Side	off	1	24	23.71	-0.08	1.200	**1.283**
T487	LTE B25	QPSK20M	26590	50	25	Rear Face	off	1	23	22.40	0	0.404	0.464
T488	LTE B25	QPSK20M	26590	50	25	Top Side	off	1	23	22.40	0.02	0.890	1.023
T489	LTE B25	QPSK20M	26140	1	0	Top Side	off	1	24	23.43	0.05	0.640	0.730
T490	LTE B25	QPSK20M	26365	1	0	Top Side	off	1	24	23.29	0.1	1.020	1.201
T491	LTE B25	QPSK20M	26590	1	50	Top Side	off	2	24	23.71	0.06	1.090	1.165
T492	LTE B25	QPSK20M	26590	1	50	Top Side	off	3	24	23.71	-0.09	1.100	1.176
T486	LTE B25	QPSK20M	26590	1	50	Top Side (repeat test)	off	1	24	23.71	-0.08	1.170	1.251
T560	LTE B41	QPSK20M	40185	1	0	Rear Face	off	1	23	22.11	0.02	0.113	0.139
T561	LTE B41	QPSK20M	40185	1	0	Top Side	off	1	23	22.11	0.03	0.165	0.203
T562	LTE B41	QPSK20M	40185	50	25	Rear Face	off	1	22	21.01	-0.01	0.085	0.106
T563	LTE B41	QPSK20M	40185	50	25	Top Side	off	1	22	21.01	0.08	0.104	0.131
T564	LTE B41	QPSK20M	39750	1	50	Top Side	off	1	23	21.76	0.09	0.095	0.127
T565	LTE B41	QPSK20M	40620	1	50	Top Side	off	1	23	21.88	-0.07	0.160	0.207
T566	LTE B41	QPSK20M	41055	1	0	Top Side	off	1	23	22.08	0.05	0.221	0.273
T567	LTE B41	QPSK20M	41490	1	0	Top Side	off	1	23	21.83	0.03	0.308	0.403
T568	LTE B41	QPSK20M	41490	1	0	Top Side	off	2	23	21.83	0.04	0.321	**0.420**
T569	LTE B41	QPSK20M	41490	1	0	Top Side	off	3	23	21.83	0	0.305	0.399

10. NB Mode SAR test results of UMTS at Sensor off.

Test No.	Band	Mode	CH	Test Position	Separation Distance (cm)	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T626	UMTS B2	RMC12.2K	9400	Rear Face	2.5	1	24	23.51	0.01	0.247	0.277
T627	UMTS B2	RMC12.2K	9400	Bottom Side	0	1	24	23.51	-0.02	0	0.000
T628	UMTS B2	RMC12.2K	9262	Rear Face	2.5	1	24	23.66	-0.04	0.254	0.275
T629	UMTS B2	RMC12.2K	9538	Rear Face	2.5	1	24	23.45	0.05	0.199	0.226
T630	UMTS B2	RMC12.2K	9262	Rear Face	2.5	2	24	23.66	-0.03	0.245	0.265
T631	UMTS B2	RMC12.2K	9262	Rear Face	2.5	3	24	23.66	0.06	0.258	**0.279**
T648	UMTS B4	RMC12.2K	1413	Rear Face	2.5	1	24	23.56	0.01	0.181	**0.200**
T649	UMTS B4	RMC12.2K	1413	Bottom Side	0	1	24	23.56	0	0.0061	0.007
T650	UMTS B4	RMC12.2K	1312	Rear Face	2.5	1	24	23.67	0.04	0.157	0.169
T651	UMTS B4	RMC12.2K	1513	Rear Face	2.5	1	24	23.53	0.03	0.173	0.193
T652	UMTS B4	RMC12.2K	1413	Rear Face	2.5	2	24	23.56	-0.05	0.168	0.186
T653	UMTS B4	RMC12.2K	1413	Rear Face	2.5	3	24	23.56	0.01	0.169	0.187
T663	UMTS B5	RMC12.2K	4182	Rear Face	2.5	1	24	22.8	0.01	0.09	0.119
T664	UMTS B5	RMC12.2K	4182	Bottom Side	0	1	24	22.8	-0.01	0.0612	0.081
T665	UMTS B5	RMC12.2K	4132	Rear Face	2.5	1	24	22.98	-0.03	0.102	0.129
T666	UMTS B5	RMC12.2K	4233	Rear Face	2.5	1	24	22.97	0.05	0.0887	0.112
T667	UMTS B5	RMC12.2K	4132	Rear Face	2.5	2	24	22.98	0.06	0.105	0.133
T668	UMTS B5	RMC12.2K	4132	Rear Face	2.5	3	24	22.98	0.02	0.119	**0.151**

11. NB Mode SAR test results of LTE Band 13, Band 25 and Band 26 at Sensor off.

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T460	LTE B13	QPSK10M	23230	1	24	Rear Face	2.5	1	24	22.91	0.04	0.077	**0.099**
T461	LTE B13	QPSK10M	23230	1	24	Bottom Side	0	1	24	22.91	0	0.000	0.000
T462	LTE B13	QPSK10M	23230	25	12	Rear Face	2.5	1	23	21.79	0.07	0.061	0.081
T463	LTE B13	QPSK10M	23230	25	12	Bottom Side	0	1	23	21.79	0	0.000	0.000
T464	LTE B13	QPSK10M	23230	1	24	Rear Face	2.5	2	24	22.91	0.05	0.051	0.066
T465	LTE B13	QPSK10M	23230	1	24	Rear Face	2.5	3	24	22.91	-0.09	0.044	0.057
T500	LTE B25	QPSK20M	26590	1	50	Rear Face	2.5	1	24	23.71	0.01	0.183	0.196
T501	LTE B25	QPSK20M	26590	1	50	Bottom Side	0	1	24	23.71	0	0.000	0.000
T502	LTE B25	QPSK20M	26590	50	25	Rear Face	2.5	1	23	22.40	0.06	0.170	0.195
T503	LTE B25	QPSK20M	26590	50	25	Bottom Side	0	1	23	22.40	0	0.000	0.000
T504	LTE B25	QPSK20M	26140	1	0	Rear Face	0	1	24	23.43	-0.06	0.195	**0.222**
T505	LTE B25	QPSK20M	26590	1	0	Rear Face	0	1	24	23.29	-0.05	0.180	0.212
T506	LTE B25	QPSK20M	26140	1	0	Rear Face	0	2	24	23.71	0.02	0.193	0.206
T507	LTE B25	QPSK20M	26140	1	0	Rear Face	0	3	24	23.71	0.17	0.199	0.213
T530	LTE B26	QPSK15M	26765	1	0	Rear Face	2.5	1	24	23.31	0.02	0.104	0.122
T531	LTE B26	QPSK15M	26765	1	0	Bottom Side	0	1	24	23.31	-0.03	0.076	0.089
T532	LTE B26	QPSK15M	26865	36	0	Rear Face	2.5	1	23	22.85	-0.08	0.075	0.078
T533	LTE B26	QPSK15M	26865	36	0	Bottom Side	0	1	23	22.85	0.05	0.057	0.059
T534	LTE B26	QPSK15M	26865	1	0	Rear Face	2.5	1	24	23.14	0.01	0.109	**0.133**
T535	LTE B26	QPSK15M	26965	1	37	Rear Face	2.5	1	24	23.08	0.04	0.079	0.097
T536	LTE B26	QPSK15M	26865	1	0	Rear Face	2.5	2	24	23.14	0	0.093	0.114
T537	LTE B26	QPSK15M	26865	1	0	Rear Face	2.5	3	24	23.14	0.05	0.085	0.103

12. NB Mode SAR test results of LTE Band 41 at Sensor off.

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T575	LTE B41	QPSK20M	40185	1	0	Rear Face	2.5	1	23	22.11	0.1	0.027	0.033
T576	LTE B41	QPSK20M	40185	1	0	Bottom Side	0	1	23	22.11	0	0.000	0.000
T577	LTE B41	QPSK20M	40185	50	25	Rear Face	2.5	1	22	21.01	0.08	0.021	0.026
T578	LTE B41	QPSK20M	40185	50	25	Bottom Side	0	1	22	21.01	0	0.000	0.000
T579	LTE B41	QPSK20M	39750	1	50	Rear Face	2.5	1	23	21.76	0.08	0.022	0.029
T580	LTE B41	QPSK20M	40620	1	50	Rear Face	2.5	1	23	21.88	0.04	0.041	0.053
T581	LTE B41	QPSK20M	41055	1	0	Rear Face	2.5	1	23	22.08	0.09	0.050	0.062
T582	LTE B41	QPSK20M	41490	1	0	Rear Face	2.5	1	23	21.83	0.01	0.061	**0.080**
T583	LTE B41	QPSK20M	40620	1	0	Rear Face	2.5	2	23	21.83	0.01	0.058	0.076
T584	LTE B41	QPSK20M	40620	1	0	Rear Face	2.5	3	23	21.83	0.03	0.056	0.073

13. NB Mode SAR test results of LTE Band 4, Band 7 and Band 12 at Sensor off.

Test No.	Band	Mode	CH	RB	offset	Test Position	Separation Distance (cm)	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T360	LTE B4	QPSK20M	20050	1	50	Rear Face	2.5	1	24	23.18	0.06	0.142	0.172
T361	LTE B4	QPSK20M	20050	1	50	Bottom Side	0	1	24	23.18	0	0.000	0.000
T362	LTE B4	QPSK20M	20050	50	25	Rear Face	2.5	1	23	22.13	-0.01	0.102	0.125
T363	LTE B4	QPSK20M	20050	50	25	Bottom Side	0	1	23	22.13	0	0.000	0.000
T364	LTE B4	QPSK20M	20175	1	0	Rear Face	2.5	1	24	22.88	0.02	0.134	**0.174**
T365	LTE B4	QPSK20M	20300	1	50	Rear Face	2.5	1	24	23.00	-0.06	0.135	0.170
T366	LTE B4	QPSK20M	20050	1	50	Rear Face	2.5	2	24	23.18	0.08	0.133	0.161
T367	LTE B4	QPSK20M	20050	1	50	Rear Face	2.5	3	24	23.18	-0.09	0.137	0.166
T400	LTE B7	QPSK20M	21100	1	50	Rear Face	2.5	1	23	21.76	0.01	0.055	0.073
T401	LTE B7	QPSK20M	21100	1	50	Bottom Side	0	1	23	21.76	0	0.000	0.000
T402	LTE B7	QPSK20M	21100	50	25	Rear Face	2.5	1	22	20.86	-0.04	0.043	0.056
T403	LTE B7	QPSK20M	21100	50	25	Bottom Side	0	1	22	20.86	0	0.000	0.000
T404	LTE B7	QPSK20M	20850	1	50	Rear Face	2.5	1	23	21.69	-0.09	0.059	0.080
T405	LTE B7	QPSK20M	21350	1	50	Rear Face	2.5	1	23	21.64	0.04	0.062	**0.085**
T406	LTE B7	QPSK20M	21350	1	50	Rear Face	2.5	2	23	21.64	0.02	0.056	0.077
T407	LTE B7	QPSK20M	21350	1	50	Rear Face	2.5	3	23	21.64	0.03	0.058	0.079
T425	LTE B12	QPSK10M	23095	1	24	Rear Face	2.5	1	24	23.28	0.16	0.014	0.016
T426	LTE B12	QPSK10M	23095	1	24	Bottom Side	0	1	24	23.28	0	0.000	0.000
T427	LTE B12	QPSK10M	23060	25	0	Rear Face	2.5	1	23	22.14	-0.12	0.010	0.012
T428	LTE B12	QPSK10M	23060	25	0	Bottom Side	0	1	23	22.14	0	0.000	0.000
T429	LTE B12	QPSK10M	23060	1	0	Rear Face	2.5	1	24	23.19	-0.04	0.012	0.014
T430	LTE B12	QPSK10M	23130	1	24	Rear Face	2.5	1	24	23.08	0.02	0.019	**0.023**
T431	LTE B12	QPSK10M	23130	1	24	Rear Face	2.5	2	24	23.08	-0.01	0.011	0.014
T432	LTE B12	QPSK10M	23130	1	24	Rear Face	2.5	3	24	23.08	-0.04	0.013	0.016

8.2.2 WLAN SAR MEASUREMENT RESULT

14. Tablet Mode SAR test results of WIFI 2.4G / BT, test distance at 0cm.

Test No.	Band	CH	Test Position	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T01	802.11b	6	Rear Face	B	NDX	1	18	17.76	0	0.854	0.903
T02	802.11b	6	Right Side	B	NDX	1	18	17.76	0.1	0.107	0.113
T03	802.11b	6	Bottom Side	B	NDX	1	18	17.76	0.06	0.511	0.540
T04	802.11b	1	Rear Face	B	NDX	1	18	17.75	0.02	0.809	0.857
T05	802.11b	11	Rear Face	B	NDX	1	18	17.73	-0.01	0.942	**1.002**
T06	802.11b	11	Rear Face	B	NDX	2	18	17.73	0.03	0.739	0.786
T07	802.11b	11	Rear Face	B	NDX	3	18	17.73	0.04	0.900	0.958
T08	802.11b	11	Rear Face	B	ATC	1	18	17.73	0	0.759	0.808
T09	802.11b	11	Rear Face (Repeat test)	B	NDX	1	18	17.73	-0.02	0.911	0.969
T21	802.11b	6	Rear Face	A	NDX	1	18	17.67	-0.02	0.800	0.863
T22	802.11b	6	Left Side	A	NDX	1	18	17.67	0.01	0.136	0.147
T23	802.11b	6	Bottom Side	A	NDX	1	18	17.67	0.03	0.579	0.625
T24	802.11b	1	Rear Face	A	NDX	1	18	17.63	0.09	0.881	**0.959**
T25	802.11b	11	Rear Face	A	NDX	1	18	17.65	-0.05	0.841	0.912
T26	802.11b	1	Rear Face	A	NDX	2	18	17.63	0.06	0.875	0.953
T27	802.11b	1	Rear Face	A	NDX	3	18	17.63	0.02	0.878	0.956
T28	802.11b	1	Rear Face	A	ATC	1	18	17.63	0	0.315	0.343
T30	802.11b	1	Rear Face (Repeat test)	A	NDX	1	18	17.63	0.09	0.868	0.945
T321	BT/DH5	78	Rear Face	A	NDX	1	11.5	10.55	0	0.118	0.147
T322	BT/DH5	78	Bottom Side	A	NDX	1	11.5	10.55	0	0.054	0.067
T323	BT/DH5	0	Rear Face	A	NDX	1	11.5	9.57	0	0.098	0.153
T324	BT/DH5	39	Rear Face	A	NDX	1	11.5	9.77	0	0.164	0.244
T325	BT/DH5	39	Rear Face	A	NDX	2	11.5	9.77	0	0.182	0.271
T326	BT/DH5	39	Rear Face	A	NDX	3	11.5	9.77	0	0.183	**0.273**
T327	BT/DH5	39	Rear Face	A	ATC	1	11.5	9.77	0	0.073	0.108

15. Tablet Mode SAR test results of WIFI 5.3G / 5.5G, test distance at 0cm.

Test No.	Band	CH	Test Position	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T80	802.11a	60	Rear Face	B	NDX	1	15	14.72	0	0.643	0.686
T81	802.11a	60	Right Side	B	NDX	1	15	14.72	0	0.372	0.397
T82	802.11a	60	Bottom Side	B	NDX	1	15	14.72	0.09	0.364	0.388
T83	802.11a	52	Rear Face	B	NDX	1	15	14.53	0	0.625	0.696
T84	802.11a	64	Rear Face	B	NDX	1	15	14.63	0	0.656	**0.714**
T85	802.11a	64	Rear Face	B	NDX	2	15	14.63	0	0.536	0.584
T86	802.11a	64	Rear Face	B	NDX	3	15	14.63	0	0.554	0.603
T87	802.11a	64	Rear Face	B	ATC	1	15	14.63	0	0.116	0.126
T100	802.11a	60	Rear Face	A	NDX	1	15	14.65	0	0.418	0.453
T101	802.11a	60	Left Side	A	NDX	1	15	14.65	0	0.015	0.016
T102	802.11a	60	Bottom Side	A	NDX	1	15	14.65	-0.02	0.577	**0.625**
T103	802.11a	52	Bottom Side	A	NDX	1	15	14.47	0	0.515	0.582
T104	802.11a	64	Bottom Side	A	NDX	1	15	14.62	0	0.440	0.480
T105	802.11a	60	Bottom Side	A	NDX	2	15	14.65	0	0.547	0.593
T106	802.11a	60	Bottom Side	A	NDX	3	15	14.65	0	0.553	0.599
T107	802.11a	60	Bottom Side	A	ATC	1	15	14.65	0	0.433	0.469
T160	802.11a	100	Rear Face	B	NDX	1	15	14.65	0	0.558	0.605
T161	802.11a	100	Right Side	B	NDX	1	15	14.65	-0.02	0.149	0.162
T162	802.11a	100	Bottom Side	B	NDX	1	15	14.65	0	0.217	0.235
T163	802.11a	116	Rear Face	B	NDX	1	15	14.52	0	0.639	**0.714**
T164	802.11a	140	Rear Face	B	NDX	1	15	14.56	0	0.362	0.401
T165	802.11a	116	Rear Face	B	NDX	2	15	14.52	0	0.575	0.642
T166	802.11a	116	Rear Face	B	NDX	3	15	14.52	0	0.573	0.640
T167	802.11a	116	Rear Face	B	ATC	1	15	14.52	0	0.276	0.308
T180	802.11a	116	Rear Face	A	NDX	1	15	14.67	0	0.588	0.634
T181	802.11a	116	Right Side	A	NDX	1	15	14.67	0	0.182	0.196
T182	802.11a	116	Bottom Side	A	NDX	1	15	14.67	0	1.01	**1.090**
T183	802.11a	100	Bottom Side	A	NDX	1	15	14.61	0	0.435	0.476
T184	802.11a	140	Bottom Side	A	NDX	1	15	14.54	0.06	0.973	1.082
T185	802.11a	116	Bottom Side	A	NDX	2	15	14.67	0	0.907	0.979
T186	802.11a	116	Bottom Side	A	NDX	3	15	14.67	0	0.895	0.966
T187	802.11a	116	Bottom Side	A	ATC	1	15	14.67	0	0.449	0.484
T188	802.11a	116	Bottom Side (Repeat test)	A	NDX	1	15	14.67	0	0.988	1.066

16. Tablet Mode SAR test results of WIFI 5.8G, test distance at 0cm.

Test No.	Band	CH	Test Position	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T240	802.11a	165	Rear Face	B	NDX	1	15	14.66	0	0.76	0.822
T241	802.11a	165	Right Side	B	NDX	1	15	14.66	0	0.248	0.268
T242	802.11a	165	Bottom Side	B	NDX	1	15	14.66	0	0.186	0.201
T243	802.11a	149	Rear Face	B	NDX	1	15	14.64	0	0.845	**0.918**
T244	802.11a	157	Rear Face	B	NDX	1	15	14.52	0	0.822	0.918
T245	802.11a	149	Rear Face	B	NDX	2	15	14.64	0	0.831	0.903
T246	802.11a	149	Rear Face	B	NDX	3	15	14.64	0	0.816	0.887
T247	802.11a	149	Rear Face	B	ATC	1	15	14.64	0	0.136	0.148
T248	802.11a	149	Rear Face (Repeat test)	B	NDX	1	15	14.64	0	0.841	0.914
T260	802.11a	149	Rear Face	A	NDX	1	15	14.69	0	0.465	0.499
T261	802.11a	149	Left Side	A	NDX	1	15	14.69	0	0.028	0.031
T262	802.11a	149	Bottom Side	A	NDX	1	15	14.69	0	0.92	0.988
T263	802.11a	157	Bottom Side	A	NDX	1	15	14.65	-0.09	0.805	0.873
T264	802.11a	165	Bottom Side	A	NDX	1	15	14.63	0	1.08	**1.176**
T265	802.11a	165	Bottom Side	A	NDX	2	15	14.63	0	1.05	1.143
T266	802.11a	165	Bottom Side	A	NDX	3	15	14.63	0	1.06	1.154
T267	802.11a	165	Bottom Side	A	ATC		15	14.63	0	0.451	0.491
T268	802.11a	165	Bottom Side (Repeat test)	A	NDX	1	15	14.63	0	1.07	1.165

17. NB Mode SAR test results of WIFI 2.4G / BT

Test No.	Band	CH	Test Position	Distance (cm)	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T11	802.11b	6	Rear Face	2.5	B	NDX	1	18	17.76	0	0.023	0.024
T12	802.11b	6	Bottom Side	0	B	NDX	1	18	17.76	0.02	0.388	0.410
T13	802.11b	1	Rear Face	0	B	NDX	1	18	17.75	-0.02	0.383	0.406
T14	802.11b	11	Bottom Side	0	B	NDX	1	18	17.73	-0.01	0.405	**0.431**
T15	802.11b	11	Bottom Side	0	B	NDX	2	18	17.73	0.03	0.372	0.396
T16	802.11b	11	Bottom Side	0	B	NDX	3	18	17.73	0.01	0.338	0.360
T17	802.11b	11	Bottom Side	0	B	ATC	1	18	17.73	0.01	0.296	0.315
T31	802.11b	6	Rear Face	2.5	A	NDX	1	18	17.67	0.02	0.022	0.023
T32	802.11b	6	Bottom Side	0	A	NDX	1	18	17.67	0.01	0.148	0.160
T33	802.11b	1	Bottom Side	0	A	NDX	1	18	17.63	-0.02	0.144	0.157
T34	802.11b	11	Bottom Side	0	A	NDX	1	18	17.65	0.03	0.137	0.148
T35	802.11b	6	Bottom Side	0	A	NDX	2	18	17.67	-0.05	0.144	0.155
T36	802.11b	6	Bottom Side	0	A	NDX	3	18	17.67	0	0.156	**0.168**
T37	802.11b	6	Bottom Side	0	A	ATC	3	18	17.67	0	0.070	0.075
T330	BT/DH5	78	Rear Face	2.5	A	NDX	1	11.5	10.55	0	0.000	0.000
T331	BT/DH5	78	Bottom Side	0	A	NDX	1	11.5	10.55	0	0.009	0.011
T332	BT/DH5	0	Bottom Side	0	A	NDX	1	11.5	9.57	0	0.010	0.016
T333	BT/DH5	39	Bottom Side	0	A	NDX	1	11.5	9.77	0	0.012	**0.017**
T334	BT/DH5	39	Bottom Side	0	A	NDX	2	11.5	9.77	0	0.011	0.017
T335	BT/DH5	39	Bottom Side	0	A	NDX	3	11.5	9.77	0	0.011	0.017
T336	BT/DH5	39	Bottom Side	0	A	ATC	3	11.5	9.77	0	0.000	0.000

18. NB Mode SAR test results of WIFI 5.3G / 5.5G

Test No.	Band	CH	Test Position	Distance (cm)	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T90	802.11a	60	Rear Face	2.5	B	NDX	1	15	14.72	0	0.090	0.096
T91	802.11a	60	Bottom Side	0	B	NDX	1	15	14.72	0.06	0.116	**0.124**
T92	802.11a	52	Bottom Side	0	B	NDX	1	15	14.53	0	0.110	0.123
T93	802.11a	64	Bottom Side	0	B	NDX	1	15	14.63	0	0.083	0.090
T94	802.11a	60	Bottom Side	0	B	NDX	2	15	14.72	0	0.111	0.118
T95	802.11a	60	Bottom Side	0	B	NDX	3	15	14.72	0	0.109	0.116
T96	802.11a	60	Bottom Side	0	B	ATC	1	15	14.72	0	0.000	0.000
T110	802.11a	60	Rear Face	2.5	A	NDX	1	15	14.65	0	0.068	0.074
T111	802.11a	60	Bottom Side	0	A	NDX	1	15	14.65	0	0.127	0.138
T112	802.11a	52	Bottom Side	0	A	NDX	1	15	14.47	0	0.160	0.181
T113	802.11a	64	Bottom Side	0	A	NDX	1	15	14.62	0	0.187	0.204
T114	802.11a	64	Bottom Side	0	A	NDX	2	15	14.62	0	0.194	**0.212**
T115	802.11a	64	Bottom Side	0	A	NDX	3	15	14.62	0	0.173	0.189
T116	802.11a	64	Bottom Side	0	A	ATC	1	15	14.62	0	0.097	0.105
T170	802.11a	100	Rear Face	2.5	B	NDX	1	15	14.65	0	0.065	**0.070**
T171	802.11a	100	Bottom Side	0	B	NDX	1	15	14.65	0	0.000	0.000
T172	802.11a	116	Rear Face	2.5	B	NDX	1	15	14.52	0	0.052	0.058
T173	802.11a	140	Rear Face	2.5	B	NDX	1	15	14.56	0	0.042	0.046
T174	802.11a	100	Rear Face	2.5	B	NDX	2	15	14.65	0	0.052	0.056
T175	802.11a	100	Rear Face	2.5	B	NDX	3	15	14.65	0	0.058	0.063
T176	802.11a	100	Rear Face	2.5	B	ATC	1	15	14.65	0	0.046	0.050
T190	802.11a	116	Rear Face	2.5	A	NDX	1	15	14.67	0	0.057	0.061
T191	802.11a	116	Bottom Side	0	A	NDX	1	15	14.67	0	0.118	0.127
T192	802.11a	100	Bottom Side	0	A	NDX	1	15	14.61	0	0.118	0.129
T193	802.11a	140	Bottom Side	0	A	NDX	1	15	14.54	0	0.144	**0.160**
T194	802.11a	140	Bottom Side	0	A	NDX	2	15	14.54	0	0.142	0.158
T195	802.11a	140	Bottom Side	0	A	NDX	3	15	14.54	0	0.138	0.165
T196	802.11a	140	Bottom Side	0	A	ATC	1	15	14.54	0	0.106	0.118

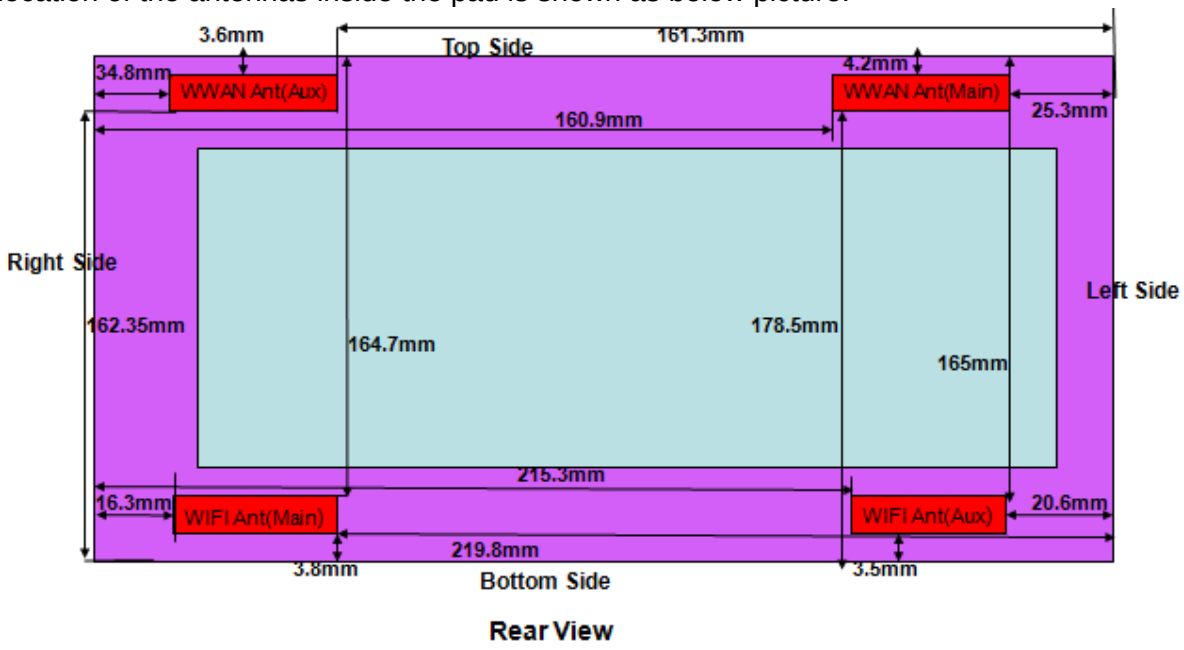
19. NB Mode SAR test results of WIFI 5.8G

Test No.	Band	CH	Test Position	Distance (cm)	Ant status	Ant vendor	Battery	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR Value (W/kg)1-g	Reported SAR
T251	802.11a	165	Rear Face	2.5	B	NDX	1	15	14.66	0	0.166	**0.180**
T252	802.11a	165	Bottom Side	0	B	NDX	1	15	14.66	0	0.045	0.049
T253	802.11a	149	Rear Face	2.5	B	NDX	1	15	14.64	0	0.163	0.177
T254	802.11a	157	Rear Face	2.5	B	NDX	1	15	14.52	0	0.123	0.137
T255	802.11a	165	Rear Face	2.5	B	NDX	2	15	14.66	0	0.147	0.159
T256	802.11a	165	Rear Face	2.5	B	NDX	3	15	14.66	0	0.165	0.178
T257	802.11a	165	Rear Face	2.5	B	ATC	1	15	14.66	0	0.02	0.022
T270	802.11a	149	Rear Face	2.5	A	NDX	1	15	14.69	0	0.0459	0.049
T271	802.11a	149	Bottom Side	0	A	NDX	1	15	14.69	0	0.228	**0.245**
T272	802.11a	157	Bottom Side	0	A	NDX	1	15	14.65	0	0.193	0.209
T273	802.11a	165	Bottom Side	0	A	NDX	1	15	14.63	0	0.158	0.172
T274	802.11a	149	Bottom Side	0	A	NDX	2	15	14.69	0	0.185	0.199
T275	802.11a	149	Bottom Side	0	A	NDX	3	15	14.69	0	0.203	0.218
T276	802.11a	149	Bottom Side	0	A	ATC	1	15	14.69	0	0.066	0.071

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 447498D01 General RF Exposure Guidance v06.

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



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.

WWAN / WiFi / BT transmit simultaneously

No.	Configuration	Body
1	2.4G/5GWiFi Ant(Main)+2.4G/5G WiFi Ant(Aux)	Yes
2	2.4G/5GWiFi Ant(Main)+BT	Yes
3	5G WiFi Ant(Aux)+BT	Yes
4	5GWiFi Ant(Main)+5G WiFi Ant(Aux)+BT	Yes
5	WWAN(UMTS/LTE)+BT	Yes
6	WWAN(UMTS/LTE)+2.4G/5GWiFi Ant(Main)	Yes
7	WWAN(UMTS/LTE)+2.4G/5G WiFi Ant(Aux)	Yes
8	WWAN(UMTS/LTE)+2.4G/5GWiFi Ant(Main)+ 2.4G/5G WiFi Ant(Aux)	Yes
9	WWAN(UMTS/LTE)+2.4G/5GWiFi Ant(Main)+BT	Yes
10	WWAN(UMTS/LTE)+5GWiFi Ant(Main)+ 5G WiFi Ant(Aux)+BT	Yes

Note: 1). The WiFi Ant(Main) and WiFi Ant(Aux) are for Intel 9560 NGW Module
2). The WWAN Ant is for Sierra Wireless EM7455 Module Card.
3). BT antenna only supports the aux antenna.
4). The module has support the MIMO Tx.

8.3.1SAR SUMMATION SCENARIO

About WWAN and WLAN

Position	Tablet					Notebook	
	Rear Face	Left Side	Right Side	Top Side	Bottom Side	Rear Face	Bottom Side
UMTS B2	0.926	0.107	-	1.168	-	0.279	0.000
UMTS B4	0.997	0.238	-	1.208	-	0.200	0.007
UMTS B5	**1.294**	0.283	-	0.785	-	0.151	0.081
LTE B4	0.936	0.296	-	0.950	-	0.172	0.000
LTE B7	0.779	0.136	-	0.680	-	0.085	0.000
LTE B12	0.529	0.057	-	0.313	-	0.023	0.000
LTE B13	0.687	0.140	-	0.510	-	0.099	0.000
LTE B25	0.889	0.111	-	1.283	-	0.213	0.000
LTE B26	1.279	0.324	-	1.232	-	0.133	0.089
LTE B41	0.477	0.068	-	1.292	-	0.080	0.000
802.11b/g	**1.002**	-	0.113	-	0.540	0.431	0.024
5.3G	0.714	-	0.397	-	0.388	0.096	0.124
5.5G	0.714	-	0.162	-	0.235	0.070	0.000
5.8G	0.918	-	0.268	-	0.201	0.180	0.049
802.11b/g	**0.959**	0.147	-	-	0.625	0.168	0.023
5.3G	0.453	0.016	-	-	0.625	0.074	0.212
5.5G	0.634	0.196	-	-	1.090	0.061	0.160
5.8G	0.499	0.031	-	-	1.176	0.049	0.245
Bluetooth	0.273	0.000	0.000	0.000	0.067	0.017	0.000
Max. SAR Summation	**3.255**	0.520	0.397	1.292	1.783	0.878	0.458
Hot Spot Separation	Plz Cal.	-	-	-	-	-	-
SPLSR	**Required**	**-**	**-**	**-**	**-**	**-**	**-**

8.3.2SIMULTANEOUS TRANSMISSION CONLCUSION

According to KDB447498 D01, When the sum of SAR is larger than limit, SAR test exclusion isdetermined by the SAR to peak location separation ratio(SPLSR).When the SAR to peak location ratio for each pair of antennas is 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. When 10-g SAR applies, the ratio must be ≤ 0.10.

When SAR is measured for both antennas in the pair the peak location separation distance is computed by the followingformula:

$$\text{Distance}_{Tx1\text{-}Tx2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2}$$

$$\text{SPLS Ratio} = (SAR_1 + SAR_2)^{1.5}/R_i$$

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna. Due to curvatures on the SAM phantom, when SAR is estimated for one of the antennas in an antenna pair, the measured peak SAR location should be translated onto the test device to determine the peak location separation for the antenna pair. The ERP location on the phantom is aligned with the ERP location on the handset, with 6mm separation in the z coordinate due to the ear spacer. A measured peak location can be translated onto the handset, with respect to the ERP location, by ignoring the 6 mm offset in the z coordinate. The assumed peak location of the antenna with estimated SAR can also be determined with respect to the ERP location on the handset. The peak location separation distance is estimated by the x and y coordinated of the peaks, referenced to the ERP location. While flat phantoms are not expected to have these issues, the same peak translation approach should be applied to determine peak location separation.

T	Position	Band	1-g SAR	X(m)	Y(m)	Z(m)
1	T05	2.4G ANT B	1.12	-0.0595	0.084	-0.179
2	T24	2.4G ANT A	1.05	-0.0535	-0.0735	-0.179
3	T84	5.3G ANT B	1.07	-0.0765	0.125	-0.181
4	T102	5.3G ANT A	1.13	-0.009	0.102	-0.182
5	T163	5.5G ANT B	1.29	-0.045	0.119	-0.182
6	T180	5.5G ANT A	1.15	-0.0675	-0.101	-0.182
7	T243	5.8G ANT B	1.6	-0.072	0.107	-0.182
8	T260	5.8G ANT A	0.859	-0.0775	-0.0595	-0.182
17	T611	UMTS B2	0.916	0.0945	-0.066	-0.179
18	T633	UMTS B4	0.87	0.083	-0.0655	-0.179
19	T655	UMTS B5	1.07	0.0765	-0.054	-0.18
20	T607	LTE B4	0.813	0.0855	-0.074	-0.18
21	T377	LTE B7	0.691	0.087	-0.0465	-0.178
22	T417	LTE B12	0.473	0.0885	-0.083	-0.18
23	T440	LTE B13	0.607	0.089	-0.072	-0.18
24	T470	LTE B25	0.883	0.084	-0.0495	-0.179
25	T511	LTE B26	1.16	0.075	-0.057	-0.18
26	T541	LTE B41	0.519	0.0855	-0.0465	-0.179

Fig	T1	T2	SAR Peak 1 (m)			SAR Peak 2 (m)			(mm)	SAR 1 (mW/g)	SAR 2 (mW/g)	SAR1+SAR2 (mW/g)	SPLSR
			X1	Y1	Z1	X2	Y2+Y	Z2+ Z					
3	T05	T24	-0.0595	0.084	-0.179	-0.0535	-0.0735	-0.179	157.6	1.00	0.96	1.96	**0.017**
	T05	T611	-0.0595	0.084	-0.179	0.0945	-0.066	-0.179	215.0	1.00	0.93	1.93	**0.012**
	T05	T633	-0.0595	0.084	-0.179	0.083	-0.0655	-0.179	206.5	1.00	1.00	2.00	**0.014**
1	T05	T655	-0.0595	0.084	-0.179	0.0765	-0.054	-0.18	193.8	1.00	1.29	2.30	**0.018**
	T05	T607	-0.0595	0.084	-0.179	0.0855	-0.074	-0.18	214.5	1.00	0.83	1.83	**0.012**
	T05	T377	-0.0595	0.084	-0.179	0.087	-0.0465	-0.178	196.2	1.00	0.78	1.78	**0.012**
	T05	T440	-0.0595	0.084	-0.179	0.089	-0.072	-0.18	215.4	1.00	0.69	1.69	**0.010**
	T05	T470	-0.0595	0.084	-0.179	0.084	-0.0495	-0.179	196.0	1.00	1.22	2.23	**0.017**
	T05	T511	-0.0595	0.084	-0.179	0.075	-0.057	-0.18	194.9	1.00	1.28	2.28	**0.018**
	T24	T611	-0.0535	-0.0735	-0.179	0.0945	-0.066	-0.179	148.2	0.96	0.93	1.89	**0.017**
	T24	T633	-0.0535	-0.0735	-0.179	0.083	-0.0655	-0.179	136.7	0.96	1.00	1.96	**0.020**
2	T24	T655	-0.0535	-0.0735	-0.179	0.0765	-0.054	-0.18	131.5	0.96	1.29	2.25	**0.026**
	T24	T607	-0.0535	-0.0735	-0.179	0.0855	-0.074	-0.18	139.0	0.96	0.83	1.79	**0.017**
	T24	T377	-0.0535	-0.0735	-0.179	0.087	-0.0465	-0.178	143.1	0.96	0.78	1.74	**0.016**
	T24	T440	-0.0535	-0.0735	-0.179	0.089	-0.072	-0.18	142.5	0.96	0.69	1.65	**0.015**
	T24	T470	-0.0535	-0.0735	-0.179	0.084	-0.0495	-0.179	139.6	0.96	1.22	2.18	**0.023**
	T24	T511	-0.0535	-0.0735	-0.179	0.075	-0.057	-0.18	129.6	0.96	1.28	2.24	**0.026**
	T84	T611	-0.009	0.102	-0.182	0.0945	-0.066	-0.179	197.3	0.71	0.93	1.64	**0.011**
	T84	T633	-0.009	0.102	-0.182	0.083	-0.0655	-0.179	191.1	0.71	1.00	1.71	**0.012**
	T84	T655	-0.009	0.102	-0.182	0.0765	-0.054	-0.18	177.9	0.71	1.29	2.01	**0.016**
	T84	T607	-0.009	0.102	-0.182	0.0855	-0.074	-0.18	199.8	0.71	0.83	1.54	**0.010**
	T84	T470	-0.009	0.102	-0.182	0.084	-0.0495	-0.179	177.8	0.71	1.22	1.94	**0.015**
	T84	T511	-0.009	0.102	-0.182	0.075	-0.057	-0.18	179.8	0.71	1.28	1.99	**0.016**
	T102	T655	-0.0765	0.125	-0.181	0.0765	-0.054	-0.18	235.5	0.45	1.29	1.75	**0.010**
	T102	T470	-0.0765	0.125	-0.181	0.084	-0.0495	-0.179	237.1	0.45	1.22	1.68	**0.009**
	T102	T511	-0.0765	0.125	-0.181	0.075	-0.057	-0.18	236.8	0.45	1.28	1.73	**0.010**
	T163	T611	-0.045	0.119	-0.182	0.0945	-0.066	-0.179	231.7	0.71	0.93	1.64	**0.009**
	T163	T633	-0.045	0.119	-0.182	0.083	-0.0655	-0.179	224.6	0.71	1.00	1.71	**0.010**
	T163	T655	-0.045	0.119	-0.182	0.0765	-0.054	-0.18	211.4	0.71	1.29	2.01	**0.013**
	T163	T607	-0.045	0.119	-0.182	0.0855	-0.074	-0.18	233.0	0.71	0.83	1.54	**0.008**
	T163	T470	-0.045	0.119	-0.182	0.084	-0.0495	-0.179	212.2	0.71	1.22	1.94	**0.013**
	T163	T511	-0.045	0.119	-0.182	0.075	-0.057	-0.18	213.0	0.71	1.28	1.99	**0.013**
	T180	T633	-0.0675	-0.101	-0.182	0.083	-0.0655	-0.179	154.7	0.63	1.00	1.63	**0.013**
	T180	T655	-0.0675	-0.101	-0.182	0.0765	-0.054	-0.18	151.5	0.63	1.29	1.93	**0.018**
	T180	T470	-0.0675	-0.101	-0.182	0.084	-0.0495	-0.179	160.0	0.63	1.22	1.86	**0.016**

	T180	T511	-0.0675	-0.101	-0.182	0.075	-0.057	-0.18	149.2	0.63	1.28	1.91	**0.018**
	T243	T611	-0.072	0.107	-0.182	0.0945	-0.066	-0.179	240.1	0.92	0.93	1.84	**0.010**
	T243	T633	-0.072	0.107	-0.182	0.083	-0.0655	-0.179	231.9	0.92	1.00	1.91	**0.011**
	T243	T655	-0.072	0.107	-0.182	0.0765	-0.054	-0.18	219.0	0.92	1.29	2.21	**0.015**
	T243	T607	-0.072	0.107	-0.182	0.0855	-0.074	-0.18	239.9	0.92	0.83	1.75	**0.010**
	T243	T377	-0.072	0.107	-0.182	0.087	-0.0465	-0.178	221.0	0.92	0.78	1.70	**0.010**
	T243	T440	-0.072	0.107	-0.182	0.089	-0.072	-0.18	240.8	0.92	0.69	1.60	**0.008**
	T243	T470	-0.072	0.107	-0.182	0.084	-0.0495	-0.179	221.0	0.92	1.22	2.14	**0.014**
	T243	T511	-0.072	0.107	-0.182	0.075	-0.057	-0.18	220.2	0.92	1.28	2.20	**0.015**
	T260	T655	-0.0775	-0.0595	-0.182	0.0765	-0.054	-0.18	154.1	0.50	1.29	1.79	**0.016**
	T260	T470	-0.0775	-0.0595	-0.182	0.084	-0.0495	-0.179	161.8	0.50	1.22	1.72	**0.014**
	T260	T511	-0.0775	-0.0595	-0.182	0.075	-0.057	-0.18	152.5	0.50	1.28	1.78	**0.016**

The SPLSR is under 0.04, the Simultaneous SAR is not required.

8.3.3 SPLSR CONLCUSION FIGURE

The picture is only show the worst value of the SPLSR.

Fig1 T05_802.11b_Ant B + T24_802.11b_Ant A + T655_UMTS B5 with Rear Face_0cm

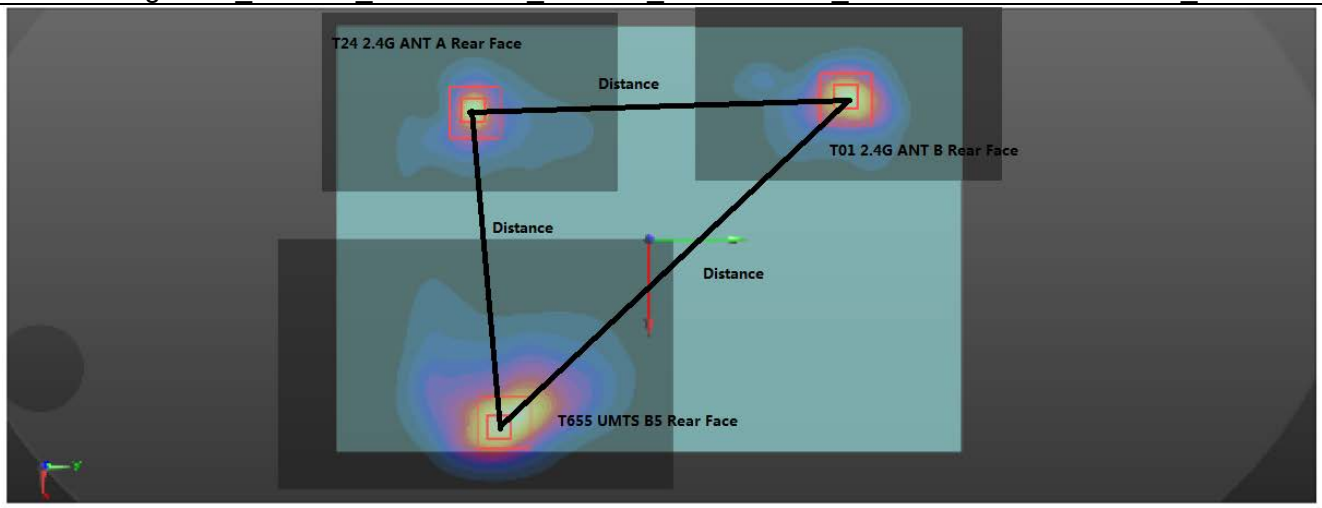


Fig2 T24_802.11b_Ant A + T655_UMTS B5 with Rear Face_0cm

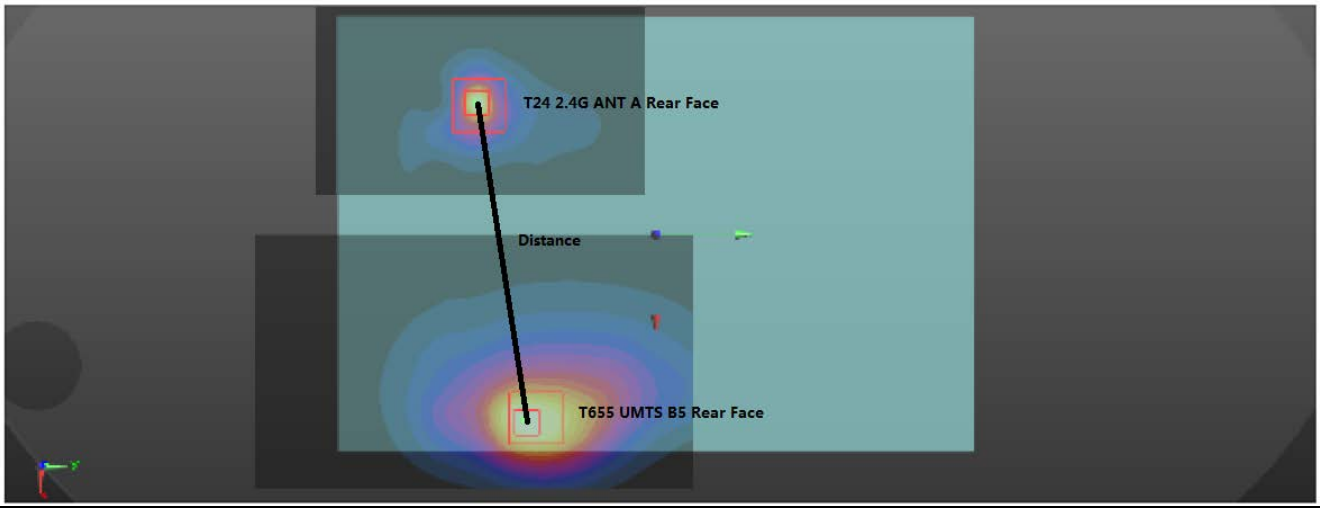
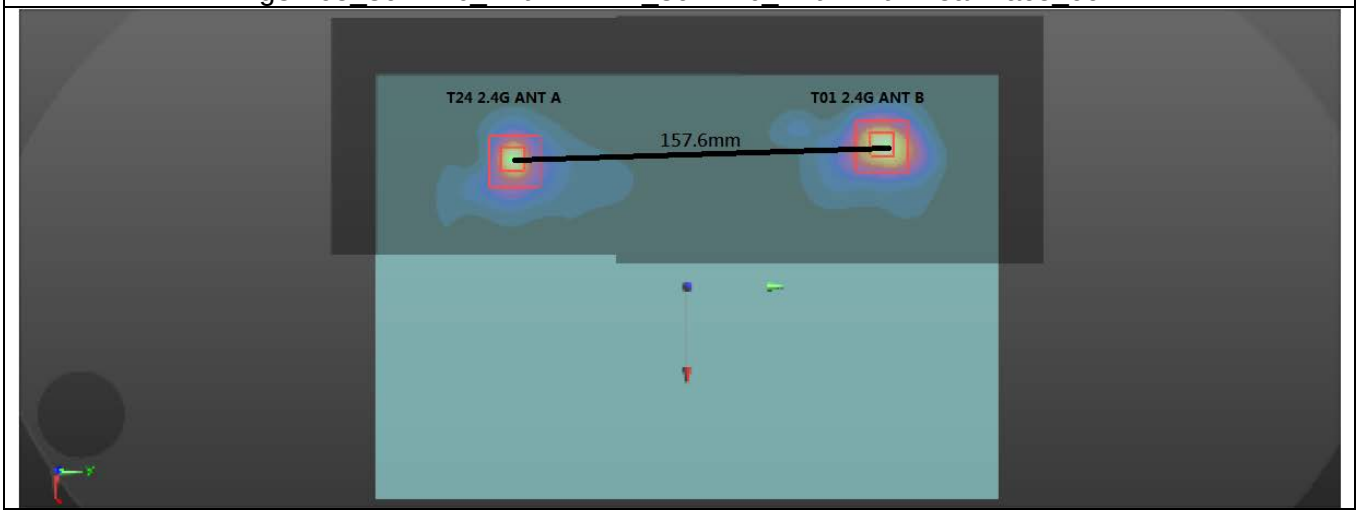


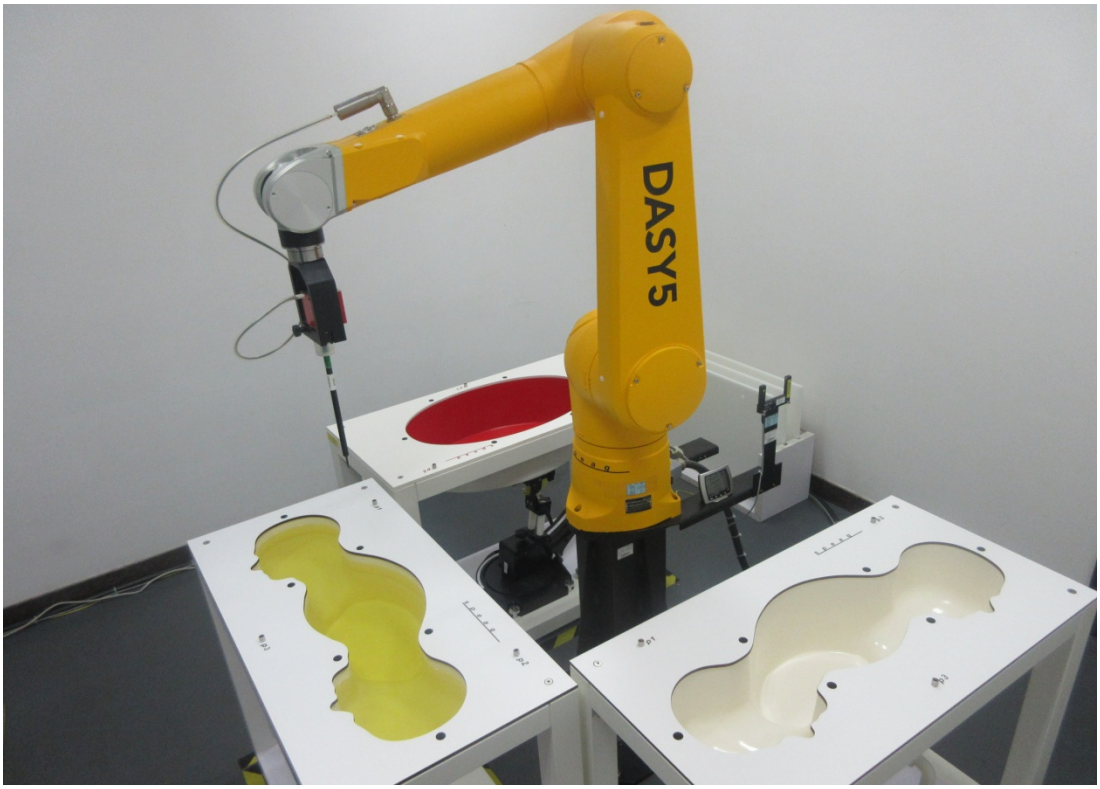
Fig3 T05_802.11b_Ant B + T24_802.11b_Ant A with Rear Face_0cm



APPENDIX

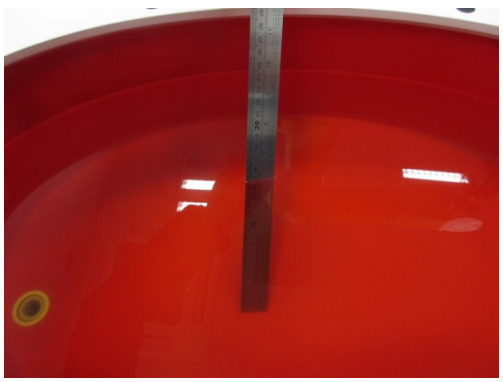
1. Test Layout

Specific Absorption Rate Test Layout

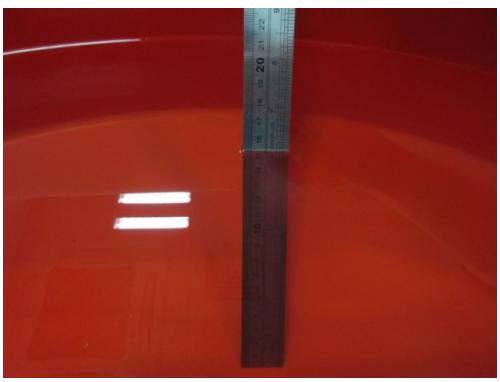


Liquid depth in the flat Phantom (≥15cm depth)

Body(1900~3800MHz)_15.6cm



Body (5G)_15.8cm



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