SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

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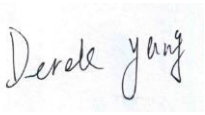
FCC SAR TEST REPORT

Application No:	SZEM1801000827RG
Applicant:	Huawei Technologies Co., Ltd.
Manufacturer:	Huawei Technologies Co., Ltd.
Factory:	Huawei Technologies Co., Ltd.
Product Name:	Smart Phone
Model No.(EUT):	ANE-LX3
Trade Mark:	HUAWEI
FCC ID:	QISANE-LX3
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2018-01-21
Date of Test:	2018-01-31 to 2018-02-14
Date of Issue:	2018-02-15
Test conclusion:	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Derek Yang

Wireless Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-02-15		Original

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)		
	Head	Body-worn	Hotspot
GSM850	0.88	0.41	0.41
GSM1900	0.63	0.40	0.69
WCDMA Band II	0.52	0.82	0.80
WCDMA Band IV	0.63	0.67	0.79
WCDMA Band V	0.68	0.43	0.50
LTE Band 2	0.71	0.62	0.63
LTE Band 4	0.78	0.78	0.88
LTE Band 5	0.54	0.39	0.35
LTE Band 7	0.60	0.46	0.37
LTE Band 12	0.63	0.20	0.32
LTE Band 17	NA	NA	NA
WI-FI (2.4GHz)	0.36	0.13	0.29
Bluetooth	0.12	NA	<0.10
SAR Limited(W/kg)	1.6		
Maximum Simultaneous Transmission SAR (W/kg)			
Scenario	Head	Body-worn	Hotspot
Sum SAR	0.99	1.00	0.88
SPLSR	NA	NA	NA
SPLSR Limited	0.04		

Note：According to TCB workshop October,2014 RF Exposure Procedures Update(Overlapping LTE Bands),SAR for LTE Band 17 (Frequency range:704-716 MHz) is covered by LTE Band 12 (Frequency range:699-716 MHz) due to similar frequency range, same maximum tune up limit and same channel bandwidth.

CONTENTS

1 General Information

1.1 Details of Client

Applicant:	Huawei Technologies Co., Ltd.
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Manufacturer:	Huawei Technologies Co., Ltd.
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Factory:	Huawei Technologies Co., Ltd.
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

1.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057
Telephone:	+86 (0) 755 2601 2053
Fax:	+86 (0) 755 2671 0594
E-mail:	ee.shenzhen@sgs.com

1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

1.4 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	Smart Phone		
Model No.(EUT):	ANE-LX3		
FCC ID:	QISANE-LX3		
Trade Mark:	HUAWEI		
Product Phase:	production unit		
SN:	KPS7N18111000014/ KPS7N18111000024/ KPS7N18111000037 KPS7N18111000054/ KPS7N18111000059		
Hardware Version:	HL3ANNEM		
Software Version:	ANE-LX3 8.0.0.40(C900).		
Antenna Type:	Inner Antenna		
Device Operating Configurations :			
Modulation Mode:	GSM:GMSK, 8PSK;WCDMA: QPSK;LTE:QPSK,16QAM WIFI: DSSS,OFDM;BT: GFSK, π/4DQPSK,8DPSK		
Device Class:	B		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	14	HSUPA UE Category	6
DC-HSDPA UE Category:	24		
LTE Release	10		
Power Class	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(UMTS Band II/IV/V)		
	3, tested with power control Max Power(LTE Band 2/4/5/7/12/17)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824 - 849	869 - 894
	GSM1900	1850-1910	1930-1990
	WCDMA Band V	824 - 849	869 - 894
	WCDMA Band IV	1710–1755	2110–2155
	WCDMA Band II	1850-1910	1930-1990
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710–1755	2110–2155
	LTE Band 5	824 - 849	869 - 894
	LTE Band 7	2500-2570	2620-2690
	LTE Band 12	699-716	729-746
	LTE Band 17	704-716	734-746
	Bluetooth	2402-2480	2402-2480
	Wi-Fi 2.4G	2412-2462	2412-2462

Battery Information1#:	Model: HB366481ECW
	Rated capacity :2900mAh
	Battery Type: Rechargeable Li-ion Battery
	Manufacturer: Desay Battery Co., Ltd.
Battery Information2#:	Model: HB366481ECW
	Rated capacity :2900mAh
	Battery Type: Rechargeable Li-ion Battery
	Manufacturer: SCUD(Fujian)Electronics Co.,Ltd
Battery Information3#:	Model: HB366481ECW
	Rated capacity :2900mAh
	Battery Type: Rechargeable Li-ion Battery
	Manufacturer: Sunwoda Electronic Co., LTD
Headset Information1#:	Model: MEMD1532B528A00
	Manufacturer: Jiangxi Lianchuang Hongsheng Electronic Co., LTD.
Headset Information2#:	Model: HA1-3W
	Manufacturer: GoerTek Inc.
Headset Information3#:	Model: 1293-3283-3.5mm-300
	Manufacturer: Boluo County Quancheng Electronic Co., Ltd.
Headset Information4#:	Model: EPAB542-2WH03-DH
	Manufacturer: FOXCONN INTERCONNECT TECHNOLOGY LIMITED.

1.4.1 DUT Antenna Locations

The antenna location, please see the Appendix D

The test device is a mobile phone. The display diagonal dimension is 146mm and the overall diagonal dimension of this device is 157mm.

According to the distance between LTE/WCDMA/GSM&WIFI antennas and the sides of the EUT we can draw the conclusion that:

EUT Sides for SAR Testing						
Mode	Front	Back	Left	Right	Top	Bottom
Ant 3(Main Antenna)	Yes	Yes	Yes	Yes	No	Yes
Ant 2(Second Antenna)	Yes	Yes	Yes	Yes	Yes	No
2.4G WIFI&BT	Yes	Yes	No	Yes	Yes	No

Table 1： EUT Sides for SAR Testing

Note:

1) When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

1.4.2 Dynamic antenna switching specification

The device has two 2G/3G/4G Tx antennas (Main Antenna and Second Antenna). It can transmit from either Main Antenna or Second Antenna, but they cannot transmit simultaneously.

SAR test procedure for dynamic antenna switching is as below:

The Main Antenna and Second Antenna are set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time. All independent antennas will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered to ensure SAR compliance.

1.4.3 Power reduction specification

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation:

1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.

2) A fixed level power reduction is applied for some frequency bands when capacitive proximity sensor mode becomes active to ensure body SAR compliance.

3) A fixed level power reduction is applied for some frequency bands when handset operate "held to the ear" condition, the power reduction triggered by audio receiver detection. The audio receiver detection is used to determine head or body scenario.

The following tables summarize the key power reduction information. The detailed full power which is the Max. power the state can use and reduced tune-up specifications and conducted power measurement results are provided in Section 8 of this report.

Band	Power Reduction Level Amount (dB)						
	Main Antenna				Second Antenna		
	Full Power	Hotspot actived	Capacitive proximity sensor on	Hotspot + Sensor	Full Power	"held to the ear" REC ON	Hotspot actived
GSM 850	0	0	0	0	0	0.5	0.5
GSM 1900	0	2.5	0	2.5	0	1	1
UMTS Band II	0	5.5	0	5.5	0	5.5	5.5
UMTS Band IV	0	4.5	0	4.5	0	4	4
UMTS Band V	0	0	0	0	0	2.5	2.5
LTE Band 2	0	6	0	6	0	5	5
LTE Band 4	0	5	0	5	0	3	3
LTE Band 5	0	0	0	0	0	2	2
LTE Band 7	0	3.5	2	5	0	6	6
LTE Band 12	0	0	0	0	0	1.5	1.5
LTE Band 17	0	0	0	0	0	1.5	1.5

This device uses an infrared proximity sensor to facilitate triggering WIFI power reduction when the phone is held close to a user's ear exposure condition.

Band	Power Reduction Level Amount (dB)			
	infrared proximity sensor on		infrared proximity sensor off	
	WiFi Antenna and 2G&3G&4G antenna (Voice mode) simultaneous transmission	infrared proximity sensor On VoWIFI (Voice mode)	WiFi Antenna and 2G&3G&4G antenna (Voice mode) simultaneous transmission	Full Power (other conditions)
WiFi 2.4G 802.11b	4	4	0	0
WiFi 2.4G 802.11g	2	2	0	0
WiFi 2.4G 802.11n(20M)	1	1	0	0
WiFi 2.4G 802.11n(40M)	1	1	0	0

1.4.4 Downlink LTE CA additional specification

The device supports downlink LTE Carrier Aggregation (CA) only. Other Release 10 or higher features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.1.0 (2017-12). The conducted power measurement results of downlink LTE CA are provided in Section 7 of this report per 3GPP TS 36.521-1 V13.2.0 (2016-06). According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

Intra-band contiguous CA	Band
CA_7C	B7
CA_12B	B12
Inter-band CA (two bands)	**Band**
CA_4A-7A	B4/B7
CA_5A-7A	B5/B7
CA_4A-12A	B4(PCC ONLY)
CA_4A-17A	B4(PCC ONLY)
CA_4A-5A	B4/B5
CA_7A-12A	B7/B12
CA_2A-12A	B2/B12
CA_2A-5A	B2/B5

contiguous intra-band CA

E-UTRA CA configuration / Bandwidth combination set						
E-UTRA CA configuration	Uplink CA configurations (NOTE 3)	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]	Channel bandwidths for carrier [MHz]		
CA_7C	NA	15	15		40	0
		20	20			
		10	20		40	1
		15	15, 20			
		20	10, 15, 20			
CA_12B	NA	5	5, 10		15	0
NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes. NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal. NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.						

inter-band CA (two bands)

E-UTRA CA configuration / Bandwidth combination set									
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_5A-7A	5	Yes	Yes	Yes	Yes			30	0
	7				Yes	Yes	Yes		
CA_4A-7A	4			Yes	Yes			30	0
	7			Yes	Yes	Yes	Yes		
CA_4A-12A	4	Yes	Yes	Yes	Yes			20	0
	12			Yes	Yes				
	4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
	12			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	2
	12		Yes	Yes	Yes				
	4			Yes	Yes			20	3
	12			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	4
	12			Yes	Yes				
CA_4A-17A	4			Yes	Yes			20	0
	17			Yes	Yes				
CA_4A-5A	4			Yes	Yes			20	0
	5			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	1
	5			Yes	Yes				
CA_7A-12A	7			Yes	Yes	Yes	Yes	30	0
	12			Yes	Yes				
CA_2A-12A	2			Yes	Yes	Yes	Yes	30	0
	12			Yes	Yes				
	2			Yes	Yes	Yes	Yes	30	1
	12		Yes	Yes	Yes				
CA_2A-5A	2			Yes	Yes	Yes	Yes	30	0
	5			Yes	Yes				

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.4.2A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.
NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set
NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal

Test Configuration Table (intra-band contiguous DL CA)

Initial Conditions								
Test Environment as specified in TS 36.508[7] subclause 4.1			NC, TL/VL, TL/VH, TH/VL, TH/VH					
Test Frequencies as specified in TS 36.508 [7] subclause 4.3.1 for different CA bandwidth classes, and PCC and SCCs are mapped onto physical frequencies according to Table 6.1-2.			C: Mid range					
Test CC Combination setting (N_{RB_agg}) as specified in subclause 5.4.2A.1 for the CA Configuration across bandwidth combination sets supported by the UE.			Lowest N_{RB_agg} Highest N_{RB_agg} (Note 2)					
Test Parameters for CA Configurations								
CA Configuration / N_{RB_agg}		**DL Allocation**	**CC MOD**	**UL Allocation**				
PCC N_{RB}	**SCCs N_{RB}**	**PCC & SCC RB allocation**		**N_{RB_alloc}**	**PCC & SCC RB allocations (L_{CRB} @ RB_{start})**			
75	75	N/A for this test	QPSK	16	P_16@0	S_0@0	-	-
100	25		QPSK	8	P_8@0	S_0@0	-	-
100	50		QPSK	12	P_12@0	S_0@0	-	-
100	100		QPSK	18	P_18@0	S_0@0	-	-
Note 1: CA Configuration Test CC Combination settings are checked separately for each CA Configuration, which applicable aggregated channel bandwidths are specified in Table 5.4.2A.1-1 Note 2: If in the CA Configuration UE supports multiple CC Combinations with the same N_{RB_agg} , only the first of those is tested, according to the order on the Test Configuration Table list.								

Test Configuration Table (inter-band DL CA)

Initial Conditions								
Test Environment as specified in TS 36.508[7] subclause 4.1		NC, TL/VL, TL/VH, TH/VL, TH/VH						
Test Frequencies as specified in TS 36.508 [7] subclause 4.3.1 for different CA bandwidth classes.		A: Mid range PCC-SCC: CC1-CC2						
Test CC Combination setting (N_{RB_agg}) as specified in subclause 5.4.2A.1-2 for the CA Configuration across bandwidth combination sets supported by the UE.		Lowest N_{RB_agg} Highest N_{RB_agg} (Note 2)						
Test Parameters for CA Configurations								
CA Configuration / N_{RB_agg}		**DL Allocation**	**CC MOD**	**UL Allocation**				
PCC N_{RB}	**SCCs N_{RB}**	**PCC & SCC RB allocation**		**N_{RB_alloc}**	**PCC & SCC RB allocations (L_{CRB} @ RB_{start})**			
6	25	N/A for this test	QPSK	13	P_5@0	S_8@0	-	-
6	50		QPSK	17	P_5@0	S_12@0	-	-
25	15		QPSK	12	P_8@0	S_5@0	-	-
25	25		QPSK	16	P_8@0	S_8@0	-	-
25	50		QPSK	20	P_8@0	S_12@0	-	-
50	25		QPSK	20	P_12@0	S_8@0	-	-
50	50		QPSK	24	P_12@0	S_12@0	-	-
50	100		QPSK	30	P_12@0	S_18@0	-	-
75	75		QPSK	32	P_16@0	S_16@0	-	-
100	50		QPSK	30	P_18@0	S_12@0	-	-
100	75		QPSK	34	P_18@0	S_16@0	-	-
100	100		QPSK	36	P_18@0	S_18@0	-	-
Note 1: CA Configuration Test CC Combination settings are checked separately for each CA Configuration, which applicable aggregated channel bandwidths are specified in Table 5.4.2A.1-2. Note 2: If in the CA Configuration UE supports multiple CC Combinations with the same N_{RB_agg} , only the first of those is tested, according to the order on the Test Configuration Table list.								

1.5 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE Std C95.1 – 1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01 3G SAR Procedures v03r01	3G SAR Measurement Procedures
KDB 941225 D05 SAR for LTE Devices v02r05	SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES
KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02	Rel. 10 LTE SAR Test Guidance and KDB Inquiries
KDB 248227 D01 802.11 Wi-Fi SAR v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 941225 D06 Hotspot Mode SAR v02r01	SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities
KDB 648474 D04 Handset SAR v01r03	SAR Evaluation Considerations for Wireless Handsets
KDB447498 D01 General RF Exposure Guidance v06	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB447498 D03 Supplement C Cross-Reference v01	OET Bulletin 65, Supplement C Cross-Reference
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04	SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 RF Exposure Reporting v01r02	RF Exposure Compliance Reporting and Documentation Considerations

1.6 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain*Trunk)	**1.60 mW/g**	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)

2 Laboratory Environment

Temperature	Min. = 18℃, Max. = 25 ℃
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

Table 2： The Ambient Conditions

3 SAR Measurements System Configuration

3.1 The SAR Measurement System

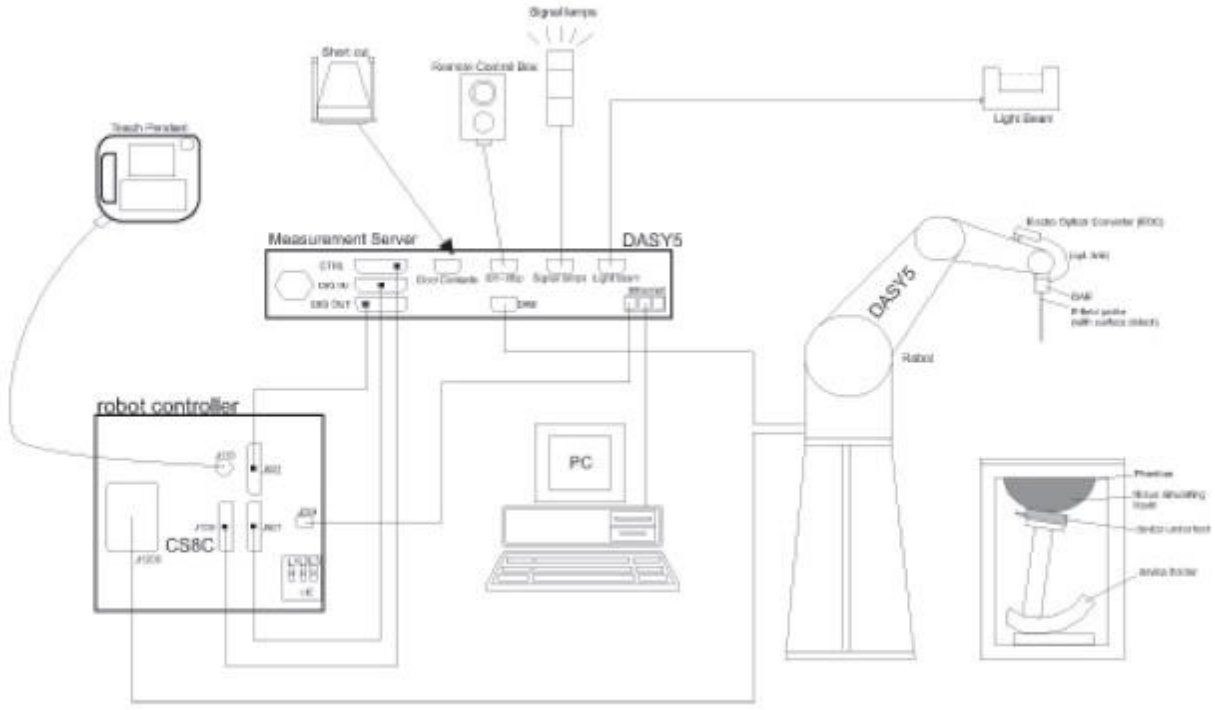
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



F-1. SAR Measurement System Configuration

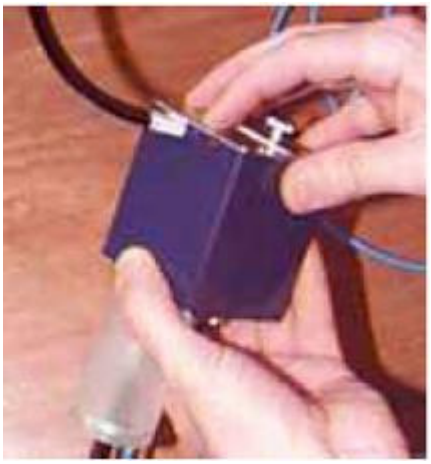
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

3.2 Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

3.3 Data Acquisition Electronics (DAE)

Model	DAE4
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)
Input Offset Voltage	< 5µV (with auto zero)
Input Bias Current	< 50 f A
Dimensions	60 x 60 x 68 mm



3.4 SAM Twin Phantom

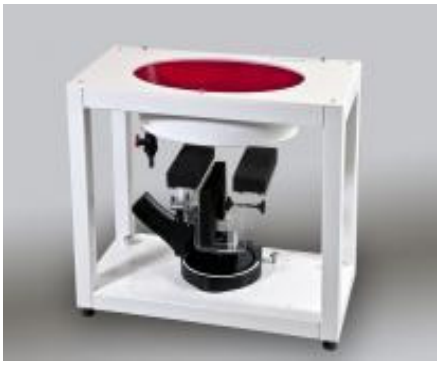
Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx.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

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table



Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

3.6 Device Holder for Transmitters

F-2. **Device Holder for Transmitters**

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

3.7 Measurement procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

Step 2: *Area scan*

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: *Zoom scan*

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std. 1528-2013.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max. ± 5 %

3.7.2 Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DAE4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.7.3 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	ε
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power.

The formula for each channel can be given as:

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

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

Ui = input signal of channel i (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp i = diode compression point (DASY parameter)

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

E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

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

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel I (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m

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

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

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

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

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g

Etot = total field strength in V/m

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

ε= equivalent tissue density in g/cm3

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

$$P_{pwe} = E_{tot}{}^2{}_2 / 3770 \text{ or } \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m

Htot = total magnetic field strength in A/m

4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

4.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

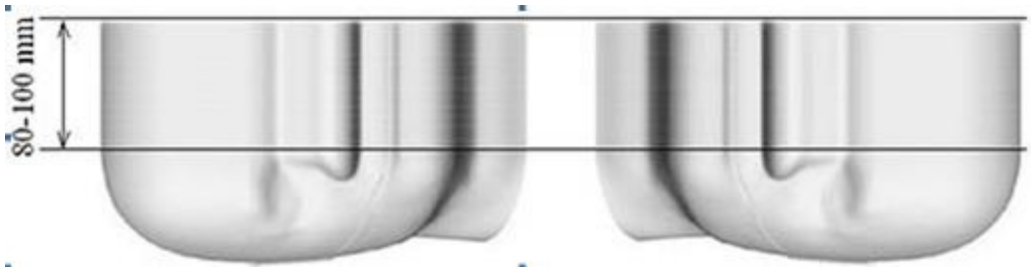
5 Description of Test Position

5.1 Head Exposure Condition

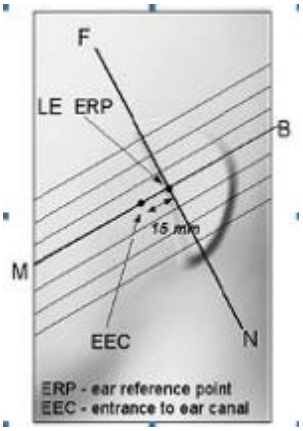
5.1.1 SAM Phantom Shape

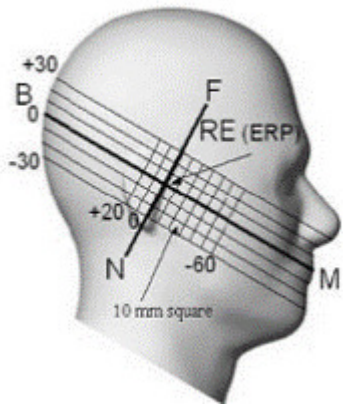
F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

Note: The centre strip including the nose region has a different thickness tolerance.



F-4. Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)

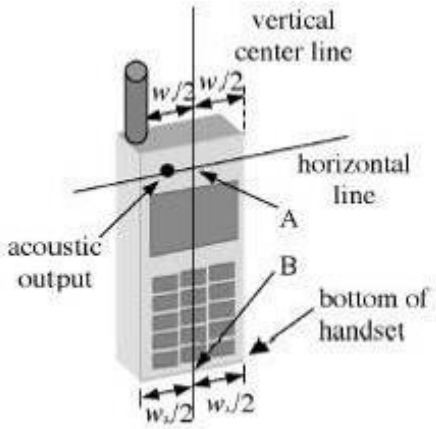




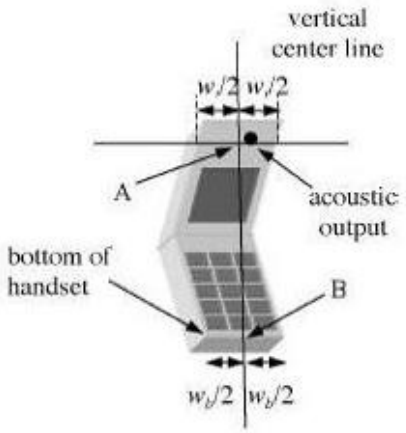
F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

5.1.2 EUT constructions



F-7. Handset vertical and horizontal reference lines-“fixed case”



F-8. Handset vertical and horizontal reference lines-“clam-shell case”

5.1.3 Definition of the “cheek” position

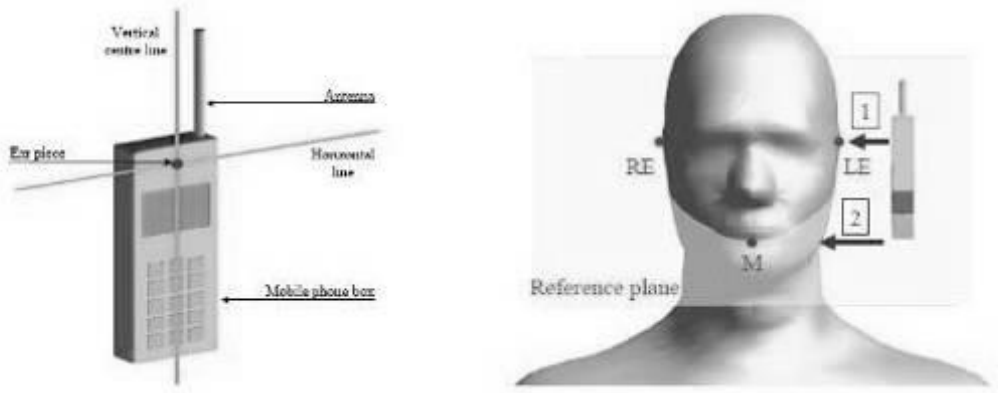
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.

b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

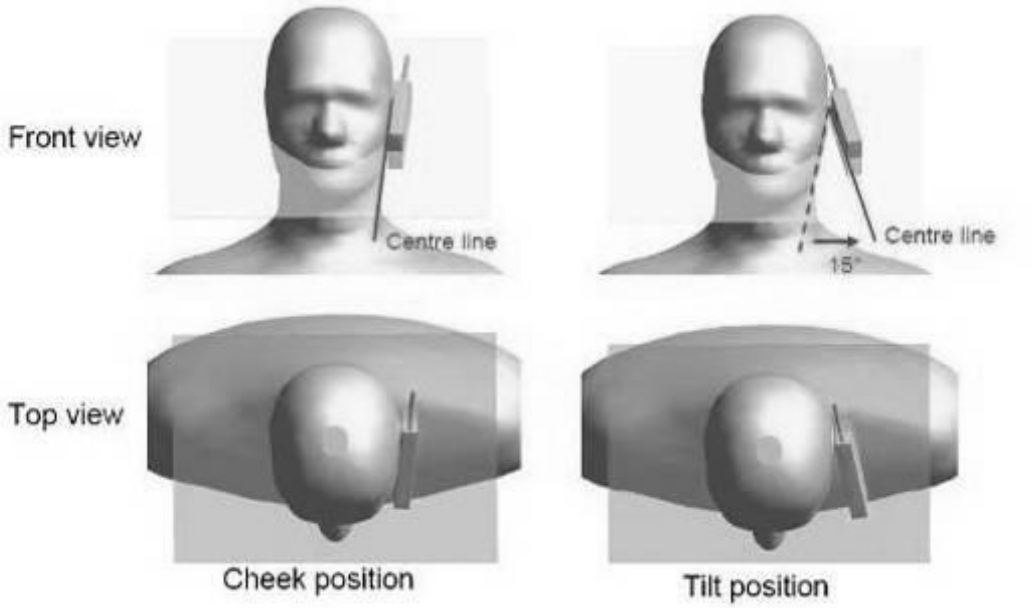
5.1.4 Definition of the "tilted" position

a) Position the device in the "cheek" position described above;

b) While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



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



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

5.2 Body Exposure Condition

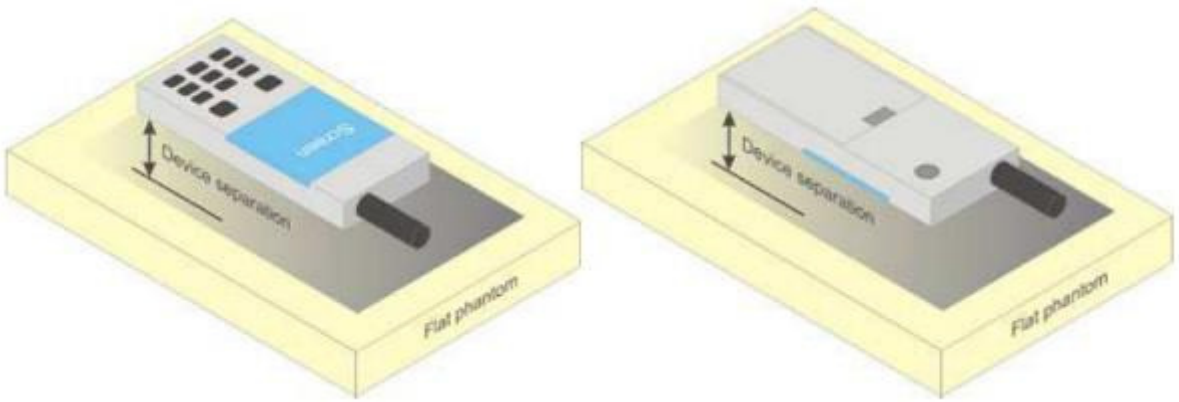
5.2.1 Body-worn accessory exposure conditions

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



F-11. **Test positions for body-worn devices**

5.2.2 Wireless Router exposure conditions

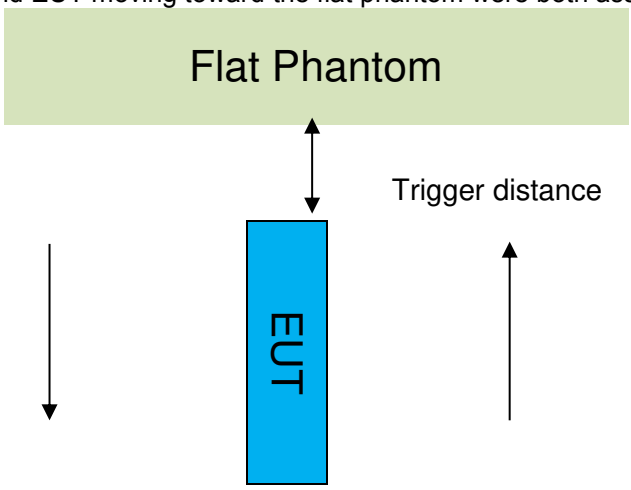
Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

5.3 Proximity Sensor Triggering Test

5.3.1 Main antenna Proximity Sensor

1) Proximity sensor triggering distances

The Proximity sensor triggering was applied to LTE Band 7. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.



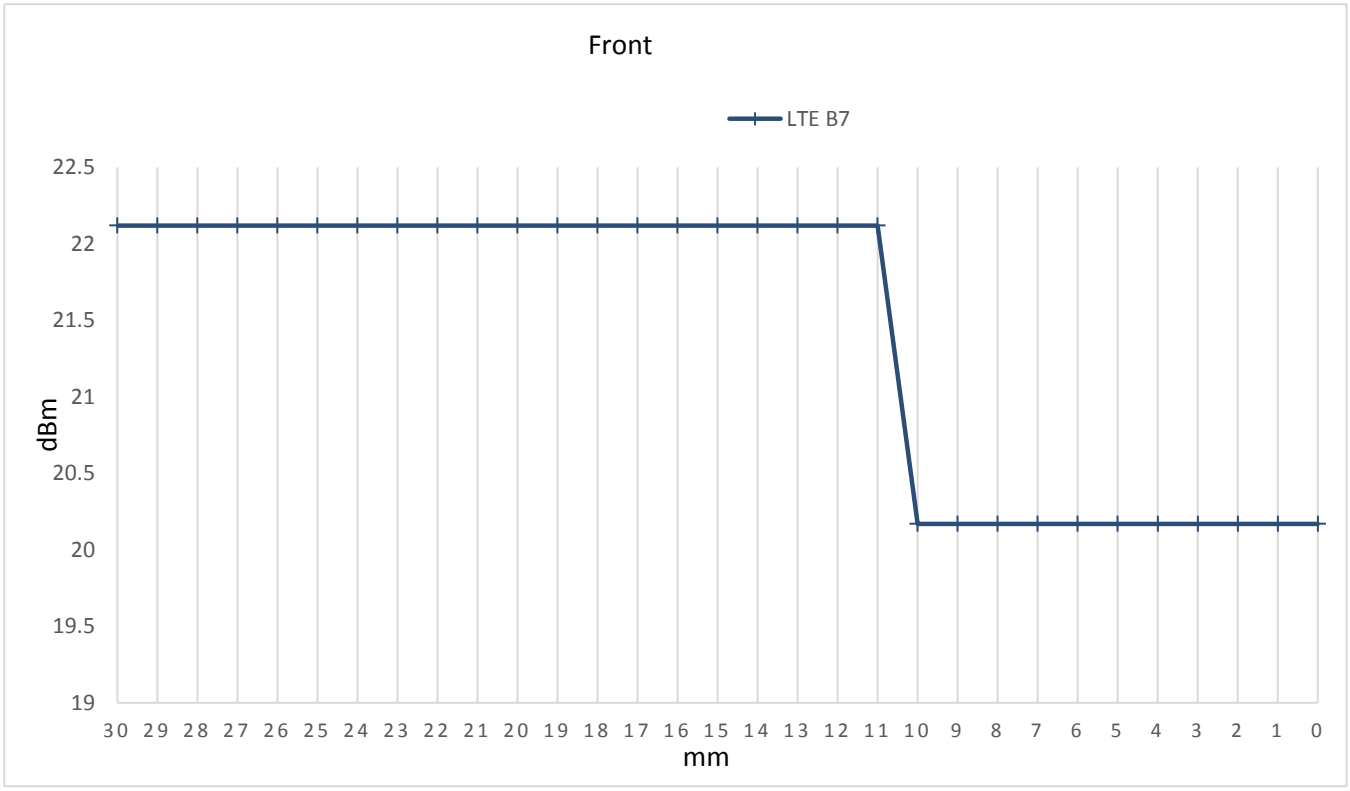
Proximity Sensor Triggering Distance(mm)			
Position	Front	Back	Bottom
Minimum	10	11	15
Required SAR Test	9	10	14

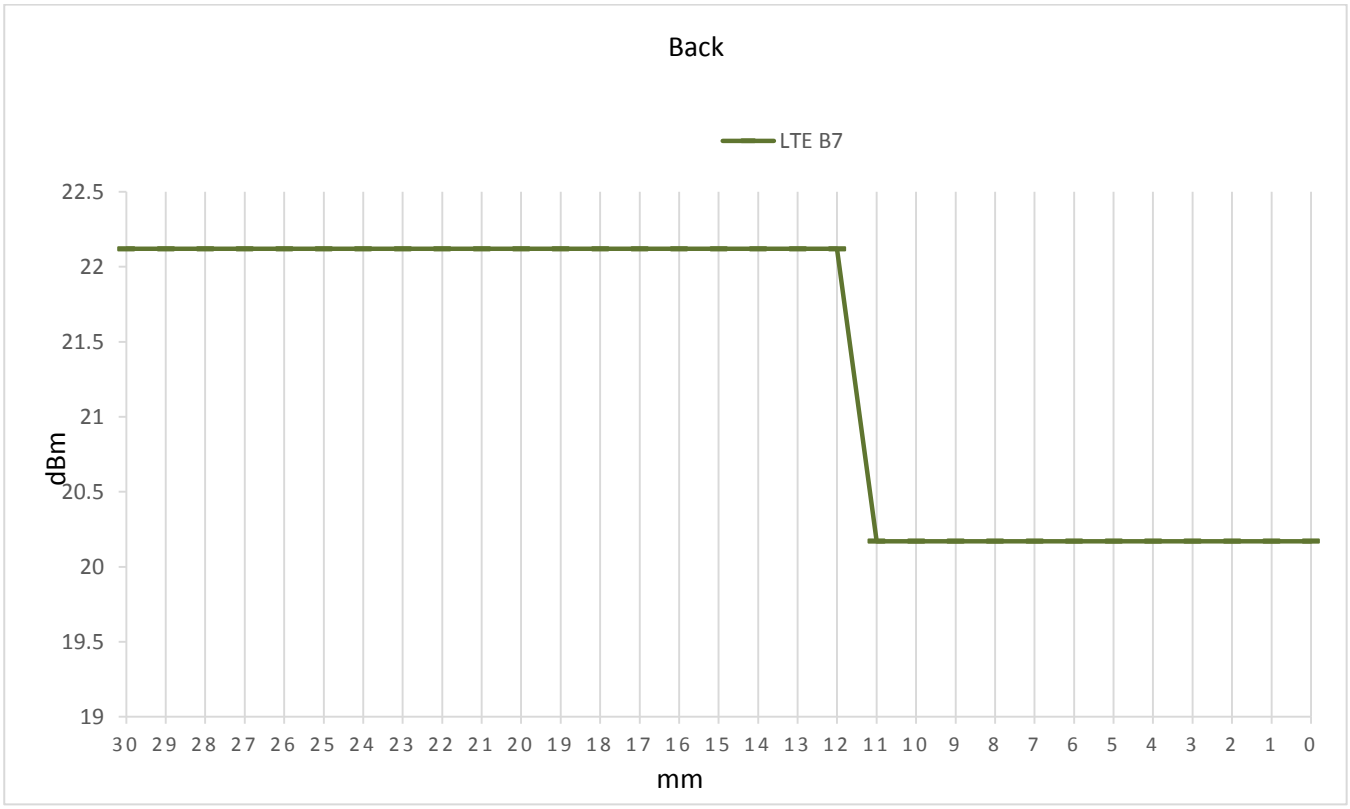
Antenna	Band	Trigger Condition	Body exposure condition
			Power reduction(dB)
Main Antenna	LTE B7	Front side: Close to 10mm Back side: Close to 11mm Bottom side: Close to 15mm;	2

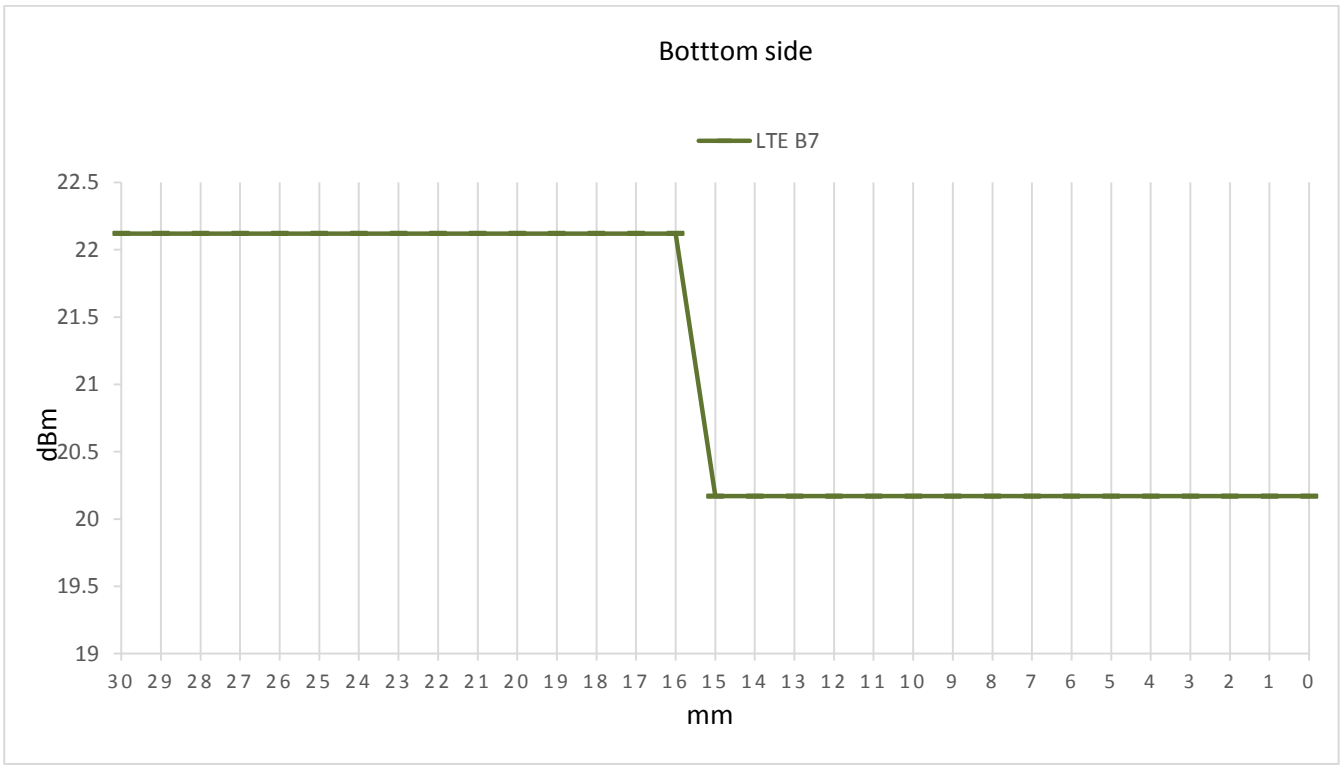
Note: SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

Band	Ch	Measured Power(dBm)		Reduction levels(dB)
		Max. Power	Power back-off	
LTE Band 7	21100	22.12	20.17	1.95

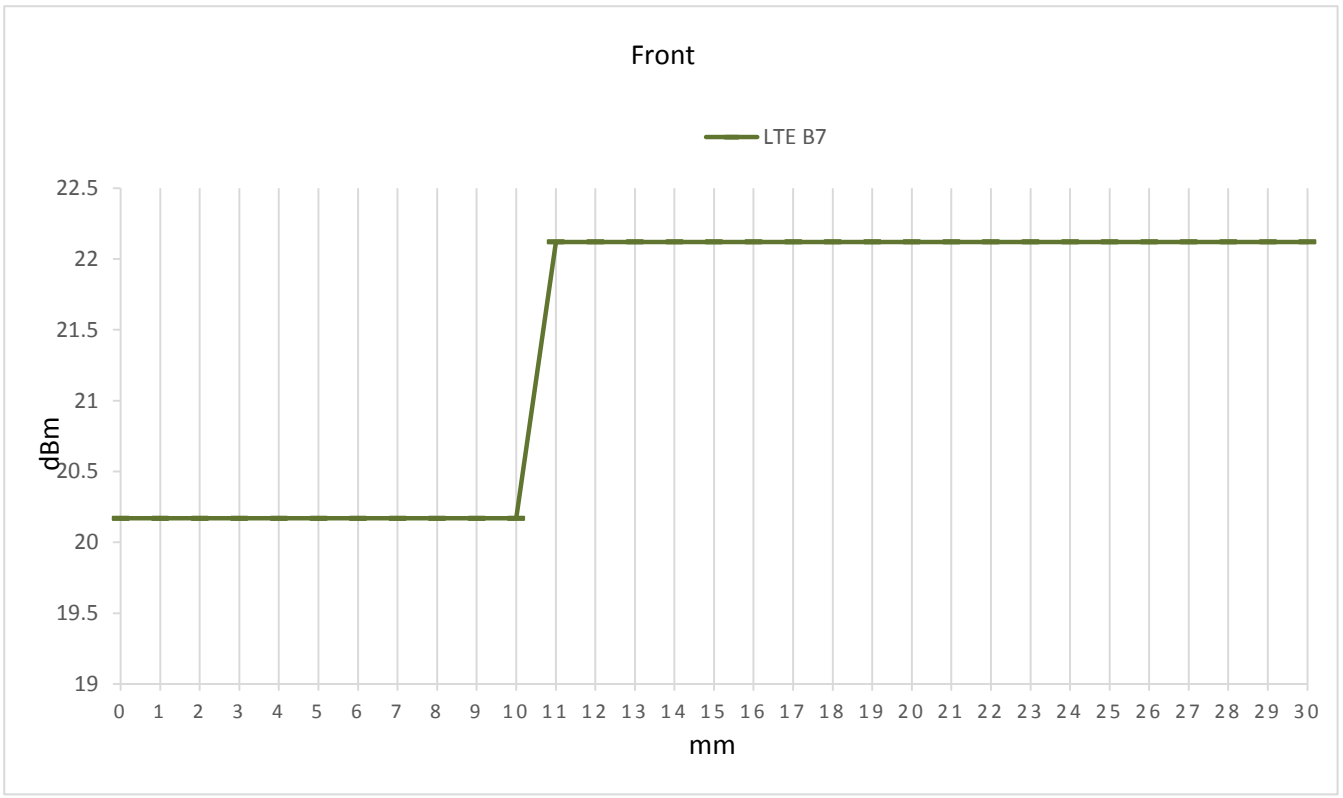
- DUT Moving Toward（Trigger）the Phantom

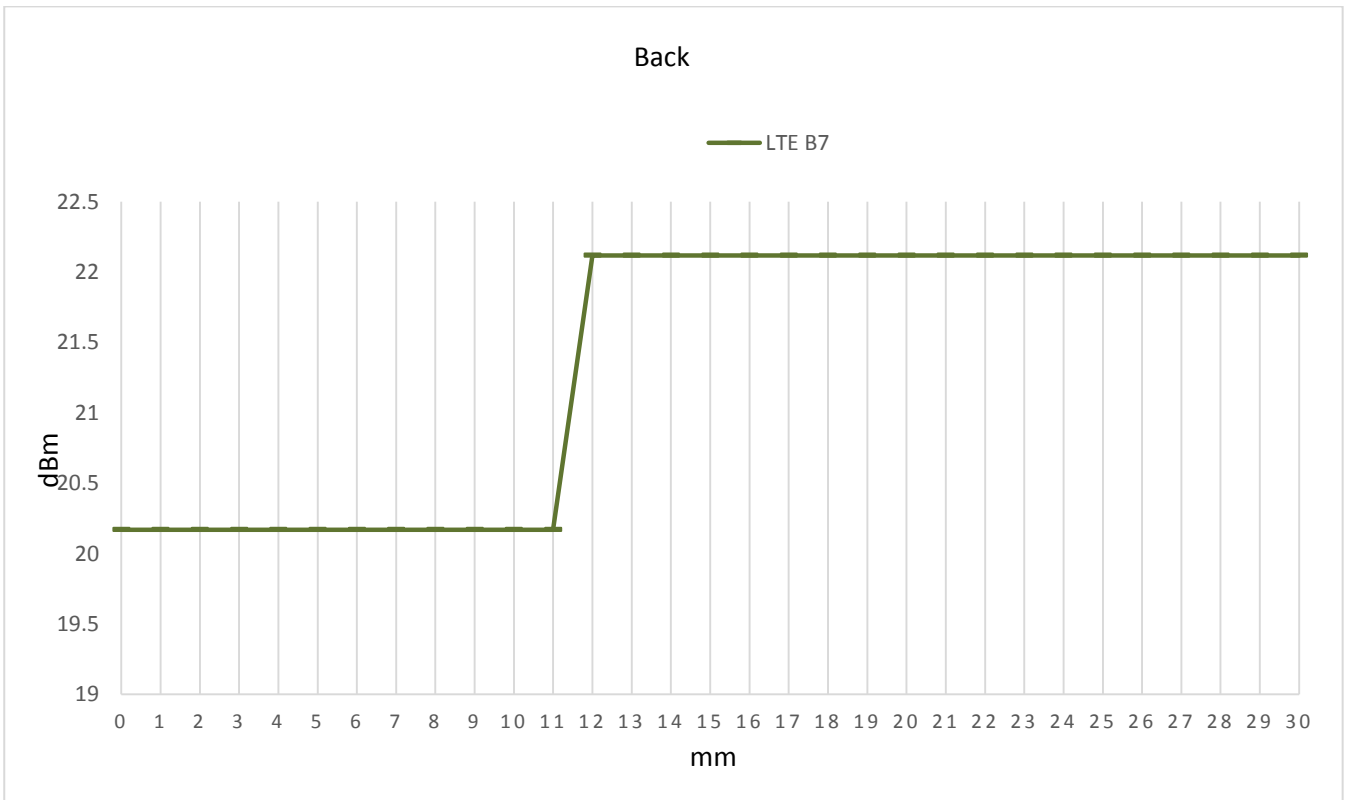


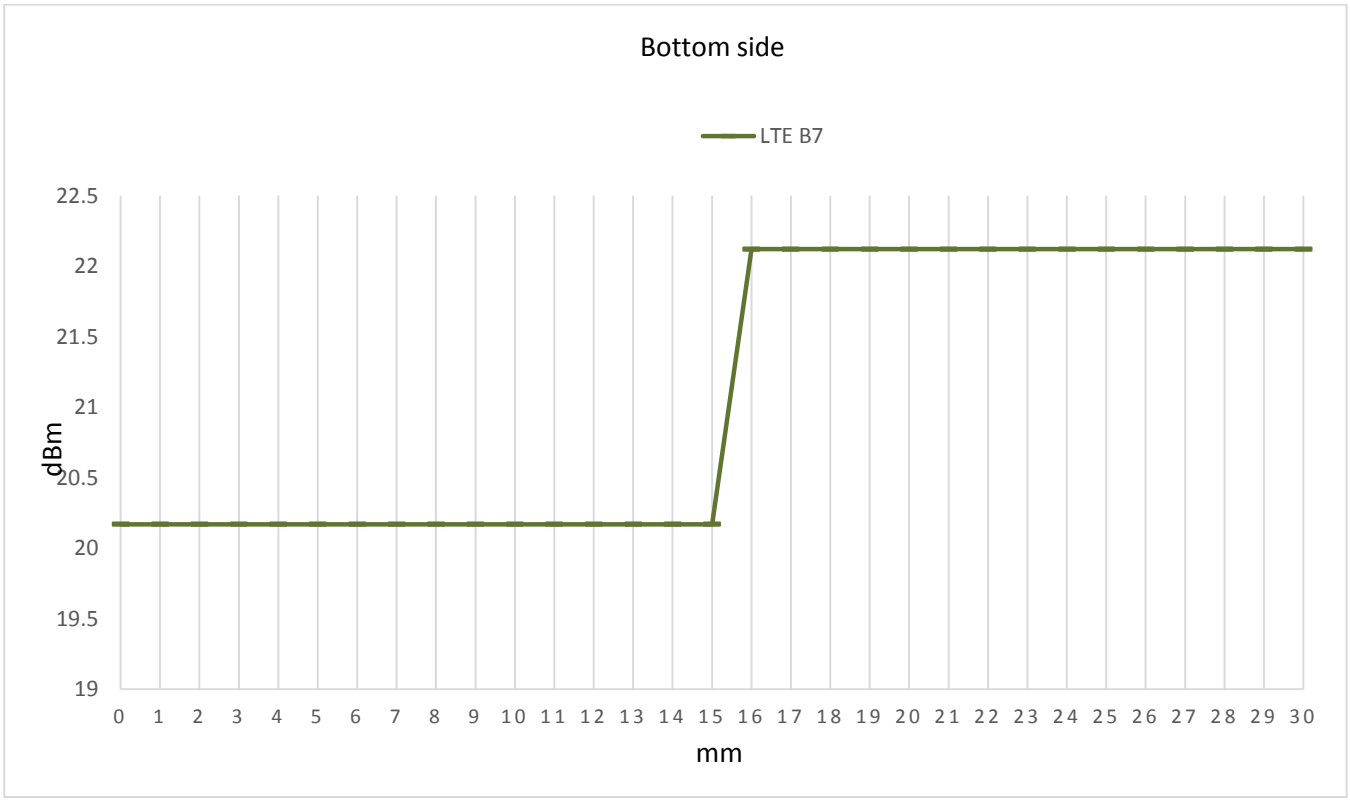




- DUT Moving Away（Release）from the Phantom







2) Proximity sensor coverage

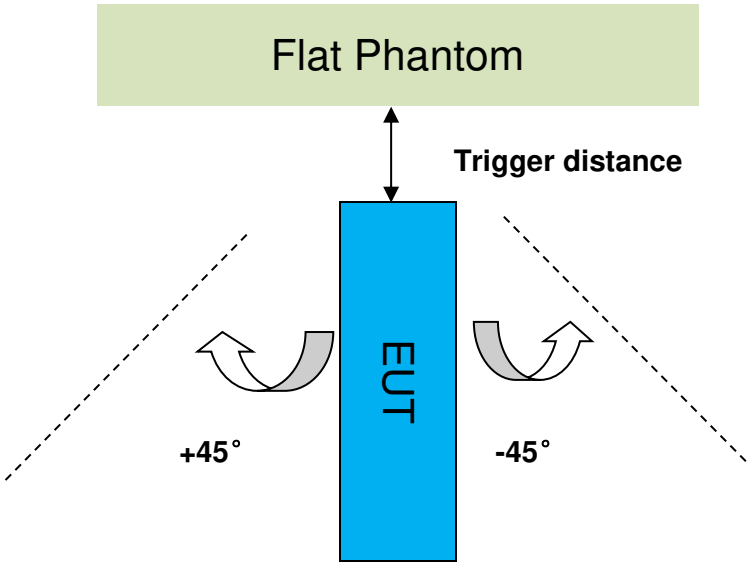
If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

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

3) Device tilt angle influences to proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.

Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.



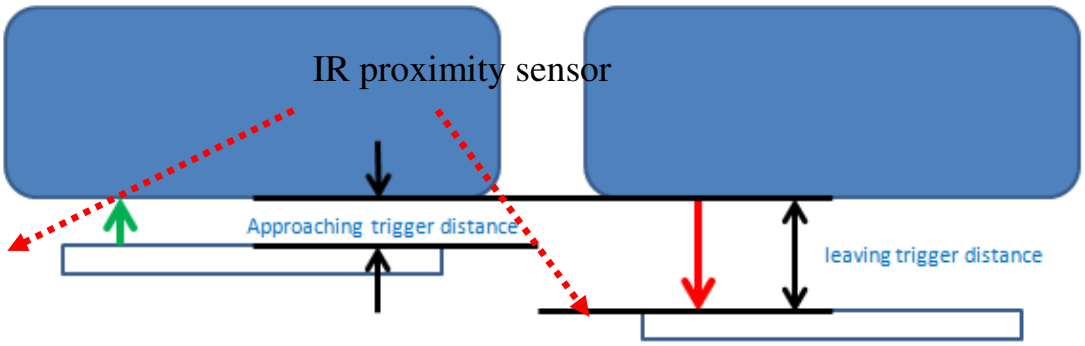
The Sensor Triggering Distance(mm)	
Position	Bottom
Minimum	15
Required SAR Test	14

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Bottom Side												
Band(MHz)	Minimum trigger distance Per KDB616217§6.2	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status									
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
LTE B7	15mm	15mm	on	on	on	on	on	on	on	on	on	on	on

5.3.2 Wifi antenna Determining Proximity Sensor

1) Determining proximity sensor triggering distances

Per FCC KDB 616217 D04v01§6.2, the following procedure is used to determine the triggering distances. As the proximity sensor locates on the front face of the device and detects objects approaching only from the front side ,so triggering distance only need to be checked for the front side when device under voice mode so that sensor is working.



Picture: Proximity sensor triggering distances assessment (Front side)

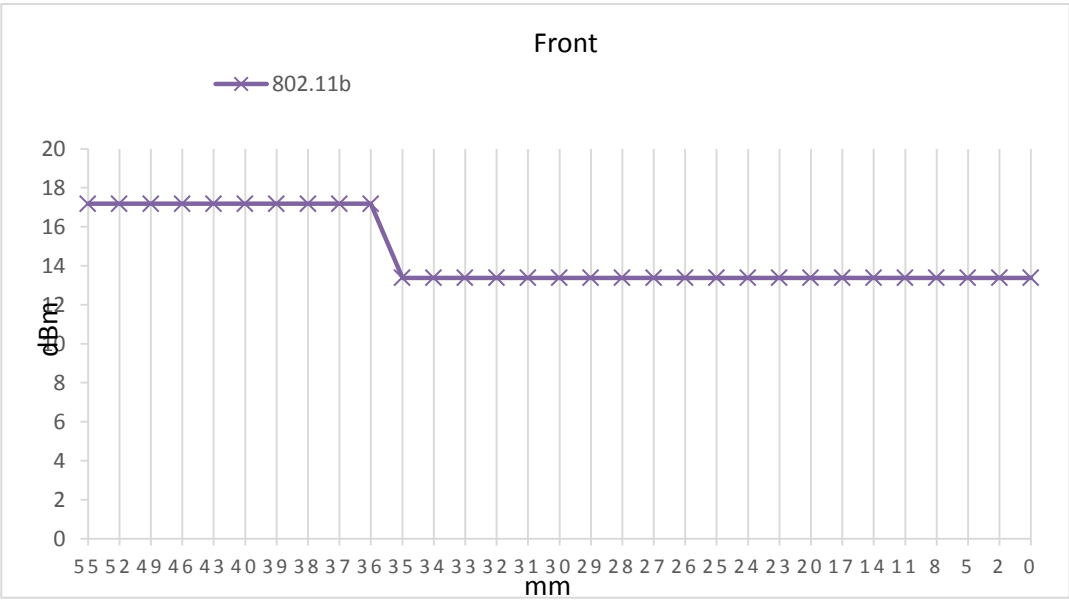
The DUT is moved towards from the flat phantom:

Distance between phantom to DUT in mm	60	50	45	40	35	30	25
Condition of Sensor in the front side of the device(under voice mode)	off	off	off	off	on	on	on

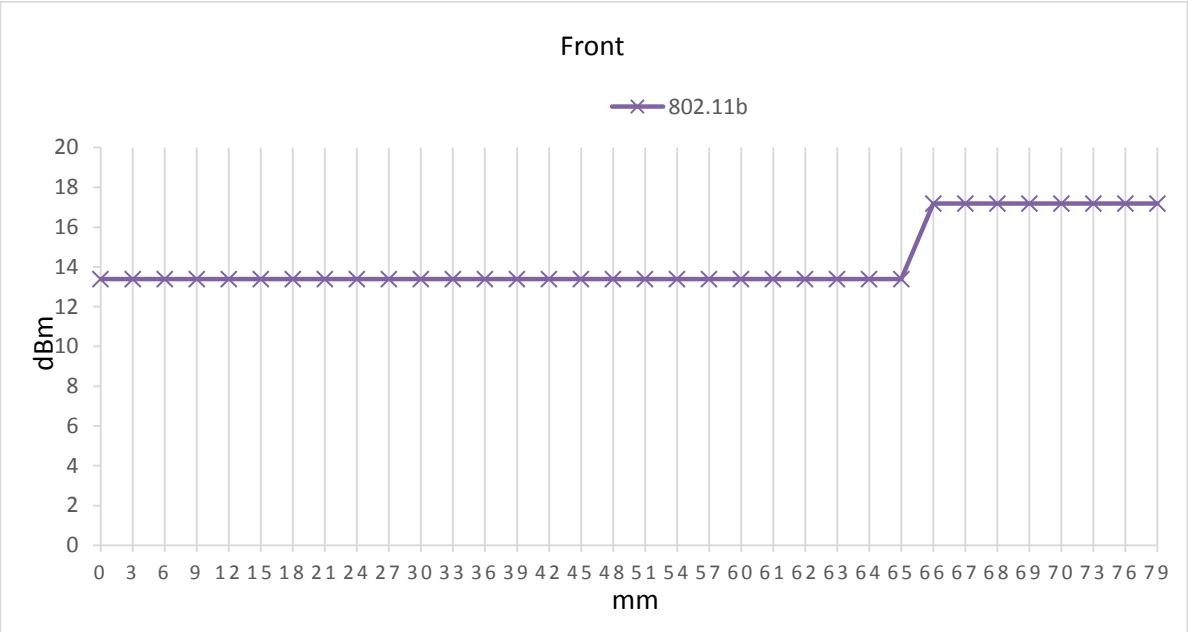
The DUT is moved away from the flat phantom:

Distance between phantom to DUT in mm	85	80	75	70	65	60	55
Condition of Sensor in the front side of the device(under voice mode)	off	off	off	off	on	on	on

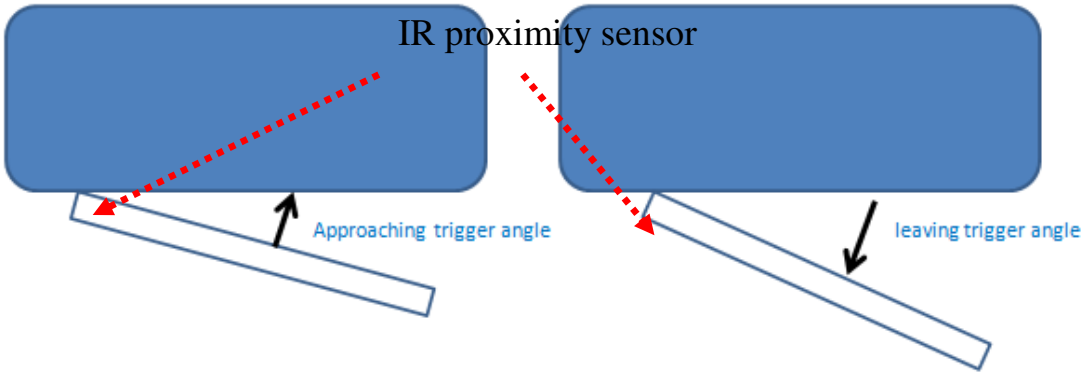
- DUT Moving Toward（Trigger）the Phantom



DUT Moving Away（Release）from the Phantom



2) Determining device tilt angle influences to proximity sensor triggering



The DUT is moved towards and away from SAM phantom.

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

6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands：

Ingredients (% by weight)	Frequency (MHz)							
	450		700-920		1700-2000		2300-2700	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	40.30	50.75	55.24	70.17	55.00	68.53
Salt (NaCl)	3.95	1.49	1.38	0.94	0.31	0.39	0.2	0.1
Sucrose	56.32	46.78	57.90	48.21	0	0	0	0
HEC	0.98	0.52	0.24	0	0	0	0	0
Bactericide	0.19	0.05	0.18	0.10	0	0	0	0
Tween	0	0	0	0	44.45	29.44	44.80	31.37
Salt: 99^{+}% Pure Sodium Chloride Water: De-ionized, 16 MΩ^{+} resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate					Sucrose: 98^{+}% Pure Sucrose HEC: Hydroxyethyl Cellulose			
HSL5GHz is composed of the following ingredients： Water：50-65% Mineral oil：10-30% Emulsifiers：8-25% Sodium salt：0-1.5%								
MSL5GHz is composed of the following ingredients： Water：64-78% Mineral oil：11-18% Emulsifiers：9-15% Sodium salt：2-3%								

Table 3： Recipe of Tissue Simulate Liquid

6.1.2 Measurement for Tissue Simulate Liquid

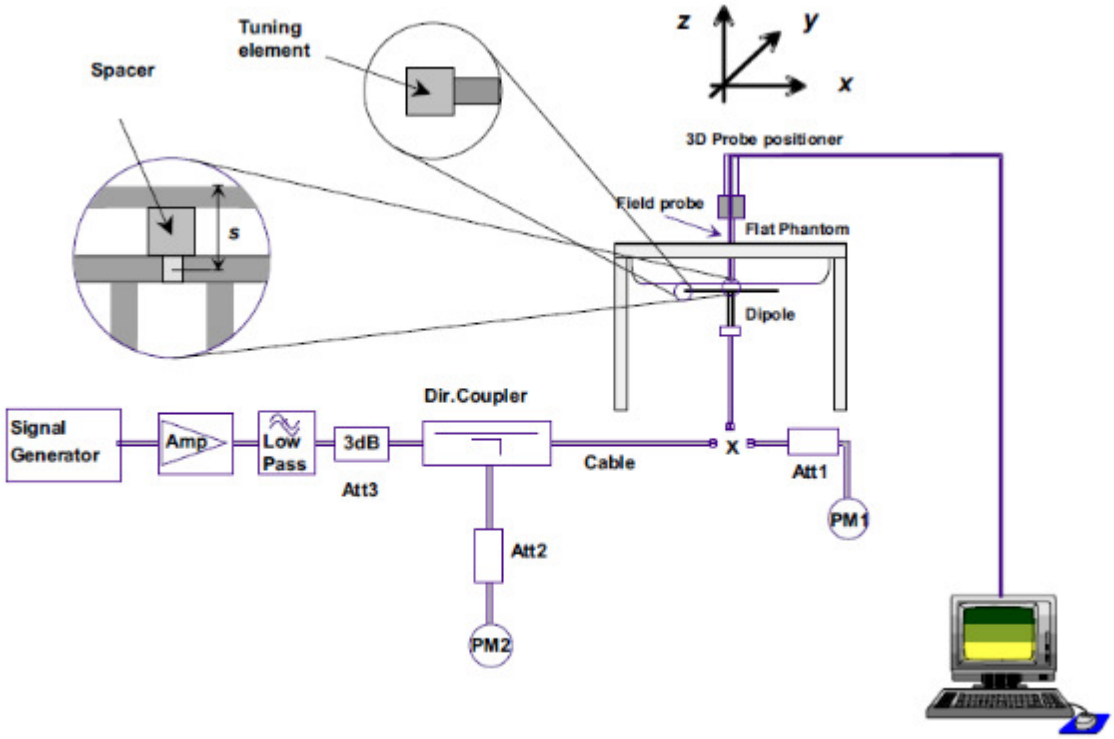
The dielectric properties for this Tissue Simulate Liquids were measured by using the Agilent Model 85070E Dielectric Probe in conjunction with Agilent E5071C Network Analyzer (300 KHz-8500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Measurement for Tissue Simulate Liquid							
Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Liquid Temp.	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	(℃)	
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	40.956	0.888	22.1	2018/2/1
750 Body	750	55.5 (52.73~58.28)	0.96 (0.91~1.00)	55.841	0.947	22.1	2018/2/10
835 Head	835	41.5 (39.43~43.58)	0.90 0.86~0.95)	42.134	0.892	22.1	2018/1/31
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	42.313	0.896	22.1	2018/2/1
835 Body	835	55.2 (52.44~57.96)	0.97 (0.92~1.02)	54.389	0.987	22.1	2018/2/9
835 Body	835	55.2 (52.44~57.96)	0.97 (0.92~1.02)	54.789	0.986	22.1	2018/2/10
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	39.617	1.372	22.2	2018/2/3
1750 Body	1750	53.4 (50.73~56.07)	1.49 (1.42~1.56)	51.003	1.481	22.2	2018/2/5
1750 Body	1750	53.4 (50.73~56.07)	1.49 (1.42~1.56)	51.303	1.485	22.2	2018/2/6
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	39.564	1.421	22.3	2018/2/2
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	53.025	1.476	22.3	2018/2/4
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	53.103	1.481	22.3	2018/2/5
2450 Head	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	39.49	1.81	22	2018/2/14
2450 Body	2450	52.70 (50.07~55.34)	1.95 (1.85~2.05)	51.708	1.988	22	2018/2/8
2600 Head	2600	39.0 (37.05~40.95)	1.96 (1.86~2.06)	38.439	1.928	22.1	2018/2/7
2600 Body	2600	52.50 (49.88~55.13)	2.16 (2.05~2.27)	51.237	2.182	22.1	2018/2/8

Table 4： Measurement result of Tissue electric parameters

6.2 SAR System Check

The microwave circuit arrangement for system check is sketched in bellow figure. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table. During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12. the microwave circuit arrangement used for SAR system check

6.2.1 Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 10% of calibrated measurement;
d) Impedance is within 5Ω from the previous measurement.

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

6.2.2 Summary System Check Result(s)

SAR System Validation Result(s)									
Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1w)	Measured SAR (normalized to 1w)	Target SAR (normalized to 1w) (±10%)	Target SAR (normalized to 1w) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V2	Head	1.99	1.32	7.96	5.28	8.17 (7.35~8.99)	5.36 (4.82~5.9)	22.1	2018/2/1
	Body	2.11	1.4	8.44	5.6	8.57 (7.71~9.43)	5.66 (5.09~6.23)	22.1	2018/2/10
D835V2	Head	2.41	1.57	9.64	6.28	9.59 (8.63~10.55)	6.29 (5.66~6.92)	22.1	2018/1/31
	Head	2.42	1.61	9.68	6.44	9.59 (8.63~10.55)	6.29 (5.66~6.92)	22.1	2018/2/1
	Body	2.43	1.58	9.72	6.32	9.65 (8.69~10.62)	6.46 (5.81~7.11)	22.1	2018/2/9
	Body	2.45	1.61	9.8	6.44	9.65 (8.69~10.62)	6.46 (5.81~7.11)	22.1	2018/2/10
D1750V2	Head	9.12	4.9	36.48	19.6	36.7 (33.03~40.37)	19.5 (17.55~21.45)	22.2	2018/2/3
	Body	9.41	4.92	37.64	19.68	37 (33.30~40.70)	19.7 (17.73~21.67)	22.2	2018/2/5
	Body	9.21	4.88	36.84	19.52	37 (33.30~40.70)	19.7 (17.73~21.67)	22.2	2018/2/6
D1900V2	Head	10.1	5.31	40.4	21.24	40.7 (36.63~44.77)	21.1 (18.99~23.21)	22.3	2018/2/2
	Body	10.3	5.47	41.2	21.88	41.6 (37.44~45.76)	21.4 (19.26~23.54)	22.3	2018/2/4
	Body	10.5	5.51	42	22.04	41.6 (37.44~45.76)	21.4 (19.26~23.54)	22.3	2018/2/5
D2450V2	Head	13.2	6.1	52.8	24.4	53.1 (47.79~58.41)	24.9 (22.41~27.39)	22	2018/2/14
	Body	12.8	5.91	51.2	23.64	51.0 (45.9~56.1)	23.5 (21.15~25.85)	22	2018/2/8
D2600V2	Head	14.2	6.34	56.8	25.36	56.6 (50.94~62.26)	25.4 (22.86~27.94)	22.1	2018/2/7
	Body	13.9	6.16	55.6	24.64	54.2 (48.78~59.62)	24.3 (21.87~26.73)	22.2	2018/2/8

Table 5： SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

7 Test Configuration

7.1 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ 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. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.2 Operation Configurations

7.2.1 GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using CMU200 the power lever is set to “5”and “0” in SAR of GSM 850 and GSM 1900. The tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode

7.2.2 WCDMA Test Configuration

1）. Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1's" for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

2）. Head SAR

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

3）. Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

4）. HSDPA / HSUPA / DC-HSDPA

According to KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

a) HSDPA

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) are set according to values indicated in the following table The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	βc	Bd	βd(SF)	βc/βd	βhs	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: ΔACK, ΔNACK and ΔCQI= 8 Ahs = βhs/βc=30/15 βhs=30/15*βc
Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, ΔACK and ΔNACK= 8 (Ahs=30/15) with βhs=30/15*βc,and ΔCQI=
7 (Ahs=24/15) with βhs=24/15*βc.
Note3: CM=1 forβc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

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

Table 6： settings of required H-Set 1 QPSK acc. to 3GPP 34.121

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	MaximumH S-DSCH Transport BlockBits/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

Table 7： HSDPA UE category

b) HSUPA

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

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.

Table 8： Subtests for UMTS Release 6 HSUPA

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).						

Table 9： HSUPA UE category

c) DC-HSDPA

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

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0.

A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table 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

Table 10：settings of required H-Set 12 QPSK acc. to 3GPP 34.121

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.

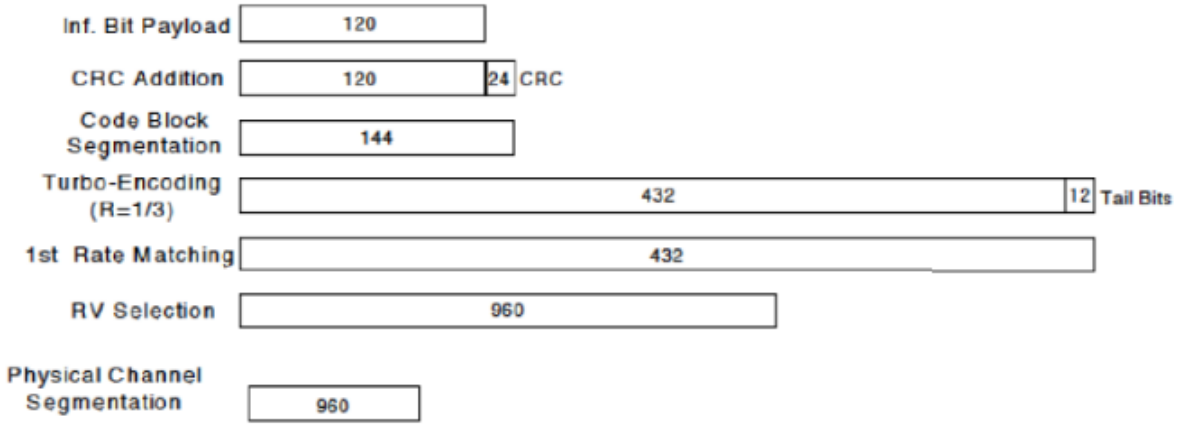


Figure C.8.10: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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

Note 2: CM=1 for β_c/β_d= 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15

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

Note:

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

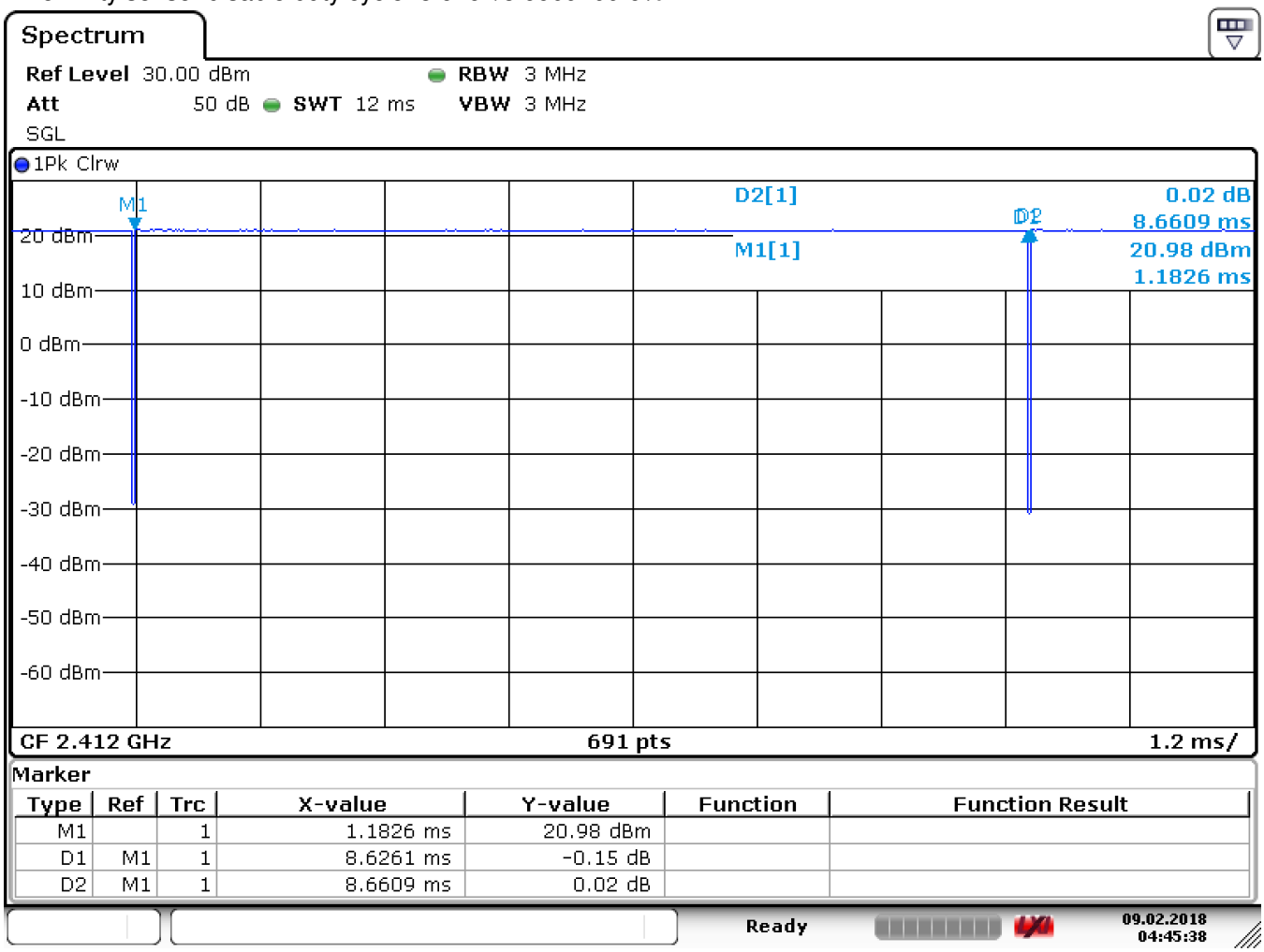
7.2.3 WiFi Test Configuration

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

7.2.3.1 Duty cycle

2.4GHz Wi-Fi 802.11b:

Proximity sensor disable duty cycle: 8.6261/8.6609=99.6%



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7.2.3.2 Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

1）. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
2）. When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
3）. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

7.2.3.3 Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.
For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.
When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

7.2.3.4 Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

1）. When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
2）. When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent

highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

3）. The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.

a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.
b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

4）. SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:

a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)
b) replace “initial test configuration” with “all tested higher output power configurations”

7.2.3.5 2.4 GHz WiFi SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

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

1）. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 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 (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

1）. When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.

2）. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 g/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.

7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A) Spectrum Plots for RB Configurations
A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B) MPR
MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 V15.1.0 (2017-12) Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

C) A-MPR
A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

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

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

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

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

E) Other channel bandwidth standalone SAR test requirements
For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > 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.

8 Test Result

8.1 Measurement of RF Conducted Power

8.1.1 Conducted Power of Main Antenna

8.1.1.1 Conducted Power Of GSM

GSM 850 full power										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.42	32.45	32.41	33	-9.19	23.23	23.26	23.22	23.81
GPRS/EGPRS (GMSK)	1 TX Slot	32.43	32.46	21.42	33	-9.19	23.24	23.27	12.23	23.81
	2 TX Slots	29.44	29.46	29.4	30	-6.18	23.26	**23.28**	23.22	23.82
	3 TX Slots	27.69	27.68	27.59	28.2	-4.42	23.27	23.26	23.17	23.78
	4 TX Slots	26.45	26.44	26.39	27	-3.17	**23.28**	23.27	23.22	**23.83**
EGPRS(8PSK)	1 TX Slot	26.1	26.05	26.08	27.5	-9.19	16.91	16.86	16.89	18.31
	2 TX Slots	22.88	22.78	22.75	25.5	-6.18	16.7	16.6	16.57	19.32
	3 TX Slots	21.08	20.93	20.87	23.5	-4.42	16.66	16.51	16.45	19.08
	4 TX Slots	19.68	19.64	19.57	21.5	-3.17	16.51	16.47	16.4	18.33
GSM 1900 full power										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.73	29.63	29.56	30.5	-9.19	20.54	20.44	20.37	21.31
GPRS/EGPRS (GMSK)	1 TX Slot	29.74	29.63	29.54	30.5	-9.19	**20.55**	20.44	20.35	21.31
	2 TX Slots	26.72	26.65	26.58	27.5	-6.18	20.54	20.47	20.4	21.32
	3 TX Slots	24.95	24.83	24.73	25.7	-4.42	20.53	20.41	20.31	21.28
	4 TX Slots	23.72	23.64	23.54	24.5	-3.17	**20.55**	20.47	20.37	**21.33**
EGPRS(8PSK)	1 TX Slot	25.34	25.36	25.46	26.5	-9.19	16.15	16.17	16.27	17.31
	2 TX Slots	21.97	21.91	22.02	24.5	-6.18	15.79	15.73	15.84	18.32
	3 TX Slots	19.92	19.96	20.01	22.5	-4.42	15.5	15.54	15.59	18.08
	4 TX Slots	18.47	18.34	18.46	20.5	-3.17	15.3	15.17	15.29	17.33

GSM 1900 hotspot on										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	27.26	27.13	27.03	28	-9.19	18.07	17.94	17.84	18.81
GPRS/EGPRS (GMSK)	1 TX Slot	27.27	27.12	27.01	28	-9.19	18.08	17.93	17.82	18.81
	2 TX Slots	24.16	24.04	24.02	25	-6.18	17.98	17.86	17.84	18.82
	3 TX Slots	22.41	22.26	22.21	23.2	-4.42	17.99	17.84	17.79	18.78
	4 TX Slots	21.27	21.09	21.07	22	-3.17	**18.1**	17.92	17.9	**18.83**
EGPRS(8PSK)	1 TX Slot	25.45	25.38	25.42	26.5	-9.19	16.26	16.19	16.23	17.31
	2 TX Slots	22.09	21.93	21.95	24.5	-6.18	15.91	15.75	15.77	18.32
	3 TX Slots	19.93	19.86	20.04	22.5	-4.42	15.51	15.44	15.62	18.08
	4 TX Slots	18.41	18.34	18.39	20.5	-3.17	15.24	15.17	15.22	17.33

Table 11：Conducted Power Of GSM

Note:

1）. CMW500 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2）. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8

3）. 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

8.1.1.2 Conducted Power Of WCDMA

WCDMA Band II full power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.66	22.72	**22.76**	24
	12.2kbps AMR	22.65	22.71	22.75	24
HSDPA	Subtest 1	21.73	21.77	21.74	23
	Subtest 2	22.08	22.1	22.11	23
	Subtest 3	21.34	21.36	21.37	22.3
	Subtest 4	21.34	21.41	21.35	22.3
HSUPA	Subtest 1	21.56	21.57	21.61	22
	Subtest 2	20.58	20.63	20.61	21
	Subtest 3	21.57	21.56	21.58	22.5
	Subtest 4	20.61	20.59	20.67	21
	Subtest 5	21.61	21.62	21.63	22.5
DC-HSDPA	Subtest 1	21.68	21.71	21.72	23
	Subtest 2	22.07	22.12	22.15	23
	Subtest 3	21.33	21.31	21.35	22.3
	Subtest 4	21.37	21.39	21.41	22.3

WCDMA Band II Hotspot on					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	17.28	17.24	**17.34**	18.5
	12.2kbps AMR	17.21	17.22	17.25	18.5
HSDPA	Subtest 1	16.24	16.29	16.26	17.5
	Subtest 2	16.58	16.6	16.61	17.5
	Subtest 3	15.84	15.86	15.87	16.8
	Subtest 4	15.84	15.91	15.85	16.8
HSUPA	Subtest 1	16.1	16.08	16.12	16.5
	Subtest 2	15.08	15.13	15.11	15.5
	Subtest 3	16.09	16.06	16.05	17
	Subtest 4	15.11	15.09	15.17	15.5
	Subtest 5	16.11	16.19	16.13	17
DC-HSDPA	Subtest 1	16.18	16.21	16.22	17.5
	Subtest 2	16.57	16.62	16.55	17.5
	Subtest 3	15.83	15.81	15.85	16.8
	Subtest 4	15.87	15.92	15.89	16.8

WCDMA Band IV full power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	**23.23**	23.14	23.22	24
	12.2kbps AMR	22.91	22.72	22.75	24
HSDPA	Subtest 1	21.74	21.79	21.56	23
	Subtest 2	21.88	22.1	22.11	23
	Subtest 3	21.14	21.16	21.57	22.3
	Subtest 4	21.34	21.41	21.35	22.3
HSUPA	Subtest 1	21.6	21.78	21.42	22
	Subtest 2	20.78	20.63	20.61	21
	Subtest 3	21.59	21.36	21.75	22.5
	Subtest 4	20.61	20.59	20.67	21
	Subtest 5	21.81	21.69	21.43	22.5
DC-HSDPA	Subtest 1	21.68	21.91	21.72	23
	Subtest 2	22.07	22.12	22.05	23
	Subtest 3	21.13	21.31	21.55	22.3
	Subtest 4	21.37	21.42	21.39	22.3

WCDMA Band IV Hotspot on					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	18.7	18.73	**18.78**	19.5
	12.2kbps AMR	18.41	18.22	18.25	19.5
HSDPA	Subtest 1	17.24	17.29	17.06	18.5
	Subtest 2	17.38	17.6	17.61	18.5
	Subtest 3	16.64	16.66	17.07	17.8
	Subtest 4	16.84	16.91	16.85	17.8
HSUPA	Subtest 1	17.1	17.28	16.92	17.5
	Subtest 2	16.28	16.13	16.11	16.5
	Subtest 3	17.09	16.86	17.25	18
	Subtest 4	16.11	16.09	16.17	16.5
	Subtest 5	17.31	17.19	16.93	18
DC-HSDPA	Subtest 1	17.18	17.41	17.22	18.5
	Subtest 2	17.57	17.62	17.55	18.5
	Subtest 3	16.63	16.81	17.05	17.8
	Subtest 4	16.87	16.92	16.89	17.8

WCDMA Band V full power					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.11	23.06	22.96	24.5
	12.2kbps AMR	**23.41**	23.17	23.25	24.5
HSDPA	Subtest 1	22.24	22.29	22.06	23.5
	Subtest 2	22.33	22.6	22.61	23.5
	Subtest 3	21.64	21.66	22.02	22.8
	Subtest 4	21.79	21.91	21.85	22.8
HSUPA	Subtest 1	22.1	22.28	21.92	22.5
	Subtest 2	21.28	21.13	21.11	21.5
	Subtest 3	22.09	21.86	22.25	23
	Subtest 4	21.11	21.09	21.12	21.5
	Subtest 5	22.31	22.19	21.93	23
DC-HSDPA	Subtest 1	22.13	22.41	22.22	23.5
	Subtest 2	22.57	22.57	22.55	23.5
	Subtest 3	21.63	21.81	22.05	22.8
	Subtest 4	21.87	21.92	21.89	22.8

Table 12：Conducted Power Of WCDMA

Note:

1) 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.

8.1.1.3 Conducted Power Of LTE

LTE Band 2 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	21.43	21.73	21.89	23
		1	2	21.5	21.79	21.88	23
		1	5	21.38	21.64	21.68	23
		3	0	21.47	21.76	21.85	23
		3	2	21.49	21.75	21.84	23
		3	3	21.44	21.69	21.84	23
		6	0	20.57	20.81	20.91	22
	16QAM	1	0	20.73	20.99	21.03	22
		1	2	20.8	21.08	21.09	22
		1	5	20.7	20.99	20.9	22
		3	0	20.68	20.87	20.88	22
		3	2	20.65	20.81	20.83	22
		3	3	20.62	20.74	20.77	22
		6	0	20.48	20.79	20.8	22
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	21.34	21.68	21.74	23
		1	7	21.59	21.85	21.94	23
		1	14	21.31	21.54	21.53	23
		8	0	20.63	20.85	20.92	22
		8	4	20.65	20.85	20.9	22
		8	7	20.59	20.74	20.78	22
		15	0	20.56	20.79	20.85	22
	16QAM	1	0	20.81	21.07	20.99	22
		1	7	20.89	21.03	21.18	22
		1	14	20.59	20.77	20.82	22
		8	0	20.55	20.8	20.82	22
		8	4	20.56	20.78	20.83	22
		8	7	20.49	20.68	20.7	22
		15	0	20.5	20.7	20.74	22
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.02	22.34	22.42	23
		1	13	22.13	22.39	22.53	23
		1	24	22.12	22.24	22.24	23
		12	0	21.12	21.44	21.57	22
		12	6	21.22	21.44	21.63	22
		12	13	21.06	21.2	21.4	22
		25	0	21.03	21.26	21.38	22
	16QAM	1	0	21.26	21.68	21.68	22
		1	13	21.33	21.74	21.77	22

		1	24	21.34	21.4	21.52	22
		12	0	21.04	21.36	21.5	22
		12	6	21.09	21.35	21.56	22
		12	13	21.04	21.09	21.29	22
		25	0	20.96	21.2	21.27	22
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	21.88	22.26	22.32	23
		1	25	22.5	22.47	22.62	23
		1	49	22.4	22.28	22.32	23
		25	0	21.27	21.46	21.58	22
		25	13	21.47	21.47	21.63	22
		25	25	21.46	21.32	21.45	22
		50	0	21.36	21.33	21.53	22
	16QAM	1	0	21.2	21.59	21.72	22
		1	25	21.75	21.67	21.82	22
		1	49	21.72	21.51	21.63	22
		25	0	21.13	21.37	21.55	22
		25	13	21.34	21.39	21.54	22
		25	25	21.31	21.27	21.36	22
		50	0	21.26	21.27	21.38	22
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	21.92	22.33	22.26	23
		1	38	22.59	22.47	22.55	23
		1	74	22.33	22.14	22.13	23
		36	0	21.32	21.39	21.51	22
		36	18	21.59	21.49	21.58	22
		36	39	21.47	21.22	21.3	22
		75	0	21.38	21.29	21.39	22
	16QAM	1	0	21.19	21.5	21.53	22
		1	38	21.89	21.72	21.86	22
		1	74	21.45	21.37	21.41	22
		36	0	21.15	21.27	21.44	22
		36	18	21.46	21.36	21.51	22
		36	39	21.36	21.09	21.23	22
		75	0	21.25	21.19	21.31	22
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	21.29	21.78	21.7	23
		1	50	22.25	22.05	**22.55**	23
		1	99	21.51	21.28	21.79	23
		50	0	20.89	20.8	20.94	22
		50	25	21.24	20.92	**21.3**	22
		50	50	20.87	20.65	20.8	22
		100	0	20.86	20.79	20.84	22
	16QAM	1	0	20.51	20.93	21.01	22

		1	50	21.52	21.29	21.53	22
		1	99	20.67	20.65	20.75	22
		50	0	20.76	20.74	20.88	22
		50	25	21.1	20.83	21.2	22
		50	50	20.81	20.57	20.73	22
		100	0	20.77	20.7	20.75	22

LTE Band 2 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	15.93	16.22	16.37	17
		1	2	16.07	16.31	16.4	17
		1	5	15.9	16.13	16.19	17
		3	0	16	16.28	16.34	17
		3	2	16.04	16.27	16.38	17
		3	3	15.99	16.21	16.33	17
		6	0	15.98	16.24	16.33	17
	16QAM	1	0	16.18	16.52	16.63	17
		1	2	16.35	16.6	16.77	17
		1	5	16.25	16.46	16.52	17
		3	0	16.06	16.35	16.49	17
		3	2	16.08	16.28	16.5	17
		3	3	15.99	16.25	16.47	17
		6	0	15.97	16.24	16.4	17
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	15.73	15.97	16.01	17
		1	7	16.22	16.22	16.35	17
		1	14	15.67	15.71	15.8	17
		8	0	15.94	16.13	16.22	17
		8	4	16.02	16.15	16.24	17
		8	7	15.92	16.03	16.1	17
		15	0	15.94	16.07	16.16	17
	16QAM	1	0	16.13	16.39	16.37	17
		1	7	16.54	16.62	16.6	17
		1	14	15.96	16.18	16.11	17
		8	0	15.92	16.12	16.23	17
		8	4	15.99	16.12	16.22	17
		8	7	15.86	15.98	16.07	17
		15	0	15.86	15.98	16.13	17
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	16.46	16.61	16.75	17
		1	13	16.65	16.78	16.79	17
		1	24	16.49	16.42	16.59	17

		12	0	16.48	16.75	16.75	17
		12	6	16.59	16.77	16.83	17
		12	13	16.48	16.47	16.57	17
		25	0	16.44	16.61	16.55	17
	16QAM	1	0	16.72	16.85	16.91	17
		1	13	16.84	16.82	16.88	17
		1	24	16.8	16.75	16.91	17
		12	0	16.42	16.72	16.7	17
		12	6	16.53	16.67	16.78	17
		12	13	16.43	16.41	16.54	17
		25	0	16.37	16.52	16.47	17
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	16.29	16.49	16.6	17
		1	25	16.89	16.87	16.92	17
		1	49	16.81	16.54	16.66	17
		25	0	16.65	16.7	16.87	17
		25	13	16.84	16.79	16.84	17
		25	25	16.82	16.61	16.61	17
		50	0	16.73	16.62	16.73	17
	16QAM	1	0	16.7	16.79	16.97	17
		1	25	16.86	16.84	16.85	17
		1	49	16.89	16.86	16.92	17
		25	0	16.57	16.68	16.81	17
		25	13	16.77	16.75	16.78	17
		25	25	16.73	16.6	16.56	17
		50	0	16.65	16.57	16.61	17
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	16.31	16.65	16.65	17
		1	38	16.85	16.94	16.89	17
		1	74	16.73	16.44	16.5	17
		36	0	16.74	16.73	16.89	17
		36	18	16.84	16.85	16.98	17
		36	39	16.89	16.59	16.63	17
		75	0	16.8	16.6	16.76	17
	16QAM	1	0	16.61	16.99	16.95	17
		1	38	16.82	16.84	16.88	17
		1	74	16.83	16.61	16.87	17
		36	0	16.67	16.62	16.85	17
		36	18	16.74	16.74	16.92	17
		36	39	16.82	16.49	16.58	17
		75	0	16.72	16.56	16.7	17
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	15.39	15.79	15.76	17
		1	50	16.57	16.37	**16.63**	17

		1	99	15.48	15.4	15.53	17
		50	0	16.03	16.01	16.13	17
		50	25	16.46	16.1	**16.55**	17
		50	50	16.16	15.78	15.96	17
		100	0	16.06	15.93	16.02	17
	16QAM	1	0	15.78	16.02	16.14	17
		1	50	16.86	16.71	16.89	17
		1	99	15.82	15.66	15.83	17
		50	0	16	15.97	16.08	17
		50	25	16.35	16.06	16.51	17
		50	50	16.05	15.74	15.92	17
		100	0	15.94	15.88	15.96	17

LTE Band 4 full power				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	21.81	22.34	22.03	23.5
		1	2	21.94	22.36	22.04	23.5
		1	5	21.78	22.21	21.79	23.5
		3	0	21.9	22.36	22.01	23.5
		3	2	21.93	22.3	21.97	23.5
		3	3	21.87	22.29	21.91	23.5
		6	0	20.97	21.33	21.01	22.5
	16QAM	1	0	21.15	21.54	21.18	22.5
		1	2	21.23	21.59	21.13	22.5
		1	5	21.07	21.46	21.04	22.5
		3	0	21.08	21.38	21.12	22.5
		3	2	21.09	21.3	21.06	22.5
		3	3	20.99	21.31	20.94	22.5
		6	0	20.96	21.32	21.03	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	21.69	22.22	21.86	23.5
		1	7	22.03	22.39	21.98	23.5
		1	14	21.85	22	21.61	23.5
		8	0	20.97	21.36	21.12	22.5
		8	4	21.06	21.34	21.1	22.5
		8	7	21.11	21.26	20.91	22.5
		15	0	21.06	21.31	21.07	22.5
	16QAM	1	0	21.13	21.56	21.24	22.5
		1	7	21.38	21.6	21.36	22.5
		1	14	21.23	21.33	20.99	22.5
		8	0	20.99	21.24	21.09	22.5
		8	4	21.03	21.28	21.04	22.5

		8	7	21.08	21.17	20.87	22.5
		15	0	20.99	21.19	20.99	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	21.89	22.33	22.24	23.5
		1	13	22.24	22.42	22.12	23.5
		1	24	22.14	22.18	21.9	23.5
		12	0	21.14	21.42	21.33	22.5
		12	6	21.32	21.46	21.29	22.5
		12	13	21.2	21.22	21	22.5
		25	0	21.1	21.3	21.19	22.5
	16QAM	1	0	21.29	21.56	21.57	22.5
		1	13	21.54	21.7	21.4	22.5
		1	24	21.51	21.39	21.23	22.5
		12	0	21.1	21.4	21.25	22.5
		12	6	21.25	21.36	21.22	22.5
		12	13	21.14	21.12	20.96	22.5
		25	0	21.03	21.17	21.11	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	21.67	22.21	22.19	23.5
		1	25	22.28	22.4	22.32	23.5
		1	49	22.23	22.18	22.03	23.5
		25	0	21.15	21.41	21.36	22.5
		25	13	21.34	21.33	21.35	22.5
		25	25	21.19	21.19	21.14	22.5
		50	0	21.26	21.28	21.35	22.5
	16QAM	1	0	21.11	21.54	21.54	22.5
		1	25	21.72	21.67	21.71	22.5
		1	49	21.57	21.51	21.27	22.5
		25	0	21.08	21.36	21.29	22.5
		25	13	21.3	21.26	21.29	22.5
		25	25	21.24	21.11	21.09	22.5
		50	0	21.26	21.2	21.26	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	21.84	22.48	22.42	23.5
		1	38	22.21	22.34	22.36	23.5
		1	74	22.35	22.16	21.97	23.5
		36	0	21.26	21.49	21.32	22.5
		36	18	21.25	21.44	21.35	22.5
		36	39	21.27	21.25	21.15	22.5
		75	0	21.24	21.3	21.27	22.5
	16QAM	1	0	21.24	21.77	21.81	22.5
		1	38	21.6	21.59	21.63	22.5
		1	74	21.67	21.34	21.18	22.5
		36	0	21.25	21.37	21.31	22.5

		36	18	21.22	21.33	21.32	22.5
		36	39	21.27	21.14	21.13	22.5
		75	0	21.21	21.23	21.25	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	22.44	**22.67**	22.44	23.5
		1	50	22.07	22.5	22.41	23.5
		1	99	22.27	22.15	22	23.5
		50	0	21.39	**21.59**	21.48	22.5
		50	25	21.48	21.52	21.57	22.5
		50	50	21.4	21.45	21.43	22.5
		100	0	21.38	21.51	21.53	22.5
	16QAM	1	0	21.42	22.01	21.86	22.5
		1	50	21.69	21.8	21.79	22.5
		1	99	21.42	21.46	21.3	22.5
		50	0	21.37	21.5	21.53	22.5
		50	25	21.38	21.44	21.49	22.5
		50	50	21.3	21.39	21.35	22.5
		100	0	21.28	21.42	21.45	22.5

LTE Band 4 Hotspot on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
1.4MHz	QPSK	1	0	17.06	17.59	17.26	18.5
		1	2	17.13	17.67	17.32	18.5
		1	5	16.95	17.5	17.12	18.5
		3	0	17.14	17.65	17.32	18.5
		3	2	17.14	17.63	17.32	18.5
		3	3	17.08	17.61	17.21	18.5
		6	0	17.09	17.58	17.28	18.5
	16QAM	1	0	17.33	17.95	17.47	18.5
		1	2	17.37	17.95	17.51	18.5
		1	5	17.18	17.8	17.31	18.5
		3	0	17.22	17.67	17.35	18.5
		3	2	17.15	17.69	17.3	18.5
		3	3	17.12	17.67	17.23	18.5
		6	0	17.06	17.54	17.24	18.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	16.94	17.41	17.19	18.5
		1	7	17.29	17.74	17.34	18.5
		1	14	16.99	17.29	16.92	18.5
		8	0	17.09	17.59	17.32	18.5
		8	4	17.18	17.63	17.36	18.5
		8	7	17.19	17.53	17.17	18.5

		15	0	17.13	17.56	17.3	18.5
	16QAM	1	0	17.22	17.79	17.43	18.5
		1	7	17.57	17.96	17.63	18.5
		1	14	17.26	17.47	17.13	18.5
		8	0	17.11	17.53	17.28	18.5
		8	4	17.15	17.57	17.34	18.5
		8	7	17.13	17.48	17.11	18.5
		15	0	17.14	17.48	17.25	18.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	16.88	17.4	17.3	18.5
		1	13	17.25	17.58	17.35	18.5
		1	24	16.99	17.28	17.05	18.5
		12	0	17.12	17.45	17.4	18.5
		12	6	17.23	17.52	17.42	18.5
		12	13	17.14	17.29	17.16	18.5
		25	0	17.06	17.33	17.3	18.5
	16QAM	1	0	17.2	17.77	17.62	18.5
		1	13	17.61	17.94	17.64	18.5
		1	24	17.38	17.61	17.39	18.5
		12	0	17.09	17.41	17.36	18.5
		12	6	17.25	17.53	17.36	18.5
		12	13	17.08	17.26	17.14	18.5
		25	0	17.05	17.28	17.24	18.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	16.7	17.26	17.14	18.5
		1	25	17.41	17.48	17.49	18.5
		1	49	17.25	17.18	17.1	18.5
		25	0	17.07	17.47	17.3	18.5
		25	13	17.27	17.36	17.36	18.5
		25	25	17.15	17.21	17.22	18.5
		50	0	17.17	17.28	17.35	18.5
	16QAM	1	0	17.03	17.51	17.45	18.5
		1	25	17.78	17.9	17.78	18.5
		1	49	17.57	17.45	17.55	18.5
		25	0	17.08	17.42	17.32	18.5
		25	13	17.29	17.32	17.35	18.5
		25	25	17.17	17.18	17.21	18.5
		50	0	17.16	17.23	17.36	18.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	16.95	17.62	17.33	18.5
		1	38	17.43	17.59	17.36	18.5
		1	74	17.39	17.29	17.09	18.5
		36	0	17.27	17.58	17.4	18.5
		36	18	17.32	17.49	17.4	18.5

		36	39	17.4	17.38	17.27	18.5
		75	0	17.35	17.38	17.33	18.5
		1	0	17.3	17.88	17.79	18.5
		1	38	17.69	17.88	17.75	18.5
		1	74	17.83	17.62	17.34	18.5
	16QAM	36	0	17.28	17.55	17.34	18.5
		36	18	17.32	17.46	17.35	18.5
		36	39	17.35	17.32	17.22	18.5
		75	0	17.27	17.34	17.26	18.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	17	17.63	17.49	18.5
		1	50	17.45	**17.62**	17.54	18.5
		1	99	17.2	17.1	16.96	18.5
		50	0	17.21	**17.53**	17.51	18.5
		50	25	17.39	17.52	17.39	18.5
		50	50	17.28	17.44	17.32	18.5
		100	0	17.3	17.5	17.42	18.5
	16QAM	1	0	17.21	18.03	17.73	18.5
		1	50	17.8	17.93	17.95	18.5
		1	99	17.44	17.36	17.39	18.5
		50	0	17.24	17.48	17.51	18.5
		50	25	17.36	17.46	17.4	18.5
		50	50	17.3	17.38	17.32	18.5
		100	0	17.3	17.45	17.35	18.5

LTE Band 5 full power				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	22.09	22.31	22.03	23.5
		1	2	22.28	22.45	22.16	23.5
		1	5	22.23	22.27	22.07	23.5
		3	0	22.14	22.35	22.11	23.5
		3	2	22.24	22.41	22.18	23.5
		3	3	22.23	22.34	22.16	23.5
		6	0	21.31	21.33	21.31	22.5
	16QAM	1	0	21.31	21.41	21.38	22.5
		1	2	21.51	21.58	21.55	22.5
		1	5	21.49	21.31	21.42	22.5
		3	0	21.25	21.29	21.31	22.5
		3	2	21.34	21.32	21.27	22.5
		3	3	21.31	21.27	21.24	22.5
		6	0	21.12	21.3	21.22	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up

3MHz	QPSK	1	0	21.87	22.05	21.88	23.5
		1	7	22.37	22.42	22.14	23.5
		1	14	21.94	22.02	21.83	23.5
		8	0	21.3	21.26	21.09	22.5
		8	4	21.27	21.33	21.26	22.5
		8	7	21.17	21.26	21.11	22.5
		15	0	21.17	21.26	21.2	22.5
	16QAM	1	0	21.18	21.28	21.03	22.5
		1	7	21.66	21.65	21.57	22.5
		1	14	21.11	21.29	21.15	22.5
		8	0	21.08	21.19	21.08	22.5
		8	4	21.22	21.24	21.2	22.5
		8	7	21.09	21.17	21.09	22.5
		15	0	21.06	21.15	21.13	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.27	22.41	22.4	23.5
		1	13	22.33	22.41	22.26	23.5
		1	24	22.32	22.35	22.16	23.5
		12	0	21.38	21.34	21.31	22.5
		12	6	21.5	21.56	21.41	22.5
		12	13	21.28	21.36	21.2	22.5
		25	0	21.39	21.49	21.42	22.5
	16QAM	1	0	21.60	21.73	21.75	22.5
		1	13	21.49	21.73	21.6	22.5
		1	24	21.54	21.69	21.45	22.5
		12	0	21.28	21.21	21.22	22.5
		12	6	21.31	21.37	21.33	22.5
		12	13	21.17	21.27	21.12	22.5
		25	0	21.17	21.36	21.26	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.41	22.57	22.66	23.5
		1	25	**22.77**	22.72	22.66	23.5
		1	49	22.46	22.54	22.31	23.5
		25	0	21.62	21.57	21.6	22.5
		25	13	**21.81**	21.8	21.71	22.5
		25	25	21.51	21.49	21.57	22.5
		50	0	21.55	21.56	21.62	22.5
	16QAM	1	0	21.71	21.86	22.07	22.5
		1	25	21.97	22.04	21.92	22.5
		1	49	21.76	21.84	21.65	22.5
		25	0	21.43	21.43	21.53	22.5
		25	13	21.53	21.68	21.6	22.5
		25	25	21.38	21.45	21.42	22.5
		50	0	21.44	21.5	21.47	22.5

LTE Band 7 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	21.77	21.73	21.71	23
		1	13	22.06	21.99	21.75	23
		1	24	22.13	21.89	21.5	23
		12	0	21.18	21.19	21.03	22
		12	6	21.31	21.17	21.02	22
		12	13	21.22	21.03	20.86	22
		25	0	21.2	21.17	21.07	22
	16QAM	1	0	21.08	21.19	21.15	22
		1	13	21.48	21.36	21.15	22
		1	24	21.51	21.18	20.88	22
		12	0	21.14	21.11	20.96	22
		12	6	21.22	21.15	20.95	22
		12	13	21.17	20.95	20.79	22
		25	0	21.08	21.06	20.96	22
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	21.38	21.46	21.92	23
		1	25	22.42	22.11	21.98	23
		1	49	22.61	22.16	21.75	23
		25	0	20.98	20.85	20.94	22
		25	13	21.22	20.97	20.89	22
		25	25	21.56	21.18	21.21	22
		50	0	21.18	20.95	21.14	22
	16QAM	1	0	20.81	20.78	21.2	22
		1	25	21.77	21.5	21.4	22
		1	49	21.94	21.49	21.17	22
		25	0	20.89	20.75	20.82	22
		25	13	21.12	20.84	20.75	22
		25	25	21.46	21.07	21.07	22
		50	0	21.08	20.85	20.97	22
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	21.53	21.46	21.99	23
		1	38	22.43	21.9	22	23
		1	74	22.43	21.98	21.52	23
		36	0	21.21	20.89	21.36	22
		36	18	21.54	21.09	21.15	22
		36	39	21.42	20.94	21.08	22
		75	0	21.36	21	21.26	22
	16QAM	1	0	20.76	20.88	21.44	22
		1	38	21.7	21.23	21.4	22

		1	74	21.65	21.38	20.89	22
		36	0	21.09	20.82	21.19	22
		36	18	21.43	21.01	21.06	22
		36	39	21.3	20.86	21.01	22
		75	0	21.23	20.9	21.15	22
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	21.88	22.12	**22.58**	23
		1	50	22.47	21.84	22.36	23
		1	99	22.44	22.22	21.75	23
		50	0	21.33	21.25	21.5	22
		50	25	21.4	21.12	21.33	22
		50	50	**21.42**	20.97	21.17	22
		100	0	21.76	21.14	21.39	22
	16QAM	1	0	21.29	21.58	21.91	22
		1	50	21.75	21.23	21.67	22
		1	99	21.74	21.58	21.18	22
		50	0	21.22	21.16	21.39	22
		50	25	21.27	21.01	21.22	22
		50	50	21.28	20.86	21.07	22
		100	0	21.59	21.02	21.2	22

LTE Band 7 Hotspot on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	18.4	18.47	18.6	19.5
		1	13	18.66	18.76	18.77	19.5
		1	24	18.65	18.5	18.45	19.5
		12	0	18.66	18.72	18.71	19.5
		12	6	18.72	18.82	18.72	19.5
		12	13	18.57	18.52	18.61	19.5
		25	0	18.59	18.69	18.81	19.5
	16QAM	1	0	18.56	18.76	18.93	19.5
		1	13	18.99	19.03	19.04	19.5
		1	24	18.98	18.85	18.74	19.5
		12	0	18.64	18.72	18.68	19.5
		12	6	18.69	18.74	18.64	19.5
		12	13	18.6	18.44	18.54	19.5
		25	0	18.55	18.59	18.74	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	17.9	18.09	18.52	19.5
		1	25	18.94	18.84	18.89	19.5
		1	49	19.07	18.73	18.58	19.5
		25	0	18.3	18.31	18.44	19.5

		25	13	18.49	18.47	18.43	19.5
		25	25	18.82	18.65	18.89	19.5
		50	0	18.39	18.44	18.69	19.5
		1	0	18.21	18.38	18.8	19.5
		1	25	19.32	19.08	19.17	19.5
		1	49	19.36	19.06	18.87	19.5
	16QAM	25	0	18.29	18.24	18.38	19.5
		25	13	18.47	18.39	18.31	19.5
		25	25	18.81	18.56	18.76	19.5
		50	0	18.39	18.35	18.57	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz		1	0	18.06	18.14	18.63	19.5
		1	38	18.88	18.67	18.83	19.5
		1	74	18.87	18.62	18.43	19.5
	QPSK	36	0	18.56	18.42	18.85	19.5
		36	18	18.83	18.68	18.77	19.5
		36	39	18.66	18.5	18.78	19.5
		75	0	18.62	18.55	18.84	19.5
		1	0	18.29	18.39	18.98	19.5
		1	38	19.25	18.95	19.11	19.5
		1	74	19.32	18.79	18.76	19.5
	16QAM	36	0	18.52	18.33	18.78	19.5
		36	18	18.81	18.6	18.71	19.5
		36	39	18.66	18.43	18.7	19.5
		75	0	18.61	18.47	18.75	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz		1	0	18.35	18.72	**19.04**	19.5
		1	50	18.71	18.52	19.03	19.5
		1	99	18.91	18.72	18.54	19.5
	QPSK	50	0	18.38	18.62	18.71	19.5
		50	25	18.52	18.5	**18.74**	19.5
		50	50	18.62	18.37	18.69	19.5
		100	0	18.98	18.54	18.7	19.5
		1	0	18.64	19.09	19.28	19.5
		1	50	18.93	18.77	19.29	19.5
		1	99	19.21	18.94	18.89	19.5
	16QAM	50	0	18.36	18.58	18.62	19.5
		50	25	18.43	18.47	18.67	19.5
		50	50	18.53	18.3	18.6	19.5
		100	0	18.89	18.46	18.6	19.5

LTE Band 7 sensor on+hotspot on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB	RB	Channel	Channel	Channel	Tune up

		size	offset	20775	21100	21425	
5MHz	QPSK	1	0	16.02	16.1	16.27	17.5
		1	13	16.25	16.4	16.48	17.5
		1	24	16.17	16.13	16.15	17.5
		12	0	16.2	16.3	16.42	17.5
		12	6	16.24	16.36	16.39	17.5
		12	13	16.07	16.1	16.23	17.5
		25	0	16.12	16.29	16.42	17.5
	16QAM	1	0	16.25	16.36	16.54	17.5
		1	13	16.54	16.63	16.76	17.5
		1	24	16.39	16.28	16.4	17.5
		12	0	16.19	16.27	16.42	17.5
		12	6	16.28	16.36	16.38	17.5
		12	13	16.15	16.07	16.21	17.5
		25	0	16.12	16.22	16.4	17.5
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	15.62	15.7	16.07	17.5
		1	25	16.5	16.51	16.62	17.5
		1	49	16.53	16.46	16.36	17.5
		25	0	15.93	15.96	16.06	17.5
		25	13	16.09	16.05	16.07	17.5
		25	25	16.38	16.23	16.51	17.5
		50	0	16.05	16.02	16.38	17.5
	16QAM	1	0	15.92	15.97	16.34	17.5
		1	25	16.78	16.76	16.84	17.5
		1	49	16.84	16.77	16.58	17.5
		25	0	15.94	15.9	16.01	17.5
		25	13	16.13	16.01	16.02	17.5
		25	25	16.35	16.19	16.49	17.5
		50	0	15.99	15.95	16.31	17.5
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	15.4	15.68	15.88	17.5
		1	38	16.16	16.25	16.45	17.5
		1	74	15.98	16.11	16.11	17.5
		36	0	15.95	16.03	16.34	17.5
		36	18	16.15	16.23	16.37	17.5
		36	39	15.93	15.93	16.46	17.5
		75	0	15.99	16.07	16.37	17.5
	16QAM	1	0	15.77	16.1	16.27	17.5
		1	38	16.57	16.57	16.76	17.5
		1	74	16.44	16.44	16.34	17.5
		36	0	15.99	15.94	16.28	17.5
		36	18	16.21	16.15	16.32	17.5
		36	39	15.94	15.86	16.41	17.5
		75	0	15.99	16.04	16.3	17.5

Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	16.35	16.55	16.72	17.5
		1	50	**16.77**	16.31	16.76	17.5
		1	99	16.84	16.59	16.47	17.5
		50	0	16.43	16.54	16.47	17.5
		50	25	16.42	16.37	16.49	17.5
		50	50	**16.57**	16.18	16.54	17.5
		100	0	16.9	16.35	16.45	17.5
	16QAM	1	0	16.51	16.86	16.96	17.5
		1	50	16.98	16.58	17.14	17.5
		1	99	17.14	16.86	16.74	17.5
		50	0	16.34	16.41	16.35	17.5
		50	25	16.31	16.26	16.39	17.5
		50	50	16.45	16.07	16.44	17.5
		100	0	16.84	16.21	16.39	17.5

LTE FDD Band 12 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	21.57	22.02	22.27	24
		1	2	21.79	22.12	22.24	24
		1	5	21.9	22.07	22.06	24
		3	0	21.72	22.14	22.27	24
		3	2	21.9	22.16	22.23	24
		3	3	21.93	22.1	22.15	24
		6	0	20.92	21.2	21.37	23
	16QAM	1	0	21.01	21.41	21.55	23
		1	2	21.21	21.47	21.58	23
		1	5	21.28	21.49	21.31	23
		3	0	20.86	21.24	21.44	23
		3	2	21.02	21.25	21.35	23
		3	3	21.06	21.24	21.21	23
		6	0	20.03	20.36	20.43	22
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	21.35	21.89	22.13	24
		1	7	22.14	22.16	22.43	24
		1	14	21.82	21.92	21.91	24
		8	0	20.91	21.14	21.46	23
		8	4	21.18	21.19	21.5	23
		8	7	21.16	21.1	21.28	23
		15	0	20.96	21.11	21.37	23
	16QAM	1	0	20.8	21.21	21.55	23
		1	7	21.63	21.52	21.82	23
		1	14	21.12	21.34	21.26	23
		8	0	20.12	20.28	20.57	22
		8	4	20.36	20.37	20.6	22
		8	7	20.3	20.25	20.33	22
		15	0	20.03	20.2	20.36	22
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	22.09	22.46	22.78	24
		1	13	22.61	22.68	22.91	24
		1	24	22.44	22.52	22.39	24
		12	0	21.53	21.59	21.93	23
		12	6	21.73	21.73	22.02	23
		12	13	21.56	21.63	21.81	23
		25	0	21.57	21.61	21.92	23
	16QAM	1	0	21.48	21.83	22.2	23
		1	13	22.03	22.04	22.28	23

		1	24	21.73	21.86	21.76	23
		12	0	20.62	20.67	21.01	22
		12	6	20.82	20.83	21.13	22
		12	13	20.66	20.72	20.87	22
		25	0	20.62	20.62	20.94	22
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	22.22	22.57	22.51	24
		1	25	22.87	23.01	**23.25**	24
		1	49	22.51	22.72	22.53	24
		25	0	21.7	21.68	21.82	23
		25	13	21.81	21.88	**22.07**	23
		25	25	21.57	21.8	21.88	23
		50	0	21.6	21.72	21.8	23
	16QAM	1	0	21.56	21.94	21.87	23
		1	25	22.31	22.29	22.56	23
		1	49	21.89	22.07	21.86	23
		25	0	20.72	20.67	20.79	22
		25	13	20.82	20.87	21.07	22
		25	25	20.54	20.79	20.89	22
		50	0	20.63	20.71	20.84	22

LTE FDD Band 17 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	22.21	22.64	22.8	24
		1	13	22.7	22.91	23.1	24
		1	24	22.55	22.86	22.49	24
		12	0	21.42	21.81	22.05	23
		12	6	21.7	22	22.14	23
		12	13	21.62	21.93	21.95	23
		25	0	21.57	21.84	21.99	23
	16QAM	1	0	21.58	21.97	22.22	23
		1	13	21.97	22.29	22.41	23
		1	24	21.88	22.15	21.81	23
		12	0	20.5	20.87	21.14	22
		12	6	20.77	21.04	21.23	22
		12	13	20.7	20.97	21.04	22
		25	0	20.56	20.84	21.04	22
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	22.2	22.37	22.48	24
		1	25	23.04	**23.09**	23.2	24
		1	49	22.74	22.75	22.57	24
		25	0	21.56	21.65	21.76	23
		25	13	21.94	21.98	**22.07**	23
		25	25	21.86	21.94	21.88	23
		50	0	21.73	21.8	21.85	23
	16QAM	1	0	21.63	21.69	21.77	23
		1	25	22.33	22.52	22.6	23
		1	49	21.94	21.89	21.85	23
		25	0	20.59	20.69	20.78	22
		25	13	20.92	20.95	21.11	22
		25	25	20.84	20.94	20.86	22
		50	0	20.7	20.77	20.85	22

Table 13：Conducted Power Of LTE

8.1.2 Conducted Power of Second Antenna

8.1.2.1 Conducted Power Of GSM

GSM 850 full power										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.41	32.45	32.42	33	-9.19	23.22	23.26	23.23	23.81
GPRS/EGPRS (GMSK)	1 TX Slot	32.45	32.43	32.41	33	-9.19	23.26	23.24	23.22	23.81
	2 TX Slots	29.43	29.46	29.42	30	-6.18	23.25	23.28	23.24	23.82
	3 TX Slots	27.69	27.68	27.65	28.2	-4.42	23.27	23.26	23.23	23.78
	4 TX Slots	26.49	26.48	26.46	27	-3.17	**23.32**	23.31	23.29	**23.83**
EGPRS(8PSK)	1 TX Slot	26.61	26.69	26.74	27.5	-9.19	17.42	17.5	17.55	18.31
	2 TX Slots	23.54	23.56	23.61	25.5	-6.18	17.36	17.38	17.43	19.32
	3 TX Slots	21.67	21.69	21.75	23.5	-4.42	17.25	17.27	17.33	19.08
	4 TX Slots	20.38	20.49	20.52	21.5	-3.17	17.21	17.32	17.35	18.33
GSM 1900 full power										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.63	29.52	29.46	30.5	-9.19	20.44	20.33	20.27	21.31
GPRS/EGPRS (GMSK)	1 TX Slot	29.64	29.54	29.44	30.5	-9.19	20.45	20.35	20.25	21.31
	2 TX Slots	26.71	26.57	26.48	27.5	-6.18	20.53	20.39	20.3	21.32
	3 TX Slots	24.93	24.78	24.71	25.7	-4.42	20.51	20.36	20.29	21.28
	4 TX Slots	23.71	23.56	23.48	24.5	-3.17	**20.54**	20.39	20.31	**21.33**
EGPRS(8PSK)	1 TX Slot	25.55	25.58	25.52	26.5	-9.19	16.36	16.39	16.33	17.31
	2 TX Slots	22.28	22.13	22.32	24.5	-6.18	16.1	15.95	16.14	18.32
	3 TX Slots	20.09	20.13	20.36	22.5	-4.42	15.67	15.71	15.94	18.08
	4 TX Slots	18.55	18.51	18.58	20.5	-3.17	15.38	15.34	15.41	17.33

GSM 850 Receiver on										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	31.89	31.9	31.87	32.5	-9.19	22.7	22.71	22.68	23.31
GPRS/EGPRS (GMSK)	1 TX Slot	31.87	31.89	31.88	32.5	-9.19	22.68	22.7	22.69	23.31
	2 TX Slots	28.99	28.97	28.94	29.5	-6.18	**22.81**	22.79	22.76	23.32
	3 TX Slots	27.15	27.14	27.09	27.7	-4.42	22.73	22.72	22.67	23.28
	4 TX Slots	25.91	25.95	25.89	26.5	-3.17	22.74	22.78	22.72	**23.33**
EGPRS(8PSK)	1 TX Slot	26.63	26.78	26.81	27.5	-9.19	17.44	17.59	17.62	18.31
	2 TX Slots	23.57	23.52	23.63	25.5	-6.18	17.39	17.34	17.45	19.32
	3 TX Slots	21.51	21.61	21.56	23.5	-4.42	17.09	17.19	17.14	19.08
	4 TX Slots	20.05	20.14	20.13	21.5	-3.17	16.88	16.97	16.96	18.33
GSM 1900 Receiver on										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	28.63	28.54	28.44	29.5	-9.19	19.44	19.35	19.25	20.31
GPRS/EGPRS (GMSK)	1 TX Slot	28.65	28.53	28.43	29.5	-9.19	19.46	19.34	19.24	20.31
	2 TX Slots	25.73	25.61	25.52	26.5	-6.18	**19.55**	19.43	19.34	20.32

	3 TX Slots	23.87	23.78	23.67	24.7	-4.42	19.45	19.36	19.25	20.28
	4 TX Slots	22.71	22.59	22.51	23.5	-3.17	19.54	19.42	19.34	**20.33**
EGPRS(8PSK)	1 TX Slot	25.96	25.97	26.02	26.5	-9.19	16.77	16.78	16.83	17.31
	2 TX Slots	22.53	22.52	22.57	24.5	-6.18	16.35	16.34	16.39	18.32
	3 TX Slots	20.77	20.74	20.89	22.5	-4.42	16.35	16.32	16.47	18.08
	4 TX Slots	19.48	19.41	19.47	20.5	-3.17	16.31	16.24	16.3	17.33

GSM 850 Hotspot on										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	31.89	31.92	31.87	32.5	-9.19	22.7	22.73	22.68	23.31
GPRS/EGPRS (GMSK)	1 TX Slot	31.87	31.91	31.89	32.5	-9.19	22.68	22.72	22.7	23.31
	2 TX Slots	28.99	29.01	28.96	29.5	-6.18	22.81	**22.83**	22.78	23.32
	3 TX Slots	27.17	27.14	27.11	27.7	-4.42	22.75	22.72	22.69	23.28
	4 TX Slots	25.98	25.99	25.95	26.5	-3.17	22.81	22.82	22.78	**23.33**
EGPRS(8PSK)	1 TX Slot	26.69	26.64	26.74	27.5	-9.19	17.5	17.45	17.55	18.31
	2 TX Slots	23.53	23.55	23.56	25.5	-6.18	17.35	17.37	17.38	19.32
	3 TX Slots	21.56	21.65	21.69	23.5	-4.42	17.14	17.23	17.27	19.08
	4 TX Slots	20.07	20.15	20.19	21.5	-3.17	16.9	16.98	17.02	18.33
GSM 1900 Hotspot on										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	28.62	28.47	28.42	29.5	-9.19	19.43	19.28	19.23	20.31
GPRS/EGPRS (GMSK)	1 TX Slot	28.61	28.48	28.4	29.5	-9.19	19.42	19.29	19.21	20.31
	2 TX Slots	25.71	25.57	25.49	26.5	-6.18	**19.53**	19.39	19.31	20.32
	3 TX Slots	23.84	23.73	23.65	24.7	-4.42	19.42	19.31	19.23	20.28
	4 TX Slots	22.69	22.57	22.49	23.5	-3.17	19.52	19.4	19.32	**20.33**
EGPRS(8PSK)	1 TX Slot	25.54	25.44	25.41	26.5	-9.19	16.35	16.25	16.22	17.31
	2 TX Slots	22.08	22.05	22.01	24.5	-6.18	15.9	15.87	15.83	18.32
	3 TX Slots	20.02	20.03	20.1	22.5	-4.42	15.6	15.61	15.68	18.08
	4 TX Slots	18.54	18.49	18.51	20.5	-3.17	15.37	15.32	15.34	17.33

Table 14：Conducted Power Of GSM
Note:
1）. CMU200 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	**1**	**2**	**3**	**4**
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2）. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8
3）. 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

8.1.2.2 Conducted Power Of WCDMA

WCDMA Band II full power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.67	22.75	**22.81**	24
	12.2kbps AMR	22.65	22.72	22.75	24
HSDPA	Subtest 1	21.64	21.79	21.76	23
	Subtest 2	22	22.1	22.11	23
	Subtest 3	21.38	21.36	21.37	22.3
	Subtest 4	21.34	21.43	21.35	22.3
HSUPA	Subtest 1	21.6	21.58	21.62	22
	Subtest 2	20.58	20.67	20.61	21
	Subtest 3	21.59	21.56	21.55	22.5
	Subtest 4	20.61	20.59	20.67	21
	Subtest 5	21.61	21.69	21.63	22.5
DC-HSDPA	Subtest 1	21.81	21.77	21.72	23
	Subtest 2	22.07	22.12	22.05	23
	Subtest 3	21.33	21.31	21.35	22.3
	Subtest 4	21.37	21.42	21.39	22.3

WCDMA Band II Receiver on					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	17.42	17.45	**17.46**	18.5
	12.2kbps AMR	17.21	17.22	17.25	18.5
HSDPA	Subtest 1	17.14	17.29	17.26	17.5
	Subtest 2	16.5	16.6	16.61	17.5
	Subtest 3	15.88	16.86	16.87	16.8
	Subtest 4	16.84	15.93	15.85	16.8
HSUPA	Subtest 1	16.1	17.08	17.12	16.5
	Subtest 2	16.08	15.17	16.11	15.5
	Subtest 3	16.09	17.06	16.05	17
	Subtest 4	16.11	15.09	16.17	15.5
	Subtest 5	16.11	17.19	16.13	17
DC-HSDPA	Subtest 1	17.31	17.27	16.22	17.5
	Subtest 2	17.57	16.62	17.55	17.5
	Subtest 3	16.83	16.81	15.85	16.8
	Subtest 4	15.87	16.92	15.89	16.8

WCDMA Band II Hotspot on					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	**17.32**	17.31	**17.32**	18.5
	12.2kbps AMR	17.11	17.12	17.15	18.5
HSDPA	Subtest 1	17.04	17.19	17.16	17.5

	Subtest 2	16.4	16.5	16.51	17.5
	Subtest 3	15.78	16.76	16.77	16.8
	Subtest 4	16.74	15.83	15.75	16.8
HSUPA	Subtest 1	16	16.98	17.02	16.5
	Subtest 2	15.98	15.07	16.01	15.5
	Subtest 3	15.99	16.96	15.95	17
	Subtest 4	16.01	14.99	16.07	15.5
	Subtest 5	16.01	17.09	16.03	17
DC-HSDPA	Subtest 1	17.21	17.17	16.12	17.5
	Subtest 2	17.47	16.52	17.45	17.5
	Subtest 3	16.73	16.71	15.75	16.8
	Subtest 4	15.77	16.82	15.79	16.8

WCDMA Band IV full power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	23.21	23.17	**23.23**	24
	12.2kbps AMR	23.19	23.2	**23.23**	24
HSDPA	Subtest 1	23.12	23.27	23.24	23
	Subtest 2	22.48	22.58	22.59	23
	Subtest 3	21.86	22.84	22.85	22.3
	Subtest 4	22.82	21.91	21.83	22.3
HSUPA	Subtest 1	21.8	21.78	21.82	22
	Subtest 2	20.78	20.87	20.81	21
	Subtest 3	21.79	21.76	21.75	22.5
	Subtest 4	20.81	20.79	20.87	21
	Subtest 5	21.81	21.89	21.83	22.5
DC-HSDPA	Subtest 1	22.01	21.97	21.92	23
	Subtest 2	22.27	22.32	22.25	23
	Subtest 3	21.53	21.51	21.55	22.3
	Subtest 4	21.57	21.62	21.59	22.3

WCDMA Band IV Receiver on					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	19.18	19.22	**19.25**	20
	12.2kbps AMR	19.06	19.07	19.1	20
HSDPA	Subtest 1	18.99	19.14	19.11	19
	Subtest 2	18.35	18.45	18.46	19
	Subtest 3	17.73	18.71	18.72	18.3
	Subtest 4	18.69	17.78	17.7	18.3
HSUPA	Subtest 1	17.95	18.93	18.97	18
	Subtest 2	17.93	17.02	17.96	17
	Subtest 3	17.94	18.91	17.9	18.5
	Subtest 4	17.96	16.94	18.02	17
	Subtest 5	18.06	18.14	18.08	18.5

DC-HSDPA	Subtest 1	18.26	18.22	18.17	19
	Subtest 2	18.52	18.57	18.5	19
	Subtest 3	17.78	17.76	17.8	18.3
	Subtest 4	17.82	17.87	17.84	18.3

WCDMA Band IV Hotspot on					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	19.09	19.15	**19.2**	20
	12.2kbps AMR	18.91	18.92	18.95	20
HSDPA	Subtest 1	18.84	18.99	18.96	19
	Subtest 2	18.2	18.3	18.31	19
	Subtest 3	17.58	18.56	18.57	18.3
	Subtest 4	18.54	17.63	17.55	18.3
HSUPA	Subtest 1	17.8	18.78	18.82	18
	Subtest 2	17.78	16.87	17.81	17
	Subtest 3	17.79	18.76	17.75	18.5
	Subtest 4	16.91	16.89	16.97	17
	Subtest 5	17.91	17.99	17.93	18.5
DC-HSDPA	Subtest 1	18.11	18.07	18.02	19
	Subtest 2	18.37	18.42	18.35	19
	Subtest 3	17.63	17.61	17.65	18.3
	Subtest 4	17.67	17.72	17.69	18.3

WCDMA Band V full power					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	**23.16**	23.09	23	24.5
	12.2kbps AMR	23.14	23.08	23	24.5
HSDPA	Subtest 1	22.19	22.17	22.14	23.5
	Subtest 2	22.68	22.48	22.49	23.5
	Subtest 3	21.96	21.74	21.75	22.8
	Subtest 4	21.92	21.81	21.73	22.8
HSUPA	Subtest 1	21.98	21.96	21.87	22.5
	Subtest 2	20.96	20.95	20.94	21.5
	Subtest 3	22.57	22.41	22.33	23
	Subtest 4	21.09	21.04	22.12	21.5
	Subtest 5	22.39	22.24	22.18	23
DC-HSDPA	Subtest 1	22.29	22.22	22.17	23.5
	Subtest 2	22.75	22.67	22.6	23.5
	Subtest 3	21.91	21.86	21.9	22.8
	Subtest 4	22.15	21.97	21.94	22.8

WCDMA Band V Receiver on
Average Conducted Power(dBm)

Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	**20.71**	20.6	20.52	22
	12.2kbps AMR	20.64	20.58	20.5	22
HSDPA	Subtest 1	19.69	19.67	19.64	21
	Subtest 2	20.19	19.98	19.97	21
	Subtest 3	19.47	19.24	19.23	20.3
	Subtest 4	19.43	19.31	19.21	20.3
HSUPA	Subtest 1	19.49	19.43	19.35	20
	Subtest 2	18.47	18.42	18.42	19
	Subtest 3	20.08	19.88	19.81	20.5
	Subtest 4	18.6	18.51	19.6	19
	Subtest 5	19.9	19.71	19.66	20.5
DC-HSDPA	Subtest 1	19.8	19.69	19.65	21
	Subtest 2	20.26	20.14	20.08	21
	Subtest 3	19.42	19.33	19.4	20.3
	Subtest 4	19.66	19.44	19.44	20.3

WCDMA Band V Hotspot on					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	**20.63**	20.57	20.48	22
	12.2kbps AMR	20.56	20.5	20.42	22
HSDPA	Subtest 1	19.61	19.59	19.56	21
	Subtest 2	20.11	19.9	19.89	21
	Subtest 3	19.39	19.16	19.15	20.3
	Subtest 4	19.35	19.23	19.13	20.3
HSUPA	Subtest 1	19.41	19.35	19.27	20
	Subtest 2	18.39	18.34	18.34	19
	Subtest 3	20	19.8	19.73	20.5
	Subtest 4	18.52	18.43	19.52	19
	Subtest 5	19.82	19.63	19.58	20.5
DC-HSDPA	Subtest 1	19.72	19.61	19.57	21
	Subtest 2	20.18	20.06	20	21
	Subtest 3	19.34	19.25	19.32	20.3
	Subtest 4	19.58	19.36	19.36	20.3

Table 15：Conducted Power Of WCDMA

Note:

1) 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.

8.1.2.3 Conducted Power Of LTE

LTE Band 2 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	21.3	21.56	21.7	23
		1	2	21.39	21.56	21.72	23
		1	5	21.33	21.46	21.57	23
		3	0	21.4	21.59	21.71	23
		3	2	21.42	21.57	21.69	23
		3	3	21.38	21.5	21.64	23
		6	0	20.49	20.64	20.69	22
	16QAM	1	0	20.73	20.85	20.91	22
		1	2	20.86	20.85	21	22
		1	5	20.7	20.8	20.82	22
		3	0	20.47	20.69	20.78	22
		3	2	20.6	20.58	20.73	22
		3	3	20.5	20.57	20.75	22
		6	0	20.46	20.58	20.65	22
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	20.77	21.26	21.52	23
		1	7	21.05	21.36	21.61	23
		1	14	20.8	21.01	21.22	23
		8	0	20.13	20.46	20.67	22
		8	4	20.19	20.43	20.63	22
		8	7	20.15	20.32	20.55	22
		15	0	20.16	20.44	20.63	22
	16QAM	1	0	20.22	20.67	20.92	22
		1	7	20.59	20.81	20.86	22
		1	14	20.31	20.37	20.52	22
		8	0	20.18	20.47	20.65	22
		8	4	20.27	20.42	20.66	22
		8	7	20.22	20.36	20.51	22
		15	0	20.18	20.39	20.56	22
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	21.41	21.83	22.16	23
		1	13	21.65	21.88	22.1	23
		1	24	21.65	21.73	21.89	23
		12	0	20.7	21.02	21.31	22
		12	6	20.81	20.99	21.33	22
		12	13	20.78	20.74	21.11	22
		25	0	20.72	20.91	21.13	22
	16QAM	1	0	20.92	21.27	21.59	22
		1	13	21.15	21.28	21.54	22

		1	24	21.09	20.96	21.27	22
		12	0	20.72	21	21.34	22
		12	6	20.83	21.03	21.35	22
		12	13	20.81	20.76	21.08	22
		25	0	20.7	20.84	21.07	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18650	18900	19150	
10MHz	QPSK	1	0	21.41	21.98	22.33	23
		1	25	22.14	22.13	22.49	23
		1	49	22.14	21.93	22.09	23
		25	0	21.01	21.24	21.63	22
		25	13	21.25	21.2	21.54	22
		25	25	21.32	21.01	21.26	22
		50	0	21.19	21.05	21.43	22
	16QAM	1	0	20.99	21.39	21.77	22
		1	25	21.73	21.53	21.92	22
		1	49	21.65	21.37	21.48	22
		25	0	21.06	21.18	21.56	22
		25	13	21.23	21.15	21.46	22
		25	25	21.24	20.96	21.2	22
		50	0	21.1	20.99	21.36	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18675	18900	19125	
15MHz	QPSK	1	0	21.56	22.21	22.35	23
		1	38	22.28	22.37	22.73	23
		1	74	22.43	22.13	22.51	23
		36	0	21.01	21.29	21.71	22
		36	18	21.38	21.38	21.85	22
		36	39	21.51	21.33	21.81	22
		75	0	21.27	21.29	21.83	22
	16QAM	1	0	21.08	21.66	21.72	22
		1	38	21.67	21.75	22.09	22
		1	74	21.86	21.51	21.88	22
		36	0	20.98	21.23	21.64	22
		36	18	21.35	21.34	21.76	22
		36	39	21.46	21.27	21.75	22
		75	0	21.25	21.23	21.75	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18700	18900	19100	
20MHz	QPSK	1	0	21.34	21.88	21.67	23
		1	50	22.43	21.94	22.43	23
		1	99	21.53	21.28	21.31	23
		50	0	21.04	20.93	21.14	22
		50	25	21.44	20.89	21.53	22
		50	50	21.17	20.57	20.93	22
		100	0	21.08	20.79	21	22
	16QAM	1	0	20.54	21.18	21.05	22

		1	50	21.66	21.33	21.81	22
		1	99	20.82	20.52	20.62	22
		50	0	20.96	20.84	21.05	22
		50	25	21.37	20.81	21.44	22
		50	50	21.08	20.5	20.85	22
		100	0	20.99	20.71	20.89	22

LTE Band 2 Receiver on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	16.06	16.2	16.44	18
		1	2	16.21	16.36	16.53	18
		1	5	16.13	16.15	16.3	18
		3	0	16.19	16.31	16.53	18
		3	2	16.26	16.31	16.54	18
		3	3	16.2	16.26	16.49	18
		6	0	16.19	16.35	16.5	18
	16QAM	1	0	16.47	16.66	16.82	18
		1	2	16.61	16.76	16.8	18
		1	5	16.4	16.49	16.66	18
		3	0	16.27	16.46	16.57	18
		3	2	16.32	16.51	16.59	18
		3	3	16.24	16.44	16.54	18
		6	0	16.19	16.32	16.51	18
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	15.64	16.03	16.27	18
		1	7	16.2	16.32	16.59	18
		1	14	15.77	15.81	16.06	18
		8	0	16.05	16.25	16.53	18
		8	4	16.14	16.27	16.54	18
		8	7	16.06	16.14	16.39	18
		15	0	16.05	16.19	16.46	18
	16QAM	1	0	16.19	16.42	16.62	18
		1	7	16.63	16.73	16.92	18
		1	14	16.15	16.19	16.4	18
		8	0	16.13	16.33	16.57	18
		8	4	16.19	16.39	16.5	18
		8	7	16.13	16.2	16.43	18
		15	0	16.07	16.21	16.47	18
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	16.37	16.73	17.03	18
		1	13	16.72	16.84	17.08	18
		1	24	16.72	16.53	16.79	18

		12	0	16.62	16.83	17.13	18
		12	6	16.77	16.9	17.17	18
		12	13	16.74	16.58	16.88	18
		25	0	16.67	16.73	16.89	18
	16QAM	1	0	16.89	17.14	17.37	18
		1	13	17.16	17.15	17.42	18
		1	24	17.08	16.86	17.21	18
		12	0	16.69	16.91	17.14	18
		12	6	16.84	16.89	17.21	18
		12	13	16.77	16.65	16.9	18
		25	0	16.68	16.68	16.89	18
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	16.26	16.61	16.96	18
		1	25	17.14	16.95	17.28	18
		1	49	17.04	16.59	16.91	18
		25	0	16.75	16.84	17.29	18
		25	13	17.07	16.89	17.18	18
		25	25	17.08	16.7	16.87	18
		50	0	16.92	16.79	17.13	18
	16QAM	1	0	16.73	17.09	17.42	18
		1	25	17.52	17.41	17.62	18
		1	49	17.38	16.97	17.23	18
		25	0	16.8	16.84	17.26	18
		25	13	17.07	16.83	17.15	18
		25	25	17.09	16.72	16.86	18
		50	0	16.92	16.73	17.05	18
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	16.39	16.84	17.07	18
		1	38	17.41	17.04	17.49	18
		1	74	17.02	16.58	16.75	18
		36	0	16.95	16.9	17.39	18
		36	18	17.39	16.97	17.46	18
		36	39	17.27	16.7	17.01	18
		75	0	17.18	16.86	17.2	18
	16QAM	1	0	16.8	17.35	17.37	18
		1	38	17.79	17.46	17.84	18
		1	74	17.43	16.92	17.07	18
		36	0	16.95	16.9	17.38	18
		36	18	17.4	16.97	17.38	18
		36	39	17.21	16.63	16.99	18
		75	0	17.18	16.8	17.17	18
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	15.86	16.35	16.17	18
		1	50	17.33	16.76	17.15	18

		1	99	16.1	15.84	15.87	18
		50	0	16.65	16.46	16.72	18
		50	25	17.13	16.55	17.12	18
		50	50	16.82	16.22	16.47	18
		100	0	16.71	16.41	16.62	18
	16QAM	1	0	16.15	16.78	16.54	18
		1	50	17.58	17.19	17.48	18
		1	99	16.35	16.21	16.18	18
		50	0	16.61	16.47	16.74	18
		50	25	17.1	16.51	17.13	18
		50	50	16.79	16.16	16.46	18
		100	0	16.66	16.36	16.62	18

LTE Band 2 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	16.54	16.75	16.87	18
		1	2	16.66	16.82	16.92	18
		1	5	16.51	16.65	16.69	18
		3	0	16.61	16.81	16.86	18
		3	2	16.65	16.79	16.87	18
		3	3	16.61	16.68	16.82	18
		6	0	16.61	16.71	16.84	18
	16QAM	1	0	16.9	17.02	17.09	18
		1	2	16.88	17.14	17.14	18
		1	5	16.8	16.95	16.93	18
		3	0	16.7	16.86	16.92	18
		3	2	16.76	16.8	16.91	18
		3	3	16.68	16.76	16.84	18
		6	0	16.59	16.71	16.81	18
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	16.47	16.66	16.73	18
		1	7	16.88	16.87	17	18
		1	14	16.46	16.35	16.47	18
		8	0	16.68	16.76	16.85	18
		8	4	16.75	16.77	16.9	18
		8	7	16.63	16.65	16.75	18
		15	0	16.63	16.71	16.83	18
	16QAM	1	0	16.75	16.85	17	18
		1	7	17.06	17.12	17.26	18
		1	14	16.63	16.53	16.78	18
		8	0	16.59	16.77	16.8	18
		8	4	16.73	16.72	16.88	18
		8	7	16.6	16.63	16.71	18

		15	0	16.54	16.59	16.77	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18625	18900	19175	
5MHz	QPSK	1	0	17.16	17.3	17.45	18
		1	13	17.5	17.31	17.4	18
		1	24	17.32	17.06	17.12	18
		12	0	17.29	17.34	17.42	18
		12	6	17.36	17.32	17.45	18
		12	13	17.27	17.02	17.15	18
		25	0	17.22	17.18	17.18	18
	16QAM	1	0	17.39	17.59	17.82	18
		1	13	17.69	17.63	17.67	18
		1	24	17.5	17.27	17.42	18
		12	0	17.18	17.3	17.4	18
		12	6	17.32	17.24	17.41	18
		12	13	17.23	17.01	17.14	18
		25	0	17.14	17.08	17.11	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18650	18900	19150	
10MHz	QPSK	1	0	16.95	17.23	17.43	18
		1	25	17.78	17.45	17.63	18
		1	49	17.59	17.07	17.15	18
		25	0	17.32	17.37	17.58	18
		25	13	17.57	17.33	17.47	18
		25	25	17.58	17.13	17.16	18
		50	0	17.45	17.18	17.37	18
	16QAM	1	0	17.19	17.54	17.67	18
		1	25	17.99	17.64	17.89	18
		1	49	17.76	17.33	17.33	18
		25	0	17.26	17.28	17.51	18
		25	13	17.51	17.22	17.41	18
		25	25	17.54	17.07	17.09	18
		50	0	17.39	17.14	17.3	18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18675	18900	19125	
15MHz	QPSK	1	0	17	17.44	17.46	18
		1	38	17.91	17.51	17.81	18
		1	74	17.55	17.03	17.04	18
		36	0	17.52	17.43	17.69	18
		36	18	17.87	17.47	17.74	18
		36	39	17.68	17.11	17.27	18
		75	0	17.54	17.3	17.49	18
	16QAM	1	0	17.21	17.74	17.67	18
		1	38	18.21	17.83	18.08	18
		1	74	17.62	17.34	17.31	18
		36	0	17.43	17.36	17.63	18
		36	18	17.76	17.36	17.67	18

		36	39	17.64	17	17.2	18
		75	0	17.48	17.19	17.4	18
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	16.34	16.78	16.64	18
		1	50	17.66	17.13	17.53	18
		1	99	16.46	16.16	16.21	18
		50	0	17.12	16.91	17.15	18
		50	25	17.56	16.9	17.44	18
		50	50	17.2	16.54	16.79	18
		100	0	17.09	16.76	16.96	18
	16QAM	1	0	16.57	17.08	16.93	18
		1	50	17.92	17.4	17.86	18
		1	99	16.78	16.46	16.46	18
		50	0	16.99	16.86	17.05	18
		50	25	17.47	16.86	17.3	18
		50	50	17.17	16.51	16.67	18
		100	0	17.06	16.73	16.9	18

LTE Band 4 full power				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	21.73	22.37	21.82	23.5
		1	2	21.8	22.39	21.72	23.5
		1	5	21.66	22.23	21.56	23.5
		3	0	21.84	22.35	21.77	23.5
		3	2	21.81	22.31	21.9	23.5
		3	3	21.82	22.34	21.8	23.5
		6	0	20.94	21.38	20.85	22.5
	16QAM	1	0	21.15	21.58	21.16	22.5
		1	2	21.16	21.58	21.09	22.5
		1	5	21.04	21.58	21.01	22.5
		3	0	20.99	21.46	20.96	22.5
		3	2	20.98	21.35	20.92	22.5
		3	3	20.91	21.38	20.88	22.5
		6	0	20.89	21.33	20.89	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	21.56	22.1	21.79	23.5
		1	7	21.76	22.35	21.87	23.5
		1	14	21.6	21.99	21.45	23.5
		8	0	20.81	21.38	20.93	22.5
		8	4	20.93	21.39	20.92	22.5
		8	7	20.92	21.24	20.76	22.5
		15	0	20.9	21.33	20.92	22.5

	16QAM	1	0	21.08	21.5	21.13	22.5
		1	7	21.27	21.58	21.16	22.5
		1	14	21.09	21.31	20.89	22.5
		8	0	20.86	21.34	20.88	21.5
		8	4	20.92	21.35	20.92	21.5
		8	7	21	21.14	20.75	21.5
		15	0	20.87	21.21	20.85	21.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19975	20175	20375	
5MHz	QPSK	1	0	21.68	22.24	22	23.5
		1	13	21.91	22.38	21.98	23.5
		1	24	21.91	22.2	21.72	23.5
		12	0	20.93	21.44	21.1	22.5
		12	6	21.15	21.49	21.08	22.5
		12	13	20.99	21.2	20.81	22.5
		25	0	20.91	21.31	21.01	22.5
	16QAM	1	0	21.17	21.58	21.35	22.5
		1	13	21.45	21.65	21.28	22.5
		1	24	21.28	21.41	21.01	22.5
		12	0	20.98	21.36	21.08	21.5
		12	6	21.15	21.43	21.04	21.5
		12	13	20.98	21.13	20.78	21.5
		25	0	20.93	21.22	20.9	21.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20000	20175	20350	
10MHz	QPSK	1	0	21.53	22.13	22.06	23.5
		1	25	22.09	22.45	22.11	23.5
		1	49	22.05	22.19	21.86	23.5
		25	0	21.05	21.49	21.21	22.5
		25	13	21.21	21.37	21.18	22.5
		25	25	21.04	21.24	20.98	22.5
		50	0	21.13	21.3	21.17	22.5
	16QAM	1	0	21.02	21.57	21.38	22.5
		1	25	21.68	21.71	21.5	22.5
		1	49	21.53	21.67	21.21	22.5
		25	0	21.01	21.41	21.15	21.5
		25	13	21.2	21.28	21.12	21.5
		25	25	21.03	21.13	20.92	21.5
		50	0	21.13	21.19	21.12	21.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20025	20175	20325	
15MHz	QPSK	1	0	21.84	22.51	22.48	23.5
		1	38	22.07	22.36	22.39	23.5
		1	74	22.15	22.31	22.12	23.5
		36	0	21.14	21.49	21.37	22.5
		36	18	21.15	21.56	21.44	22.5
		36	39	21.18	21.41	21.3	22.5

		75	0	21.23	21.47	21.33	22.5
	16QAM	1	0	21.36	21.85	21.77	22.5
		1	38	21.59	21.77	21.68	22.5
		1	74	21.49	21.61	21.45	22.5
		36	0	21.13	21.38	21.36	21.5
		36	18	21.23	21.45	21.39	21.5
		36	39	21.16	21.31	21.26	21.5
		75	0	21.19	21.36	21.29	21.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20050	20175	20300	
20MHz	QPSK	1	0	22.36	**22.65**	22.5	23.5
		1	50	22.09	22.6	22.43	23.5
		1	99	22.24	22.14	21.8	23.5
		50	0	21.39	21.59	**21.62**	22.5
		50	25	21.4	21.57	21.54	22.5
		50	50	21.38	21.59	21.3	22.5
		100	0	21.37	21.55	21.5	22.5
	16QAM	1	0	21.42	22.01	21.93	22.5
		1	50	21.75	21.73	21.91	22.5
		1	99	21.61	21.44	20.98	22.5
		50	0	21.34	21.47	21.46	21.5
		50	25	21.34	21.48	21.43	21.5
		50	50	21.27	21.49	21.21	21.5
		100	0	21.26	21.45	21.42	21.5

LTE Band 4 Receiver on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19957	20175	20393	
1.4MHz	QPSK	1	0	18.39	19.22	18.69	20.5
		1	2	18.48	19.24	18.67	20.5
		1	5	18.39	19.1	18.57	20.5
		3	0	18.53	19.21	18.75	20.5
		3	2	18.58	19.23	18.79	20.5
		3	3	18.53	19.23	18.76	20.5
		6	0	18.57	19.2	18.82	20.5
	16QAM	1	0	18.84	19.51	18.96	20.5
		1	2	18.83	19.42	19.08	20.5
		1	5	18.71	19.37	19.02	20.5
		3	0	18.73	19.29	18.93	20.5
		3	2	18.72	19.24	18.9	20.5
		3	3	18.6	19.28	18.82	20.5
		6	0	18.57	19.23	18.82	20.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19965	20175	20385	
3MHz	QPSK	1	0	18.29	18.96	18.67	20.5

		1	7	18.65	19.26	18.84	20.5
		1	14	18.37	18.91	18.46	20.5
		8	0	18.54	19.16	18.83	20.5
		8	4	18.63	19.18	18.86	20.5
		8	7	18.6	19.1	18.69	20.5
		15	0	18.63	19.17	18.85	20.5
	16QAM	1	0	18.77	19.35	19.07	20.5
		1	7	19.06	19.63	19.12	20.5
		1	14	18.77	19.17	18.82	20.5
		8	0	18.61	19.15	18.91	20.5
		8	4	18.67	19.21	18.92	20.5
		8	7	18.65	19.1	18.76	20.5
		15	0	18.65	19.16	18.84	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	18.47	19.1	18.85	20.5
		1	13	18.74	19.35	18.89	20.5
		1	24	18.68	19.07	18.71	20.5
		12	0	18.68	19.23	18.93	20.5
		12	6	18.83	19.31	18.99	20.5
		12	13	18.7	19.09	18.75	20.5
		25	0	18.65	19.12	18.88	20.5
	16QAM	1	0	18.93	19.54	19.33	20.5
		1	13	19.15	19.71	19.35	20.5
		1	24	19.03	19.42	19	20.5
		12	0	18.75	19.25	18.96	20.5
		12	6	18.86	19.32	19.08	20.5
		12	13	18.74	19.07	18.8	20.5
		25	0	18.67	19.11	18.92	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	18.22	18.94	18.79	20.5
		1	25	18.8	19.37	19.05	20.5
		1	49	18.7	18.94	18.72	20.5
		25	0	18.62	19.28	18.95	20.5
		25	13	18.77	19.19	18.96	20.5
		25	25	18.69	19.06	18.83	20.5
		50	0	18.73	19.1	18.98	20.5
	16QAM	1	0	18.75	19.39	19.16	20.5
		1	25	19.25	19.62	19.41	20.5
		1	49	19.08	19.15	19.15	20.5
		25	0	18.64	19.18	18.96	20.5
		25	13	18.84	19.16	18.95	20.5
		25	25	18.72	19.05	18.81	20.5
		50	0	18.75	19.07	18.95	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up

15MHz	QPSK	1	0	18.55	19.25	19.12	20.5
		1	38	18.86	19.35	19.08	20.5
		1	74	18.99	19.08	18.77	20.5
		36	0	18.79	19.31	19.13	20.5
		36	18	18.92	19.33	19.05	20.5
		36	39	19	19.2	18.88	20.5
		75	0	18.9	19.21	19.06	20.5
	16QAM	1	0	19.07	19.63	19.59	20.5
		1	38	19.24	19.73	19.41	20.5
		1	74	19.45	19.29	19.1	20.5
		36	0	18.85	19.27	19.08	20.5
		36	18	18.88	19.24	19.05	20.5
		36	39	18.95	19.13	18.87	20.5
		75	0	18.85	19.17	18.99	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	18.77	19.3	19.31	20.5
		1	50	19.08	**19.45**	19.25	20.5
		1	99	19.05	18.94	18.71	20.5
		50	0	18.9	19.34	19.34	20.5
		50	25	19.07	**19.37**	19.23	20.5
		50	50	19.04	19.34	19.05	20.5
		100	0	19	19.37	19.22	20.5
	16QAM	1	0	19.22	19.66	19.74	20.5
		1	50	19.55	19.84	19.63	20.5
		1	99	19.47	19.29	19.09	20.5
		50	0	18.9	19.33	19.29	20.5
		50	25	19.09	19.4	19.17	20.5
		50	50	19.06	19.31	19.03	20.5
		100	0	19.02	19.34	19.18	20.5

LTE Band 4 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	18.76	19.42	18.93	20.5
		1	2	18.85	19.44	18.9	20.5
		1	5	18.72	19.3	18.72	20.5
		3	0	18.86	19.44	18.91	20.5
		3	2	18.84	19.4	18.98	20.5
		3	3	18.78	19.4	18.89	20.5
		6	0	18.86	19.38	18.95	20.5
	16QAM	1	0	19.15	19.69	19.05	20.5
		1	2	19.14	19.74	19.14	20.5
		1	5	18.99	19.59	19	20.5
		3	0	18.91	19.5	18.96	20.5

		3	2	18.89	19.42	18.97	20.5
		3	3	18.87	19.44	18.93	20.5
		6	0	18.81	19.38	18.91	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	18.65	19.34	18.84	20.5
		1	7	18.94	19.51	18.98	20.5
		1	14	18.71	19.13	18.63	20.5
		8	0	18.82	19.42	18.97	20.5
		8	4	18.89	19.41	18.98	20.5
		8	7	18.9	19.33	18.8	20.5
		15	0	18.85	19.37	18.94	20.5
	16QAM	1	0	18.94	19.53	19.11	20.5
		1	7	19.21	19.81	19.17	20.5
		1	14	19.04	19.38	18.8	20.5
		8	0	18.88	19.41	18.94	20.5
		8	4	18.89	19.37	18.91	20.5
		8	7	18.96	19.29	18.76	20.5
		15	0	18.81	19.28	18.86	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	18.81	19.39	19.1	20.5
		1	13	19.1	19.58	19.05	20.5
		1	24	18.93	19.28	18.79	20.5
		12	0	18.93	19.47	19.09	20.5
		12	6	19.11	19.53	19.13	20.5
		12	13	18.96	19.3	18.87	20.5
		25	0	18.87	19.35	19.02	20.5
	16QAM	1	0	19.1	19.69	19.39	20.5
		1	13	19.45	19.81	19.29	20.5
		1	24	19.32	19.52	18.97	20.5
		12	0	18.93	19.41	19.08	20.5
		12	6	19.12	19.48	19.07	20.5
		12	13	18.98	19.27	18.81	20.5
		25	0	18.85	19.28	18.97	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	18.58	19.28	19.06	20.5
		1	25	19.21	19.56	19.21	20.5
		1	49	19.07	19.24	18.85	20.5
		25	0	18.89	19.46	19.18	20.5
		25	13	19.13	19.4	19.16	20.5
		25	25	19.03	19.27	18.98	20.5
		50	0	19.03	19.33	19.16	20.5
	16QAM	1	0	18.95	19.49	19.33	20.5
		1	25	19.54	19.8	19.53	20.5
		1	49	19.33	19.49	19.1	20.5

		25	0	18.91	19.37	19.1	20.5
		25	13	19.09	19.33	19.07	20.5
		25	25	18.97	19.19	18.91	20.5
		50	0	19	19.25	19.08	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	18.91	19.63	19.46	20.5
		1	38	19.18	19.56	19.25	20.5
		1	74	19.34	19.27	18.87	20.5
		36	0	19.1	19.52	19.31	20.5
		36	18	19.2	19.51	19.26	20.5
		36	39	19.26	19.38	19.04	20.5
		75	0	19.18	19.4	19.2	20.5
	16QAM	1	0	19.21	19.83	19.72	20.5
		1	38	19.37	19.88	19.53	20.5
		1	74	19.57	19.49	19.11	20.5
		36	0	19.08	19.44	19.22	20.5
		36	18	19.17	19.43	19.2	20.5
		36	39	19.22	19.31	18.97	20.5
		75	0	19.14	19.31	19.15	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	19.07	19.65	19.54	20.5
		1	50	19.42	**19.69**	19.59	20.5
		1	99	19.27	19.21	18.83	20.5
		50	0	19.18	**19.59**	19.52	20.5
		50	25	19.33	19.57	19.43	20.5
		50	50	19.32	19.45	19.22	20.5
		100	0	19.25	19.54	19.39	20.5
	16QAM	1	0	19.32	19.78	19.8	20.5
		1	50	19.53	20	19.81	20.5
		1	99	19.66	19.4	19.06	20.5
		50	0	19.21	19.57	19.45	20.5
		50	25	19.3	19.48	19.34	20.5
		50	50	19.27	19.37	19.15	20.5
		100	0	19.19	19.46	19.32	20.5

LTE Band 5 full power				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	21.98	22.21	22.12	23.5
		1	2	22.19	22.4	22.17	23.5
		1	5	22.15	22.26	22.12	23.5
		3	0	22.1	22.36	22.19	23.5
		3	2	22.19	22.4	22.25	23.5

		3	3	22.18	22.34	22.24	23.5
		6	0	21.24	21.38	21.39	22.5
		1	0	21.26	21.55	21.52	22.5
		1	2	21.34	21.69	21.58	22.5
		1	5	21.31	21.4	21.51	22.5
	16QAM	3	0	21.12	21.36	21.35	22.5
		3	2	21.21	21.47	21.41	22.5
		3	3	21.18	21.36	21.35	22.5
		6	0	21.02	21.31	21.32	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	21.71	22.05	21.88	23.5
		1	7	22.28	22.41	22.2	23.5
		1	14	21.79	22.01	21.87	23.5
		8	0	21.06	21.28	21.11	22.5
		8	4	21.17	21.33	21.28	22.5
		8	7	21.07	21.26	21.13	22.5
		15	0	21.06	21.27	21.21	22.5
	16QAM	1	0	21.04	21.36	21.08	22.5
		1	7	21.54	21.68	21.49	22.5
		1	14	20.98	21.28	21.19	22.5
		8	0	20.97	21.26	21.08	22.5
		8	4	21.08	21.28	21.22	22.5
		8	7	20.98	21.24	21.06	22.5
		15	0	20.95	21.2	21.17	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.1	22.37	22.34	23.5
		1	13	22.28	22.43	22.3	23.5
		1	24	22.21	22.35	22.18	23.5
		12	0	21.17	21.36	21.3	22.5
		12	6	21.34	21.5	21.33	22.5
		12	13	21.19	21.28	21.22	22.5
		25	0	21.21	21.41	21.41	22.5
	16QAM	1	0	21.5	21.73	21.67	22.5
		1	13	21.57	21.69	21.55	22.5
		1	24	21.38	21.76	21.47	22.5
		12	0	21.09	21.31	21.21	22.5
		12	6	21.21	21.41	21.24	22.5
		12	13	21.1	21.24	21.14	22.5
		25	0	21.1	21.3	21.32	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.6	22.66	22.9	23.5
		1	25	**22.84**	22.83	22.78	23.5
		1	49	22.65	22.67	22.48	23.5
		25	0	21.72	21.75	21.75	22.5

		25	13	21.83	**21.98**	21.85	22.5
		25	25	21.7	21.65	21.69	22.5
		50	0	21.67	21.73	21.76	22.5
	16QAM	1	0	21.68	21.92	22.14	22.5
		1	25	22.04	22.08	22.11	22.5
		1	49	21.85	21.85	21.83	22.5
		25	0	21.55	21.62	21.67	22.5
		25	13	21.64	21.85	21.74	22.5
		25	25	21.5	21.58	21.58	22.5
		50	0	21.54	21.65	21.61	22.5

LTE Band 5 Receiver on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	19.7	20.21	20.2	21.5
		1	2	19.89	20.29	20.29	21.5
		1	5	19.83	20.11	20.15	21.5
		3	0	19.8	20.27	20.21	21.5
		3	2	19.87	20.32	20.29	21.5
		3	3	19.86	20.25	20.25	21.5
		6	0	19.83	20.28	20.25	21.5
	16QAM	1	0	20.01	20.55	20.5	21.5
		1	2	20.19	20.62	20.57	21.5
		1	5	20.05	20.42	20.37	21.5
		3	0	19.83	20.31	20.31	21.5
		3	2	19.93	20.39	20.33	21.5
		3	3	19.92	20.28	20.28	21.5
		6	0	19.83	20.28	20.29	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	19.46	19.94	19.89	21.5
		1	7	20.02	20.37	20.32	21.5
		1	14	19.61	19.87	19.86	21.5
		8	0	19.84	20.22	20.09	21.5
		8	4	19.96	20.26	20.25	21.5
		8	7	19.87	20.18	20.12	21.5
		15	0	19.86	20.19	20.19	21.5
	16QAM	1	0	19.87	20.29	20.06	21.5
		1	7	20.27	20.57	20.6	21.5
		1	14	19.91	20.14	20.2	21.5
		8	0	19.81	20.19	20.09	21.5
		8	4	19.89	20.28	20.24	21.5
		8	7	19.79	20.16	20.07	21.5
		15	0	19.76	20.13	20.08	21.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up

				20425	20525	20625	
5MHz	QPSK	1	0	19.93	20.4	20.37	21.5
		1	13	20.11	20.37	20.31	21.5
		1	24	20.04	20.25	20.26	21.5
		12	0	19.92	20.32	20.26	21.5
		12	6	20.09	20.45	20.33	21.5
		12	13	19.94	20.22	20.15	21.5
		25	0	19.95	20.35	20.32	21.5
	16QAM	1	0	20.23	20.67	20.61	21.5
		1	13	20.37	20.63	20.56	21.5
		1	24	20.29	20.62	20.51	21.5
		12	0	19.92	20.27	20.25	21.5
		12	6	20.07	20.42	20.3	21.5
		12	13	19.93	20.2	20.14	21.5
		25	0	19.9	20.28	20.28	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	20.02	20.51	20.61	21.5
		1	25	20.57	**20.75**	20.74	21.5
		1	49	20.43	20.45	20.44	21.5
		25	0	20.22	20.4	20.41	21.5
		25	13	20.39	**20.64**	20.56	21.5
		25	25	20.31	20.34	20.49	21.5
		50	0	20.27	20.43	20.47	21.5
	16QAM	1	0	20.4	20.67	20.88	21.5
		1	25	20.8	20.92	20.92	21.5
		1	49	20.78	20.76	20.7	21.5
		25	0	20.18	20.32	20.33	21.5
		25	13	20.33	20.56	20.48	21.5
		25	25	20.22	20.27	20.41	21.5
		50	0	20.18	20.35	20.38	21.5

LTE Band 5 Hotspot on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	19.98	20.3	20.22	21.5
		1	2	20.17	20.47	20.33	21.5
		1	5	20.13	20.26	20.18	21.5
		3	0	20.01	20.36	20.25	21.5
		3	2	20.13	20.43	20.31	21.5
		3	3	20.11	20.36	20.29	21.5
		6	0	20.07	20.33	20.29	21.5
	16QAM	1	0	20.27	20.43	20.37	21.5
		1	2	20.47	20.75	20.54	21.5
		1	5	20.4	20.43	20.48	21.5

		3	0	20.09	20.34	20.3	21.5
		3	2	20.12	20.38	20.35	21.5
		3	3	20.12	20.31	20.29	21.5
		6	0	20.02	20.32	20.25	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	19.71	20.06	19.9	21.5
		1	7	20.32	20.53	20.32	21.5
		1	14	19.79	19.99	19.92	21.5
		8	0	20.02	20.31	20.16	21.5
		8	4	20.15	20.37	20.26	21.5
		8	7	20.04	20.29	20.1	21.5
		15	0	20.03	20.3	20.19	21.5
	16QAM	1	0	19.98	20.27	20.09	21.5
		1	7	20.46	20.74	20.52	21.5
		1	14	19.98	20.2	20.15	21.5
		8	0	19.99	20.23	20.13	21.5
		8	4	20.18	20.27	20.2	21.5
		8	7	20.01	20.23	20.1	21.5
		15	0	19.93	20.18	20.12	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	20.16	20.52	20.48	21.5
		1	13	20.3	20.52	20.37	21.5
		1	24	20.29	20.4	20.26	21.5
		12	0	20.18	20.39	20.34	21.5
		12	6	20.31	20.52	20.37	21.5
		12	13	20.17	20.31	20.18	21.5
		25	0	20.19	20.38	20.38	21.5
	16QAM	1	0	20.39	20.67	20.68	21.5
		1	13	20.49	20.73	20.59	21.5
		1	24	20.44	20.57	20.48	21.5
		12	0	20.14	20.3	20.28	21.5
		12	6	20.26	20.42	20.3	21.5
		12	13	20.09	20.21	20.14	21.5
		25	0	20.08	20.33	20.32	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	20.32	20.61	20.69	21.5
		1	25	20.76	20.79	**20.81**	21.5
		1	49	20.51	20.52	20.5	21.5
		25	0	20.45	20.47	20.54	21.5
		25	13	20.58	**20.71**	20.66	21.5
		25	25	20.39	20.43	20.53	21.5
		50	0	20.41	20.52	20.57	21.5
	16QAM	1	0	20.51	20.92	20.96	21.5
		1	25	20.86	21.07	21.05	21.5

		1	49	20.74	20.86	20.7	21.5
		25	0	20.34	20.38	20.46	21.5
		25	13	20.41	20.64	20.54	21.5
		25	25	20.25	20.37	20.38	21.5
		50	0	20.27	20.44	20.41	21.5

LTE Band 7 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	21.83	21.81	21.66	23
		1	13	22.17	22.06	21.76	23
		1	24	22.19	21.97	21.62	23
		12	0	21.31	21.24	21.01	22
		12	6	21.43	21.28	21.03	22
		12	13	21.37	21.13	20.91	22
		25	0	21.36	21.27	21.1	22
	16QAM	1	0	21.44	21.29	21.03	22
		1	13	21.64	21.51	21.16	22
		1	24	21.65	21.33	21.01	22
		12	0	21.31	21.18	20.97	22
		12	6	21.43	21.23	20.99	22
		12	13	21.33	21.06	20.84	22
		25	0	21.29	21.17	20.99	22
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	21.74	21.53	21.74	23
		1	25	22.69	22.23	22	23
		1	49	22.72	22.29	21.86	23
		25	0	21.23	20.97	20.81	22
		25	13	21.49	21.1	20.83	22
		25	25	21.79	21.32	21.21	22
		50	0	21.38	21.07	21.06	22
	16QAM	1	0	21.04	20.99	21.06	22
		1	25	22.09	21.61	21.41	22
		1	49	22.16	21.7	21.22	22
		25	0	21.19	20.86	20.69	22
		25	13	21.41	20.99	20.71	22
		25	25	21.68	21.21	21.08	22
		50	0	21.28	20.94	20.95	22
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	21.77	21.63	22.03	23
		1	38	22.44	21.98	22.23	23
		1	74	22.63	22.03	21.79	23
		36	0	21.3	20.98	21.3	22

		36	18	21.68	21.15	21.4	22
		36	39	21.81	21.3	21.14	22
		75	0	21.59	21.17	21.24	22
	16QAM	1	0	21.23	21.07	21.49	22
		1	38	21.85	21.45	21.59	22
		1	74	21.97	21.53	21.27	22
		36	0	21.22	20.91	21.18	22
		36	18	21.52	21.09	21.28	22
		36	39	21.7	21.21	21.01	22
		75	0	21.49	21.05	21.12	22
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	22.14	22.11	**22.62**	23
		1	50	22.56	21.99	22.22	23
		1	99	22.38	22.34	21.83	23
		50	0	**21.56**	21.37	21.48	22
		50	25	21.52	21.28	21.31	22
		50	50	21.43	21.14	21.16	22
		100	0	21.86	21.24	21.3	22
	16QAM	1	0	21.56	21.58	22.1	22
		1	50	21.95	21.43	21.68	22
		1	99	21.68	21.75	21.21	22
		50	0	21.41	21.23	21.35	22
		50	25	21.43	21.15	21.18	22
		50	50	21.34	21.02	21.03	22
		100	0	21.73	21.18	21.18	22

LTE Band 7 Receiver on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	15.76	15.74	15.7	17
		1	13	16.13	16.17	16.11	17
		1	24	16	15.79	15.79	17
		12	0	16.14	16.12	15.95	17
		12	6	16.18	16.18	16.11	17
		12	13	15.98	15.9	16.03	17
		25	0	16.04	16.09	16.18	17
	16QAM	1	0	16.16	16.21	16.1	17
		1	13	16.43	16.44	16.47	17
		1	24	16.32	16.15	16.14	17
		12	0	16.16	16.13	15.99	17
		12	6	16.2	16.19	16.08	17
		12	13	16.02	15.86	16	17
		25	0	16.02	16.02	16.11	17
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up

				20800	21100	21400	
10MHz	QPSK	1	0	15.41	15.35	15.38	17
		1	25	16.35	16.32	16.19	17
		1	49	16.22	16.14	16.02	17
		25	0	15.75	15.7	15.51	17
		25	13	15.86	15.89	15.68	17
		25	25	16.09	16.06	16.3	17
		50	0	15.73	15.84	15.93	17
	16QAM	1	0	15.81	15.74	15.76	17
		1	25	16.77	16.72	16.53	17
		1	49	16.67	16.42	16.39	17
		25	0	15.73	15.64	15.47	17
		25	13	15.84	15.82	15.62	17
		25	25	16.11	16	16.24	17
		50	0	15.76	15.77	15.87	17
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	15.55	15.42	15.35	17
		1	38	16.27	16.18	15.9	17
		1	74	15.9	16.05	15.85	17
		36	0	16.09	15.83	15.8	17
		36	18	16.26	16.15	15.89	17
		36	39	15.87	15.85	16.11	17
		75	0	16	16.03	15.96	17
	16QAM	1	0	16	15.86	15.64	17
		1	38	16.63	16.45	16.24	17
		1	74	16.17	16.39	16.14	17
		36	0	16.01	15.82	15.74	17
		36	18	16.19	16.15	15.84	17
		36	39	15.84	15.85	16.03	17
		75	0	15.93	15.94	15.87	17
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	16.03	15.94	16.05	17
		1	50	**16.14**	16.08	15.93	17
		1	99	16.01	16.12	16.09	17
		50	0	15.97	16.1	15.7	17
		50	25	15.78	16.12	15.75	17
		50	50	15.73	15.91	**15.98**	17
		100	0	16.26	16.05	15.84	17
	16QAM	1	0	16.33	16.38	16.56	17
		1	50	16.49	16.55	16.39	17
		1	99	16.34	16.62	16.48	17
		50	0	15.91	16.1	15.74	17
		50	25	15.72	16.03	15.76	17
		50	50	15.69	15.84	15.98	17
		100	0	16.2	15.98	15.84	17

LTE Band 7 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	16.21	16.07	16.1	17
		1	13	16.55	16.5	16.31	17
		1	24	16.43	16.26	16.14	17
		12	0	16.45	16.37	16.3	17
		12	6	16.51	16.44	16.3	17
		12	13	16.34	16.2	16.18	17
		25	0	16.38	16.37	16.33	17
	16QAM	1	0	16.49	16.34	16.35	17
		1	13	16.81	16.8	16.54	17
		1	24	16.75	16.53	16.39	17
		12	0	16.43	16.34	16.27	17
		12	6	16.56	16.42	16.27	17
		12	13	16.31	16.14	16.14	17
		25	0	16.37	16.3	16.28	17
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	15.83	15.74	15.95	17
		1	25	16.76	16.64	16.53	17
		1	49	16.74	16.58	16.4	17
		25	0	16.2	15.95	15.9	17
		25	13	16.36	16.09	15.93	17
		25	25	16.63	16.36	16.43	17
		50	0	16.24	16.05	16.25	17
	16QAM	1	0	16.16	16.06	16.26	17
		1	25	17.15	16.93	16.77	17
		1	49	16.97	16.93	16.62	17
		25	0	16.12	15.88	15.85	17
		25	13	16.28	16.02	15.87	17
		25	25	16.55	16.29	16.38	17
		50	0	16.17	15.98	16.2	17
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	16.01	15.81	16.04	17
		1	38	16.92	16.4	16.33	17
		1	74	16.56	16.45	16.18	17
		36	0	16.49	16.15	16.29	17
		36	18	16.75	16.42	16.25	17
		36	39	16.44	16.19	16.35	17
		75	0	16.5	16.26	16.35	17
	16QAM	1	0	16.28	16.1	16.35	17
		1	38	17.09	16.7	16.64	17

		1	74	16.8	16.78	16.49	17
		36	0	16.42	16.04	16.23	17
		36	18	16.7	16.3	16.19	17
		36	39	16.39	16.14	16.31	17
		75	0	16.45	16.13	16.3	17
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	16.44	16.39	16.71	17
		1	50	**16.81**	16.32	16.47	17
		1	99	16.54	16.67	16.29	17
		50	0	**16.47**	16.37	16.31	17
		50	25	16.42	16.35	16.22	17
		50	50	16.36	16.19	16.28	17
		100	0	16.86	16.3	16.3	17
	16QAM	1	0	16.79	16.65	17.02	17
		1	50	16.96	16.6	16.82	17
		1	99	16.86	16.93	16.51	17
		50	0	16.42	16.32	16.23	17
		50	25	16.3	16.25	16.18	17
		50	50	16.29	16.06	16.24	17
		100	0	16.79	16.16	16.24	17

LTE FDD Band 12 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	21.47	22.08	22.34	24
		1	2	21.68	22.24	22.39	24
		1	5	21.88	22.14	22.23	24
		3	0	21.67	22.3	22.44	24
		3	2	21.87	22.29	22.37	24
		3	3	21.9	22.22	22.28	24
		6	0	20.87	21.34	21.53	23
	16QAM	1	0	20.97	21.57	21.75	23
		1	2	21.04	21.56	21.77	23
		1	5	21.21	21.51	21.6	23
		3	0	20.9	21.41	21.63	23
		3	2	21.04	21.42	21.54	23
		3	3	21.07	21.34	21.46	23
		6	0	20.02	20.47	20.63	22
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	21.27	22.01	22.08	24
		1	7	22.08	22.25	22.47	24
		1	14	21.84	21.97	21.95	24
		8	0	20.83	21.32	21.5	23
		8	4	21.14	21.33	21.59	23
		8	7	21.2	21.19	21.39	23
		15	0	20.96	21.24	21.43	23
	16QAM	1	0	20.68	21.37	21.57	23
		1	7	21.56	21.7	21.99	23
		1	14	21.35	21.28	21.35	23
		8	0	20.08	20.45	20.61	22
		8	4	20.35	20.49	20.75	22
		8	7	20.36	20.28	20.53	22
		15	0	20.1	20.32	20.52	22
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	21.93	22.62	22.67	24
		1	13	22.68	22.73	22.97	24
		1	24	22.6	22.47	22.51	24
		12	0	21.54	21.76	21.87	23
		12	6	21.81	21.88	22.09	23
		12	13	21.71	21.69	21.95	23
		25	0	21.65	21.73	21.99	23
	16QAM	1	0	21.4	22.09	22.13	23
		1	13	22.05	22.17	22.39	23

		1	24	21.98	21.84	21.86	23
		12	0	20.57	20.85	21.03	22
		12	6	20.87	20.93	21.16	22
		12	13	20.77	20.73	21.02	22
		25	0	20.69	20.78	21.03	22
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	22.17	22.68	22.64	24
		1	25	**23.13**	23.11	23.12	24
		1	49	22.54	22.69	22.68	24
		25	0	21.78	21.87	21.83	23
		25	13	21.98	**22.03**	22.01	23
		25	25	21.76	21.84	21.89	23
		50	0	21.77	21.85	21.85	23
	16QAM	1	0	21.59	22.15	21.99	23
		1	25	22.57	22.4	22.48	23
		1	49	21.96	22	21.93	23
		25	0	20.88	20.97	20.88	22
		25	13	21.09	21.07	21.05	22
		25	25	20.81	20.87	20.92	22
		50	0	20.8	20.82	20.88	22

LTE FDD Band 12 Receiver on				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	19.98	20.73	20.86	22.5
		1	2	20.27	20.84	20.97	22.5
		1	5	20.38	20.68	20.82	22.5
		3	0	20.21	20.79	21.01	22.5
		3	2	20.36	20.86	20.98	22.5
		3	3	20.38	20.76	20.87	22.5
		6	0	20.27	20.79	20.95	22.5
	16QAM	1	0	20.41	21.07	21.22	22.5
		1	2	20.59	21.14	21.27	22.5
		1	5	20.67	20.97	21.11	22.5
		3	0	20.25	20.89	21.11	22.5
		3	2	20.41	20.88	21.07	22.5
		3	3	20.45	20.84	20.96	22.5
		6	0	19.85	20.32	20.54	22
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	19.77	20.53	20.64	22.5
		1	7	20.68	20.85	21.12	22.5
		1	14	20.48	20.49	20.59	22.5
		8	0	20.31	20.8	20.91	22.5

		8	4	20.62	20.8	21.02	22.5
		8	7	20.67	20.65	20.84	22.5
		15	0	20.45	20.72	20.86	22.5
	16QAM	1	0	20.16	20.86	20.99	22.5
		1	7	20.95	21.07	21.39	22.5
		1	14	20.84	20.76	20.8	22.5
		8	0	19.91	20.32	20.53	22
		8	4	20.24	20.31	20.67	22
		8	7	20.25	20.19	20.47	22
		15	0	19.97	20.2	20.46	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23035	23095	23155	
5MHz	QPSK	1	0	20.35	21.18	21.21	22.5
		1	13	21.22	21.23	21.51	22.5
		1	24	21.12	21.01	21.15	22.5
		12	0	20.84	21.18	21.29	22.5
		12	6	21.16	21.24	21.49	22.5
		12	13	21.14	21.05	21.39	22.5
		25	0	21.04	21.1	21.41	22.5
	16QAM	1	0	20.75	21.42	21.57	22.5
		1	13	21.51	21.45	21.77	22.5
		1	24	21.37	21.24	21.4	22.5
		12	0	20.39	20.77	20.87	22
		12	6	20.7	20.84	21	22
		12	13	20.62	20.68	20.87	22
		25	0	20.5	20.69	20.9	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23060	23095	23130	
10MHz	QPSK	1	0	20.52	21.29	21.09	22.5
		1	25	**21.66**	21.58	21.64	22.5
		1	49	21.01	21.15	21.23	22.5
		25	0	21.16	21.29	21.21	22.5
		25	13	21.41	21.39	**21.41**	22.5
		25	25	21.12	21.18	21.29	22.5
		50	0	21.15	21.19	21.24	22.5
	16QAM	1	0	20.98	21.56	21.52	22.5
		1	25	21.96	21.9	21.95	22.5
		1	49	21.29	21.44	21.47	22.5
		25	0	20.69	20.77	20.74	22
		25	13	20.95	20.87	20.94	22
		25	25	20.66	20.65	20.83	22
		50	0	20.62	20.66	20.76	22

LTE FDD Band 12 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	20.19	20.92	21.11	22.5
		1	2	20.46	20.99	21.15	22.5
		1	5	20.55	20.88	20.97	22.5
		3	0	20.34	20.98	21.19	22.5
		3	2	20.55	20.98	21.12	22.5
		3	3	20.59	20.91	21.02	22.5
		6	0	20.47	20.93	21.12	22.5
	16QAM	1	0	20.58	21.1	21.47	22.5
		1	2	20.8	21.27	21.41	22.5
		1	5	20.77	21.09	21.27	22.5
		3	0	20.42	21.01	21.19	22.5
		3	2	20.6	21.02	21.15	22.5
		3	3	20.66	20.95	21.02	22.5
		6	0	20.08	20.54	20.66	22
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	19.99	20.76	20.87	22.5
		1	7	20.89	21.06	21.29	22.5
		1	14	20.51	20.68	20.77	22.5
		8	0	20.46	20.93	21.16	22.5
		8	4	20.74	20.94	21.25	22.5
		8	7	20.81	20.8	21.05	22.5
		15	0	20.59	20.85	21.09	22.5
	16QAM	1	0	20.36	20.99	21.14	22.5
		1	7	21.2	21.29	21.6	22.5
		1	14	20.8	20.99	21.06	22.5
		8	0	20.09	20.54	20.66	22
		8	4	20.4	20.55	20.82	22
		8	7	20.42	20.41	20.54	22
		15	0	20.11	20.4	20.59	22
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	20.59	21.36	21.46	22.5
		1	13	21.35	21.45	21.75	22.5
		1	24	21.2	21.22	21.28	22.5
		12	0	21.07	21.39	21.52	22.5
		12	6	21.35	21.47	21.69	22.5
		12	13	21.25	21.28	21.54	22.5
		25	0	21.18	21.32	21.58	22.5
	16QAM	1	0	20.96	21.61	21.74	22.5
		1	13	21.63	21.7	21.97	22.5

		1	24	21.51	21.44	21.48	22.5
		12	0	20.64	20.91	21.04	22
		12	6	20.92	21.01	21.2	22
		12	13	20.82	20.8	21.05	22
		25	0	20.71	20.81	21.06	22
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	20.74	21.44	21.38	22.5
		1	25	21.74	21.78	**21.86**	22.5
		1	49	21.13	21.33	21.32	22.5
		25	0	21.29	21.43	21.42	22.5
		25	13	21.53	21.54	**21.60**	22.5
		25	25	21.28	21.35	21.48	22.5
		50	0	21.27	21.35	21.45	22.5
	16QAM	1	0	21.08	21.72	21.63	22.5
		1	25	22.08	22.12	22.14	22.5
		1	49	21.48	21.61	21.53	22.5
		25	0	20.86	20.95	20.89	22
		25	13	21.07	21.07	21.1	22
		25	25	20.81	20.86	20.96	22
		50	0	20.8	20.83	20.94	22

LTE FDD Band 17 full power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	22.3	22.62	22.73	24
		1	13	22.85	22.79	23.04	24
		1	24	22.55	22.77	22.63	24
		12	0	21.6	21.77	22	23
		12	6	21.9	21.97	22.21	23
		12	13	21.75	21.88	22.06	23
		25	0	21.74	21.82	22.04	23
	16QAM	1	0	21.84	22.12	22.25	23
		1	13	22.32	22.25	22.5	23
		1	24	21.99	22.1	21.98	23
		12	0	20.71	20.88	21.12	22
		12	6	20.98	21.05	21.27	22
		12	13	20.79	20.93	21.11	22
		25	0	20.79	20.86	21.1	22
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	22.37	22.42	22.53	24
		1	25	23.01	23.03	**23.13**	24
		1	49	22.77	22.85	22.72	24
		25	0	21.68	21.73	21.77	23
		25	13	21.95	21.95	**22.02**	23
		25	25	21.8	21.92	21.89	23
		50	0	21.76	21.82	21.86	23
	16QAM	1	0	21.76	21.88	21.99	23
		1	25	22.32	22.45	22.59	23
		1	49	22.07	22.18	22.03	23
		25	0	20.76	20.76	20.85	22
		25	13	20.96	20.97	21.06	22
		25	25	20.84	20.94	20.92	22
		50	0	20.79	20.85	20.9	22

LTE FDD Band 17 Receiver on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	20.86	21.17	21.25	22.5
		1	13	21.35	21.33	21.61	22.5
		1	24	21.01	21.27	21.17	22.5
		12	0	21.01	21.23	21.45	22.5
		12	6	21.31	21.36	21.6	22.5
		12	13	21.14	21.27	21.48	22.5
		25	0	21.14	21.21	21.51	22.5
	16QAM	1	0	21.19	21.52	21.52	22.5
		1	13	21.63	21.65	21.9	22.5
		1	24	21.33	21.6	21.42	22.5
		12	0	20.65	20.86	21.02	22
		12	6	20.81	20.96	21.17	22
		12	13	20.7	20.85	21.04	22
		25	0	20.62	20.75	20.98	22
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	20.82	20.96	20.99	22.5
		1	25	21.51	21.56	**21.66**	22.5
		1	49	21.22	21.34	21.24	22.5
		25	0	21.06	21.13	21.19	22.5
		25	13	21.32	21.37	**21.45**	22.5
		25	25	21.17	21.33	21.33	22.5
		50	0	21.19	21.23	21.27	22.5
	16QAM	1	0	21.15	21.29	21.42	22.5
		1	25	21.82	21.76	21.92	22.5
		1	49	21.45	21.55	21.55	22.5
		25	0	20.58	20.61	20.71	22
		25	13	20.86	20.84	20.91	22
		25	25	20.71	20.8	20.8	22
		50	0	20.67	20.71	20.76	22

LTE FDD Band 17 Hotspot on				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	21.11	21.47	21.54	22.5
		1	13	21.56	21.63	21.9	22.5
		1	24	21.33	21.54	21.36	22.5
		12	0	21.21	21.46	21.66	22.5
		12	6	21.52	21.6	21.83	22.5
		12	13	21.37	21.51	21.68	22.5
		25	0	21.36	21.45	21.66	22.5
	16QAM	1	0	21.41	21.75	21.8	22.5
		1	13	21.86	21.85	22.13	22.5
		1	24	21.56	21.75	21.6	22.5
		12	0	20.79	20.98	21.19	22
		12	6	21.06	21.12	21.35	22
		12	13	20.94	21.03	21.22	22
		25	0	20.86	20.95	21.17	22
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	21.1	21.2	21.33	22.5
		1	25	21.74	21.79	**21.92**	22.5
		1	49	21.4	21.53	21.35	22.5
		25	0	21.27	21.36	21.4	22.5
		25	13	21.53	21.58	**21.64**	22.5
		25	25	21.39	21.55	21.52	22.5
		50	0	21.35	21.45	21.48	22.5
	16QAM	1	0	21.32	21.49	21.57	22.5
		1	25	21.94	21.95	22.23	22.5
		1	49	21.56	21.7	21.57	22.5
		25	0	20.76	20.85	20.89	22
		25	13	21.04	21.08	21.15	22
		25	25	20.88	21.04	21.01	22
		50	0	20.82	20.88	20.97	22

8.1.1 Conducted Power of Downlink LTE CA

In this section, the following conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A. Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

Power test equipment: R&S Radio Communication Tester CMW500 and/or Anritsu Radio Communication Analyzer
The device supports Rel. 10 downlink only LTE Carrier Aggregation and certain network enhancement features. It supports a maximum of 2 carriers in the downlink

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.1.0 (2017-12). The detailed conducted power measurement results of downlink LTE CA are provided in the SAR report per 3GPP TS 36.521 V13.2.0 (2016-06). According to KDB 941225 D05A, the downlink only carrier aggregation conditions for this device can be excluded from SAR testing and PAG requirements.

Initial Conditions									
Test Environment as specified in TS 36.508[7] subclause 4.1			NC, TL/VL, TL/VH, TH/VL, TH/VH						
Test Frequencies as specified in TS 36.508 [7] subclause 4.3.1 for different CA bandwidth classes, and PCC and SCCs are mapped onto physical frequencies according to Table 6.1-2.			C: Mid range						
Test CC Combination setting (N_{RB_agg}) as specified in subclause 5.4.2A.1 for the CA Configuration across bandwidth combination sets supported by the UE.			Lowest N_{RB_agg} Highest N_{RB_agg} (Note 2)						
Test Parameters for CA Configurations									
CA Configuration / N_{RB_agg}		**DL Allocation**	**CC MOD**	**UL Allocation**					
PCC N_{RB}	**SCCs N_{RB}**	**PCC & SCC RB allocation**		**N_{RB_alloc}**	**PCC & SCC RB allocations (L_{CRB} @ RB_{start})**				
75	75	N/A for this test	QPSK	16	P_16@0	S_0@0	-	-	
100	25		QPSK	8	P_8@0	S_0@0	-	-	
100	50		QPSK	12	P_12@0	S_0@0	-	-	
100	100		QPSK	18	P_18@0	S_0@0	-	-	
Note 1: CA Configuration Test CC Combination settings are checked separately for each CA Configuration, which applicable aggregated channel bandwidths are specified in Table 5.4.2A.1-1 Note 2: If in the CA Configuration UE supports multiple CC Combinations with the same N_{RB_agg} , only the first of those is tested, according to the order on the Test Configuration Table list.									

The conducted power measurement results of downlink LTE CA Conducted Power are as below, so the downlink only carrier aggregation conditions for this device can be excluded from SAR testing

Intra-band

Main Antenna Full Power												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_7C	Band 7	20M	2560	21350	1	0	Band 7	20M	2660.2	3152	22.51	22.58
CA_12B	Band 12	10M	711	23130	1	25	Band 12	10M	733.8	5058	23.26	23.25
Main Antenna Hotspot on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_7C	Band 7	20M	2560	21350	1	0	Band 7	20M	2660.2	3152	19.09	19.04

Second Antenna Full Power												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_7C	Band 7	20M	2560	21350	1	0	Band 7	20M	2660.2	3152	22.64	22.62
CA_12B	Band 12	10M	711	23130	1	25	Band 12	10M	733.8	5058	23.13	23.13
Second Antenna Receiver on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_7C	Band 7	20M	2510	20850	100	0	Band 7	20M	2529.8	3048	16.18	16.26
CA_12B	Band 12	10M	711	23130	1	25	Band 12	10M	733.8	5058	21.60	21.64
Second Antenna Hotspot on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_7C	Band 7	20M	2510	20850	100	0	Band 7	20M	2529.8	3048	16.82	16.86
CA_12B	Band 12	10M	711	23130	1	25	Band 12	10M	733.8	5058	21.82	21.86

Inter Band

Main Antenna Full Power												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_2A-5A	Band 2	20M	1900	19100	1	50	Band 5	10M	874	2450	22.64	22.55
	Band 5	10M	829	20450	1	25	Band 2	20M	1980	1100	22.74	22.67
CA_2A-12A	Band 2	20M	1900	19100	1	50	Band 12	10M	741	5130	22.46	22.55
CA_4A-7A	Band 4	20M	1745	20300	1	50	Band 7	20M	2680	3350	22.66	22.61
CA_4A-5A	Band 4	20M	1745	20300	1	50	Band 5	10M	874	2450	22.63	22.61
	Band 5	10M	829	20450	1	25	Band 4	20M	2145	2300	22.70	22.67
CA_4A-12A	Band 4	20M	1745	20300	1	50	Band 12	10M	741	5130	22.67	22.61
	Band 12	10M	711	23130	1	25	Band 4	20M	2145	2300	23.11	23.25
CA_4A-17A	Band 4	20M	1745	20300	1	50	Band 17	10M	741	5800	22.68	22.61
CA_5A-7A	Band 5	10M	829	20450	1	25	Band 7	20M	2680	3350	22.69	22.67
	Band 7	20M	2560	21350	1	0	Band 5	10M	874	2450	22.50	22.58
CA_7A-12A	Band 7	20M	2560	21350	1	0	Band 12	10M	741	5130	22.66	22.58
Main Antenna Hotspot on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_4A-7A	Band 4	20M	1745	20300	1	50	Band 7	20M	2680	3350	17.52	17.54

Second Antenna Full Power												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_2A-5A	Band 2	20M	1900	19100	1	50	Band 5	10M	889	2600	22.46	22.43
	Band 5	10M	844	20600	1	0	Band 2	20M	1980	1100	22.81	22.9
CA_2A-12A	Band 2	20M	1900	19100	1	50	Band 12	10M	734	5060	22.44	22.43
CA_4A-7A	Band 4	20M	1745	20300	1	50	Band 7	20M	2680	3350	22.61	22.53
CA_4A-5A	Band 4	20M	1745	20300	1	50	Band 5	10M	889	2600	22.62	22.53
	Band 5	10M	844	20600	1	0	Band 4	20M	2145	2300	22.85	22.9
CA_4A-12A	Band 4	20M	1745	20300	1	50	Band 12	10M	734	5060	22.47	22.53
	Band 12	10M	704	23060	1	25	Band 4	20M	2145	2300	23.17	23.13
CA_4A-17A	Band 4	20M	1745	20300	1	50	Band 17	10M	741	5800	22.43	22.53
CA_5A-7A	Band 5	10M	844	20600	1	0	Band 7	20M	2680	3350	22.99	22.9
	Band 7	20M	2560	21350	1	0	Band 5	10M	889	2600	22.65	22.62

CA_7A-12A	Band 7	20M	2560	21350	1	0	Band 12	10M	734	5060	22.57	22.62
Second Antenna Receiver on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_2A-5A	Band 2	20M	1860	18700	1	50	Band 5	10M	889	2600	17.25	17.33
	Band 5	10M	844	20600	1	25	Band 2	20M	1940	700	20.80	20.74
CA_2A-12A	Band 2	20M	1860	18700	1	50	Band 12	10M	734	5060	17.37	17.33
CA_4A-7A	Band 4	20M	1745	20300	50	0	Band 7	20M	2630	2850	19.42	19.34
CA_4A-5A	Band 4	20M	1745	20300	50	0	Band 5	10M	889	2600	19.44	19.34
	Band 5	10M	844	20600	1	25	Band 4	20M	2145	2300	20.78	20.74
CA_4A-12A	Band 4	20M	1745	20300	50	0	Band 12	10M	734	5060	19.40	19.34
	Band 12	10M	704	23060	1	25	Band 4	20M	2145	2300	21.72	21.66
CA_4A-17A	Band 4	20M	1745	20300	50	0	Band 17	10M	741	5800	19.26	19.34
CA_5A-7A	Band 5	10M	844	20600	1	25	Band 7	20M	2630	2850	20.83	20.74
	Band 7	20M	2510	20850	100	0	Band 5	10M	889	2600	16.16	16.26
CA_7A-12A	Band 7	20M	2510	20850	100	0	Band 12	10M	734	5060	16.30	16.26
Second Antenna Hotspot on												
DL LTE CA Class	PCC						SCC				Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 10 Tx.Power(dBm)	LTE Rel 8 Tx.Power(dBm)
CA_2A-5A	Band 2	20M	1860	18700	1	50	Band 5	10M	889	2600	17.61	17.66
	Band 5	10M	844	20600	1	25	Band 2	20M	1940	700	20.86	20.81
CA_2A-12A	Band 2	20M	1860	18700	1	50	Band 12	10M	734	5060	17.62	17.66
CA_4A-7A	Band 4	20M	1745	20300	1	50	Band 7	20M	2630	2850	19.65	19.59
CA_4A-5A	Band 4	20M	1745	20300	1	50	Band 5	10M	889	2600	19.68	19.59
	Band 5	10M	844	20600	1	25	Band 4	20M	2145	2300	20.79	20.81
CA_4A-12A	Band 4	20M	1745	20300	1	50	Band 12	10M	741	5130	19.53	19.59
	Band 12	10M	711	23130	1	25	Band 4	20M	2145	2300	21.81	21.86
CA_4A-17A	Band 4	20M	1745	20300	1	50	Band 17	10M	741	5800	19.62	19.59
CA_5A-7A	Band 5	10M	844	20600	1	25	Band 7	20M	2630	2850	20.75	20.81
	Band 7	20M	2510	20850	100	0	Band 5	10M	889	2600	16.82	16.86
CA_7A-12A	Band 7	20M	2560	20850	100	0	Band 12	10M	741	5130	16.22	16.26

8.1.2 Conducted Power of WIFI and BT

WIFI2.4G Full Power						
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11b	1	2412	1	18.5	17.17	NO
	6	2437		18.5	17.16	NO
	11	2462		18.5	**17.18**	Yes
802.11g	1	2412	6	17	15.96	NO
	6	2437		17	16.05	NO
	11	2462		17	16.07	NO
802.11n HT20 SISO	1	2412	6.5	15.5	14.86	NO
	6	2437		15.5	14.95	NO
	11	2462		15.5	15	NO
802.11n HT40 SISO	3	2422	13.5	15.5	14.73	NO
	6	2437		15.5	14.71	NO
	9	2452		15.5	14.35	NO

WIFI2.4G infrared proximity sensor on Reduce power						
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11b	1	2412	1	14.5	13.65	NO
	6	2437		14.5	13.09	NO
	11	2462		14.5	13.87	Yes
802.11g	1	2412	6	15	**14.37**	NO
	6	2437		15	14.03	NO
	11	2462		15	14.35	NO
802.11n HT20 SISO	1	2412	6.5	14.5	14.31	NO
	6	2437		14.5	14.05	NO
	11	2462		14.5	14.3	NO
802.11n HT40 SISO	3	2422	13.5	14.5	13.84	NO
	6	2437		14.5	13.82	NO
	9	2452		14.5	13.4	NO

Table 16：Conducted Power Of WIFI

Note:

a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.

b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.

1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.

2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.

c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.

BT			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	11	10.31
	39	2441	11	10.81
	78	2480	11	10.58
π/4DQPSK	0	2402	9	8.42
	39	2441	9	8.75
	78	2480	9	8.56
8DPSK	0	2402	9	8.39
	39	2441	9	8.71
	78	2480	9	8.54

BLE			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	6	4.89
	19	2440	6	5.22
	39	2480	6	5.43

Table 17：Conducted Power Of BT

8.2 Stand-alone SAR test evaluation

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

Freq. Band	Frequency (GHz)	Position	Average Power		Test Separation (mm)	Calculate Value	Exclusion Threshold	Exclusion (Y/N)
			dBm	mW				
Wi-Fi	2.48	Head	15	31.62	0	9.96	3	N
		Body-worn	18.5	70.79	7.43	4.69	3	N
		Hotspot	18.5	70.79	10	11.15	3	N
Bluetooth	2.48	Head	11	12.59	0	3.97	3	N
		Body-worn	11	12.59	15	1.32	3	Y
		Hotspot	11	12.59	10	1.98	3	Y

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
• f(GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation
• The result is rounded to one decimal place for comparison.

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

8.3 Measurement of SAR Data

8.3.1 SAR Result Of GSM850

Main Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	GSM	251/848.8	1:8.3	0.0954	0.09	32.46	33.5	1.271	0.121	22.1
Left tilted	GSM	251/848.8	1:8.3	0.0825	0.12	32.46	33.5	1.271	0.105	22.1
Right cheek	GSM	251/848.8	1:8.3	0.152	0.09	32.46	33.5	1.271	0.193	22.1
Right tilted	GSM	251/848.8	1:8.3	0.0888	0.15	32.46	33.5	1.271	0.113	22.1
Right cheek	GSM	128/824.2	1:8.3	0.131	0.07	32.42	33.5	1.282	0.168	22.1
Right cheek	GSM	190/836.6	1:8.3	0.158	0.01	32.45	33.5	1.274	**0.201**	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	190/836.6	1:8.3	0.156	0.03	32.45	33.5	1.274	0.199	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	190/836.6	1:8.3	0.138	0.05	32.45	33.5	1.274	0.176	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	190/836.6	1:8.3	0.143	0.15	32.45	33.5	1.274	0.182	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	251/848.8	1:8.3	0.214	0.05	32.46	33.5	1.271	0.272	22.1
Back side	GSM	251/848.8	1:8.3	0.311	0.07	32.46	33.5	1.271	0.395	22.1
Front side	GPRS 4TS	251/848.8	1:2.075	0.194	-0.08	26.49	27.5	1.262	0.245	22.1
Back side	GPRS 4TS	251/848.8	1:2.075	0.28	-0.02	26.49	27.5	1.262	0.353	22.1
Back side	GSM	128/824.2	1:8.3	0.316	0.01	32.42	33.5	1.282	0.405	22.1
Back side	GSM	190/836.6	1:8.3	0.324	0.04	32.45	33.5	1.274	**0.413**	22.1
Body worn Test data with SIM2										
Back side	GSM	190/836.6	1:8.3	0.312	0.05	32.45	33.5	1.274	0.397	22.1
Body worn Test data with Battery 2#										
Back side	GSM	190/836.6	1:8.3	0.312	0.02	32.45	33.5	1.274	0.397	22.1
Body worn Test data with Battery 3#										
Back side	GSM	190/836.6	1:8.3	0.295	0.03	32.45	33.5	1.274	0.376	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	251/848.8	1:2.075	0.205	0.03	26.49	27.5	1.262	0.259	22.1
Back side	GPRS 4TS	251/848.8	1:2.075	0.295	-0.05	26.49	27.5	1.262	0.372	22.1
Left side	GPRS 4TS	251/848.8	1:2.075	0.142	-0.04	26.49	27.5	1.262	0.179	22.1
Right side	GPRS 4TS	251/848.8	1:2.075	0.192	0.03	26.49	27.5	1.262	0.242	22.1
Bottom side	GPRS 4TS	251/848.8	1:2.075	0.158	0.08	26.49	27.5	1.262	0.199	22.1
Back side	GPRS 4TS	128/824.2	1:2.075	0.295	0.01	26.45	27.5	1.274	0.376	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.323	0.06	26.44	27.5	1.276	**0.412**	22.1
Hotspot Test Data at the worst case with SIM2(10mm)										
Back side	GPRS 4TS	251/848.8	1:2.075	0.322	0.01	26.44	27.5	1.276	0.411	22.1

Hotspot Test Data at the worst case with Battery 2#(10mm)										
Back side	GPRS 4TS	251/848.8	1:2.075	0.308	0.04	26.44	27.5	1.276	0.393	22.1
Hotspot Test Data at the worst case with Battery 3#(10mm)										
Back side	GPRS 4TS	251/848.8	1:2.075	0.287	-0.01	26.44	27.5	1.276	0.366	22.1

Second Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.460	-0.02	31.9	33	1.288	0.593	22.1
Left tilted	GSM	190/836.6	1:8.3	0.288	0.02	31.9	33	1.288	0.371	22.1
Right cheek	GSM	190/836.6	1:8.3	0.646	0.02	31.9	33	1.288	0.832	22.1
Right tilted	GSM	190/836.6	1:8.3	0.459	-0.09	31.9	33	1.288	0.591	22.1
Right cheek	GSM	128/824.2	1:8.3	0.683	0.02	31.89	33	1.291	**0.882**	22.1
Right cheek	GSM	251/848.8	1:8.3	0.654	0.06	31.87	33	1.297	0.848	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	128/824.2	1:8.3	0.682	0.01	31.89	33	1.291	0.881	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	128/824.2	1:8.3	0.636	0.02	31.89	33	1.291	0.821	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	128/824.2	1:8.3	0.62	0.03	31.89	33	1.291	0.801	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	190/836.6	1:8.3	0.146	0.00	32.45	33.5	1.274	0.186	22.1
Back side	GSM	190/836.6	1:8.3	0.231	0.03	32.45	33.5	1.274	0.294	22.1
Front side	GPRS 4TS	128/824.2	1:2.075	0.139	0.06	26.49	27.5	1.262	0.175	22.1
Back side	GPRS 4TS	128/824.2	1:2.075	0.223	0.00	26.49	27.5	1.262	0.281	22.1
Back side	GSM	128/824.2	1:8.3	0.234	0.01	32.45	33.5	1.274	**0.298**	22.1
Back side	GSM	251/848.8	1:8.3	0.213	0.04	32.45	33.5	1.274	0.271	22.1
Body worn Test data with SIM2										
Back side	GSM	128/824.2	1:8.3	0.233	-0.05	32.45	33.5	1.274	0.297	22.1
Body worn Test data with Battery 2#										
Back side	GSM	128/824.2	1:8.3	0.189	0.05	32.45	33.5	1.274	0.241	22.1
Body worn Test data with Battery 3#										
Back side	GSM	128/824.2	1:8.3	0.19	0.02	32.45	33.5	1.274	0.242	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.129	0.0727	25.99	27	1.262	0.163	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.172	0.02	25.99	27	1.262	0.217	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.202	0.04	25.99	27	1.262	0.255	22.1
Right side	GPRS 4TS	190/836.6	1:2.075	0.113	0.13	25.99	27	1.262	0.143	22.1
Top side	GPRS 4TS	190/836.6	1:2.075	0.0761	0.02	25.99	27	1.262	0.096	22.1
Left side	GPRS 4TS	128/824.2	1:2.075	0.259	0.07	25.98	27	1.265	**0.328**	22.1
Left side	GPRS 4TS	251/848.8	1:2.075	0.211	0.04	25.95	27	1.274	0.269	22.1
Hotspot Test Data at the worst case with SIM2(10mm)										
Left side	GPRS 4TS	128/824.2	1:2.075	0.258	0.06	25.98	27	1.265	0.326	22.1
Hotspot Test Data at the worst case with Battery 2#(10mm)										
Left side	GPRS 4TS	128/824.2	1:2.075	0.241	-0.02	25.98	27	1.265	0.305	22.1
Hotspot Test Data at the worst case with Battery 3#(10mm)										
Left side	GPRS 4TS	128/824.2	1:2.075	0.242	0.03	25.98	27	1.265	0.306	22.1

Table 18： SAR of GSM850 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.2 SAR Result Of GSM1900

Main Antenna Test data										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	512/1850.2	1:8.3	0.0962	-0.08	29.73	30.5	1.194	**0.115**	22.1
Left tilted	GSM	512/1850.2	1:8.3	0.0462	0.09	29.73	30.5	1.194	0.055	22.1
Right cheek	GSM	512/1850.2	1:8.3	0.0373	-0.04	29.73	30.5	1.194	0.045	22.1
Right tilted	GSM	512/1850.2	1:8.3	0.0301	0.14	29.73	30.5	1.194	0.036	22.1
Left cheek	GSM	661/1880	1:8.3	0.0774	0.07	29.63	30.5	1.194	0.092	22.1
Left cheek	GSM	810/1909.8	1:8.3	0.0787	-0.03	29.56	30.5	1.194	0.094	22.1
Head Test Data at the worst case with SIM2										
Left cheek	GSM	512/1850.2	1:8.3	0.0824	0.05	29.73	30.5	1.194	0.098	22.1
Head Test Data at the worst case with Battery 2#										
Left cheek	GSM	512/1850.2	1:8.3	0.0826	-0.2	29.73	30.5	1.194	0.099	22.1
Head Test Data at the worst case with Battery 3#										
Left cheek	GSM	512/1850.2	1:8.3	0.0665	0.1	29.73	30.5	1.194	0.079	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	512/1850.2	1:8.3	0.249	0.14	29.73	30.5	1.194	0.297	22.1
Back side	GSM	512/1850.2	1:8.3	0.278	-0.09	29.73	30.5	1.194	0.332	22.1
Front side	GPRS 4TS	512/1850.2	1:2.075	0.284	0.04	23.72	24.5	1.197	0.340	22.1
Back side	GPRS 4TS	512/1850.2	1:2.075	0.306	0.09	23.72	24.5	1.197	0.366	22.1
Back side	GPRS 4TS	661/1880	1:2.075	0.315	0.09	23.64	24.5	1.219	0.384	22.1
Back side	GPRS 4TS	810/1909.8	1:2.075	0.322	0.05	23.54	24.5	1.247	**0.402**	22.1
Body worn Test Data at the worst case with SIM2										
Back side	GPRS 4TS	810/1909.8	1:2.075	0.32	0.02	23.54	24.5	1.247	0.399	22.1
Body worn Test Data at the worst case with Battery 2#										
Back side	GPRS 4TS	810/1909.8	1:2.075	0.211	0.02	23.54	24.5	1.247	0.263	22.1
Body worn Test Data at the worst case with Battery 3#										
Back side	GPRS 4TS	810/1909.8	1:2.075	0.204	0.08	23.54	24.5	1.247	0.254	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	512/1850.2	1:2.075	0.293	0.07	21.27	22	1.183	0.347	22.1
Back side	GPRS 4TS	512/1850.2	1:2.075	0.328	0.03	21.27	22	1.183	0.388	22.1
Left side	GPRS 4TS	512/1850.2	1:2.075	0.0677	0.17	21.27	22	1.183	0.080	22.1
Right side	GPRS 4TS	512/1850.2	1:2.075	0.0194	0.09	21.27	22	1.183	0.023	22.1
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.579	0.02	21.27	22	1.183	**0.685**	22.1
Bottom side	GPRS 4TS	661/1880	1:2.075	0.484	0	21.09	22	1.233	0.597	22.1
Bottom side	GPRS 4TS	810/1909.8	1:2.075	0.478	-0.02	21.07	22	1.239	0.592	22.1

Hotspot Test Data at the worst case with SIM2(10mm)										
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.577	0.01	21.27	22	1.183	0.683	22.1
Hotspot Test Data at the worst case with Battery 2#(10mm)										
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.559	0	21.27	22	1.183	0.661	22.1
Hotspot Test Data at the worst case with Battery 3#(10mm)										
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.514	0.05	21.27	22	1.183	0.608	22.1

Second Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	GSM	512/1850.2	1:8.3	0.162	-0.01	28.63	29.5	1.222	0.198	22.1
Left tilted	GSM	512/1850.2	1:8.3	0.188	0.02	28.63	29.5	1.222	0.230	22.1
Right cheek	GSM	512/1850.2	1:8.3	0.517	-0.01	28.63	29.5	1.222	**0.632**	22.1
Right tilted	GSM	512/1850.2	1:8.3	0.513	-0.05	28.63	29.5	1.222	0.627	22.1
Right cheek	GSM	661/1880	1:8.3	0.469	-0.06	28.54	29.5	1.247	0.585	22.1
Right cheek	GSM	810/1909.8	1:8.3	0.486	-0.03	28.44	29.5	1.276	0.620	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	512/1850.2	1:8.3	0.511	0.03	28.63	29.5	1.222	0.624	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	512/1850.2	1:8.3	0.471	0.02	28.63	29.5	1.222	0.575	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	512/1850.2	1:8.3	0.51	0.09	28.63	29.5	1.222	0.623	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	512/1850.2	1:8.3	0.0378	0.12	29.63	30.5	1.222	0.046	22.1
Back side	GSM	512/1850.2	1:8.3	0.0575	0.04	29.63	30.5	1.222	0.070	22.1
Front side	GPRS 4TS	512/1850.2	1:2.075	0.0389	-0.05	23.71	24.5	1.199	0.047	22.1
Back side	GPRS 4TS	512/1850.2	1:2.075	0.0698	0.03	23.71	24.5	1.199	**0.084**	22.1
Back side	GPRS 4TS	661/1880	1:2.075	0.0397	0.04	34.56	24.5	0.099	0.004	22.1
Back side	GPRS 4TS	810/1909.8	1:2.075	0.035	-0.02	23.48	24.5	1.265	0.044	22.1
Body worn Test Data at the worst case with SIM2										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.0559	0.09	23.71	24.5	1.199	0.067	22.1
Body worn Test Data at the worst case with Battery 2#										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.0436	0.07	23.71	24.5	1.199	0.052	22.1
Body worn Test Data at the worst case with Battery 3#										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.0518	0.19	23.71	24.5	1.199	0.062	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	512/1850.2	1:2.075	0.0721	0.08	22.69	23.5	1.205	0.087	22.1
Back side	GPRS 4TS	512/1850.2	1:2.075	0.111	0.18	22.69	23.5	1.205	**0.134**	22.1
Left side	GPRS 4TS	512/1850.2	1:2.075	0.108	0.19	22.69	23.5	1.205	0.130	22.1
Right side	GPRS 4TS	512/1850.2	1:2.075	0.0212	0.02	22.69	23.5	1.205	0.026	22.1

Top side	GPRS 4TS	512/1850.2	1:2.075	0.0992	0.03	22.69	23.5	1.205	0.120	22.1
Back side	GPRS 4TS	661/1880	1:2.075	0.0895	0.04	22.57	23.5	1.239	0.111	22.1
Back side	GPRS 4TS	810/1909.8	1:2.075	0.0828	-0.01	22.49	23.5	1.262	0.104	22.1
Hotspot Test Data at the worst case with SIM2										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.105	-0.11	22.69	23.5	1.205	0.127	22.1
Hotspot Test Data at the worst case with Battery 2#										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.0987	0.04	22.69	23.5	1.205	0.119	22.1
Hotspot Test Data at the worst case with Battery 3#										
Back side	GPRS 4TS	512/1850.2	1:2.075	0.101	-0.11	22.69	23.5	1.205	0.122	22.1

Table 19： SAR of GSM1900 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.3 SAR Result Of WCDMA Band II

Main Antenna Test data										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	9538/1907.6	1:1	0.172	0.01	22.76	24	1.330	**0.229**	22.3
Left tilted	RMC	9538/1907.6	1:1	0.101	-0.01	22.76	24	1.330	0.134	22.3
Right cheek	RMC	9538/1907.6	1:1	0.0577	0.02	22.76	24	1.330	0.077	22.3
Right tilted	RMC	9538/1907.6	1:1	0.0737	0.08	22.76	24	1.330	0.098	22.3
Left cheek	RMC	9262/1852.4	1:1	0.0563	0.01	22.66	24	1.361	0.077	22.3
Left cheek	RMC	9400/1880	1:1	0.119	0.01	22.72	24	1.343	0.160	22.3
Head Test Data at the worst case with SIM2										
Left cheek	RMC	9538/1907.6	1:1	0.109	0.06	22.76	24	1.330	0.145	22.3
Head Test Data at the worst case with Battery 2#										
Left cheek	RMC	9538/1907.6	1:1	0.102	-0.09	22.76	24	1.330	0.136	22.3
Head Test Data at the worst case with Battery 3#										
Left cheek	RMC	9538/1907.6	1:1	0.0791	-0.05	22.76	24	1.330	0.105	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9538/1907.6	1:1	0.486	0.18	22.76	24	1.330	0.647	22.3
Back side	RMC	9538/1907.6	1:1	0.522	0.17	22.76	24	1.330	0.694	22.3
Back side	RMC	9262/1852.4	1:1	0.605	-0.19	22.66	24	1.361	**0.824**	22.3
Back side	RMC	9400/1880	1:1	0.574	0.18	22.72	24	1.343	0.771	22.3
Body worn Test Data at the worst case with SIM2										
Back side	RMC	9262/1852.4	1:1	0.604	-0.08	22.66	24	1.361	0.822	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	9262/1852.4	1:1	0.53	0.11	22.66	24	1.361	0.722	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	9262/1852.4	1:1	0.499	0.04	22.66	24	1.361	0.679	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9538/1907.6	1:1	0.301	0.08	17.34	18.5	1.306	0.393	22.3
Back side	RMC	9538/1907.6	1:1	0.319	0.07	17.34	18.5	1.306	0.417	22.3
Left side	RMC	9538/1907.6	1:1	0.081	0.09	17.34	18.5	1.306	0.106	22.3
Right side	RMC	9538/1907.6	1:1	0.0161	0.13	17.34	18.5	1.306	0.021	22.3
Bottom side	RMC	9538/1907.6	1:1	0.593	0.01	17.34	18.5	1.306	0.775	22.3
Bottom side	RMC	9262/1852.4	1:1	0.582	0.14	17.28	18.5	1.324	0.771	22.3
Bottom side	RMC	9400/1880	1:1	0.596	0.13	17.24	18.5	1.337	**0.797**	22.3
Hotspot Test Data at the worst case with SIM2(10mm)										
Bottom side	RMC	9400/1880	1:1	0.595	0.15	17.24	18.5	1.337	0.795	22.1
Hotspot Test Data at the worst case with Battery 2#(10mm)										
Bottom side	RMC	9400/1880	1:1	0.544	0.01	17.24	18.5	1.337	0.727	22.1
Hotspot Test Data at the worst case with Battery 3#(10mm)										

Bottom side	RMC	9400/1880	1:1	0.547	0.09	17.24	18.5	1.337	0.731	22.1

Second Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	9538/1907.6	1:1	0.156	0.1	17.46	18.5	1.271	0.198	22.3
Left tilted	RMC	9538/1907.6	1:1	0.172	0.12	17.46	18.5	1.271	0.219	22.3
Right cheek	RMC	9538/1907.6	1:1	0.407	-0.01	17.46	18.5	1.271	**0.517**	22.3
Right tilted	RMC	9538/1907.6	1:1	0.322	0.05	17.46	18.5	1.271	0.409	22.3
Right cheek	RMC	9262/1852.4	1:1	0.331	0.07	17.42	18.5	1.282	0.424	22.3
Right cheek	RMC	9400/1880	1:1	0.364	0	17.45	18.5	1.274	0.464	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	9538/1907.6	1:1	0.405	0.02	17.46	18.5	1.271	0.515	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	9538/1907.6	1:1	0.342	0.01	17.46	18.5	1.271	0.435	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	9538/1907.6	1:1	0.356	-0.04	17.46	18.5	1.271	0.452	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9538/1907.6	1:1	0.082	0.15	22.81	24	1.315	0.108	22.3
Back side	RMC	9538/1907.6	1:1	0.117	0.03	22.81	24	1.315	**0.154**	22.3
Back side	RMC	9262/1852.4	1:1	0.1	0.06	22.67	24	1.358	0.136	22.3
Back side	RMC	9400/1880	1:1	0.0987	0.09	22.75	24	1.334	0.132	22.3
Body worn Test Data at the worst case with SIM2										
Back side	RMC	9538/1907.6	1:1	0.104	0.06	22.81	24	1.315	0.137	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	9538/1907.6	1:1	0.0929	0.19	22.81	24	1.315	0.122	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	9538/1907.6	1:1	0.0865	0.01	22.81	24	1.315	0.114	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9538/1907.6	1:1	0.0558	0.04	17.32	18.5	1.312	0.073	22.3
Back side	RMC	9538/1907.6	1:1	0.0784	0.01	17.32	18.5	1.312	0.103	22.3
Left side	RMC	9538/1907.6	1:1	0.0581	0.07	17.32	18.5	1.312	0.076	22.3
Right side	RMC	9538/1907.6	1:1	0.0175	0.09	17.32	18.5	1.312	0.023	22.3
Top side	RMC	9538/1907.6	1:1	0.0423	0.06	17.32	18.5	1.312	0.056	22.3
Back side	RMC	9262/1852.4	1:1	0.0747	0.07	17.32	18.5	1.312	0.098	22.3
Back side	RMC	9400/1880	1:1	0.0794	0.04	17.31	18.5	1.315	0.104	22.3
Hotspot Test Data at the worst case with SIM2(10mm)										

Back side	RMC	9400/1880	1:1	0.0788	0.05	17.31	18.5	1.315	**0.104**	22.3
Hotspot Test Data at the worst case with Battery 2#(10mm)										
Back side	RMC	9400/1880	1:1	0.0686	0.01	17.31	18.5	1.315	0.090	22.3
Hotspot Test Data at the worst case with Battery 3#(10mm)										
Back side	RMC	9400/1880	1:1	0.0676	0.05	17.31	18.5	1.315	0.089	22.3

Table 20： SAR of WCDMA Band II for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.4 SAR Result Of WCDMA Band IV

Ant1 Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	1312/1712.4	1:1	0.135	-0.09	23.23	24	1.194	0.161	22.3
Left tilted	RMC	1312/1712.4	1:1	0.0541	-0.02	23.23	24	1.194	0.065	22.3
Right cheek	RMC	1312/1712.4	1:1	0.0619	0.01	23.23	24	1.194	0.074	22.3
Right tilted	RMC	1312/1712.4	1:1	0.0602	-0.18	23.23	24	1.194	0.072	22.3
Left cheek	RMC	1412/1732.4	1:1	0.146	0.11	23.14	24	1.219	**0.178**	22.3
Left cheek	RMC	1513/1752.6	1:1	0.135	0.08	23.22	24	1.197	0.162	22.3
Head Test Data at the worst case with SIM2										
Left cheek	RMC	1412/1732.4	1:1	0.14	0.03	23.14	24	1.219	0.171	22.3
Head Test Data at the worst case with Battery 2#										
Left cheek	RMC	1412/1732.4	1:1	0.137	0.03	23.14	24	1.219	0.167	22.3
Head Test Data at the worst case with Battery 3#										
Left cheek	RMC	1412/1732.4	1:1	0.107	0.09	23.14	24	1.219	0.13	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	1312/1712.4	1:1	0.463	0.03	23.23	24	1.194	0.553	22.3
Back side	RMC	1312/1712.4	1:1	0.523	0.07	23.23	24	1.194	0.624	22.3
Back side	RMC	1412/1732.4	1:1	0.539	-0.03	23.14	24	1.219	0.657	22.3
Back side	RMC	1513/1752.6	1:1	0.556	-0.16	23.22	24	1.197	0.665	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	1513/1752.6	1:1	0.553	-0.07	23.22	24	1.197	0.662	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	1513/1752.6	1:1	0.552	0	23.22	24	1.197	0.661	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	1513/1752.6	1:1	0.563	-0.01	23.22	24	1.197	**0.674**	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	1513/1752.6	1:1	0.358	0.05	18.78	19.5	1.180	0.423	22.3
Back side	RMC	1513/1752.6	1:1	0.395	0.04	18.78	19.5	1.180	0.466	22.3
Left side	RMC	1513/1752.6	1:1	0.0464	0.1	18.78	19.5	1.180	0.055	22.3
Right side	RMC	1513/1752.6	1:1	0.046	0.06	18.78	19.5	1.180	0.054	22.3
Bottom side	RMC	1513/1752.6	1:1	0.668	0.06	18.78	19.5	1.180	**0.788**	22.3
Bottom side	RMC	1312/1712.4	1:1	0.618	-0.08	18.7	19.5	1.202	0.743	22.3
Bottom side	RMC	1412/1732.4	1:1	0.658	0.04	18.73	19.5	1.194	0.786	22.3
Hotspot Test Data at the worst case with SIM2										
Bottom side	RMC	1513/1752.6	1:1	0.663	0.03	18.78	19.5	1.180	0.783	22.3
Hotspot Test Data at the worst case with Battery 2#										
Bottom side	RMC	1513/1752.6	1:1	0.664	0.03	18.78	19.5	1.180	0.784	22.3

Hotspot Test Data at the worst case with Battery 3#										
Bottom side	RMC	1513/1752.6	1:1	0.639	0.04	18.78	19.5	1.180	0.754	22.3

Second Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	1513/1752.6	1:1	0.126	0.04	19.25	20	1.189	0.150	22.3
Left tilted	RMC	1513/1752.6	1:1	0.145	0.05	19.25	20	1.189	0.172	22.3
Right cheek	RMC	1513/1752.6	1:1	0.507	0.08	19.25	20	1.189	0.603	22.3
Right tilted	RMC	1513/1752.6	1:1	0.493	0.05	19.25	20	1.189	0.586	22.3
Right cheek	RMC	1312/1712.4	1:1	0.522	0.02	19.18	20	1.208	**0.630**	22.3
Right cheek	RMC	1412/1732.4	1:1	0.513	0.05	19.22	20	1.197	0.614	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	1312/1712.4	1:1	0.519	0.02	19.18	20	1.208	0.627	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	1312/1712.4	1:1	0.485	-0.01	19.18	20	1.208	0.586	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	1312/1712.4	1:1	0.411	-0.11	19.18	20	1.208	0.496	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	1513/1752.6	1:1	0.0849	0.01	23.23	24	1.194	0.101	22.3
Back side	RMC	1513/1752.6	1:1	0.106	0.08	23.23	24	1.194	0.127	22.3
Back side	RMC	1312/1712.4	1:1	0.115	-0.03	23.21	24	1.199	**0.138**	22.3
Back side	RMC	1412/1732.4	1:1	0.111	0	23.17	24	1.211	0.134	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	1312/1712.4	1:1	0.107	0.2	23.21	24	1.199	0.128	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	1312/1712.4	1:1	0.106	0.03	23.21	24	1.199	0.127	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	1312/1712.4	1:1	0.108	0.17	23.21	24	1.199	0.130	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	1513/1752.6	1:1	0.0564	0.02	19.2	20	1.202	0.068	22.3
Back side	RMC	1513/1752.6	1:1	0.0794	0.08	19.2	20	1.202	0.095	22.3
Left side	RMC	1513/1752.6	1:1	0.0738	0.04	19.2	20	1.202	0.089	22.3
Right side	RMC	1513/1752.6	1:1	0.0168	0.03	19.2	20	1.202	0.020	22.3
Top side	RMC	1513/1752.6	1:1	0.106	0.12	19.2	20	1.202	0.127	22.3
Top side	RMC	1312/1712.4	1:1	0.14	0.18	19.09	20	1.233	**0.173**	22.3
Top side	RMC	1412/1732.4	1:1	0.133	0.08	19.15	20	1.216	0.162	22.3
Hotspot Test Data at the worst case with SIM2										
Top side	RMC	1312/1712.4	1:1	0.137	0.06	19.09	20	1.233	0.169	22.3

Hotspot Test Data at the worst case with Battery 2#										
Top side	RMC	1312/1712.4	1:1	0.132	0.19	19.09	20	1.233	0.163	22.3
Hotspot Test Data at the worst case with Battery 3#										
Top side	RMC	1312/1712.4	1:1	0.131	0.18	19.09	20	1.233	0.162	22.3

Table 21： SAR of WCDMA Band IV for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.5 SAR Result Of WCDMA Band V

Main Antenna Test data										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	4132/826.4	1:1	0.106	-0.01	23.11	24.5	1.377	0.146	22.3
Left tilted	RMC	4132/826.4	1:1	0.0897	-0.08	23.11	24.5	1.377	0.124	22.3
Right cheek	RMC	4132/826.4	1:1	0.173	0.03	23.11	24.5	1.377	0.238	22.3
Right tilted	RMC	4132/826.4	1:1	0.099	-0.07	23.11	24.5	1.377	0.136	22.3
Right cheek	RMC	4233/846.6	1:1	0.177	0.04	22.96	24.5	1.426	0.252	22.3
Right cheek	RMC	4182/836.4	1:1	0.195	-0.08	23.06	24.5	1.393	**0.272**	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	4182/836.4	1:1	0.19	0.01	23.06	24.5	1.393	0.265	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	4182/836.4	1:1	0.157	0.12	23.06	24.5	1.393	0.219	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	4182/836.4	1:1	0.152	0.09	23.06	24.5	1.393	0.212	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	4132/826.4	1:1	0.191	-0.16	23.11	24.5	1.377	0.263	22.3
Back side	RMC	4132/826.4	1:1	0.274	0.05	23.11	24.5	1.377	0.377	22.3
Back side	RMC	4182/836.4	1:1	0.31	0	23.06	24.5	1.393	**0.432**	22.3
Back side	RMC	4233/846.6	1:1	0.282	0.06	22.96	24.5	1.426	0.402	22.3
Body worn Test Data at the worst case with SIM2										
Back side	RMC	4182/836.4	1:1	0.3	0.03	23.06	24.5	1.393	0.418	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	4182/836.4	1:1	0.309	0.04	23.06	24.5	1.393	0.430	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	4182/836.4	1:1	0.275	-0.07	23.06	24.5	1.393	0.383	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	4132/826.4	1:1	0.124	0.07	23.11	24.5	1.377	0.171	22.3
Back side	RMC	4132/826.4	1:1	0.298	0.03	23.11	24.5	1.377	0.410	22.3
Left side	RMC	4132/826.4	1:1	0.169	-0.01	23.11	24.5	1.377	0.233	22.3
Right side	RMC	4132/826.4	1:1	0.285	0.02	23.11	24.5	1.377	0.393	22.3
Bottom side	RMC	4132/826.4	1:1	0.0839	0.08	23.11	24.5	1.377	0.116	22.3
Back side	RMC	4182/836.4	1:1	0.358	0.03	23.06	24.5	1.393	**0.499**	22.3
Back side	RMC	4233/846.6	1:1	0.323	-0.08	22.96	24.5	1.426	0.460	22.3
Hotspot Test Data at the worst case with SIM2										
Back side	RMC	4182/836.4	1:1	0.355	0.01	23.06	24.5	1.393	0.495	22.3
Hotspot Test Data at the worst case with Battery 2#										
Back side	RMC	4182/836.4	1:1	0.322	-0.1	23.06	24.5	1.393	0.449	22.3
Hotspot Test Data at the worst case with Battery 3#										
Back side	RMC	4182/836.4	1:1	0.321	-0.12	23.06	24.5	1.393	0.447	22.3

Second Antenna Test data										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	4132/826.4	1:1	0.369	0.07	20.71	22	1.346	0.497	22.3
Left tilted	RMC	4132/826.4	1:1	0.252	-0.03	20.71	22	1.346	0.339	22.3
Right cheek	RMC	4132/826.4	1:1	0.486	0.09	20.71	22	1.346	0.654	22.3
Right tilted	RMC	4132/826.4	1:1	0.356	-0.04	20.71	22	1.346	0.479	22.3
Right cheek	RMC	4182/836.6	1:1	0.489	0.03	20.6	22	1.380	**0.675**	22.3
Right cheek	RMC	4233/846.6	1:1	0.466	-0.06	20.52	22	1.406	0.655	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	4182/836.6	1:1	0.466	0.07	20.6	22	1.380	0.643	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	4182/836.6	1:1	0.394	-0.06	20.6	22	1.380	0.544	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	4182/836.6	1:1	0.357	0.18	20.6	22	1.380	0.493	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	4132/826.4	1:1	0.104	-0.02	23.16	24.5	1.361	0.142	22.3
Back side	RMC	4132/826.4	1:1	0.135	0.04	23.16	24.5	1.361	0.184	22.3
Back side	RMC	4182/836.4	1:1	0.182	0.08	23.09	24.5	1.384	0.252	22.3
Back side	RMC	4233/846.6	1:1	0.224	0.03	23	24.5	1.413	**0.316**	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	4233/846.6	1:1	0.196	0.05	23	24.5	1.413	0.277	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	4233/846.6	1:1	0.155	0.02	23	24.5	1.413	0.219	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	4233/846.6	1:1	0.167	0.12	23	24.5	1.413	0.236	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	4132/826.4	1:1	0.0985	0.14	20.63	22	1.371	0.135	22.3
Back side	RMC	4132/826.4	1:1	0.131	0.04	20.63	22	1.371	0.180	22.3
Left side	RMC	4132/826.4	1:1	0.108	0.08	20.63	22	1.371	0.148	22.3
Right side	RMC	4132/826.4	1:1	0.0403	0.13	20.63	22	1.371	0.055	22.3
Top side	RMC	4132/826.4	1:1	0.056	0.2	20.63	22	1.371	0.077	22.3
Back side	RMC	4182/836.4	1:1	0.14	0.08	20.57	22	1.390	**0.195**	22.3
Back side	RMC	4233/846.6	1:1	0.117	0.01	20.48	22	1.419	0.166	22.3
Hotspot Test Data at the worst case with SIM2										
Back side	RMC	4182/836.4	1:1	0.139	0.08	20.57	22	1.390	0.193	22.3
Hotspot Test Data at the worst case with Battery 2#										
Back side	RMC	4182/836.4	1:1	0.124	-0.05	20.57	22	1.390	0.172	22.3
Hotspot Test Data at the worst case with Battery 3#										
Back side	RMC	4182/836.4	1:1	0.138	0.05	20.57	22	1.390	0.192	22.3

Table 22： SAR of WCDMA Band V for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.6 SAR Result Of LTE Band 2

Main Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB_50 offset)											
Left cheek	20	QPSK	19100/1900	1:1	0.119	0.09	22.55	23	1.109	0.132	22.3
Left tilted	20	QPSK	19100/1900	1:1	0.0771	0.15	22.55	23	1.109	0.086	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.0706	0.09	22.55	23	1.109	0.078	22.3
Right tilted	20	QPSK	19100/1900	1:1	0.0527	0.04	22.55	23	1.109	0.058	22.3
Left cheek	20	QPSK	18700/1860	1:1	0.14	0.01	22.55	23	1.109	**0.155**	22.3
Left cheek	20	QPSK	18900/1880	1:1	0.113	0.34	22.55	23	1.109	0.125	22.3
Head Test data(50%RB_25 offset)											
Left cheek	20	QPSK	19100/1900	1:1	0.0915	-0.04	21.3	22	1.175	0.108	22.3
Left tilted	20	QPSK	19100/1900	1:1	0.0594	-0.06	21.3	22	1.175	0.070	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.0538	-0.03	21.3	22	1.175	0.063	22.3
Right tilted	20	QPSK	19100/1900	1:1	0.0419	-0.02	21.3	22	1.175	0.049	22.3
Head Test Data at the worst case with SIM2											
Left cheek	20	QPSK	18700/1860	1:1	0.128	0.06	22.55	23	1.109	0.142	22.3
Head Test Data at the worst case with Battery 2#											
Left cheek	20	QPSK	18700/1860	1:1	0.121	0.01	22.55	23	1.109	0.134	22.3
Head Test Data at the worst case with Battery 3#											
Left cheek	20	QPSK	18700/1860	1:1	0.114	0.01	22.55	23	1.109	0.126	22.3
Body worn Test data(Separate 15mm 1RB_50 offset)											
Front side	20	QPSK	19100/1900	1:1	0.384	0.19	22.55	23	1.109	0.426	22.3
Back side	20	QPSK	19100/1900	1:1	0.408	0.01	22.55	23	1.109	0.453	22.3
Back side	20	QPSK	18700/1860	1:1	0.521	0.09	22.25	23	1.189	**0.619**	22.3
Back side	20	QPSK	18900/1880	1:1	0.423	0.04	22.05	23	1.245	0.526	22.3
Body worn Test data (Separate 15mm 50%RB_25 offset)											
Front side	20	QPSK	19100/1900	1:1	0.307	-0.08	21.3	22	1.175	0.361	22.3
Back side	20	QPSK	19100/1900	1:1	0.314	-0.07	21.3	22	1.175	0.369	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	18700/1860	1:1	0.318	-0.09	22.25	23	1.189	0.378	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	18700/1860	1:1	0.449	-0.01	22.25	23	1.189	0.534	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	18700/1860	1:1	0.459	0.04	22.25	23	1.189	0.546	22.3
Hotspot Test data(Separate 10mm 1RB_50 offset)											
Front side	20	QPSK	19100/1900	1:1	0.213	0.09	16.63	17	1.089	0.232	22.3

Back side	20	QPSK	19100/1900	1:1	0.234	0.02	16.63	17	1.089	0.255	22.3
Left side	20	QPSK	19100/1900	1:1	0.0528	0.1	16.63	17	1.089	0.057	22.3
Right side	20	QPSK	19100/1900	1:1	0.00904	0.01	16.63	17	1.089	0.010	22.3
Bottom side	20	QPSK	19100/1900	1:1	0.559	-0.12	16.63	17	1.089	0.609	22.3
Bottom side	20	QPSK	18700/1860	1:1	0.567	0.07	16.57	17	1.104	**0.626**	22.3
Bottom side	20	QPSK	18900/1880	1:1	0.37	-0.05	16.37	17	1.156	0.428	22.3
Hotspot Test data (Separate 10mm 50%RB_25 offset)											
Front side	20	QPSK	19100/1900	1:1	0.214	0.02	16.55	17	1.109	0.237	22.3
Back side	20	QPSK	19100/1900	1:1	0.234	0.02	16.55	17	1.109	0.260	22.3
Left side	20	QPSK	19100/1900	1:1	0.0534	0.01	16.55	17	1.109	0.059	22.3
Right side	20	QPSK	19100/1900	1:1	0.00899	0.05	16.55	17	1.109	0.010	22.3
Bottom side	20	QPSK	19100/1900	1:1	0.549	-0.05	16.55	17	1.109	0.609	22.3
Hotspot Test Data at the worst case with SIM2											
Bottom side	20	QPSK	18700/1860	1:1	0.562	0.03	16.57	17	1.104	0.620	22.3
Hotspot Test Data at the worst case with Battery 2#											
Bottom side	20	QPSK	18700/1860	1:1	0.495	-0.01	16.57	17	1.104	0.547	22.3
Hotspot Test Data at the worst case with Battery 3#											
Bottom side	20	QPSK	18700/1860	1:1	0.499	-0.02	16.57	17	1.104	0.551	22.3

Second Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB_50 offset)											
Left cheek	20	QPSK	18700/1860	1:1	0.142	0.04	17.33	18	1.167	0.166	22.3
Left tilted	20	QPSK	18700/1860	1:1	0.157	0.08	17.33	18	1.167	0.183	22.3
Right cheek	20	QPSK	18700/1860	1:1	0.586	0.08	17.33	18	1.167	0.684	22.3
Right tilted	20	QPSK	18700/1860	1:1	0.604	0.09	17.33	18	1.167	**0.705**	22.3
Right tilted	20	QPSK	18900/1880	1:1	0.208	0.16	16.76	18	1.330	0.277	22.3
Right tilted	20	QPSK	19100/1900	1:1	0.408	0.06	17.15	18	1.216	0.496	22.3
Head Test data(50%RB_25 offset)											
Left cheek	20	QPSK	18700/1860	1:1	0.135	-0.18	17.13	18	1.222	0.165	22.3
Left tilted	20	QPSK	18700/1860	1:1	0.149	-0.08	17.13	18	1.222	0.182	22.3
Right cheek	20	QPSK	18700/1860	1:1	0.557	-0.18	17.13	18	1.222	0.681	22.3
Right tilted	20	QPSK	18700/1860	1:1	0.575	0.05	17.13	18	1.222	0.703	22.3
Head Test Data at the worst case with SIM2											
Right tilted	20	QPSK	18700/1860	1:1	0.418	0.05	17.33	18	1.167	0.488	22.3
Head Test Data at the worst case with Battery 2#											
Right tilted	20	QPSK	18700/1860	1:1	0.363	0.05	17.33	18	1.167	0.424	22.3
Head Test Data at the worst case with Battery 3#											

Right tilted	20	QPSK	18700/1860	1:1	0.383	-0.07	17.33	18	1.167	0.447	22.3
Body worn Test data(Separate 15mm 1RB_50 offset)											
Front side	20	QPSK	19100/1900	1:1	0.112	0.19	22.43	23	1.140	**0.128**	22.3
Back side	20	QPSK	19100/1900	1:1	0.0927	0.18	22.43	23	1.140	0.106	22.3
Front side	20	QPSK	18700/1860	1:1	0.0893	0.08	22.43	23	1.140	0.102	22.3
Front side	20	QPSK	18900/1880	1:1	0.0395	-0.13	21.94	23	1.276	0.050	22.3
Body worn Test data (Separate 15mm 50%RB_25 offset)											
Front side	20	QPSK	19100/1900	1:1	0.0639	-0.03	21.53	22	1.114	0.071	22.3
Back side	20	QPSK	19100/1900	1:1	0.0756	-0.08	21.53	22	1.114	0.084	22.3
Body worn Test data at the worst case with SIM2											
Front side	20	QPSK	19100/1900	1:1	0.0783	0.06	22.43	23	1.140	0.089	22.3
Body worn Test data at the worst case with Battery 2#											
Front side	20	QPSK	19100/1900	1:1	0.0572	0.08	22.43	23	1.140	0.065	22.3
Body worn Test data at the worst case with Battery 3#											
Front side	20	QPSK	19100/1900	1:1	0.0654	0.06	22.43	23	1.140	0.075	22.3
Hotspot Test data(Separate 10mm 1RB_50 offset)											
Front side	20	QPSK	18700/1860	1:1	0.0723	0.02	17.66	18	1.081	0.078	22.3
Back side	20	QPSK	18700/1860	1:1	0.0797	0.03	17.66	18	1.081	0.086	22.3
Left side	20	QPSK	18700/1860	1:1	0.103	0.08	17.66	18	1.081	**0.111**	22.3
Right side	20	QPSK	18700/1860	1:1	0.065	0.08	17.66	18	1.081	0.070	22.3
Top side	20	QPSK	18700/1860	1:1	0.0848	0.05	17.66	18	1.081	0.092	22.3
Left side	20	QPSK	18900/1880	1:1	0.0383	0.04	17.13	18	1.222	0.047	22.3
Left side	20	QPSK	19100/1900	1:1	0.0737	0.08	17.53	18	1.114	0.082	22.3
Hotspot Test data (Separate 10mm 50%RB_25 offset)											
Front side	20	QPSK	18700/1860	1:1	0.0682	-0.12	17.56	18	1.107	0.075	22.3
Back side	20	QPSK	18700/1860	1:1	0.0993	0.02	17.56	18	1.107	0.110	22.3
Left side	20	QPSK	18700/1860	1:1	0.0973	0.13	17.56	18	1.107	0.108	22.3
Right side	20	QPSK	18700/1860	1:1	0.0544	-0.08	17.56	18	1.107	0.060	22.3
Top side	20	QPSK	18700/1860	1:1	0.0804	0.04	17.56	18	1.107	0.089	22.3
Hotspot Test Data at the worst case with SIM2											
Left side	20	QPSK	18700/1860	1:1	0.101	0.13	17.66	18	1.081	0.109	22.3
Hotspot Test Data at the worst case with Battery 2#											
Left side	20	QPSK	18700/1860	1:1	0.0755	0.06	17.66	18	1.081	0.082	22.3
Hotspot Test Data at the worst case with Battery 3#											
Left side	20	QPSK	18700/1860	1:1	0.084	0.01	17.66	18	1.081	0.091	22.3

Table 23： SAR of LTE Band 2 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.1 SAR Result Of LTE Band 4

Main Antenna Test data											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB_0 offset)											
Left cheek	20	QPSK	20175/1732.5	1:1	0.127	0.07	22.67	23.5	1.211	0.154	22.3
Left tilted	20	QPSK	20175/1732.5	1:1	0.0685	0.03	22.67	23.5	1.211	0.083	22.3
Right cheek	20	QPSK	20175/1732.5	1:1	0.0729	0.07	22.67	23.5	1.211	0.088	22.3
Right tilted	20	QPSK	20175/1732.5	1:1	0.0626	0.06	22.67	23.5	1.211	0.076	22.3
Left cheek	20	QPSK	20050/1720	1:1	0.0906	0.18	22.07	23.5	1.390	0.126	22.3
Left cheek	20	QPSK	20300/1745	1:1	0.103	0.09	22.44	23.5	1.276	0.131	22.3
Head Test data(50%RB_0 offset)											
Left cheek	20	QPSK	20175/1732.5	1:1	0.106	-0.06	21.59	22.5	1.211	0.128	22.3
Left tilted	20	QPSK	20175/1732.5	1:1	0.0612	-0.02	21.59	22.5	1.233	0.075	22.3
Right cheek	20	QPSK	20175/1732.5	1:1	0.0603	0.09	21.59	22.5	1.233	0.074	22.3
Right tilted	20	QPSK	20175/1732.5	1:1	0.0511	-0.03	21.59	22.5	1.233	0.063	22.3
Head Test Data at the worst case with SIM2											
Left cheek	20	QPSK	20175/1732.5	1:1	0.122	0.01	22.67	23.5	1.211	0.148	22.3
Head Test Data at the worst case with Battery 2#											
Left cheek	20	QPSK	20175/1732.5	1:1	0.141	0.04	22.67	23.5	1.211	**0.171**	22.3
Head Test Data at the worst case with Battery 3#											
Left cheek	20	QPSK	20175/1732.5	1:1	0.127	0.02	22.67	23.5	1.211	0.154	22.3
Body worn Test data(Separate 15mm 1RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.455	0.08	22.67	23.5	1.211	0.551	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.527	0.01	22.67	23.5	1.211	0.638	22.3
Back side	20	QPSK	20300/1745	1:1	0.48	-0.18	22.44	23.5	1.276	0.613	22.3
Back side	20	QPSK	20050/1720	1:1	0.395	-0.03	22.44	23.5	1.276	0.503	22.3
Body worn Test data (Separate 15mm 50%RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.407	0.05	21.59	22.5	1.233	0.502	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.472	0	21.59	22.5	1.233	0.582	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20175/1732.5	1:1	0.526	0.03	22.67	23.5	1.211	0.637	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20175/1732.5	1:1	0.642	0.03	22.67	23.5	1.211	**0.777**	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20175/1732.5	1:1	0.469	0.02	22.67	23.5	1.211	0.568	22.3
Hotspot Test data (Separate 10mm 1RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.305	0.09	17.63	18.5	1.222	0.373	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.364	0.05	17.63	18.5	1.222	0.445	22.3
Left side	20	QPSK	20175/1732.5	1:1	0.0377	-0.06	17.63	18.5	1.222	0.046	22.3
Right side	20	QPSK	20175/1732.5	1:1	0.0434	0.09	17.63	18.5	1.222	0.053	22.3

Bottom side	20	QPSK	20175/1732.5	1:1	0.583	0.05	17.63	18.5	1.222	0.712	22.3
Hotspot Test data (Separate 10mm 50%RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.379	0.08	17.53	18.5	1.250	0.474	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.428	0.06	17.53	18.5	1.250	0.535	22.3
Left side	20	QPSK	20175/1732.5	1:1	0.0457	0.18	17.53	18.5	1.250	0.057	22.3
Right side	20	QPSK	20175/1732.5	1:1	0.05	0.02	17.53	18.5	1.250	0.063	22.3
Bottom side	20	QPSK	20175/1732.5	1:1	0.701	-0.11	17.53	18.5	1.250	**0.876**	22.3
Bottom side	20	QPSK	20050/1720	1:1	0.494	0.02	17.21	18.5	1.346	0.665	22.3
Bottom side	20	QPSK	20300/1745	1:1	0.577	-0.08	17.51	18.5	1.256	0.725	22.3
Hotspot Test data (Separate 10mm 100%RB_0 offset)											
Bottom side	20	QPSK	20175/1732.5	1:1	0.656	-0.05	17.5	18.5	1.259	0.826	22.3
Hotspot Test Data at the worst case with SIM2											
Bottom side	20	QPSK	20175/1732.5	1:1	0.683	-0.11	17.53	18.5	1.250	0.854	22.3
Hotspot Test Data at the worst case with Battery 2#											
Bottom side	20	QPSK	20175/1732.5	1:1	0.655	0.08	17.53	18.5	1.250	0.819	22.3
Hotspot Test Data at the worst case with Battery 3#											
Bottom side	20	QPSK	20175/1732.5	1:1	0.685	0	17.53	18.5	1.250	0.856	22.3

Second Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB_50 offset)											
Left cheek	20	QPSK	20175/1732.5	1:1	0.14	0.07	19.45	20.5	1.274	0.178	22.3
Left tilted	20	QPSK	20175/1732.5	1:1	0.176	0.01	19.45	20.5	1.274	0.224	22.3
Right cheek	20	QPSK	20175/1732.5	1:1	0.566	-0.13	19.45	20.5	1.274	0.721	22.3
Right tilted	20	QPSK	20175/1732.5	1:1	0.613	0.05	19.45	20.5	1.274	**0.781**	22.3
Right tilted	20	QPSK	20050/1720	1:1	0.427	-0.01	19.08	20.5	1.387	0.592	22.3
Right tilted	20	QPSK	20300/1745	1:1	0.366	-0.03	19.25	20.5	1.334	0.488	22.3
Head Test data(50%RB_25 offset)											
Left cheek	20	QPSK	20175/1732.5	1:1	0.131	-0.02	19.37	20.5	1.297	0.170	22.3
Left tilted	20	QPSK	20175/1732.5	1:1	0.166	0.06	19.37	20.5	1.297	0.215	22.3
Right cheek	20	QPSK	20175/1732.5	1:1	0.529	-0.04	19.37	20.5	1.297	0.686	22.3
Right tilted	20	QPSK	20175/1732.5	1:1	0.54	-0.09	19.37	20.5	1.297	0.700	22.3
Head Test Data at the worst case with SIM2											
Right tilted	20	QPSK	20175/1732.5	1:1	0.551	-0.07	19.45	20.5	1.274	0.702	22.3
Head Test Data at the worst case with Battery 2#											
Right tilted	20	QPSK	20175/1732.5	1:1	0.572	-0.06	19.45	20.5	1.274	0.728	22.3
Head Test Data at the worst case with Battery 3#											
Right tilted	20	QPSK	20175/1732.5	1:1	0.541	0.14	19.45	20.5	1.274	0.689	22.3
Body worn Test data(Separate 15mm 1RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.0942	0.05	22.65	23.5	1.216	0.115	22.3

Back side	20	QPSK	20175/1732.5	1:1	0.107	0.03	22.65	23.5	1.216	0.130	22.3
Back side	20	QPSK	20050/1720	1:1	0.0918	0.04	22.36	23.5	1.30	0.119	22.3
Back side	20	QPSK	20300/1745	1:1	0.117	-0.05	22.50	23.5	1.259	**0.147**	22.3
Body worn Test data (Separate 15mm 50%RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.0932	0.01	21.62	22.5	1.225	0.114	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.0964	0.04	21.62	22.5	1.225	0.118	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20300/1745	1:1	0.114	-0.07	22.50	23.5	1.259	0.144	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20300/1745	1:1	0.0836	0.09	22.50	23.5	1.259	0.105	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20300/1745	1:1	0.113	0.07	22.50	23.5	1.259	0.142	22.3
Hotspot Test data(Separate 10mm 1RB_50 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.107	0.03	19.69	20.5	1.205	0.129	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.157	0.01	19.69	20.5	1.205	0.189	22.3
Left side	20	QPSK	20175/1732.5	1:1	0.12	0.03	19.69	20.5	1.205	0.145	22.3
Right side	20	QPSK	20175/1732.5	1:1	0.0257	0.09	19.69	20.5	1.205	0.031	22.3
Top side	20	QPSK	20175/1732.5	1:1	0.201	0.07	19.69	20.5	1.205	**0.242**	22.3
Top side	20	QPSK	20050/1720	1:1	0.136	0.13	19.42	20.5	1.282	0.174	22.3
Top side	20	QPSK	20300/1745	1:1	0.167	0.13	19.59	20.5	1.233	0.206	22.3
Hotspot Test data (Separate 10mm 50%RB_0 offset)											
Front side	20	QPSK	20175/1732.5	1:1	0.104	0.1	19.59	20.5	1.233	0.128	22.3
Back side	20	QPSK	20175/1732.5	1:1	0.154	0.07	19.59	20.5	1.233	0.190	22.3
Left side	20	QPSK	20175/1732.5	1:1	0.117	0.13	19.59	20.5	1.233	0.144	22.3
Right side	20	QPSK	20175/1732.5	1:1	0.0254	0.06	19.59	20.5	1.233	0.031	22.3
Top side	20	QPSK	20175/1732.5	1:1	0.195	0.17	19.59	20.5	1.233	0.240	22.3
Hotspot Test Data at the worst case with SIM2											
Top side	20	QPSK	20175/1732.5	1:1	0.166	-0.03	19.69	20.5	1.205	0.200	22.3
Hotspot Test Data at the worst case with Battery 2#											
Top side	20	QPSK	20175/1732.5	1:1	0.158	0.18	19.69	20.5	1.205	0.190	22.3
Hotspot Test Data at the worst case with Battery 3#											
Top side	20	QPSK	20175/1732.5	1:1	0.194	0.12	19.69	20.5	1.205	0.234	22.3

Table 24： SAR of LTE Band 4 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.2 SAR Result Of LTE Band 5

Ant1 Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB_25 offset)											
Left cheek	10	QPSK	20450/829	1:1	0.0673	0.03	22.77	23.5	1.183	0.080	22.3
Left tilted	10	QPSK	20450/829	1:1	0.0522	0.07	22.77	23.5	1.183	0.062	22.3
Right cheek	10	QPSK	20450/829	1:1	0.145	0.03	22.77	23.5	1.183	0.172	22.3
Right tilted	10	QPSK	20450/829	1:1	0.0519	0.04	22.77	23.5	1.183	0.061	22.3
Right cheek	10	QPSK	20525/836.5	1:1	0.133	0.2	22.72	23.5	1.197	0.159	22.3
Right cheek	10	QPSK	20600/844	1:1	0.15	0.03	22.66	23.5	1.213	**0.182**	22.3
Head Test data(25RB_13 offset)											
Left cheek	10	QPSK	20450/829	1:1	0.0632	0.01	21.81	22.5	1.172	0.074	22.3
Left tilted	10	QPSK	20450/829	1:1	0.0487	0.05	21.81	22.5	1.172	0.057	22.3
Right cheek	10	QPSK	20450/829	1:1	0.0994	0.08	21.81	22.5	1.172	0.117	22.3
Right tilted	10	QPSK	20450/829	1:1	0.0488	0.06	21.81	22.5	1.172	0.057	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	20600/844	1:1	0.145	0.03	22.66	23.5	1.213	0.176	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	20600/844	1:1	0.142	-0.07	22.66	23.5	1.213	0.172	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	20600/844	1:1	0.136	0.07	22.66	23.5	1.213	0.165	22.3
Body worn Test data(Separate 15mm 1RB_25 offset)											
Front side	10	QPSK	20450/829	1:1	0.207	-0.01	22.77	23.5	1.183	0.245	22.3
Back side	10	QPSK	20450/829	1:1	0.289	0.02	22.77	23.5	1.183	0.342	22.3
Back side	10	QPSK	20525/836.5	1:1	0.326	0.09	22.72	23.5	1.197	**0.390**	22.3
Back side	10	QPSK	20600/844	1:1	0.302	0.11	22.66	23.5	1.213	0.366	22.3
Body worn Test data (Separate 15mm 25RB_13 offset)											
Front side	10	QPSK	20450/829	1:1	0.161	-0.1	21.81	22.5	1.172	0.189	22.3
Back side	10	QPSK	20450/829	1:1	0.223	-0.1	21.81	22.5	1.172	0.261	22.3
Body worn Test data at the worst case with SIM2											
Back side	10	QPSK	20525/836.5	1:1	0.325	0	22.72	23.5	1.197	0.389	22.3
Body worn Test data at the worst case with Battery 2#											
Back side	10	QPSK	20525/836.5	1:1	0.262	0.02	22.72	23.5	1.197	0.314	22.3
Body worn Test data at the worst case with Battery 3#											
Back side	10	QPSK	20525/836.5	1:1	0.262	0.03	22.72	23.5	1.197	0.314	22.3
Hotspot Test data(Separate 10mm 1RB_25 offset)											

Front side	10	QPSK	20450/829	1:1	0.11	0.12	22.77	23.5	1.183	0.130	22.3
Back side	10	QPSK	20450/829	1:1	0.141	0.06	22.77	23.5	1.183	0.167	22.3
Left side	10	QPSK	20450/829	1:1	0.109	0.11	22.77	23.5	1.183	0.129	22.3
Right side	10	QPSK	20450/829	1:1	0.043	0.07	22.77	23.5	1.183	0.051	22.3
Bottom side	10	QPSK	20450/829	1:1	0.0206	0.07	22.77	23.5	1.183	0.024	22.3
Back side	10	QPSK	20525/836.5	1:1	0.153	0.11	22.72	23.5	1.197	0.183	22.3
Back side	10	QPSK	20600/844	1:1	0.136	0.05	22.66	23.5	1.213	0.165	22.3
Hotspot Test data (Separate 10mm 25RB_13 offset)											
Front side	10	QPSK	20450/829	1:1	0.105	0.15	21.81	22.5	1.172	0.123	22.3
Back side	10	QPSK	20450/829	1:1	0.133	0.05	21.81	22.5	1.172	0.156	22.3
Left side	10	QPSK	20450/829	1:1	0.103	0.06	21.81	22.5	1.172	0.121	22.3
Right side	10	QPSK	20450/829	1:1	0.0412	0.07	21.81	22.5	1.172	0.048	22.3
Bottom side	10	QPSK	20450/829	1:1	0.0193	0.09	21.81	22.5	1.172	0.023	22.3
Hotspot Test data at the worst case with SIM2											
Back side	10	QPSK	20525/836.5	1:1	0.141	0	22.72	23.5	1.197	0.169	22.3
Hotspot Test data at the worst case with Battery 2#											
Back side	10	QPSK	20525/836.5	1:1	0.292	0.14	22.72	23.5	1.197	**0.349**	22.3
Hotspot Test data at the worst case with Battery 3#											
Back side	10	QPSK	20525/836.5	1:1	0.27	-0.01	22.72	23.5	1.197	0.323	22.3

Second Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB25 offset)											
Left cheek	10	QPSK	20525/836.5	1:1	0.366	0.05	20.75	21.5	1.189	0.435	22.3
Left tilted	10	QPSK	20525/836.5	1:1	0.255	0.03	20.75	21.5	1.189	0.303	22.3
Right cheek	10	QPSK	20525/836.5	1:1	0.409	0.03	20.75	21.5	1.189	0.486	22.3
Right tilted	10	QPSK	20525/836.5	1:1	0.331	0.04	20.75	21.5	1.189	0.393	22.3
Right cheek	10	QPSK	20450/829	1:1	0.357	0.03	20.57	21.5	1.239	0.442	22.3
Right cheek	10	QPSK	20600/844	1:1	0.36	0.03	20.74	21.5	1.191	0.429	22.3
Head Test data(25RB_13 offset)											
Left cheek	10	QPSK	20525/836.5	1:1	0.365	0.04	20.64	21.5	1.219	0.445	22.3
Left tilted	10	QPSK	20525/836.5	1:1	0.24	0.03	20.64	21.5	1.219	0.293	22.3
Right cheek	10	QPSK	20525/836.5	1:1	0.373	0.04	20.64	21.5	1.219	0.455	22.3
Right tilted	10	QPSK	20525/836.5	1:1	0.309	0.05	20.64	21.5	1.219	0.377	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	20525/836.5	1:1	0.373	0.04	20.75	21.5	1.189	0.443	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	20525/836.5	1:1	0.450	0.03	20.75	21.5	1.189	**0.535**	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	20525/836.5	1:1	0.413	0.03	20.75	21.5	1.189	0.491	22.3
Body worn Test data(Separate 15mm 1RB_25 offset)											
Front side	10	QPSK	20525/836.5	1:1	0.15	0.03	22.85	23.5	1.161	0.174	22.3
Back side	10	QPSK	20525/836.5	1:1	0.191	0.02	22.85	23.5	1.161	0.222	22.3
Back side	10	QPSK	20450/829	1:1	0.144	-0.07	22.84	23.5	1.164	0.168	22.3
Back side	10	QPSK	20600/844	1:1	0.241	0.1	22.78	23.5	1.180	**0.284**	22.3
Body worn Test data (Separate 15mm 25RB_13 offset)											
Front side	10	QPSK	20525/836.5	1:1	0.117	-0.05	21.98	22.5	1.127	0.132	22.3
Back side	10	QPSK	20525/836.5	1:1	0.148	-0.06	21.98	22.5	1.127	0.167	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	20600/844	1:1	0.235	0.03	22.78	23.5	1.180	0.277	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	20600/844	1:1	0.175	-0.01	22.78	23.5	1.180	0.207	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	20600/844	1:1	0.172	-0.05	22.78	23.5	1.180	0.203	22.3
Hotspot Test data(Separate 10mm 1RB_25 offset)											
Front side	10	QPSK	20525/836.5	1:1	0.13	0.12	20.79	21.5	1.178	0.153	22.3

Back side	10	QPSK	20525/836.5	1:1	0.14	0.04	20.79	21.5	1.178	0.165	22.3
Left side	10	QPSK	20525/836.5	1:1	0.0953	0.09	20.79	21.5	1.178	0.112	22.3
Right side	10	QPSK	20525/836.5	1:1	0.0594	0.1	20.79	21.5	1.178	0.070	22.3
Top side	10	QPSK	20525/836.5	1:1	0.0544	0.09	20.79	21.5	1.178	0.064	22.3
Hotspot Test data (Separate 10mm 25RB_13 offset)											
Front side	10	QPSK	20525/836.5	1:1	0.127	0.06	20.71	21.5	1.199	0.152	22.3
Back side	10	QPSK	20525/836.5	1:1	0.14	-0.03	20.71	21.5	1.199	**0.168**	22.3
Left side	10	QPSK	20525/836.5	1:1	0.0945	0.06	20.71	21.5	1.199	0.113	22.3
Right side	10	QPSK	20525/836.5	1:1	0.0591	-0.01	20.71	21.5	1.199	0.071	22.3
Top side	10	QPSK	20525/836.5	1:1	0.054	0.01	20.71	21.5	1.199	0.065	22.3
Back side	10	QPSK	20450/829	1:1	0.133	-0.03	20.58	21.5	1.236	0.164	22.3
Back side	10	QPSK	20600/844	1:1	0.12	0.08	20.66	21.5	1.213	0.146	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	10	QPSK	20525/836.5	1:1	0.139	-0.09	20.71	21.5	1.199	0.167	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	10	QPSK	20525/836.5	1:1	0.127	0.04	20.71	21.5	1.199	0.152	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	10	QPSK	20525/836.5	1:1	0.129	0.05	20.71	21.5	1.199	0.155	22.3

Table 25： SAR of LTE Band 5 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.3 SAR Result Of LTE Band 7

Main Antenna Test data											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB_0 offset)											
Left cheek	20	QPSK	21350/2560	1:1	0.0606	0.08	22.58	23	1.102	0.067	22.3
Left tilted	20	QPSK	21350/2560	1:1	0.0125	0.09	22.58	23	1.102	0.014	22.3
Right cheek	20	QPSK	21350/2560	1:1	0.0335	0.08	22.58	23	1.102	0.037	22.3
Right tilted	20	QPSK	21350/2560	1:1	0.031	0.18	22.58	23	1.102	0.034	22.3
Left cheek	20	QPSK	20850/2510	1:1	0.111	0.01	21.88	23	1.294	0.144	22.3
Left cheek	20	QPSK	21100/2535.5	1:1	0.0947	0.08	22.12	23	1.225	0.116	22.3
Head Test data(50%RB_0 offset)											
Left cheek	20	QPSK	21350/2560	1:1	0.0465	0.05	21.5	22	1.122	0.052	22.3
Left tilted	20	QPSK	21350/2560	1:1	0.018	0.03	21.5	22	1.122	0.020	22.3
Right cheek	20	QPSK	21350/2560	1:1	0.0392	-0.13	21.5	22	1.122	0.044	22.3
Right tilted	20	QPSK	21350/2560	1:1	0.0125	0.09	21.5	22	1.122	0.014	22.3
Head Test Data at the worst case with SIM2											
Left cheek	20	QPSK	20850/2510	1:1	0.0909	0.02	21.88	23	1.294	0.118	22.3
Head Test Data at the worst case with Battery 2#											
Left cheek	20	QPSK	20850/2510	1:1	0.0856	0.09	21.88	23	1.294	0.111	22.3
Head Test Data at the worst case with Battery 3#											
Left cheek	20	QPSK	20850/2510	1:1	0.123	0.04	21.88	23	1.294	**0.159**	22.3
Body worn Test data(Separate 15mm 1RB_0 offset)											
Front side	20	QPSK	21350/2560	1:1	0.28	0.01	22.58	23	1.102	0.308	22.3
Back side	20	QPSK	21350/2560	1:1	0.326	0.03	22.58	23	1.102	0.359	22.3
Back side	20	QPSK	20850/2510	1:1	0.356	0.09	21.88	23	1.294	**0.461**	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.304	-0.07	22.12	23	1.225	0.372	22.3
Body worn Test data (Separate 15mm 50%RB_0 offset)											
Front side	20	QPSK	21350/2560	1:1	0.177	-0.04	21.5	22	1.122	0.199	22.3
Back side	20	QPSK	21350/2560	1:1	0.207	0.04	21.5	22	1.122	0.232	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20850/2510	1:1	0.334	-0.08	21.88	23	1.294	0.432	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20850/2510	1:1	0.273	0.02	21.88	23	1.294	0.353	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20850/2510	1:1	0.32	0.05	21.88	23	1.294	0.414	22.3
Hotspot Test data(Separate 10mm 1RB_0 offset) sensor off											
Back side	20	QPSK	21350/2560	1:1	0.251	0	19.04	19.5	1.112	0.279	22.3
Left side	20	QPSK	21350/2560	1:1	0.115	0.06	19.04	19.5	1.112	0.128	22.3
Right side	20	QPSK	21350/2560	1:1	0.0463	0.01	19.04	19.5	1.112	0.051	22.3
Front side	20	QPSK	21350/2560	1:1	0.334	0.02	19.04	19.5	1.112	**0.371**	22.3

Front side	20	QPSK	20850/2510	1:1	0.328	0.02	19.04	19.5	1.112	0.365	22.3
Front side	20	QPSK	21100/2535.5	1:1	0.267	0.19	19.04	19.5	1.112	0.297	22.3
Hotspot Test data(Separate 10mm 1RB_99 offset) sensor on											
Bottom side	20	QPSK	20850/2510	1:1	0.211	0.02	16.84	17.5	1.164	0.246	22.3
Hotspot Test data(Separate 14mm 1RB_0 offset) sensor off											
Bottom side	20	QPSK	21350/2560	1:1	0.295	0.15	19.04	19.5	1.112	0.328	22.3
Hotspot Test data(Separate 10mm 50RB_25 offset) sensor off											
Back side	20	QPSK	21350/2560	1:1	0.187	0	18.74	19.5	1.191	0.223	22.3
Left side	20	QPSK	21350/2560	1:1	0.0832	0.01	18.74	19.5	1.191	0.099	22.3
Right side	20	QPSK	21350/2560	1:1	0.0351	-0.03	18.74	19.5	1.191	0.042	22.3
Front side	20	QPSK	21350/2560	1:1	0.226	-0.06	18.74	19.5	1.191	0.269	22.3
Hotspot Test data(Separate 10mm 50RB_50 offset) sensor on											
Bottom side	20	QPSK	20850/2510	1:1	0.203	-0.07	16.57	17.5	1.239	0.251	22.3
Hotspot Test data(Separate 14mm 50RB_25 offset) sensor off											
Bottom side	20	QPSK	21350/2560	1:1	0.197	-0.01	18.74	19.5	1.191	0.235	22.3
Hotspot Test Data at the worst case with SIM2											
Front side	20	QPSK	21350/2560	1:1	0.271	0.01	19.04	19.5	1.112	0.301	22.3
Hotspot Test Data at the worst case with Battery 2#											
Front side	20	QPSK	21350/2560	1:1	0.235	0.02	19.04	19.5	1.112	0.261	22.3
Hotspot Test Data at the worst case with Battery 3#											
Front side	20	QPSK	21350/2560	1:1	0.317	0.01	19.04	19.5	1.112	0.352	22.3

Second Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB_99 offset)											
Left cheek	20	QPSK	21100/2535.5	1:1	0.118	0.06	16.12	17	1.225	0.145	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.127	0.01	16.12	17	1.225	0.156	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.486	0.07	16.12	17	1.225	0.595	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.489	0.07	16.12	17	1.225	**0.599**	22.3
Right tilted	20	QPSK	20850/2510	1:1	0.395	0.03	16.12	17	1.225	0.484	22.3
Right tilted	20	QPSK	21350/2560	1:1	0.357	-0.02	16.12	17	1.225	0.437	22.3
Head Test data(50%RB_25 offset)											
Left cheek	20	QPSK	21100/2535.5	1:1	0.0902	0.05	16.12	17	1.225	0.110	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.104	0.09	16.12	17	1.225	0.127	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.384	0.06	16.12	17	1.225	0.470	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.393	0.02	16.12	17	1.225	0.481	22.3
Head Test Data at the worst case with SIM2											
Right tilted	20	QPSK	21100/2535.5	1:1	0.476	0.05	16.12	17	1.225	0.583	22.3
Head Test Data at the worst case with Battery 2#											
Right tilted	20	QPSK	21100/2535.5	1:1	0.372	-0.06	16.12	17	1.225	0.456	22.3
Head Test Data at the worst case with Battery 3#											
Right tilted	20	QPSK	21100/2535.5	1:1	0.418	0.02	16.12	17	1.225	0.512	22.3
Body worn Test data(Separate 15mm 1RB_0 offset)											
Front side	20	QPSK	21350/2560	1:1	0.111	0.02	22.62	23	1.091	0.121	22.3
Back side	20	QPSK	21350/2560	1:1	0.17	0.08	22.62	23	1.091	0.186	22.3
Back side	20	QPSK	20850/2510	1:1	0.21	0.08	22.14	23	1.219	**0.256**	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.169	0.12	22.11	23	1.227	0.207	22.3
Body worn Test data (Separate 15mm 50%RB_0 offset)											
Front side	20	QPSK	21350/2560	1:1	0.101	-0.01	21.48	22	1.127	0.114	22.3
Back side	20	QPSK	21350/2560	1:1	0.152	-0.02	21.48	22	1.127	0.171	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20850/2510	1:1	0.194	0.07	22.14	23	1.219	0.236	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20850/2510	1:1	0.183	0.04	22.14	23	1.219	0.223	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20850/2510	1:1	0.174	0.0953	22.14	23	1.219	0.212	22.3
Hotspot Test data (Separate 10mm 1RB_50 offset)											
Front side	20	QPSK	20850/2510	1:1	0.0748	-0.09	16.81	17	1.045	0.078	22.3
Back side	20	QPSK	20850/2510	1:1	0.106	0.02	16.81	17	1.045	**0.111**	22.3
Left side	20	QPSK	20850/2510	1:1	0.0683	0.07	16.81	17	1.045	0.071	22.3

Right side	20	QPSK	20850/2510	1:1	0.01	0.01	16.81	17	1.045	0.010	22.3
Top side	20	QPSK	20850/2510	1:1	0.0361	-0.09	16.81	17	1.045	0.038	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.0798	-0.02	16.32	17	1.169	0.093	22.3
Back side	20	QPSK	21350/2560	1:1	0.0731	-0.05	16.47	17	1.130	0.083	22.3
Hotspot Test data (Separate 10mm 50%RB_0 offset)											
Front side	20	QPSK	20850/2510	1:1	0.0579	-0.05	16.47	17	1.130	0.065	22.3
Back side	20	QPSK	20850/2510	1:1	0.0807	-0.09	16.47	17	1.130	0.091	22.3
Left side	20	QPSK	20850/2510	1:1	0.0732	0.06	16.47	17	1.130	0.083	22.3
Right side	20	QPSK	20850/2510	1:1	0.0112	0.09	16.81	17	1.045	0.012	22.3
Top side	20	QPSK	20850/2510	1:1	0.0384	0.02	16.47	17	1.130	0.043	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	20	QPSK	20850/2510	1:1	0.0873	0.05	16.81	17	1.045	0.091	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20850/2510	1:1	0.0893	0.02	16.81	17	1.045	0.093	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20850/2510	1:1	0.0806	0.06	16.81	17	1.045	0.084	22.3

Table 26： SAR of LTE Band 7 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.4 SAR Result Of LTE Band 12

Main Antenna Test data											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB_25 offset)											
Left cheek	10	QPSK	23130/711	1:1	0.034	0.06	23.25	24	1.189	0.040	22.3
Left tilted	10	QPSK	23130/711	1:1	0.0251	0.06	23.25	24	1.189	0.030	22.3
Right cheek	10	QPSK	23130/711	1:1	0.0383	-0.16	23.25	24	1.189	0.046	22.3
Right tilted	10	QPSK	23130/711	1:1	0.022	0.09	23.25	24	1.189	0.026	22.3
Right cheek	10	QPSK	23060/704	1:1	0.0129	0.05	22.87	24	1.297	0.017	22.3
Right cheek	10	QPSK	23095/707.5	1:1	0.0398	0.09	23.01	24	1.256	**0.050**	22.3
Head Test data(50%RB_13 offset)											
Left cheek	10	QPSK	23130/711	1:1	0.0166	0.08	22.07	23	1.239	0.021	22.3
Left tilted	10	QPSK	23130/711	1:1	0.0144	-0.02	22.07	23	1.239	0.018	22.3
Right cheek	10	QPSK	23130/711	1:1	0.021	0.06	22.07	23	1.239	0.026	22.3
Right tilted	10	QPSK	23130/711	1:1	0.0119	0.05	22.07	23	1.239	0.015	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23095/707.5	1:1	0.0247	0.1	23.01	24	1.256	0.031	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23095/707.5	1:1	0.0256	-0.09	23.01	24	1.256	0.032	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23095/707.5	1:1	0.0264	0.1	23.01	24	1.256	0.033	22.3
Body worn Test data(Separate 15mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.0356	0.17	23.25	24	1.189	0.042	22.3
Back side	10	QPSK	23130/711	1:1	0.0414	0.15	23.25	24	1.189	0.049	22.3
Back side	10	QPSK	23060/704	1:1	0.0877	0.19	22.87	24	1.297	**0.114**	22.3
Back side	10	QPSK	23095/707.5	1:1	0.0577	0.03	23.01	24	1.256	0.072	22.3
Body worn Test data (Separate 15mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.0287	-0.04	22.07	23	1.239	0.036	22.3
Back side	10	QPSK	23130/711	1:1	0.0337	-0.02	22.07	23	1.239	0.042	22.3
Body worn Test data at the worst case with SIM2											
Back side	10	QPSK	23060/704	1:1	0.0874	0.17	22.87	24	1.297	0.113	22.3
Body worn Test data at the worst case with Battery 2#											
Back side	10	QPSK	23060/704	1:1	0.0708	0.1	22.87	24	1.297	0.092	22.3
Body worn Test data at the worst case with Battery 3#											
Back side	10	QPSK	23060/704	1:1	0.0714	0.09	22.87	24	1.297	0.093	22.3
Hotspot Test data(Separate 10mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.046	0.07	23.25	24	1.189	0.055	22.3
Back side	10	QPSK	23130/711	1:1	0.0523	0.05	23.25	24	1.189	0.062	22.3
Left side	10	QPSK	23130/711	1:1	0.0338	0.05	23.25	24	1.189	0.040	22.3
Right side	10	QPSK	23130/711	1:1	0.0476	0.07	23.25	24	1.189	0.057	22.3
Bottom side	10	QPSK	23130/711	1:1	0.0197	0.05	23.25	24	1.189	0.023	22.3
Back side	10	QPSK	23060/704	1:1	0.0958	0.02	22.87	24	1.297	**0.124**	22.3
Back side	10	QPSK	23095/707.5	1:1	0.0629	-0.01	23.01	24	1.256	0.079	22.3

Hotspot Test data (Separate 10mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.0375	-0.06	22.07	23	1.239	0.046	22.3
Back side	10	QPSK	23130/711	1:1	0.0421	-0.09	22.07	23	1.239	0.052	22.3
Left side	10	QPSK	23130/711	1:1	0.0269	-0.09	22.07	23	1.239	0.033	22.3
Right side	10	QPSK	23130/711	1:1	0.0381	-0.09	22.07	23	1.239	0.047	22.3
Bottom side	10	QPSK	23130/711	1:1	0.0162	-0.02	22.07	23	1.239	0.020	22.3
Hotspot Test data at the worst case with SIM2											
Back side	10	QPSK	23060/704	1:1	0.0952	0.03	22.87	24	1.297	0.123	22.3
Hotspot Test data at the worst case with Battery 2#											
Back side	10	QPSK	23060/704	1:1	0.0929	-0.06	22.87	24	1.297	0.121	22.3
Hotspot Test data at the worst case with Battery 3#											
Back side	10	QPSK	23060/704	1:1	0.0937	0.06	22.87	24	1.297	0.122	22.3

Second Antenna Test data											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB25 offset)											
Left cheek	10	QPSK	23095/707.5	1:1	0.307	0.02	21.58	22.5	1.236	0.379	22.3
Left tilted	10	QPSK	23095/707.5	1:1	0.193	0.06	21.58	22.5	1.236	0.239	22.3
Right cheek	10	QPSK	23095/707.5	1:1	0.421	0.19	21.58	22.5	1.236	0.520	22.3
Right tilted	10	QPSK	23095/707.5	1:1	0.317	0.01	21.58	22.5	1.236	0.392	22.3
Head Test data(25%RB_13 offset)											
Left cheek	10	QPSK	23095/707.5	1:1	0.297	-0.09	21.39	22.5	1.291	0.383	22.3
Left tilted	10	QPSK	23095/707.5	1:1	0.189	0.16	21.39	22.5	1.291	0.244	22.3
Right cheek	10	QPSK	23095/707.5	1:1	0.409	0.08	21.39	22.5	1.291	0.528	22.3
Right tilted	10	QPSK	23095/707.5	1:1	0.307	0.06	21.39	22.5	1.291	0.396	22.3
Right cheek	10	QPSK	23060/704	1:1	0.412	0.14	21.66	22.5	1.213	0.500	22.3
Right cheek	10	QPSK	23130/711	1:1	0.515	0.01	21.64	22.5	1.219	**0.628**	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23130/711	1:1	0.42	-0.01	21.64	22.5	1.219	0.512	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23130/711	1:1	0.448	0.05	21.64	22.5	1.219	0.546	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23130/711	1:1	0.47	-0.01	21.64	22.5	1.219	0.573	22.3
Body worn Test data(Separate 15mm 1RB_25 offset)											
Front side	10	QPSK	23095/707.5	1:1	0.123	0.01	23.13	24	1.222	0.150	22.3
Back side	10	QPSK	23095/707.5	1:1	0.163	0.07	23.13	24	1.222	**0.199**	22.3
Back side	10	QPSK	23060/704	1:1	0.154	0.08	23.1	24	1.230	0.189	22.3
Back side	10	QPSK	23130/711	1:1	0.153	0.07	23.12	24	1.225	0.187	22.3
Body worn Test data (Separate 15mm 25RB_13 offset)											
Front side	10	QPSK	23095/707.5	1:1	0.0943	0.05	22.03	23	1.250	0.118	22.3
Back side	10	QPSK	23095/707.5	1:1	0.121	-0.04	22.03	23	1.250	0.151	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	23095/707.5	1:1	0.157	0.09	23.13	24	1.222	0.192	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23095/707.5	1:1	0.157	0.09	23.13	24	1.222	0.192	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23095/707.5	1:1	0.121	0.05	23.13	24	1.222	0.148	22.3
Hotspot Test data(Separate 10mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.125	0.08	21.86	22.5	1.159	0.145	22.3
Back side	10	QPSK	23130/711	1:1	0.161	0.14	21.86	22.5	1.159	0.187	22.3
Left side	10	QPSK	23130/711	1:1	0.251	0.12	21.86	22.5	1.159	0.291	22.3
Right side	10	QPSK	23130/711	1:1	0.191	0.01	21.86	22.5	1.159	0.221	22.3
Top side	10	QPSK	23130/711	1:1	0.0494	0.04	21.86	22.5	1.159	0.057	22.3
Left side	10	QPSK	23060/704	1:1	0.258	-0.01	21.78	22.5	1.180	0.305	22.3
Left side	10	QPSK	23095/707.5	1:1	0.265	0.1	21.74	22.5	1.191	**0.316**	22.3

Hotspot Test data (Separate 10mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.112	0.12	21.6	22.5	1.230	0.138	22.3
Back side	10	QPSK	23130/711	1:1	0.145	0.01	21.6	22.5	1.230	0.178	22.3
Left side	10	QPSK	23130/711	1:1	0.23	-0.04	21.6	22.5	1.230	0.283	22.3
Right side	10	QPSK	23130/711	1:1	0.173	0.09	21.6	22.5	1.230	0.213	22.3
Top side	10	QPSK	23130/711	1:1	0.0442	-0.01	21.6	22.5	1.230	0.054	22.3
Hotspot Test Data at the worst case with SIM2											
Left side	10	QPSK	23095/707.5	1:1	0.263	0.11	21.74	22.5	1.191	0.313	22.3
Hotspot Test Data at the worst case with Battery 2#											
Left side	10	QPSK	23095/707.5	1:1	0.186	0.09	21.74	22.5	1.191	0.222	22.3
Hotspot Test Data at the worst case with Battery 3#											
Left side	10	QPSK	23095/707.5	1:1	0.195	0.07	21.74	22.5	1.191	0.232	22.3

Table 27： SAR of LTE Band 7 for Head and Body.

Note:

3) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

4) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.5 SAR Result Of LTE Band 17

LTE band 17 can be excluded from SAR testing by LTE band 12.

1.LTE band 12 and LTE band 17 use the same RF Components

2.The maximum output power, including tolerance for the LTE band 17 ≤ LTE band 12

3.The channel bandwidth and other operating parameter for LTE band 17 can be fully supported by LTE band 12

8.3.6 SAR Result Of 2.4GHz WIFI

WiFi Test data											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg)1-g	Power drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data											
Left cheek	802.11b	1/2412	99.60%	1.004	0.311	0.02	14.37	14.5	1.030	0.322	22
Left tilted	802.11b	1/2412	99.60%	1.004	0.16	-0.01	14.37	14.5	1.030	0.166	22
Right cheek	802.11b	1/2412	99.60%	1.004	0.101	0.05	14.37	14.5	1.030	0.104	22
Right tilted	802.11b	1/2412	99.60%	1.004	0.0926	0.05	14.37	14.5	1.030	0.096	22
Left cheek	802.11b	6/2437	99.60%	1.004	0.319	-0.05	14.03	14.5	1.114	**0.357**	22
Left cheek	802.11b	11/2462	99.60%	1.004	0.302	-0.19	14.35	14.5	1.035	0.314	22
Head Test Data at the worst case with Battery 2#											
Left cheek	802.11b	6/2437	99.60%	1.004	0.25	0.03	14.03	14.5	1.114	0.280	22
Head Test Data at the worst case with Battery 3#											
Left cheek	802.11b	6/2437	99.60%	1.004	0.295	0.09	14.03	14.5	1.114	0.330	22
Body worn Test data(Separate 15mm)											
Front side	802.11b	11/2462	99.60%	1.004	0.0529	0.1	17.18	18.5	1.355	0.072	22
Back side	802.11b	11/2462	99.60%	1.004	0.0967	0.06	17.18	18.5	1.355	**0.132**	22
Back side	802.11b	1/2412	99.60%	1.004	0.0606	0.01	17.16	18.5	1.361	0.083	22
Back side	802.11b	6/2437	99.60%	1.004	0.0881	0.03	17.17	18.5	1.358	0.120	22
Body worn Test Data at the worst case with Battery 2#											
Back side	802.11b	11/2462	99.60%	1.004	0.0582	0.09	17.18	18.5	1.355	0.079	22
Body worn Test Data at the worst case with Battery 3#											
Back side	802.11b	11/2462	99.60%	1.004	0.058	0.04	17.18	18.5	1.355	0.079	22
Hotspot Test data (Separate 10mm)											
Front side	802.11b	11/2462	99.60%	1.004	0.105	0.09	17.18	18.5	1.355	0.143	22
Back side	802.11b	11/2462	99.60%	1.004	0.194	0.07	17.18	18.5	1.355	0.264	22
Right side	802.11b	11/2462	99.60%	1.004	0.207	-0.03	17.18	18.5	1.355	0.282	22
Top side	802.11b	11/2462	99.60%	1.004	0.0783	0.05	17.18	18.5	1.355	0.107	22
Right side	802.11b	1/2412	99.60%	1.004	0.155	0.06	17.16	18.5	1.361	0.212	22
Right side	802.11b	6/2437	99.60%	1.004	0.213	0.06	17.17	18.5	1.358	**0.290**	22
Hotspot Test Data at the worst case with Battery 2#											
Right side	802.11b	6/2437	99.60%	1.004	0.189	0.04	17.17	18.5	1.358	0.258	22
Hotspot Test Data at the worst case with Battery 3#											
Right side	802.11b	6/2437	99.60%	1.004	0.209	0.06	17.17	18.5	1.358	0.285	22

Table 28： SAR of 2.4GHz WIFI for Head and Body

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

3) Each channel was tested at the lowest data rate.

4) 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, 802.11g/n OFDM SAR Test is not required.

8.3.1 SAR Result Of Bluetooth

Bluetooth Test data											
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg)1-g**	**Power drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data											
Left cheek	DH5	39/2441	100.00%	1	0.094	0.08	10.81	11	1.045	0.098	22
Left tilted	DH5	39/2441	100.00%	1	0.0623	-0.12	10.81	11	1.045	0.065	22
Right cheek	DH5	39/2441	100.00%	1	0.0446	0.09	10.81	11	1.045	0.047	22
Right tilted	DH5	39/2441	100.00%	1	0.0497	0.05	10.81	11	1.045	0.052	22
Left cheek	DH5	0/2402	100.00%	1	0.0901	0.06	10.31	11	1.172	0.106	22
Left cheek	DH5	78/2480	100.00%	1	0.113	-0.15	10.58	11	1.102	**0.124**	22
Head Test Data at the worst case with Battery 2#											
Left cheek	DH5	78/2480	100.00%	1	0.112	-0.02	10.58	11	1.102	0.123	22
Head Test Data at the worst case with Battery 2#											
Left cheek	DH5	78/2480	100.00%	1	0.11	-0.09	10.58	11	1.102	0.121	22
Hotspot Test data (Separate 10mm)											
Front side	DH5	39/2441	100.00%	1	0.0113	0.07	10.81	11	1.045	0.012	22
Back side	DH5	39/2441	100.00%	1	0.0242	-0.09	10.81	11	1.045	0.025	22
Right side	DH5	39/2441	100.00%	1	0.0227	-0.07	10.81	11	1.045	0.024	22
Top side	DH5	39/2441	100.00%	1	0.00954	-0.07	10.81	11	1.045	0.010	22
Back side	DH5	0/2402	100.00%	1	0.0218	-0.05	10.31	11	1.172	**0.026**	22
Back side	DH5	78/2480	100.00%	1	0.0226	-0.06	10.58	11	1.102	0.025	22
Hotspot Test Data at the worst case with Battery 2#											
Back side	DH5	0/2402	100.00%	1	0.02	0.01	10.31	11	1.172	0.023	22
Hotspot Test Data at the worst case with Battery 3#											
Back side	DH5	0/2402	100.00%	1	0.0199	-0.05	10.31	11	1.172	0.023	22

Table 29： SAR of Bluetooth for Head and Body

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.4 Multiple Transmitter Evaluation

8.4.1 Simultaneous SAR SAR test evaluation

Simultaneous Transmission

NO	Configuration	Head	Body-worn	Hotspot
1	GSM Voice(Ant 2) + BT	Yes	Yes	N/A
2	GSM DATA (Ant 2)+ BT	N/A	Yes	Yes
3	GSM Voice(Ant 2) + WiFi	Yes	Yes	N/A
4	GSM DATA(Ant 2) + WiFi	N/A	Yes	Yes
5	UMTS (Ant 2)+ BT	Yes	Yes	Yes
6	UMTS(Ant 2) + WiFi	Yes	Yes	Yes
7	LTE(Ant 2) + BT	Yes	Yes	Yes
8	LTE (Ant 2)+ WiFi	Yes	Yes	Yes
9	GSM Voice(Ant 1) + BT	Yes	Yes	N/A
10	GSM DATA (Ant 1)+ BT	N/A	Yes	Yes
11	GSM Voice(Ant 1) + WiFi	Yes	Yes	N/A
12	GSM DATA(Ant 1) + WiFi	N/A	Yes	Yes
13	UMTS (Ant 1)+ BT	Yes	Yes	Yes
14	UMTS (Ant 1)+ WiFi	Yes	Yes	Yes
15	LTE (Ant 1) +BT	Yes	Yes	Yes
16	LTE (Ant 1) +WiFi	Yes	Yes	Yes

Note :

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

8.4.2 Estimated SAR

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

• (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;

Where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

• 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm.

Estimated SAR Result

Freq. Band	Frequency (GHz)	Test Position	Max. power(dBm)	Max. power(mw)	Test Separation (mm)	Estimated SAR 1g (W/kg)
Bluetooth	2.48	Body-worn	11	12.58	15	0.176

1) Simultaneous Transmission SAR Summation Scenario for head

WWAN Band（Main Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Left Cheek	0.121	0.357	0.124	0.478	0.245	N/A
	Left Tilt	0.105	0.166	0.065	0.271	0.17	N/A
	Right Cheek	0.201	0.104	0.047	0.305	0.248	N/A
	Right Tilt	0.113	0.096	0.052	0.209	0.165	N/A
GSM 1900	Left Cheek	0.115	0.357	0.124	0.472	0.239	N/A
	Left Tilt	0.055	0.166	0.065	0.221	0.12	N/A
	Right Cheek	0.045	0.104	0.047	0.149	0.092	N/A
	Right Tilt	0.036	0.096	0.052	0.132	0.088	N/A
WCDMA B2	Left Cheek	0.229	0.357	0.124	**0.586**	0.353	N/A
	Left Tilt	0.134	0.166	0.065	0.3	0.199	N/A
	Right Cheek	0.077	0.104	0.047	0.181	0.124	N/A
	Right Tilt	0.098	0.096	0.052	0.194	0.15	N/A
WCDMA B4	Left Cheek	0.178	0.357	0.124	0.535	0.302	N/A
	Left Tilt	0.065	0.166	0.065	0.231	0.13	N/A
	Right Cheek	0.074	0.104	0.047	0.178	0.121	N/A
	Right Tilt	0.072	0.096	0.052	0.168	0.124	N/A
WCDMA B5	Left Cheek	0.151	0.357	0.124	0.508	0.275	N/A
	Left Tilt	0.128	0.166	0.065	0.294	0.193	N/A
	Right Cheek	0.272	0.104	0.047	0.376	0.319	N/A
	Right Tilt	0.141	0.096	0.052	0.237	0.193	N/A
LTE B2	Left Cheek	0.142	0.357	0.124	0.499	0.266	N/A
	Left Tilt	0.086	0.166	0.065	0.252	0.151	N/A
	Right Cheek	0.078	0.104	0.047	0.182	0.125	N/A
	Right Tilt	0.058	0.096	0.052	0.154	0.11	N/A
LTE B4	Left Cheek	0.171	0.357	0.124	0.528	0.295	N/A
	Left Tilt	0.083	0.166	0.065	0.249	0.148	N/A
	Right Cheek	0.088	0.104	0.047	0.192	0.135	N/A
	Right Tilt	0.076	0.096	0.052	0.172	0.128	N/A
LTE B5	Left Cheek	0.08	0.357	0.124	0.437	0.204	N/A
	Left Tilt	0.062	0.166	0.065	0.228	0.127	N/A

	Right Cheek	0.182	0.104	0.047	0.286	0.229	N/A
	Right Tilt	0.061	0.096	0.052	0.157	0.113	N/A
LTE B7	Left Cheek	0.159	0.357	0.124	0.516	0.283	N/A
	Left Tilt	0.02	0.166	0.065	0.186	0.085	N/A
	Right Cheek	0.044	0.104	0.047	0.148	0.091	N/A
	Right Tilt	0.034	0.096	0.052	0.13	0.086	N/A
LTE B12	Left Cheek	0.04	0.357	0.124	0.397	0.164	N/A
	Left Tilt	0.03	0.166	0.065	0.196	0.095	N/A
	Right Cheek	0.05	0.104	0.047	0.154	0.097	N/A
	Right Tilt	0.026	0.096	0.052	0.122	0.078	N/A

WWAN Band （Second Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Left Cheek	0.593	0.357	0.124	0.95	0.717	N/A
	Left Tilt	0.371	0.166	0.065	0.537	0.436	N/A
	Right Cheek	0.882	0.104	0.047	**0.986**	0.929	N/A
	Right Tilt	0.591	0.096	0.052	0.687	0.643	N/A
GSM 1900	Left Cheek	0.198	0.357	0.124	0.555	0.322	N/A
	Left Tilt	0.23	0.166	0.065	0.396	0.295	N/A
	Right Cheek	0.632	0.104	0.047	0.736	0.679	N/A
	Right Tilt	0.627	0.096	0.052	0.723	0.679	N/A
WCDMA B2	Left Cheek	0.198	0.357	0.124	0.555	0.322	N/A
	Left Tilt	0.219	0.166	0.065	0.385	0.284	N/A
	Right Cheek	0.517	0.104	0.047	0.621	0.564	N/A
	Right Tilt	0.409	0.096	0.052	0.505	0.461	N/A
WCDMA B4	Left Cheek	0.15	0.357	0.124	0.507	0.274	N/A
	Left Tilt	0.172	0.166	0.065	0.338	0.237	N/A
	Right Cheek	0.63	0.104	0.047	0.734	0.677	N/A
	Right Tilt	0.586	0.096	0.052	0.682	0.638	N/A
WCDMA B5	Left Cheek	0.497	0.357	0.124	0.854	0.621	N/A
	Left Tilt	0.339	0.166	0.065	0.505	0.404	N/A
	Right Cheek	0.675	0.104	0.047	0.779	0.722	N/A
	Right Tilt	0.479	0.096	0.052	0.575	0.531	N/A

LTE B2	Left Cheek	0.166	0.357	0.124	0.523	0.29	N/A
	Left Tilt	0.183	0.166	0.065	0.349	0.248	N/A
	Right Cheek	0.684	0.104	0.047	0.788	0.731	N/A
	Right Tilt	0.705	0.096	0.052	0.801	0.757	N/A
LTE B4	Left Cheek	0.178	0.357	0.124	0.535	0.302	N/A
	Left Tilt	0.224	0.166	0.065	0.39	0.289	N/A
	Right Cheek	0.721	0.104	0.047	0.825	0.768	N/A
	Right Tilt	0.781	0.096	0.052	0.877	0.833	N/A
LTE B5	Left Cheek	0.445	0.357	0.124	0.802	0.569	N/A
	Left Tilt	0.303	0.166	0.065	0.469	0.368	N/A
	Right Cheek	0.535	0.104	0.047	0.639	0.582	N/A
	Right Tilt	0.393	0.096	0.052	0.489	0.445	N/A
LTE B7	Left Cheek	0.145	0.357	0.124	0.502	0.269	N/A
	Left Tilt	0.156	0.166	0.065	0.322	0.221	N/A
	Right Cheek	0.595	0.104	0.047	0.699	0.642	N/A
	Right Tilt	0.599	0.096	0.052	0.695	0.651	N/A
LTE B12	Left Cheek	0.383	0.357	0.124	0.74	0.507	N/A
	Left Tilt	0.244	0.166	0.065	0.41	0.309	N/A
	Right Cheek	0.628	0.104	0.047	0.732	0.675	N/A
	Right Tilt	0.396	0.096	0.052	0.492	0.448	N/A

2) Simultaneous Transmission SAR Summation Scenario for body worn

WWAN Band（Main Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Front(voice)	0.272	0.072	0.176	0.344	0.448	N/A
	Back(voice)	0.413	0.132	0.176	0.545	0.589	N/A
	Front(data)	0.245	0.072	0.176	0.317	0.421	N/A
	Back(data)	0.353	0.132	0.176	0.485	0.529	N/A
GSM 1900	Front(voice)	0.297	0.072	0.176	0.369	0.473	N/A
	Back(voice)	0.332	0.132	0.176	0.464	0.508	N/A
	Front(data)	0.340	0.072	0.176	0.412	0.516	N/A
	Back(data)	0.402	0.132	0.176	0.534	0.578	N/A
WCDMA B2	Front	0.647	0.072	0.176	0.719	0.823	N/A
	Back	0.824	0.132	0.176	0.956	**1.000**	N/A
WCDMA B4	Front	0.553	0.072	0.176	0.625	0.729	N/A
	Back	0.674	0.132	0.176	0.806	0.850	N/A
WCDMA B5	Front	0.263	0.072	0.176	0.335	0.439	N/A
	Back	0.432	0.132	0.176	0.564	0.608	N/A
LTE B2	Front	0.426	0.072	0.176	0.498	0.602	N/A
	Back	0.619	0.132	0.176	0.751	0.795	N/A
LTE B4	Front	0.551	0.072	0.176	0.623	0.727	N/A
	Back	0.777	0.132	0.176	0.909	0.953	N/A
LTE B5	Front	0.245	0.072	0.176	0.317	0.421	N/A
	Back	0.390	0.132	0.176	0.522	0.566	N/A
LTE B7	Front	0.308	0.072	0.176	0.380	0.484	N/A
	Back	0.461	0.132	0.176	0.593	0.637	N/A
LTE B12	Front	0.042	0.072	0.176	0.114	0.218	N/A
	Back	0.114	0.132	0.176	0.246	0.290	N/A

WWAN Band（Second Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Front(voice)	0.186	0.072	0.176	0.258	0.342	N/A
	Back(voice)	0.298	0.132	0.176	0.430	0.442	N/A
	Front(data)	0.175	0.072	0.176	0.247	0.332	N/A
	Back(data)	0.281	0.132	0.176	0.413	0.427	N/A
GSM 1900	Front(voice)	0.046	0.072	0.176	0.258	0.222	N/A
	Back(voice)	0.070	0.132	0.176	0.202	0.246	N/A
	Front(data)	0.047	0.072	0.176	0.119	0.223	N/A
	Back(data)	0.084	0.132	0.176	0.216	0.260	N/A
WCDMA B2	Front	0.108	0.072	0.176	0.180	0.284	N/A
	Back	0.154	0.132	0.176	0.286	0.330	N/A
WCDMA B4	Front	0.101	0.072	0.176	0.173	0.277	N/A
	Back	0.138	0.132	0.176	0.270	0.314	N/A
WCDMA B5	Front	0.142	0.072	0.176	0.214	0.318	N/A
	Back	0.316	0.132	0.176	0.448	**0.492**	N/A
LTE B2	Front	0.128	0.072	0.176	0.200	0.304	N/A
	Back	0.106	0.132	0.176	0.238	0.282	N/A
LTE B4	Front	0.115	0.072	0.176	0.187	0.291	N/A
	Back	0.147	0.132	0.176	0.279	0.323	N/A
LTE B5	Front	0.174	0.072	0.176	0.246	0.350	N/A
	Back	0.284	0.132	0.176	0.416	0.460	N/A
LTE B7	Front	0.121	0.072	0.176	0.193	0.297	N/A
	Back	0.256	0.132	0.176	0.388	0.432	N/A
LTE B12	Front	0.150	0.072	0.176	0.222	0.326	N/A
	Back	0.199	0.132	0.176	0.331	0.375	N/A

3) Simultaneous Transmission SAR Summation Scenario for hotspot

WWAN Band（Main Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Front	0.242	0.143	0.012	0.385	0.254	N/A
	Back	0.412	0.264	0.026	0.676	0.409	N/A
	Left	0.168	0.000	0	0.168	0.168	N/A
	Right	0.226	0.290	0.024	0.516	0.250	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.187	0.000	0	0.187	0.187	N/A
GSM 1900	Front	0.347	0.143	0.012	0.490	0.359	N/A
	Back	0.388	0.264	0.026	0.652	0.414	N/A
	Left	0.08	0.000	0	0.080	0.080	N/A
	Right	0.023	0.290	0.024	0.313	0.047	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.685	0.000	0	0.685	0.685	N/A
WCDMA B2	Front	0.393	0.143	0.012	0.536	0.405	N/A
	Back	0.417	0.264	0.026	0.681	0.443	N/A
	Left	0.106	0.000	0	0.106	0.106	N/A
	Right	0.021	0.290	0.024	0.311	0.045	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.797	0.000	0	0.797	0.797	N/A
WCDMA B4	Front	0.423	0.143	0.012	0.566	0.435	N/A
	Back	0.466	0.264	0.026	0.730	0.492	N/A
	Left	0.055	0.000	0	0.055	0.055	N/A
	Right	0.054	0.290	0.024	0.344	0.078	N/A
	Top	0.000	0.107	0.01	0.107	0.010	N/A
	Bottom	0.788	0.000	0	0.788	0.788	N/A
WCDMA B5	Front	0.171	0.143	0.012	0.314	0.183	N/A
	Back	0.499	0.264	0.026	0.763	0.525	N/A
	Left	0.233	0.000	0	0.233	0.233	N/A
	Right	0.393	0.290	0.024	0.683	0.417	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.116	0.000	0	0.116	0.116	N/A
LTE B2	Front	0.237	0.143	0.012	0.380	0.249	N/A
	Back	0.26	0.264	0.026	0.524	0.286	N/A
	Left	0.059	0.000	0	0.059	0.059	N/A
	Right	0.01	0.290	0.024	0.300	0.034	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.626	0.000	0	0.626	0.626	N/A
LTE B4	Front	0.474	0.143	0.012	0.617	0.486	N/A
	Back	0.535	0.264	0.026	0.799	0.561	N/A
	Left	0.057	0.000	0	0.057	0.057	N/A
	Right	0.063	0.290	0.024	0.353	0.087	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.876	0.000	0	**0.876**	0.876	N/A

LTE B5	Front	0.13	0.143	0.012	0.273	0.142	N/A
	Back	0.349	0.264	0.026	0.613	0.375	N/A
	Left	0.129	0.000	0	0.129	0.129	N/A
	Right	0.051	0.290	0.024	0.341	0.075	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.024	0.000	0	0.024	0.024	N/A
LTE B7	Front	0.371	0.143	0.012	0.514	0.383	N/A
	Back	0.279	0.264	0.026	0.543	0.305	N/A
	Left	0.128	0.000	0	0.128	0.128	N/A
	Right	0.051	0.290	0.024	0.341	0.075	N/A
	Top	0.000	0.107	0.01	0.107	0.010	N/A
	Bottom	0.328	0.000	0	0.328	0.328	N/A
LTE B12	Front	0.055	0.143	0.012	0.198	0.067	N/A
	Back	0.124	0.264	0.026	0.388	0.150	N/A
	Left	0.04	0.000	0	0.040	0.040	N/A
	Right	0.057	0.290	0.024	0.347	0.081	N/A
	Top	0	0.107	0.01	0.107	0.010	N/A
	Bottom	0.023	0.000	0	0.023	0.023	N/A

WWAN Band（Second Antenna）	Exposure position	① MAX.WWANSAR(W/kg)	② MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	∑1-g SAR ①+②	∑1-g SAR ①+③	Case NO.
GSM 850	Front	0.163	0.143	0.012	0.306	0.175	N/A
	Back	0.217	0.264	0.026	0.481	0.243	N/A
	Left	0.328	0.000	0	0.328	0.328	N/A
	Right	0.143	0.290	0.024	0.433	0.167	N/A
	Top	0.096	0.107	0.01	0.203	0.106	N/A
	Bottom	0	0.000	0	0.000	0.000	N/A
GSM 1900	Front	0.087	0.143	0.012	0.230	0.099	N/A
	Back	0.134	0.264	0.026	0.398	0.160	N/A
	Left	0.130	0.000	0	0.130	0.130	N/A
	Right	0.000	0.290	0.024	0.290	0.024	N/A
	Top	0.120	0.107	0.01	0.227	0.130	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
WCDMA B2	Front	0.073	0.143	0.012	0.216	0.085	N/A
	Back	0.104	0.264	0.026	0.368	0.130	N/A
	Left	0.076	0.000	0	0.076	0.076	N/A
	Right	0.023	0.290	0.024	0.313	0.047	N/A
	Top	0.056	0.107	0.01	0.163	0.066	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
WCDMA B4	Front	0.068	0.143	0.012	0.211	0.080	N/A
	Back	0.095	0.264	0.026	0.359	0.121	N/A
	Left	0.089	0.000	0	0.089	0.089	N/A
	Right	0.020	0.290	0.024	0.310	0.044	N/A
	Top	0.173	0.107	0.01	0.280	0.183	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A

WCDMA B5	Front	0.135	0.143	0.012	0.278	0.147	N/A
	Back	0.195	0.264	0.026	0.459	0.221	N/A
	Left	0.148	0.000	0	0.148	0.148	N/A
	Right	0.055	0.290	0.024	0.345	0.079	N/A
	Top	0.077	0.107	0.01	0.184	0.087	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
LTE B2	Front	0.078	0.143	0.012	0.221	0.090	N/A
	Back	0.110	0.264	0.026	0.374	0.136	N/A
	Left	0.111	0.000	0	0.111	0.111	N/A
	Right	0.000	0.290	0.024	0.290	0.024	N/A
	Top	0.092	0.107	0.01	0.199	0.102	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
LTE B4	Front	0.129	0.143	0.012	0.272	0.141	N/A
	Back	0.190	0.264	0.026	0.454	0.216	N/A
	Left	0.145	0.000	0	0.145	0.145	N/A
	Right	0.031	0.290	0.024	0.321	0.055	N/A
	Top	0.242	0.107	0.01	0.349	0.252	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
LTE B5	Front	0.153	0.143	0.012	0.296	0.165	N/A
	Back	0.168	0.264	0.026	0.432	0.194	N/A
	Left	0.113	0.000	0	0.113	0.113	N/A
	Right	0.071	0.290	0.024	0.361	0.095	N/A
	Top	0.065	0.107	0.01	0.172	0.075	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
LTE B7	Front	0.078	0.143	0.012	0.221	0.090	N/A
	Back	0.111	0.264	0.026	0.375	0.137	N/A
	Left	0.083	0.000	0	0.083	0.083	N/A
	Right	0.000	0.290	0.024	0.290	0.024	N/A
	Top	0.043	0.107	0.01	0.150	0.053	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A
LTE B12	Front	0.145	0.143	0.012	0.288	0.157	N/A
	Back	0.187	0.264	0.026	0.451	0.213	N/A
	Left	0.316	0.000	0	0.316	0.316	N/A
	Right	0.221	0.290	0.024	**0.511**	0.245	N/A
	Top	0.057	0.107	0.01	0.164	0.067	N/A
	Bottom	0.000	0.000	0	0.000	0.000	N/A

9 Equipment list

Test Platform	SPEAG DASY5 Professional
Location	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Hardware Reference

Equipment		Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Robot	Staubli	RX90L	F03/5V32A1/ A01	NCR	NCR
☒	ELI	SPEAG	ELI V5.0	1239	NCR	NCR
☒	Twin Phantom	SPEAG	SAM 1	1824	NCR	NCR
☒	DAE	SPEAG	DAE4	1267	2017-11-28	2018-11-27
☒	E-Field Probe	SPEAG	EX3DV4	3923	2017-08-24	2018-08-23
☒	Validation Kits	SPEAG	D750V3	1160	2016-06-22	2019-06-21
☒	Validation Kits	SPEAG	D835V2	4d105	2016-12-08	2019-12-07
☒	Validation Kits	SPEAG	D1750V2	1149	2016-06-23	2019-06-22
☒	Validation Kits	SPEAG	D1900V2	5d028	2016-12-07	2019-12-06
☒	Validation Kits	SPEAG	D2450V2	733	2016-12-07	2019-12-06
☒	Validation Kits	SPEAG	D2600V2	1125	2016-06-22	2019-06-21
☒	Agilent Network Analyzer	Agilent	E5071C	MY46523590	2017-03-06	2018-03-05
☒	Dielectric Probe Kit	Agilent	85070E	US01440210	NCR	NCR
☒	Universal Radio Communication Tester	R&S	CMU200	123090	2017-06-21	2018-06-20
☒	Universal Radio Communication Tester	R&S	CMW500	152271	2017-03-06	2018-03-05
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	Agilent	N5171B	MY53050736	2017-03-06	2018-03-05
☒	Preamplifier	Mini-Circuits	ZHL-42W	15542	NCR	NCR
☒	Power Meter	Agilent	E4416A	GB41292095	2017-03-06	2018-03-05
☒	Power Sensor	Agilent	8481H	MY41091234	2017-03-05	2018-03-04
☒	Power Sensor	R&S	NRP-Z92	100025	2017-03-06	2018-03-05
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	50 Ω coaxial load	Mini-Circuits	KARN-50+	00850	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	MingGao	T809	NA	2017-03-08	2018-03-07

☒	Humidity and Temperature Indicator	KIMTOKA	KIMTOKA	NA	2017-03-08	2018-03-07

10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D

Appendix A: Detailed System Validation Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

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