FCC SAR TEST REPORT

Report No:	ES/2017/A0010
Applicant:	Huawei Technologies Co., Ltd.
Manufacturer:	Huawei Technologies Co., Ltd.
Factory:	Huawei Technologies Co., Ltd.
Product Name:	Smart Phone
Model No.(EUT):	RNE-L23, RNE-L03
Trade Mark:	HUAWEI
FCC ID:	QISRNE-LX3
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2017-09-26
Date of Test:	2017-09-27 to 2017-10-18
Date of Issue:	2017-10-30
Test conclusion:	**PASS ***

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

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. 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 Taiwan Electronic & Communication Laboratory or testing done by SGS Taiwan Electronic & Communication Laboratory in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronic & Communication Laboratory in writing.

Signed on behalf of SGS

Sr. Engineer

Matt Kuo

Matt Kuo

Date: Oct. 30, 2017

Supervisor

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John Yeh

Date: Oct. 30, 2017

REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2017-10-18		Original

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Limbs
GSM850	1.10	0.42	0.60	N/A
GSM1900	1.09	0.33	0.76	N/A
WCDMA Band II	1.10	0.71	1.07	2.81
WCDMA Band IV	0.94	0.32	0.78	N/A
WCDMA Band V	1.06	0.53	0.37	N/A
LTE Band 2	1.10	0.45	0.84	N/A
LTE Band 4	1.01	0.37	0.79	N/A
LTE Band 5	1.09	0.47	0.59	N/A
LTE Band 7	1.01	0.37	1.09	N/A
LTE Band 12	1.10	0.40	0.66	N/A
LTE Band 17	1.10	0.46	0.71	N/A
WI-FI (2.4GHz)	0.43	0.20	<0.10	N/A
Bluetooth	0.30	N/A	N/A	N/A
SAR Limited(W/kg)	1.6			4
Maximum Simultaneous Transmission SAR (W/kg)				
Scenario	Head	Body-worn	Hotspot	Limbs
Sum SAR	1.25	0.99	1.18	2.81
SPLSR	N/A	N/A	N/A	N/A
SPLSR Limited	0.04			0.1

CONTENTS

1 GENERAL INFORMATION 7

1.1 DETAILS OF CLIENT 7
1.2 TEST LOCATION 7
1.3 GENERAL DESCRIPTION OF EUT 8
1.3.1 DUT Antenna Locations 11
1.3.2 Dynamic antenna switching specification 12
1.3.3 Dynamic antenna tuning Test Configurations 13
1.3.4 Power reduction specification 14
1.3.5 Downlink LTE CA additional specification 15
1.4 TEST SPECIFICATION 19
1.5 RF EXPOSURE LIMITS 20

2 LABORATORY ENVIRONMENT 21

3 SAR MEASUREMENTS SYSTEM CONFIGURATION 22

3.1 THE SAR MEASUREMENT SYSTEM 22
3.2 ISOTROPIC E-FIELD PROBE EX3DV4 23
3.3 DATA ACQUISITION ELECTRONICS (DAE) 24
3.4 SAM TWIN PHANTOM 24
3.5 ELI PHANTOM 25
3.6 DEVICE HOLDER FOR TRANSMITTERS 26
3.7 MEASUREMENT PROCEDURE 27
3.7.1 Scanning procedure 27
3.7.2 Data Storage 29
3.7.3 Data Evaluation by SEMCAD 29

4 SAR MEASUREMENT VARIABILITY AND UNCERTAINTY 31

4.1 SAR MEASUREMENT VARIABILITY 31
4.2 SAR MEASUREMENT UNCERTAINTY 32

5 DESCRIPTION OF TEST POSITION 33

5.1 HEAD EXPOSURE CONDITION 33
5.1.1 SAM Phantom Shape 33
5.1.2 EUT constructions 34

5.1.3 Definition of the "cheek" position 35
5.1.4 Definition of the "tilted" position 36
5.2 BODY EXPOSURE CONDITION 37
5.2.1 Body-worn accessory exposure conditions 37
5.2.2 Wireless Router exposure conditions 38
5.3 EXTREMITY EXPOSURE CONDITIONS 38
5.4 PROXIMITY SENSOR TRIGGERING TEST 39
6 SAR SYSTEM VERIFICATION PROCEDURE 46
6.1 TISSUE SIMULATE LIQUID 46
6.1.1 Recipes for Tissue Simulate Liquid 46
6.1.2 Measurement for Tissue Simulate Liquid 47
6.2 SAR SYSTEM CHECK 48
6.2.1 Justification for Extended SAR Dipole Calibrations 49
6.2.2 Summary System Check Result(s) 50
6.2.3 Detailed System Check Results 51
7 TEST CONFIGURATION 52
7.1 3G SAR TEST REDUCTION PROCEDURE 52
7.2 OPERATION CONFIGURATIONS 52
7.2.1 GSM Test Configuration 52
7.2.2 WCDMA Test Configuration 53
7.2.3 WiFi Test Configuration 59
7.2.4 LTE Test Configuration 63
8 TEST RESULT 64
8.1 MEASUREMENT OF RF CONDUCTED POWER 64
8.1.1 Conducted Power of Ant 1(Main Antenna) 64
8.1.2 Conducted Power of Ant 2(Second Antenna) 92
8.1.1 Conducted Power of Downlink LTE CA 139
8.1.2 Conducted Power of WIFI and BT 142
8.2 STAND-ALONE SAR TEST EVALUATION 144
8.3 MEASUREMENT OF SAR DATA 145
8.3.1 SAR Result Of GSM850 145
8.3.2 SAR Result Of GSM1900 148

8.3.3 SAR Result Of WCDMA Band II 152
8.3.4 SAR Result Of WCDMA Band IV 157
8.3.5 SAR Result Of WCDMA Band V 159
8.3.6 SAR Result Of LTE Band 2 161
8.3.1 SAR Result Of LTE Band 4 165
8.3.2 SAR Result Of LTE Band 5 168
8.3.3 SAR Result Of LTE Band 7 171
8.3.4 SAR Result Of LTE Band 12 174
8.3.5 SAR Result Of LTE Band 17 177
8.3.6 SAR Result Of 2.4GHz WIFI 180
8.3.1 SAR Result Of Bluetooth 181
8.4 MULTIPLE TRANSMITTER EVALUATION 182
8.4.1 Simultaneous SAR SAR test evaluation 182
8.4.2 Estimated SAR 183
9 EQUIPMENT LIST 195
10 CALIBRATION CERTIFICATE 196
11 PHOTOGRAPHS 196
APPENDIX A: DETAILED SYSTEM VALIDATION RESULTS 197
APPENDIX B: DETAILED TEST RESULTS 197
APPENDIX C: CALIBRATION CERTIFICATE 197
APPENDIX D: PHOTOGRAPHS 197

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

SGS Taiwan Ltd. Electronics & Communication Laboratory	
No.134, Wu Kung Road, New Taipei Industrial Park	
Wuku District, New Taipei City, Taiwan	
Tel	+886-2-2299-3279
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1.3 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	Smart Phone		
Model No.(EUT):	RNE-L23, RNE-L03		
FCC ID:	QISRNE-LX3		
Trade Mark:	HUAWEI		
Product Phase:	production unit		
SN:	M4VDU17828000109 / M4VDU17828000006 / M4VDU17828000102 / M4VDU17828000117 / M4VDU17828000054 / M4VDU17828000066		
Hardware Version:	HL1RNEL23M		
Software Version:	RNE-L23C900B124		
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 Category	6	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: HB356687ECW
	Rated capacity :3240mAh
	Battery Type: Rechargeable Li-ion Battery
	Manufacturer: Desay Battery Co., Ltd.
Battery Information2#:	Model: HB356687ECW
	Rated capacity :3240mAh
	Battery Type: Rechargeable Li-ion Battery
	Manufacturer: SCUD (FUJIAN) Electronics Co., Ltd
Battery Information3#:	Model: HB356687ECW
	Rated capacity :3240mAh
	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: Goer Tek Inc
Headset Information3#:	Model: EPAB542-2WH03-DH
	Manufacturer: FOXCONN

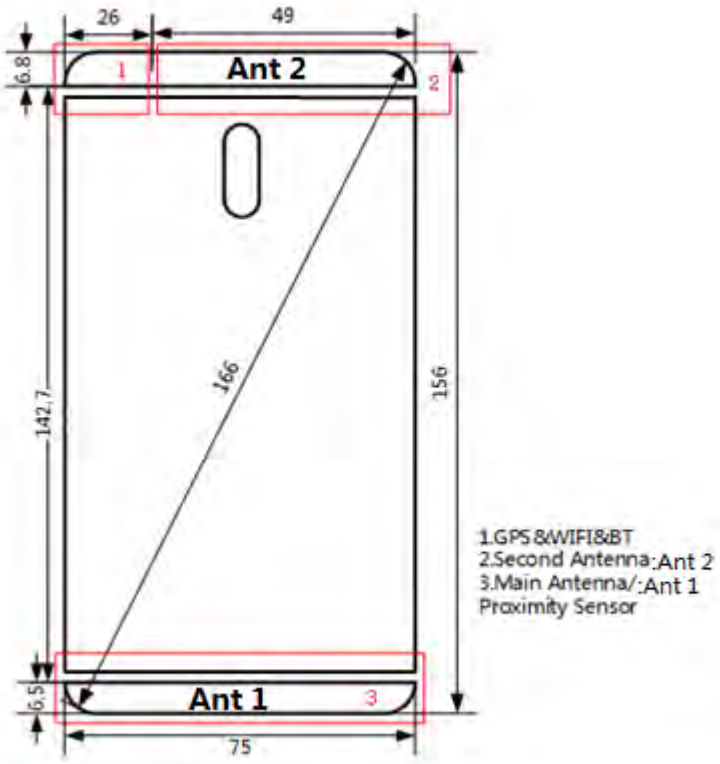
Remark:

The mobile phone RNE-L23 and RNE-L03 are LTE/UMTS/GSM mobile phone with Bluetooth. The differences between RNE-L23 and RNE-L03 are showed in the following table. RNE-L03 delete one SIM by software. Other parts of the mobile phone are the same, including the appearance, the antenna, Chipset, Bluetooth mode, Wifi mode, Adapter, Battery, and so on.

	RNE-L23	RNE-L03
GSM four bands	B2/B3/B5/B8	B2/B3/B5/B8
WCDMA bands	B1/B2/B4/B5/B8	B1/B2/B4/B5/B8
LTE bands	B2/B4/B5/B7/B12/B17/B28	B2/B4/B5/B7/B12/B17/B28
FCC bands	GSM850/1900 W850/W1700/W1900 LTE B2/B4/B5/B7/B12/B17	GSM850/1900 W850/W1700/W1900 LTE B2/B4/B5/B7/B12/B17
SIM card	Two	One
External camera	the same	the same
internal camera	the same	the same
FLASH	the same	the same
Mainboard	the same	the same
PCB layout	the same	the same
Appearance	the same	the same
Bluetooth mode	the same	the same
WLAN mode	the same	the same

BT/ WLAN antenna	the same	the same
GSM/WCDMA/LTE antenna	the same	the same
Adapter	the same	the same
Battery	the same	the same
Chipset	the same	the same
Memory	the same	the same
RF Parameter	The same RF Parameter in the same band	The same RF Parameter in the same band
Dimension	the same	the same
Main Frequency NV	The same NV in the same band	The same NV in the same band

1.3.1 DUT Antenna Locations



Back View

The test device is a mobile phone. The display diagonal dimension is 15.2 cm and the overall diagonal dimension of this device is 16.6 cm.

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 1(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.

1.3.2 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.

1.3.3 Dynamic antenna tuning Test Configurations

The device also supports the dynamic antenna tuning function to optimize transmission efficiency for 1710MHz~2170MHz, 2500MHz~2700MHz frequency operations, especially in any hand usage scenario.

The dynamic antenna tuning function is only applicable for some frequency bands of the 2G/3G/4G main Tx antenna: GSM1900, WCDMA II/IV, LTE Band 2/4/7; which is located in the bottom part of the device. The 2G/3G/4G main antenna has two fixed states for these tuning bands: The two states (**state 1: Through condition** and **state 2: MAS condition**) shares the same antenna, RF path, test channel and conductive power. The software will choose better RSSI as the working state of the main TX antenna based on the RSSI comparison and switch algorithm.

For dynamic antenna tuning SAR test of each model device, all the tuning states will be considered for SAR compliance:

a) Firstly, some AT commands are used to fix the tuning state at state1 or state 2, so that only one antenna tuning state is chosen at a time for SAR test. The antenna is set to the MAX transmit output power level.

b) Secondly, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, we plan to perform one single point zoom scan SAR measurement between state1 and state 2 for each antenna tuning band and applicable RF exposure condition to identify the higher SAR tuning state that need the full set of normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.

c) Thirdly, full normally required SAR measurements are performed for the higher SAR tuning state. Moreover, the SAR worst case check will also be tested for the other tuning state in each antenna tuning band and applicable RF exposure condition to ensure the SAR compliance.

Note: For this device, the antenna tuning and operating parameters are implemented using a fixed table look-up mechanism that is fully contained within the approved transmitter; therefore, antenna tuning is static and remains unchanged for the same device operating configurations. Per KDB 388624 D02 v16r02 note, a PAG is not required.

1.3.4 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 simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.

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 Accelerometer & Gyroscope and audio receiver detection. The audio receiver detection is used to determine head or body scenario. The Accelerometer & Gyroscope sensor is used to determine proximity to Left head or Right head 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)			
	Antenna 1		Antenna 2	
	Hotspot actived	Sensor on	"held to the ear" REC ON	Hotspot actived
GSM 850	0	0	1.5	1.5
GSM 1900	0	0	1.5	1.5
UMTS Band II	1.5	1.5	4.5	4.5
UMTS Band IV	0	1.5	4.5	4.5
UMTS Band V	0	0	3	3
LTE Band 2	1.5	1.5	4.3	4.3
LTE Band 4	0	1	3.4	3.4
LTE Band 5	0	0	2.5	2.5
LTE Band 7	0	0	5	5
LTE Band 12	0	0	1	1
LTE Band 17	0	0	1.2	1.2

1.3.5 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. The conducted power measurement results of downlink LTE CA are provided in Section 7 of this report per 3GPP TS 36.521-1. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

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			
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_4A-28A	4			Yes	Yes	Yes	Yes	40	0
	28			Yes	Yes	Yes	Yes		
CA_4A-7A	4			Yes	Yes			30	0
	7			Yes	Yes	Yes	Yes		
CA_5A-7A	5	Yes	Yes	Yes	Yes			30	0
	7				Yes	Yes	Yes		
CA_7A-28A	7			Yes	Yes	Yes	Yes	35	0
	28			Yes	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.									

1.4 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
IEEE Std C95.1 – 1991	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

1.5 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

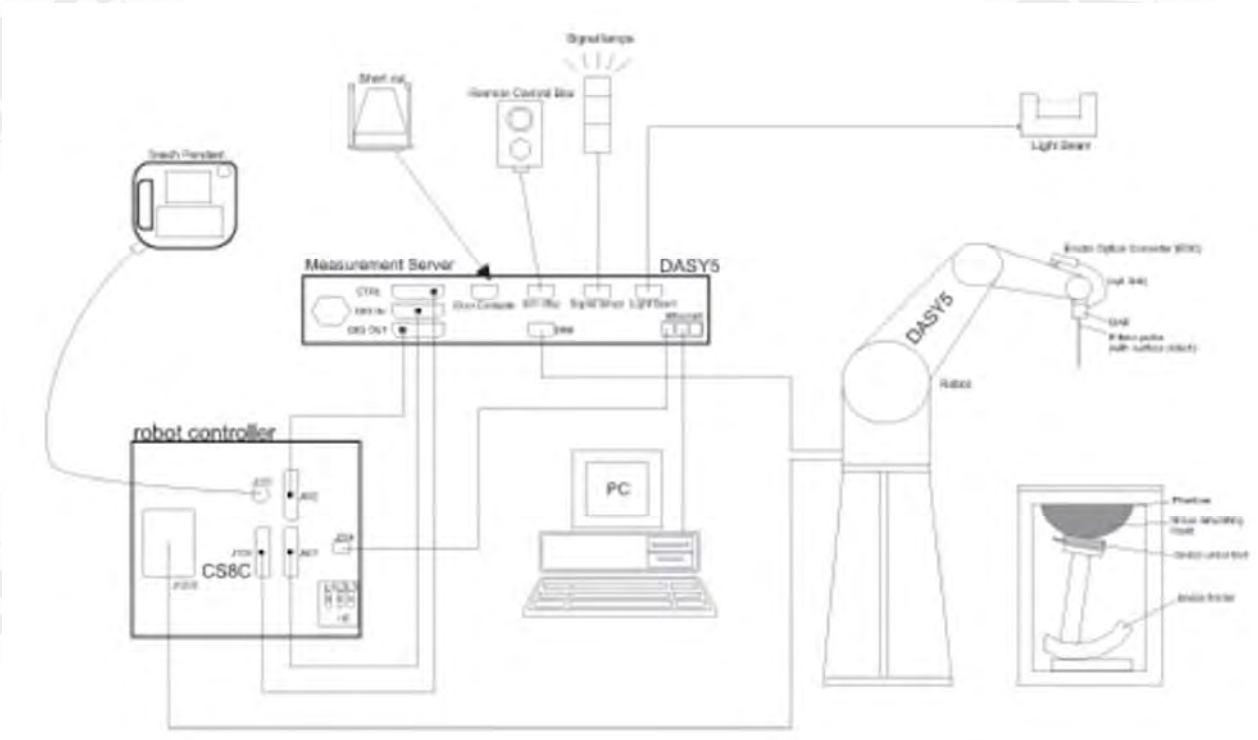
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the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

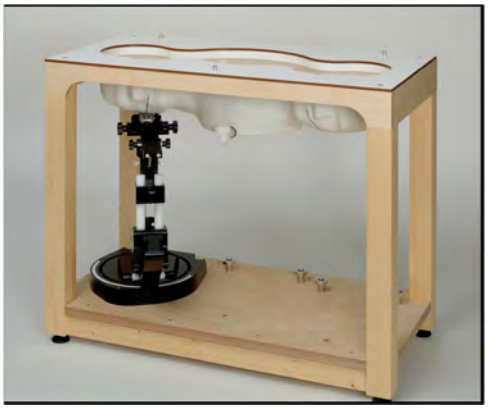
	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (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

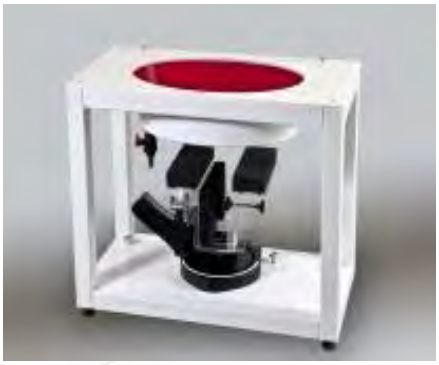


The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the 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.

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

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.

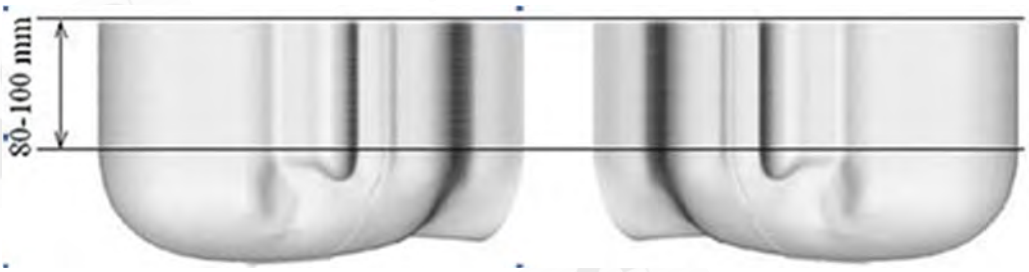
5 Description of Test Position

5.1 Head Exposure Condition

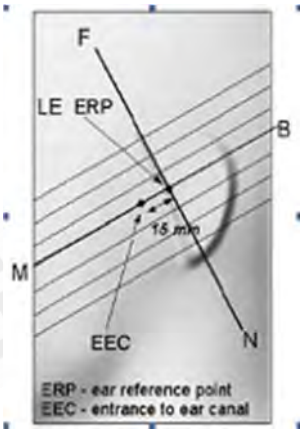
5.1.1 SAM Phantom Shape

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.

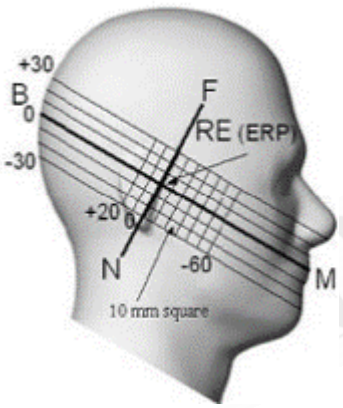
Note: The centre strip including the nose region has a different thickness tolerance.



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

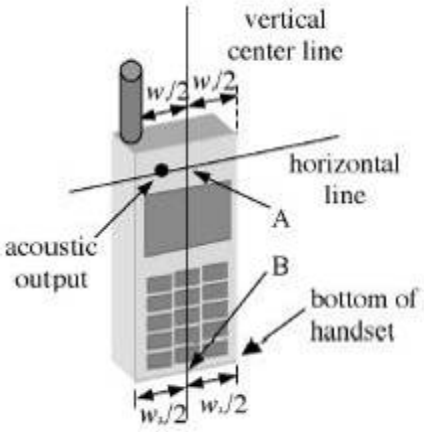


F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

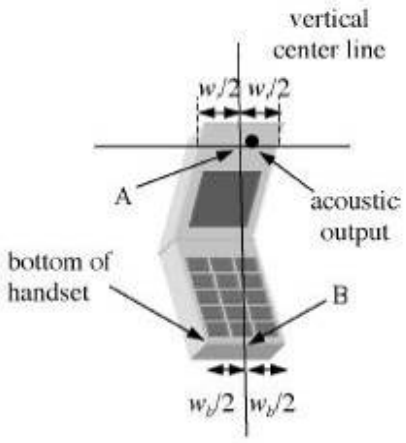


F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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

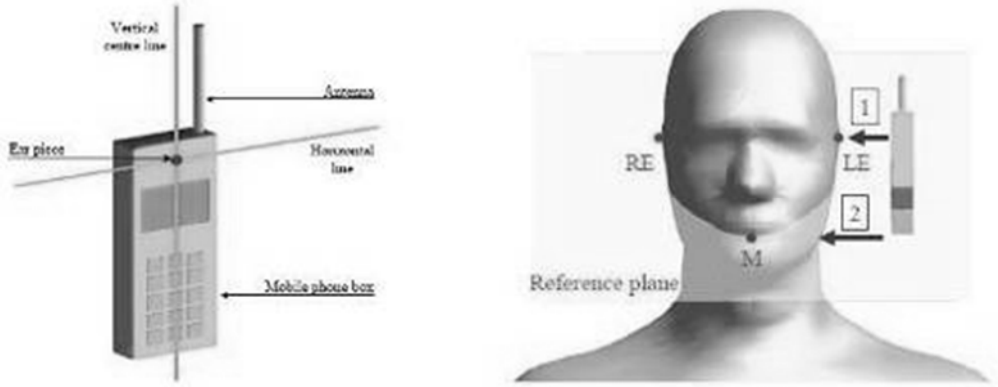
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the 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.

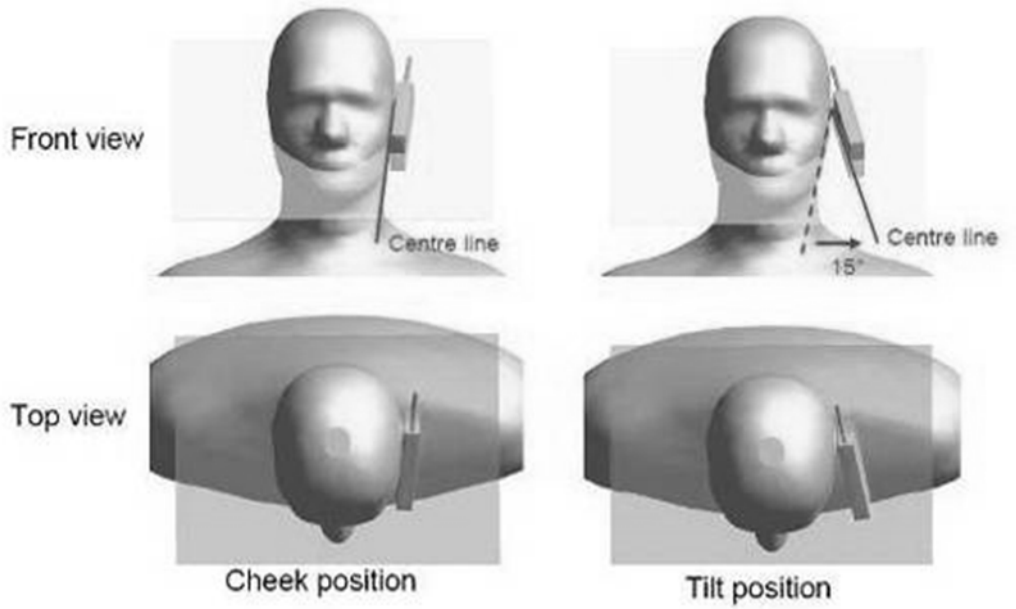
5.1.4 Definition of the “tilted” position

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

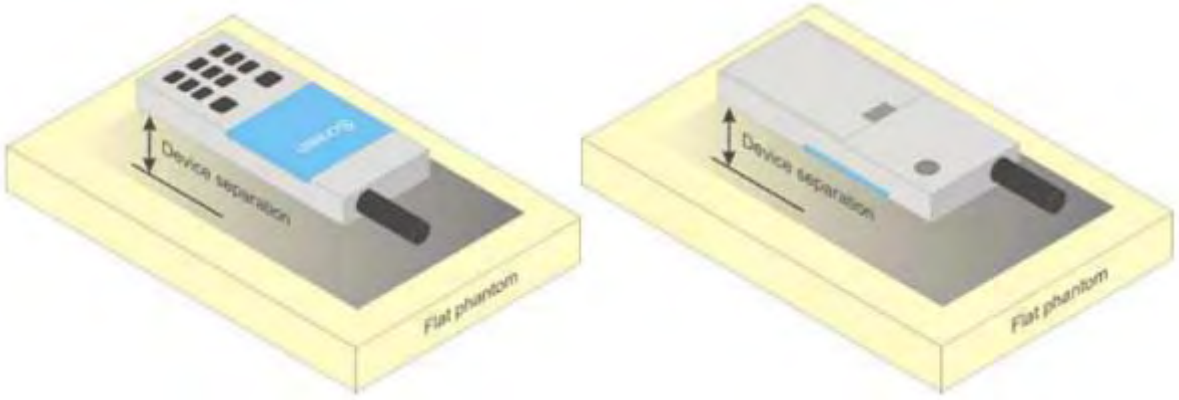
5.2.1 Body-worn accessory exposure conditions

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 Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.
The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
Due to the SAR result, only the following frequency bands need to test with 0mm for the Product Specific 10-g SAR, the others are not required.

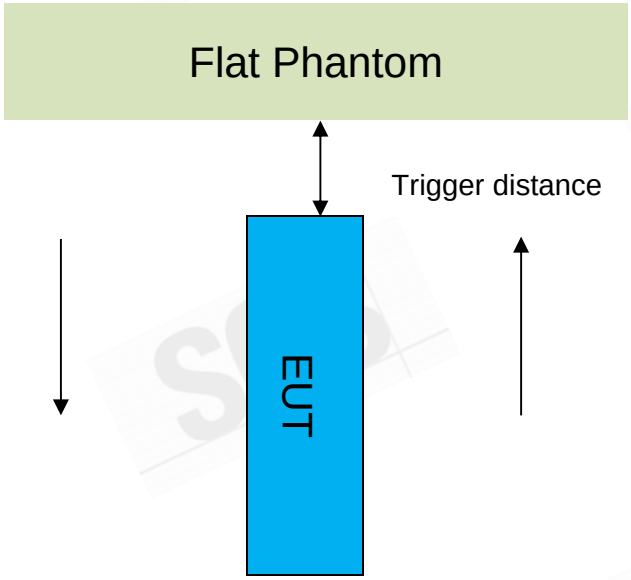
1) WCDMA Band II

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)**	**Limbs SAR Exclusion**
Hotspot Test data(10mm)with MAS condition										
Front side	RMC	9400/1880	1:1	0.454	-0.17	21.47	24	1.791	0.813	Yes
Back side	RMC	9400/1880	1:1	0.712	0	21.47	24	1.791	1.275	No
Left side	RMC	9400/1880	1:1	0.247	-0.05	21.47	24	1.791	0.442	Yes
Right side	RMC	9400/1880	1:1	0.201	-0.04	21.47	24	1.791	0.360	Yes
Bottom side	RMC	9400/1880	1:1	0.748	-0.05	21.47	24	1.791	1.339	No
Back side	RMC	9262/1852.4	1:1	0.722	0.02	21.49	24	1.782	1.287	No
Back side	RMC	9538/1907.6	1:1	0.662	-0.03	21.45	24	1.799	1.191	Yes
Bottom side	RMC	9262/1852.4	1:1	0.772	-0.08	21.49	24	1.782	1.376	No
Bottom side	RMC	9538/1907.6	1:1	0.714	0.01	21.45	24	1.799	1.284	No
Hotspot Test Data at the worst case with SIM2(10mm)										
Bottom side	RMC	9262/1852.4	1:1	0.767	-0.08	21.49	24	1.782	1.367	No
Hotspot Test Data at the worst case with Battery 2#(10mm)										
Bottom side	RMC	9262/1852.4	1:1	0.799	-0.03	21.49	24	1.782	1.424	No
Hotspot Test Data at the worst case with Battery 3#(10mm)										
Bottom side	RMC	9262/1852.4	1:1	0.847	-0.04	21.49	24	1.782	**1.510**	No
Bottom side-repeat	RMC	9262/1852.4	1:1	0.799	-0.09	21.49	24	1.782	1.424	No

5.4 Proximity Sensor Triggering Test

1) Proximity sensor triggering distances

The Proximity sensor triggering was applied to WCDMA Band 2, 4; LTE Band 2, 4. 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.



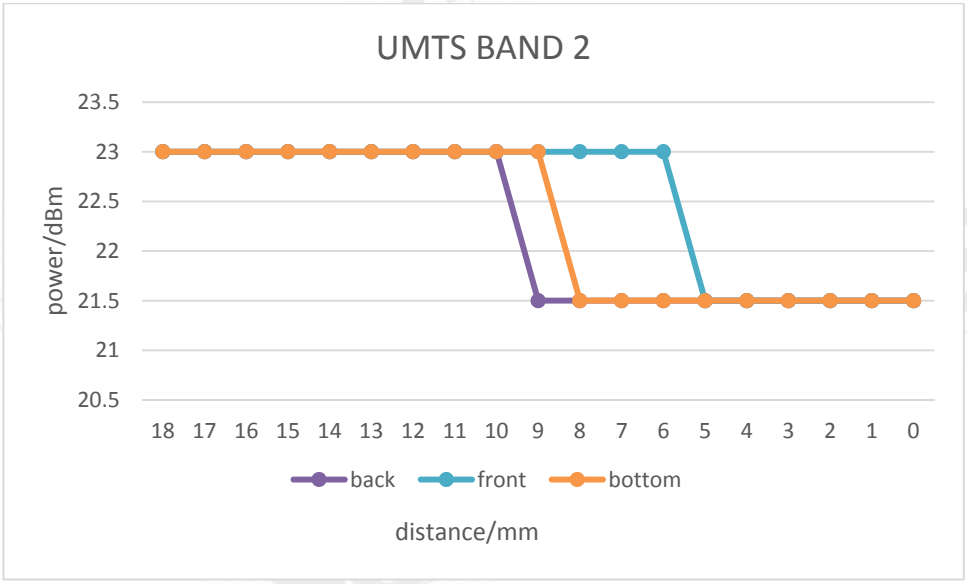
Proximity Sensor Triggering Distance(mm)			
Position	Front	Back	Bottom
Minimum	5	9	8
Required SAR Test	4	8	7

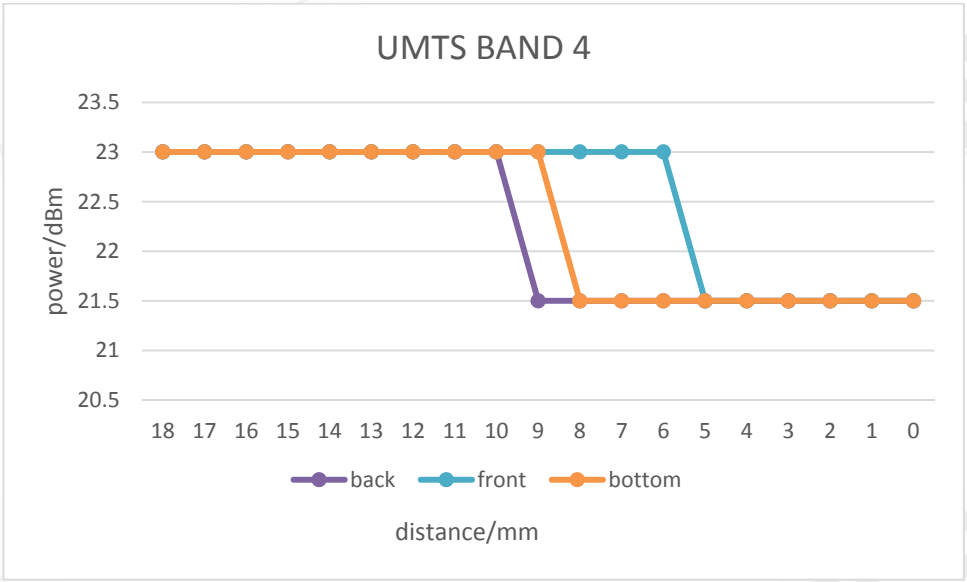
Antenna	Band	Trigger Condition	Body exposure condition
			Power reduction(dB)
Main Antenna	WCDMA B2	Front side: Close to 5mm Back side: Close to 9mm Bottom side: Close to 8mm;	1.5
Main Antenna	WCDMA B4	Front side: Close to 5mm Back side: Close to 9mm Bottom side: Close to 8mm;	1.5
Main Antenna	LTE B2	Front side: Close to 5mm Back side: Close to 9mm Bottom side: Close to 8mm;	1.5
Main Antenna	LTE B4	Front side: Close to 5mm Back side: Close to 9mm Bottom side: Close to 8mm;	1

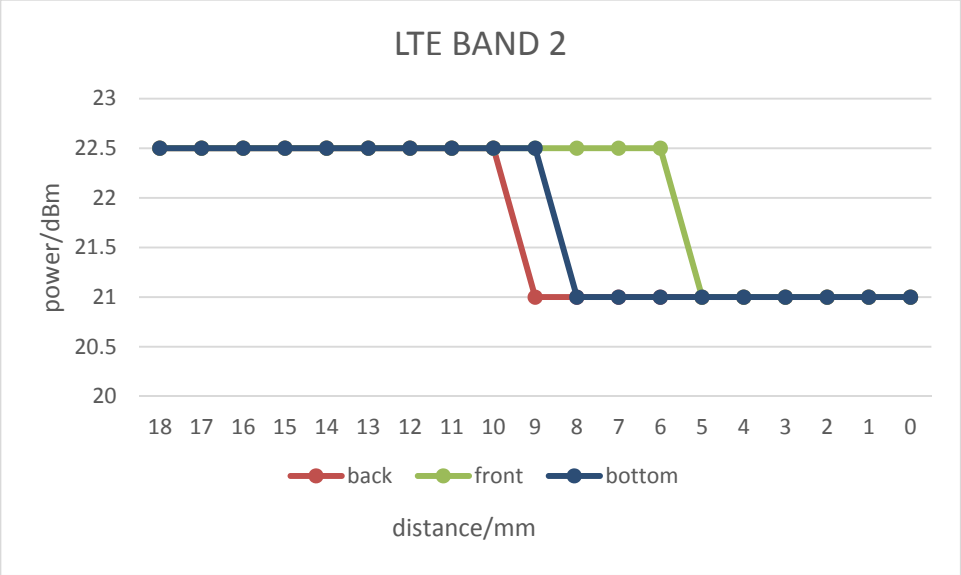
Band/Mode	Band	Measured Power(dBm)		Reduction levels(dB)
		Max. Power	Power back-off	
WCDMA B2 RMC 12.2kbps	9400	22.96	21.47	1.49

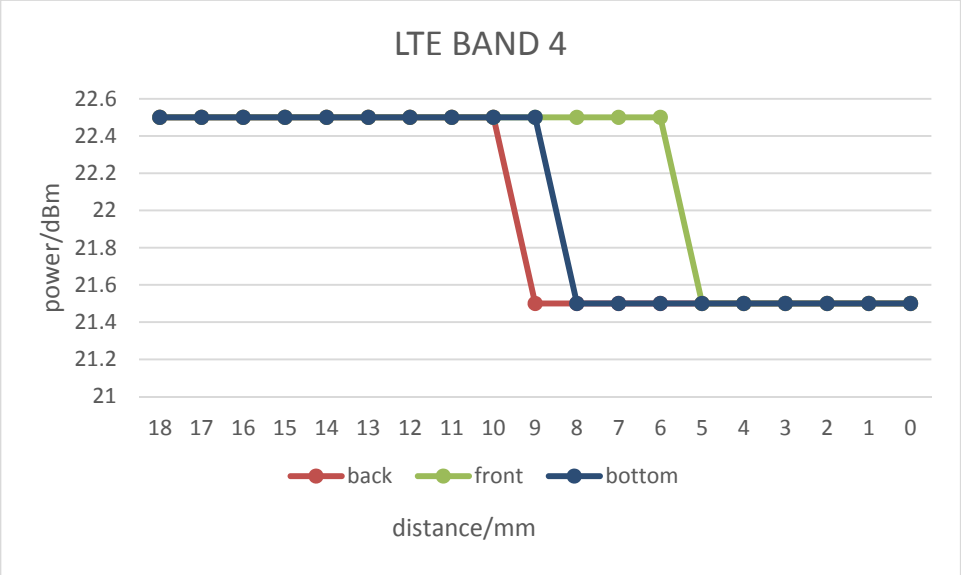
Note: SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

- DUT Moving Toward（Trigger）the Phantom

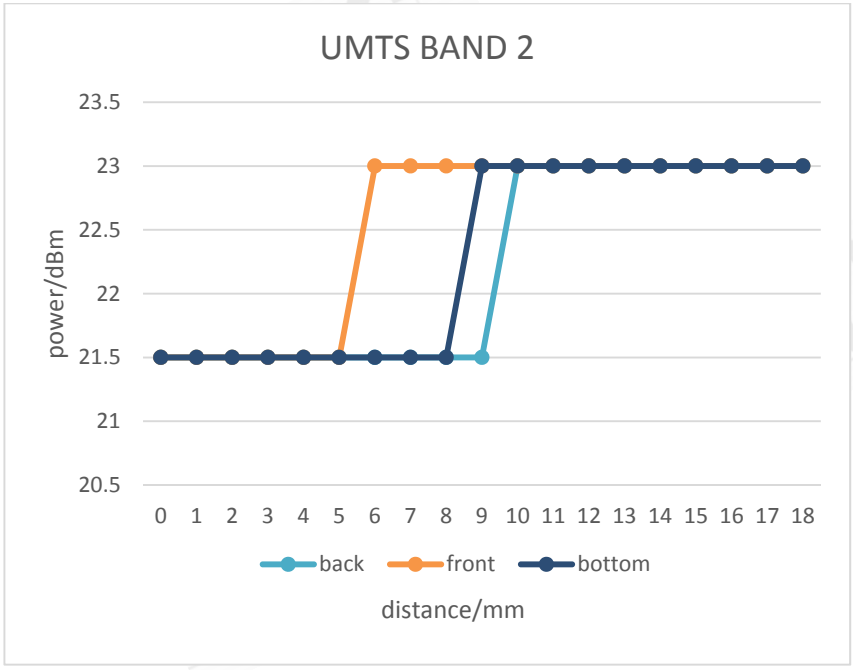


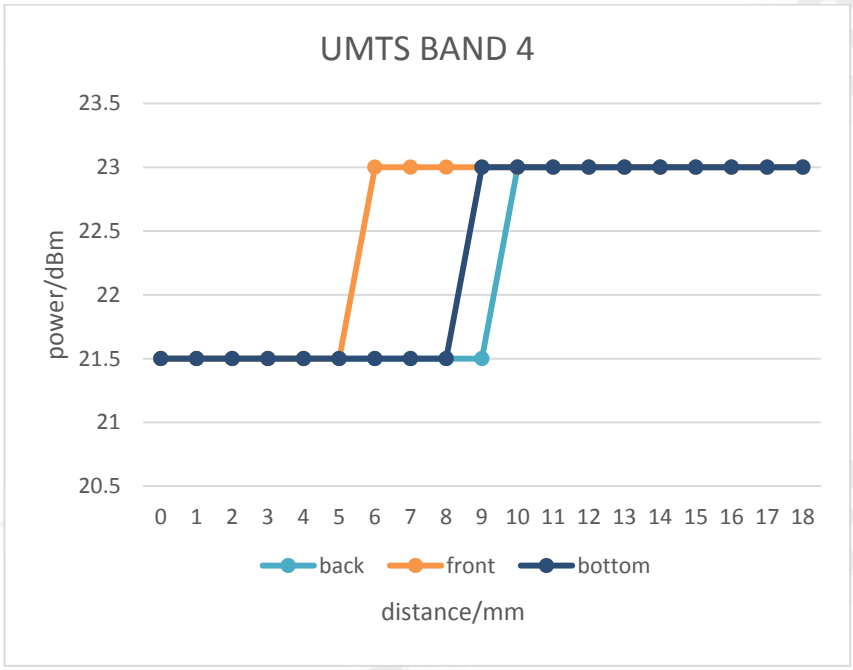


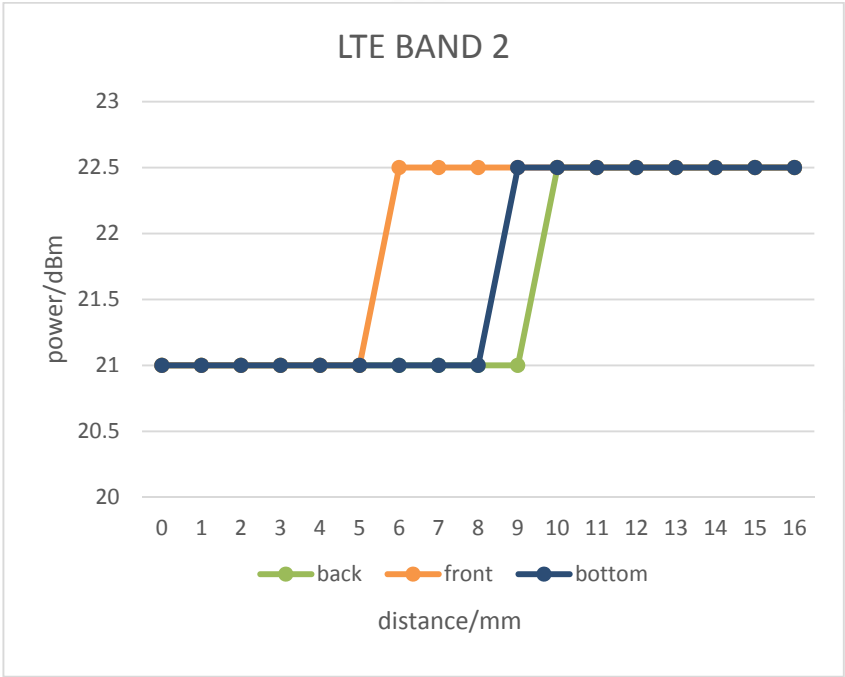


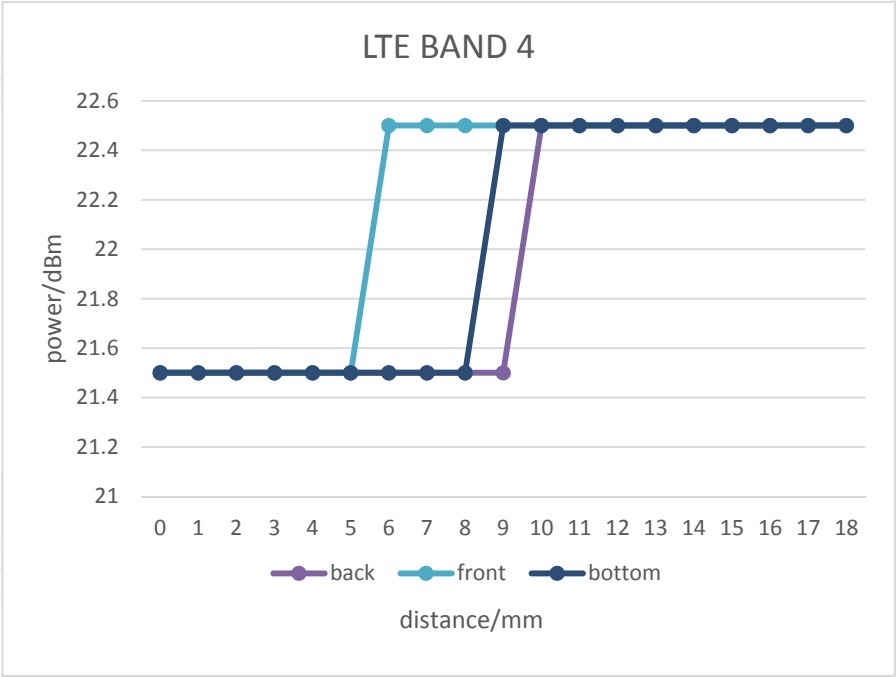


- DUT Moving Away（Release）from the Phantom









2) Proximity sensor coverage

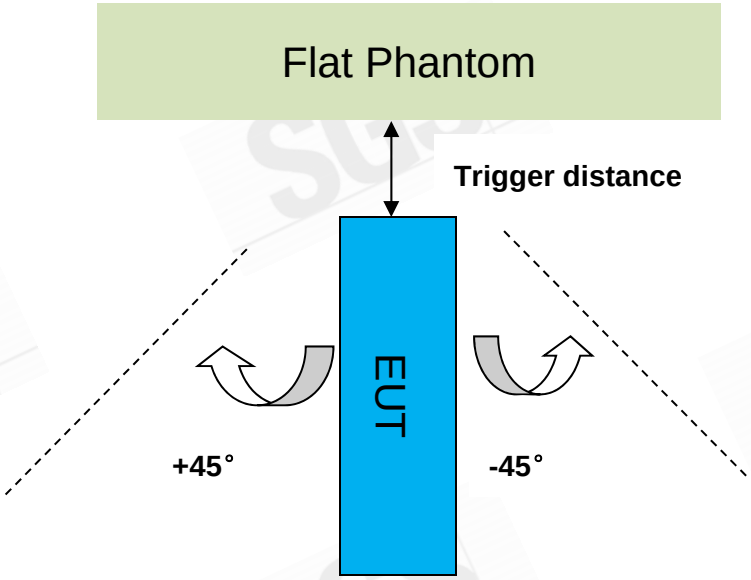
If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, 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	8
Required SAR Test	7

Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Right 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°
WCDMA B2	8mm	8mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	8mm	8mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	8mm	8mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	8mm	8mm	on	on	on	on	on	on	on	on	on	on	on

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		835		1800-2000		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

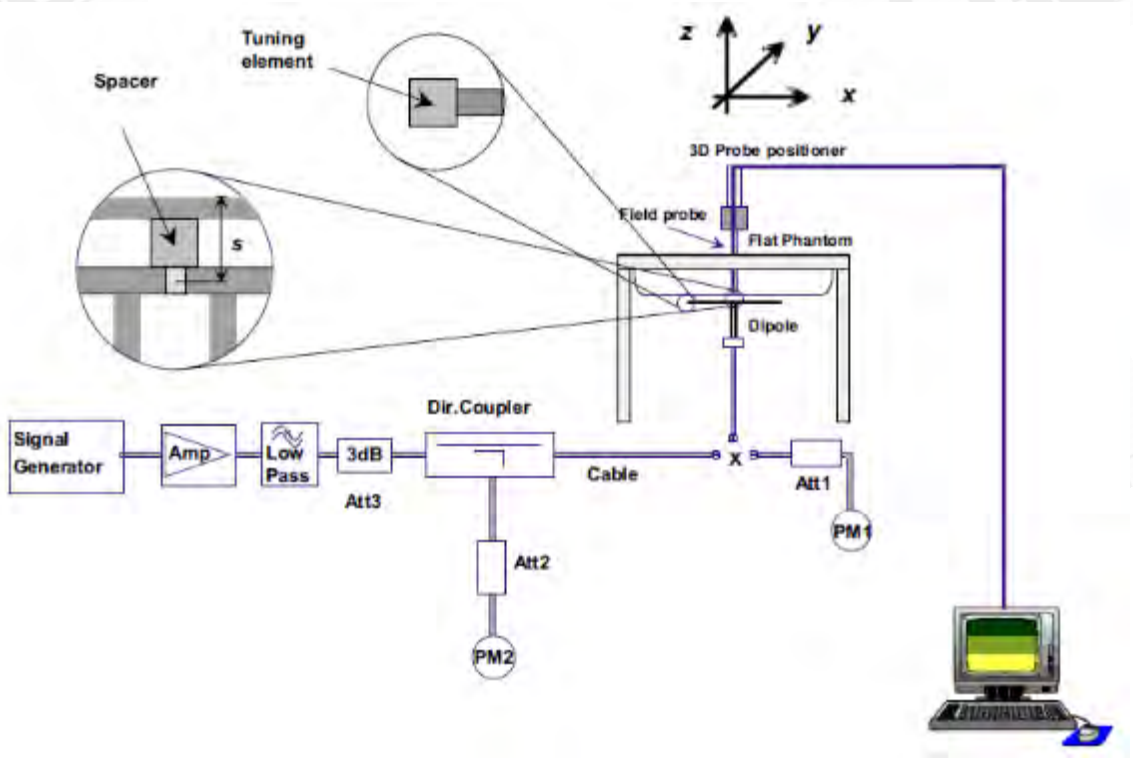
The dielectric properties for this Tissue Simulate Liquids were measured by using the Agilent Model 85070E Dielectric Probe in conjunction with Agilent E5071C Network Analyzer (300 KHz-8500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this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

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)	41.649	0.895	22.1	2017/10/2
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	42.786	0.879	22.1	2017/10/3
750 Body	750	55.5 (52.73~58.28)	0.96 (0.91~1.00)	56.279	0.956	22.1	2017/9/30
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	42.04	0.909	22.1	2017/9/29
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	42.668	0.899	22.1	2017/10/4
835 Body	835	55.2 (52.44~57.96)	0.97 (0.92~1.02)	53.853	0.986	22.1	2017/9/27
835 Body	835	55.2 (52.44~57.96)	0.97 (0.92~1.02)	56.266	0.993	22.1	2017/9/28
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	40.757	1.332	22.2	2017/9/30
1750 Body	1750	53.4 (50.73~56.07)	1.49 (1.42~1.56)	53.503	1.506	22.2	2017/10/1
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.64	1.372	22.3	2017/9/28
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.284	1.389	22.3	2017/10/10
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	51.834	1.502	22.3	2017/10/1
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	53.234	1.51	22.3	2017/10/12
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	53.19	1.513	22.3	2017/10/18
2450 Head	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	38.232	1.806	22	2017/10/4
2450 Body	2450	52.70 (50.07~55.34)	1.95 (1.85~2.05)	53.809	1.984	22	2017/10/2
2600 Head	2600	39.0 (37.05~40.95)	1.96 (1.86~2.06)	37.735	1.969	22.1	2017/10/11
2600 Body	2600	52.50 (49.88~55.13)	2.16 (2.05~2.27)	53.353	2.163	22.2	2017/10/2
2600 Body	2600	52.50 (49.88~55.13)	2.16 (2.05~2.27)	53.335	2.136	22.2	2017/10/12

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)

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	2.09	1.38	8.36	5.52	8.17 (7.35~8.99)	5.36 (4.82~5.9)	22.1	2017/10/2
	Head	2.05	1.35	8.2	5.4	8.17 (7.35~8.99)	5.36 (4.82~5.9)	22.1	2017/10/3
	Body	2.12	1.41	8.48	5.64	8.57 (7.71~9.43)	5.66 (5.09~6.23)	22.1	2017/9/30
D835V2	Head	2.49	1.63	9.96	6.52	9.59 (8.63~10.55)	6.29 (5.66~6.92)	22.1	2017/9/29
	Head	2.34	1.53	9.36	6.12	9.59 (8.63~10.55)	6.29 (5.66~6.92)	22.1	2017/10/4
	Body	2.48	1.63	9.92	6.52	9.65 (8.69~10.62)	6.46 (5.81~7.11)	22.1	2017/9/27
	Body	2.5	1.65	10	6.6	9.65 (8.69~10.62)	6.46 (5.81~7.11)	22.1	2017/9/28
D1750V2	Head	8.85	4.76	35.4	19.04	36.7 (33.03~40.37)	19.5 (17.55~21.45)	22.2	2017/9/30
	Body	9.59	5.1	38.36	20.4	37 (33.30~40.70)	19.7 (17.73~21.67)	22.2	2017/10/1
D1900V2	Head	10.2	5.29	40.8	21.16	40.7 (36.63~44.77)	21.1 (18.99~23.21)	22.3	2017/9/28
	Head	10.3	5.35	41.2	21.4	40.7 (36.63~44.77)	21.1 (18.99~23.21)	22.3	2017/10/10
	Body	10.6	5.62	42.4	22.48	41.6 (37.44~45.76)	21.4 (19.26~23.54)	22.3	2017/10/1
	Body	10.7	5.65	42.8	22.6	41.6 (37.44~45.76)	21.4 (19.26~23.54)	22.3	2017/10/12
	Body	10.7	5.66	42.8	22.64	41.6 (37.44~45.76)	21.4 (19.26~23.54)	22.3	2017/10/18
D2450V2	Head	13.4	6.16	53.6	24.64	53.1 (47.79~58.41)	24.9 (22.41~27.39)	22	2017/10/4
	Body	12.8	5.89	51.2	23.56	51.0 (45.9~56.1)	23.5 (21.15~25.85)	22	2017/10/2
D2600V2	Head	14.5	6.38	58	25.52	56.6 (50.94~62.26)	25.4 (22.86~27.94)	22.1	2017/10/11
	Body	13.6	6.08	54.4	24.32	54.2 (48.78~59.62)	24.3 (21.87~26.73)	22.1	2017/10/2
	Body	13.3	6.02	53.2	24.08	54.2 (48.78~59.62)	24.3 (21.87~26.73)	22.1	2017/10/12

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.

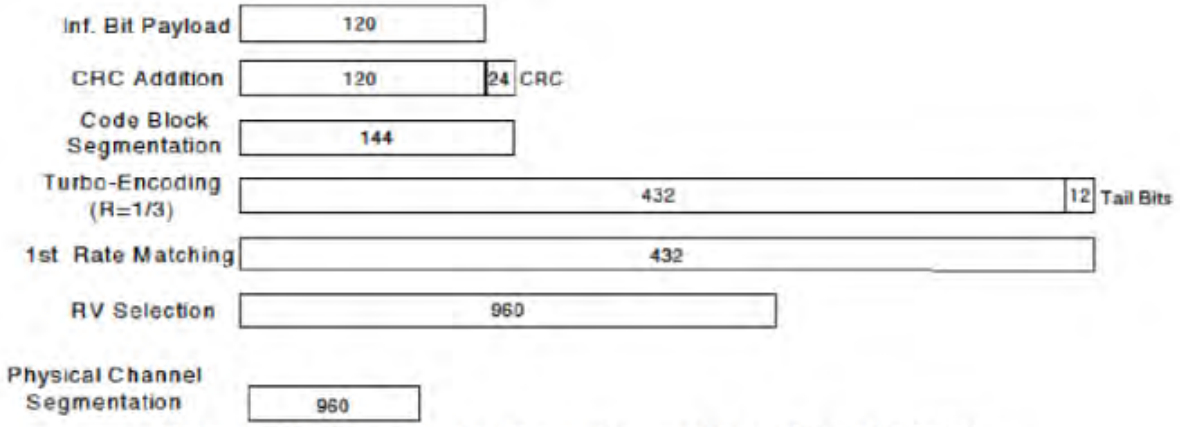


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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

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

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

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

Note:

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

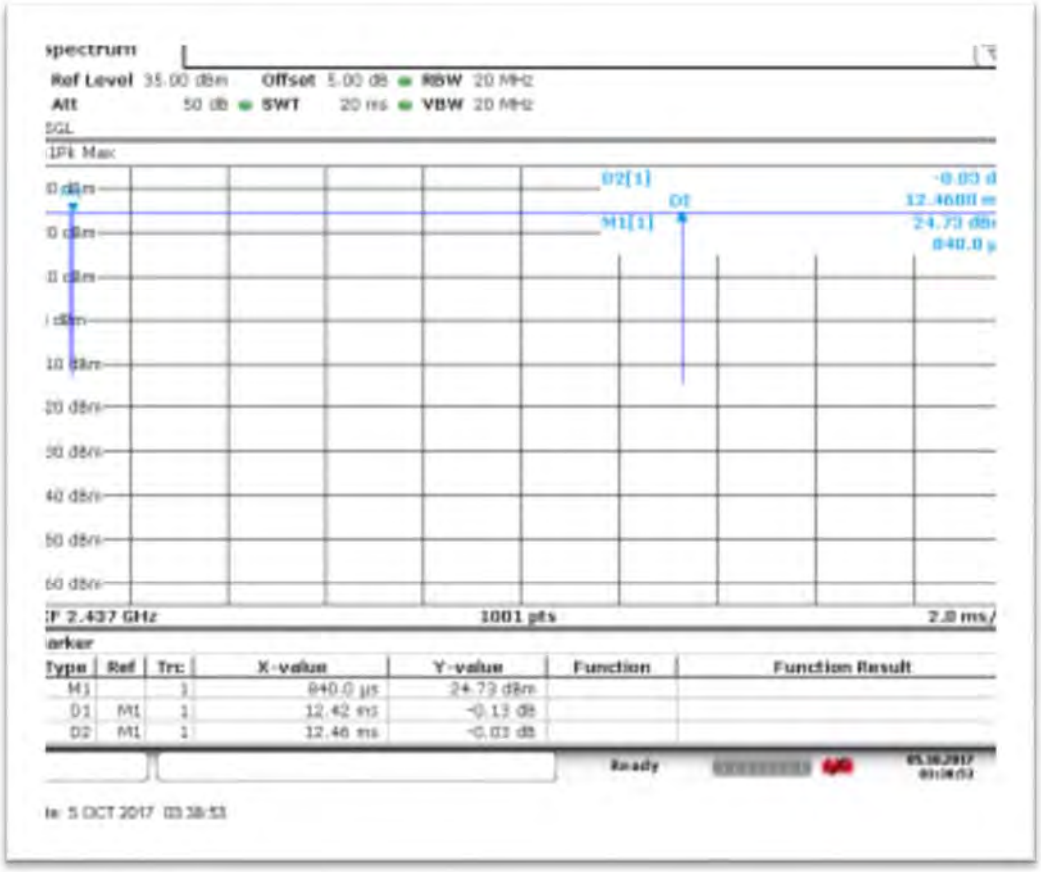
7.2.3 WiFi Test Configuration

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:

duty cycle=12.42/12.46=99.70%



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 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 Ant 1(Main Antenna)

8.1.1.1 Conducted Power Of GSM

GSM 850										
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	32.56	32.5	32.39	33.3	-9.19	23.37	23.31	23.2	24.11
GPRS/EGPRS (GMSK)	1 TX Slot	32.55	32.51	32.37	33.3	-9.19	23.36	23.32	23.18	24.11
	2 TX Slots	29.52	29.43	29.32	30.3	-6.18	23.34	23.25	23.14	24.12
	3 TX Slots	28.52	28.44	28.31	28.6	-4.42	24.1	24.02	23.89	**24.18**
	4 TX Slots	26.49	26.41	26.26	27.3	-3.17	23.32	23.24	23.09	24.13
EGPRS(8PSK)	1 TX Slot	26.42	26.47	26.39	27.5	-9.19	17.23	17.28	17.2	18.31
	2 TX Slots	24.05	24.19	24.15	25.5	-6.18	17.87	18.01	17.97	19.32
	3 TX Slots	21.98	21.94	21.95	23.5	-4.42	17.56	17.52	17.53	19.08
	4 TX Slots	19.82	19.76	19.84	21.5	-3.17	16.65	16.59	16.67	18.33
GSM 1900										
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	30.17	30.07	29.84	30.5	-9.19	20.98	20.88	20.65	21.31
GPRS/EGPRS (GMSK)	1 TX Slot	30.18	30.05	29.83	30.5	-9.19	20.99	20.86	20.64	21.31
	2 TX Slots	26.95	26.77	26.74	27.5	-6.18	20.77	20.59	20.56	21.32
	3 TX Slots	25.73	25.74	25.71	25.8	-4.42	21.31	21.32	21.29	**21.38**
	4 TX Slots	23.95	23.76	23.77	24.5	-3.17	20.78	20.59	20.6	21.33
EGPRS(8PSK)	1 TX Slot	25.97	25.6	25.38	26.5	-9.19	16.78	16.41	16.19	17.31
	2 TX Slots	23.55	23.19	23.1	24.5	-6.18	17.37	17.01	16.92	18.32
	3 TX Slots	21.37	21.07	20.83	22.5	-4.42	16.95	16.65	16.41	18.08
	4 TX Slots	19.04	18.66	18.5	20.5	-3.17	15.87	15.49	15.33	17.33

Table 11: 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

8.1.1.2 Conducted Power Of WCDMA

WCDMA Band II full power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.96	22.96	22.98	24
	12.2kbps AMR	22.93	22.92	22.96	24
HSDPA	Subtest 1	21.78	21.8	21.72	23
	Subtest 2	22.23	22.28	22.24	23
	Subtest 3	21.48	21.44	21.47	22.3
	Subtest 4	21.55	21.4	21.46	22.3
HSUPA	Subtest 1	21.83	21.69	21.74	22
	Subtest 2	20.69	20.64	20.72	21
	Subtest 3	21.77	21.76	21.78	22.5
	Subtest 4	20.61	20.57	20.62	21
	Subtest 5	21.71	21.66	21.69	22.5
DC-HSDPA	Subtest 1	21.69	21.74	21.65	23
	Subtest 2	22.21	22.23	22.19	23
	Subtest 3	21.37	21.37	21.39	22.3
	Subtest 4	21.52	21.42	21.43	22.3

WCDMA Band II hotspot actived reduced power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	21.49	21.47	21.45	22.5
	12.2kbps AMR	21.45	21.43	21.41	22.5
HSDPA	Subtest 1	20.29	20.31	20.35	21.5
	Subtest 2	20.72	20.74	20.73	21.5
	Subtest 3	19.98	19.91	19.96	21.8
	Subtest 4	19.97	19.91	19.94	21.8
HSUPA	Subtest 1	20.25	20.2	20.23	20.5
	Subtest 2	19.21	19.06	19.1	19.5
	Subtest 3	20.19	20.14	20.21	21.5
	Subtest 4	19.22	19.17	19.21	19.5
	Subtest 5	20.25	20.16	20.23	21.5
DC-HSDPA	Subtest 1	20.32	20.35	20.31	21.5
	Subtest 2	20.69	20.71	20.69	21.5
	Subtest 3	19.87	19.86	19.83	21.8
	Subtest 4	19.95	19.93	19.92	21.8

WCDMA Band II sensor on reduced power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	21.46	21.47	21.43	22.5
	12.2kbps AMR	21.42	21.45	21.4	22.5
HSDPA	Subtest 1	20.38	20.39	20.32	21.5
	Subtest 2	20.76	20.69	20.72	21.5
	Subtest 3	19.99	19.91	19.92	21.8
	Subtest 4	19.95	19.89	19.92	21.8
HSUPA	Subtest 1	20.23	20.2	20.22	20.5
	Subtest 2	19.21	19.13	19.12	19.5
	Subtest 3	20.29	20.17	20.27	21.5
	Subtest 4	19.16	19.15	19.13	19.5
	Subtest 5	20.21	20.16	20.11	21.5
DC-HSDPA	Subtest 1	20.33	20.35	20.27	21.5
	Subtest 2	20.71	20.64	20.65	21.5
	Subtest 3	19.93	19.87	19.89	21.8
	Subtest 4	19.87	19.85	19.91	21.8

WCDMA Band IV full power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	22.96	23.1	23.07	24
	12.2kbps AMR	22.92	23.07	23.04	24
HSDPA	Subtest 1	21.85	21.96	21.77	23
	Subtest 2	22.33	22.42	22.31	23
	Subtest 3	21.54	21.64	21.62	22.3
	Subtest 4	21.55	21.63	21.6	22.3
HSUPA	Subtest 1	21.79	21.89	21.84	22
	Subtest 2	20.73	20.85	20.86	21
	Subtest 3	21.78	21.85	21.81	22.5
	Subtest 4	20.76	20.93	20.82	21
	Subtest 5	21.75	21.88	21.85	22.5
DC-HSDPA	Subtest 1	21.89	21.98	21.83	23
	Subtest 2	22.35	22.45	22.35	23
	Subtest 3	21.62	21.61	21.57	22.3
	Subtest 4	21.59	21.57	21.63	22.3

WCDMA Band IV sensor on reduced power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	21.49	21.56	21.54	22.5
	12.2kbps AMR	21.45	21.53	21.51	22.5
HSDPA	Subtest 1	20.26	20.23	20.38	21.5
	Subtest 2	20.79	20.87	20.76	21.5
	Subtest 3	20.02	20.09	19.98	21.8
	Subtest 4	20.01	20.16	20.04	21.8
HSUPA	Subtest 1	20.27	20.37	20.35	20.5
	Subtest 2	19.25	19.44	19.31	19.5
	Subtest 3	20.37	20.41	20.3	21.5
	Subtest 4	19.33	19.41	19.33	19.5
	Subtest 5	20.26	20.36	20.33	21.5
DC-HSDPA	Subtest 1	20.23	20.27	20.32	21.5
	Subtest 2	20.83	20.91	20.79	21.5
	Subtest 3	20.13	20.15	20.08	21.8
	Subtest 4	20.15	20.18	20.13	21.8

WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.25	23.24	23.3	24.5
	12.2kbps AMR	23.21	23.22	23.25	24.5
HSDPA	Subtest 1	22.24	22.29	22.26	23.5
	Subtest 2	22.5	22.6	22.61	23.5
	Subtest 3	21.88	21.86	21.87	22.8
	Subtest 4	21.84	21.93	21.85	22.8
HSUPA	Subtest 1	22.1	22.08	22.12	22.5
	Subtest 2	21.08	21.17	21.11	21.5
	Subtest 3	22.09	22.06	22.05	23
	Subtest 4	21.11	21.09	21.17	21.5
	Subtest 5	22.11	22.19	22.13	23
DC-HSDPA	Subtest 1	22.31	22.27	22.22	23.5
	Subtest 2	22.57	22.62	22.55	23.5
	Subtest 3	21.83	21.81	21.85	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	22.04	22.33	22.36	23.5
		1	2	22.57	22.66	22.56	23.5
		1	5	22.54	22.54	22.41	23.5
		3	0	21.97	21.86	21.95	23.5
		3	2	21.96	21.96	21.98	23.5
		3	3	21.89	21.84	21.88	23.5
		6	0	21.52	21.55	21.51	22.5
	16QAM	1	0	21.41	21.52	21.46	22.5
		1	2	21.84	21.76	21.74	22.5
		1	5	21.81	21.65	21.60	22.5
		3	0	21.42	21.38	21.37	22.5
		3	2	21.57	21.48	21.46	22.5
		3	3	21.45	21.32	21.25	22.5
		6	0	21.41	21.34	21.37	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	22.06	22.34	22.39	23.5
		1	7	22.57	22.67	22.58	23.5
		1	14	22.56	22.55	22.39	23.5
		8	0	21.54	21.46	21.45	22.5
		8	4	21.64	21.55	21.54	22.5
		8	7	21.53	21.45	21.36	22.5
		15	0	21.48	21.44	21.50	22.5
	16QAM	1	0	21.43	21.52	21.46	22.5
		1	7	21.84	21.73	21.72	22.5
		1	14	21.78	21.67	21.58	22.5
		8	0	21.45	21.37	21.37	22.5
		8	4	21.58	21.48	21.49	22.5
		8	7	21.43	21.36	21.28	22.5
		15	0	21.44	21.36	21.36	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.13	22.40	22.44	23.5
		1	13	22.63	22.72	22.63	23.5
		1	24	22.61	22.60	22.48	23.5
		12	0	21.63	21.54	21.53	22.5
		12	6	21.72	21.64	21.63	22.5
		12	13	21.58	21.50	21.44	22.5
		25	0	21.57	21.51	21.56	22.5
	16QAM	1	0	21.48	21.61	21.53	22.5
		1	13	21.89	21.81	21.79	22.5
		1	24	21.87	21.73	21.66	22.5
		12	0	21.50	21.46	21.44	22.5
		12	6	21.63	21.56	21.54	22.5
		12	13	21.50	21.41	21.34	22.5
		25	0	21.50	21.42	21.45	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	22.15	22.33	22.39	23.5
		1	25	22.75	22.72	22.58	23.5
		1	49	22.73	22.74	22.52	23.5
		25	0	21.61	21.48	21.51	22.5
		25	13	21.74	21.53	21.54	22.5
		25	25	21.81	21.46	21.50	22.5
		50	0	21.69	21.52	21.57	22.5
	16QAM	1	0	21.47	21.50	21.66	22.5
		1	25	22.01	21.83	21.66	22.5
		1	49	22.03	21.84	21.65	22.5
		25	0	21.54	21.39	21.41	22.5
		25	13	21.67	21.45	21.44	22.5
		25	25	21.68	21.39	21.39	22.5
		50	0	21.56	21.42	21.44	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	22.38	22.53	22.89	23.5
		1	38	22.93	22.78	22.55	23.5
		1	74	22.47	22.77	22.46	23.5
		36	0	21.82	21.59	21.76	22.5
		36	18	21.99	21.65	21.65	22.5
		36	39	21.81	21.63	21.44	22.5
		75	0	21.81	21.57	21.74	22.5
	16QAM	1	0	21.62	21.60	22.04	22.5
		1	38	22.21	21.91	21.84	22.5
		1	74	21.67	21.87	21.53	22.5
		36	0	21.66	21.49	21.65	22.5
		36	18	21.84	21.55	21.53	22.5
		36	39	21.66	21.54	21.34	22.5
		75	0	21.65	21.47	21.62	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	22.63	22.65	**22.79**	23.5
		1	50	22.61	22.57	22.49	23.5
		1	99	22.05	22.64	22.25	23.5
		50	0	21.55	21.43	**21.63**	22.5
		50	25	21.52	21.38	21.51	22.5
		50	50	21.28	21.3	21.23	22.5
		100	0	21.41	21.2	**21.44**	22.5
	16QAM	1	0	21.46	21.43	22.05	22.5
		1	50	22.03	21.82	21.81	22.5
		1	99	21.29	21.83	21.53	22.5
		50	0	21.47	21.05	21.57	22.5
		50	25	21.56	21.34	21.44	22.5
		50	50	21.21	21.27	21.18	22.5
		100	0	21.34	21.17	21.37	22.5

LTE Band 2 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	20.33	20.51	20.65	22
		1	2	20.53	20.6	20.78	22
		1	5	20.48	20.48	20.62	22
		3	0	20.51	20.63	20.74	22
		3	2	20.6	20.61	20.72	22
		3	3	20.56	20.57	20.66	22
		6	0	20.54	20.57	20.68	22
	16QAM	1	0	20.65	20.79	20.84	22
		1	2	20.79	20.87	20.97	22
		1	5	20.73	20.68	20.76	22
		3	0	20.52	20.56	20.74	22
		3	2	20.56	20.61	20.73	22
		3	3	20.6	20.51	20.68	22
		6	0	20.52	20.53	20.66	22
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	20.27	20.32	20.49	22
		1	7	20.69	20.61	20.76	22
		1	14	20.51	20.36	20.47	22
		8	0	20.53	20.58	20.61	22
		8	4	20.66	20.58	20.66	22
		8	7	20.64	20.5	20.63	22
		15	0	20.59	20.53	20.61	22
	16QAM	1	0	20.55	20.58	20.75	22
		1	7	20.93	20.82	20.91	22
		1	14	20.74	20.55	20.72	22
		8	0	20.53	20.51	20.63	22
		8	4	20.58	20.54	20.65	22
		8	7	20.59	20.46	20.61	22
		15	0	20.57	20.45	20.58	22

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18625	18900	19175	
5MHz	QPSK	1	0	20.78	20.82	20.99	22
		1	13	21.38	21.19	21.24	22
		1	24	21.46	21.04	21.22	22
		12	0	21.23	21.07	21.17	22
		12	6	21.38	21.18	21.28	22
		12	13	21.3	20.99	21.14	22
		25	0	21.24	21.04	21.22	22
	16QAM	1	0	21.12	21.05	21.22	22
		1	13	21.59	21.43	21.45	22
		1	24	21.58	21.15	21.42	22
		12	0	21.16	21.03	21.14	22
		12	6	21.31	21.17	21.18	22
		12	13	21.24	20.97	21.03	22
		25	0	21.18	21.01	21.12	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18650	18900	19150	
10MHz	QPSK	1	0	20.76	20.81	21.22	22
		1	25	21.55	21.25	21.29	22
		1	49	21.58	21.25	21.28	22
		25	0	21.34	21.06	21.24	22
		25	13	21.54	21.13	21.21	22
		25	25	21.54	21.02	21.16	22
		50	0	21.43	21.06	21.3	22
	16QAM	1	0	21.09	21.09	21.47	22
		1	25	21.55	21.41	21.49	22
		1	49	21.52	21.47	21.47	22
		25	0	21.22	20.96	21.18	22
		25	13	21.46	21.03	21.16	22
		25	25	21.48	20.93	21.08	22
		50	0	21.36	20.94	21.18	22

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	20.94	21.05	21.55	22
		1	38	21.37	21.26	21.45	22
		1	74	21.34	21.19	21.1	22
		36	0	21.45	21.13	21.43	22
		36	18	21.74	21.22	21.36	22
		36	39	21.52	21.18	21.09	22
		75	0	21.54	21.14	21.38	22
	16QAM	1	0	21.26	21.29	21.49	22
		1	38	21.97	21.47	21.57	22
		1	74	21.49	21.4	21.28	22
		36	0	21.37	21.02	21.38	22
		36	18	21.6	21.12	21.26	22
		36	39	21.37	21.1	21.06	22
		75	0	21.44	21.04	21.32	22

Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	21.46	21.19	**21.57**	22
		1	50	21.44	21.15	21.51	22
		1	99	20.89	21.09	20.91	22
		50	0	21.44	21.09	**21.46**	22
		50	25	21.43	21.04	21.43	22
		50	50	21.22	20.94	21.06	22
		100	0	21.27	20.9	**21.28**	22
	16QAM	1	0	21.17	21.18	21.51	22
		1	50	21.83	21.42	21.72	22
		1	99	21.07	21.31	21.1	22
		50	0	21.26	20.83	21.31	22
		50	25	21.4	20.95	21.32	22
		50	50	21.13	20.85	20.95	22
		100	0	21.17	20.81	21.16	22

LTE Band 2 sensor on reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	20.39	20.53	20.6	22
		1	2	20.52	20.59	20.63	22
		1	5	20.48	20.42	20.49	22
		3	0	20.47	20.58	20.64	22
		3	2	20.49	20.58	20.59	22
		3	3	20.46	20.52	20.52	22
		6	0	19.48	19.56	19.61	21
	16QAM	1	0	19.67	19.76	19.83	21
		1	2	19.67	19.81	19.89	21
		1	5	19.59	19.74	19.75	21
		3	0	19.49	19.59	19.68	21
		3	2	19.52	19.62	19.6	21
		3	3	19.49	19.54	19.56	21
		6	0	19.49	19.57	19.64	21
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	20.25	20.39	20.46	22
		1	7	20.68	20.67	20.67	22
		1	14	20.44	20.38	20.32	22
		8	0	19.66	19.56	19.64	21
		8	4	19.74	19.57	19.67	21
		8	7	19.7	19.48	19.61	21
		15	0	19.64	19.51	19.61	21
	16QAM	1	0	19.6	19.58	19.71	21
		1	7	19.99	19.85	19.94	21
		1	14	19.79	19.62	19.62	21
		8	0	19.56	19.55	19.62	21
		8	4	19.64	19.53	19.62	21
		8	7	19.62	19.44	19.58	21
		15	0	19.53	19.45	19.53	21

Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	20.71	20.87	20.88	22
		1	13	21.15	21.13	21.13	22
		1	24	21.1	20.96	20.93	22
		12	0	20.07	20.04	20.1	21
		12	6	20.18	20.15	20.19	21
		12	13	20.09	20	20.01	21
		25	0	20.05	20.01	20.11	21
	16QAM	1	0	20.01	20.15	20.18	21
		1	13	20.5	20.33	20.45	21
		1	24	20.48	20.24	20.22	21
		12	0	20.02	19.99	20.07	21
		12	6	20.12	20.1	20.12	21
		12	13	20.03	19.95	19.95	21
		25	0	20.01	19.96	20.05	21
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	20.69	20.78	20.98	22
		1	25	21.35	21.15	21.1	22
		1	49	21.36	21.08	21.06	22
		25	0	20.16	20.07	20.11	21
		25	13	20.31	20.12	20.18	21
		25	25	20.34	20.04	20.12	21
		50	0	20.21	20.11	20.2	21
	16QAM	1	0	19.94	20.05	20.27	21
		1	25	20.54	20.39	20.4	21
		1	49	20.57	20.39	20.25	21
		25	0	20.08	20.01	20.04	21
		25	13	20.25	20.05	20.11	21
		25	25	20.26	19.98	20.05	21
		50	0	20.12	20.03	20.12	21

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	20.99	21.01	21.4	22
		1	38	21.36	21.21	21.24	22
		1	74	21.05	21.11	20.86	22
		36	0	20.35	20.15	20.31	21
		36	18	20.59	20.22	20.22	21
		36	39	20.41	20.16	20.02	21
		75	0	20.4	20.13	20.34	21
	16QAM	1	0	20.25	20.3	20.7	21
		1	38	20.88	20.51	20.55	21
		1	74	20.33	20.42	20.14	21
		36	0	20.24	20.07	20.24	21
		36	18	20.47	20.13	20.14	21
		36	39	20.29	20.08	19.94	21
		75	0	20.27	20.04	20.25	21
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	20.74	20.64	21.21	22
		1	50	**21.4**	21.11	21.23	22
		1	99	20.62	21.08	20.67	22
		50	0	20.19	19.71	20.23	21
		50	25	**20.31**	20.01	20.25	21
		50	50	19.95	19.91	19.89	21
		100	0	**20.1**	19.82	20.09	21
	16QAM	1	0	20.01	19.89	20.4	21
		1	50	20.7	20.31	20.45	21
		1	99	19.92	20.33	19.89	21
		50	0	20.06	19.62	20.14	21
		50	25	20.17	19.92	20.03	21
		50	50	19.82	19.81	19.8	21
		100	0	19.95	19.71	19.99	21

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	21.88	22.10	22.44	23.5
		1	2	21.91	22.23	22.55	23.5
		1	5	21.80	22.06	22.40	23.5
		3	0	21.91	22.20	22.46	23.5
		3	2	22.00	22.23	22.52	23.5
		3	3	21.94	22.14	22.44	23.5
		6	0	21.02	21.29	21.44	22.5
	16QAM	1	0	21.16	21.39	21.62	22.5
		1	2	21.22	21.56	21.60	22.5
		1	5	21.07	21.42	21.48	22.5
		3	0	21.06	21.32	21.44	22.5
		3	2	21.04	21.32	21.45	22.5
		3	3	20.98	21.23	21.41	22.5
		6	0	21.00	21.28	21.45	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	21.76	21.92	22.19	23.5
		1	7	21.97	22.28	22.43	23.5
		1	14	21.71	21.96	22.22	23.5
		8	0	21.02	21.26	21.36	22.5
		8	4	21.00	21.32	21.35	22.5
		8	7	20.91	21.23	21.31	22.5
		15	0	20.95	21.25	21.30	22.5
	16QAM	1	0	21.07	21.30	21.43	22.5
		1	7	21.26	21.62	21.69	22.5
		1	14	21.03	21.22	21.49	22.5
		8	0	20.97	21.25	21.30	22.5
		8	4	20.94	21.26	21.34	22.5
		8	7	20.85	21.20	21.25	22.5
		15	0	20.88	21.21	21.24	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	22.37	22.49	22.47	23.5
		1	13	22.35	22.43	22.48	23.5
		1	24	22.23	22.38	22.43	23.5
		12	0	21.37	21.61	21.75	22.5
		12	6	21.39	21.70	21.78	22.5
		12	13	21.24	21.53	21.63	22.5
		25	0	21.32	21.58	21.56	22.5
	16QAM	1	0	21.65	21.95	22.14	22.5
		1	13	21.67	21.95	22.05	22.5
		1	24	21.51	21.79	22.07	22.5
		12	0	21.28	21.53	21.75	22.5
		12	6	21.32	21.65	21.73	22.5
		12	13	21.23	21.48	21.61	22.5
		25	0	21.23	21.52	21.49	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	22.37	22.46	22.42	23.5
		1	25	22.38	22.49	22.43	23.5
		1	49	22.36	22.49	22.44	23.5
		25	0	21.33	21.47	21.62	22.5
		25	13	21.42	21.63	21.71	22.5
		25	25	21.30	21.42	21.57	22.5
		50	0	21.27	21.53	21.56	22.5
	16QAM	1	0	21.64	21.87	21.92	22.5
		1	25	21.61	22.00	21.98	22.5
		1	49	21.61	21.79	22.13	22.5
		25	0	21.31	21.42	21.56	22.5
		25	13	21.38	21.57	21.64	22.5
		25	25	21.29	21.37	21.49	22.5
		50	0	21.23	21.45	21.48	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	22.43	22.40	22.47	23.5
		1	38	22.41	22.44	22.43	23.5
		1	74	22.52	22.44	22.41	23.5
		36	0	21.45	21.51	21.59	22.5
		36	18	21.44	21.61	21.61	22.5
		36	39	21.37	21.49	21.47	22.5
		75	0	21.39	21.56	21.45	22.5
	16QAM	1	0	21.74	21.92	21.93	22.5
		1	38	21.75	21.89	21.91	22.5
		1	74	21.70	22.14	22.08	22.5
		36	0	21.35	21.50	21.52	22.5
		36	18	21.34	21.60	21.54	22.5
		36	39	21.30	21.47	21.39	22.5
		75	0	21.30	21.54	21.37	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	22.42	22.51	**22.53**	23.5
		1	50	22.37	22.5	22.47	23.5
		1	99	22.04	22.03	22.36	23.5
		50	0	21.31	21.29	21.52	22.5
		50	25	21.32	21.49	**21.55**	22.5
		50	50	21.19	21.36	21.43	22.5
		100	0	21.27	21.37	**21.49**	22.5
	16QAM	1	0	21.72	21.65	21.81	22.5
		1	50	21.68	21.86	21.86	22.5
		1	99	21.3	21.44	21.79	22.5
		50	0	21.26	21.2	21.47	22.5
		50	25	21.27	21.39	21.47	22.5
		50	50	21.1	21.26	21.37	22.5
		100	0	21.17	21.27	21.44	22.5

LTE Band 4 sensor on reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	20.85	21.03	21.27	22.5
		1	2	20.93	21.13	21.33	22.5
		1	5	20.74	21.01	21.27	22.5
		3	0	20.93	21.06	21.3	22.5
		3	2	20.91	21.1	21.37	22.5
		3	3	20.84	21.06	21.28	22.5
		6	0	19.88	20.14	20.4	21.5
	16QAM	1	0	20.1	20.25	20.59	21.5
		1	2	20.18	20.34	20.63	21.5
		1	5	19.98	20.2	20.53	21.5
		3	0	19.97	20.07	20.37	21.5
		3	2	19.89	20.18	20.49	21.5
		3	3	19.89	20.13	20.4	21.5
		6	0	19.91	20.1	20.39	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	20.73	20.82	21.08	22.5
		1	7	20.91	21.14	21.26	22.5
		1	14	20.65	20.88	21.1	22.5
		8	0	19.88	20.1	20.35	21.5
		8	4	19.86	20.13	20.34	21.5
		8	7	19.82	20.05	20.29	21.5
		15	0	19.86	20.06	20.29	21.5
	16QAM	1	0	20.04	20.08	20.36	21.5
		1	7	20.18	20.43	20.63	21.5
		1	14	19.92	20.14	20.47	21.5
		8	0	19.9	20.06	20.33	21.5
		8	4	19.89	20.1	20.29	21.5
		8	7	19.8	20.01	20.27	21.5
		15	0	19.79	19.99	20.24	21.5

Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	21.36	21.44	21.45	22.5
		1	13	21.31	21.43	21.32	22.5
		1	24	21.13	21.35	21.33	22.5
		12	0	20.26	20.44	20.63	21.5
		12	6	20.3	20.54	20.68	21.5
		12	13	20.15	20.36	20.56	21.5
		25	0	20.23	20.42	20.46	21.5
	16QAM	1	0	20.7	20.81	20.91	21.5
		1	13	20.58	20.76	21.01	21.5
		1	24	20.52	20.59	20.99	21.5
		12	0	20.2	20.41	20.57	21.5
		12	6	20.23	20.47	20.61	21.5
		12	13	20.08	20.29	20.49	21.5
		25	0	20.16	20.37	20.4	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	21.31	21.4	21.44	22.5
		1	25	21.34	21.36	21.45	22.5
		1	49	21.19	21.38	21.43	22.5
		25	0	20.24	20.29	20.43	21.5
		25	13	20.33	20.46	20.51	21.5
		25	25	20.2	20.24	20.43	21.5
		50	0	20.18	20.35	20.36	21.5
	16QAM	1	0	20.59	20.77	20.75	21.5
		1	25	20.58	20.86	20.87	21.5
		1	49	20.58	20.64	20.94	21.5
		25	0	20.16	20.29	20.44	21.5
		25	13	20.26	20.46	20.53	21.5
		25	25	20.12	20.25	20.43	21.5
		50	0	20.09	20.34	20.34	21.5

Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	21.36	21.42	21.44	22.5
		1	38	21.35	21.42	21.4	22.5
		1	74	21.35	21.45	21.48	22.5
		36	0	20.31	20.39	20.47	21.5
		36	18	20.31	20.5	20.5	21.5
		36	39	20.22	20.37	20.42	21.5
		75	0	20.25	20.44	20.4	21.5
	16QAM	1	0	20.63	20.89	20.8	21.5
		1	38	20.61	20.77	20.77	21.5
		1	74	20.69	20.98	20.99	21.5
		36	0	20.28	20.33	20.41	21.5
		36	18	20.27	20.43	20.44	21.5
		36	39	20.2	20.31	20.34	21.5
		75	0	20.22	20.37	20.32	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	21.31	21.32	21.42	22.5
		1	50	21.34	**21.45**	21.43	22.5
		1	99	20.95	21.03	21.34	22.5
		50	0	20.23	20.12	20.39	21.5
		50	25	20.25	**20.42**	20.4	21.5
		50	50	20.04	20.19	20.29	21.5
		100	0	20.13	**20.4**	20.37	21.5
	16QAM	1	0	20.54	20.62	20.76	21.5
		1	50	20.59	20.67	20.65	21.5
		1	99	20.33	20.31	20.57	21.5
		50	0	20.16	20.05	20.3	21.5
		50	25	20.16	20.3	20.31	21.5
		50	50	19.96	20.15	20.2	21.5
		100	0	20.04	20.15	20.28	21.5

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	22.4	22.68	22.68	24
		1	2	22.57	22.74	22.74	24
		1	5	22.52	22.62	22.48	24
		3	0	22.48	22.72	22.69	24
		3	2	22.55	22.72	22.58	24
		3	3	22.51	22.66	22.53	24
		6	0	21.62	21.81	21.59	23
	16QAM	1	0	21.76	22.02	21.9	23
		1	2	21.92	22.13	21.97	23
		1	5	21.87	21.95	21.71	23
		3	0	21.59	21.82	21.68	23
		3	2	21.71	21.82	21.61	23
		3	3	21.64	21.76	21.58	23
		6	0	20.57	20.76	20.71	22
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.21	22.53	22.57	24
		1	7	22.75	22.77	22.83	24
		1	14	22.34	22.51	22.28	24
		8	0	21.57	21.78	21.63	23
		8	4	21.69	21.81	21.71	23
		8	7	21.61	21.75	21.56	23
		15	0	21.63	21.73	21.61	23
	16QAM	1	0	21.52	21.88	21.75	23
		1	7	21.97	22.14	22.07	23
		1	14	21.61	21.72	21.51	23
		8	0	20.55	20.74	20.71	22
		8	4	20.7	20.76	20.8	22
		8	7	20.57	20.68	20.64	22
		15	0	20.52	20.64	20.66	22

Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.83	23.05	23.18	24
		1	13	23.29	23.26	23.41	24
		1	24	23.15	23.19	23.19	24
		12	0	22.15	22.31	22.28	23
		12	6	22.32	22.35	22.35	23
		12	13	22.1	22.19	22.15	23
		25	0	22.14	22.25	22.18	23
	16QAM	1	0	22.01	22.25	22.36	23
		1	13	22.53	22.53	22.53	23
		1	24	22.38	22.39	22.27	23
		12	0	21.21	21.37	21.22	22
		12	6	21.38	21.41	21.3	22
		12	13	21.17	21.25	21.1	22
		25	0	21.22	21.29	21.13	22

Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.71	22.93	22.87	24
		1	25	23.3	23.31	**23.43**	24
		1	49	22.9	23.06	22.84	24
		25	0	22.07	22.16	22.26	23
		25	13	22.21	22.25	**22.28**	23
		25	25	22.04	22.07	22.03	23
		50	0	22.03	22.12	**22.21**	23
	16QAM	1	0	21.86	22.11	22.09	23
		1	25	22.49	22.55	22.68	23
		1	49	22.16	22.33	22.06	23
		25	0	21.12	21.18	21.2	22
		25	13	21.26	21.25	21.24	22
		25	25	21.08	21.07	20.99	22
		50	0	21.06	21.1	21.14	22

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	21.86	22.09	22.00	23
		1	13	22.18	22.38	22.35	23
		1	24	22.10	22.32	22.21	23
		12	0	21.31	21.51	21.36	22
		12	6	21.43	21.61	21.44	22
		12	13	20.48	20.63	20.57	22
		25	0	20.50	20.67	20.61	22
	16QAM	1	0	21.26	21.51	21.21	22
		1	13	21.56	21.70	21.60	22
		1	24	21.38	21.55	21.46	22
		12	0	21.21	21.39	21.30	22
		12	6	21.33	21.50	21.36	22
		12	13	20.41	20.54	20.48	22
		25	0	20.43	20.57	20.52	22
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	21.93	22.17	21.97	23
		1	25	22.20	22.35	22.16	23
		1	49	21.98	22.36	22.25	23
		25	0	21.26	21.37	21.15	22
		25	13	21.30	21.44	21.23	22
		25	25	20.77	20.98	20.82	22
		50	0	20.95	20.95	20.93	22
	16QAM	1	0	21.28	21.56	21.31	22
		1	25	21.48	21.64	21.45	22
		1	49	21.27	21.59	21.42	22
		25	0	21.12	21.26	21.03	22
		25	13	21.19	21.32	21.11	22
		25	25	20.63	20.87	20.71	22
		50	0	20.79	20.83	20.81	22

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20825	21100	21375	
15MHz	QPSK	1	0	21.66	21.61	21.64	23
		1	38	22.04	22.18	21.93	23
		1	74	21.87	22.35	22.15	23
		36	0	21.10	21.05	20.91	22
		36	18	21.14	21.29	21.00	22
		36	39	20.96	21.18	21.14	22
		75	0	21.05	21.11	21.10	22
	16QAM	1	0	21.02	20.98	21.14	22
		1	38	21.30	21.47	21.21	22
		1	74	21.11	21.63	21.37	22
		36	0	20.95	21.00	20.83	22
		36	18	20.99	21.18	20.94	22
		36	39	20.82	21.07	21.06	22
		75	0	20.89	20.99	20.97	22
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20850	21100	21350	
20MHz	QPSK	1	0	21.68	21.6	21.93	23
		1	50	22	22.27	22	23
		1	99	22.09	**22.52**	22.37	23
		50	0	21.17	21.05	21.07	22
		50	25	21.15	21.35	21.09	22
		50	50	21.22	**21.45**	21.24	22
		100	0	21.13	21.29	21.47	22
	16QAM	1	0	20.98	20.83	21.23	22
		1	50	21.28	21.58	21.26	22
		1	99	21.32	21.78	21.64	22
		50	0	21	20.96	20.97	22
		50	25	20.97	21.24	20.99	22
		50	50	20.75	21.38	21.13	22
		100	0	20.94	21.19	21.37	22

LTE Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	22.76	22.46	22.85	24
		1	2	22.87	22.56	22.80	24
		1	5	22.93	22.51	22.36	24
		3	0	22.81	22.50	22.75	24
		3	2	22.89	22.51	22.74	24
		3	3	22.86	22.50	22.55	24
		6	0	21.66	21.57	21.79	23
	16QAM	1	0	21.82	21.75	22.18	23
		1	2	21.96	21.79	22.08	23
		1	5	21.99	21.77	21.62	23
		3	0	21.63	21.53	21.76	23
		3	2	21.74	21.56	21.72	23
		3	3	21.72	21.56	21.58	23
		6	0	20.75	20.66	20.74	22
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	22.60	22.42	22.89	24
		1	7	22.97	22.59	23.03	24
		1	14	22.71	22.39	22.16	24
		8	0	21.69	21.63	22.00	23
		8	4	21.88	21.60	22.05	23
		8	7	21.90	21.62	21.74	23
		15	0	21.79	21.60	21.86	23
	16QAM	1	0	21.71	21.67	22.09	23
		1	7	22.25	21.88	22.35	23
		1	14	21.90	21.62	21.52	23
		8	0	20.70	20.60	20.94	22
		8	4	20.92	20.68	20.97	22
		8	7	20.90	20.68	20.72	22
		15	0	20.78	20.64	20.81	22

Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	23.31	22.92	23.40	24
		1	13	23.60	23.15	23.60	24
		1	24	23.30	23.36	22.97	24
		12	0	22.28	22.25	22.45	23
		12	6	22.53	22.28	22.65	23
		12	13	22.47	22.13	22.36	23
		25	0	22.40	22.13	22.48	23
	16QAM	1	0	22.26	22.09	22.44	23
		1	13	22.86	22.36	22.83	23
		1	24	22.56	22.46	22.23	23
		12	0	21.24	21.22	21.47	22
		12	6	21.52	21.25	21.63	22
		12	13	21.40	21.12	21.34	22
		25	0	21.42	21.12	21.49	22
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	23.13	23.04	22.58	24
		1	25	23.22	23.38	**23.66**	24
		1	49	23.01	23.37	22.83	24
		25	0	22.11	21.94	21.99	23
		25	13	22.23	22.02	**22.25**	23
		25	25	21.79	21.91	22.13	23
		50	0	22.05	21.95	**22.07**	23
	16QAM	1	0	22.12	22.28	21.84	23
		1	25	22.52	22.37	22.77	23
		1	49	22.13	22.47	22.06	23
		25	0	21.12	20.97	21.03	22
		25	13	21.26	21.08	21.28	22
		25	25	20.83	20.95	21.14	22
		50	0	20.98	20.9	21.03	22

LTE Band 17				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	22.67	22.66	22.73	24
		1	13	22.91	22.92	22.92	24
		1	24	22.57	22.70	22.76	24
		12	0	22.10	21.93	22.11	23
		12	6	22.06	22.08	22.28	23
		12	13	21.97	21.90	22.23	23
		25	0	22.09	21.92	22.18	23
	16QAM	1	0	21.97	21.92	22.06	23
		1	13	22.23	22.38	22.57	23
		1	24	21.89	22.00	22.04	23
		12	0	21.06	20.98	21.16	22
		12	6	21.15	21.15	21.35	22
		12	13	21.06	20.99	21.28	22
		25	0	21.14	21.00	21.25	22
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	22.62	22.69	22.69	24
		1	25	22.78	**22.93**	22.89	24
		1	49	22.68	22.75	22.72	24
		25	0	21.73	21.68	21.65	23
		25	13	21.75	**21.88**	21.84	23
		25	25	21.62	21.66	21.78	23
		50	0	21.64	**21.75**	21.73	23
	16QAM	1	0	22	21.99	22.05	23
		1	25	22.16	22.22	22.25	23
		1	49	21.98	22.06	22	23
		25	0	20.82	20.76	20.73	22
		25	13	20.85	20.83	20.92	22
		25	25	20.69	20.73	20.84	22
		50	0	20.71	20.69	20.79	22

Table 13 : Conducted Power Of LTE

8.1.2 Conducted Power of Ant 2(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	32.74	32.7	32.54	33.8	-9.19	23.55	23.51	23.35	24.61
GPRS/EGPRS (GMSK)	1 TX Slot	32.72	32.71	32.55	33.8	-9.19	23.53	23.52	23.36	24.61
	2 TX Slots	29.69	29.63	29.48	30.8	-6.18	23.51	23.45	23.3	24.62
	3 TX Slots	27.98	27.86	27.81	29.1	-4.42	**23.56**	23.44	23.39	**24.68**
	4 TX Slots	26.61	26.51	26.53	27.8	-3.17	23.44	23.34	23.36	24.63
EGPRS(8PSK)	1 TX Slot	26.75	26.65	26.59	28	-9.19	17.56	17.46	17.4	18.81
	2 TX Slots	24.56	24.49	24.32	26	-6.18	18.38	18.31	18.14	19.82
	3 TX Slots	22.52	22.39	22.34	24	-4.42	18.1	17.97	17.92	19.58
	4 TX Slots	20.33	20.25	20.19	22	-3.17	17.16	17.08	17.02	18.83
GSM 850 hotspot actived reduced 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	31.27	31.2	31.06	32	-9.19	22.08	22.01	21.87	22.81
GPRS/EGPRS (GMSK)	1 TX Slot	31.28	31.19	31.06	32	-9.19	22.09	22	21.87	22.81
	2 TX Slots	28.23	28.11	27.98	29	-6.18	22.05	21.93	21.8	22.82
	3 TX Slots	26.56	26.48	26.43	27.3	-4.42	**22.14**	22.06	22.01	**22.88**
	4 TX Slots	25.12	24.99	24.87	26	-3.17	21.95	21.82	21.7	22.83
EGPRS(8PSK)	1 TX Slot	26.78	26.74	26.68	28	-9.19	17.59	17.55	17.49	18.81
	2 TX Slots	24.53	24.48	24.36	26	-6.18	18.35	18.3	18.18	19.82
	3 TX Slots	22.44	22.37	22.41	24	-4.42	18.02	17.95	17.99	19.58
	4 TX Slots	20.34	20.27	20.22	22	-3.17	17.17	17.1	17.05	18.83
GSM 850 Head reduced 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	31.43	31.39	31.13	32.3	-9.19	22.24	22.2	21.94	23.11
GPRS/EGPRS (GMSK)	1 TX Slot	31.44	31.38	31.14	32.3	-9.19	22.25	22.19	21.95	23.11
	2 TX Slots	28.21	28.09	27.98	29.3	-6.18	22.03	21.91	21.8	23.12
	3 TX Slots	26.68	26.55	26.37	27.6	-4.42	**22.26**	22.13	21.95	**23.18**
	4 TX Slots	25.1	24.98	24.84	26.3	-3.17	21.93	21.81	21.67	23.13
EGPRS(8PSK)	1 TX Slot	26.75	26.73	26.61	28	-9.19	17.56	17.54	17.42	18.81
	2 TX Slots	24.52	24.42	24.38	26	-6.18	18.34	18.24	18.2	19.82
	3 TX Slots	22.6	22.48	22.47	24	-4.42	18.18	18.06	18.05	19.58
	4 TX Slots	20.63	20.51	20.49	22	-3.17	17.46	17.34	17.32	18.83

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	30.13	30.1	30.29	30.6	-9.19	20.94	20.91	21.1	21.41
GPRS/EGPRS (GMSK)	1 TX Slot	30.14	30.08	30.27	30.6	-9.19	20.95	20.89	21.08	21.41
	2 TX Slots	27.07	27.21	27.45	27.6	-6.18	20.89	21.03	21.27	21.42
	3 TX Slots	25.51	25.58	25.85	25.9	-4.42	21.09	21.16	**21.43**	**21.48**
	4 TX Slots	24.13	24.25	24.55	24.6	-3.17	20.96	21.08	21.38	21.43
EGPRS(8PSK)	1 TX Slot	26.36	26.14	26.23	27	-9.19	17.17	16.95	17.04	17.81
	2 TX Slots	24.02	23.79	23.86	25	-6.18	17.84	17.61	17.68	18.82
	3 TX Slots	21.77	21.63	21.77	23	-4.42	17.35	17.21	17.35	18.58
	4 TX Slots	19.48	19.25	19.42	21	-3.17	16.31	16.08	16.25	17.83
GSM 1900 hotspot actived reduced 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	28.74	28.73	28.93	29.1	-9.19	19.55	19.54	19.74	19.91
GPRS/EGPRS (GMSK)	1 TX Slot	28.76	28.72	28.9	29.1	-9.19	19.57	19.53	19.71	19.91
	2 TX Slots	25.7	25.79	26.03	26.1	-6.18	19.52	19.61	19.85	19.92
	3 TX Slots	24.02	24.07	24.35	24.4	-4.42	19.6	19.65	**19.93**	**19.98**
	4 TX Slots	22.64	22.77	23.07	23.1	-3.17	19.47	19.6	19.9	19.93
EGPRS(8PSK)	1 TX Slot	26.37	26.16	26.22	27	-9.19	17.18	16.97	17.03	17.81
	2 TX Slots	23.99	23.77	23.86	25	-6.18	17.81	17.59	17.68	18.82
	3 TX Slots	21.81	21.61	21.79	23	-4.42	17.39	17.19	17.37	18.58
	4 TX Slots	19.49	19.29	19.43	21	-3.17	16.32	16.12	16.26	17.83
GSM 1900 Head reduced 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)	28.65	28.86	28.93	28.84	29.1	-9.19	19.67	19.74	19.65	19.91
GPRS/EGPRS (GMSK)	1 TX Slot	28.84	28.9	28.83	29.1	-9.19	19.65	19.71	19.64	19.91
	2 TX Slots	25.67	25.76	26.03	26.1	-6.18	19.49	19.58	19.85	19.92
	3 TX Slots	23.96	24.04	24.35	24.4	-4.42	19.54	19.62	**19.93**	**19.98**
	4 TX Slots	22.61	22.71	23.04	23.1	-3.17	19.44	19.54	19.87	19.93
EGPRS(8PSK)	1 TX Slot	26.31	26.09	26.18	27	-9.19	17.12	16.9	16.99	17.81
	2 TX Slots	23.91	23.68	23.81	25	-6.18	17.73	17.5	17.63	18.82
	3 TX Slots	21.88	21.75	21.88	23	-4.42	17.46	17.33	17.46	18.58
	4 TX Slots	19.81	19.67	19.86	21	-3.17	16.64	16.5	16.69	17.83

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	23.32	23.35	23.31	24.5
	12.2kbps AMR	23.28	23.32	23.27	24.5
HSDPA	Subtest 1	21.65	21.53	21.61	23.5
	Subtest 2	22.01	21.97	22.06	23.5
	Subtest 3	21.29	21.27	21.37	22.8
	Subtest 4	21.32	21.27	21.36	22.8
HSUPA	Subtest 1	21.49	21.48	21.58	22.5
	Subtest 2	21.44	21.41	21.46	21.5
	Subtest 3	21.51	21.54	21.65	23
	Subtest 4	21.47	21.49	21.44	21.5
	Subtest 5	21.58	21.52	21.61	23
DC-HSDPA	Subtest 1	21.53	21.47	21.57	23.5
	Subtest 2	22.03	21.95	22.02	23.5
	Subtest 3	21.26	21.25	21.33	22.8
	Subtest 4	21.28	21.23	21.32	22.8

WCDMA Band II hotspot actived reduced power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	18.73	18.75	18.68	20
	12.2kbps AMR	18.69	18.71	18.65	20
HSDPA	Subtest 1	17.26	17.24	17.32	19
	Subtest 2	17.52	17.48	17.5	19
	Subtest 3	16.54	16.74	16.56	18.3
	Subtest 4	16.61	16.36	16.64	18.3
HSUPA	Subtest 1	17.11	17.08	17.09	18
	Subtest 2	16.97	16.92	16.89	17
	Subtest 3	17.12	17.01	17.09	18.5
	Subtest 4	16.94	16.97	16.91	17
	Subtest 5	17.1	17	17.09	18.5
DC-HSDPA	Subtest 1	17.17	17.15	17.25	19
	Subtest 2	17.48	17.43	17.45	19
	Subtest 3	16.49	16.68	16.52	18.3
	Subtest 4	16.57	16.42	16.56	18.3

WCDMA Band II Head reduced power					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	18.74	18.76	18.7	20
	12.2kbps AMR	18.71	18.72	18.63	20
HSDPA	Subtest 1	17.13	17.24	17.33	19
	Subtest 2	17.56	17.53	17.62	19
	Subtest 3	16.65	16.73	16.63	18.3
	Subtest 4	16.67	16.46	16.57	18.3
HSUPA	Subtest 1	17.02	16.97	17.19	18
	Subtest 2	16.87	16.89	16.94	17
	Subtest 3	17.18	17.14	17.25	18.5
	Subtest 4	16.84	16.88	16.91	17
	Subtest 5	17.08	17.06	17.16	18.5
DC-HSDPA	Subtest 1	17.06	17.19	17.28	19
	Subtest 2	17.5	17.48	17.56	19
	Subtest 3	16.59	16.69	16.57	18.3
	Subtest 4	16.63	16.41	16.48	18.3

WCDMA Band IV full power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	23.32	23.41	23.38	24.5
	12.2kbps AMR	23.3	23.37	23.35	24.5
HSDPA	Subtest 1	21.75	21.62	21.63	23.5
	Subtest 2	22.1	22.21	22.17	23.5
	Subtest 3	21.34	21.52	21.49	22.8
	Subtest 4	21.46	21.52	21.41	22.8
HSUPA	Subtest 1	21.72	21.76	21.72	22.5
	Subtest 2	21.37	21.44	21.47	21.5
	Subtest 3	21.56	21.65	21.73	23
	Subtest 4	21.34	21.38	21.45	21.5
	Subtest 5	21.67	21.8	21.75	23
DC-HSDPA	Subtest 1	21.72	21.53	21.6	23.5
	Subtest 2	22.04	22.14	22.11	23.5
	Subtest 3	21.27	21.47	21.4	22.8
	Subtest 4	21.4	21.46	21.38	22.8

WCDMA Band IV hotspot actived reduced power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	18.85	18.93	18.89	20
	12.2kbps AMR	18.81	18.87	18.85	20
HSDPA	Subtest 1	17.2	17.31	17.12	19
	Subtest 2	17.64	17.74	17.58	19
	Subtest 3	16.88	16.95	17.11	18.3
	Subtest 4	16.92	16.94	17.17	18.3
HSUPA	Subtest 1	17.19	17.3	17.24	18
	Subtest 2	16.82	16.87	16.93	17
	Subtest 3	17.1	17.21	17.2	18.5
	Subtest 4	16.85	16.89	16.9	17
	Subtest 5	17.1	17.21	17.18	18.5
DC-HSDPA	Subtest 1	17.16	17.25	17.06	19
	Subtest 2	17.59	17.66	17.55	19
	Subtest 3	16.8	16.9	17.05	18.3
	Subtest 4	16.89	16.85	17.13	18.3

WCDMA Band IV Head reduced power					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	18.84	18.94	18.91	20
	12.2kbps AMR	18.81	18.92	18.87	20
HSDPA	Subtest 1	17.34	17.36	17.09	19
	Subtest 2	17.71	17.8	17.73	19
	Subtest 3	16.93	17.02	17.15	18.3
	Subtest 4	17.02	17.09	17.23	18.3
HSUPA	Subtest 1	17.22	17.28	17.18	18
	Subtest 2	16.89	16.92	16.95	17
	Subtest 3	17.21	17.34	17.29	18.5
	Subtest 4	16.9	16.94	16.94	17
	Subtest 5	17.18	17.26	17.25	18.5
DC-HSDPA	Subtest 1	17.26	17.29	17.05	19
	Subtest 2	17.68	17.72	17.66	19
	Subtest 3	16.88	16.95	17.08	18.3
	Subtest 4	16.98	17.01	17.15	18.3

WCDMA Band V full power					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.45	23.53	23.56	25
	12.2kbps AMR	23.41	23.48	23.51	25
HSDPA	Subtest 1	22.07	22.11	22.09	24
	Subtest 2	22.31	22.3	22.35	24
	Subtest 3	21.58	21.56	21.62	23.3
	Subtest 4	21.55	21.53	21.6	23.3
HSUPA	Subtest 1	21.89	21.85	21.94	23
	Subtest 2	21.81	21.92	21.94	22
	Subtest 3	21.83	21.94	21.99	23.5
	Subtest 4	21.8	21.88	21.91	22
	Subtest 5	21.87	21.83	21.92	23.5
DC-HSDPA	Subtest 1	22.03	22.05	22.05	24
	Subtest 2	22.25	22.23	22.25	24
	Subtest 3	21.56	21.52	21.52	23.3
	Subtest 4	21.49	21.46	21.51	23.3

WCDMA Band V hotspot actived reduced power					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	20.51	20.53	20.57	22
	12.2kbps AMR	20.47	20.49	20.53	22
HSDPA	Subtest 1	19.06	19.09	19.03	21
	Subtest 2	19.43	19.44	19.38	21
	Subtest 3	18.65	18.64	18.62	20.3
	Subtest 4	18.66	18.63	18.59	20.3
HSUPA	Subtest 1	18.91	18.87	18.91	20
	Subtest 2	18.79	18.9	18.92	19
	Subtest 3	18.94	18.87	18.92	20.5
	Subtest 4	18.84	18.88	18.93	19
	Subtest 5	18.88	18.86	18.9	20.5
DC-HSDPA	Subtest 1	18.97	19.06	19.06	21
	Subtest 2	19.37	19.38	19.33	21
	Subtest 3	18.56	18.56	18.6	20.3
	Subtest 4	18.56	18.57	18.55	20.3

WCDMA Band V Head reduced power					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	20.49	20.53	20.51	22
	12.2kbps AMR	20.43	20.48	20.46	22
HSDPA	Subtest 1	19.04	19.12	19.11	21
	Subtest 2	19.45	19.48	19.51	21
	Subtest 3	18.68	18.66	18.72	20.3
	Subtest 4	18.69	18.65	18.67	20.3
HSUPA	Subtest 1	18.87	18.86	18.88	20
	Subtest 2	18.89	18.98	18.93	19
	Subtest 3	18.87	18.96	18.86	20.5
	Subtest 4	18.84	18.94	18.99	19
	Subtest 5	18.95	18.96	18.99	20.5
DC-HSDPA	Subtest 1	18.96	19.07	19.06	21
	Subtest 2	19.43	19.42	19.42	21
	Subtest 3	18.64	18.58	18.65	20.3
	Subtest 4	18.59	18.58	18.65	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	21.75	22.08	22.07	23.8
		1	2	21.91	22.12	22.09	23.8
		1	5	21.93	22.00	21.87	23.8
		3	0	21.84	22.10	22.06	23.8
		3	2	21.87	22.09	21.98	23.8
		3	3	21.85	22.02	21.96	23.8
		6	0	20.88	20.97	21.02	22.8
	16QAM	1	0	21.02	21.13	21.22	22.8
		1	2	21.18	21.21	21.25	22.8
		1	5	21.15	21.05	21.06	22.8
		3	0	20.94	21.03	21.07	22.8
		3	2	20.97	21.03	21.00	22.8
		3	3	20.97	20.97	20.91	22.8
		6	0	19.92	20.00	20.10	21.8
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	21.66	21.90	22.14	23.8
		1	7	22.06	22.14	22.19	23.8
		1	14	21.90	21.85	21.74	23.8
		8	0	20.97	21.03	21.15	22.8
		8	4	21.08	21.00	21.09	22.8
		8	7	21.08	20.89	20.98	22.8
		15	0	21.00	20.94	21.06	22.8
	16QAM	1	0	20.90	21.05	21.21	22.8
		1	7	21.29	21.25	21.32	22.8
		1	14	21.19	20.96	20.87	22.8
		8	0	19.99	20.00	20.19	21.8
		8	4	20.12	19.99	20.12	21.8
		8	7	20.11	19.90	20.03	21.8
		15	0	20.01	19.95	20.08	21.8

Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.19	22.51	22.68	23.8
		1	13	22.69	22.64	22.77	23.8
		1	24	22.84	22.53	22.47	23.8
		12	0	21.61	21.56	21.78	22.8
		12	6	21.75	21.61	21.85	22.8
		12	13	21.68	21.42	21.54	22.8
		25	0	21.62	21.48	21.77	22.8
	16QAM	1	0	21.47	21.59	21.85	22.8
		1	13	22.00	21.78	21.89	22.8
		1	24	21.99	21.78	21.61	22.8
		12	0	20.60	20.54	20.82	21.8
		12	6	20.76	20.60	20.81	21.8
		12	13	20.72	20.40	20.50	21.8
		25	0	20.63	20.49	20.72	21.8
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	22.25	22.59	22.88	23.8
		1	25	22.92	22.73	22.87	23.8
		1	49	23.02	22.65	22.55	23.8
		25	0	21.71	21.70	21.96	22.8
		25	13	21.93	21.64	21.95	22.8
		25	25	22.06	21.56	21.86	22.8
		50	0	21.87	21.72	22.00	22.8
	16QAM	1	0	21.48	21.71	22.09	22.8
		1	25	22.19	21.91	22.08	22.8
		1	49	22.26	21.88	21.73	22.8
		25	0	20.69	20.69	20.98	21.8
		25	13	20.95	20.63	20.99	21.8
		25	25	21.04	20.47	20.77	21.8
		50	0	20.84	20.61	20.95	21.8

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	22.41	22.75	23.07	23.8
		1	38	23.17	22.76	23.04	23.8
		1	74	22.88	22.54	22.43	23.8
		36	0	21.96	21.69	22.08	22.8
		36	18	22.26	21.60	22.04	22.8
		36	39	22.18	21.44	21.71	22.8
		75	0	22.07	21.58	22.06	22.8
	16QAM	1	0	21.64	21.85	22.23	22.8
		1	38	22.49	21.83	22.22	22.8
		1	74	22.03	21.77	21.62	22.8
		36	0	20.93	20.73	21.10	21.8
		36	18	21.27	20.63	21.05	21.8
		36	39	21.19	20.49	20.74	21.8
		75	0	21.07	20.55	21.07	21.8

Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	22.33	22.75	22.57	23.8
		1	50	**23.15**	22.96	23.12	23.8
		1	99	22.64	22.47	22.29	23.8
		50	0	21.86	21.55	21.83	22.8
		50	25	**22.14**	21.77	22.01	22.8
		50	50	21.90	21.23	21.77	22.8
		100	0	**21.87**	21.40	21.83	22.8
	16QAM	1	0	21.53	21.82	21.77	22.8
		1	50	22.33	21.77	22.34	22.8
		1	99	21.75	21.58	21.48	22.8
		50	0	20.78	20.52	20.81	21.8
		50	25	21.08	20.54	21.00	21.8
		50	50	20.85	20.20	20.79	21.8
		100	0	20.83	20.38	20.83	21.8

LTE Band 2 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	17.73	17.70	17.88	19.5
		1	2	17.69	17.72	17.93	19.5
		1	5	17.86	17.75	17.67	19.5
		3	0	17.56	17.68	17.90	19.5
		3	2	17.64	17.67	17.84	19.5
		3	3	17.62	17.62	17.75	19.5
		6	0	17.58	17.63	17.81	19.5
	16QAM	1	0	17.70	17.91	18.10	19.5
		1	2	17.95	18.01	18.15	19.5
		1	5	17.89	17.77	17.88	19.5
		3	0	17.66	17.67	17.90	19.5
		3	2	17.75	17.70	17.84	19.5
		3	3	17.69	17.68	17.77	19.5
		6	0	17.63	17.64	17.81	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	17.74	17.73	17.93	19.5
		1	7	17.85	17.74	18.03	19.5
		1	14	17.66	17.84	17.55	19.5
		8	0	17.64	17.70	17.96	19.5
		8	4	17.77	17.68	17.91	19.5
		8	7	17.76	17.57	17.80	19.5
		15	0	17.67	17.62	17.87	19.5
	16QAM	1	0	17.68	17.79	18.10	19.5
		1	7	18.17	18.01	18.25	19.5
		1	14	17.94	17.68	17.71	19.5
		8	0	17.69	17.69	17.95	19.5
		8	4	17.79	17.67	17.88	19.5
		8	7	17.80	17.55	17.75	19.5
		15	0	17.69	17.57	17.82	19.5

Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	17.93	18.19	18.61	19.5
		1	13	18.53	18.32	18.62	19.5
		1	24	18.55	18.04	18.20	19.5
		12	0	18.31	18.30	18.62	19.5
		12	6	18.47	18.34	18.62	19.5
		12	13	18.38	18.07	18.27	19.5
		25	0	18.32	18.19	18.53	19.5
	16QAM	1	0	18.15	18.45	18.84	19.5
		1	13	18.75	18.56	18.81	19.5
		1	24	18.79	18.29	18.41	19.5
		12	0	18.24	18.23	18.56	19.5
		12	6	18.46	18.28	18.54	19.5
		12	13	18.38	18.02	18.20	19.5
		25	0	18.31	18.13	18.45	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	17.96	18.28	18.73	19.5
		1	25	18.85	18.46	18.90	19.5
		1	49	18.95	18.13	18.31	19.5
		25	0	18.39	18.39	18.81	19.5
		25	13	18.69	18.32	18.82	19.5
		25	25	18.84	18.13	18.55	19.5
		50	0	18.63	18.31	18.80	19.5
	16QAM	1	0	18.30	18.56	19.06	19.5
		1	25	19.08	18.74	19.17	19.5
		1	49	19.19	18.38	18.61	19.5
		25	0	18.36	18.31	18.81	19.5
		25	13	18.66	18.27	18.81	19.5
		25	25	18.76	18.09	18.53	19.5
		50	0	18.54	18.24	18.71	19.5

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	18.10	18.50	18.79	19.5
		1	38	19.19	18.30	18.99	19.5
		1	74	18.74	17.98	18.03	19.5
		36	0	18.59	18.37	18.88	19.5
		36	18	18.95	18.25	18.88	19.5
		36	39	18.94	18.09	18.49	19.5
		75	0	18.74	18.19	18.84	19.5
	16QAM	1	0	18.45	18.76	19.06	19.5
		1	38	19.39	18.58	19.29	19.5
		1	74	18.98	18.38	18.38	19.5
		36	0	18.52	18.30	18.81	19.5
		36	18	18.90	18.20	18.81	19.5
		36	39	18.87	18.03	18.43	19.5
		75	0	18.67	18.14	18.77	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	17.92	18.45	18.15	19.5
		1	50	**19.16**	18.56	19.02	19.5
		1	99	18.36	17.92	18.01	19.5
		50	0	18.54	18.26	18.49	19.5
		50	25	**18.88**	18.27	18.76	19.5
		50	50	18.64	17.89	18.58	19.5
		100	0	**18.59**	18.08	18.54	19.5
	16QAM	1	0	18.23	18.69	18.49	19.5
		1	50	19.40	18.60	19.28	19.5
		1	99	18.65	18.15	18.29	19.5
		50	0	18.51	18.17	18.41	19.5
		50	25	18.84	18.19	18.68	19.5
		50	50	18.60	17.83	18.49	19.5
		100	0	18.56	18.00	18.47	19.5

LTE Band 2 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	17.58	17.71	17.88	19.5
		1	2	17.67	17.74	17.95	19.5
		1	5	17.63	17.62	17.71	19.5
		3	0	17.62	17.75	17.93	19.5
		3	2	17.67	17.74	17.86	19.5
		3	3	17.64	17.66	17.78	19.5
		6	0	17.59	17.68	17.83	19.5
	16QAM	1	0	17.84	17.96	18.07	19.5
		1	2	17.97	18.04	18.19	19.5
		1	5	17.92	17.90	17.92	19.5
		3	0	17.64	17.73	17.91	19.5
		3	2	17.73	17.75	17.83	19.5
		3	3	17.68	17.69	17.76	19.5
		6	0	17.63	17.67	17.79	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	17.32	17.48	17.92	19.5
		1	7	17.84	17.77	18.00	19.5
		1	14	17.60	17.38	17.52	19.5
		8	0	17.64	17.67	17.93	19.5
		8	4	17.77	17.65	17.87	19.5
		8	7	17.76	17.53	17.76	19.5
		15	0	17.68	17.59	17.83	19.5
	16QAM	1	0	17.62	17.73	18.20	19.5
		1	7	18.16	18.03	18.20	19.5
		1	14	17.90	17.64	17.77	19.5
		8	0	17.61	17.66	17.88	19.5
		8	4	17.76	17.63	17.85	19.5
		8	7	17.76	17.50	17.74	19.5
		15	0	17.63	17.53	17.78	19.5

Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	17.87	18.15	18.59	19.5
		1	13	18.50	18.26	18.54	19.5
		1	24	18.53	17.97	18.11	19.5
		12	0	18.24	18.26	18.61	19.5
		12	6	18.40	18.26	18.61	19.5
		12	13	18.32	18.06	18.28	19.5
		25	0	18.26	18.12	18.53	19.5
	16QAM	1	0	18.16	18.46	18.81	19.5
		1	13	18.79	18.55	18.85	19.5
		1	24	18.86	18.34	18.46	19.5
		12	0	18.23	18.24	18.55	19.5
		12	6	18.38	18.22	18.54	19.5
		12	13	18.32	18.02	18.22	19.5
		25	0	18.28	18.08	18.48	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	17.99	18.36	18.78	19.5
		1	25	18.86	18.49	18.92	19.5
		1	49	18.98	18.14	18.39	19.5
		25	0	18.46	18.42	18.84	19.5
		25	13	18.77	18.36	18.86	19.5
		25	25	18.86	18.17	18.58	19.5
		50	0	18.66	18.35	18.84	19.5
	16QAM	1	0	18.24	18.64	19.04	19.5
		1	25	19.16	18.70	19.15	19.5
		1	49	19.23	18.47	18.62	19.5
		25	0	18.40	18.37	18.84	19.5
		25	13	18.69	18.28	18.84	19.5
		25	25	18.78	18.12	18.56	19.5
		50	0	18.58	18.27	18.76	19.5

Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	18.10	18.50	18.77	19.5
		1	38	19.10	18.29	19.04	19.5
		1	74	18.76	18.03	18.07	19.5
		36	0	18.60	18.36	18.86	19.5
		36	18	18.96	18.26	18.86	19.5
		36	39	18.96	18.08	18.47	19.5
		75	0	18.75	18.18	18.81	19.5
	16QAM	1	0	18.40	18.69	19.04	19.5
		1	38	19.17	18.60	19.12	19.5
		1	74	19.02	18.31	18.32	19.5
		36	0	18.53	18.28	18.79	19.5
		36	18	18.93	18.19	18.79	19.5
		36	39	18.87	18.01	18.40	19.5
		75	0	18.74	18.10	18.75	19.5
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	17.99	18.52	18.20	19.5
		1	50	**19.16**	18.54	19.02	19.5
		1	99	18.41	17.93	18.08	19.5
		50	0	18.62	18.28	18.56	19.5
		50	25	**18.96**	18.29	18.83	19.5
		50	50	18.72	17.97	18.66	19.5
		100	0	**18.66**	18.16	18.62	19.5
	16QAM	1	0	18.23	18.89	18.47	19.5
		1	50	19.39	18.75	19.26	19.5
		1	99	18.69	18.26	18.23	19.5
		50	0	18.52	18.25	18.48	19.5
		50	25	18.85	18.27	18.75	19.5
		50	50	18.62	17.90	18.57	19.5
		100	0	18.56	18.08	18.54	19.5

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	22.58	21.84	22.93	23.9
		1	2	22.62	21.93	22.96	23.9
		1	5	22.51	21.83	22.81	23.9
		3	0	22.65	21.94	22.93	23.9
		3	2	22.65	21.98	22.93	23.9
		3	3	22.58	21.89	22.83	23.9
		6	0	21.69	20.99	21.93	22.9
	16QAM	1	0	21.83	21.18	22.22	22.9
		1	2	21.88	21.27	22.16	22.9
		1	5	21.75	21.13	21.95	22.9
		3	0	21.70	21.03	21.93	22.9
		3	2	21.74	21.06	21.96	22.9
		3	3	21.66	20.99	21.86	22.9
		6	0	20.66	19.99	20.97	21.9
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	22.48	21.67	22.80	23.9
		1	7	22.70	22.02	23.00	23.9
		1	14	22.43	21.73	22.68	23.9
		8	0	21.69	20.97	22.14	22.9
		8	4	21.72	21.03	22.07	22.9
		8	7	21.64	20.97	21.89	22.9
		15	0	21.68	20.99	22.02	22.9
	16QAM	1	0	21.74	21.00	22.21	22.9
		1	7	21.89	21.34	22.26	22.9
		1	14	21.69	21.07	21.80	22.9
		8	0	20.70	19.99	21.06	21.9
		8	4	20.70	20.02	21.01	21.9
		8	7	20.61	19.94	20.91	21.9
		15	0	20.62	19.94	20.93	21.9

Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	23.11	22.35	23.15	23.9
		1	13	23.00	22.34	23.15	23.9
		1	24	22.89	22.18	23.09	23.9
		12	0	22.05	21.25	22.55	22.9
		12	6	22.10	21.40	22.52	22.9
		12	13	21.94	21.27	22.29	22.9
		25	0	22.01	21.29	22.30	22.9
	16QAM	1	0	22.34	21.75	22.76	22.9
		1	13	22.33	21.61	22.66	22.9
		1	24	22.18	21.40	22.38	22.9
		12	0	21.09	20.35	21.47	21.9
		12	6	21.13	20.46	21.46	21.9
		12	13	20.97	20.22	21.21	21.9
		25	0	21.06	20.34	21.23	21.9

Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	23.04	22.39	23.16	23.9
		1	25	22.97	22.47	23.13	23.9
		1	49	22.72	22.46	23.14	23.9
		25	0	22.08	21.24	22.42	22.9
		25	13	22.10	21.41	22.50	22.9
		25	25	21.86	21.30	22.31	22.9
		50	0	21.94	21.39	22.30	22.9
	16QAM	1	0	22.32	21.75	22.50	22.9
		1	25	22.26	21.77	22.73	22.9
		1	49	21.96	21.77	22.49	22.9
		25	0	21.06	20.35	21.34	21.9
		25	13	21.09	20.52	21.42	21.9
		25	25	20.84	20.27	21.25	21.9
		50	0	20.92	20.38	21.21	21.9

Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	23.09	22.55	22.93	23.9
		1	38	22.91	22.27	23.15	23.9
		1	74	22.48	22.89	23.16	23.9
		36	0	22.03	21.28	22.17	22.9
		36	18	21.90	21.33	22.38	22.9
		36	39	21.63	21.35	22.31	22.9
		75	0	21.91	21.34	22.20	22.9
	16QAM	1	0	22.40	21.81	22.26	22.9
		1	38	22.17	21.58	22.62	22.9
		1	74	21.73	22.12	22.54	22.9
		36	0	21.11	20.33	21.09	21.9
		36	18	20.99	20.38	21.32	21.9
		36	39	20.67	20.27	21.24	21.9
		75	0	20.87	20.38	21.13	21.9

Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	23.04	22.51	22.47	23.9
		1	50	23.05	22.93	**23.21**	23.9
		1	99	22.04	22.45	23.02	23.9
		50	0	21.95	21.30	21.94	22.9
		50	25	21.96	21.93	**22.27**	22.9
		50	50	21.38	21.48	22.24	22.9
		100	0	21.69	21.40	22.12	22.9
	16QAM	1	0	22.34	21.86	21.70	22.9
		1	50	22.02	21.79	22.48	22.9
		1	99	21.31	21.81	22.25	22.9
		50	0	20.96	20.37	20.84	21.9
		50	25	20.77	20.45	21.15	21.9
		50	50	20.35	20.40	21.16	21.9
		100	0	20.67	20.45	21.03	21.9

LTE Band 4 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	19.19	18.43	19.58	20.5
		1	2	19.27	18.54	19.64	20.5
		1	5	19.17	18.39	19.46	20.5
		3	0	19.26	18.52	19.57	20.5
		3	2	19.26	18.56	19.60	20.5
		3	3	19.21	18.48	19.56	20.5
		6	0	19.21	18.50	19.61	20.5
	16QAM	1	0	19.43	18.74	19.81	20.5
		1	2	19.58	18.80	19.80	20.5
		1	5	19.42	18.69	19.68	20.5
		3	0	19.32	18.54	19.69	20.5
		3	2	19.30	18.58	19.67	20.5
		3	3	19.25	18.49	19.64	20.5
		6	0	19.23	18.49	19.59	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	19.08	18.17	19.56	20.5
		1	7	19.30	18.56	19.65	20.5
		1	14	19.00	18.21	19.27	20.5
		8	0	19.24	18.46	19.65	20.5
		8	4	19.24	18.52	19.60	20.5
		8	7	19.14	18.44	19.51	20.5
		15	0	19.17	18.46	19.58	20.5
	16QAM	1	0	19.27	18.50	19.84	20.5
		1	7	19.52	18.80	19.92	20.5
		1	14	19.25	18.56	19.60	20.5
		8	0	19.18	18.47	19.68	20.5
		8	4	19.18	18.48	19.60	20.5
		8	7	19.11	18.41	19.51	20.5
		15	0	19.16	18.39	19.52	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	19.65	18.82	19.83	20.5
		1	13	19.64	18.85	19.84	20.5
		1	24	19.51	18.78	19.79	20.5
		12	0	19.55	18.83	19.83	20.5
		12	6	19.58	18.91	19.81	20.5
		12	13	19.41	18.73	19.84	20.5
		25	0	19.49	18.79	19.85	20.5
	16QAM	1	0	19.95	19.13	19.83	20.5
		1	13	19.95	19.17	19.81	20.5
		1	24	19.75	19.00	19.83	20.5
		12	0	19.52	18.77	19.82	20.5
		12	6	19.57	18.92	19.83	20.5
		12	13	19.40	18.74	19.80	20.5
		25	0	19.48	18.80	19.80	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	19.62	18.83	19.80	20.5
		1	25	19.54	18.97	19.81	20.5
		1	49	19.21	18.95	19.80	20.5
		25	0	19.47	18.73	19.82	20.5
		25	13	19.48	18.84	19.83	20.5
		25	25	19.23	18.72	19.72	20.5
		50	0	19.36	18.80	19.72	20.5
	16QAM	1	0	19.81	19.09	19.83	20.5
		1	25	19.80	19.17	19.82	20.5
		1	49	19.54	19.14	19.54	20.5
		25	0	19.43	18.67	19.81	20.5
		25	13	19.44	18.83	19.83	20.5
		25	25	19.22	18.75	19.66	20.5
		50	0	19.26	18.73	19.64	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	19.63	19.12	19.42	20.5
		1	38	19.50	18.87	19.52	20.5
		1	74	19.07	19.42	19.78	20.5
		36	0	19.59	18.83	19.65	20.5
		36	18	19.45	18.92	19.83	20.5
		36	39	19.12	18.88	19.82	20.5
		75	0	19.34	18.94	19.74	20.5
	16QAM	1	0	19.89	19.42	19.75	20.5
		1	38	19.77	19.15	19.81	20.5
		1	74	19.31	19.71	19,82	20.5
		36	0	19.55	18.76	19.64	20.5
		36	18	19.41	18.81	19.81	20.5
		36	39	19.10	18.82	19.80	20.5
		75	0	19.32	18.83	19.68	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	19.56	19.04	19.04	20.5
		1	50	19.59	19.10	**19.85**	20.5
		1	99	18.91	19.03	19.60	20.5
		50	0	19.37	18.74	19.36	20.5
		50	25	19.40	18.93	**19.69**	20.5
		50	50	18.78	18.91	19.68	20.5
		100	0	19.10	18.89	19.55	20.5
	16QAM	1	0	19.91	19.33	19.30	20.5
		1	50	19.55	19.23	19.83	20.5
		1	99	18.71	19.38	19.88	20.5
		50	0	19.31	18.65	19.28	20.5
		50	25	19.12	18.83	19.61	20.5
		50	50	18.68	18.83	19.60	20.5
		100	0	19.01	18.81	19.48	20.5

LTE Band 4 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	19.21	18.44	19.57	20.5
		1	2	19.29	18.56	19.62	20.5
		1	5	19.13	18.40	19.44	20.5
		3	0	19.27	18.47	19.57	20.5
		3	2	19.26	18.57	19.59	20.5
		3	3	19.21	18.48	19.49	20.5
		6	0	19.22	18.51	19.54	20.5
	16QAM	1	0	19.40	18.67	19.86	20.5
		1	2	19.53	18.82	19.90	20.5
		1	5	19.35	18.71	19.70	20.5
		3	0	19.25	18.53	19.58	20.5
		3	2	19.25	18.58	19.63	20.5
		3	3	19.20	18.51	19.55	20.5
		6	0	19.25	18.49	19.56	20.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	19.10	18.21	19.57	20.5
		1	7	19.29	18.58	19.65	20.5
		1	14	19.04	18.27	19.26	20.5
		8	0	19.22	18.48	19.69	20.5
		8	4	19.21	18.51	19.61	20.5
		8	7	19.12	18.42	19.50	20.5
		15	0	19.20	18.44	19.56	20.5
	16QAM	1	0	19.37	18.54	19.81	20.5
		1	7	19.62	18.82	19.80	20.5
		1	14	19.27	18.51	19.63	20.5
		8	0	19.22	18.43	19.65	20.5
		8	4	19.24	18.48	19.58	20.5
		8	7	19.13	18.41	19.48	20.5
		15	0	19.14	18.38	19.50	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	19.67	18.92	19.76	20.5
		1	13	19.66	18.91	19.69	20.5
		1	24	19.46	18.76	19.80	20.5
		12	0	19.58	18.82	19.66	20.5
		12	6	19.62	18.90	19.66	20.5
		12	13	19.45	18.72	19.84	20.5
		25	0	19.53	18.78	19.84	20.5
	16QAM	1	0	19.74	19.25	19.66	20.5
		1	13	19.79	19.22	19.66	20.5
		1	24	19.81	19.03	19.78	20.5
		12	0	19.52	18.79	19.66	20.5
		12	6	19.56	18.92	19.79	20.5
		12	13	19.38	18.75	19.80	20.5
		25	0	19.47	18.79	19.79	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	19.62	18.92	19.72	20.5
		1	25	19.59	18.99	19.83	20.5
		1	49	19.27	18.98	19.85	20.5
		25	0	19.51	18.77	19.81	20.5
		25	13	19.53	18.93	19.78	20.5
		25	25	19.29	18.77	19.77	20.5
		50	0	19.41	18.85	19.77	20.5
	16QAM	1	0	19.85	19.17	19.82	20.5
		1	25	19.82	19.29	19.85	20.5
		1	49	19.58	19.24	19.83	20.5
		25	0	19.48	18.69	19.84	20.5
		25	13	19.50	18.86	19.90	20.5
		25	25	19.26	18.70	19.71	20.5
		50	0	19.31	18.77	19.68	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	19.67	19.12	19.43	20.5
		1	38	19.51	18.92	19.85	20.5
		1	74	19.10	19.47	19.85	20.5
		36	0	19.57	18.80	19.70	20.5
		36	18	19.47	18.89	19.84	20.5
		36	39	19.16	18.86	19.85	20.5
		75	0	19.38	18.91	19.74	20.5
	16QAM	1	0	19.85	19.43	19.78	20.5
		1	38	19.76	19.16	19.78	20.5
		1	74	19.36	19.72	19.75	20.5
		36	0	19.54	18.74	19.65	20.5
		36	18	19.39	18.84	19.83	20.5
		36	39	19.08	18.81	19.79	20.5
		75	0	19.29	18.85	19.67	20.5

Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	19.62	19.11	19.06	20.5
		1	50	19.65	19.15	**19.86**	20.5
		1	99	18.81	19.03	19.59	20.5
		50	0	19.45	18.75	19.37	20.5
		50	25	19.53	19.05	**19.70**	20.5
		50	50	18.80	18.98	19.69	20.5
		100	0	19.12	18.90	19.56	20.5
	16QAM	1	0	19.83	19.47	19.40	20.5
		1	50	19.65	19.32	20.16	20.5
		1	99	18.84	19.30	19.95	20.5
		50	0	19.33	18.72	19.36	20.5
		50	25	19.14	18.90	19.68	20.5
		50	50	18.71	18.90	19.67	20.5
		100	0	19.02	18.89	19.55	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	22.56	22.91	23.2	24.5
		1	2	22.72	22.99	23.19	24.5
		1	5	22.62	22.8	22.94	24.5
		3	0	22.61	22.94	23.17	24.5
		3	2	22.68	22.91	23.06	24.5
		3	3	22.69	22.85	23.06	24.5
		6	0	21.66	21.95	22.09	23.5
	16QAM	1	0	21.82	22.17	22.35	23.5
		1	2	21.95	22.19	22.35	23.5
		1	5	21.86	22.03	22.1	23.5
		3	0	21.64	22.01	22.22	23.5
		3	2	21.73	21.98	22.08	23.5
		3	3	21.7	21.94	22.05	23.5
		6	0	20.68	21.06	21.05	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.41	22.84	23.08	24.5
		1	7	22.85	23.02	23.35	24.5
		1	14	22.52	22.62	22.76	24.5
		8	0	21.61	21.98	22.14	23.5
		8	4	21.73	21.96	22.2	23.5
		8	7	21.67	21.87	22.04	23.5
		15	0	21.63	21.89	22.11	23.5
	16QAM	1	0	21.56	22.04	22.24	23.5
		1	7	22.09	22.24	22.46	23.5
		1	14	21.7	21.84	21.94	23.5
		8	0	20.7	21.04	21.12	22.5
		8	4	20.83	21.01	21.2	22.5
		8	7	20.76	20.96	21.03	22.5
		15	0	20.69	20.94	21.06	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	23.03	23.33	23.51	24.5
		1	13	23.44	23.49	23.75	24.5
		1	24	23.49	23.32	23.56	24.5
		12	0	22.28	22.6	22.64	23.5
		12	6	22.47	22.58	22.75	23.5
		12	13	22.34	22.37	22.62	23.5
		25	0	22.34	22.49	22.57	23.5
	16QAM	1	0	22.2	22.52	22.67	23.5
		1	13	22.62	22.65	22.94	23.5
		1	24	22.7	22.52	22.72	23.5
		12	0	21.22	21.55	21.58	22.5
		12	6	21.43	21.55	21.69	22.5
		12	13	21.29	21.33	21.57	22.5
		25	0	21.29	21.45	21.54	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.82	23.23	23.02	24.5
		1	25	23.66	23.47	**23.79**	24.5
		1	49	23.18	23.10	23.20	24.5
		25	0	22.23	22.48	22.38	23.5
		25	13	22.50	22.51	**22.53**	23.5
		25	25	22.41	22.16	22.36	23.5
		50	0	22.30	22.33	22.42	23.5
	16QAM	1	0	22.00	22.50	22.18	23.5
		1	25	22.79	22.63	22.86	23.5
		1	49	22.35	22.24	22.34	23.5
		25	0	21.18	21.42	21.30	22.5
		25	13	21.46	21.38	21.47	22.5
		25	25	21.38	21.09	21.30	22.5
		50	0	21.23	21.26	21.36	22.5

LTE Band 5 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	20.23	20.51	20.75	22
		1	2	20.22	20.62	20.84	22
		1	5	20.11	20.41	20.54	22
		3	0	20.12	20.59	20.81	22
		3	2	20.2	20.58	20.71	22
		3	3	20.16	20.51	20.64	22
		6	0	20.13	20.53	20.68	22
	16QAM	1	0	20.31	20.75	20.99	22
		1	2	20.43	20.86	21.01	22
		1	5	20.38	20.61	20.74	22
		3	0	20.19	20.59	20.86	22
		3	2	20.3	20.58	20.71	22
		3	3	20.25	20.51	20.7	22
		6	0	20.14	20.56	20.68	22
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	20.1	20.36	20.53	22
		1	7	20.36	20.67	20.94	22
		1	14	20.01	20.24	20.28	22
		8	0	20.05	20.53	20.7	22
		8	4	20.23	20.52	20.79	22
		8	7	20.17	20.41	20.62	22
		15	0	20.12	20.43	20.68	22
	16QAM	1	0	20.1	20.63	20.8	22
		1	7	20.7	20.95	21.21	22
		1	14	20.25	20.58	20.53	22
		8	0	20.1	20.51	20.69	22
		8	4	20.23	20.52	20.75	22
		8	7	20.19	20.4	20.62	22
		15	0	20.11	20.4	20.64	22

Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	20.5	21	20.94	22
		1	13	20.98	21.2	21.31	22
		1	24	20.99	20.84	20.99	22
		12	0	20.8	21.21	21.16	22
		12	6	21.01	21.18	21.23	22
		12	13	20.87	20.95	21.08	22
		25	0	20.86	21.08	21.08	22
	16QAM	1	0	20.78	21.22	21.17	22
		1	13	21.24	21.37	21.51	22
		1	24	21.23	21.11	21.25	22
		12	0	20.79	21.15	21.12	22
		12	6	21	21.14	21.23	22
		12	13	20.86	20.9	21.04	22
		25	0	20.83	21.02	21.04	22

Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	20.24	20.90	20.55	22
		1	25	21.22	21.11	**21.25**	22
		1	49	20.82	20.58	20.65	22
		25	0	20.78	21.05	20.88	22
		25	13	21.08	21.06	**21.14**	22
		25	25	20.99	20.73	20.88	22
		50	0	20.85	20.91	20.93	22
	16QAM	1	0	20.56	21.12	20.79	22
		1	25	21.48	21.36	21.45	22
		1	49	21.10	20.86	20.90	22
		25	0	20.75	21.03	20.84	22
		25	13	21.03	20.97	20.98	22
		25	25	20.93	20.68	20.83	22
		50	0	20.80	20.84	20.87	22

LTE Band 5 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	20.02	20.52	20.75	22
		1	2	20.21	20.61	20.84	22
		1	5	20.11	20.42	20.53	22
		3	0	20.12	20.58	20.81	22
		3	2	20.2	20.57	20.69	22
		3	3	20.16	20.5	20.64	22
		6	0	20.13	20.53	20.67	22
	16QAM	1	0	20.33	20.8	20.98	22
		1	2	20.54	20.89	21.06	22
		1	5	20.45	20.7	20.8	22
		3	0	20.2	20.61	20.82	22
		3	2	20.25	20.61	20.75	22
		3	3	20.23	20.53	20.66	22
		6	0	20.18	20.54	20.67	22
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	19.8	20.37	20.54	22
		1	7	20.34	20.65	20.94	22
		1	14	19.94	20.23	20.28	22
		8	0	20.09	20.52	20.69	22
		8	4	20.22	20.5	20.78	22
		8	7	20.16	20.4	20.62	22
		15	0	20.11	20.42	20.67	22
	16QAM	1	0	20.08	20.59	20.82	22
		1	7	20.65	20.89	21.12	22
		1	14	20.21	20.49	20.55	22
		8	0	20.08	20.49	20.67	22
		8	4	20.22	20.48	20.77	22
		8	7	20.17	20.37	20.6	22
		15	0	20.08	20.37	20.63	22

Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	20.49	21.04	20.95	22
		1	13	20.97	21.2	21.29	22
		1	24	20.98	20.85	20.98	22
		12	0	20.8	21.2	21.14	22
		12	6	21	21.18	21.26	22
		12	13	20.86	20.94	21.06	22
		25	0	20.9	21.06	21.06	22
	16QAM	1	0	20.85	21.19	21.16	22
		1	13	21.29	21.37	21.51	22
		1	24	21.33	21.13	21.33	22
		12	0	20.81	21.13	21.16	22
		12	6	21	21.11	21.29	22
		12	13	20.85	20.92	21.07	22
		25	0	20.83	21.01	21.09	22

Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	20.71	20.79	20.55	22
		1	25	21.29	21.27	**21.33**	22
		1	49	20.78	20.61	20.65	22
		25	0	20.75	21.03	20.95	22
		25	13	21.16	21.17	**21.27**	22
		25	25	20.97	20.72	20.95	22
		50	0	20.95	21.01	21.10	22
	16QAM	1	0	20.55	21.17	20.80	22
		1	25	21.48	21.37	21.48	22
		1	49	21.08	20.88	20.99	22
		25	0	20.74	21.04	20.91	22
		25	13	21.04	20.99	21.08	22
		25	25	20.94	20.69	20.90	22
		50	0	20.79	20.86	20.95	22

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	21.70	21.95	21.69	22.5
		1	13	21.99	21.96	21.87	22.5
		1	24	21.69	21.92	21.58	22.5
		12	0	21.91	21.99	21.93	22.5
		12	6	22.01	22.02	21.90	22.5
		12	13	21.04	21.19	20.93	22.5
		25	0	21.14	21.30	21.03	22.5
	16QAM	1	0	21.86	22.05	21.77	22.5
		1	13	22.01	22.06	21.93	22.5
		1	24	21.76	22.02	21.63	22.5
		12	0	21.76	22.00	21.74	22.5
		12	6	21.81	22.04	21.70	22.5
		12	13	20.89	21.08	20.82	22.5
		25	0	20.99	21.17	20.88	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	21.90	22.18	21.85	22.5
		1	25	21.79	22.18	21.96	22.5
		1	49	21.38	21.80	21.70	22.5
		25	0	21.85	22.14	21.84	22.5
		25	13	21.73	22.08	21.91	22.5
		25	25	21.11	21.55	21.37	22.5
		50	0	21.42	21.65	21.55	22.5
	16QAM	1	0	22.01	22.36	21.90	22.5
		1	25	21.80	22.27	22.01	22.5
		1	49	21.52	21.98	21.71	22.5
		25	0	21.64	22.01	21.70	22.5
		25	13	21.52	21.95	21.77	22.5
		25	25	20.95	21.41	21.27	22.5
		50	0	21.23	21.49	21.40	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	21.48	21.70	21.20	22.5
		1	38	21.56	21.93	21.67	22.5
		1	74	21.40	21.62	21.61	22.5
		36	0	21.57	21.83	21.37	22.5
		36	18	21.48	21.94	21.56	22.5
		36	39	21.26	21.60	21.70	22.5
		75	0	21.43	21.71	21.52	22.5
	16QAM	1	0	21.62	21.81	21.28	22.5
		1	38	21.68	22.08	21.72	22.5
		1	74	21.53	21.74	21.66	22.5
		36	0	21.43	21.72	21.24	22.5
		36	18	21.36	21.78	21.39	22.5
		36	39	21.16	21.46	21.53	22.5
		75	0	21.30	21.55	21.44	22.5

Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	21.57	21.67	21.06	22.5
		1	50	21.77	**21.97**	21.65	22.5
		1	99	21.71	21.45	21.65	22.5
		50	0	21.49	21.82	21.31	22.5
		50	25	21.55	**21.86**	21.76	22.5
		50	50	21.24	21.72	21.73	22.5
		100	0	21.44	21.79	21.83	22.5
	16QAM	1	0	21.65	21.80	21.23	22.5
		1	50	21.46	22.09	21.67	22.5
		1	99	21.85	21.64	21.67	22.5
		50	0	21.36	21.70	21.14	22.5
		50	25	21.18	21.74	21.39	22.5
		50	50	21.10	21.58	21.55	22.5
		100	0	21.28	21.63	21.65	22.5

LTE Band 7 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20775	21100	21425	
5MHz	QPSK	1	0	16.87	17.01	16.90	17.5
		1	13	17.17	17.20	17.14	17.5
		1	24	16.76	16.92	16.87	17.5
		12	0	17.13	17.24	17.20	17.5
		12	6	17.22	17.17	17.19	17.5
		12	13	16.17	16.32	16.12	17.5
		25	0	16.27	16.43	16.25	17.5
	16QAM	1	0	17.22	17.12	17.23	17.5
		1	13	17.22	17.18	17.21	17.5
		1	24	17.10	17.19	17.09	17.5
		12	0	17.09	17.17	17.15	17.5
		12	6	17.17	17.24	17.13	17.5
		12	13	16.15	16.21	16.09	17.5
		25	0	16.24	16.42	16.22	17.5
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20800	21100	21400	
10MHz	QPSK	1	0	16.58	16.61	16.13	17.5
		1	25	16.50	17.05	16.95	17.5
		1	49	16.69	16.57	16.85	17.5
		25	0	16.66	16.88	16.56	17.5
		25	13	16.49	17.00	16.87	17.5
		25	25	16.36	16.78	16.95	17.5
		50	0	16.61	16.85	17.02	17.5
	16QAM	1	0	16.97	17.01	16.54	17.5
		1	25	16.84	17.20	17.23	17.5
		1	49	17.01	16.80	17.15	17.5
		25	0	16.61	16.81	16.49	17.5
		25	13	16.44	16.94	16.80	17.5
		25	25	16.31	16.72	16.89	17.5
		50	0	16.56	16.79	16.96	17.5

Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	16.60	16.65	16.40	17.5
		1	38	16.76	17.07	17.00	17.5
		1	74	16.41	16.68	16.78	17.5
		36	0	16.72	16.94	16.63	17.5
		36	18	16.68	17.01	16.79	17.5
		36	39	16.40	16.67	16.92	17.5
		75	0	16.56	16.79	16.75	17.5
	16QAM	1	0	16.90	17.03	16.75	17.5
		1	38	17.05	17.21	17.21	17.5
		1	74	16.66	16.95	17.05	17.5
		36	0	16.67	16.89	16.57	17.5
		36	18	16.65	16.96	16.74	17.5
		36	39	16.36	16.62	16.86	17.5
		75	0	16.52	16.74	16.70	17.5

Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	16.89	17.18	16.92	17.5
		1	50	16.95	17.22	**17.24**	17.5
		1	99	16.46	16.77	16.86	17.5
		50	0	16.93	17.14	17.08	17.5
		50	25	16.96	17.17	**17.18**	17.5
		50	50	16.22	16.58	16.56	17.5
		100	0	16.55	16.71	16.75	17.5
	16QAM	1	0	17.20	17.59	17.27	17.5
		1	50	17.26	17.53	17.55	17.5
		1	99	16.68	17.03	17.18	17.5
		50	0	16.91	17.15	17.07	17.5
		50	25	16.82	17.09	17.16	17.5
		50	50	16.20	16.54	16.57	17.5
		100	0	16.48	16.65	16.74	17.5

LTE Band 7 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	16.90	17.02	16.87	17.5
		1	13	17.01	17.05	17.04	17.5
		1	24	16.82	16.98	16.85	17.5
		12	0	17.03	17.05	17.09	17.5
		12	6	17.02	17.07	17.08	17.5
		12	13	16.16	16.31	16.11	17.5
		25	0	16.27	16.43	16.25	17.5
	16QAM	1	0	17.06	17.05	17.01	17.5
		1	13	17.01	17.08	17.08	17.5
		1	24	17.01	17.05	17.02	17.5
		12	0	17.09	17.07	17.02	17.5
		12	6	17.09	17.05	17.03	17.5
		12	13	16.13	16.29	16.06	17.5
		25	0	16.24	16.40	16.20	17.5
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	16.90	17.06	16.93	17.5
		1	25	16.97	17.02	17.03	17.5
		1	49	16.50	16.81	16.89	17.5
		25	0	16.93	17.05	17.09	17.5
		25	13	16.84	17.03	17.07	17.5
		25	25	16.23	16.57	16.63	17.5
		50	0	16.54	16.70	16.82	17.5
	16QAM	1	0	17.08	17.01	17.06	17.5
		1	25	17.01	17.05	17.04	17.5
		1	49	16.74	17.02	17.05	17.5
		25	0	16.88	17.06	17.07	17.5
		25	13	16.80	17.09	17.08	17.5
		25	25	16.19	16.52	16.57	17.5
		50	0	16.49	16.64	16.76	17.5

Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	16.66	16.62	16.36	17.5
		1	38	16.75	17.06	16.99	17.5
		1	74	16.40	16.67	16.78	17.5
		36	0	16.72	16.93	16.63	17.5
		36	18	16.68	17.00	16.79	17.5
		36	39	16.40	16.66	16.92	17.5
		75	0	16.57	16.79	16.75	17.5
	16QAM	1	0	16.90	16.98	16.63	17.5
		1	38	17.03	17.03	17.02	17.5
		1	74	16.68	16.96	17.03	17.5
		36	0	16.69	16.89	16.58	17.5
		36	18	16.67	16.96	16.74	17.5
		36	39	16.37	16.62	16.87	17.5
		75	0	16.52	16.74	16.69	17.5
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	16.53	16.59	16.11	17.5
		1	50	16.71	**17.05**	16.97	17.5
		1	99	16.68	16.53	16.87	17.5
		50	0	16.68	16.89	16.58	17.5
		50	25	16.71	**16.94**	16.93	17.5
		50	50	16.37	16.79	16.91	17.5
		100	0	16.62	16.85	17.05	17.5
	16QAM	1	0	16.96	17.03	16.49	17.5
		1	50	16.83	17.45	17.32	17.5
		1	99	17.04	16.94	17.21	17.5
		50	0	16.62	16.88	16.51	17.5
		50	25	16.46	16.94	16.82	17.5
		50	50	16.32	16.79	16.91	17.5
		100	0	16.53	16.80	16.98	17.5

LTE 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	22.47	22.42	22.83	24.2
		1	2	22.57	22.48	22.84	24.2
		1	5	22.66	22.39	22.45	24.2
		3	0	22.53	22.44	22.76	24.2
		3	2	22.59	22.44	22.70	24.2
		3	3	22.57	22.40	22.57	24.2
		6	0	21.28	21.56	21.88	23.2
	16QAM	1	0	21.41	21.65	21.97	23.2
		1	2	21.50	21.73	22.05	23.2
		1	5	21.66	21.64	21.72	23.2
		3	0	21.34	21.56	21.88	23.2
		3	2	21.46	21.57	21.90	23.2
		3	3	21.45	21.57	21.76	23.2
		6	0	20.29	20.66	20.86	22.2
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	22.29	22.40	22.73	24.2
		1	7	22.89	22.55	23.01	24.2
		1	14	22.59	22.28	22.30	24.2
		8	0	21.35	21.63	21.90	23.2
		8	4	21.53	21.55	21.98	23.2
		8	7	21.62	21.55	21.84	23.2
		15	0	21.45	21.61	21.84	23.2
	16QAM	1	0	21.29	21.64	21.87	23.2
		1	7	21.86	21.76	22.28	23.2
		1	14	21.78	21.43	21.59	23.2
		8	0	20.32	20.64	20.89	22.2
		8	4	20.51	20.64	21.00	22.2
		8	7	20.58	20.60	20.87	22.2
		15	0	20.39	20.61	20.82	22.2

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23035	23095	23155	
5MHz	QPSK	1	0	23.10	22.90	23.16	24.2
		1	13	23.28	23.16	23.29	24.2
		1	24	23.24	23.23	23.08	24.2
		12	0	22.11	22.18	22.24	23.2
		12	6	22.31	22.13	22.47	23.2
		12	13	22.39	21.94	22.40	23.2
		25	0	22.24	22.00	22.34	23.2
	16QAM	1	0	21.98	22.16	22.16	23.2
		1	13	22.71	22.18	22.75	23.2
		1	24	22.57	22.26	22.23	23.2
		12	0	20.90	21.21	21.13	22.2
		12	6	21.28	21.17	21.41	22.2
		12	13	21.34	20.96	21.42	22.2
		25	0	21.20	21.03	21.30	22.2
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23060	23095	23130	
10MHz	QPSK	1	0	22.86	23.01	22.46	24.2
		1	25	23.17	23.03	**23.38**	24.2
		1	49	22.77	23.23	22.74	24.2
		25	0	21.91	22.00	21.74	23.2
		25	13	22.26	22.13	**22.29**	23.2
		25	25	21.76	21.59	21.92	23.2
		50	0	**21.92**	21.79	21.77	23.2
	16QAM	1	0	21.80	22.27	21.70	23.2
		1	25	22.41	22.07	22.36	23.2
		1	49	21.84	21.98	22.00	23.2
		25	0	20.86	21.03	20.67	22.2
		25	13	21.27	20.83	20.86	22.2
		25	25	20.75	20.59	20.79	22.2
		50	0	20.81	20.73	20.67	22.2

LTE Band 12 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	21.15	21.41	21.92	23.2
		1	2	21.14	21.51	21.94	23.2
		1	5	21.24	21.41	21.56	23.2
		3	0	21.18	21.50	21.85	23.2
		3	2	21.27	21.48	21.84	23.2
		3	3	21.18	21.46	21.71	23.2
		6	0	21.19	21.46	21.77	22.2
	16QAM	1	0	21.31	21.54	21.97	23.2
		1	2	21.41	21.67	22.08	23.2
		1	5	21.44	21.50	21.65	23.2
		3	0	21.17	21.43	21.81	23.2
		3	2	21.33	21.40	21.82	23.2
		3	3	21.27	21.38	21.71	23.2
		6	0	20.31	20.66	20.90	22.2
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	20.95	21.43	21.61	23.2
		1	7	21.47	21.54	21.97	23.2
		1	14	21.42	21.14	21.35	23.2
		8	0	21.16	21.46	21.81	22.2
		8	4	21.39	21.47	21.89	22.2
		8	7	21.48	21.43	21.80	22.2
		15	0	21.32	21.46	21.74	22.2
	16QAM	1	0	21.22	21.54	21.80	23.2
		1	7	21.77	21.76	22.13	23.2
		1	14	21.69	21.34	21.47	23.2
		8	0	20.31	20.61	20.94	22.2
		8	4	20.49	20.64	21.02	22.2
		8	7	20.55	20.59	20.90	22.2
		15	0	20.39	20.61	20.85	22.2

Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	21.68	22.03	21.80	23.2
		1	13	22.23	22.01	22.16	23.2
		1	24	22.26	21.80	22.08	23.2
		12	0	21.86	22.11	22.06	22.2
		12	6	22.12	22.04	22.15	22.2
		12	13	22.13	21.84	22.18	22.2
		25	0	22.08	21.90	22.12	22.2
	16QAM	1	0	21.93	22.10	22.06	23.2
		1	13	22.25	22.11	22.29	23.2
		1	24	22.19	22.00	22.10	23.2
		12	0	20.90	21.21	21.12	22.2
		12	6	21.29	21.16	21.41	22.2
		12	13	21.35	20.95	21.41	22.2
		25	0	21.21	21.01	21.28	22.2

Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	21.35	21.94	21.59	23.2
		1	25	**22.28**	21.97	22.01	23.2
		1	49	21.60	21.66	21.85	23.2
		25	0	21.80	21.93	21.65	22.2
		25	13	**22.15**	21.95	21.79	22.2
		25	25	21.69	21.51	21.78	22.2
		50	0	**21.86**	21.73	21.65	22.2
	16QAM	1	0	21.65	22.13	21.65	23.2
		1	25	22.38	21.99	22.17	23.2
		1	49	21.74	21.93	21.92	23.2
		25	0	20.86	21.04	20.71	22.2
		25	13	21.32	20.88	20.89	22.2
		25	25	20.86	20.65	20.84	22.2
		50	0	20.90	20.79	20.72	22.2

LTE Band 12 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	21.85	21.79	21.89	23.2
		1	2	21.83	21.75	21.93	23.2
		1	5	21.82	21.79	21.55	23.2
		3	0	21.59	21.49	21.86	23.2
		3	2	21.27	21.48	21.83	23.2
		3	3	21.18	21.44	21.71	23.2
		6	0	21.18	21.46	21.76	22.2
	16QAM	1	0	21.38	21.50	21.95	23.2
		1	2	21.45	21.67	22.03	23.2
		1	5	21.45	21.50	21.64	23.2
		3	0	21.14	21.42	21.76	23.2
		3	2	21.26	21.41	21.73	23.2
		3	3	21.20	21.39	21.61	23.2
		6	0	20.28	20.67	20.86	22.2
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	20.96	21.40	21.50	23.2
		1	7	21.88	21.55	21.96	23.2
		1	14	21.82	21.14	21.35	23.2
		8	0	21.76	21.45	21.75	22.2
		8	4	21.39	21.46	21.89	22.2
		8	7	21.48	21.42	21.80	22.2
		15	0	21.32	21.46	21.75	22.2
	16QAM	1	0	21.17	21.50	21.83	23.2
		1	7	21.71	21.67	22.12	23.2
		1	14	21.65	21.34	21.46	23.2
		8	0	20.30	20.61	20.92	22.2
		8	4	20.48	20.63	21.02	22.2
		8	7	20.55	20.59	20.89	22.2
		15	0	20.37	20.62	20.86	22.2

Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	21.62	21.95	21.82	23.2
		1	13	22.29	22.04	22.46	23.2
		1	24	22.46	21.81	22.10	23.2
		12	0	21.85	22.10	22.06	22.2
		12	6	22.11	22.04	22.15	22.2
		12	13	22.10	21.83	22.18	22.2
		25	0	22.08	21.89	22.11	22.2
	16QAM	1	0	21.85	22.07	22.06	23.2
		1	13	22.52	22.10	22.58	23.2
		1	24	22.53	21.97	22.09	23.2
		12	0	20.90	21.21	21.11	22.2
		12	6	21.27	21.15	21.41	22.2
		12	13	21.34	20.95	21.39	22.2
		25	0	21.21	21.01	21.28	22.2

Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	21.96	22.33	22.02	23.2
		1	25	**22.52**	22.49	22.34	23.2
		1	49	21.93	22.09	22.17	23.2
		25	0	22.01	22.13	21.88	22.2
		25	13	**22.05**	22.03	22.01	22.2
		25	25	21.94	21.70	22.03	22.2
		50	0	22.05	21.97	21.90	22.2
	16QAM	1	0	21.81	22.37	21.81	23.2
		1	25	22.56	22.18	22.44	23.2
		1	49	22.04	22.15	22.20	23.2
		25	0	21.11	21.28	20.96	22.2
		25	13	21.53	21.09	21.15	22.2
		25	25	21.05	20.80	21.10	22.2
		50	0	21.12	21.05	20.98	22.2

LTE 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	22.67	22.57	22.49	24.5
		1	13	22.58	22.59	22.47	24.5
		1	24	22.40	22.50	22.55	24.5
		12	0	22.16	21.71	21.83	23.5
		12	6	22.05	21.78	22.14	23.5
		12	13	21.85	21.57	22.24	23.5
		25	0	22.07	21.65	22.07	23.5
	16QAM	1	0	21.97	21.71	21.75	23.5
		1	13	22.13	22.05	22.48	23.5
		1	24	21.64	21.74	22.05	23.5
		12	0	21.23	20.75	20.84	22.5
		12	6	21.16	20.82	21.20	22.5
		12	13	20.92	20.60	21.31	22.5
		25	0	21.15	20.71	21.14	22.5
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	**22.68**	22.66	22.59	24.5
		1	25	22.59	22.64	22.59	24.5
		1	49	22.54	22.65	22.61	24.5
		25	0	**21.62**	21.58	21.56	23.5
		25	13	21.53	21.55	21.51	23.5
		25	25	21.51	21.57	21.53	23.5
		50	0	**21.57**	21.54	21.53	23.5
	16QAM	1	0	21.88	21.91	21.75	23.5
		1	25	21.70	21.78	21.80	23.5
		1	49	21.71	21.92	21.95	23.5
		25	0	20.70	20.55	20.59	22.5
		25	13	20.59	20.59	20.53	22.5
		25	25	20.55	20.56	20.55	22.5
		50	0	20.57	20.52	20.59	22.5

LTE Band 17 hotspot actived reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23755	23790	23825	
5MHz	QPSK	1	0	21.68	21.53	21.33	23.3
		1	13	21.74	21.73	21.64	23.3
		1	24	21.35	21.27	21.69	23.3
		12	0	21.73	21.58	21.69	22.3
		12	6	21.77	21.63	21.75	22.3
		12	13	21.77	21.41	21.73	22.3
		25	0	21.64	21.50	21.72	22.3
	16QAM	1	0	21.68	21.58	21.57	23.3
		1	13	21.75	21.93	21.78	23.3
		1	24	21.54	21.57	21.79	23.3
		12	0	21.25	20.68	20.80	22.3
		12	6	21.18	20.77	21.17	22.3
		12	13	20.94	20.57	21.29	22.3
		25	0	21.15	20.65	21.12	22.3
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23780	23790	23800	
10MHz	QPSK	1	0	**21.75**	21.74	21.65	23.3
		1	25	21.43	21.48	21.41	23.3
		1	49	21.38	21.66	21.64	23.3
		25	0	**21.58**	21.43	21.30	22.3
		25	13	21.38	21.29	21.34	22.3
		25	25	21.12	21.21	21.41	22.3
		50	0	**21.37**	21.27	21.35	22.3
	16QAM	1	0	21.77	21.83	21.70	23.3
		1	25	21.64	21.77	21.70	23.3
		1	49	21.59	21.82	21.83	23.3
		25	0	20.75	20.59	20.43	22.3
		25	13	20.51	20.41	20.48	22.3
		25	25	20.36	20.39	20.58	22.3
		50	0	20.51	20.45	20.54	22.3

LTE Band 17 Head reduced power				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	22.54	22.15	21.99	23.3
		1	13	22.28	22.27	22.29	23.3
		1	24	22.01	21.94	22.23	23.3
		12	0	22.05	21.57	21.69	22.3
		12	6	21.97	21.63	21.99	22.3
		12	13	21.77	21.41	22.11	22.3
		25	0	21.94	21.50	21.92	22.3
	16QAM	1	0	21.91	21.63	21.58	23.3
		1	13	22.06	21.96	22.35	23.3
		1	24	21.58	21.52	21.96	23.3
		12	0	21.22	20.70	20.80	22.3
		12	6	21.18	20.79	21.15	22.3
		12	13	20.96	20.56	21.29	22.3
		25	0	21.15	20.65	21.10	22.3
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	**22.57**	22.44	22.51	23.3
		1	25	22.07	22.13	22.05	23.3
		1	49	21.96	22.23	22.25	23.3
		25	0	**22.08**	21.93	21.81	22.3
		25	13	21.89	21.84	21.88	22.3
		25	25	21.68	21.75	21.96	22.3
		50	0	**21.92**	21.82	21.90	22.3
	16QAM	1	0	22.39	22.39	22.19	23.3
		1	25	22.16	22.22	22.19	23.3
		1	49	22.12	22.39	22.38	23.3
		25	0	21.30	21.16	20.98	22.3
		25	13	21.03	20.98	21.02	22.3
		25	25	20.83	20.93	21.13	22.3
		50	0	21.05	21.01	21.08	22.3

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 MT8821C were used.
The device supports Rel. 11 downlink only LTE Carrier Aggregation and certain network enhancement features (UE Category: cat 5). It supports a maximum of 2 carriers in the downlink. Other Release 11 or higher features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101
The detailed conducted power measurement results of downlink LTE CA are provided in the SAR report per 3GPP TS 36.521. 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 ANT1													
Full Power													
Configure		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)
Intra-Band	Contiguous	Band 7	20M	2560	21350	1	99	Band 7	20M	2660.2	3152	22.28	22.37
Second ANT2													
Full Power													
Configure		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)
Intra-Band	Contiguous	Band 7	20M	2510	20850	1	50	Band 7	20M	2649.8	3048	21.73	21.77
hotspot actived reduced power													
Configure		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)
Intra-Band	Contiguous	Band 7	20M	2560	21350	1	50	Band 7	20M	2660.2	3152	17.11	17.24
Head reduced power													
Configure		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)
Intra-Band	Contiguous	Band 7	20M	2560	21350	1	50	Band 7	20M	2660.2	3152	16.88	16.97

2CC Inter-band

Main ANT1												
Full Power												
Configure	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)	
Inter-band	Band 5	10M	844	20600	1	25	Band 7	20M	2680	3350	23.23	23.43	CA_5C-7C
	Band 7	20M	2560	21350	1	99	Band 5	10M	889	2600	22.33	22.37	CA_7C-5C
Second ANT2													
Full Power													
Configure	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)	
Inter-band	Band 5	10M	844	20600	1	25	Band 7	20M	2630	2850	23.66	23.79	CA_5C-7C
	Band 7	20M	2510	20850	1	50	Band 5	10M	874	2450	21.79	21.77	CA_7C-5C
hotspot actived reduced power													
Configure	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)	
Inter-band	Band 5	10M	844	20600	1	25	Band 7	20M	2680	3350	21.16	21.25	CA_5C-7C
	Band 7	20M	2560	21350	1	50	Band 5	10M	889	2600	17.23	17.24	CA_7C-5C
Head reduced power													
Configure	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)	
Inter-band	Band 5	10M	844	20600	1	25	Band 7	20M	2680	3350	21.31	21.33	CA_5C-7C
	Band 7	20M	2560	21350	1	50	Band 5	10M	889	2600	16.74	16.91	CA_7C-5C

Main ANT1												
Full Power												
Configure	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)
Inter-band	Band 4	10M	1750	20350	1	49	Band 7	20M	2680	3350	22.38	22.44
	Band 7	20M	2560	21350	1	99	Band 4	10M	2150	2350	22.33	22.37
Second ANT2												
Full Power												
Configure	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)
Inter-band	Band 4	10M	1750	20350	1	0	Band 7	20M	2630	2850	23.15	23.16
	Band 7	20M	2510	20850	1	50	Band 4	10M	2150	2350	21.79	21.77
hotspot actived reduced power												
Configure	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)
Inter-band	Band 4	10M	1750	20350	25	13	Band 7	20M	2680	3350	19.78	19.83
	Band 7	20M	2560	21350	1	50	Band 4	10M	2150	2350	17.23	17.24
Head reduced power												
Configure	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)
Inter-band	Band 4	10M	1750	20350	1	49	Band 7	20M	2680	3350	19.84	19.85
	Band 7	20M	2560	21350	1	50	Band 4	10M	2150	2350	16.74	16.91

Note: Testing is not required in bands or modes not intended/allowed for US operation.

According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

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	19	18.24	Yes
	6	2437		19	17.88	No
	11	2462		19	17.86	No
802.11g	1	2412	6	18	17.21	No
	6	2437		18	16.83	No
	11	2462		18	16.91	No
802.11n HT20	1	2412	6.5	18	17.19	No
	6	2437		18	16.81	No
	11	2462		18	16.93	No
802.11n HT40	3	2422	13.5	18	16.06	No
	6	2437		18	16.29	No
	9	2452		18	16.62	No

WIFI2.4G Reduced Power						
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11b	1	2412	1	13	11.96	No
	6	2437		13	12.04	No
	11	2462		13	12.14	Yes
802.11g	1	2412	6	13	11.98	No
	6	2437		13	11.99	No
	11	2462		13	12.01	No
802.11n HT20	1	2412	6.5	13	11.98	No
	6	2437		13	11.97	No
	11	2462		13	11.98	No
802.11n HT40	3	2422	13.5	13	11.03	No
	6	2437		13	11.45	No
	9	2452		13	11.39	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
GFSK	0	2402	13	8.9
	39	2441		**11.0**
	78	2480		10.7
π/4DQPSK	0	2402		7.3
	39	2441		9.3
	78	2480		9.1
8DPSK	0	2402		7.2
	39	2441		9.2
	78	2480		9.0

BLE			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		GFSK
GFSK	0	2402	13	3.64
	19	2440		5.38
	39	2480		4.14

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	2.45	Head	19	79.4	0	24.9	3	N
		Body-worn	19	79.4	15	8.3	3	N
		Hotspot	19	79.4	10	12.4	3	N
Bluetooth	2.48	Head	13	20.0	0	6.3	3	N
		Body-worn	13	20.0	15	2.1	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	190/836.6	1:8.3	0.155	0.16	32.5	33.3	1.202	0.186	22.1
Left tilted	GSM	190/836.6	1:8.3	0.118	0.03	32.5	33.3	1.202	0.142	22.1
Right cheek	GSM	190/836.6	1:8.3	0.165	0.01	32.5	33.3	1.202	0.198	22.1
Right tilted	GSM	190/836.6	1:8.3	0.12	0.01	32.5	33.3	1.202	0.144	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	190/836.6	1:8.3	0.169	0.15	32.5	33.3	1.202	0.203	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	190/836.6	1:8.3	0.169	0.05	32.5	33.3	1.202	**0.203**	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	190/836.6	1:8.3	0.13	0.13	32.5	33.3	1.202	0.156	22.1
Body worn Test data(15mm)										
Front side	GSM	190/836.6	1:8.3	0.119	-0.11	32.5	33.3	1.202	0.143	22.1
Back side	GSM	190/836.6	1:8.3	0.239	-0.09	32.5	33.3	1.202	0.287	22.1
Front side	GPRS 3TS	190/836.6	1:2.77	0.119	-0.15	28.44	28.6	1.038	0.123	22.1
Back side	GPRS 3TS	190/836.6	1:2.77	0.236	-0.15	28.44	28.6	1.038	0.245	22.1
Body worn Test data at the worst case with SIM2										
Back side	GSM	190/836.6	1:8.3	0.229	-0.13	32.5	33.3	1.202	0.275	22.1
Body worn Test data at the worst case with Battery 2#										
Back side	GSM	190/836.6	1:8.3	0.26	-0.15	32.5	33.3	1.202	**0.313**	22.1
Body worn Test data at the worst case with Battery 3#										
Back side	GSM	190/836.6	1:8.3	0.242	-0.12	32.5	33.3	1.202	0.291	22.1
Hotspot Test data(10mm)										
Front side	GPRS 3TS	190/836.6	1:2.77	0.13	-0.14	28.44	28.6	1.038	0.135	22.1
Back side	GPRS 3TS	190/836.6	1:2.77	0.254	-0.11	28.44	28.6	1.038	0.264	22.1
Left side	GPRS 3TS	190/836.6	1:2.77	0.177	-0.16	28.44	28.6	1.038	0.184	22.1
Right side	GPRS 3TS	190/836.6	1:2.77	0.248	-0.17	28.44	28.6	1.038	0.257	22.1
Bottom side	GPRS 3TS	190/836.6	1:2.77	0.0362	-0.08	28.44	28.6	1.038	0.038	22.1
Hotspot Test Data at the worst case with SIM2										
Back side	GPRS 3TS	190/836.6	1:2.77	0.253	-0.09	28.44	28.6	1.038	0.262	22.1
Hotspot Test Data at the worst case with Battery 2#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.296	-0.13	28.44	28.6	1.038	**0.307**	22.1
Hotspot Test Data at the worst case with Battery 3#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.259	-0.16	28.44	28.6	1.038	0.269	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	0.611	0.03	31.39	32.3	1.233	0.753	22.1
Left tilted	GSM	190/836.6	1:8.3	0.535	-0.04	31.39	32.3	1.233	0.660	22.1
Right cheek	GSM	190/836.6	1:8.3	0.845	0.08	31.39	32.3	1.233	1.042	22.1
Right tilted	GSM	190/836.6	1:8.3	0.701	0.04	31.39	32.3	1.233	0.864	22.1
Right cheek	GSM	128/824.2	1:8.3	0.852	0.01	31.43	32.3	1.222	1.041	22.1
Right cheek	GSM	251/848.8	1:8.3	0.773	0.04	31.13	32.3	1.309	1.012	22.1
Right tilted	GSM	128/824.2	1:8.3	0.716	0.02	31.43	32.3	1.222	0.875	22.1
Right tilted	GSM	251/848.8	1:8.3	0.65	-0.01	31.13	32.3	1.309	0.851	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	190/836.6	1:8.3	0.815	0.13	31.39	32.3	1.233	1.005	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	190/836.6	1:8.3	0.89	0.04	31.39	32.3	1.233	**1.097**	22.1
Right cheek-repeat	GSM	190/836.6	1:8.3	0.883	0	31.39	32.3	1.233	1.089	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	190/836.6	1:8.3	0.879	0.01	31.39	32.3	1.233	1.084	22.1
Body worn Test data(15mm)										
Front side	GSM	190/836.6	1:8.3	0.151	-0.12	32.70	33.8	1.288	0.195	22.1
Back side	GSM	190/836.6	1:8.3	0.231	-0.14	32.70	33.8	1.288	0.298	22.1
Front side	GPRS 3TS	190/836.6	1:2.77	0.167	-0.16	27.86	29.1	1.330	0.222	22.1
Back side	GPRS 3TS	190/836.6	1:2.77	0.287	-0.14	27.86	29.1	1.330	0.382	22.1
Body worn Test data at the worst case with SIM2										
Back side	GPRS 3TS	190/836.6	1:2.77	0.284	-0.13	27.86	29.1	1.330	0.378	22.1
Body worn Test data at the worst case with Battery 2#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.312	-0.13	27.86	29.1	1.330	**0.415**	22.1
Body worn Test data at the worst case with Battery 3#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.292	-0.1	27.86	29.1	1.330	0.388	22.1
Hotspot actived Test Data(10mm)										
Front side	GPRS 3TS	190/836.6	1:2.77	0.258	-0.03	26.48	27.3	1.294	0.312	22.1
Back side	GPRS 3TS	190/836.6	1:2.77	0.458	-0.09	26.48	27.3	1.294	0.553	22.1
Left side	GPRS 3TS	190/836.6	1:2.77	0.166	-0.12	26.48	27.3	1.294	0.200	22.1
Right side	GPRS 3TS	190/836.6	1:2.77	0.0272	-0.01	26.48	27.3	1.294	0.033	22.1
Top side	GPRS 3TS	190/836.6	1:2.77	0.205	-0.06	26.48	27.3	1.294	0.248	22.1
Hotspot Test Data at the worst case with SIM2										
Back side	GPRS 3TS	190/836.6	1:2.77	0.43	-0.12	26.48	27.3	1.294	0.519	22.1
Hotspot Test Data at the worst case with Battery 2#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.494	-0.1	26.48	27.3	1.294	**0.597**	22.1
Hotspot Test Data at the worst case with Battery 3#										
Back side	GPRS 3TS	190/836.6	1:2.77	0.472	-0.06	26.48	27.3	1.294	0.570	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).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	190/836.6	0.89	0.883	1.01	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 19： SAR Measurement Variability Results

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 with Through condition										
Right cheek	GSM	661/1880	1:8.3	0.18	0.01	30.07	30.5	1.104	0.199	22.1
Head Test Data with MAS condition										
Right cheek	GSM	661/1880	1:8.3	0.135	-0.05	30.07	30.5	1.104	0.149	22.1
Head Test data with Through condition										
Left cheek	GSM	661/1880	1:8.3	0.143	0.14	30.07	30.5	1.104	0.158	22.1
Left tilted	GSM	661/1880	1:8.3	0.0805	-0.08	30.07	30.5	1.104	0.089	22.1
Right cheek	GSM	661/1880	1:8.3	0.18	0.01	30.07	30.5	1.104	0.199	22.1
Right tilted	GSM	661/1880	1:8.3	0.0735	-0.05	30.07	30.5	1.104	0.081	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	661/1880	1:8.3	0.175	0.06	30.07	30.5	1.104	0.193	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	661/1880	1:8.3	0.181	0.07	30.07	30.5	1.104	0.200	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	661/1880	1:8.3	0.186	-0.14	30.07	30.5	1.104	**0.205**	22.1
Hotspot Test Data(10mm)with Through condition										
Bottom side	GPRS 3TS	661/1880	1:2.77	0.118	0.17	25.74	25.8	1.014	0.120	22.1
Hotspot Test data(10mm)with MAS condition										
Bottom side	GPRS 3TS	661/1880	1:2.77	0.671	0.01	25.74	25.8	1.014	0.680	22.1
Body worn Test data(15mm)with MAS condition										
Front side	GSM	661/1880	1:8.3	0.185	0.17	30.07	30.5	1.104	0.204	22.1
Back side	GSM	661/1880	1:8.3	0.267	-0.02	30.07	30.5	1.104	0.295	22.1
Front side	GPRS 3TS	661/1880	1:2.77	0.187	-0.05	25.74	25.8	1.014	0.190	22.1
Back side	GPRS 3TS	661/1880	1:2.77	0.283	-0.1	25.74	25.8	1.014	0.287	22.1
Body worn Test Data at the worst case with SIM2										
Back side	GSM	661/1880	1:8.3	0.272	-0.1	30.07	30.5	1.104	0.300	22.1
Body worn Test Data at the worst case with Battery 2#										
Back side	GSM	661/1880	1:8.3	0.261	0	30.07	30.5	1.104	0.288	22.1
Body worn Test Data at the worst case with Battery 3#										
Back side	GSM	661/1880	1:8.3	0.295	-0.14	30.07	30.5	1.104	**0.326**	22.1
Hotspot Test data(10mm)with MAS condition										
Front side	GPRS 3TS	661/1880	1:2.77	0.404	0.06	25.74	25.8	1.014	0.410	22.1
Back side	GPRS 3TS	661/1880	1:2.77	0.615	0.01	25.74	25.8	1.014	0.624	22.1
Left side	GPRS 3TS	661/1880	1:2.77	0.149	0.15	25.74	25.8	1.014	0.151	22.1
Right side	GPRS 3TS	661/1880	1:2.77	0.164	0.08	25.74	25.8	1.014	0.166	22.1
Bottom side	GPRS 3TS	661/1880	1:2.77	0.671	0.01	25.74	25.8	1.014	0.680	22.1
Hotspot Test Data at the worst case with SIM2										
Bottom side	GPRS 3TS	661/1880	1:2.77	0.702	0.09	25.74	25.8	1.014	0.712	22.1
Hotspot Test Data at the worst case with Battery 2#										
Bottom side	GPRS 3TS	661/1880	1:2.77	0.726	-0.02	25.74	25.8	1.014	0.736	22.1
Hotspot Test Data at the worst case with Battery 3#										
Bottom side	GPRS 3TS	661/1880	1:2.77	0.752	-0.05	25.74	25.8	1.014	**0.762**	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	661/1880	1:8.3	0.354	0.03	28.93	29.1	1.040	0.368	22.1
Left tilted	GSM	661/1880	1:8.3	0.367	0.06	28.93	29.1	1.040	0.382	22.1
Right cheek	GSM	661/1880	1:8.3	0.906	0.01	28.93	29.1	1.040	0.942	22.1
Right tilted	GSM	661/1880	1:8.3	0.674	0	28.93	29.1	1.040	0.701	22.1
Right cheek	GSM	512/1850.2	1:8.3	0.908	0.05	28.86	29.1	1.057	0.960	22.1
Right cheek	GSM	810/1909.8	1:8.3	0.803	-0.02	28.84	29.1	1.062	0.853	22.1
Head Test Data at the worst case with SIM2										
Right cheek	GSM	512/1850.2	1:8.3	0.869	-0.05	28.86	29.1	1.057	0.918	22.1
Head Test Data at the worst case with Battery 2#										
Right cheek	GSM	512/1850.2	1:8.3	1.03	-0.12	28.86	29.1	1.057	**1.089**	22.1
Right cheek-repeat	GSM	512/1850.2	1:8.3	1	0.02	28.86	29.1	1.057	1.057	22.1
Head Test Data at the worst case with Battery 3#										
Right cheek	GSM	512/1850.2	1:8.3	0.866	0.05	28.86	29.1	1.057	0.915	22.1
Body worn Test data(15mm)										
Front side	GSM	661/1880	1:8.3	0.0955	-0.1	30.1	30.6	1.122	0.107	22.1
Back side	GSM	661/1880	1:8.3	0.152	-0.19	30.1	30.6	1.122	0.171	22.1
Front side	GPRS 3TS	661/1880	1:2.77	0.108	0.07	25.58	25.9	1.076	0.116	22.1
Back side	GPRS 3TS	661/1880	1:2.77	0.179	-0.04	25.58	25.9	1.076	0.193	22.1
Body worn Test Data at the worst case with SIM2										
Back side	GPRS 3TS	661/1880	1:2.77	0.179	-0.04	25.58	25.9	1.076	0.193	22.1
Body worn Test Data at the worst case with Battery 2#										
Back side	GPRS 3TS	661/1880	1:2.77	0.185	-0.15	25.58	25.9	1.076	**0.199**	22.1
Body worn Test Data at the worst case with Battery 3#										
Back side	GPRS 3TS	661/1880	1:2.77	0.156	-0.13	25.58	25.9	1.076	0.168	22.1
Hotspot actived Test Data(10mm)										
Front side	GPRS 3TS	661/1880	1:2.77	0.161	0	24.07	24.4	1.079	0.174	22.1
Back side	GPRS 3TS	661/1880	1:2.77	0.259	-0.18	24.07	24.4	1.079	0.279	22.1
Left side	GPRS 3TS	661/1880	1:2.77	0.185	-0.11	24.07	24.4	1.079	0.200	22.1
Right side	GPRS 3TS	661/1880	1:2.77	0.00881	-0.03	24.07	24.4	1.079	0.010	22.1
Top side	GPRS 3TS	661/1880	1:2.77	0.285	-0.14	24.07	24.4	1.079	0.307	22.1
Hotspot Test Data at the worst case with SIM2										
Top side	GPRS 3TS	661/1880	1:2.77	0.282	-0.04	24.07	24.4	1.079	0.304	22.1
Hotspot Test Data at the worst case with Battery 2#										
Top side	GPRS 3TS	661/1880	1:2.77	0.31	-0.05	24.07	24.4	1.079	0.334	22.1
Hotspot Test Data at the worst case with Battery 3#										
Top side	GPRS 3TS	661/1880	1:2.77	0.315	-0.08	24.07	24.4	1.079	**0.340**	22.1

Table 20： 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).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	512/1850.2	1.03	1	1.03	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 21： SAR Measurement Variability Results

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 with Through condition										
Right cheek	RMC	9400/1880	1:1	0.399	0.06	22.96	24	1.271	0.507	22.3
Head Test Data with MAS condition										
Right cheek	RMC	9400/1880	1:1	0.166	-0.15	22.96	24	1.271	0.211	22.1
Head Test data with Through condition										
Left cheek	RMC	9400/1880	1:1	0.192	0.03	22.96	24	1.271	0.244	22.3
Left tilted	RMC	9400/1880	1:1	0.167	0.07	22.96	24	1.271	0.212	22.3
Right cheek	RMC	9400/1880	1:1	0.399	0.06	22.96	24	1.271	**0.507**	22.3
Right tilted	RMC	9400/1880	1:1	0.123	0.07	22.96	24	1.271	0.156	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	9400/1880	1:1	0.236	0.01	22.96	24	1.271	0.300	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	9400/1880	1:1	0.374	-0.09	22.96	24	1.271	0.475	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	9400/1880	1:1	0.388	-0.05	22.96	24	1.271	0.493	22.3
Hotspot Test Data(10mm)with Through condition										
Bottom side	RMC	9400/1880	1:1	0.265	-0.02	21.47	22.5	1.268	0.336	22.1
Hotspot Test data(10mm)with MAS condition										
Bottom side	RMC	9400/1880	1:1	0.772	-0.08	21.47	22.5	1.268	0.979	22.3
Body worn Test data(15mm)with MAS condition										
Front side	RMC	9400/1880	1:1	0.185	0.13	22.96	24	1.271	0.235	22.3
Back side	RMC	9400/1880	1:1	0.306	-0.18	22.96	24	1.271	0.389	22.3
Body worn Test Data at the worst case with SIM2										
Back side	RMC	9400/1880	1:1	0.303	-0.15	22.96	24	1.271	0.385	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	9400/1880	1:1	0.558	-0.05	22.96	24	1.271	**0.709**	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	9400/1880	1:1	0.467	-0.05	22.96	24	1.271	0.593	22.3
Hotspot Test data(10mm)with MAS condition										
Front side	RMC	9400/1880	1:1	0.454	-0.17	21.47	22.5	1.268	0.576	22.3
Back side	RMC	9400/1880	1:1	0.712	0	21.47	22.5	1.268	0.903	22.3
Left side	RMC	9400/1880	1:1	0.247	-0.05	21.47	22.5	1.268	0.313	22.3
Right side	RMC	9400/1880	1:1	0.201	-0.04	21.47	22.5	1.268	0.255	22.3
Bottom side	RMC	9400/1880	1:1	0.748	-0.05	21.47	22.5	1.268	0.948	22.3
Back side	RMC	9262/1852.4	1:1	0.722	0.02	21.49	22.5	1.262	0.911	22.3
Back side	RMC	9538/1907.6	1:1	0.662	-0.03	21.45	22.5	1.274	0.843	22.3
Bottom side	RMC	9262/1852.4	1:1	0.772	-0.08	21.49	22.5	1.262	0.974	22.3
Bottom side	RMC	9538/1907.6	1:1	0.714	0.01	21.45	22.5	1.274	0.909	22.3
Hotspot Test Data at the worst case with SIM2										
Bottom side	RMC	9262/1852.4	1:1	0.767	-0.08	21.49	22.5	1.262	0.968	22.3
Hotspot Test Data at the worst case with Battery 2#										
Bottom side	RMC	9262/1852.4	1:1	0.799	-0.03	21.49	22.5	1.262	1.008	22.3

Hotspot Test Data at the worst case with Battery 3#										
Bottom side	RMC	9262/1852.4	1:1	0.847	-0.04	21.49	22.5	1.262	**1.069**	22.3
Bottom side-repeat	RMC	9262/1852.4	1:1	0.799	-0.09	21.49	22.5	1.262	1.008	22.3

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)10-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.(℃)
Limb Test data sensor on(0mm)with MAS condition										
Back side	RMC	9400/1880	1:1	1.93	0.02	21.47	22.5	1.268	2.447	22.3
Bottom side	RMC	9400/1880	1:1	0.427	-0.09	21.47	22.5	1.268	0.541	22.3
Back side	RMC	9262/1852.4	1:1	1.99	0.14	21.46	22.5	1.271	2.528	22.3
Back side	RMC	9538/1907.6	1:1	1.86	-0.03	21.43	22.5	1.279	2.380	22.3
Limb Test data sensor off with MAS condition										
Back side-8mm	RMC	9400/1880	1:1	0.824	-0.06	22.96	24	1.271	1.047	22.3
Bottom side-7mm	RMC	9400/1880	1:1	0.772	-0.18	22.96	24	1.271	0.981	22.3
Limb Test data with SIM2 (0mm)										
Back side	RMC	9262/1852.4	1:1	1.83	0.09	21.46	22.5	1.271	2.325	22.3
Limb Test data with Battery 2# (0mm)										
Back side	RMC	9262/1852.4	1:1	2.07	-0.18	21.46	22.5	1.271	2.630	22.3
Limb Test data with Battery 3# (0mm)										
Back side	RMC	9262/1852.4	1:1	2.21	-0.14	21.46	22.5	1.271	**2.808**	22.3
Back side-repeat	RMC	9262/1852.4	1:1	1.98	0.09	21.46	22.5	1.271	2.516	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	9400/1880	1:1	0.241	-0.01	18.76	20	1.330	0.321	22.3
Left tilted	RMC	9400/1880	1:1	0.273	0	18.76	20	1.330	0.363	22.3
Right cheek	RMC	9400/1880	1:1	0.762	-0.14	18.76	20	1.330	1.014	22.3
Right tilted	RMC	9400/1880	1:1	0.537	0	18.76	20	1.330	0.714	22.3
Right cheek	RMC	9262/1852.4	1:1	0.819	0.01	18.74	20	1.337	1.095	22.3
Right cheek	RMC	9538/1907.6	1:1	0.754	0.05	18.7	20	1.349	1.017	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	9262/1852.4	1:1	0.719	-0.01	18.74	20	1.337	0.961	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	9262/1852.4	1:1	0.82	-0.03	18.74	20	1.337	**1.096**	22.3
Right cheek-repeat	RMC	9262/1852.4	1:1	0.75	-0.14	18.74	20	1.337	1.002	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	9262/1852.4	1:1	0.735	0.06	18.74	20	1.337	0.982	22.3
Body worn Test data(15mm)										
Front side	RMC	9400/1880	1:1	0.176	-0.04	23.35	24.5	1.303	0.229	22.3
Back side	RMC	9400/1880	1:1	0.251	0.17	23.35	24.5	1.303	0.327	22.3
Body worn Test Data at the worst case with SIM2										
Back side	RMC	9400/1880	1:1	0.23	-0.02	23.35	24.5	1.303	0.300	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	9400/1880	1:1	0.275	-0.07	23.35	24.5	1.303	0.358	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	9400/1880	1:1	0.278	-0.06	23.35	24.5	1.303	**0.362**	22.3
Hotspot actived Test Data(10mm)										
Front side	RMC	9400/1880	1:1	0.13	-0.03	18.75	20	1.334	0.173	22.3
Back side	RMC	9400/1880	1:1	0.202	-0.04	18.75	20	1.334	0.269	22.3
Left side	RMC	9400/1880	1:1	0.164	-0.13	18.75	20	1.334	0.219	22.3
Right side	RMC	9400/1880	1:1	0.0103	0.07	18.75	20	1.334	0.014	22.3
Top side	RMC	9400/1880	1:1	0.214	-0.16	18.75	20	1.334	0.285	22.3
Hotspot Test Data at the worst case with SIM2										
Top side	RMC	9400/1880	1:1	0.214	-0.05	18.75	20	1.334	0.285	22.1
Hotspot Test Data at the worst case with Battery 2#										
Top side	RMC	9400/1880	1:1	0.209	-0.02	18.75	20	1.334	0.279	22.1
Hotspot Test Data at the worst case with Battery 3#										
Top side	RMC	9400/1880	1:1	0.215	-0.18	18.75	20	1.334	**0.287**	22.1

Table 22： 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).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Bottom side	9262/1852.4	0.847	0.799	1.06	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Test Position	Channel/ Frequency (MHz)	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	3rd Repeated SAR (10g)
Bottom side	9262/1852.4	2.21	1.98	1.12	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 2.0 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 3.0 or when the original or repeated measurement was ≥ 3.625 W/kg (~ 10% from the 10-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥3.75 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 3.0						
4) Repeated measurements are not required when the original highest measured SAR is < 2.0 W/kg						

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	9262/1852.4	0.82	0.75	1.09	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 23： SAR Measurement Variability Results

8.3.4 SAR Result Of WCDMA Band IV

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 with Through condition										
Right cheek	RMC	1412/1732.4	1:1	0.379	0.08	23.1	24	1.230	0.466	22.3
Head Test Data with MAS condition										
Right cheek	RMC	1412/1732.4	1:1	0.326	0.07	23.1	24	1.230	0.401	22.3
Head Test data with Through condition										
Left cheek	RMC	1412/1732.4	1:1	0.287	0.02	23.1	24	1.230	0.353	22.3
Left tilted	RMC	1412/1732.4	1:1	0.176	0.06	23.1	24	1.230	0.217	22.3
Right cheek	RMC	1412/1732.4	1:1	0.379	0.08	23.1	24	1.230	0.466	22.3
Right tilted	RMC	1412/1732.4	1:1	0.176	0.01	23.1	24	1.230	0.217	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	1412/1732.4	1:1	0.365	0.1	23.1	24	1.230	0.449	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	1412/1732.4	1:1	0.418	-0.02	23.1	24	1.230	0.514	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	1412/1732.4	1:1	0.45	0.14	23.1	24	1.230	**0.554**	22.3
Hotspot Test Data(10mm)with Through condition										
Back side	RMC	1412/1732.4	1:1	0.579	-0.12	23.1	24	1.230	0.712	22.3
Hotspot Test data(10mm)with MAS condition										
Back side	RMC	1412/1732.4	1:1	0.578	0.06	23.1	24	1.230	0.711	22.3
Body worn Test data(15mm)										
Front side	RMC	1412/1732.4	1:1	0.186	-0.01	23.1	24	1.230	0.229	22.3
Back side	RMC	1412/1732.4	1:1	0.241	-0.17	23.1	24	1.230	0.296	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	1412/1732.4	1:1	0.22	-0.03	23.1	24	1.230	0.271	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	1412/1732.4	1:1	0.225	-0.15	23.1	24	1.230	0.277	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	1412/1732.4	1:1	0.252	-0.11	23.1	24	1.230	**0.310**	22.3
Hotspot Test data(10mm)										
Front side	RMC	1412/1732.4	1:1	0.389	-0.16	23.1	24	1.230	0.479	22.3
Back side	RMC	1412/1732.4	1:1	0.579	-0.12	23.1	24	1.230	0.712	22.3
Left side	RMC	1412/1732.4	1:1	0.123	0.07	23.1	24	1.230	0.151	22.3
Right side	RMC	1412/1732.4	1:1	0.273	-0.19	23.1	24	1.230	0.336	22.3
Bottom side	RMC	1412/1732.4	1:1	0.348	0.11	23.1	24	1.230	0.428	22.3
Hotspot Test Data at the worst case with SIM2										
Back side	RMC	1412/1732.4	1:1	0.551	-0.15	23.1	24	1.230	0.678	22.3
Hotspot Test Data at the worst case with Battery 2#										
Back side	RMC	1412/1732.4	1:1	0.512	-0.06	23.1	24	1.230	0.630	22.3
Hotspot Test Data at the worst case with Battery 3#										
Back side	RMC	1412/1732.4	1:1	0.63	-0.02	23.1	24	1.230	**0.775**	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	1412/1732.4	1:1	0.291	-0.06	18.94	20	1.276	0.371	22.3
Left tilted	RMC	1412/1732.4	1:1	0.335	0.09	18.94	20	1.276	0.428	22.3
Right cheek	RMC	1412/1732.4	1:1	0.73	0.17	18.94	20	1.276	0.932	22.3
Right tilted	RMC	1412/1732.4	1:1	0.592	0.05	18.94	20	1.276	0.756	22.3
Right cheek	RMC	1312/1712.4	1:1	0.658	0.05	18.84	20	1.306	0.859	22.3
Right cheek	RMC	1513/1752.6	1:1	0.734	0.06	18.91	20	1.285	**0.943**	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	1513/1752.6	1:1	0.726	0.06	18.91	20	1.285	0.933	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	1513/1752.6	1:1	0.663	-0.01	18.91	20	1.285	0.852	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	1513/1752.6	1:1	0.643	-0.01	18.91	20	1.285	0.826	22.3
Body worn Test data(15mm)										
Front side	RMC	1412/1732.4	1:1	0.176	-0.02	23.41	24.5	1.285	0.226	22.3
Back side	RMC	1412/1732.4	1:1	0.252	-0.03	23.41	24.5	1.285	**0.324**	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	1412/1732.4	1:1	0.237	-0.06	23.41	24.5	1.285	0.305	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	1412/1732.4	1:1	0.243	-0.14	23.41	24.5	1.285	0.312	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	1412/1732.4	1:1	0.229	-0.18	23.41	24.5	1.285	0.294	22.3
Hotspot actived Test Data(10mm)										
Front side	RMC	1412/1732.4	1:1	0.13	-0.15	18.93	20	1.279	0.166	22.3
Back side	RMC	1412/1732.4	1:1	0.187	0.16	18.93	20	1.279	0.239	22.3
Left side	RMC	1412/1732.4	1:1	0.125	-0.18	18.93	20	1.279	0.160	22.3
Right side	RMC	1412/1732.4	1:1	0.0308	-0.07	18.93	20	1.279	0.039	22.3
Top side	RMC	1412/1732.4	1:1	0.202	-0.12	18.93	20	1.279	**0.258**	22.3
Hotspot Test Data at the worst case with SIM2										
Top side	RMC	1412/1732.4	1:1	0.199	-0.14	18.93	20	1.279	0.255	22.3
Hotspot Test Data at the worst case with Battery 2#										
Top side	RMC	1412/1732.4	1:1	0.19	-0.13	18.93	20	1.279	0.243	22.3
Hotspot Test Data at the worst case with Battery 3#										
Top side	RMC	1412/1732.4	1:1	0.172	-0.12	18.93	20	1.279	0.220	22.3

Table 24：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	4182/836.4	1:1	0.138	-0.14	23.24	24.5	1.337	0.184	22.3
Left tilted	RMC	4182/836.4	1:1	0.154	0.05	23.24	24.5	1.337	0.206	22.3
Right cheek	RMC	4182/836.4	1:1	0.158	0.03	23.24	24.5	1.337	0.211	22.3
Right tilted	RMC	4182/836.4	1:1	0.16	0.04	23.24	24.5	1.337	0.214	22.3
Head Test Data at the worst case with SIM2										
Right tilted	RMC	4182/836.4	1:1	0.16	-0.03	23.24	24.5	1.337	0.214	22.3
Head Test Data at the worst case with Battery 2#										
Right tilted	RMC	4182/836.4	1:1	0.163	0	23.24	24.5	1.337	0.218	22.3
Head Test Data at the worst case with Battery 3#										
Right tilted	RMC	4182/836.4	1:1	0.181	0.02	23.24	24.5	1.337	**0.242**	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.0814	-0.07	23.24	24.5	1.337	0.109	22.3
Back side	RMC	4182/836.4	1:1	0.188	-0.12	23.24	24.5	1.337	0.251	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	4182/836.4	1:1	0.175	-0.02	23.24	24.5	1.337	0.234	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	4182/836.4	1:1	0.189	-0.09	23.24	24.5	1.337	**0.253**	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	4182/836.4	1:1	0.17	-0.18	23.24	24.5	1.337	0.227	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.0985	-0.07	23.24	24.5	1.337	0.132	22.3
Back side	RMC	4182/836.4	1:1	0.194	-0.01	23.24	24.5	1.337	0.259	22.3
Left side	RMC	4182/836.4	1:1	0.136	-0.10	23.24	24.5	1.337	0.182	22.3
Right side	RMC	4182/836.4	1:1	0.237	-0.03	23.24	24.5	1.337	0.317	22.3
Bottom side	RMC	4182/836.4	1:1	0.039	-0.15	23.24	24.5	1.337	0.052	22.3
Hotspot Test Data at the worst case with SIM2										
Right side	RMC	4182/836.4	1:1	0.225	-0.17	23.24	24.5	1.337	0.301	22.3
Hotspot Test Data at the worst case with Battery 2#										
Right side	RMC	4182/836.4	1:1	0.277	-0.1	23.24	24.5	1.337	**0.370**	22.3
Hotspot Test Data at the worst case with Battery 3#										
Right side	RMC	4182/836.4	1:1	0.262	-0.18	23.24	24.5	1.337	0.350	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	4182/836.4	1:1	0.519	-0.02	20.53	22	1.403	0.728	22.3
Left tilted	RMC	4182/836.4	1:1	0.435	0.05	20.53	22	1.403	0.610	22.3
Right cheek	RMC	4182/836.4	1:1	0.709	0.03	20.53	22	1.403	0.995	22.3
Right tilted	RMC	4182/836.4	1:1	0.597	0.06	20.53	22	1.403	0.837	22.3
Right cheek	RMC	4132/826.4	1:1	0.691	0.11	20.49	22	1.416	0.978	22.3
Right cheek	RMC	4233/846.6	1:1	0.707	0.05	20.51	22	1.409	0.996	22.3
Right tilted	RMC	4132/826.4	1:1	0.587	0.08	20.49	22	1.416	0.831	22.3
Right tilted	RMC	4233/846.6	1:1	0.595	0.05	20.51	22	1.409	0.839	22.3
Head Test Data at the worst case with SIM2										
Right cheek	RMC	4233/846.6	1:1	0.687	0.08	20.51	22	1.409	0.968	22.3
Head Test Data at the worst case with Battery 2#										
Right cheek	RMC	4233/846.6	1:1	0.713	-0.01	20.51	22	1.409	1.005	22.3
Head Test Data at the worst case with Battery 3#										
Right cheek	RMC	4233/846.6	1:1	0.751	-0.04	20.51	22	1.409	**1.058**	22.3
Body worn Test data(15mm)										
Front side	RMC	4182/836.4	1:1	0.197	-0.1	23.53	25	1.403	0.276	22.3
Back side	RMC	4182/836.4	1:1	0.327	-0.11	23.53	25	1.403	0.459	22.3
Body wornTest Data at the worst case with SIM2										
Back side	RMC	4182/836.4	1:1	0.305	-0.15	23.53	25	1.403	0.428	22.3
Body worn Test Data at the worst case with Battery 2#										
Back side	RMC	4182/836.4	1:1	0.334	-0.05	23.53	25	1.403	0.469	22.3
Body worn Test Data at the worst case with Battery 3#										
Back side	RMC	4182/836.4	1:1	0.378	-0.06	23.53	25	1.403	**0.530**	22.3
Hotspot actived Test Data(10mm)										
Front side	RMC	4182/836.4	1:1	0.208	-0.06	20.53	22	1.403	0.292	22.3
Back side	RMC	4182/836.4	1:1	0.166	0.01	20.53	22	1.403	0.233	22.3
Left side	RMC	4182/836.4	1:1	0.131	-0.09	20.53	22	1.403	0.184	22.3
Right side	RMC	4182/836.4	1:1	0.0209	-0.07	20.53	22	1.403	0.029	22.3
Top side	RMC	4182/836.4	1:1	0.161	-0.01	20.53	22	1.403	0.226	22.3
Hotspot Test Data at the worst case with SIM2										
Front side	RMC	4182/836.4	1:1	0.208	-0.04	20.53	22	1.403	0.292	22.3
Hotspot Test Data at the worst case with Battery 2#										
Front side	RMC	4182/836.4	1:1	0.213	0.07	20.53	22	1.403	0.299	22.3
Hotspot Test Data at the worst case with Battery 3#										
Front side	RMC	4182/836.4	1:1	0.215	-0.07	20.53	22	1.403	**0.302**	22.3

Table 25：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 with Through condition											
Right cheek	20	QPSK	19100/1900	1:1	0.337	-0.05	22.79	23.5	1.178	0.397	22.3
Head Test Data with MAS condition											
Right cheek	20	QPSK	19100/1900	1:1	0.133	0.11	22.79	23.5	1.178	0.157	22.3
Head Test datawith Through condition(1RB_0 offset)											
Left cheek	20	QPSK	19100/1900	1:1	0.211	0.07	22.79	23.5	1.178	0.248	22.3
Left tilted	20	QPSK	19100/1900	1:1	0.186	0.06	22.79	23.5	1.178	0.219	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.337	-0.05	22.79	23.5	1.178	0.397	22.3
Right tilted	20	QPSK	19100/1900	1:1	0.152	-0.01	22.79	23.5	1.178	0.179	22.3
Head Test datawith Through condition(50%RB_0 offset)											
Left cheek	20	QPSK	19100/1900	1:1	0.19	0.09	21.63	22.5	1.222	0.232	22.3
Left tilted	20	QPSK	19100/1900	1:1	0.169	-0.09	21.63	22.5	1.222	0.206	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.27	-0.04	21.63	22.5	1.222	0.330	22.3
Right tilted	20	QPSK	19100/1900	1:1	0.136	0.06	21.63	22.5	1.222	0.166	22.3
Head Test Data at the worst case with SIM2											
Right cheek	20	QPSK	19100/1900	1:1	0.302	0.09	22.79	23.5	1.178	0.356	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	20	QPSK	19100/1900	1:1	0.39	-0.13	22.79	23.5	1.178	0.459	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	20	QPSK	19100/1900	1:1	0.418	-0.06	22.79	23.5	1.178	**0.492**	22.3
Hotspot Test Data(10mm)with Through condition											
Back side	20	QPSK	19100/1900	1:1	0.325	0.01	21.57	22	1.104	0.359	22.3
Hotspot Test data(10mm)with MAS condition											
Back side	20	QPSK	19100/1900	1:1	0.535	0.04	21.57	22	1.104	0.591	22.3
Body worn Test data with MAS condition(15mm 1RB_0 offset)											
Front side	20	QPSK	19100/1900	1:1	0.222	0.13	22.79	23.5	1.178	0.261	22.3
Back side	20	QPSK	19100/1900	1:1	0.348	-0.05	22.79	23.5	1.178	0.410	22.3
Body worn Test data with MAS condition(15mm 50%RB_0 offset)											
Front side	20	QPSK	19100/1900	1:1	0.217	0.07	21.63	22.5	1.222	0.265	22.3
Back side	20	QPSK	19100/1900	1:1	0.344	-0.01	21.63	22.5	1.222	0.420	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	19100/1900	1:1	0.335	-0.08	21.63	22.5	1.222	0.409	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	19100/1900	1:1	0.346	-0.11	21.63	22.5	1.222	0.423	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	19100/1900	1:1	0.368	-0.04	21.63	22.5	1.222	**0.450**	22.3
Hotspot Test data with MAS condition(10mm 1RB_0 offset)											
Front side	20	QPSK	19100/1900	1:1	0.333	0.08	21.57	22	1.104	0.368	22.3
Back side	20	QPSK	19100/1900	1:1	0.535	0.04	21.57	22	1.104	0.591	22.3
Left side	20	QPSK	19100/1900	1:1	0.172	-0.19	21.57	22	1.104	0.190	22.3
Right side	20	QPSK	19100/1900	1:1	0.131	-0.17	21.57	22	1.104	0.145	22.3
Bottom side	20	QPSK	19100/1900	1:1	0.607	-0.18	21.57	22	1.104	0.670	22.3
Hotspot Test data with MAS condition(10mm 50%RB_0 offset)											
Front side	20	QPSK	19100/1900	1:1	0.422	-0.04	21.46	22	1.132	0.478	22.3
Back side	20	QPSK	19100/1900	1:1	0.679	-0.01	21.46	22	1.132	0.769	22.3
Left side	20	QPSK	19100/1900	1:1	0.228	-0.19	21.46	22	1.132	0.258	22.3
Right side	20	QPSK	19100/1900	1:1	0.16	0.02	21.46	22	1.132	0.181	22.3
Bottom side	20	QPSK	19100/1900	1:1	0.745	-0.2	21.46	22	1.132	**0.844**	22.3
Bottom side	20	QPSK	18700/1860	1:1	0.728	-0.01	21.44	22	1.138	0.828	22.3
Bottom side	20	QPSK	18900/1880	1:1	0.662	-0.16	21.09	22	1.233	0.816	22.3
Hotspot Test data with MAS condition(10mm 100%RB_0 offset)											
Bottom side	20	QPSK	19100/1900	1:1	0.686	-0.18	21.46	22	1.132	0.777	22.3
Hotspot Test Data at the worst case with SIM2											
Bottom side	20	QPSK	19100/1900	1:1	0.709	0.11	21.46	22	1.132	0.803	22.3

Hotspot Test Data at the worst case with Battery 2#											
Bottom side	20	QPSK	19100/1900	1:1	0.727	-0.16	21.46	22	1.132	0.823	22.3
Hotspot Test Data at the worst case with Battery 3#											
Bottom side	20	QPSK	19100/1900	1:1	0.741	-0.02	21.46	22	1.132	0.839	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	0.371	-0.02	19.16	19.5	1.081	0.401	22.3
Left tilted	20	QPSK	18700/1860	1:1	0.43	-0.04	19.16	19.5	1.081	0.465	22.3
Right cheek	20	QPSK	18700/1860	1:1	0.898	0.08	19.16	19.5	1.081	0.971	22.3
Right tilted	20	QPSK	18700/1860	1:1	0.68	-0.09	19.16	19.5	1.081	0.735	22.3
Right cheek	20	QPSK	18900/1880	1:1	0.546	-0.04	18.54	19.5	1.247	0.681	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.805	-0.09	19.02	19.5	1.117	0.899	22.3
Head Test data(50RB_25 offset)											
Left cheek	20	QPSK	18700/1860	1:1	0.347	-0.08	18.96	19.5	1.132	0.393	22.3
Left tilted	20	QPSK	18700/1860	1:1	0.405	0.01	18.96	19.5	1.132	0.459	22.3
Right cheek	20	QPSK	18700/1860	1:1	0.97	-0.1	18.96	19.5	1.132	**1.098**	22.3
Right tilted	20	QPSK	18700/1860	1:1	0.648	-0.08	18.96	19.5	1.132	0.734	22.3
Right cheek	20	QPSK	18900/1880	1:1	0.48	-0.15	18.29	19.5	1.321	0.634	22.3
Right cheek	20	QPSK	19100/1900	1:1	0.797	-0.08	18.83	19.5	1.167	0.930	22.3
Right cheek-repeat	20	QPSK	18700/1860	1:1	0.925	-0.05	18.96	19.5	1.132	1.047	22.3
Head Test Data at the worst case with SIM2											
Right cheek	20	QPSK	18700/1860	1:1	0.901	-0.08	18.96	19.5	1.132	1.020	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	20	QPSK	18700/1860	1:1	0.885	-0.05	18.96	19.5	1.132	1.002	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	20	QPSK	18700/1860	1:1	0.862	-0.08	18.96	19.5	1.132	0.976	22.3
Body worn Test data(15mm 1RB_50 offset)											
Front side	20	QPSK	18700/1860	1:1	0.202	-0.03	23.15	23.8	1.161	0.235	22.3
Back side	20	QPSK	18700/1860	1:1	0.298	-0.18	23.15	23.8	1.161	0.346	22.3
Body worn Test data (15mm 50%RB_25 offset)											
Front side	20	QPSK	18700/1860	1:1	0.168	0.06	22.14	22.8	1.164	0.196	22.3
Back side	20	QPSK	18700/1860	1:1	0.247	-0.09	22.14	22.8	1.164	0.288	22.3
Body worn Test data at the worst case with SIM2											
Back side	20	QPSK	18700/1860	1:1	0.308	-0.04	23.15	23.8	1.161	**0.358**	22.3
Body worn Test data at the worst case with Battery 2#											
Back side	20	QPSK	18700/1860	1:1	0.292	-0.15	23.15	23.8	1.161	0.339	22.3
Body worn Test data at the worst case with Battery 3#											
Back side	20	QPSK	18700/1860	1:1	0.289	-0.17	23.15	23.8	1.161	0.336	22.3
Hotspot actived Test Data(10mm)(RB_0 offset)											
Front side	20	QPSK	18700/1860	1:1	0.18	-0.06	19.16	19.5	1.081	0.195	22.3
Back side	20	QPSK	18700/1860	1:1	0.33	-0.12	19.16	19.5	1.081	0.357	22.3
Left side	20	QPSK	18700/1860	1:1	0.201	-0.18	19.16	19.5	1.081	0.217	22.3
Right side	20	QPSK	18700/1860	1:1	0.0081	0.04	19.16	19.5	1.081	0.009	22.3
Top side	20	QPSK	18700/1860	1:1	0.332	-0.08	19.16	19.5	1.081	**0.359**	22.3
Hotspot actived Test Data(10mm)(50%RB_25 offset)											
Front side	20	QPSK	18700/1860	1:1	0.17	0.06	18.88	19.5	1.153	0.196	22.3
Back side	20	QPSK	18700/1860	1:1	0.307	0.03	18.88	19.5	1.153	0.354	22.3
Left side	20	QPSK	18700/1860	1:1	0.186	-0.01	18.88	19.5	1.153	0.215	22.3
Right side	20	QPSK	18700/1860	1:1	0.0743	-0.03	18.88	19.5	1.153	0.086	22.3
Top side	20	QPSK	18700/1860	1:1	0.31	-0.07	18.88	19.5	1.153	0.358	22.3
Hotspot Test Data at the worst case with SIM2											
Top side	20	QPSK	18700/1860	1:1	0.33	-0.05	19.16	19.5	1.081	0.357	22.3
Hotspot Test Data at the worst case with Battery 2#											
Top side	20	QPSK	18700/1860	1:1	0.279	-0.05	19.16	19.5	1.081	0.302	22.3
Hotspot Test Data at the worst case with Battery 3#											
Top side	20	QPSK	18700/1860	1:1	0.316	-0.14	19.16	19.5	1.081	0.342	22.3

Table 26： 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).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	18700/1860	0.97	0.925	1.049	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 27： SAR Measurement Variability Results

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) with Through condition											
Right cheek	20	QPSK	20300/1745	1:1	0.368	-0.08	22.53	23.5	1.250	0.460	22.3
Head Test Data(1RB_0 offset) with MAS condition											
Right cheek	20	QPSK	20300/1745	1:1	0.288	0.09	22.53	23.5	1.250	0.360	22.3
Head Test data(1RB_0 offset)with Through condition											
Left cheek	20	QPSK	20300/1745	1:1	0.26	0.08	22.53	23.5	1.250	0.325	22.3
Left tilted	20	QPSK	20300/1745	1:1	0.207	0.12	22.53	23.5	1.250	0.259	22.3
Right cheek	20	QPSK	20300/1745	1:1	0.351	-0.04	22.53	23.5	1.250	0.439	22.3
Right tilted	20	QPSK	20300/1745	1:1	0.212	0.14	22.53	23.5	1.250	0.265	22.3
Head Test data(50%RB_25 offset)with Through condition											
Left cheek	20	QPSK	20300/1745	1:1	0.212	0.08	21.55	22.5	1.245	0.264	22.3
Left tilted	20	QPSK	20300/1745	1:1	0.172	0.07	21.55	22.5	1.245	0.214	22.3
Right cheek	20	QPSK	20300/1745	1:1	0.28	0.19	21.55	22.5	1.245	0.348	22.3
Right tilted	20	QPSK	20300/1745	1:1	0.171	0.14	21.55	22.5	1.245	0.213	22.3
Head Test Data at the worst case with SIM2											
Right cheek	20	QPSK	20300/1745	1:1	0.336	0.02	22.53	23.5	1.250	0.420	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	20	QPSK	20300/1745	1:1	0.473	0.05	22.53	23.5	1.250	0.591	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	20	QPSK	20300/1745	1:1	0.489	-0.11	22.53	23.5	1.250	**0.611**	22.3
Hotspot Test Data(10mm)with Through condition											
Back side	20	QPSK	20300/1745	1:1	0.459	0.08	22.53	23.5	1.250	0.574	22.3
Hotspot Test data(10mm)with MAS condition											
Back side	20	QPSK	20300/1745	1:1	0.394	0.14	22.53	23.5	1.250	0.493	22.3
Body worn Test data(15mm 1RB_0 offset)with Through condition											
Front side	20	QPSK	20300/1745	1:1	0.193	-0.07	22.53	23.5	1.250	0.241	22.3
Back side	20	QPSK	20300/1745	1:1	0.248	-0.01	22.53	23.5	1.250	0.310	22.3
Body worn Test data (15mm 50%RB_25 offset)with Through condition											
Front side	20	QPSK	20300/1745	1:1	0.166	-0.08	21.55	22.5	1.245	0.207	22.3
Back side	20	QPSK	20300/1745	1:1	0.189	-0.14	21.55	22.5	1.245	0.235	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20300/1745	1:1	0.248	-0.02	22.53	23.5	1.250	0.310	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20300/1745	1:1	0.299	-0.11	22.53	23.5	1.250	**0.374**	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20300/1745	1:1	0.277	-0.05	22.53	23.5	1.250	0.346	22.3
Hotspot Test data (10mm 1RB_0 offset) with Through condition											
Front side	20	QPSK	20300/1745	1:1	0.391	-0.14	22.53	23.5	1.250	0.489	22.3
Back side	20	QPSK	20300/1745	1:1	0.459	0.08	22.53	23.5	1.250	0.574	22.3
Left side	20	QPSK	20300/1745	1:1	0.148	-0.18	22.53	23.5	1.250	0.185	22.3
Right side	20	QPSK	20300/1745	1:1	0.28	-0.13	22.53	23.5	1.250	0.350	22.3
Bottom side	20	QPSK	20300/1745	1:1	0.209	0.15	22.53	23.5	1.250	0.261	22.3
Hotspot Test data (10mm 50%RB_25 offset)with Through condition											
Front side	20	QPSK	20300/1745	1:1	0.337	-0.14	21.55	22.5	1.245	0.419	22.3
Back side	20	QPSK	20300/1745	1:1	0.385	-0.07	21.55	22.5	1.245	0.479	22.3
Left side	20	QPSK	20300/1745	1:1	0.108	0.08	21.55	22.5	1.245	0.134	22.3
Right side	20	QPSK	20300/1745	1:1	0.162	0.09	21.55	22.5	1.245	0.202	22.3
Bottom side	20	QPSK	20300/1745	1:1	0.184	0.13	21.55	22.5	1.245	0.229	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	20	QPSK	20300/1745	1:1	0.477	-0.03	22.53	23.5	1.250	0.596	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20300/1745	1:1	0.569	0.07	22.53	23.5	1.250	0.711	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20300/1745	1:1	0.632	-0.08	22.53	23.5	1.250	**0.790**	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	20300/1745	1:1	0.354	0.03	19.86	20.5	1.159	0.410	22.3
Left tilted	20	QPSK	20300/1745	1:1	0.397	0.04	19.86	20.5	1.159	0.460	22.3
Right cheek	20	QPSK	20300/1745	1:1	0.669	0.12	19.86	20.5	1.159	0.775	22.3
Right tilted	20	QPSK	20300/1745	1:1	0.636	0.04	19.86	20.5	1.159	0.737	22.3
Head Test data(50%RB_25 offset)											
Left cheek	20	QPSK	20300/1745	1:1	0.347	0.04	19.70	20.5	1.202	0.417	22.3
Left tilted	20	QPSK	20300/1745	1:1	0.389	0.11	19.70	20.5	1.202	0.468	22.3
Right cheek	20	QPSK	20300/1745	1:1	0.648	0.02	19.70	20.5	1.202	0.779	22.3
Right tilted	20	QPSK	20300/1745	1:1	0.612	0.05	19.70	20.5	1.202	0.736	22.3
Head Test Data at the worst case with SIM2											
Right cheek	20	QPSK	20300/1745	1:1	0.765	0.08	19.70	20.5	1.202	0.920	22.3
Right cheek	20	QPSK	20175/1732.5	1:1	0.623	0.01	19.05	20.5	1.396	0.870	22.3
Right cheek	20	QPSK	20050/1720	1:1	0.633	0.04	19.53	20.5	1.250	0.791	22.3
Head Test Data (100%RB)											
Right cheek	20	QPSK	20300/1745	1:1	0.729	0.02	19.56	20.5	1.242	0.905	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	20	QPSK	20300/1745	1:1	0.842	-0.01	19.70	20.5	1.202	**1.012**	22.3
Right cheek-repeat	20	QPSK	20300/1745	1:1	0.767	0.13	19.70	20.5	1.202	0.922	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	20	QPSK	20300/1745	1:1	0.763	0.11	19.70	20.5	1.202	0.917	22.3
Body worn Test data(15mm 1RB_50 offset)											
Front side	20	QPSK	20300/1745	1:1	0.16	-0.09	23.21	23.9	1.172	0.188	22.3
Back side	20	QPSK	20300/1745	1:1	0.228	-0.17	23.21	23.9	1.172	0.267	22.3
Body worn Test data (15mm 50%RB_25 offset)											
Front side	20	QPSK	20300/1745	1:1	0.124	-0.11	22.27	22.9	1.156	0.143	22.3
Back side	20	QPSK	20300/1745	1:1	0.181	-0.07	22.27	22.9	1.156	0.209	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	20300/1745	1:1	0.23	-0.02	23.21	23.9	1.172	**0.270**	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20300/1745	1:1	0.213	-0.03	23.21	23.9	1.172	0.250	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20300/1745	1:1	0.212	0	23.21	23.9	1.172	0.249	22.3
Hotspot actived Test Data(10mm 1RB_50 offset)											
Front side	20	QPSK	20300/1745	1:1	0.162	-0.14	19.85	20.5	1.161	0.188	22.3
Back side	20	QPSK	20300/1745	1:1	0.241	-0.07	19.85	20.5	1.161	0.280	22.3
Left side	20	QPSK	20300/1745	1:1	0.15	-0.18	19.85	20.5	1.161	0.174	22.3
Right side	20	QPSK	20300/1745	1:1	0.0372	-0.15	19.85	20.5	1.161	0.043	22.3
Top side	20	QPSK	20300/1745	1:1	0.239	-0.11	19.85	20.5	1.161	0.278	22.3
Hotspot actived Test Data(10mm 50%RB_25 offset)											
Front side	20	QPSK	20300/1745	1:1	0.157	-0.09	19.69	20.5	1.205	0.189	22.3
Back side	20	QPSK	20300/1745	1:1	0.235	-0.03	19.69	20.5	1.205	**0.283**	22.3
Left side	20	QPSK	20300/1745	1:1	0.146	-0.09	19.69	20.5	1.205	0.176	22.3
Right side	20	QPSK	20300/1745	1:1	0.0368	0.03	19.69	20.5	1.205	0.044	22.3
Top side	20	QPSK	20300/1745	1:1	0.233	-0.13	19.69	20.5	1.205	0.281	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	20	QPSK	20300/1745	1:1	0.225	-0.15	19.69	20.5	1.205	0.271	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	20	QPSK	20300/1745	1:1	0.22	-0.12	19.69	20.5	1.205	0.265	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	20	QPSK	20300/1745	1:1	0.196	-0.14	19.69	20.5	1.205	0.236	22.3

Table 28： 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).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	20300/1745	0.842	0.767	1.098	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 29： SAR Measurement Variability Results

8.3.2 SAR Result Of LTE Band 5

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_25offset)											
Left cheek	10	QPSK	20600/844	1:1	0.151	0.06	23.43	24	1.140	0.172	22.3
Left tilted	10	QPSK	20600/844	1:1	0.139	0.06	23.43	24	1.140	0.158	22.3
Right cheek	10	QPSK	20600/844	1:1	0.18	0.01	23.43	24	1.140	0.205	22.3
Right tilted	10	QPSK	20600/844	1:1	0.143	0.04	23.43	24	1.140	0.163	22.3
Head Test data(25RB_13offset)											
Left cheek	10	QPSK	20600/844	1:1	0.119	0.05	22.28	23	1.180	0.140	22.3
Left tilted	10	QPSK	20600/844	1:1	0.11	0.04	22.28	23	1.180	0.130	22.3
Right cheek	10	QPSK	20600/844	1:1	0.142	0.12	22.28	23	1.180	0.168	22.3
Right tilted	10	QPSK	20600/844	1:1	0.113	0.09	22.28	23	1.180	0.133	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	20600/844	1:1	0.178	0.05	23.43	24	1.140	0.203	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	20600/844	1:1	0.231	-0.11	23.43	24	1.140	**0.263**	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	20600/844	1:1	0.18	0.06	23.43	24	1.140	0.205	22.3
Body worn Test data(15mm 1RB_25 offset)											
Front side	10	QPSK	20600/844	1:1	0.0882	-0.19	23.43	24	1.140	0.101	22.3
Back side	10	QPSK	20600/844	1:1	0.208	-0.12	23.43	24	1.140	0.237	22.3
Body worn Test data (15mm 50%RB_13 offset)											
Front side	10	QPSK	20600/844	1:1	0.0682	-0.04	22.28	23	1.180	0.080	22.3
Back side	10	QPSK	20600/844	1:1	0.161	-0.13	22.28	23	1.180	0.190	22.3
Body worn Test data at the worst case with SIM2											
Back side	10	QPSK	20600/844	1:1	0.205	-0.15	23.43	24	1.140	0.234	22.3
Body worn Test data at the worst case with Battery 2#											
Back side	10	QPSK	20600/844	1:1	0.259	-0.13	23.43	24	1.140	**0.295**	22.3
Body worn Test data at the worst case with Battery 3#											
Back side	10	QPSK	20600/844	1:1	0.21	-0.15	23.43	24	1.140	0.239	22.3
Hotspot Test data(10mm 1RB_25 offset)											
Front side	10	QPSK	20600/844	1:1	0.0919	-0.1	23.43	24	1.140	0.105	22.3
Back side	10	QPSK	20600/844	1:1	0.211	-0.16	23.43	24	1.140	0.241	22.3
Left side	10	QPSK	20600/844	1:1	0.169	-0.16	23.43	24	1.140	0.193	22.3
Right side	10	QPSK	20600/844	1:1	0.240	-0.14	23.43	24	1.140	0.274	22.3
Bottom side	10	QPSK	20600/844	1:1	0.040	-0.05	23.43	24	1.140	0.046	22.3
Hotspot Test data (10mm 50%RB_13 offset)											
Front side	10	QPSK	20600/844	1:1	0.0707	-0.14	22.28	23	1.180	0.083	22.3
Back side	10	QPSK	20600/844	1:1	0.164	-0.03	22.28	23	1.180	0.194	22.3
Left side	10	QPSK	20600/844	1:1	0.128	-0.02	22.28	23	1.180	0.151	22.3
Right side	10	QPSK	20600/844	1:1	0.185	-0.19	22.28	23	1.180	0.218	22.3
Bottom side	10	QPSK	20600/844	1:1	0.0331	-0.07	22.28	23	1.180	0.039	22.3
Hotspot Test data at the worst case with SIM2											
Right side	10	QPSK	20600/844	1:1	0.236	-0.17	23.43	24	1.140	0.269	22.3
Hotspot Test data at the worst case with Battery 2#											
Right side	10	QPSK	20600/844	1:1	0.351	-0.17	23.43	24	1.140	**0.400**	22.3
Hotspot Test data at the worst case with Battery 3#											
Right side	10	QPSK	20600/844	1:1	0.295	-0.19	23.43	24	1.140	0.336	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 25offset)											
Left cheek	10	QPSK	20600/844	1:1	0.592	0.03	21.33	22	1.167	0.691	22.3
Left tilted	10	QPSK	20600/844	1:1	0.5	-0.06	21.33	22	1.167	0.583	22.3
Right cheek	10	QPSK	20600/844	1:1	0.879	-0.04	21.33	22	1.167	1.026	22.3
Right tilted	10	QPSK	20600/844	1:1	0.681	0	21.33	22	1.167	0.795	22.3
Right cheek	10	QPSK	20450/829	1:1	0.894	0.04	21.29	22	1.178	1.053	22.3
Right cheek	10	QPSK	20525/836.5	1:1	0.91	0.06	21.27	22	1.183	1.077	22.3
Right cheek-repeat	10	QPSK	20525/836.5	1:1	0.922	0.02	21.27	22	1.183	**1.091**	22.3
Head Test data(25RB_13offset)											
Left cheek	10	QPSK	20600/844	1:1	0.58	0.06	21.27	22	1.183	0.686	22.3
Left tilted	10	QPSK	20600/844	1:1	0.491	-0.03	21.27	22	1.183	0.581	22.3
Right cheek	10	QPSK	20600/844	1:1	0.863	0.03	21.27	22	1.183	1.021	22.3
Right tilted	10	QPSK	20600/844	1:1	0.672	0.02	21.27	22	1.183	0.795	22.3
Right cheek	10	QPSK	20450/829	1:1	0.829	0.04	21.16	22	1.213	1.006	22.3
Right cheek	10	QPSK	20525/836.5	1:1	0.86	0.09	21.17	22	1.211	1.041	22.3
Head Test data(50RB_0offset)											
Right cheek	10	QPSK	20525/836.5	1:1	0.82	-0.05	21.01	22	1.256	1.030	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	20525/836.5	1:1	0.869	0.03	21.27	22	1.183	1.028	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	20525/836.5	1:1	0.884	0.17	21.27	22	1.183	1.046	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	20525/836.5	1:1	0.899	0.14	21.27	22	1.183	1.064	22.3
Body worn Test data(15mm 1RB_25 offset)											
Front side	10	QPSK	20600/844	1:1	0.198	-0.16	23.79	24.5	1.178	0.233	22.3
Back side	10	QPSK	20600/844	1:1	0.332	-0.11	23.79	24.5	1.178	0.391	22.3
Body worn Test data (15mm 50%RB_13 offset)											
Front side	10	QPSK	20600/844	1:1	0.154	-0.11	22.53	23.5	1.250	0.193	22.3
Back side	10	QPSK	20600/844	1:1	0.261	-0.16	22.53	23.5	1.250	0.326	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	20600/844	1:1	0.337	-0.16	23.79	24.5	1.178	0.397	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	20600/844	1:1	0.384	-0.19	23.79	24.5	1.178	0.452	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	20600/844	1:1	0.397	-0.17	23.79	24.5	1.178	**0.468**	22.3
Hotspot actived Test Data(10mm 1RB_25 offset)											
Front side	10	QPSK	20600/844	1:1	0.246	-0.01	21.25	22	1.189	0.292	22.3
Back side	10	QPSK	20600/844	1:1	0.465	0	21.25	22	1.189	0.553	22.3
Left side	10	QPSK	20600/844	1:1	0.163	-0.18	21.25	22	1.189	0.194	22.3
Right side	10	QPSK	20600/844	1:1	0.0299	-0.03	21.25	22	1.189	0.036	22.3
Top side	10	QPSK	20600/844	1:1	0.205	-0.13	21.25	22	1.189	0.244	22.3
Hotspot actived Test Data(10mm 50%RB_13offset)											
Front side	10	QPSK	20600/844	1:1	0.234	-0.07	21.14	22	1.219	0.285	22.3
Back side	10	QPSK	20600/844	1:1	0.379	-0.07	21.14	22	1.219	0.462	22.3
Left side	10	QPSK	20600/844	1:1	0.158	-0.19	21.14	22	1.219	0.193	22.3
Right side	10	QPSK	20600/844	1:1	0.0291	-0.03	21.14	22	1.219	0.035	22.3
Top side	10	QPSK	20600/844	1:1	0.195	-0.02	21.14	22	1.219	0.238	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	10	QPSK	20600/844	1:1	0.436	-0.02	21.25	22	1.189	0.518	22.3

Hotspot Test Data at the worst case with Battery 2#											
Back side	10	QPSK	20600/844	1:1	0.49	-0.12	21.25	22	1.189	0.582	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	10	QPSK	20600/844	1:1	0.499	-0.09	21.25	22	1.189	**0.593**	22.3

Table 30： 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).

Test Position	**Channel/ Frequency**	**Measured SAR (1g)**	**1st Repeated**	**Ratio**	**2nd Repeated**	**3rd Repeated**
	(MHz)		**SAR (1g)**		**SAR (1g)**	**SAR (1g)**
Right cheek	20525/836.5	0.91	0.922	1.013	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 31： SAR Measurement Variability Results

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 with Through condition											
Right cheek	20	QPSK	21100/2535.5	1:1	0.234	0.07	22.52	23	1.117	0.261	22.3
Head Test Data with MAS condition											
Right cheek	20	QPSK	21100/2535.5	1:1	0.207	0.18	22.52	23	1.117	0.231	22.3
Head Test data(1RB_99 offset)with Through condition											
Left cheek	20	QPSK	21100/2535.5	1:1	0.256	0.09	22.52	23	1.117	0.286	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.149	0.05	22.52	23	1.117	0.166	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.234	0.07	22.52	23	1.117	0.261	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.133	0.07	22.52	23	1.117	0.149	22.3
Head Test data(50RB_50 offset)with Through condition											
Left cheek	20	QPSK	21100/2535.5	1:1	0.198	0.05	21.45	22	1.135	0.225	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.108	0.06	21.45	22	1.135	0.123	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.178	0.01	21.45	22	1.135	0.202	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.108	0.03	21.45	22	1.135	0.123	22.3
Head Test Data at the worst case with SIM2											
Left cheek	20	QPSK	21100/2535.5	1:1	0.252	0.03	22.52	23	1.117	0.281	22.3
Head Test Data at the worst case with Battery 2#											
Left cheek	20	QPSK	21100/2535.5	1:1	0.281	0.01	22.52	23	1.117	**0.314**	22.3
Head Test Data at the worst case with Battery 3#											
Left cheek	20	QPSK	21100/2535.5	1:1	0.276	0.07	22.52	23	1.117	0.308	22.3
Hotspot Test Data(10mm)with Through condition											
Back side	20	QPSK	21100/2535.5	1:1	0.431	0.02	22.52	23	1.117	0.481	22.3
Hotspot Test data(10mm)with MAS condition											
Back side	20	QPSK	21100/2535.5	1:1	0.725	0.08	22.52	23	1.117	0.810	22.3
Body worn Test data(15mm 1RB_99 offset)with MAS condition											
Front side	20	QPSK	21100/2535.5	1:1	0.198	-0.06	22.52	23	1.117	0.221	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.271	0.02	22.52	23	1.117	0.303	22.3
Body worn Test data (15mm 50%RB_50 offset)with MAS condition											
Front side	20	QPSK	21100/2535.5	1:1	0.159	-0.01	21.45	22	1.135	0.180	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.218	-0.09	21.45	22	1.135	0.247	22.3
Body worn Test Data at the worst case with SIM2											
Back side	20	QPSK	21100/2535.5	1:1	0.27	0.01	22.52	23	1.117	0.302	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	20	QPSK	21100/2535.5	1:1	0.335	-0.04	22.52	23	1.117	**0.374**	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	20	QPSK	21100/2535.5	1:1	0.308	0.05	22.52	23	1.117	0.344	22.3
Hotspot Test data(10mm 1RB_99 offset)with MAS condition											
Front side	20	QPSK	21100/2535.5	1:1	0.45	0.18	22.52	23	1.117	0.503	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.737	-0.06	22.52	23	1.117	0.823	22.3
Left side	20	QPSK	21100/2535.5	1:1	0.0521	-0.01	22.52	23	1.117	0.058	22.3
Right side	20	QPSK	21100/2535.5	1:1	0.421	-0.11	22.52	23	1.117	0.470	22.3
Bottom side	20	QPSK	21100/2535.5	1:1	0.498	-0.06	22.52	23	1.117	0.556	22.3
Back side	20	QPSK	20850/2510	1:1	0.656	0.02	22.09	23	1.233	0.809	22.3
Back side	20	QPSK	21350/2560	1:1	0.64	-0.06	22.37	23	1.156	0.740	22.3
Hotspot Test data (10mm 50%RB_50 offset)with MAS condition											
Front side	20	QPSK	21100/2535.5	1:1	0.415	-0.06	21.45	22	1.135	0.471	22.3
Back side	20	QPSK	21100/2535.5	1:1	0.602	-0.04	21.45	22	1.135	0.683	22.3
Left side	20	QPSK	21100/2535.5	1:1	0.0422	0.16	21.45	22	1.135	0.048	22.3
Right side	20	QPSK	21100/2535.5	1:1	0.345	-0.02	21.45	22	1.135	0.392	22.3
Bottom side	20	QPSK	21100/2535.5	1:1	0.402	-0.06	21.45	22	1.135	0.456	22.3
Hotspot Test data (10mm 100%RB)with MAS condition											
Back side	20	QPSK	21350/2560	1:1	0.666	0.09	21.47	22	1.130	0.752	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	20	QPSK	21100/2535.5	1:1	0.725	0.08	22.52	23	1.117	0.810	22.3

Hotspot Test Data at the worst case with Battery 2#											
Back side	20	QPSK	21100/2535.5	1:1	0.979	0.05	22.52	23	1.117	**1.093**	22.3
Back side-repeat	20	QPSK	21100/2535.5	1:1	0.956	-0.02	22.52	23	1.117	1.068	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	20	QPSK	21100/2535.5	1:1	0.922	-0.02	22.52	23	1.117	1.030	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	21100/2535.5	1:1	0.368	0.09	17.05	17.5	1.109	0.408	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.333	0.04	17.05	17.5	1.109	0.369	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.772	0.03	17.05	17.5	1.109	0.856	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.551	-0.07	17.05	17.5	1.109	0.611	22.3
Right cheek	20	QPSK	20850/2510	1:1	0.698	-0.11	16.71	17.5	1.199	0.837	22.3
Right cheek	20	QPSK	21350/2560	1:1	0.792	-0.03	16.97	17.5	1.130	0.895	22.3
Head Test data(50RB_25 offset)											
Left cheek	20	QPSK	21100/2535.5	1:1	0.364	0.02	16.94	17.5	1.138	0.414	22.3
Left tilted	20	QPSK	21100/2535.5	1:1	0.319	0.05	16.94	17.5	1.138	0.363	22.3
Right cheek	20	QPSK	21100/2535.5	1:1	0.758	-0.03	16.94	17.5	1.138	0.862	22.3
Right tilted	20	QPSK	21100/2535.5	1:1	0.539	-0.01	16.94	17.5	1.138	0.613	22.3
Right cheek	20	QPSK	20850/2510	1:1	0.683	0.09	16.71	17.5	1.199	0.819	22.3
Right cheek	20	QPSK	21350/2560	1:1	0.77	-0.04	16.93	17.5	1.140	0.878	22.3
Head Test data(100%RB)											
Right cheek	20	QPSK	21100/2535.5	1:1	0.772	0	17.05	17.5	1.109	0.856	22.3
Head Test Data at the worst case with SIM2											
Right cheek	20	QPSK	21350/2560	1:1	0.769	-0.16	16.97	17.5	1.130	0.869	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	20	QPSK	21350/2560	1:1	0.871	-0.18	16.97	17.5	1.130	0.984	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	20	QPSK	21350/2560	1:1	0.888	0.01	16.97	17.5	1.130	1.003	22.3
Right cheek-repeat	20	QPSK	21350/2560	1:1	0.89	0.04	16.97	17.5	1.130	**1.006**	22.3
Body worn Test data(15mm 1RB_50 offset)											
Front side	20	QPSK	20850/2510	1:1	0.194	-0.03	21.97	22.5	1.130	0.219	22.3
Back side	20	QPSK	20850/2510	1:1	0.149	-0.12	21.97	22.5	1.130	0.168	22.3
Body worn Test data (15mm 50%RB_25 offset)											
Front side	20	QPSK	20850/2510	1:1	0.157	-0.09	21.86	22.5	1.159	0.182	22.3
Back side	20	QPSK	20850/2510	1:1	0.143	-0.03	21.86	22.5	1.159	0.166	22.3
Body worn Test Data at the worst case with SIM2											
Front side	20	QPSK	20850/2510	1:1	0.168	-0.03	21.97	22.5	1.130	0.190	22.3
Body worn Test Data at the worst case with Battery 2#											
Front side	20	QPSK	20850/2510	1:1	0.195	-0.06	21.97	22.5	1.130	0.220	22.3
Body worn Test Data at the worst case with Battery 3#											
Front side	20	QPSK	20850/2510	1:1	0.25	-0.12	21.97	22.5	1.130	**0.282**	22.3
Hotspot actived Test Data(10mm 1RB_50 offset)											
Front side	20	QPSK	21350/2560	1:1	0.176	-0.15	17.24	17.5	1.062	0.187	22.3
Back side	20	QPSK	21350/2560	1:1	0.222	0	17.24	17.5	1.062	0.236	22.3
Left side	20	QPSK	21350/2560	1:1	0.121	-0.02	17.24	17.5	1.062	0.128	22.3
Right side	20	QPSK	21350/2560	1:1	0.0133	0.02	17.24	17.5	1.062	0.014	22.3
Top side	20	QPSK	21350/2560	1:1	0.123	-0.02	17.24	17.5	1.062	0.131	22.3
Hotspot actived Test Data(10mm 50%RB_25 offset)											
Front side	20	QPSK	21350/2560	1:1	0.165	-0.05	17.18	17.5	1.076	0.178	22.3
Back side	20	QPSK	21350/2560	1:1	0.223	-0.09	17.18	17.5	1.076	**0.240**	22.3
Left side	20	QPSK	21350/2560	1:1	0.114	-0.03	17.18	17.5	1.076	0.123	22.3
Right side	20	QPSK	21350/2560	1:1	0.0101	0.05	17.18	17.5	1.076	0.011	22.3
Top side	20	QPSK	21350/2560	1:1	0.116	-0.08	17.18	17.5	1.076	0.125	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	20	QPSK	21350/2560	1:1	0.163	0.02	17.18	17.5	1.076	0.175	22.3

Hotspot Test Data at the worst case with Battery 2#											
Back side	20	QPSK	21350/2560	1:1	0.212	-0.17	17.18	17.5	1.076	0.228	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	20	QPSK	21350/2560	1:1	0.219	-0.2	17.18	17.5	1.076	0.236	22.3

Table 32： 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).

Test Position	**Channel/ Frequency (MHz)**	**Measured SAR (1g)**	**1st Repeated SAR (1g)**	**Ratio**	**2nd Repeated SAR (1g)**	**3rd Repeated SAR (1g)**
Back Side	21100/2535.5	0.979	0.956	1.0240586	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Test Position	**Channel/ Frequency (MHz)**	**Measured SAR (1g)**	**1st Repeated SAR (1g)**	**Ratio**	**2nd Repeated SAR (1g)**	**3rd Repeated SAR (1g)**
Right cheek	21350/2560	0.888	0.89	1.0022523	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 33： SAR Measurement Variability Results

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	0.108	-0.04	23.66	24	1.081	0.117	22.3
Left tilted	10	QPSK	23130/711	1:1	0.0801	0.05	23.66	24	1.081	0.087	22.3
Right cheek	10	QPSK	23130/711	1:1	0.13	0.03	23.66	24	1.081	0.141	22.3
Right tilted	10	QPSK	23130/711	1:1	0.0904	0.07	23.66	24	1.081	0.098	22.3
Head Test data(25RB_13 offset)											
Left cheek	10	QPSK	23130/711	1:1	0.0837	0.08	22.25	23	1.189	0.099	22.3
Left tilted	10	QPSK	23130/711	1:1	0.0614	0.02	22.25	23	1.189	0.073	22.3
Right cheek	10	QPSK	23130/711	1:1	0.101	0.01	22.25	23	1.189	0.120	22.3
Right tilted	10	QPSK	23130/711	1:1	0.0704	0.16	22.25	23	1.189	0.084	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23130/711	1:1	0.129	0.05	23.66	24	1.081	0.140	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23130/711	1:1	0.139	0.01	23.66	24	1.081	0.150	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23130/711	1:1	0.184	0.05	23.66	24	1.081	**0.199**	22.3
Body worn Test data(15mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.145	-0.16	23.66	24	1.081	0.157	22.3
Back side	10	QPSK	23130/711	1:1	0.182	-0.17	23.66	24	1.081	0.197	22.3
Body worn Test data (15mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.116	-0.01	22.25	23	1.189	0.138	22.3
Back side	10	QPSK	23130/711	1:1	0.142	-0.15	22.25	23	1.189	0.169	22.3
Body worn Data at the worst case with SIM2											
Back side	10	QPSK	23130/711	1:1	0.173	-0.11	23.66	24	1.081	0.187	22.3
Body worn Data at the worst case with Battery 2#											
Back side	10	QPSK	23130/711	1:1	0.198	-0.06	23.66	24	1.081	0.214	22.3
Body worn Data at the worst case with Battery 3#											
Back side	10	QPSK	23130/711	1:1	0.249	-0.02	23.66	24	1.081	**0.269**	22.3
Hotspot Test data(10mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.165	-0.02	23.66	24	1.081	0.178	22.3
Back side	10	QPSK	23130/711	1:1	0.176	0.112	23.66	24	1.081	0.190	22.3
Left side	10	QPSK	23130/711	1:1	0.141	-0.14	23.66	24	1.081	0.152	22.3
Right side	10	QPSK	23130/711	1:1	0.211	0.15	23.66	24	1.081	0.228	22.3
Bottom side	10	QPSK	23130/711	1:1	0.0523	-0.2	23.66	24	1.081	0.057	22.3
Hotspot Test data (10mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.128	-0.15	22.25	23	1.189	0.152	22.3
Back side	10	QPSK	23130/711	1:1	0.134	-0.1	22.25	23	1.189	0.159	22.3
Left side	10	QPSK	23130/711	1:1	0.112	-0.13	22.25	23	1.189	0.133	22.3
Right side	10	QPSK	23130/711	1:1	0.167	-0.16	22.25	23	1.189	0.198	22.3
Bottom side	10	QPSK	23130/711	1:1	0.0398	-0.08	22.25	23	1.189	0.047	22.3
Hotspot Test Data at the worst case with SIM2											
Right side	10	QPSK	23130/711	1:1	0.221	-0.12	23.66	24	1.081	0.239	22.3

Hotspot Test Data at the worst case with Battery 2#											
Right side	10	QPSK	23130/711	1:1	0.247	-0.19	23.66	24	1.081	0.267	22.3
Hotspot Test Data at the worst case with Battery 3#											
Right side	10	QPSK	23130/711	1:1	0.308	-0.14	23.66	24	1.081	**0.333**	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_25 offset)											
Left cheek	10	QPSK	23060/704	1:1	0.662	0.07	22.52	23.2	1.169	0.774	22.3
Left tilted	10	QPSK	23060/704	1:1	0.536	0.01	22.52	23.2	1.169	0.627	22.3
Right cheek	10	QPSK	23060/704	1:1	0.816	0.05	22.52	23.2	1.169	0.954	22.3
Right tilted	10	QPSK	23060/704	1:1	0.759	0.07	22.52	23.2	1.169	0.888	22.3
Right cheek	10	QPSK	23095/707.5	1:1	0.854	0.05	22.49	23.2	1.178	1.006	22.3
Right cheek	10	QPSK	23130/711	1:1	0.775	0	22.34	23.2	1.219	0.945	22.3
Right tilted	10	QPSK	23095/707.5	1:1	0.812	0.11	22.49	23.2	1.178	0.956	22.3
Right tilted	10	QPSK	23130/711	1:1	0.769	0.12	22.34	23.2	1.219	0.937	22.3
Head Test data(25RB_13 offset)											
Left cheek	10	QPSK	23060/704	1:1	0.633	0.09	22.05	22.2	1.035	0.655	22.3
Left tilted	10	QPSK	23060/704	1:1	0.523	0	22.05	22.2	1.035	0.541	22.3
Right cheek	10	QPSK	23060/704	1:1	0.809	0.06	22.05	22.2	1.035	0.837	22.3
Right tilted	10	QPSK	23060/704	1:1	0.743	0.09	22.05	22.2	1.035	0.769	22.3
Right cheek	10	QPSK	23095/707.5	1:1	0.855	0.08	22.03	22.2	1.040	0.889	22.3
Right cheek	10	QPSK	23130/711	1:1	0.784	-0.02	22.01	22.2	1.045	0.819	22.3
Head Test data(100%RB)											
Right cheek	10	QPSK	23060/704	1:1	0.781	0.02	22.05	22.2	1.035	0.808	22.3
Right tilted	10	QPSK	23060/704	1:1	0.706	0.12	22.05	22.2	1.035	0.731	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23095/707.5	1:1	0.856	0.07	22.49	23.2	1.178	1.008	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23095/707.5	1:1	0.899	0.05	22.49	23.2	1.178	1.059	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23095/707.5	1:1	0.93	-0.01	22.49	23.2	1.178	**1.095**	22.3
Right cheek-repeat	10	QPSK	23095/707.5	1:1	0.927	0.06	22.49	23.2	1.178	1.092	22.3
Body worn Test data(15mm 1RB_25 offset)											
Front side	10	QPSK	23130/711	1:1	0.184	-0.17	23.38	24.2	1.208	0.222	22.3
Back side	10	QPSK	23130/711	1:1	0.264	-0.15	23.38	24.2	1.208	0.319	22.3
Body worn Test data (15mm 25RB_13 offset)											
Front side	10	QPSK	23130/711	1:1	0.144	-0.16	22.29	23.2	1.233	0.178	22.3
Back side	10	QPSK	23130/711	1:1	0.206	-0.01	22.29	23.2	1.233	0.254	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	23130/711	1:1	0.301	-0.15	23.38	24.2	1.208	0.364	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23130/711	1:1	0.332	-0.09	23.38	24.2	1.208	**0.401**	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23130/711	1:1	0.324	-0.12	23.38	24.2	1.208	0.391	22.3

Hotspot actived Test Data(10mm 1RB_25 offset)											
Front side	10	QPSK	23060/704	1:1	0.249	-0.06	22.28	23.2	1.236	0.308	22.3
Back side	10	QPSK	23060/704	1:1	0.511	-0.13	22.28	23.2	1.236	0.632	22.3
Left side	10	QPSK	23060/704	1:1	0.26	-0.15	22.28	23.2	1.236	0.321	22.3
Right side	10	QPSK	23060/704	1:1	0.0693	-0.02	22.28	23.2	1.236	0.086	22.3
Top side	10	QPSK	23060/704	1:1	0.221	-0.16	22.28	23.2	1.236	0.273	22.3
Hotspot actived Test Data(10mm 25RB_13 offset)											
Front side	10	QPSK	23060/704	1:1	0.257	-0.11	22.15	22.2	1.012	0.260	22.3
Back side	10	QPSK	23060/704	1:1	0.495	-0.12	22.15	22.2	1.012	0.501	22.3
Left side	10	QPSK	23060/704	1:1	0.269	-0.18	22.15	22.2	1.012	0.272	22.3
Right side	10	QPSK	23060/704	1:1	0.0665	-0.19	22.15	22.2	1.012	0.067	22.3
Top side	10	QPSK	23060/704	1:1	0.23	-0.01	22.15	22.2	1.012	0.233	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	10	QPSK	23060/704	1:1	0.498	-0.12	22.28	23.2	1.236	0.616	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23060/704	1:1	0.535	-0.12	22.28	23.2	1.236	**0.661**	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23060/704	1:1	0.52	-0.02	22.28	23.2	1.236	0.643	22.3

Table 34： SAR of LTE Band 12 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).

Test Position	**Channel/ Frequency**	**Measured SAR (1g)**	**1st Repeated**	**Ratio**	**2nd Repeated**	**3rd Repeated**
	(MHz)		**SAR (1g)**		**SAR (1g)**	**SAR (1g)**
Right cheek	23095/707.5	0.93	0.927	1.003	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 35： SAR Measurement Variability Results

8.3.5 SAR Result Of LTE Band 17

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	23790/710	1:1	0.111	0.05	22.93	24	1.279	0.142	22.3
Left tilted	10	QPSK	23790/710	1:1	0.0806	0.04	22.93	24	1.279	0.103	22.3
Right cheek	10	QPSK	23790/710	1:1	0.129	0.16	22.93	24	1.279	0.165	22.3
Right tilted	10	QPSK	23790/710	1:1	0.0923	0.17	22.93	24	1.279	0.118	22.3
Head Test data(25RB_13 offset)											
Left cheek	10	QPSK	23790/710	1:1	0.0884	0.1	21.88	23	1.294	0.114	22.3
Left tilted	10	QPSK	23790/710	1:1	0.065	0.03	21.88	23	1.294	0.084	22.3
Right cheek	10	QPSK	23790/710	1:1	0.0991	0.05	21.88	23	1.294	0.128	22.3
Right tilted	10	QPSK	23790/710	1:1	0.0736	0.03	21.88	23	1.294	0.095	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23790/710	1:1	0.13	0.15	22.93	24	1.279	0.166	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23790/710	1:1	0.129	0.01	22.93	24	1.279	0.165	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23790/710	1:1	0.171	0.06	22.93	24	1.279	**0.219**	22.3
Body worn Test data(15mm 1RB_25 offset)											
Front side	10	QPSK	23790/710	1:1	0.164	-0.13	22.93	24	1.279	0.210	22.3
Back side	10	QPSK	23790/710	1:1	0.203	-0.17	22.93	24	1.279	0.26	22.3
Body worn Test data (15mm 50%RB_13 offset)											
Front side	10	QPSK	23790/710	1:1	0.135	-0.1	21.88	23	1.294	0.175	22.3
Back side	10	QPSK	23790/710	1:1	0.168	-0.16	21.88	23	1.294	0.217	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	23790/710	1:1	0.203	-0.09	22.93	24	1.279	0.260	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23790/710	1:1	0.237	-0.1	22.93	24	1.279	0.303	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23790/710	1:1	0.238	-0.13	22.93	24	1.279	**0.304**	22.3
Hotspot Test data(10mm 1RB_25 offset)											
Front side	10	QPSK	23790/710	1:1	0.17	-0.17	22.93	24	1.279	0.217	22.3
Back side	10	QPSK	23790/710	1:1	0.199	-0.03	22.93	24	1.279	0.255	22.3
Left side	10	QPSK	23790/710	1:1	0.149	-0.04	22.93	24	1.279	0.191	22.3
Right side	10	QPSK	23790/710	1:1	0.232	-0.18	22.93	24	1.279	0.297	22.3
Bottom side	10	QPSK	23790/710	1:1	0.0584	-0.1	22.93	24	1.279	0.075	22.3
Hotspot Test data (10mm 25RB_13 offset)											
Front side	10	QPSK	23790/710	1:1	0.141	-0.11	21.88	23	1.294	0.182	22.3
Back side	10	QPSK	23790/710	1:1	0.162	-0.08	21.88	23	1.294	0.210	22.3
Left side	10	QPSK	23790/710	1:1	0.12	-0.18	21.88	23	1.294	0.155	22.3
Right side	10	QPSK	23790/710	1:1	0.189	-0.18	21.88	23	1.294	0.245	22.3
Bottom side	10	QPSK	23790/710	1:1	0.0471	-0.19	21.88	23	1.294	0.061	22.3
Hotspot Test Data at the worst case with SIM2											
Right side	10	QPSK	23790/710	1:1	0.259	-0.18	22.93	24	1.279	0.331	22.3

Hotspot Test Data at the worst case with Battery 2#											
Right side	10	QPSK	23790/710	1:1	0.244	-0.18	22.93	24	1.279	0.312	22.3
Hotspot Test Data at the worst case with Battery 3#											
Right side	10	QPSK	23790/710	1:1	0.293	-0.16	22.93	24	1.279	**0.375**	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_0 offset)											
Left cheek	10	QPSK	23780/709	1:1	0.631	0	22.57	23.3	1.183	0.746	22.3
Left tilted	10	QPSK	23780/709	1:1	0.504	0.02	22.57	23.3	1.183	0.596	22.3
Right cheek	10	QPSK	23780/709	1:1	0.805	0.02	22.57	23.3	1.183	0.952	22.3
Right tilted	10	QPSK	23780/709	1:1	0.682	0.07	22.57	23.3	1.183	0.807	22.3
Right cheek	10	QPSK	23790/710	1:1	0.861	0.06	22.44	23.3	1.219	1.050	22.3
Right cheek	10	QPSK	23800/711	1:1	0.884	-0.06	22.51	23.3	1.199	1.060	22.3
Right tilted	10	QPSK	23790/710	1:1	0.734	0.09	22.44	23.3	1.219	0.895	22.3
Right tilted	10	QPSK	23800/711	1:1	0.735	0.05	22.51	23.3	1.199	0.882	22.3
Head Test data(25RB_0 offset)											
Left cheek	10	QPSK	23780/709	1:1	0.695	0.02	22.08	22.3	1.052	0.731	22.3
Left tilted	10	QPSK	23780/709	1:1	0.557	-0.03	22.08	22.3	1.052	0.586	22.3
Right cheek	10	QPSK	23780/709	1:1	0.807	0.07	22.08	22.3	1.052	0.849	22.3
Right tilted	10	QPSK	23780/709	1:1	0.759	-0.02	22.08	22.3	1.052	0.798	22.3
Right cheek	10	QPSK	23790/710	1:1	0.831	0.1	21.93	22.3	1.089	0.905	22.3
Right cheek	10	QPSK	23800/711	1:1	0.811	0.06	21.81	22.3	1.119	0.908	22.3
Head Test data(100%RB)											
Right cheek	10	QPSK	23780/709	1:1	0.802	0.05	21.92	22.3	1.091	0.875	22.3
Right tilted	10	QPSK	23780/709	1:1	0.727	0.1	21.92	22.3	1.091	0.793	22.3
Head Test Data at the worst case with SIM2											
Right cheek	10	QPSK	23800/711	1:1	0.866	-0.01	22.51	23.3	1.199	1.039	22.3
Head Test Data at the worst case with Battery 2#											
Right cheek	10	QPSK	23800/711	1:1	0.912	-0.01	22.51	23.3	1.199	1.094	22.3
Head Test Data at the worst case with Battery 3#											
Right cheek	10	QPSK	23800/711	1:1	0.914	0.04	22.51	23.3	1.199	**1.096**	22.3
Right cheek-repeat	10	QPSK	23800/711	1:1	0.914	0.06	22.51	23.3	1.199	1.096	22.3
Body worn Test data(15mm 1RB_0 offset)											
Front side	10	QPSK	23780/709	1:1	0.188	-0.11	22.68	24.5	1.521	0.286	22.3
Back side	10	QPSK	23780/709	1:1	0.282	-0.1	22.68	24.5	1.521	0.429	22.3
Body worn Test data (15mm 25RB_0 offset)											
Front side	10	QPSK	23780/709	1:1	0.162	-0.15	21.62	23.5	1.542	0.250	22.3
Back side	10	QPSK	23780/709	1:1	0.243	-0.15	21.62	23.5	1.542	0.375	22.3
Body worn Test Data at the worst case with SIM2											
Back side	10	QPSK	23780/709	1:1	0.282	-0.12	22.68	24.5	1.521	0.429	22.3
Body worn Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23780/709	1:1	0.3	-0.2	22.68	24.5	1.521	0.456	22.3
Body worn Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23780/709	1:1	0.303	-0.02	22.68	24.5	1.521	**0.461**	22.3

Hotspot actived Test Data(10mm 1RB_0 offset)											
Front side	10	QPSK	23780/709	1:1	0.259	-0.17	21.75	23.3	1.429	0.370	22.3
Back side	10	QPSK	23780/709	1:1	0.477	-0.09	21.75	23.3	1.429	0.682	22.3
Left side	10	QPSK	23780/709	1:1	0.262	-0.18	21.75	23.3	1.429	0.374	22.3
Right side	10	QPSK	23780/709	1:1	0.0678	-0.17	21.75	23.3	1.429	0.097	22.3
Top side	10	QPSK	23780/709	1:1	0.223	-0.12	21.75	23.3	1.429	0.319	22.3
Hotspot actived Test Data(10mm 25RB_0 offset)											
Front side	10	QPSK	23780/709	1:1	0.274	-0.11	21.58	22.3	1.180	0.323	22.3
Back side	10	QPSK	23780/709	1:1	0.506	-0.11	21.58	22.3	1.180	0.597	22.3
Left side	10	QPSK	23780/709	1:1	0.277	-0.18	21.58	22.3	1.180	0.327	22.3
Right side	10	QPSK	23780/709	1:1	0.0687	-0.13	21.58	22.3	1.180	0.081	22.3
Top side	10	QPSK	23780/709	1:1	0.223	-0.2	21.58	22.3	1.180	0.263	22.3
Hotspot Test Data at the worst case with SIM2											
Back side	10	QPSK	23780/709	1:1	0.496	-0.08	21.75	23.3	1.429	0.709	22.3
Hotspot Test Data at the worst case with Battery 2#											
Back side	10	QPSK	23780/709	1:1	0.498	-0.12	21.75	23.3	1.429	**0.712**	22.3
Hotspot Test Data at the worst case with Battery 3#											
Back side	10	QPSK	23780/709	1:1	0.483	-0.14	21.75	23.3	1.429	0.690	22.3

Table 36： SAR of LTE Band 17 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).

Test Position	**Channel/ Frequency**	**Measured SAR (1g)**	**1st Repeated**	**Ratio**	**2nd Repeated**	**3rd Repeated**
	(MHz)		**SAR (1g)**		**SAR (1g)**	**SAR (1g)**
Right cheek	23800/711	0.914	0.914	1.000	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 37： SAR Measurement Variability Results

8.3.6 SAR Result Of 2.4GHz WIFI

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	11/2462	99.70%	1.003	0.355	0.17	12.14	13	1.219	**0.433**	22
Left tilted	802.11b	11/2462	99.70%	1.003	0.241	0.06	12.14	13	1.219	0.294	22
Right cheek	802.11b	11/2462	99.70%	1.003	0.125	-0.03	12.14	13	1.219	0.152	22
Right tilted	802.11b	11/2462	99.70%	1.003	0.102	0.01	12.14	13	1.219	0.124	22
Head Test Data at the worst case with Battery 2#											
Left cheek	802.11b	11/2462	99.70%	1.003	0.263	-0.05	12.14	13	1.219	0.321	22
Head Test Data at the worst case with Battery 3#											
Left cheek	802.11b	11/2462	99.70%	1.003	0.319	-0.05	12.14	13	1.219	0.389	22
Body worn Test data(Separate 15mm)											
Front side	802.11b	1/2412	99.70%	1.003	0.101	-0.09	18.24	19	1.191	0.120	22
Back side	802.11b	1/2412	99.70%	1.003	0.166	-0.08	18.24	19	1.191	**0.198**	22
Body worn Test Data at the worst case with Battery 2#											
Back side	802.11b	1/2412	99.70%	1.003	0.14	-0.1	18.24	19	1.191	0.167	22
Body worn Test Data at the worst case with Battery 3#											
Back side	802.11b	1/2412	99.70%	1.003	0.114	-0.04	18.24	19	1.191	0.136	22.3
Hotspot Test data (Separate 10mm)											
Front side	802.11b	11/2462	99.70%	1.003	0.0379	0.18	12.14	13	1.219	0.046	22
Back side	802.11b	11/2462	99.70%	1.003	0.0687	0.1	12.14	13	1.219	0.084	22
Right side	802.11b	11/2462	99.70%	1.003	0.071	-0.09	12.14	13	1.219	**0.087**	22
Top side	802.11b	11/2462	99.70%	1.003	0.0216	-0.09	12.14	13	1.219	0.026	22
Hotspot Test Data at the worst case with Battery 2#											
Right side	802.11b	11/2462	99.70%	1.003	0.0498	0.12	12.14	13	1.219	0.061	22
Hotspot Test Data at the worst case with Battery 3#											
Right side	802.11b	11/2462	99.70%	1.003	0.045	-0.12	12.14	13	1.219	0.055	22

Table 38： 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

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	0.159	0.06	11	13	1.585	0.252	22
Left tilted	DH5	39/2441	100.00%	1	0.113	-0.06	11	13	1.585	0.179	22
Right cheek	DH5	39/2441	100.00%	1	0.0679	0.04	11	13	1.585	0.108	22
Right tilted	DH5	39/2441	100.00%	1	0.0599	-0.14	11	13	1.585	0.095	22
Head Test Data at the worst case with Battery 2#											
Left cheek	DH5	39/2441	100.00%	1	0.132	0.08	11	13	1.585	0.209	22.3
Head Test Data at the worst case with Battery 3#											
Left cheek	DH5	39/2441	100.00%	1	0.186	0.04	11	13	1.585	**0.295**	22.3

Table 39： SAR of Bluetooth for Head

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.	Simultaneous Tx Combination	Head	Body-worn	Hotspot (10mm)	Product Specific 10-g (0mm)
1	GSM Voice(Main ant) + BT	Yes	Yes	NA	Yes
2	GSM DATA(Main ant) + BT	N/A	Yes	Yes	Yes
3	GSM Voice(Second ant) + BT	Yes	Yes	NA	Yes
4	GSM DATA(Second ant)+ BT	N/A	Yes	Yes	Yes
5	GSM Voice(Main ant) + WiFi	Yes	Yes	NA	Yes
6	GSM DATA(Main ant) + WiFi	N/A	Yes	Yes	Yes
7	GSM Voice(Second ant) + WiFi	Yes	Yes	NA	Yes
8	GSM DATA(Second ant) + WiFi	N/A	Yes	Yes	Yes
9	UMTS Voice(Main ant) + BT	Yes	Yes	NA	Yes
10	UMTS Data(Main ant) + BT	N/A	Yes	Yes	Yes
11	UMTS Voice(Second ant) + BT	Yes	Yes	NA	Yes
12	UMTS Data(Second ant) + BT	N/A	Yes	Yes	Yes
13	UMTS Voice(Main ant) + WiFi	Yes	Yes	NA	Yes
14	UMTS Data (Main ant) + WiFi	Yes*	Yes	Yes	Yes
15	UMTS Voice (Second ant)+ WiFi	Yes	Yes	NA	Yes
16	UMTS Data (Second ant)+ WiFi	Yes*	Yes	Yes	Yes
17	LTE(Main ant) + WiFi	Yes*	Yes*	Yes	Yes
18	LTE(Main ant) + BT	Yes*	Yes*	Yes	Yes
19	LTE (Second ant)+ WiFi	Yes*	Yes*	Yes	Yes
20	LTE (Second ant) + BT	Yes*	Yes*	Yes	Yes

Note:

1) Wi-Fi 2.4G and Bluetooth share the same Tx antenna and can't transmit simultaneously.
2) The device does not support DTM function.
3) * VoLTE or pre-installed VOIP applications are considered.
4) The Main Antenna and Second Antenna can't transmit simultaneously.
5) The device supports 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 SAR1g (W/kg)
Bluetooth	2.48	Body-worn	13	20.0	15	0.279

1) Simultaneous Transmission SAR Summation Scenario for head

WWAN Band（Main Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	Summed SAR①+②	Summed SAR①+③	Case NO.
GSM850	Left Touch	0.203	0.433	0.295	0.636	0.498	No
	Left Tilt	0.142	0.294	0.179	0.436	0.321	No
	Right Touch	0.198	0.152	0.108	0.350	0.306	No
	Right Tilt	0.144	0.124	0.095	0.268	0.239	No
GSM1900	Left Touch	0.205	0.433	0.295	0.638	0.500	No
	Left Tilt	0.089	0.294	0.179	0.383	0.268	No
	Right Touch	0.199	0.152	0.108	0.351	0.307	No
	Right Tilt	0.081	0.124	0.095	0.205	0.176	No
WCDMA Band II	Left Touch	0.244	0.433	0.295	0.677	0.539	No
	Left Tilt	0.212	0.294	0.179	0.506	0.391	No
	Right Touch	0.507	0.152	0.108	0.659	0.615	No
	Right Tilt	0.156	0.124	0.095	0.280	0.251	No
WCDMA Band IV	Left Touch	0.353	0.433	0.295	**0.786**	0.648	No
	Left Tilt	0.217	0.294	0.179	0.511	0.396	No
	Right Touch	0.554	0.152	0.108	0.706	0.662	No
	Right Tilt	0.217	0.124	0.095	0.341	0.312	No
WCDMA Band V	Left Touch	0.184	0.433	0.295	0.617	0.479	No
	Left Tilt	0.206	0.294	0.179	0.500	0.385	No
	Right Touch	0.211	0.152	0.108	0.363	0.319	No
	Right Tilt	0.242	0.124	0.095	0.366	0.337	No
LTE Band 2	Left Touch	0.248	0.433	0.295	0.681	0.543	No
	Left Tilt	0.219	0.294	0.179	0.513	0.398	No
	Right Touch	0.492	0.152	0.108	0.644	0.600	No
	Right Tilt	0.179	0.124	0.095	0.303	0.274	No
LTE Band 4	Left Touch	0.325	0.433	0.295	0.758	0.620	No
	Left Tilt	0.259	0.294	0.179	0.553	0.438	No
	Right Touch	0.611	0.152	0.108	0.763	0.719	No
	Right Tilt	0.265	0.124	0.095	0.389	0.360	No
LTE Band 5	Left Touch	0.172	0.433	0.295	0.605	0.467	No
	Left Tilt	0.158	0.294	0.179	0.452	0.337	No
	Right Touch	0.263	0.152	0.108	0.415	0.371	No
	Right Tilt	0.163	0.124	0.095	0.287	0.258	No
LTE Band 7	Left Touch	0.314	0.433	0.295	0.747	0.609	No
	Left Tilt	0.166	0.294	0.179	0.460	0.345	No
	Right Touch	0.261	0.152	0.108	0.413	0.369	No
	Right Tilt	0.149	0.124	0.095	0.273	0.244	No
LTE Band 12	Left Touch	0.117	0.433	0.295	0.550	0.412	No
	Left Tilt	0.087	0.294	0.179	0.381	0.266	No
	Right Touch	0.199	0.152	0.108	0.351	0.307	No
	Right Tilt	0.098	0.124	0.095	0.222	0.193	No

LTE Band 17	Left Touch	0.142	0.433	0.295	0.575	0.437	No
	Left Tilt	0.103	0.294	0.179	0.397	0.282	No
	Right Touch	0.219	0.152	0.108	0.371	0.327	No
	Right Tilt	0.118	0.124	0.095	0.242	0.213	No

WWAN Band （Second Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	③ MAX.BT SAR(W/kg)	Summed SAR①+②	Summed SAR①+③	Case NO.
GSM850	Left Touch	0.753	0.433	0.295	1.186	1.048	No
	Left Tilt	0.660	0.294	0.179	0.954	0.839	No
	Right Touch	1.097	0.152	0.108	1.249	1.205	No
	Right Tilt	0.875	0.124	0.095	0.999	0.970	No
GSM1900	Left Touch	0.368	0.433	0.295	0.801	0.663	No
	Left Tilt	0.382	0.294	0.179	0.676	0.561	No
	Right Touch	1.089	0.152	0.108	1.241	1.197	No
	Right Tilt	0.701	0.124	0.095	0.825	0.796	No
WCDMA Band II	Left Touch	0.321	0.433	0.295	0.754	0.616	No
	Left Tilt	0.363	0.294	0.179	0.657	0.542	No
	Right Touch	1.096	0.152	0.108	1.248	1.204	No
	Right Tilt	0.714	0.124	0.095	0.838	0.809	No
WCDMA Band IV	Left Touch	0.371	0.433	0.295	0.804	0.666	No
	Left Tilt	0.428	0.294	0.179	0.722	0.607	No
	Right Touch	0.943	0.152	0.108	1.095	1.051	No
	Right Tilt	0.756	0.124	0.095	0.880	0.851	No
WCDMA Band V	Left Touch	0.728	0.433	0.295	1.161	1.023	No
	Left Tilt	0.610	0.294	0.179	0.904	0.789	No
	Right Touch	1.058	0.152	0.108	1.210	1.166	No
	Right Tilt	0.839	0.124	0.095	0.963	0.934	No
LTE Band 2	Left Touch	0.401	0.433	0.295	0.834	0.696	No
	Left Tilt	0.465	0.294	0.179	0.759	0.644	No
	Right Touch	1.098	0.152	0.108	**1.250**	1.206	No
	Right Tilt	0.735	0.124	0.095	0.859	0.830	No
LTE Band 4	Left Touch	0.417	0.433	0.295	0.850	0.712	No
	Left Tilt	0.468	0.294	0.179	0.762	0.647	No
	Right Touch	1.012	0.152	0.108	1.164	1.120	No
	Right Tilt	0.736	0.124	0.095	0.860	0.831	No
LTE Band 5	Left Touch	0.691	0.433	0.295	1.124	0.986	No
	Left Tilt	0.583	0.294	0.179	0.877	0.762	No
	Right Touch	1.091	0.152	0.108	1.243	1.199	No
	Right Tilt	0.795	0.124	0.095	0.919	0.890	No
LTE Band 7	Left Touch	0.414	0.433	0.295	0.847	0.709	No
	Left Tilt	0.369	0.294	0.179	0.663	0.548	No
	Right Touch	1.006	0.152	0.108	1.158	1.114	No
	Right Tilt	0.613	0.124	0.095	0.737	0.708	No
LTE Band 12	Left Touch	0.774	0.433	0.295	1.207	1.069	No
	Left Tilt	0.627	0.294	0.179	0.921	0.806	No
	Right Touch	1.095	0.152	0.108	1.247	1.203	No
	Right Tilt	0.956	0.124	0.095	1.080	1.051	No

LTE Band 17	Left Touch	0.746	0.433	0.295	1.179	1.041	No
	Left Tilt	0.596	0.294	0.179	0.890	0.775	No
	Right Touch	1.096	0.152	0.108	1.248	1.204	No
	Right Tilt	0.895	0.124	0.095	1.019	0.990	No

2) Simultaneous Transmission SAR Summation Scenario for body worn

WWAN Band（Main Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	③MAX.BT SAR(W/kg)	Summed SAR①+②	Summed SAR①+③	Case NO.
GSM850	Front(voice)	0.143	0.120	0.279	0.263	0.422	No
	Back(voice)	0.313	0.198	0.279	0.511	0.592	No
	Front(data)	0.123	0.120	0.279	0.243	0.402	No
	Back(data)	0.245	0.198	0.279	0.443	0.524	No
GSM1900	Front(voice)	0.204	0.120	0.279	0.324	0.483	No
	Back(voice)	0.326	0.198	0.279	0.524	0.605	No
	Front(data)	0.190	0.120	0.279	0.310	0.469	No
	Back(data)	0.287	0.198	0.279	0.485	0.566	No
WCDMA Band II	Front	0.235	0.120	0.279	0.355	0.514	No
	Back	0.709	0.198	0.279	0.907	**0.988**	No
WCDMA Band IV	Front	0.229	0.120	0.279	0.349	0.508	No
	Back	0.310	0.198	0.279	0.508	0.589	No
WCDMA Band V	Front	0.109	0.120	0.279	0.229	0.388	No
	Back	0.253	0.198	0.279	0.451	0.532	No
LTE Band 2	Front	0.265	0.120	0.279	0.385	0.544	No
	Back	0.450	0.198	0.279	0.648	0.729	No
LTE Band 4	Front	0.241	0.120	0.279	0.361	0.520	No
	Back	0.374	0.198	0.279	0.572	0.653	No
LTE Band 5	Front	0.101	0.120	0.279	0.221	0.380	No
	Back	0.295	0.198	0.279	0.493	0.574	No
LTE Band 7	Front	0.221	0.120	0.279	0.341	0.500	No
	Back	0.374	0.198	0.279	0.572	0.653	No
LTE Band 12	Front	0.157	0.120	0.279	0.277	0.436	No
	Back	0.269	0.198	0.279	0.467	0.548	No
LTE Band 17	Front	0.210	0.120	0.279	0.330	0.489	No
	Back	0.304	0.198	0.279	0.502	0.583	No

WWAN Band（Second Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	③MAX.BT SAR(W/kg)	Summed SAR①+②	Summed SAR①+③	Case NO.
GSM850	Front(voice)	0.195	0.120	0.279	0.315	0.474	No
	Back(voice)	0.298	0.198	0.279	0.496	0.577	No
	Front(data)	0.222	0.120	0.279	0.342	0.501	No
	Back(data)	0.415	0.198	0.279	0.613	0.694	No
GSM1900	Front(voice)	0.107	0.120	0.279	0.227	0.386	No
	Back(voice)	0.171	0.198	0.279	0.369	0.450	No
	Front(data)	0.116	0.120	0.279	0.236	0.395	No
	Back(data)	0.199	0.198	0.279	0.397	0.478	No
WCDMA Band II	Front	0.229	0.120	0.279	0.349	0.508	No
	Back	0.362	0.198	0.279	0.560	0.641	No
WCDMA Band IV	Front	0.226	0.120	0.279	0.346	0.505	No
	Back	0.324	0.198	0.279	0.522	0.603	No
WCDMA Band V	Front	0.276	0.120	0.279	0.396	0.555	No
	Back	0.530	0.198	0.279	0.728	**0.809**	No
LTE Band 2	Front	0.235	0.120	0.279	0.355	0.514	No
	Back	0.358	0.198	0.279	0.556	0.637	No
LTE Band 4	Front	0.188	0.120	0.279	0.308	0.467	No
	Back	0.270	0.198	0.279	0.468	0.549	No
LTE Band 5	Front	0.233	0.120	0.279	0.353	0.512	No
	Back	0.468	0.198	0.279	0.666	0.747	No
LTE Band 7	Front	0.282	0.120	0.279	0.402	0.561	No
	Back	0.168	0.198	0.279	0.366	0.447	No
LTE Band 12	Front	0.222	0.120	0.279	0.342	0.501	No
	Back	0.401	0.198	0.279	0.599	0.680	No
LTE Band 17	Front	0.286	0.120	0.279	0.406	0.565	No
	Back	0.461	0.198	0.279	0.659	0.740	No

3) Simultaneous Transmission SAR Summation Scenario for hotspot

WWAN Band（Main Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	Summed SAR①+②	Case NO.
GSM850	Front	0.135	0.046	0.181	No
	Back	0.307	0.084	0.391	No
	Left	0.184	0.000	0.184	No
	Right	0.257	0.087	0.344	No
	Top	0.000	0.026	0.026	No
	Bottom	0.038	0.000	0.038	No
GSM1900	Front	0.410	0.046	0.456	No
	Back	0.624	0.084	0.708	No
	Left	0.151	0.000	0.151	No
	Right	0.166	0.087	0.253	No
	Top	0.000	0.026	0.026	No
	Bottom	0.762	0.000	0.762	No
WCDMA Band II	Front	0.576	0.046	0.622	No
	Back	0.911	0.084	0.995	No
	Left	0.313	0.000	0.313	No
	Right	0.255	0.087	0.342	No
	Top	0.000	0.026	0.026	No
	Bottom	1.069	0.000	1.069	No
WCDMA Band IV	Front	0.479	0.046	0.525	No
	Back	0.775	0.084	0.859	No
	Left	0.151	0.000	0.151	No
	Right	0.336	0.087	0.423	No
	Top	0.000	0.026	0.026	No
	Bottom	0.428	0.000	0.428	No
WCDMA Band V	Front	0.132	0.046	0.178	No
	Back	0.259	0.084	0.343	No
	Left	0.182	0.000	0.182	No
	Right	0.370	0.087	0.457	No
	Top	0.000	0.026	0.026	No
	Bottom	0.052	0.000	0.052	No
LTE Band 2	Front	0.478	0.046	0.524	No
	Back	0.844	0.084	0.928	No
	Left	0.258	0.000	0.258	No
	Right	0.181	0.087	0.268	No
	Top	0.000	0.026	0.026	No
	Bottom	0.839	0.000	0.839	No

LTE Band 4	Front	0.489	0.046	0.535	No
	Back	0.790	0.084	0.874	No
	Left	0.185	0.000	0.185	No
	Right	0.350	0.087	0.437	No
	Top	0.000	0.026	0.026	No
	Bottom	0.261	0.000	0.261	No
LTE Band 5	Front	0.105	0.046	0.151	No
	Back	0.241	0.084	0.325	No
	Left	0.193	0.000	0.193	No
	Right	0.400	0.087	0.487	No
	Top	0.000	0.026	0.026	No
	Bottom	0.046	0.000	0.046	No
LTE Band 7	Front	0.503	0.046	0.549	No
	Back	1.093	0.084	**1.177**	No
	Left	0.058	0.000	0.058	No
	Right	0.470	0.087	0.557	No
	Top	0.000	0.026	0.026	No
	Bottom	0.556	0.000	0.556	No
LTE Band 12	Front	0.178	0.046	0.224	No
	Back	0.190	0.084	0.274	No
	Left	0.152	0.000	0.152	No
	Right	0.333	0.087	0.420	No
	Top	0.000	0.026	0.026	No
	Bottom	0.057	0.000	0.057	No
LTE Band 17	Front	0.217	0.046	0.263	No
	Back	0.255	0.084	0.339	No
	Left	0.191	0.000	0.191	No
	Right	0.375	0.087	0.462	No
	Top	0.000	0.026	0.026	No
	Bottom	0.075	0.000	0.075	No

WWAN Band（Second Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	Summed SAR①+②	Case NO.
GSM850	Front	0.312	0.046	0.358	No
	Back	0.597	0.084	0.681	No
	Left	0.200	0.000	0.200	No
	Right	0.033	0.087	0.120	No
	Top	0.248	0.026	0.274	No
	Bottom	0.000	0.000	0.000	No
GSM1900	Front	0.174	0.046	0.220	No
	Back	0.279	0.084	0.363	No
	Left	0.200	0.000	0.200	No
	Right	0.010	0.087	0.097	No
	Top	0.340	0.026	0.366	No
	Bottom	0.000	0.000	0.000	No
WCDMA Band II	Front	0.173	0.046	0.219	No
	Back	0.269	0.084	0.353	No
	Left	0.219	0.000	0.219	No
	Right	0.014	0.087	0.101	No
	Top	0.287	0.026	0.313	No
	Bottom	0.000	0.000	0.000	No
WCDMA Band IV	Front	0.166	0.046	0.212	No
	Back	0.239	0.084	0.323	No
	Left	0.160	0.000	0.160	No
	Right	0.039	0.087	0.126	No
	Top	0.258	0.026	0.284	No
	Bottom	0.000	0.000	0.000	No
WCDMA Band V	Front	0.292	0.046	0.338	No
	Back	0.302	0.084	0.386	No
	Left	0.184	0.000	0.184	No
	Right	0.029	0.087	0.116	No
	Top	0.226	0.026	0.252	No
	Bottom	0.000	0.000	0.000	No
LTE Band 2	Front	0.196	0.046	0.242	No
	Back	0.357	0.084	0.441	No
	Left	0.217	0.000	0.217	No
	Right	0.009	0.087	0.096	No
	Top	0.359	0.026	0.385	No
	Bottom	0.000	0.000	0.000	No

LTE Band 4	Front	0.189	0.046	0.235	No
	Back	0.283	0.084	0.367	No
	Left	0.176	0.000	0.176	No
	Right	0.044	0.087	0.131	No
	Top	0.281	0.026	0.307	No
	Bottom	0.000	0.000	0.000	No
LTE Band 5	Front	0.292	0.046	0.338	No
	Back	0.593	0.084	0.677	No
	Left	0.194	0.000	0.194	No
	Right	0.036	0.087	0.123	No
	Top	0.244	0.026	0.270	No
	Bottom	0.000	0.000	0.000	No
LTE Band 7	Front	0.187	0.046	0.233	No
	Back	0.240	0.084	0.324	No
	Left	0.128	0.000	0.128	No
	Right	0.014	0.087	0.101	No
	Top	0.131	0.026	0.157	No
	Bottom	0.000	0.000	0.000	No
LTE Band 12	Front	0.308	0.046	0.354	No
	Back	0.661	0.084	0.745	No
	Left	0.321	0.000	0.321	No
	Right	0.086	0.087	0.173	No
	Top	0.273	0.026	0.299	No
	Bottom	0.000	0.000	0.000	No
LTE Band 17	Front	0.370	0.046	0.416	No
	Back	0.712	0.084	**0.796**	No
	Left	0.374	0.000	0.374	No
	Right	0.097	0.087	0.184	No
	Top	0.319	0.026	0.345	No
	Bottom	0.000	0.000	0.000	No

4) Simultaneous Transmission SAR Summation Scenario for Limb

WWAN Band （Main Antenna）	Exposure position	① MAX.WWAN SAR(W/kg)	②MAX.WLAN SAR(W/kg)	③MAX.BT SAR(W/kg)	Summed SAR①+②	Summed SAR①+③	Case NO.
WCDMA Band II	Back	2.808	/	/	2.808	2.808	No
	Bottom	0.981	/	/	0.981	0.981	No

9 Equipment list

Test Platform	SPEAG DASY5 Professional
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Hardware Reference

	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Twin Phantom	SPEAG	SAM 1	TP-1283	NCR	NCR
☒	Twin Phantom	SPEAG	ELI V5.0	1128	NCR	NCR
☒	Twin Phantom	SPEAG	SAM 1	1912	NCR	NCR
☒	Twin Phantom	SPEAG	SAM 2	1913	NCR	NCR
☒	DAE	SPEAG	DAE4	1267	2017-02-23	2018-02-22
☒	DAE	SPEAG	DAE4	1374	2017-08-31	2018-08-30
☒	DAE	SPEAG	DAE4	896	2017-09-27	2018-09-26
☒	E-Field Probe	SPEAG	EX3DV4	3789	2017-01-13	2018-01-12
☒	E-Field Probe	SPEAG	EX3DV4	3962	2016-12-19	2017-12-18
☒	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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