



FCC SAR Test Report

FCC ID: 2AIBC-GOLIGHT3

Project No. : 2410C020
Equipment : Light Phone III
Brand Name : Light
Test Model : TLP301
Series Model : N/A
Date of Receipt : Dec. 04, 2024
Date of Test : Dec. 23, 2024 ~ Feb. 17, 2025
Issued Date : Mar. 03, 2025
Report Version : R01
Test Sample : Engineering Sample No.: SSL2024120496.
Standard(s) : Please refer to page 2.
Applicant : The Light Phone Inc.
Address : 19 Morris Avenue Brooklyn, NY 11205 United States
Manufacturer : The Light Phone Inc.
Address : 19 Morris Avenue Brooklyn, NY 11205 United States
Factory : SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD.
Address : ROOM 101, FOXCONN F7 FACTORY, NO.2, DONGHUA 2ND ROAD, FUKANG COMMUNITY, LONGHUA STREET, LONGHUA DISTRICT, SHENZHEN, P.R.CHINA

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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Standard(s)	: IEEE Std C95.1:2019 IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 kHz to 300 GHz IEC/IEEE 62209-1528:2020 Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
Test method	: KDB447498 D04 Interim General RF Exposure Guidance v01 KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04 KDB865664 D02 SAR Reporting v01r02 KDB941225 D01 3G SAR Procedures v03r01 KDB941225 D05 SAR for LTE Devices v02r05 KDB941225 D06 Hotspot Mode V02r01 KDB248227 D01 802.11 Wi-Fi SAR v02r02 KDB648474 D04 Handset SAR v01r03 KDB690783 D01 SAR Listings on Grants v01r03

Declaration

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

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**. The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

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BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

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

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	6
1 . GENERAL INFORMATION	7
1.1 STATEMENT OF COMPLIANCE	7
1.2 LABORATORY ENVIRONMENT	8
1.3 GENERAL DESCRIPTION OF EUT	9
1.4 MAIN TEST INSTRUMENTS	13
2 . RF EMISSIONS MEASUREMENT	15
2.1 TEST FACILITY	15
2.2 MEASUREMENT UNCERTAINTY	15
3 . SAR MEASUREMENTS SYSTEM CONFIGURATION	17
3.1 SAR MEASUREMENT SET-UP	17
3.1.1 TEST SETUP LAYOUT	17
3.2 DASY5 E-FIELD PROBE SYSTEM	18
3.2.1 PROBE SPECIFICATION	18
3.2.2 E-FIELD PROBE CALIBRATION	19
3.2.3 OTHER TEST EQUIPMENT	20
3.2.4 SCANNING PROCEDURE	21
3.2.5 SPATIAL PEAK SAR EVALUATION	22
3.2.6 DATA STORAGE AND EVALUATION	23
3.2.7 DATA EVALUATION BY SEMCAD	24
4 . SYSTEM VERIFICATION PROCEDURE	26
4.1 TISSUE VERIFICATION	26
4.2 SYSTEM CHECK	28
4.3 SYSTEM CHECK PROCEDURE	29
5 . SAR MEASUREMENT VARIABILITY AND UNCERTAINTY	30
5.1 SAR MEASUREMENT VARIABILITY	30
6 . OPERATIONAL CONDITIONS DURING TEST	31
6.1 GENERAL DESCRIPTION OF TEST PROCEDURES	31
6.2 SAR TEST CONFIGURATION	31
6.2.1 GSM TEST CONFIGURATION	31
6.2.2 UMTS TEST CONFIGURATION	32
6.2.3 LTE TEST CONFIGURATION	38
6.2.4 5G NR TEST CONFIGURATION	42
6.2.5 WIFI TEST CONFIGURATION	46
6.3 TEST POSITION	49

Table of Contents	Page
6.3.1 HEAD TEST CONFIGURATION	49
6.3.2 BODY-WORN TEST CONFIGURATION	50
6.3.3 HOTSPOT TEST CONFIGURATION	50
6.4 RECEIVER DETECTION MECHANISM SPECIFICATION	52
6.5 PROXIMITY SENSOR CONFIGURATION	54
7 . TEST RESULT	66
7.1 CONDUCTED POWER RESULTS	66
7.2 SAR TEST RESULTS	67
7.2.1 SAR MEASUREMENT RESULT OF HEAD	68
7.2.2 SAR MEASUREMENT RESULT OF BODY-WORN	83
7.2.3 SAR MEASUREMENT RESULT OF HOTSPOT	97
7.3 MULTIPLE TRANSMITTER EVALUATION	113
7.3.1 SIMULTANEOUS TRANSMISSION CONDITIONS	114
7.3.2 SAR SUMMATION SCENARIO	115
APPENDIX	128
1. TEST LAYOUT	128
Appendix A. SAR Plots of System Verification	
Appendix B. SAR Plots of SAR Measurement	
Appendix C. Calibration Certificate	
Appendix D. Photographs of the Test Set-Up	
Appendix E. Conducted power measurement result	

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCC SAR-1-2410C020	R00	Original Report.	Feb. 20, 2025	Invalid
BTL-FCC SAR-1-2410C020	R01	Update the address of applicant and manufacturer.	Mar. 03, 2025	Valid

1. GENERAL INFORMATION

1.1 STATEMENT OF COMPLIANCE

Mode	Highest Reported Head SAR-1g (W/kg)	Highest Reported Body-worn SAR-1g (W/kg)	Highest Reported Hotspot SAR-1g (W/kg)
GSM850	1.267	0.975	1.123
GSM1900	0.833	0.434	1.384
UMTS B2	1.097	0.909	1.214
UMTS B4	1.136	0.954	1.375
UMTS B5	0.874	0.802	0.919
LTE B2	1.061	0.854	1.144
LTE B4	0.698	0.667	1.289
LTE B5	1.119	0.599	0.996
LTE B7	0.833	0.763	0.871
LTE B12	0.795	0.324	0.568
LTE B13	0.894	0.543	0.780
LTE B14	0.935	0.541	0.716
LTE B17	0.736	0.288	0.467
LTE B25	0.912	0.739	0.960
LTE B26	0.926	0.535	0.833
LTE B30	1.058	0.641	1.207
LTE B38	0.642	0.250	0.932
LTE B40	0.950	0.530	0.961
LTE B41	0.661	0.355	1.101
LTE B42	0.170	0.559	1.111
LTE B48	0.145	0.413	0.899
LTE B66	0.595	0.730	1.119
LTE B71	0.623	0.292	0.456
5G NR n2	1.124	0.557	0.886
5G NR n5	0.992	0.565	0.801
5G NR n7	0.445	0.592	1.038
5G NR n12	0.620	0.291	0.493
5G NR n14	0.863	0.531	0.813
5G NR n25	0.999	0.615	0.842
5G NR n26	1.095	0.475	0.999
5G NR n30	1.013	0.677	1.355
5G NR n38	0.625	0.691	1.057
5G NR n41	0.663	0.861	1.376
5G NR n48	0.639	0.538	1.241
5G NR n66	0.846	0.480	0.992
5G NR n70	0.933	0.344	0.647
5G NR n71	0.480	0.226	0.406
5G NR n77	0.525	0.898	1.097
5G NR n78	0.563	1.266	1.228
WLAN 2.4G	0.174	0.217	0.233
WLAN 5.2G	0.233	0.281	0.086
WLAN 5.3G	0.364	0.262	0.103
WLAN 5.6G	0.173	0.456	0.032
WLAN 5.8G	0.149	0.537	0.139
Bluetooth	0.106	0.034	/

Note:

1) The device is in compliance with Specific Absorption Rate (SAR) for general population uncontrolled exposure limits according to the FCC rule §2.1093, the ANSI C95.1:1992/IEEE C95.1:1991, the NCRP Report Number 86 for uncontrolled environment and had been tested in accordance with the measurement methods and procedures specified in IEC/IEEE 62209-1528:2020.

1.2 LABORATORY ENVIRONMENT

Temperature	Min. = 20°C, Max. = 24°C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

1.3 GENERAL DESCRIPTION OF EUT

Equipment	Light Phone III	
Brand Name	Light	
Test Model	TLP301	
Series Model	N/A	
Model Difference(s)	N/A	
IMEI Code	259125420004238	
S/N	LP3LHD1490500417	
Hardware Version	DVT	
Software Version	V1.330.00.0 B01_00WW	
Modulation	GSM(GMSK/8PSK), UMTS(QPSK/16QAM/64QAM), LTE(QPSK/16QAM/64QAM/256QAM), 5G NR(QPSK/16QAM/64QAM/256QAM), WiFi(DSSS/OFDM/OFDMA), BT(GFSK/ π /4-DQPSK/8-DPSK)	
Operation Frequency Range(s)	Band	TX (MHz)
	GSM850	824~849
	GSM1900	1850~1910
	UMTS B2	1850~1910
	UMTS B4	1710~1755
	UMTS B5	824~849
	LTE B2	1850~1910
	LTE B4	1710~1755
	LTE B5	824~849
	LTE B7	2500~2570
	LTE B12	699~716
	LTE B13	777~787
	LTE B14	788~798
	LTE B17	704~716
	LTE B25	1850~1915
	LTE B26	814~849
	LTE B30	2305~2315
	LTE B38	2570~2620
	LTE B40	2300~2400
	LTE B41	2496~2690
	LTE B42	3400~3600
	LTE B48	3550~3700
	LTE B66	1710~1780
	LTE B71	663~698
	5G NR n2	1850~1910
	5G NR n5	824~849
	5G NR n7	2500~2570
	5G NR n12	699~716
	5G NR n14	788~798
	5G NR n25	1850~1915
	5G NR n26	814~849
	5G NR n30	2305~2315
	5G NR n38	2570~2620
	5G NR n41	2496~2690
	5G NR n48	3550~3700
	5G NR n66	1710~1780
	5G NR n70	1695~1710
	5G NR n71	663~698
	5G NR n77	3300~4200
	5G NR n78	3300~3800

Operation Frequency Range(s)	EN-DC	5G NR	LTE
		n2	B5/12/13/14/30/66
		n5	B2/30/48/66
		n30	B2/5/12/14/66
		n41	B2
		n66	B2/13/14/30
		n71	B2/66
		n77	B2/13/66
	Bluetooth	2400~2483.5	
	WLAN 2.4G	2400~2483.5	
	WLAN 5.2G	5150~5250	
	WLAN 5.3G	5250~5350	
	WLAN 5.6G	5470~5725	
	WLAN 5.8G	5725~5850	
GPRS/EDGE Multislot Class(12)	Max Number of Timeslots in Uplink:		4
	Max Number of Timeslots in Downlink:		4
	Max Total Timeslot:		5
HSDPA UE Category	14		
HSUPA UE Category	6		
HSPA+ Category	14		
Power Class	4, tested with power level 5(GSM850)		
	1, tested with power level 0(GSM1900)		
	3, tested with power control "all up bits" (UMTS B2/4/5)		
	2, tested with power control "all Max" (LTE B41, 5G NR n41/77/78)		
	3, tested with power control "all Max" (LTE B2/4/5/7/12/13/14/17/25/26/30/38/40/41/42/48/66/71, 5G NR n2/5/7/12/14/25/26/30/38/41/48/66/70/71/77/78)		
Test Channels (low-mid-high) For 2G/3G/4G	128-190-251 (GSM850)		
	512-661-810 (GSM1900)		
	9262-9400-9538 (UMTS B2)		
	1312-1413-1513 (UMTS B4)		
	4132-4182-4233 (UMTS B5)		
	18700-18900-19100 (LTE B2 BW=20MHz)		
	20050-20175-20300 (LTE B4 BW=20MHz)		
	20450-20525-20600 (LTE B5 BW=10MHz)		
	20850-21100-21350 (LTE B7 BW=20MHz)		
	23060-23095-23130 (LTE B12 BW=10MHz)		
	23230 (LTE B13 BW=10MHz)		
	23330 (LTE B14 BW=10MHz)		
	23780-23790-23800 (LTE B17 BW=10MHz)		
	26140-26365-26590 (LTE B25 BW=20MHz)		
	26765-26865-26965 (LTE B26 BW=15MHz)		
	27710 (LTE B30 BW=10MHz)		
	37850-38000-38150 (LTE B38 BW=20MHz)		
	38750 (LTE B40 BW=10MHz)		
	39200 (LTE B40 BW=10MHz)		
	39750-40620-41490 (LTE B41 BW=20MHz)		
	42190-42590-42990 (LTE B42 BW=20MHz)		
	55340-55990-56640 (LTE B48 BW=20MHz)		
	132072-132322-132572 (LTE B66 BW=20MHz)		
	133222-133322-133372 (LTE B71 BW=20MHz)		

Test Channels (low-mid-high) For 5G NR/BT/WIFI	372000-376000-380000 (5G NR n2 BW=20MHz)				
	166800-167300-167800 (5G NR n5 BW=20MHz)				
	502000-507000-512000 (5G NR n7 BW=20MHz)				
	141300-141500-141700 (5G NR n12 BW=15MHz)				
	158600 (5G NR n14 BW=10MHz)				
	373000-376500-380000 (5G NR n25 BW=30MHz)				
	164800-166300-167800 (5G NR n26 BW=20MHz)				
	462000 (5G NR n30 BW=10MHz)				
	518000-519000-520000 (5G NR n38 BW=40MHz)				
	509202-518598-528000 (5G NR n41 BW=100MHz)				
	638000-641666-645332 (5G NR n48 BW=40MHz)				
	345000-349000-353000 (5G NR n66 BW=30MHz)				
	340500 (5G NR n70 BW=15MHz)				
	134600-136100-137600 (5G NR n71 BW=20MHz)				
	633334, 650000-656000-662000 (5G NR n77 BW=100MHz)				
	633334, 650000 (5G NR n78 BW=100MHz)				
	0-39-78 (BT)				
	0-19-39 (BLE)				
	1-6-11 (2.4G WiFi 802.11b/g/n HT20)				
	3-6-9 (2.4G WiFi 802.11n HT40)				
Antenna Gain For 2G/3G/4G	5G WiFi	5.2G	5.3G	5.6G	5.8G
	802.11a/n HT20/ ac VHT20	36-40-44-48	52-56-60-64	100-104-108- 112-116-132- 136-140	149-153-157- 161-165
	802.11n HT40/ ac VHT40	38-46	54-62	102-110-118- 126-134	151-159
	802.11ac VHT80	42	58	106-122	155
	Band	Ant 0	Ant 1	Ant 3	Ant 4
	GSM850	-2.91	/	/	/
	GSM1900	/	2.72	/	/
	UMTS B2	/	2.72	/	/
	UMTS B4	/	2.37	/	/
	UMTS B5	-2.91	/	/	/
	LTE B2	-0.32	2.72	/	/
	LTE B4	/	2.37	/	/
	LTE B5	-2.91	/	/	/
	LTE B7	/	0.80	/	/
	LTE B12	-5.76	/	/	/
	LTE B13	-5.76	/	/	/
	LTE B14	-5.76	/	/	/
	LTE B17	-5.76	/	/	/
	LTE B25	/	2.72	/	/
	LTE B26	-2.91	/	/	/
	LTE B30	-1.10	0.71	/	/
	LTE B38	/	-1.26	/	/
	LTE B40	/	0.89	/	/
	LTE B41	/	1.30	/	/
	LTE B42	/	/	/	-0.34
	LTE B48	/	/	/	-1.37
	LTE B66	-0.32	2.37	/	/
	LTE B71	-7.82	/	/	/

Antenna Gain For 5G NR/BT/WIFI	Band	Ant 0	Ant 1	Ant 3	Ant 4
	5G NR n2	/	2.72	/	/
	5G NR n5	-2.91	/	/	/
	5G NR n7	/	0.80	/	/
	5G NR n12	-5.76	/	/	/
	5G NR n14	-5.76	/	/	/
	5G NR n25	/	2.72	/	/
	5G NR n26	-2.91	/	/	/
	5G NR n30	/	0.71	/	/
	5G NR n38	/	-1.26	/	/
	5G NR n41	/	1.30	/	/
	5G NR n48	/	/	/	-1.37
	5G NR n66	/	2.37	/	/
	5G NR n70	/	2.37	/	/
	5G NR n71	-7.82	/	/	/
	5G NR n77	/	/	/	-0.34
	5G NR n78	/	/	/	-0.34
	Bluetooth	/	/	0.28	/
	WLAN 2.4G	/	/	0.28	/
	WLAN 5G	/	/	-0.69	/
Other Information					
Battery	Model Name	HE414			
	Power Rating	Rated Capacity: 1730mAh/6.67Wh 1800mAh/6.93Wh Rated Voltage: 3.85V			

Note: The antenna gain is provided by the manufacturer.

1.4 MAIN TEST INSTRUMENTS

Item	Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Interval
1	Data Acquisition Electronics	Speag	DAE4	420	Mar. 19, 2024	1 Year
2	Data Acquisition Electronics	Speag	DAE4	1390	Nov. 14, 2024	1 Year
3	Data Acquisition Electronics	Speag	DAE4	1717	Apr. 18, 2024	1 Year
4	E-field Probe	Speag	EX3DV4	7544	Apr. 03, 2024	1 Year
5	E-field Probe	Speag	EX3DV4	7693	Nov. 20, 2024	1 Year
6	E-field Probe	Speag	EX3DV4	7351	Mar. 20, 2024	1 Year
7	System Validation Dipole	Speag	D750V3	1095	Sep. 16, 2024	3 Years
8	System Validation Dipole	Speag	D835V2	4d160	Apr. 25, 2024	3 Years
9	System Validation Dipole	Speag	D1750V2	1101	Apr. 25, 2024	3 Years
10	System Validation Dipole	Speag	D1900V2	5d179	Apr. 25, 2024	3 Years
11	System Validation Dipole	Speag	D2300V2	1033	Sep. 13, 2024	3 Years
12	System Validation Dipole	Speag	D2450V2	919	Apr. 22, 2024	3 Years
13	System Validation Dipole	Speag	D2600V2	1067	Apr. 22, 2024	3 Years
14	System Validation Dipole	Speag	D3500V2	1095	Jan. 10, 2023	3 Years
15	System Validation Dipole	Speag	D3700V2	1064	Jan. 10, 2023	3 Years
16	System Validation Dipole	Speag	D3900V2	1039	Jan. 11, 2023	3 Years
17	System Validation Dipole	Speag	D5GHzV2	1160	Apr. 25, 2024	3 Years
18	Twin Sam Phantom	Speag	Twin Sam Phantom V5.0	1469	N/A	N/A
19	Twin Sam Phantom	Speag	Twin Sam Phantom V5.0	1896	N/A	N/A
20	5G Wireless Test Platform	Starpoint	SP9500	SP9500-20335	Jan. 11, 2025	1 Years
21	Radio Communication Analver	Anritsu	MT8821C	6261915479	Jun. 29, 2024	1 Year
22*	Wideband Radio Communication Tester	R&S	CMW500	165848	Jan. 20, 2024	1 Year
23	Wideband Radio Communication Tester	R&S	CMW500	165848	Jan. 11, 2025	1 Year
24	Power Amplifier	Mini-Circuits	ZHL-42W+	QA1333003	Jun. 29, 2024	1 Year
25*	Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	Jan. 20, 2024	1 Year
26	Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	Jan. 12, 2025	1 Year
27	DC Source metter	Iteck	IT6154	006104126768201001	Jun. 29, 2024	1 Year
28*	Vector Network Analyzer	Agilent	E5071C	MY46102965	Jan. 20, 2024	1 Year
29	Vector Network Analyzer	Agilent	E5071C	MY46102965	Jan. 11, 2025	1 Year
30*	Signal Generator	Keysight	N5173B	MY59101420	Jan. 20, 2024	1 Year
31	Signal Generator	Keysight	N5173B	MY59101420	Jan. 11, 2025	1 Year
32	Smart Power Sensor	R&S	NRP18S	101333	Jun. 01, 2024	1 Year
33*	Smart Power Sensor	R&S	NRP-Z21	102209	Jan. 20, 2024	1 Year
34	Smart Power Sensor	R&S	NRP-Z21	102209	Jan. 12, 2025	1 Year
35	3.5mm Economy Calibration Kit	Agilent	85052D	MY43252246	Nov. 04, 2024	1 Year
36*	Coupler	Woken	0110A05601O-10	COM5BNW1A2	Jan. 20, 2024	1 Year
37	Coupler	Woken	0110A05601O-10	COM5BNW1A2	Jan. 12, 2025	1 Year
38	Liquid Thermometer	Nscing Es	YZ6021S	/	Nov. 24, 2024	1 Year

Remark:

1. "N/A" denotes no model name, serial No. or calibration specified.
2.
 - 1) Per KDB865664 D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
 - a) There is no physical damage on the dipole;
 - b) System check with specific dipole is within 10% of calibrated value;
 - c) The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement;
 - d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.
 - 2) Network analyzer probe calibration against air, distilled water and a short block performed before measuring liquid parameters.
3. * The test equipment recalibrated between different test periods were within the valid period when the tests were performed.

2. RF EMISSIONS MEASUREMENT

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is SAR room at the location of Room 108-116, 309-310, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

BTL's Registration Number for FCC: 747969.

BTL's Designation Number for FCC: CN1377.

2.2 MEASUREMENT UNCERTAINTY

Uncertainty Budget for Frequency range of 300 MHz to 3 GHz

Symbol	Input quantity X_i (source of uncertainty)	Unc. Value	Prob. Dist.	Div.	ci (1g)	ci (10g)	Std.Unc. (1g) (±%)	Std.Unc. (10g) (±%)
Measurement system errors								
CF	Probe calibration(±%)	12.0	N	2	1	1	6.0	6.0
CFdrift	Probe calibration drift(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
LIN	Probe linearity and detection limit(±%)	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
BBS	Broadband signal(±%)	3.0	R	$\sqrt{3}$	1	1	1.7	1.7
ISO	Probe isotropy(±%)	7.6	R	$\sqrt{3}$	1	1	4.4	4.4
DAE	Other probe and data acquisition errors(±%)	0.7	N	1	1	1	0.7	0.7
AMB	RF ambient and noise(±%)	1.8	N	1	1	1	1.8	1.8
Dxyz	Probe positioning errors(±mm)	0.006	N	1	0.14	0.14	0.08	0.08
DAT	Data processing errors(±%)	1.2	N	1	1	1	1.2	1.2
Phantom and device (DUT or validation antenna) errors								
LIQ(σ)	Conductivity (meas.)(±%)	2.5	N	1	0.78	0.71	2.0	1.8
LIQ(T_c)	Conductivity (temp.)(±%)	3.3	R	$\sqrt{3}$	0.78	0.71	1.5	1.4
EPS	Phantom Permittivity(±%)	14	R	$\sqrt{3}$	0	0	0.0	0.0
DIS	Distance DUT - TSL(±%)	2	N	1	2	2	4.0	4.0
Dxyz	Device Positioning(±%)	0.5	N	1	1	1	0.5	0.5
H	Device Holder(±%)	1	N	1	1	1	1.0	1.0
MOD	DUT Modulationm(±%)	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
TAS	Time-average SAR(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
RFdrift	DUT drift(±%)	1.6	N	1	1	1	1.6	1.6
VAL	Val Antenna Unc.(±%)	0	N	1	1	1	0.0	0.0
Pin	Unc. Input Power(±%)	0	N	1	1	1	0.0	0.0
Corrections to the SAR result								
C(ϵ, σ)	Deviation to Target(±%)	1.9	N	1	1	0.84	1.9	1.6
C(R)	SAR scaling(±%)	0	R	$\sqrt{3}$	1	1	0.0	0.0
u(DSAR)	Combined uncertainty						10.2	10.1
	Coverage Factor for 95%						k=2	k=2
U	Expanded uncertainty					U =	20.4	20.2

a Other probability distributions and divisors may be used if they better represent available knowledge of the quantities concerned.

Uncertainty Budget for Frequency range of 3 GHz to 6 GHz

Symbol	Input quantity X_i (source of uncertainty)	Unc. Value	Prob. Dist.	Div.	ci (1g)	ci (10g)	Std.Unc. (1g) (±%)	Std.Unc. (10g) (±%)
Measurement system errors								
CF	Probe calibration(±%)	14.0	N	2	1	1	7.0	7.0
CFdrift	Probe calibration drift(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
LIN	Probe linearity and detection limit(±%)	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
BBS	Broadband signal(±%)	2.6	R	$\sqrt{3}$	1	1	1.5	1.5
ISO	Probe isotropy(±%)	7.6	R	$\sqrt{3}$	1	1	4.4	4.4
DAE	Other probe and data acquisition errors(±%)	1.2	N	1	1	1	1.2	1.2
AMB	RF ambient and noise(±%)	1.8	N	1	1	1	1.8	1.8
Dxyz	Probe positioning errors(±mm)	0.005	N	1	0.29	0.29	0.15	0.15
DAT	Data processing errors(±%)	2.3	N	1	1	1	2.3	2.3
Phantom and device (DUT or validation antenna) errors								
LIQ(σ)	Conductivity (meas.)(±%)	2.5	N	1	0.78	0.71	2.0	1.8
LIQ(Tc)	Conductivity (temp.)(±%)	3.4	R	$\sqrt{3}$	0.78	0.71	1.5	1.4
EPS	Phantom Permittivity(±%)	14	R	$\sqrt{3}$	0.25	0.25	2.0	2.0
DIS	Distance DUT - TSL(±%)	2	N	1	2	2	4.0	4.0
Dxyz	Device Positioning(±%)	0.3	N	1	1	1	0.3	0.3
H	Device Holder(±%)	1.9	N	1	1	1	1.9	1.9
MOD	DUT Modulationm(±%)	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
TAS	Time-average SAR(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
RFdrift	DUT drift(±%)	0.2	N	1	1	1	0.2	0.2
VAL	Val Antenna Unc.(±%)	0	N	1	1	1	0.0	0.0
Pin	Unc. Input Power(±%)	0	N	1	1	1	0.0	0.0
Corrections to the SAR result								
C($\epsilon\phi, \sigma$)	Deviation to Target(±%)	1.9	N	1	1	0.84	1.9	1.6
C(R)	SAR scaling(±%)	0	R	$\sqrt{3}$	1	1	0.0	0.0
u(DSAR)	Combined uncertainty						11.2	11.1
	Coverage Factor for 95%						k=2	k=2
U	Expanded uncertainty					U =	22.4	22.2
a Other probability distributions and divisors may be used if they better represent available knowledge of the quantities concerned.								

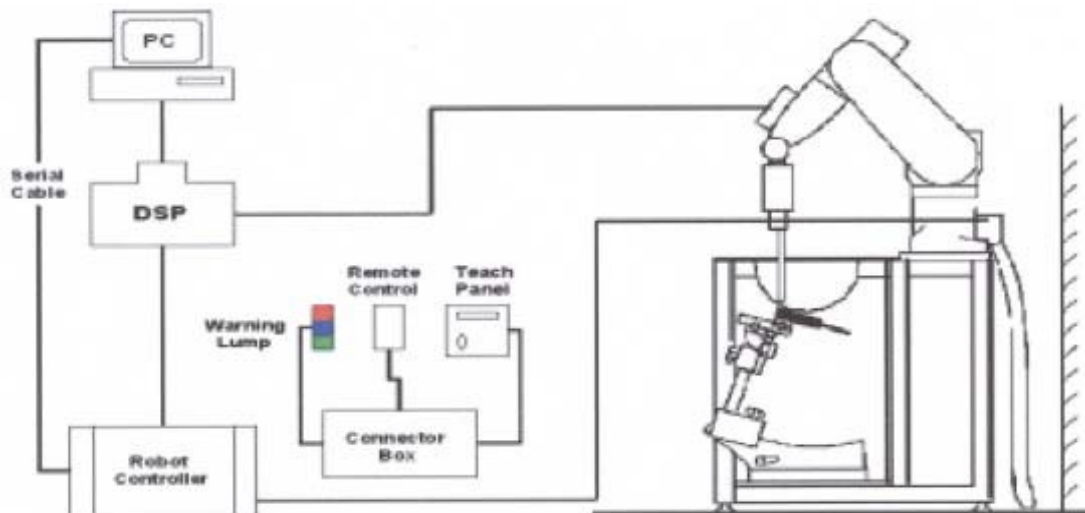
3. SAR MEASUREMENTS SYSTEM CONFIGURATION

3.1 SAR MEASUREMENT SET-UP

The DASY5 system for performing compliance tests consists of the following items:

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 7
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

3.1.1 TEST SETUP LAYOUT



3.2 DASY5 E-FIELD PROBE SYSTEM

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

3.2.1 PROBE SPECIFICATION

EX3DV4

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



E-field Probe

3.2.2 E-FIELD PROBE CALIBRATION

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than $\pm 0.25\text{dB}$. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

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

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

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

Where: Δt = Exposure time (30 seconds),

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

ΔT = Temperature increase due to RF exposure.

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

Where: σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

3.2.3 OTHER TEST EQUIPMENT

3.2.3.1. Device Holder for Transmitters

Construction: Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices (e.g., laptops, cameras, etc.) It is light weight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin SAM, ELI and SAM v6.0 Phantoms.

Material: POM, Acrylic glass, Foam

3.2.3.2 Phantom

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEC/IEEE 62209-1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Shell Thickness	2 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length:1000mm; Width: 500mm Height: adjustable feet	
Available	Special	

3.2.4 SCANNING PROCEDURE

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. $\pm 5\%$.

The “surface check” measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above $\pm 0.1\text{mm}$). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within $\pm 30^\circ$.)

- Area Scan

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

- Zoom Scan

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

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

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

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

3.2.5 SPATIAL PEAK SAR EVALUATION

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

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

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computer mathematic, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computer mathematic, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY5 uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

3.2.6 DATA STORAGE AND EVALUATION

3.2.6.1 Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension “DAE”. The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.2.7 DATA EVALUATION BY SEMCAD

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

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

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 components. In the direct measuring mode of the multi meter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

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

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

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

With	V_i = compensated signal of channel i	(i = x, y, z)
	U_i = input signal of channel i	(i = x, y, z)
	cf = crest factor of exciting field	(DASY parameter)
	dcpj = diode compression point	(DASY parameter)

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

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

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

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

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

ConvF = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

With SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m
= conductivity in [mho/m] or [Siemens/m]
= equivalent tissue density in g/cm³

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

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

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

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

H_{tot} = total magnetic field strength in A/m

4. SYSTEM VERIFICATION PROCEDURE

4.1 TISSUE VERIFICATION

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine if the dielectric parameters are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within $\pm 5\%$ of the target values.

The following materials are used for producing the tissue-equivalent materials.

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
Head 750	0.2	-	0.2	1.5	56.0	-	42.1	-
Head 835	0.2	-	0.2	1.5	57.0	-	41.1	-
Head 1750	-	47.0	-	0.4	-	-	52.6	-
Head 1900	-	44.5	-	0.2	-	-	55.3	-
Head 2300	-	44.9	-	0.1	-	-	55.0	-
Head 2450	-	45.0	-	0.1	-	-	54.9	-
Head 2600	-	45.1	-	0.1	-	-	54.8	-
Head 3500	-	7.99	-	0.16	-	19.97	71.88	-
Head 3700	-	7.99	-	0.16	-	19.97	71.88	-
Head 3900	-	7.99	-	0.16	-	19.97	71.88	-
Head 5G	-	-	-	-	-	17.2	65.5	17.3

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

Tissue Verification									
Tissue Type	Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Targeted Conductivity (σ)	Targeted Permittivity (ϵ_r)	Deviation Conductivity (σ) (%)	Deviation Permittivity (ϵ_r) (%)	Date
Head	750	22.8	0.909	43.222	0.89	41.9	2.13	3.16	Jan. 08, 2025
Head	750	22.6	0.886	43.344	0.89	41.9	-0.45	3.45	Jan. 09, 2025
Head	750	22.7	0.885	43.872	0.89	41.9	-0.56	4.71	Jan. 10, 2025
Head	750	22.3	0.894	42.995	0.89	41.9	0.45	2.61	Jan. 14, 2025
Head	750	22.7	0.926	43.048	0.89	41.9	4.04	2.74	Feb. 07, 2025
Head	835	22.3	0.928	42.398	0.90	41.5	3.11	2.16	Jan. 03, 2025
Head	835	22.6	0.928	42.398	0.90	41.5	3.11	2.16	Jan. 07, 2025
Head	835	22.4	0.906	40.917	0.90	41.5	0.67	-1.40	Jan. 13, 2025
Head	1750	22.5	1.345	39.585	1.37	40.1	-1.82	-1.28	Jan. 02, 2025
Head	1750	22.4	1.410	40.992	1.37	40.1	2.92	2.22	Jan. 06, 2025
Head	1750	22.6	1.349	39.422	1.37	40.1	-1.53	-1.69	Jan. 15, 2025
Head	1900	22.5	1.461	38.898	1.40	40.0	4.36	-2.75	Jan. 04, 2025
Head	1900	22.3	1.333	41.485	1.40	40.0	-4.79	3.71	Jan. 05, 2025
Head	1900	22.6	1.335	40.252	1.40	40.0	-4.64	0.63	Jan. 14, 2025
Head	2300	22.8	1.657	40.491	1.67	39.5	-0.78	2.51	Jan. 06, 2025
Head	2300	22.6	1.667	40.450	1.67	39.5	-0.18	2.41	Jan. 07, 2025
Head	2300	22.2	1.703	38.877	1.67	39.5	1.98	-1.58	Jan. 16, 2025
Head	2450	22.7	1.881	38.258	1.80	39.2	4.50	-2.40	Jan. 09, 2025
Head	2600	21.7	1.959	39.250	1.96	39.0	-0.05	0.64	Jan. 05, 2025
Head	2600	22.8	1.994	39.420	1.96	39.0	1.73	1.08	Jan. 06, 2025
Head	2600	21.9	2.046	37.741	1.96	39.0	4.39	-3.23	Jan. 08, 2025
Head	2600	22.3	1.992	37.885	1.96	39.0	1.63	-2.86	Jan. 15, 2025
Head	2600	22.2	2.039	37.739	1.96	39.0	4.03	-3.23	Jan. 16, 2025
Head	3500	22.5	2.954	38.916	2.91	37.9	1.51	2.68	Jan. 04, 2025
Head	3500	22.6	2.854	38.908	2.91	37.9	-1.92	2.66	Jan. 22, 2025
Head	3700	22.9	3.121	38.346	3.12	37.7	0.03	1.71	Jan. 03, 2025
Head	3700	22.4	3.176	38.259	3.12	37.7	1.79	1.48	Jan. 18, 2025
Head	3700	22.6	3.084	38.434	3.12	37.7	-1.15	1.95	Jan. 22, 2025
Head	3700	22.7	3.167	38.269	3.12	37.7	1.51	1.51	Jan. 23, 2025
Head	3900	22.6	3.312	37.829	3.32	37.5	-0.24	0.88	Jan. 22, 2025
Head	5250	21.9	4.634	35.583	4.71	36.0	-1.61	-1.02	Jan. 12, 2025
Head	5600	22.1	5.125	34.618	5.07	35.5	1.08	-2.48	Jan. 13, 2025
Head	5750	22.1	5.293	34.255	5.22	35.4	1.40	-3.10	Jan. 13, 2025

Note:

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

4.2 SYSTEM CHECK

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

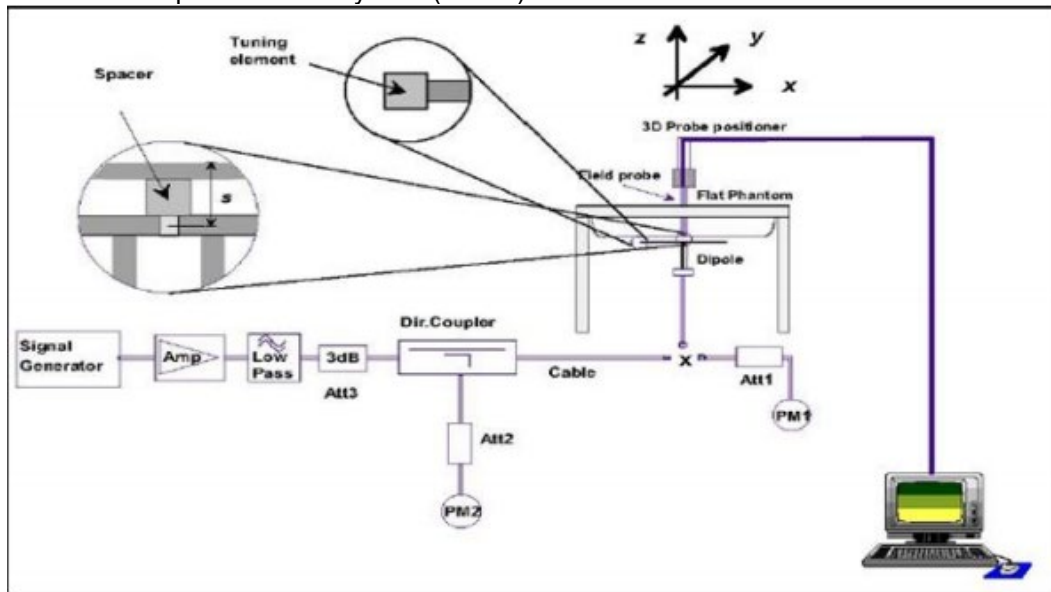
System Check	Date	Frequency (MHz)	Targeted SAR 1g (W/kg)	Measured SAR 1g (W/kg)	normalized SAR 1g (W/kg)	Deviation 1g (%)	Dipole S/N
Head	Jan. 08, 2025	750	8.59	2.14	8.56	-0.35	1095
Head	Jan. 09, 2025	750	8.59	2.05	8.20	-4.54	1095
Head	Jan. 10, 2025	750	8.59	2.13	8.52	-0.81	1095
Head	Jan. 14, 2025	750	8.59	2.16	8.64	0.58	1095
Head	Feb. 07, 2025	750	8.59	2.14	8.56	-0.35	1095
Head	Jan. 03, 2025	835	9.52	2.28	9.12	-4.20	4d160
Head	Jan. 07, 2025	835	9.52	2.28	9.12	-4.20	4d160
Head	Jan. 13, 2025	835	9.52	2.36	9.44	-0.84	4d160
Head	Jan. 02, 2025	1750	36.40	8.72	34.88	-4.18	1101
Head	Jan. 06, 2025	1750	36.40	9.08	36.32	-0.22	1101
Head	Jan. 15, 2025	1750	36.40	8.85	35.40	-2.75	1101
Head	Jan. 04, 2025	1900	39.60	9.46	37.84	-4.44	5d179
Head	Jan. 05, 2025	1900	39.60	9.43	37.72	-4.75	5d179
Head	Jan. 14, 2025	1900	39.60	9.57	38.28	-3.33	5d179
Head	Jan. 06, 2025	2300	49.10	12.30	49.20	0.20	1033
Head	Jan. 07, 2025	2300	49.10	12.40	49.60	1.02	1033
Head	Jan. 16, 2025	2300	49.10	12.10	48.40	-1.43	1033
Head	Jan. 09, 2025	2450	52.10	13.20	52.80	1.34	919
Head	Jan. 05, 2025	2600	56.90	14.00	56.00	-1.58	1067
Head	Jan. 06, 2025	2600	56.90	14.20	56.80	-0.18	1067
Head	Jan. 08, 2025	2600	56.90	14.40	57.60	1.23	1067
Head	Jan. 15, 2025	2600	56.90	13.90	55.60	-2.28	1067
Head	Jan. 16, 2025	2600	56.90	14.20	56.80	-0.18	1067
Head	Jan. 04, 2025	3500	66.10	6.35	63.50	-3.93	1095
Head	Jan. 22, 2025	3500	66.10	6.43	64.30	-2.72	1095
Head	Jan. 03, 2025	3700	67.40	6.61	66.10	-1.93	1064
Head	Jan. 18, 2025	3700	67.40	6.82	68.20	1.19	1064
Head	Jan. 22, 2025	3700	67.40	6.53	65.30	-3.12	1064
Head	Jan. 23, 2025	3700	67.40	6.91	69.10	2.52	1064
Head	Jan. 22, 2025	3900	68.70	6.65	66.50	-3.20	1039
Head	Jan. 12, 2025	5250	78.00	7.66	76.60	-1.79	1160
Head	Jan. 13, 2025	5600	80.60	8.29	82.90	2.85	1160
Head	Jan. 13, 2025	5750	76.50	7.55	75.50	-1.31	1160

4.3 SYSTEM CHECK PROCEDURE

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250mW (below 3GHz) or 100mW (3-6GHz). To adjust this power a power meter is used.

The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test.

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system ($\pm 10\%$).



5. SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

5.1 SAR MEASUREMENT VARIABILITY

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

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

The detailed repeated measurement results are shown in Section 7.2.

6. OPERATIONAL CONDITIONS DURING TEST

6.1 GENERAL DESCRIPTION OF TEST PROCEDURES

Connection to the EUT is established via air interface with Anritsu MT8821C & R&S CMW500, and the EUT is set to maximum output power by Anritsu MT8821C & R&S CMW500. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. The antenna connected to the output of the base station simulator shall be placed at least 50cm away from the EUT. The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the EUT by at least 30dB.

6.2 SAR TEST CONFIGURATION

6.2.1 GSM TEST CONFIGURATION

SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. Using 8960 Series the power lever is set to “5” and “0” in SAR of GSM850 and GSM1900. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

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

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot.

The allowed power reduction in the multi-slot configuration is as following:

Number of timeslots in uplink assignment		Reduction of maximum output power (dB)		
Band	Time Slots	GPRS (GMSK)	EGPRS (GMSK)	EGPRS (8PSK)
GSM850	1 TX slot	0.0	0.0	6.4
	2 TX slots	3.0	3.0	9.4
	3 TX slots	4.8	4.8	11.2
	4 TX slots	6.0	6.0	12.4
GSM1900	1 TX slot	0.0	0.0	4.3
	2 TX slots	3.0	3.0	7.3
	3 TX slots	4.8	4.8	9.1
	4 TX slots	6.0	6.0	10.3

6.2.2 UMTS TEST CONFIGURATION

1. Output Power Verification

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

2. WCDMA

(1) Head SAR Measurements

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

(2) Body SAR Measurements

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

3. HSDPA

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

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

HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HAPRQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the below table, β_{hs} for HS-DPCCH is set automatically to the correct value when ΔACK , $\Delta NACK$, $\Delta CQI = 8$. The variation of the β_c / β_d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test ^o	β_c ^o	β_d ^o	β_d (SF) ^o	β_c / β_d ^o	β_{hs} (1) ^o	CM(dB)(2) ^o	MPR (dB) ^o
1 ^o	2/15 ^o	15/15 ^o	64 ^o	2/15 ^o	4/15 ^o	0.0 ^o	0 ^o
2 ^o	12/15(3) ^o	15/15(3) ^o	64 ^o	12/15(3) ^o	24/15 ^o	1.0 ^o	0 ^o
3 ^o	15/15 ^o	8/15 ^o	64 ^o	15/8 ^o	30/15 ^o	1.5 ^o	0.5 ^o
4 ^o	15/15 ^o	4/15 ^o	64 ^o	15/4 ^o	30/15 ^o	1.5 ^o	0.5 ^o
Note 1: ΔACK, $\Delta NACK$ and $\Delta CQI = 8$ $A_{hs} = \beta_{hs} / \beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$ Note 2: CM=1 for $\beta_c / \beta_d = 12/15$, $\beta_{hs} / \beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.^o Note 3: For subtest 2 the β_c / β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$^o							

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

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

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

HSDPA UE category

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

4. HSUPA

SAR for Body exposure configurations is measured according to the “Body SAR Measurements” procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is $\leq 1.2W/kg$, SAR measurement is not required for the secondary mode.

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

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

Subtests for WCDMA Release 6 HSUPA

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

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

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference²

Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$ ²

Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$ ²

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g²

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.²

HSUPA UE category

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

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

5. DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel.5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode.

Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH cell are required to perform the power measurement and for the results to be acceptable.

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these settings are illustrated below:

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

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

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK

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

Note:

1.The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.

2.Maximum number of transmission is limited to 1,i.e.,retransmission is not allowed. The redundancy and constellation version 0 shall be used.

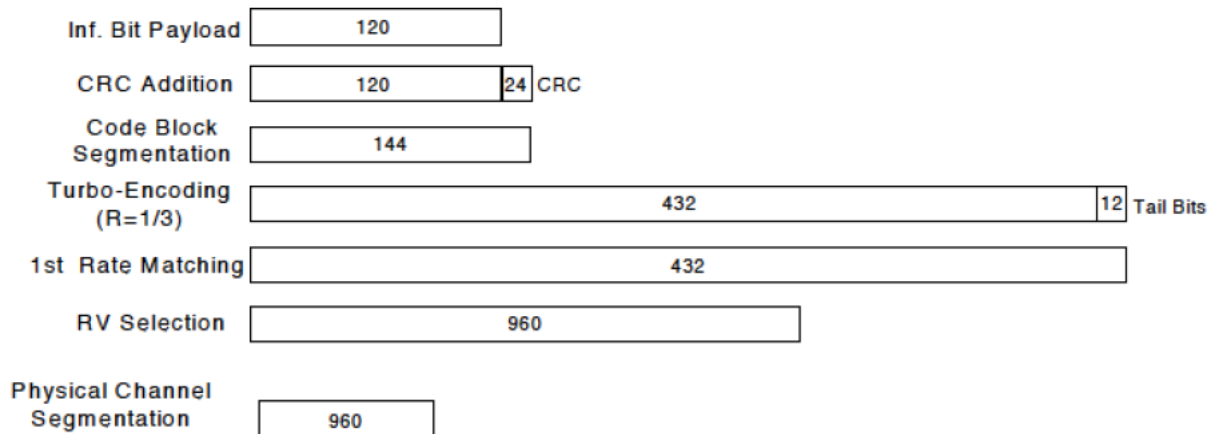


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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

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

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.

6. HSPA+

An E-DCH call is set up according to TS 34.108 [3] 7.3.9 with the following exceptions in the RADIO BEARER SETUP messages. These exceptions allow the beta values to be set according to table C.11.1.4 and each UL physical channel to be at constant power at the start of the measurement. RF parameters are set up according to table E.5.A.1. Settings for the serving cell are defined in table 5.2E.4. Uplink SRB for DCCH mapped on E-DCH and downlink SRB for DCCH on DCH. E-DCH is configured with 2ms TTI.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0). Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default. Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value. Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.											

Note:

1. The Dual Carriers transmission support HSDPA and HSUPA 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.

6.2.3 LTE TEST CONFIGURATION

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

1. Spectrum Plots for RB configurations

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

2. MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation. Combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.

The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101:

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

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

3. A-MPR

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

4. LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

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

ii) QPSK with 50% RB allocation

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

iii) QPSK with 100% RB allocation

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

iv) Higher order modulations

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

B) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

LTE (TDD) Test Configuration

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

TDD LTE B38/40/41/42/48 supports 3GPP TS 36 for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE B38/40/41/42/48 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Figure 4.2-1: Frame structure type 2

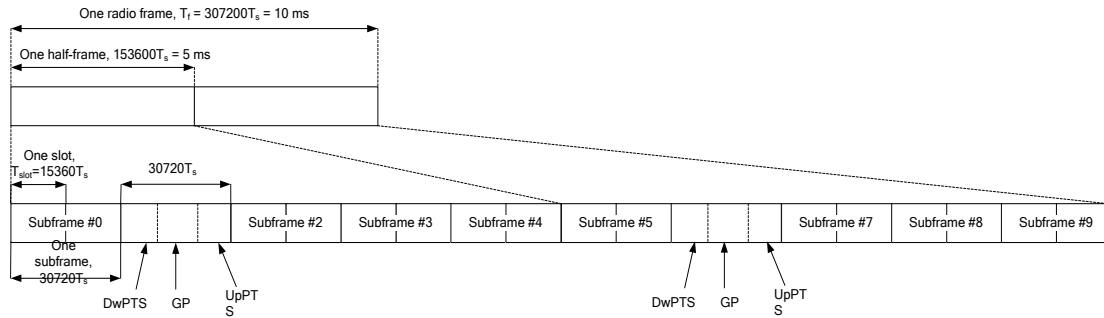


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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

Table 4.2-2: Uplink-downlink configurations

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

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

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

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

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

In conclusion, for the TDD LTE B38/40/41/42/48, Duty Cycle can be calculated with formula as below. All these sets are ok when we test, or we can set as below.

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

And we can get different Duty cycles under different configurations:

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

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

6.2.4 5G NR TEST CONFIGURATION

Connection to the EUT is established via air interface with Star Point SP9500 and the EUT is set to maximum output power by Star Point SP9500.

When SAR measurement is required, power measurement is also required to confirm output power settings and to determine reported SAR according to procedures in IEC/EN62209 standard.

Recommended Sub6G default power measurement procedures are as below:

- 1) Power must be measured for each transmit antenna(s), frequency band(s) and exposure conditions combination.
- 2) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units (tune-up).
 - a) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration power is measured, including all applicable modulations, RB allocation, RB offset and required test channels per 3GPP and EN 62209 standard.
 - b) When the same highest maximum output power is specified for largest channel bandwidth configurations with multiple SCS configurations, the largest channel bandwidth and largest SCS configuration power is measured.
 - c) Additional power measurements for other smaller bandwidth and SCS configurations are only required when SAR test is required for these configurations according to the SAR test procedures of sub6G above.
 - d) When the power meets 3GPP requirements at the maximum bandwidth, other bandwidths only measure the maximum power RB configuration.

Note: The maximum output power and tune-up tolerance of all transmit operation modes specified for production units should be clearly included in the SAR test report to determine SAR and power measurement test reduction.

1) The specification information of 5G NR (Sub 6G) of this device is shown as the following table:

NR Band	SCS (kHz)	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	40 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
n2	15	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n5	15	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n7	15	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n12	15	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n14	15	Yes	Yes	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n25	15	Yes	Yes	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n26	15	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n30	15	/	Yes	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n38	15	/	/	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	Yes	/	Yes	Yes	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n41	15	/	/	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	Yes	/	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n48	15	/	/	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	Yes	/	Yes	Yes	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n66	15	Yes	Yes	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n70	15	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n71	15	Yes	Yes	Yes	Yes	/	/	/	/	/	/	/	/	/
	30	/	/	/	/	/	/	/	/	/	/	/	/	/
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n77	15	/	/	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	Yes	/	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	60	/	/	/	/	/	/	/	/	/	/	/	/	/
n78	15	/	/	/	/	/	/	/	/	/	/	/	/	/
	30	/	/	/	Yes	/	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	60	/	/	/	/	/	/	/	/	/	/	/	/	/

Note: The bolded bandwidth and SCS configurations are power measurements in this report.

2) The MPR information for Sub 6G(Power class 3) is as below:

Modulation	MPR (dB)		
	Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM PI/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
	$\leq 0.5^2$		0^2
DFT-s-OFDM QPSK	≤ 1		0
DFT-s-OFDM 16 QAM	≤ 2		≤ 1
DFT-s-OFDM 64 QAM	≤ 2.5		
DFT-s-OFDM 256 QAM	≤ 4.5		
CP-OFDM QPSK	≤ 3		≤ 1.5
CP-OFDM 16 QAM	≤ 3		≤ 2
CP-OFDM 64 QAM	≤ 3.5		
CP-OFDM 256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with PI/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0dB MPR is 26dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 and if the IE powerBoostPi2BPSK is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

5G NR Test Configuration**1) Largest channel bandwidth standalone SAR test requirements****a) BPSK/QPSK modulation**

Start with the largest channel bandwidth and largest SCS then measure SAR for BPSK or QPSK with RB allocation, RB offset and required test channel combination with the highest maximum output power. When the 1-g SAR is $\leq 0.8 \text{ W/kg}$ (50% Limit), testing of the remaining RB configurations and required test channels is not required; otherwise, SAR is required for the remaining required test channels and only for the RB configuration with the highest output power for that channel. When the 1-g SAR of a required test channel is $> 1.44 \text{ W/kg}$ (90% Limit), SAR is required for all RB configurations for that required test channel.

b) Other modulation configurations (If applicable)

For each modulation besides BPSK or QPSK; e.g., 16-QAM, 64-QAM, 256-QAM additional SAR is required only when the highest maximum output power for the configuration in these modulations is higher than the same configuration in QPSK or when the 1-g SAR for the QPSK configuration is $> 1.44 \text{ W/kg}$ (90% Limit).

2) Other channel bandwidth standalone SAR test requirements (If applicable)

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 1.1 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 higher than the equivalent channel configurations in the largest channel bandwidth configuration or the 1-g SAR of a configuration for the largest channel bandwidth is $> 1.44 \text{ W/kg}$ (90% Limit).

3) Other channel bandwidth standalone SAR test requirements (If applicable)

For other SCS configuration besides the largest SCS with QPSK, additional SAR is required only when the maximum tune-up output power for the configuration in these SCS configurations is higher than the same configuration in the largest SCS with QPSK or when the 1-g SAR for the largest SCS with QPSK configuration is $> 1.44 \text{ W/kg}$ (90% Limit).

4) Other channel bandwidth standalone SAR test requirements

According to IEC 62209 standard, test other required frequency channels for highest SAR test configuration and other test conditions within 3dB of applicable SAR limit.

5) 5G NR (Sub6G) EN-DC SAR test procedures are as below:

The EN-DC test for the worst case at highest SAR for PCC band.

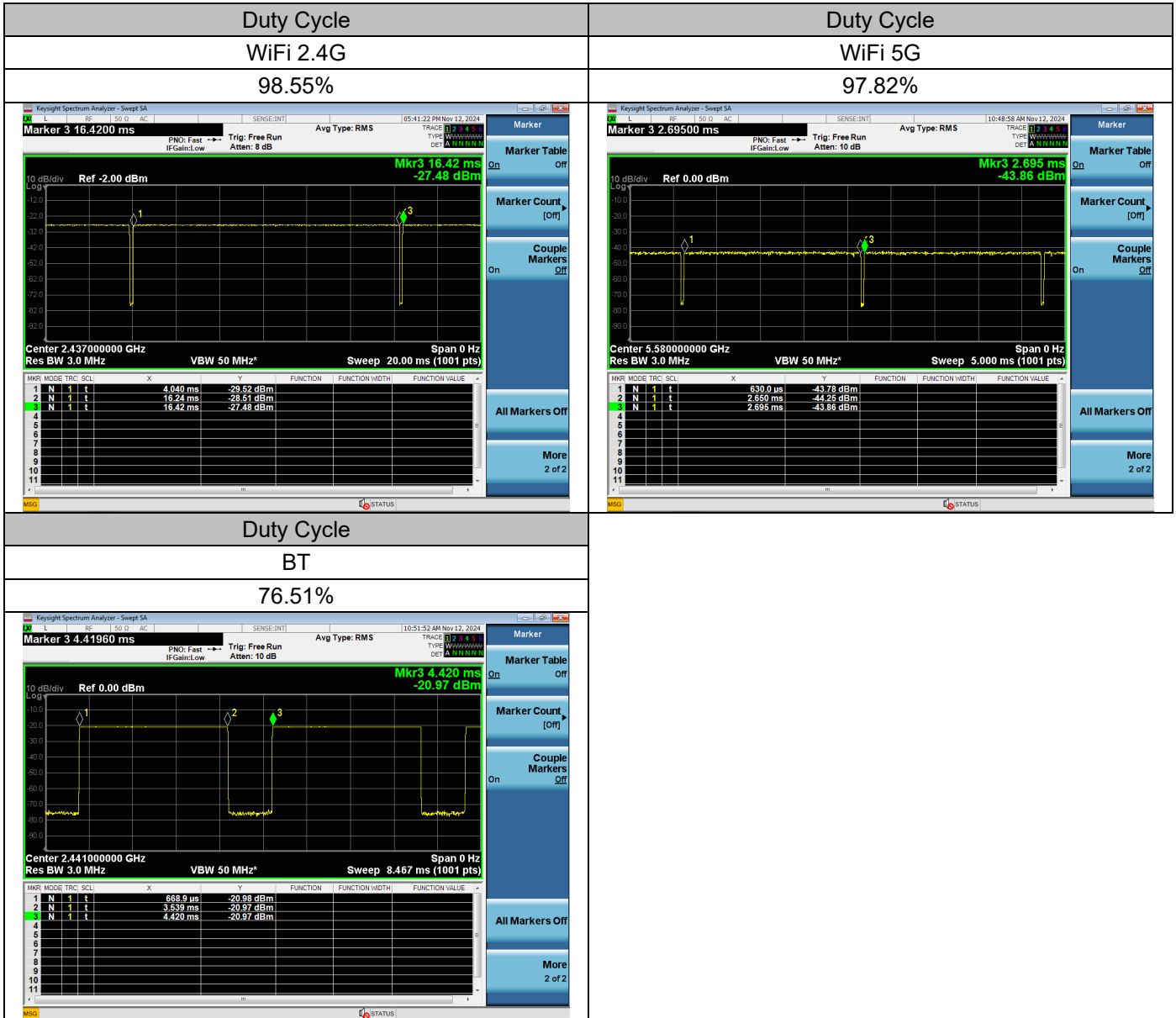
6) 5G NR (Sub6G) MIMO SAR test procedures are as below:

Repeat step 1~4.

6.2.5 WIFI TEST CONFIGURATION

For BT / WLAN SAR testing, BT/ WLAN engineering testing software installed on the DUT can provide continuous transmitting RF signal.

For WiFi SAR testing, a communication link is set up with the test mode software for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. The RF signal utilized in SAR measurement has 100% duty cycle and its crest factor is 1. The test procedures in KDB 248227 D01 are applied.



6.1.4.1 2.4G SAR Test Requirements

802.11b DSSS SAR Test Requirements

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

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

SAR Test Requirements for OFDM configurations

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

6.1.4.2 5G SAR Test Requirements

✧ U-NII-1 and U-NII-2A Band

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

✧ U-NII-2C, U-NII-3 Bands

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

Unless band gap channels are permanently disabled, they must be considered for SAR testing.

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

6.1.4.3 OFDM transmission mode and SAR test channel selection

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

6.1.4.4 Initial test configuration procedure

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

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

6.3 TEST POSITION

6.3.1 HEAD TEST CONFIGURATION

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

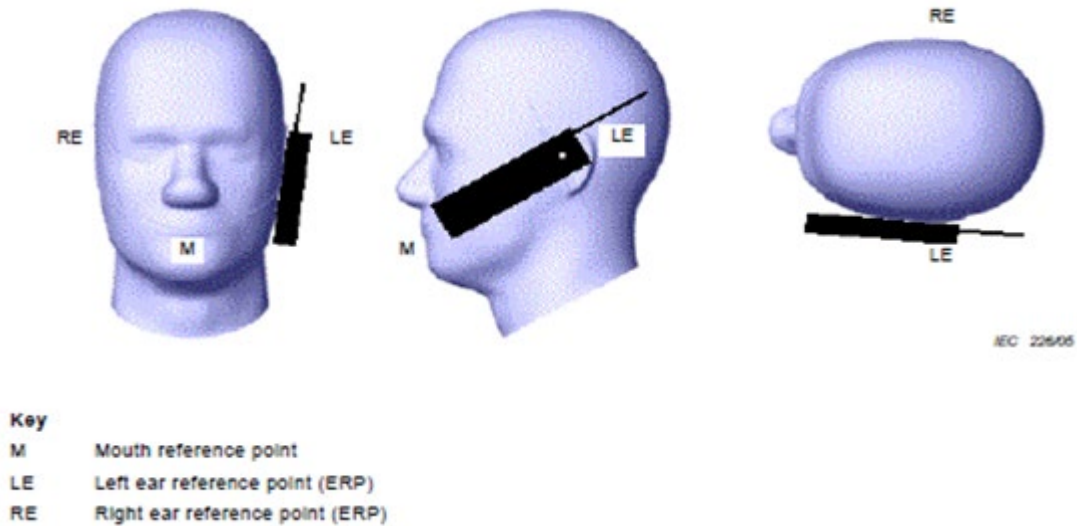


Figure 1 Cheek position of the wireless device on the left side of SAM

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

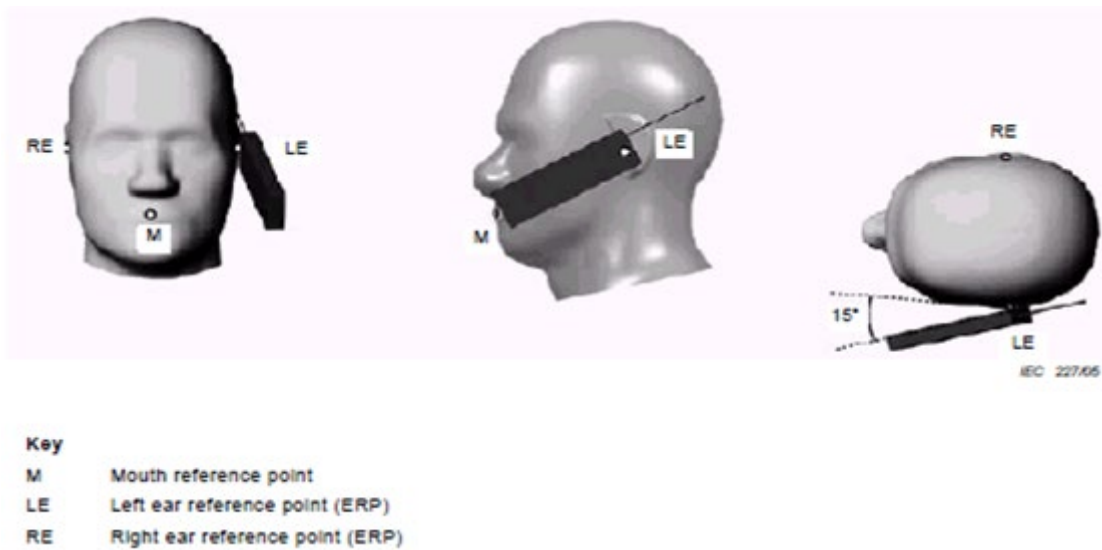


Figure 2 Tilt position of the wireless device on the left side of SAM

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

6.3.2 BODY-WORN TEST CONFIGURATION

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. The distance between the device and the phantom was kept 15mm.

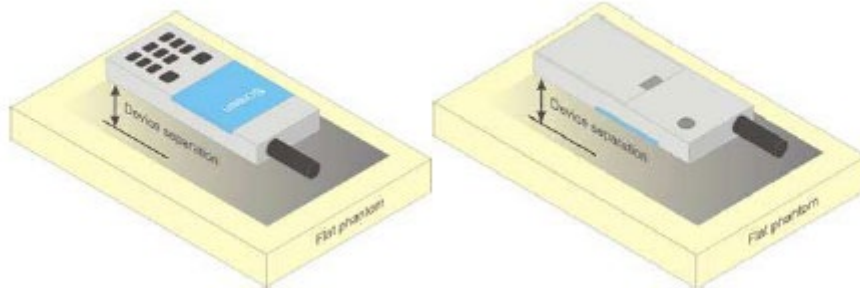


Figure 3 Test positions for body-worn device

6.3.3 HOTSPOT TEST CONFIGURATION

Per FCC KDB 941225D06, the SAR test separation distance for hotspot mode is determined according to device form factor. When the overall length and width of a device is $> 9\text{cm} \times 5\text{cm}$, a test separation distance of 10mm is required for hotspot mode SAR measurements. A test separation distance of 5mm or less is required for smaller devices. Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25mm from that surface or edge; for the data modes, wireless technologies and frequency bands supporting hotspot mode. The SAR results are used to determine simultaneous transmission SAR test exclusion for hotspot mode; otherwise, simultaneous transmission SAR measurement is required.

The location of the antenna inside EUT is as below:

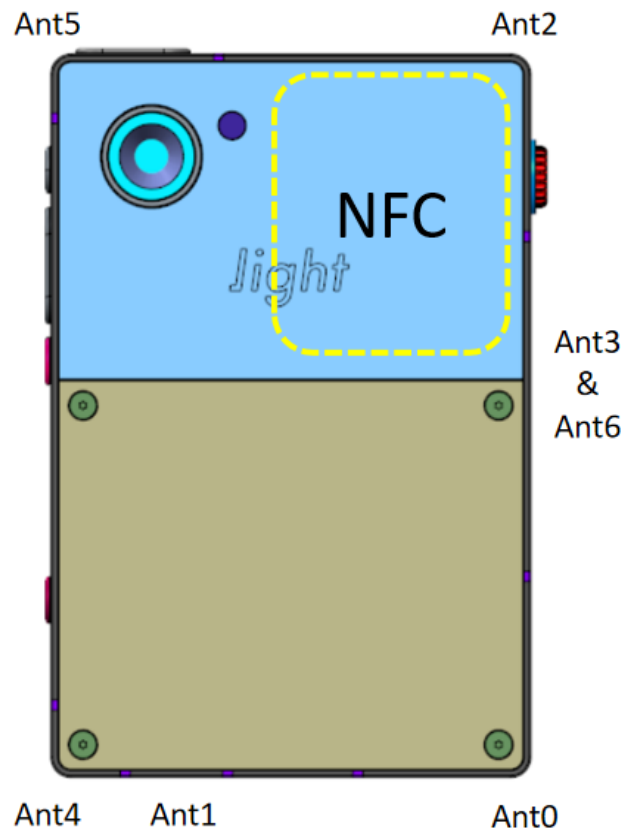


Figure: The location of the antennas

For each antenna, the EUT is tested in Hotspot SAR at the following test positions:

Antenna	Front Face	Rear Face	Left Side	Right Side	Top Side	Bottom Side
Ant 0	YES	YES	YES	YES	NO	YES
Ant 1	YES	YES	YES	YES	NO	YES
Ant 3	YES	YES	YES	NO	YES	YES
Ant 4	YES	YES	NO	YES	NO	YES

6.4 RECEIVER DETECTION MECHANISM SPECIFICATION

This device supports the receiver detection mechanism, the main purpose is to minimize triggering associated with power reduction scenarios by receiver detection mechanisms and provide enhanced user experience. It uses the receiver to indicate whether the user is making a call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 2G&3G&4G&5G NR and Wi-Fi antennas accordingly.

Table: Summary of Receiver detection mechanism

Power levels for various scenarios	Receiver on (head scenario)	Receiver off (Body/other scenario)		
	Hotspot on/off	Hotspot off		Hotspot on
	Sensor on/off	sensor off	sensor on	Sensor on/off
WWAN ANT	Power Level A	Power Level B	Power Level C	Power Level D
WLAN ANT	Power Level a	Power Level b	Power Level c	Power Level d

SAR test Plan:

For Head SAR test, SAR is evaluated with receiver on mode.

For Body SAR test, SAR is evaluated with receiver off mode.

Power scenario	WWAN_Ant 0(dBm)								
	GSM 850	WCDMA B5	LTE B5	LTE B12	LTE B13	LTE B14	LTE B17	LTE B26	LTE B71
Sensor off/ Receiver off	34	25	24	24	24	24	24	24	24
Sensor on	34	25	24	24	24	24	24	24	24
Receiver on	32.5	24.5	24	24	24	24	24	24	24

Power scenario	WWAN_Ant 0(dBm)				
	NR n5	NR n12	NR n14	NR n26	NR n71
Sensor off/ Receiver off	24	24	24	24	24
Sensor on	24	24	24	24	24
Receiver on	24	24	24	24	24

Power scenario	WWAN_Ant 1(dBm)											
	GSM 1900	WCDMA B2	WCDMA B4	LTE B2	LTE B4	LTE B7	LTE B25	LTE B30	LTE B38	LTE B40	LTE B41	LTE B66
Sensor off/ Receiver off	31	25	25	24	24	24	24	24	24	24	27	24
Sensor on	31	25	25	24	24	23.5	24	24	24	24	27	24
Receiver on	31	22	22.5	22.5	22.5	24	22	21	24	23	26	22

Power scenario	WWAN_Ant 1(dBm)							
	NR n2	NR n7	NR n25	NR n30	NR n38	NR n41	NR n66	NR n70
Sensor off/ Receiver off	24	24	24	24	24	27	24	24
Sensor on	24	22.5	24	24	23	24.5	24	24
Receiver on	21	22.5	21	21	22.5	23	24	24

Power scenario	WWAN_Ant 4(dBm)				
	LTE B42	LTE B48	NR n48	NR n77	NR n78
Sensor off/ Receiver off	24	24	24	27	27
Sensor on	22.5	24	24	27	27
Receiver on	24	24	24	27	27

Power scenario	WiFi 2.4G(dBm)					
	802.11b	802.11g	802.11n20	802.11n40	BT	LE
Sensor off/ Receiver off	17	17	13	13	10	7
Sensor on	15	15	11	11	10	7
Receiver on	12	12	11	11	10	7

Power scenario	WiFi 5G (dBm) (5150MHz~5825MHz)					
	802.11a	802.11n20	802.11n40	802.11ac20	802.11ac40	802.11ac80
Sensor off/ Receiver off	17	13	13	13	13	13
Sensor on	11	11	11	11	11	11
Receiver on	10.5	10.5	10.5	10.5	10.5	10.5

6.5 PROXIMITY SENSOR CONFIGURATION

The device uses one proximity sensors to reduce the maximum output power in selected wireless mode and operating configurations to ensure SAR compliance. The sensor implementation can identify and facilitate triggering different max power levels for different scenarios including the device held by hand (Extremity) and different exposure test positions when the device is closed to a user's body. The main purpose for the implementation is to distinguish the scenarios of Body and Extremity, minimize triggering associated with power reduction for different scenarios and provide enhanced user experience.

SAR test Plan:

The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. SAR tests with proximity sensor power reduction are required for test positions (see Table A) of some frequency bands of antenna (see Table B). Moreover, since the capacitive proximity sensor triggering distance is N mm, a conservative distance of (N-1) mm was required for additional SAR test at maximum power level with sensor off. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

Table A: Summary of Trigger Distances

Antenna	Trigger distance- Front Face	Trigger distance- Rear Face	Trigger distance- Bottom Side	Trigger distance- Top Side	Trigger distance- Left Side	Trigger distance- Right Side
WWAN Ant 0	17mm	17mm	17mm	N/A	17mm	17mm
WWAN Ant 1	17mm	17mm	17mm	N/A	17mm	17mm
WWAN Ant 4	17mm	17mm	17mm	N/A	17mm	17mm

Table B: Summary of power level to Proximity Sensor Triggering(WWAN)

Power levels for various scenarios		Receiver on (Head scenario)	Receiver off (Body/other scenario)		
		Hotspot on/off	Hotspot off		Hotspot on
		Sensor on/off	Sensor off	Sensor on	Sensor on/off
WWAN Ant 0 WWAN Ant 1 WWAN Ant 4 WLAN Ant 3	WWAN+ WLAN (2.4G/5G/BT)	A1	B1	C1	D1

Note: The Table A, B, is applied to
WWAN Ant 0

(GSM850/900, WCDMA B5/6/8/19, LTE B2/5/8/12/13/14/17/18/19/20/26/28/30/66/71, 5G NR SA n5/8/12/14/20/26/28/71 and NSA n5/8/12/13/14/71);

WWAN Ant 1

(GSM1800/1900, WCDMA B1/2/4, LTE B1/2/3/4/7/25/30/38/40/41/53/66, 5G NR SA n1/3/7/25/30/38/40/41/53/66/70 and NSA n1/2/3/7/30/38/41/66);

WWAN Ant 4

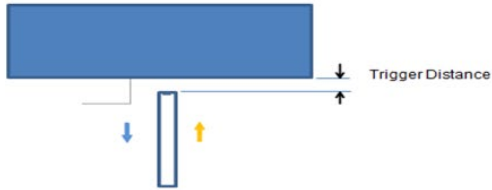
(LTE B42/48, 5G NR SA n48/77/78 and NSA n48/77);

WLAN Ant 3

(Wi-Fi 2.4G, Wi-Fi 5G, BT).

1) Proximity sensor triggering distances

Proximity sensor triggering distance testing was performed as the EUT moving further away from the phantom were both assessed.



Proximity sensor triggering distances assessment Bottom//Left/Right edge



Proximity sensor triggering distances assessment Front/Back side

Table C: Summary of Trigger Distances

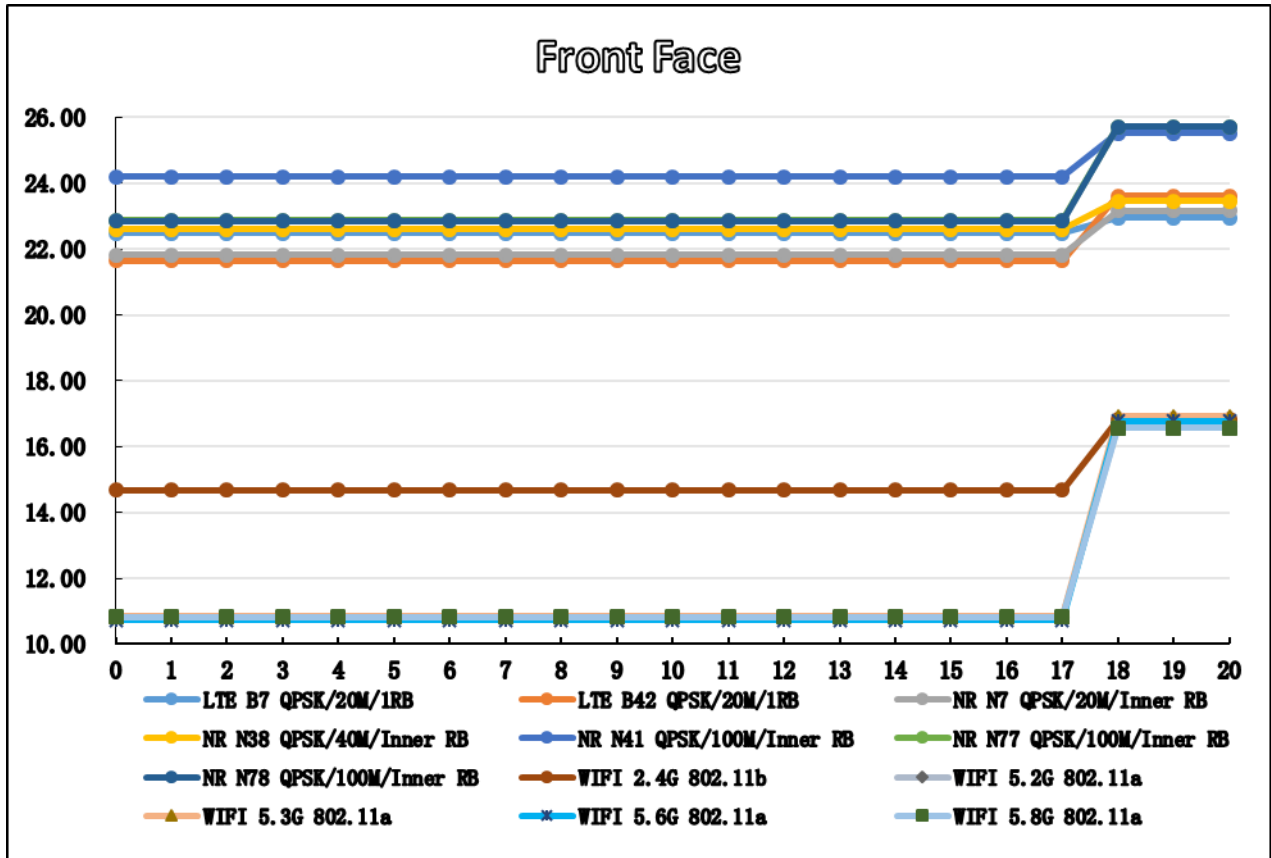
Antenna	Trigger distance– front side		Trigger distance – back side		Trigger distance – bottom edge		Trigger distance – top edge		Trigger distance – left edge		Trigger distance – right edge	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
WWAN Ant 0	17mm	17mm	17mm	17mm	17mm	17mm	N/A	N/A	17mm	17mm	17mm	17mm
WWAN Ant 1	17mm	17mm	17mm	17mm	17mm	17mm	N/A	N/A	17mm	17mm	17mm	17mm
WWAN Ant 4	17mm	17mm	17mm	17mm	17mm	17mm	N/A	N/A	17mm	17mm	17mm	17mm

6.5.1 Procedures for determining antenna and proximity sensor coverage

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

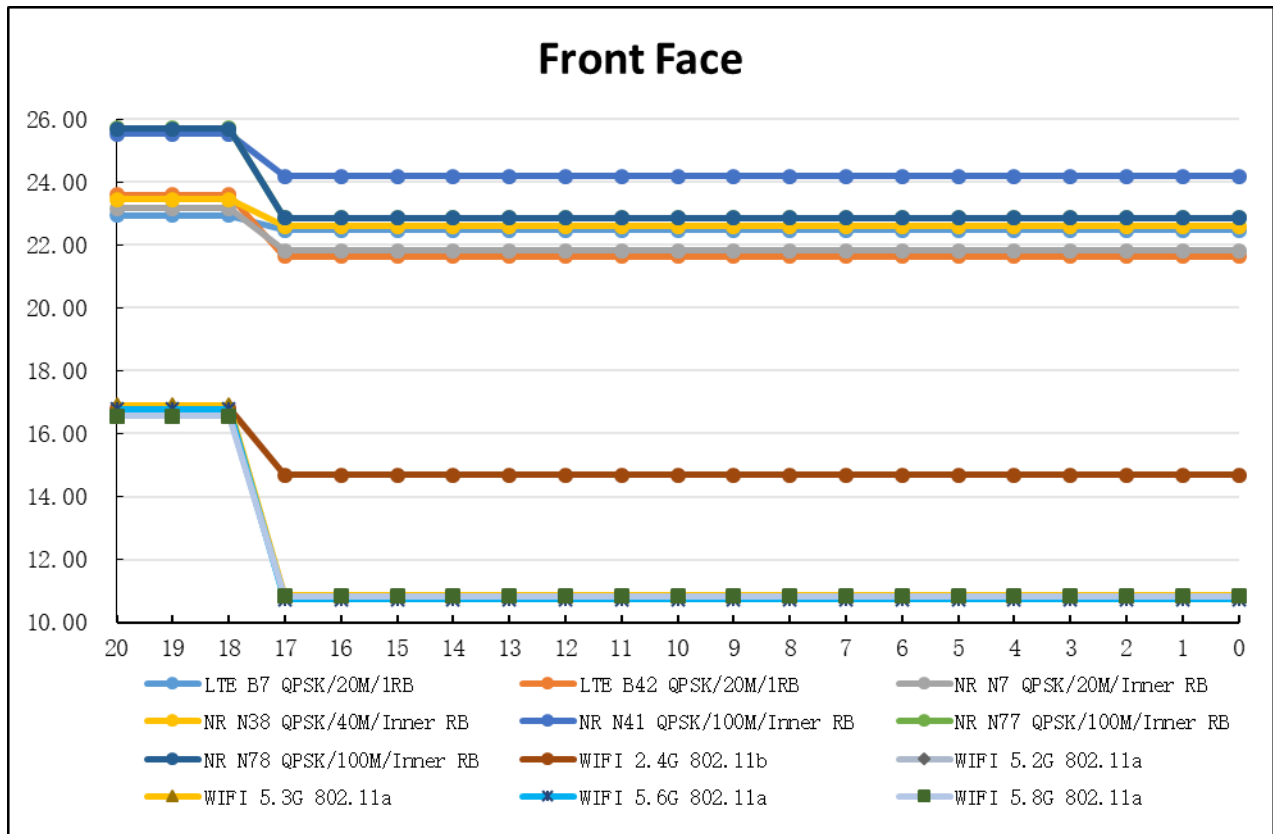
1) Front Face (moving away from the phantom)

mode		distance(mm)																				
		Front Face																				
		Sensor ON																	Sensor OFF			
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B7	QPSK/20M/1RB	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.95	22.95	22.95
LTE B42	QPSK/20M/1RB	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	23.61	23.61	23.61
NR n7	QPSK/20M/Inner RB	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	23.17	23.17	23.17
NR n38	QPSK/40M/Inner RB	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	23.46	23.46	23.46
NR n41	QPSK/100M/Inner RB	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	25.53	25.53	25.53
NR n77	QPSK/100M/Inner RB	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	25.72	25.72	25.72
NR n78	QPSK/100M/Inner RB	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	25.71	25.71	25.71
WIFI 2.4G	802.11b	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	16.81	16.81	16.81
WIFI 5.2G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.63	16.63	16.63
WIFI 5.3G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.91	16.91	16.91
WIFI 5.6G	802.11a	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	16.78	16.78	16.78
WIFI 5.8G	802.11a	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	16.56	16.56	16.56



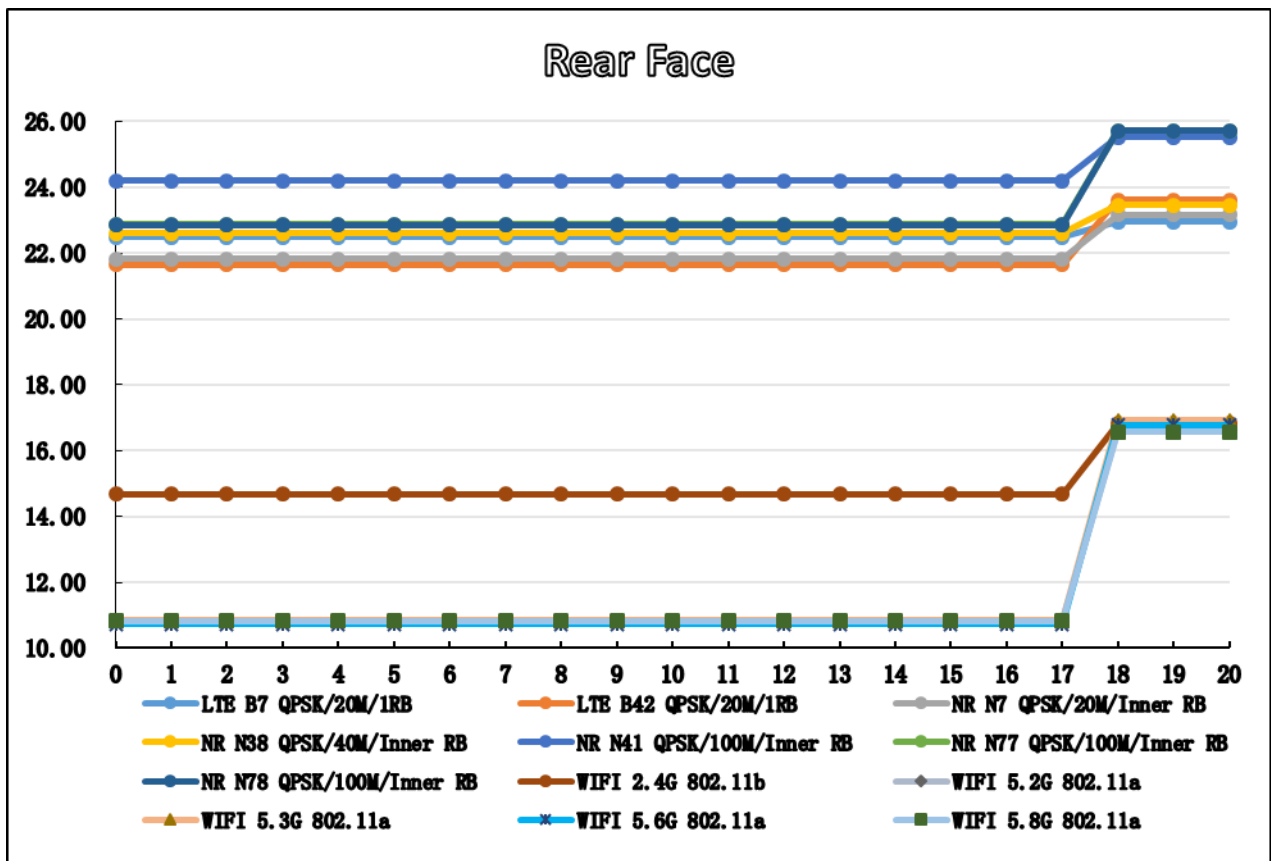
2) Front Face (moving toward from the phantom)

mode		distance(mm)																			
		Front Face																			
		Sensor OFF			Sensor ON																
20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
LTE B7	QPSK/20M/1RB	22.95	22.95	22.95	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
LTE B42	QPSK/20M/1RB	23.61	23.61	23.61	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
NR n7	QPSK/20M/Inner RB	23.17	23.17	23.17	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83
NR n38	QPSK/40M/Inner RB	23.46	23.46	23.46	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
NR n41	QPSK/100M/Inner RB	25.53	25.53	25.53	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
NR n77	QPSK/100M/Inner RB	25.72	25.72	25.72	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87
NR n78	QPSK/100M/Inner RB	25.71	25.71	25.71	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86
WIFI 2.4G	802.11b	16.81	16.81	16.81	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68
WIFI 5.2G	802.11a	16.63	16.63	16.63	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.3G	802.11a	16.91	16.91	16.91	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.6G	802.11a	16.78	16.78	16.78	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
WIFI 5.8G	802.11a	16.56	16.56	16.56	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83



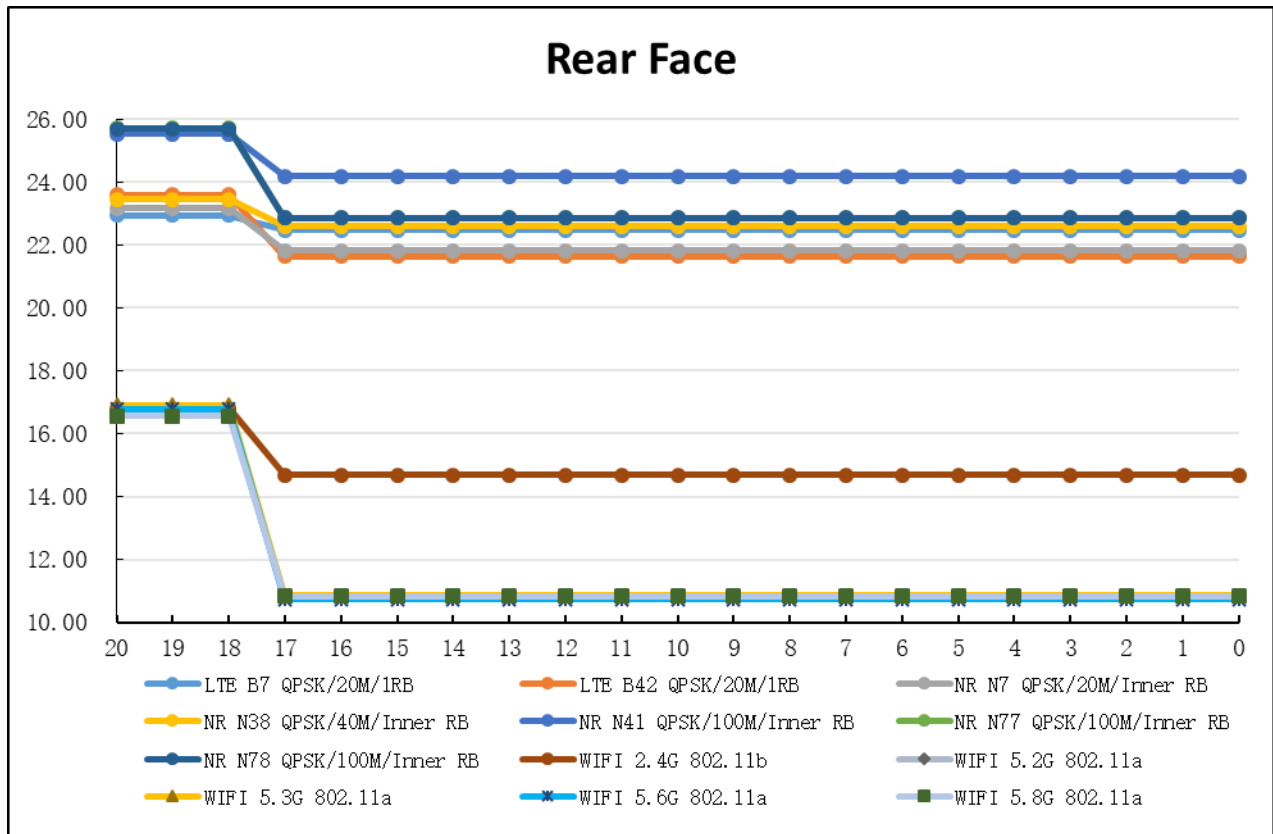
3) Rear Face (moving away from the phantom)

mode		distance(mm)																				
		Rear Face																				
		Sensor ON																		Sensor OFF		
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B7	QPSK/20M/1RB	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.95	22.95	22.95
LTE B42	QPSK/20M/1RB	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	23.61	23.61	23.61
NR n7	QPSK/20M/Inner RB	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	23.17	23.17	23.17
NR n38	QPSK/40M/Inner RB	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	23.46	23.46	23.46
NR n41	QPSK/100M/Inner RB	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	25.53	25.53	25.53
NR n77	QPSK/100M/Inner RB	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	25.72	25.72	25.72
NR n78	QPSK/100M/Inner RB	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	25.71	25.71	25.71
WIFI 2.4G	802.11b	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	16.81	16.81	16.81
WIFI 5.2G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.63	16.63	16.63
WIFI 5.3G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.91	16.91	16.91
WIFI 5.6G	802.11a	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	16.78	16.78	16.78
WIFI 5.8G	802.11a	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	16.56	16.56	16.56



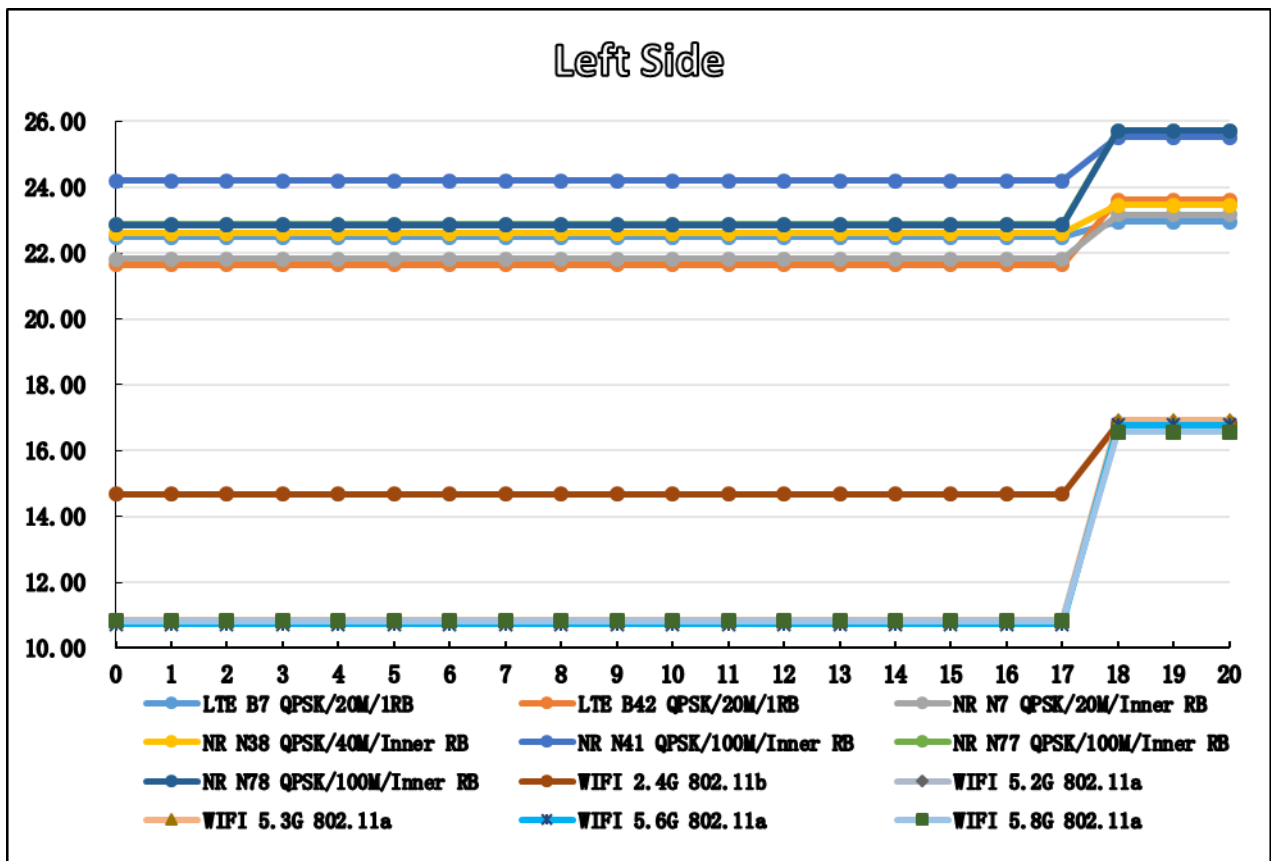
4) Rear Face (moving toward from the phantom)

mode		distance(mm)																			
		Rear Face																			
		Sensor OFF			Sensor ON																
		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
LTE B7	QPSK/20M/1RB	22.95	22.95	22.95	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
LTE B42	QPSK/20M/1RB	23.61	23.61	23.61	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
NR n7	QPSK/20M/Inner RB	23.17	23.17	23.17	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83
NR n38	QPSK/40M/Inner RB	23.46	23.46	23.46	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
NR n41	QPSK/100M/Inner RB	25.53	25.53	25.53	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
NR n77	QPSK/100M/Inner RB	25.72	25.72	25.72	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87
NR n78	QPSK/100M/Inner RB	25.71	25.71	25.71	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86
WIFI 2.4G	802.11b	16.81	16.81	16.81	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68
WIFI 5.2G	802.11a	16.63	16.63	16.63	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.3G	802.11a	16.91	16.91	16.91	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.6G	802.11a	16.78	16.78	16.78	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
WIFI 5.8G	802.11a	16.56	16.56	16.56	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83



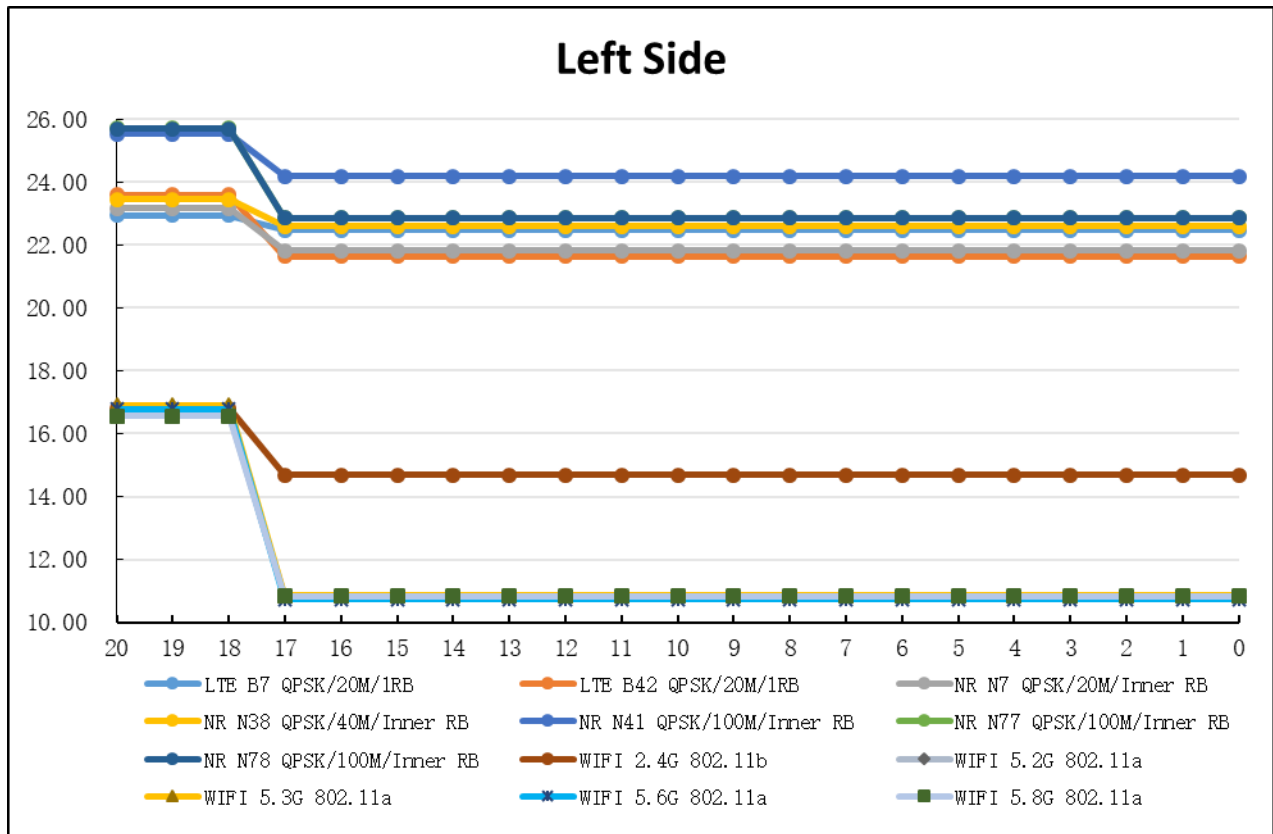
5) Left Side (moving away from the phantom)

mode		distance(mm)																				
		Left Side																				
		Sensor ON																	Sensor OFF			
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B7	QPSK/20M/ 1RB	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.95	22.95	22.95
LTE B42	QPSK/20M/ 1RB	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	23.61	23.61	23.61
NR n7	QPSK/20M/ Inner RB	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	23.17	23.17	23.17
NR n38	QPSK/40M/ Inner RB	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	23.46	23.46	23.46
NR n41	QPSK/100M/ Inner RB	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	25.53	25.53	25.53
NR n77	QPSK/100M/ Inner RB	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	25.72	25.72	25.72
NR n78	QPSK/100M/ Inner RB	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	25.71	25.71	25.71
WIFI 2.4G	802.11b	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	16.81	16.81	16.81
WIFI 5.2G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.63	16.63	16.63
WIFI 5.3G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.91	16.91	16.91
WIFI 5.6G	802.11a	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	16.78	16.78	16.78
WIFI 5.8G	802.11a	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	16.56	16.56	16.56



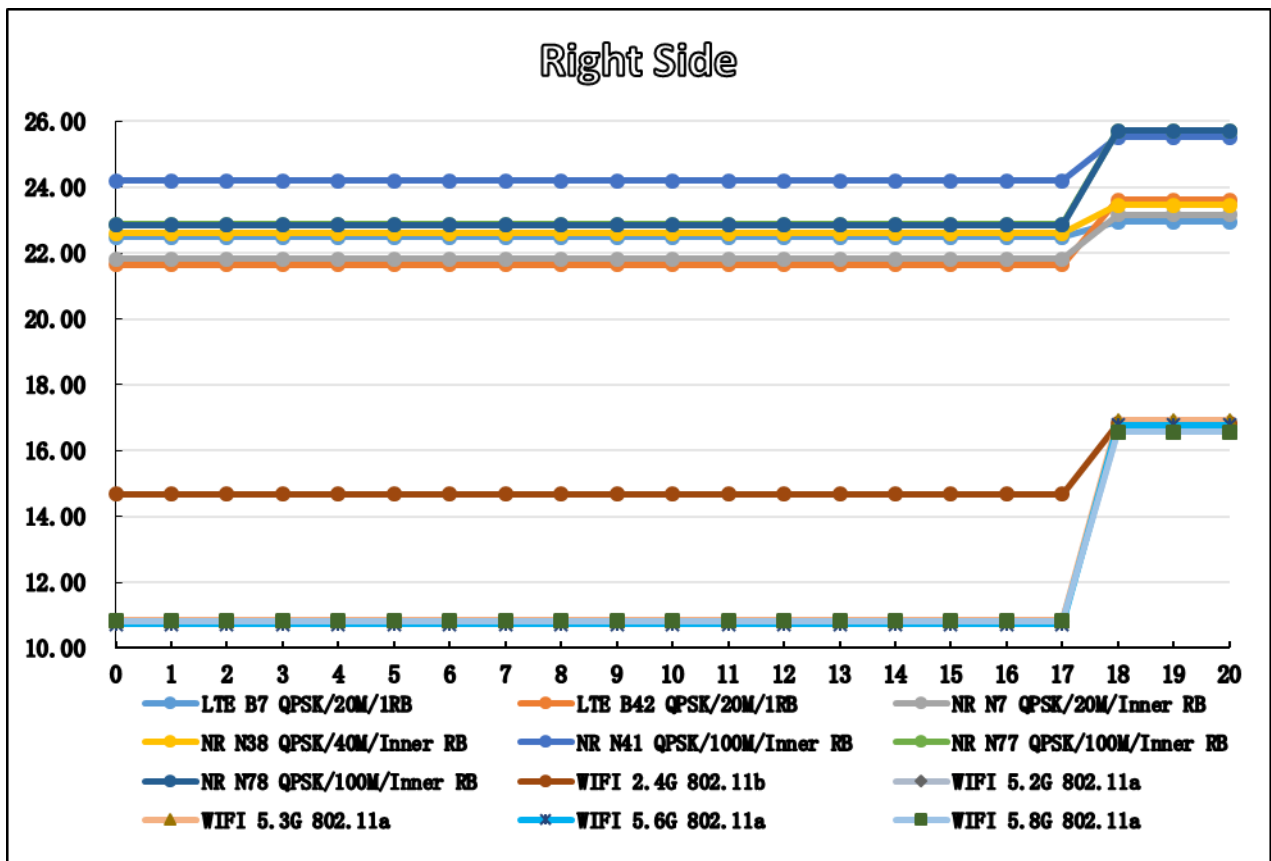
6) Left Side (moving toward from the phantom)

mode		distance(mm)																				
		Left Side																				
		Sensor OFF			Sensor ON																	
		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
LTE B7	QPSK/20M/1RB	22.95	22.95	22.95	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
LTE B42	QPSK/20M/1RB	23.61	23.61	23.61	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
NR n7	QPSK/20M/Inner RB	23.17	23.17	23.17	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83
NR n38	QPSK/40M/Inner RB	23.46	23.46	23.46	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
NR n41	QPSK/100M/Inner RB	25.53	25.53	25.53	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
NR n77	QPSK/100M/Inner RB	25.72	25.72	25.72	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87
NR n78	QPSK/100M/Inner RB	25.71	25.71	25.71	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86
WIFI 2.4G	802.11b	16.81	16.81	16.81	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68
WIFI 5.2G	802.11a	16.63	16.63	16.63	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.3G	802.11a	16.91	16.91	16.91	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.6G	802.11a	16.78	16.78	16.78	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
WIFI 5.8G	802.11a	16.56	16.56	16.56	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83



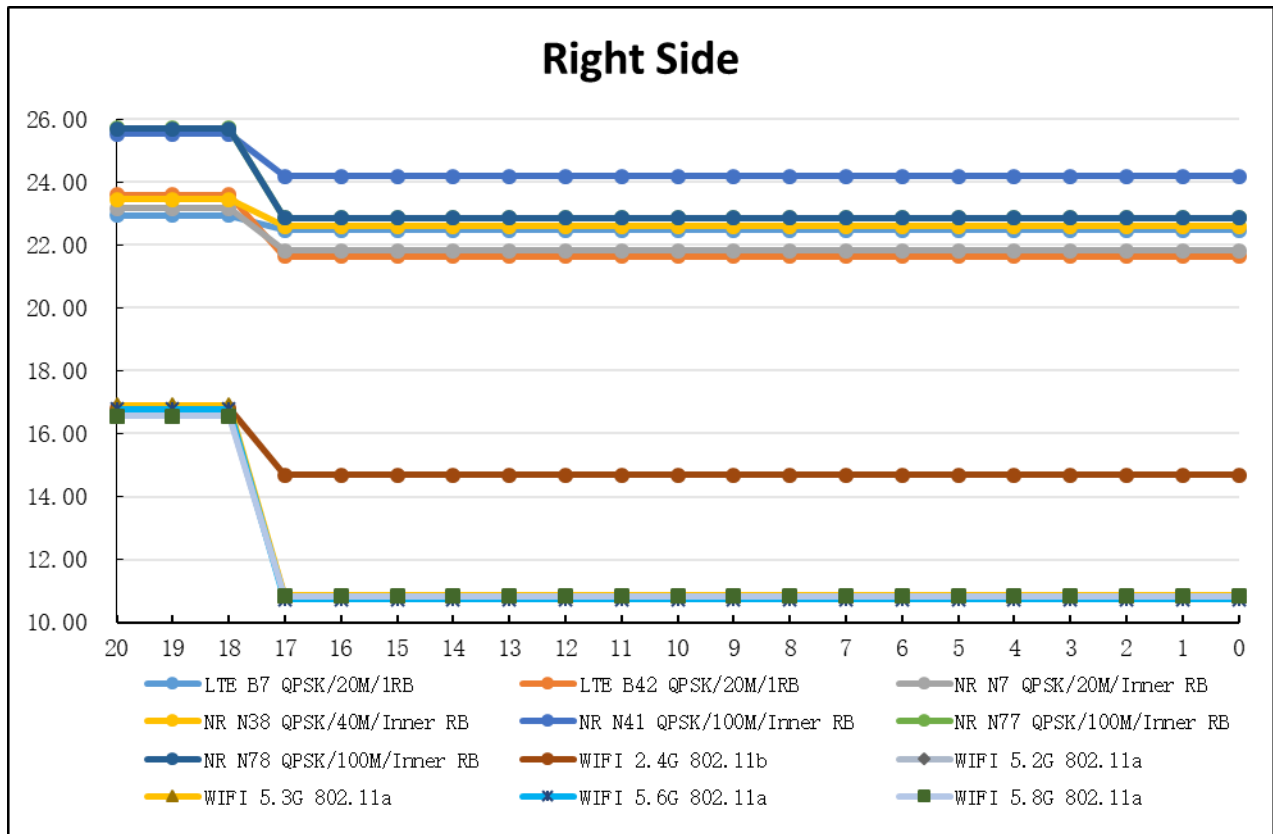
7) Right Side (moving away from the phantom)

mode		distance(mm)																				
		Right Side																				
		Sensor ON																	Sensor OFF			
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B7	QPSK/20M/ 1RB	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.95	22.95	22.95
LTE B42	QPSK/20M/ 1RB	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	23.61	23.61	23.61
NR n7	QPSK/20M/ Inner RB	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	23.17	23.17	23.17
NR n38	QPSK/40M/ Inner RB	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	23.46	23.46	23.46
NR n41	QPSK/100M/ Inner RB	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	25.53	25.53	25.53
NR n77	QPSK/100M/ Inner RB	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	25.72	25.72	25.72
NR n78	QPSK/100M/ Inner RB	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	25.71	25.71	25.71
WIFI 2.4G	802.11b	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	16.81	16.81	16.81
WIFI 5.2G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.63	16.63	16.63
WIFI 5.3G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.91	16.91	16.91
WIFI 5.6G	802.11a	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	16.78	16.78	16.78
WIFI 5.8G	802.11a	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	16.56	16.56	16.56



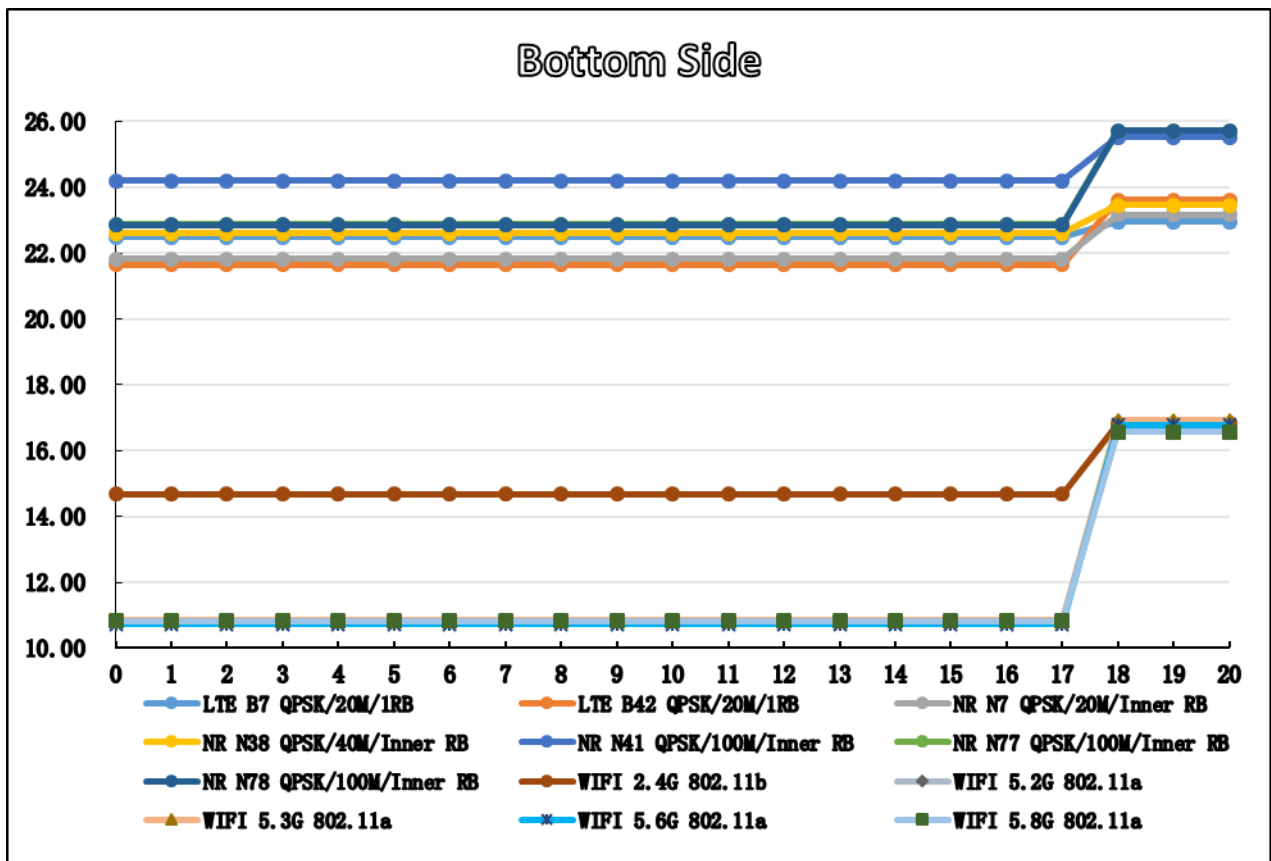
8) Right Side (moving toward from the phantom)

mode		distance(mm)																				
		Right Side																				
		Sensor OFF			Sensor ON																	
		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
LTE B7	QPSK/20M/ 1RB	22.95	22.95	22.95	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
LTE B42	QPSK/20M/ 1RB	23.61	23.61	23.61	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
NR n7	QPSK/20M/ Inner RB	23.17	23.17	23.17	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83
NR n38	QPSK/40M/ Inner RB	23.46	23.46	23.46	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
NR n41	QPSK/100M/ Inner RB	25.53	25.53	25.53	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
NR n77	QPSK/100M/ Inner RB	25.72	25.72	25.72	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87
NR n78	QPSK/100M/ Inner RB	25.71	25.71	25.71	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86
WIFI 2.4G	802.11b	16.81	16.81	16.81	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68
WIFI 5.2G	802.11a	16.63	16.63	16.63	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.3G	802.11a	16.91	16.91	16.91	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.6G	802.11a	16.78	16.78	16.78	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
WIFI 5.8G	802.11a	16.56	16.56	16.56	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83



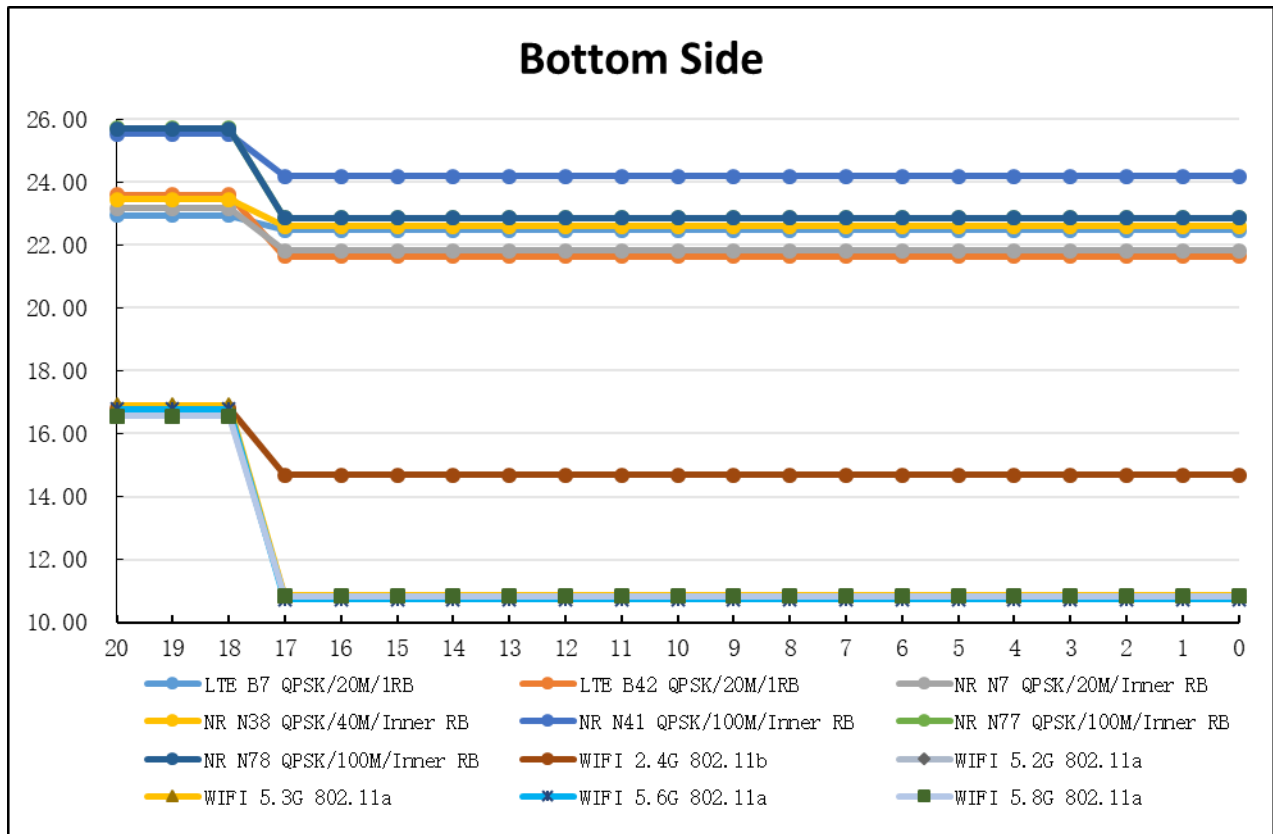
9) Bottom Side (moving away from the phantom)

mode		distance(mm)																				
		Bottom Side																				
		Sensor ON																	Sensor OFF			
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B7	QPSK/20M/ 1RB	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.95	22.95	22.95
LTE B42	QPSK/20M/ 1RB	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	23.61	23.61	23.61
NR n7	QPSK/20M/ Inner RB	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	23.17	23.17	23.17
NR n38	QPSK/40M/ Inner RB	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	23.46	23.46	23.46
NR n41	QPSK/100M/ Inner RB	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	25.53	25.53	25.53
NR n77	QPSK/100M/ Inner RB	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	25.72	25.72	25.72
NR n78	QPSK/100M/ Inner RB	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	25.71	25.71	25.71
WIFI 2.4G	802.11b	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	16.81	16.81	16.81
WIFI 5.2G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.63	16.63	16.63
WIFI 5.3G	802.11a	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	16.91	16.91	16.91
WIFI 5.6G	802.11a	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	16.78	16.78	16.78
WIFI 5.8G	802.11a	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	16.56	16.56	16.56



10) Bottom Side (moving toward from the phantom)

mode		distance(mm)																			
		Bottom Side																			
		Sensor OFF			Sensor ON																
		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
LTE B7	QPSK/20M/1RB	22.95	22.95	22.95	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
LTE B42	QPSK/20M/1RB	23.61	23.61	23.61	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
NR n7	QPSK/20M/Inner RB	23.17	23.17	23.17	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83	21.83
NR n38	QPSK/40M/Inner RB	23.46	23.46	23.46	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
NR n41	QPSK/100M/Inner RB	25.53	25.53	25.53	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
NR n77	QPSK/100M/Inner RB	25.72	25.72	25.72	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87	22.87
NR n78	QPSK/100M/Inner RB	25.71	25.71	25.71	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86	22.86
WIFI 2.4G	802.11b	16.81	16.81	16.81	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68	14.68
WIFI 5.2G	802.11a	16.63	16.63	16.63	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.3G	802.11a	16.91	16.91	16.91	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84	10.84
WIFI 5.6G	802.11a	16.78	16.78	16.78	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
WIFI 5.8G	802.11a	16.56	16.56	16.56	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83



7. TEST RESULT

7.1 CONDUCTED POWER RESULTS

The conducted power measurement result please refer to Appendix E.

7.2 SAR TEST RESULTS

General Notes:

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

GSM Notes:

- 1) Per KDB648474 D04, body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
- 2) Per KDB941225 D01, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

UMTS Notes:

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

LTE notes:

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

WLAN Notes:

- 1) For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
- 2) Justification for test configurations for WLAN per KDB Publication 248227 for 2.4GHz WIFI single transmission chain operations, the highest measured maximum output power Channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.1.5 for more information.
- 3) Justification for test configurations for WLAN per KDB Publication 248227 for 5GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed power. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2W/kg. See Section 7.1.5 for more information.

7.2.1 SAR MEASUREMENT RESULT OF HEAD

1. Head SAR test results of GSM

Test No.	Band	Mode	Channel	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
G01	GSM 850	GSM	251	Right Cheek	0	32.50	32.34	-0.03	0.425	0.312	0.441
G02	GSM 850	GSM	251	Right Tilted	0	32.50	32.34	0.08	0.225	0.175	0.233
G03	GSM 850	GSM	251	Left Cheek	0	32.50	32.34	0.11	0.913	0.592	0.947
G04	GSM 850	GSM	251	Left Tilted	0	32.50	32.34	0.07	0.293	0.222	0.304
G05	GSM 850	GSM	128	Left Cheek	0	32.50	32.25	0.14	0.822	0.531	0.871
G06	GSM 850	GSM	190	Left Cheek	0	32.50	32.19	0.02	1.18	0.764	1.267
G07	GSM 850	GSM	190	Left Cheek(Repeated)	0	32.50	32.19	-0.09	1.12	0.759	1.203
G08	GSM 1900	GSM	810	Right Cheek	1	31.00	30.10	-0.06	0.561	0.323	0.690
G09	GSM 1900	GSM	810	Right Tilted	1	31.00	30.10	0.16	0.098	0.058	0.121
G10	GSM 1900	GSM	810	Left Cheek	1	31.00	30.10	0.13	0.274	0.169	0.337
G11	GSM 1900	GSM	810	Left Tilted	1	31.00	30.10	-0.08	0.158	0.089	0.194
G12	GSM 1900	GSM	512	Right Cheek	1	31.00	29.86	0.07	0.641	0.369	0.833
G13	GSM 1900	GSM	661	Right Cheek	1	31.00	29.97	-0.08	0.487	0.277	0.617
G14	GSM 1900	GSM	512	Right Cheek(Repeated)	1	31.00	29.86	0.04	0.622	0.358	0.809

Note: The value with boldface is the maximum SAR Value of each test band.

2. Head SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
U01	UMTS B2	RMC12.2K	9262	Right Cheek	1	22.00	20.75	0.16	0.8	0.462	1.067
U02	UMTS B2	RMC12.2K	9262	Right Tilted	1	22.00	20.75	-0.01	0.16	0.095	0.213
U03	UMTS B2	RMC12.2K	9262	Left Cheek	1	22.00	20.75	-0.07	0.394	0.248	0.525
U04	UMTS B2	RMC12.2K	9262	Left Tilted	1	22.00	20.75	-0.17	0.211	0.119	0.281
U05	UMTS B2	RMC12.2K	9400	Right Cheek	1	22.00	20.70	-0.14	0.813	0.464	1.097
U06	UMTS B2	RMC12.2K	9538	Right Cheek	1	22.00	20.64	-0.06	0.785	0.447	1.074
U07	UMTS B2	RMC12.2K	9400	Right Cheek(Repeated)	1	22.00	20.70	0.02	0.799	0.461	1.078
U08	UMTS B4	RMC12.2K	1312	Right Cheek	1	22.50	21.37	0.18	0.834	0.471	1.082
U09	UMTS B4	RMC12.2K	1312	Right Tilted	1	22.50	21.37	-0.12	0.146	0.089	0.189
U10	UMTS B4	RMC12.2K	1312	Left Cheek	1	22.50	21.37	0.08	0.475	0.298	0.616
U11	UMTS B4	RMC12.2K	1312	Left Tilted	1	22.50	21.37	-0.08	0.194	0.113	0.252
U12	UMTS B4	RMC12.2K	1413	Right Cheek	1	22.50	21.33	0.07	0.868	0.497	1.136
U13	UMTS B4	RMC12.2K	1513	Right Cheek	1	22.50	21.28	0.04	0.856	0.493	1.134
U14	UMTS B4	RMC12.2K	1413	Right Cheek(Repeated)	1	22.50	21.33	0.06	0.845	0.476	1.106
U15	UMTS B5	RMC12.2K	4132	Right Cheek	0	24.50	23.33	0.11	0.318	0.233	0.416
U16	UMTS B5	RMC12.2K	4132	Right Tilted	0	24.50	23.33	-0.03	0.175	0.132	0.229
U17	UMTS B5	RMC12.2K	4132	Left Cheek	0	24.50	23.33	0.06	0.643	0.416	0.842
U18	UMTS B5	RMC12.2K	4132	Left Tilted	0	24.50	23.33	0.15	0.222	0.169	0.291
U19	UMTS B5	RMC12.2K	4182	Left Cheek	0	24.50	23.26	0.07	0.657	0.425	0.874
U20	UMTS B5	RMC12.2K	4233	Left Cheek	0	24.50	23.11	0.02	0.629	0.407	0.866
U21	UMTS B5	RMC12.2K	4182	Left Cheek(Repeated)	0	24.50	23.26	-0.02	0.633	0.406	0.842

Note: The value with boldface is the maximum SAR Value of each test band.

3. Head SAR test results of LTE

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L01	LTE B2	QPSK20M	18900	1	0	Right Cheek	1	22.50	21.90	0.13	0.753	0.406	0.865
L02	LTE B2	QPSK20M	18900	1	0	Right Tilted	1	22.50	21.90	0.08	0.113	0.065	0.130
L03	LTE B2	QPSK20M	18900	1	0	Left Cheek	1	22.50	21.90	0.11	0.366	0.218	0.420
L04	LTE B2	QPSK20M	18900	1	0	Left Tilted	1	22.50	21.90	0.06	0.167	0.09	0.192
L05	LTE B2	QPSK20M	19100	50	25	Right Cheek	1	22.50	21.52	0.07	0.847	0.466	1.061
L06	LTE B2	QPSK20M	19100	50	25	Right Tilted	1	22.50	21.52	-0.05	0.119	0.07	0.149
L07	LTE B2	QPSK20M	19100	50	25	Left Cheek	1	22.50	21.52	0.19	0.392	0.234	0.491
L08	LTE B2	QPSK20M	19100	50	25	Left Tilted	1	22.50	21.52	-0.13	0.183	0.097	0.229
L09	LTE B2	QPSK20M	19100	100	0	Right Cheek	1	22.50	21.49	0.18	0.782	0.424	0.987
L10	LTE B2	QPSK20M	18700	50	25	Right Cheek	1	22.50	21.51	-0.03	0.746	0.41	0.937
L11	LTE B2	QPSK20M	18900	50	25	Right Cheek	1	22.50	21.45	-0.02	0.789	0.431	1.005
L12	LTE B2	QPSK20M	19100	50	25	Right Cheek(Repeated)	1	22.50	21.52	-0.06	0.834	0.46	1.045
L13	LTE B4	QPSK20M	20175	1	0	Right Cheek	1	22.50	22.07	-0.06	0.511	0.305	0.564
L14	LTE B4	QPSK20M	20175	1	0	Right Tilted	1	22.50	22.07	-0.18	0.0902	0.058	0.100
L15	LTE B4	QPSK20M	20175	1	0	Left Cheek	1	22.50	22.07	-0.02	0.278	0.186	0.307
L16	LTE B4	QPSK20M	20175	1	0	Left Tilted	1	22.50	22.07	-0.18	0.125	0.076	0.138
L17	LTE B4	QPSK20M	20050	50	25	Right Cheek	1	22.50	21.52	0.04	0.524	0.31	0.657
L18	LTE B4	QPSK20M	20050	50	25	Right Tilted	1	22.50	21.52	-0.05	0.09	0.058	0.113
L19	LTE B4	QPSK20M	20050	50	25	Left Cheek	1	22.50	21.52	0.08	0.277	0.187	0.347
L20	LTE B4	QPSK20M	20050	50	25	Left Tilted	1	22.50	21.52	-0.08	0.118	0.077	0.148
L21	LTE B4	QPSK20M	20175	50	25	Right Cheek	1	22.50	21.47	-0.01	0.521	0.308	0.660
L22	LTE B4	QPSK20M	20300	50	25	Right Cheek	1	22.50	21.37	0.06	0.538	0.318	0.698
L23	LTE B5	QPSK10M	20450	1	0	Right Cheek	0	24.00	23.01	0.17	0.365	0.268	0.458
L24	LTE B5	QPSK10M	20450	1	0	Right Tilted	0	24.00	23.01	-0.16	0.2	0.156	0.251
L25	LTE B5	QPSK10M	20450	1	0	Left Cheek	0	24.00	23.01	0.1	0.816	0.528	1.025
L26	LTE B5	QPSK10M	20450	1	0	Left Tilted	0	24.00	23.01	-0.06	0.292	0.222	0.367
L27	LTE B5	QPSK10M	20450	25	12	Right Cheek	0	23.00	22.46	0.12	0.312	0.23	0.353
L28	LTE B5	QPSK10M	20450	25	12	Right Tilted	0	23.00	22.46	-0.18	0.173	0.134	0.196
L29	LTE B5	QPSK10M	20450	25	12	Left Cheek	0	23.00	22.46	-0.08	0.685	0.442	0.776
L30	LTE B5	QPSK10M	20450	25	12	Left Tilted	0	23.00	22.46	-0.14	0.24	0.184	0.272
L31	LTE B5	QPSK10M	20450	50	0	Left Cheek	0	23.00	21.97	0.09	0.647	0.397	0.820
L32	LTE B5	QPSK10M	20525	1	0	Left Cheek	0	24.00	22.92	-0.15	0.827	0.535	1.060
L33	LTE B5	QPSK10M	20600	1	0	Left Cheek	0	24.00	22.80	0.03	0.849	0.547	1.119
L34	LTE B5	QPSK10M	20600	1	0	Left Cheek(Repeated)	0	24.00	22.80	-0.12	0.821	0.533	1.082
L35	LTE B7	QPSK20M	21350	1	99	Right Cheek	1	24.00	22.95	0.05	0.654	0.346	0.833
L36	LTE B7	QPSK20M	21350	1	99	Right Tilted	1	24.00	22.95	-0.18	0.094	0.052	0.120
L37	LTE B7	QPSK20M	21350	1	99	Left Cheek	1	24.00	22.95	0.09	0.243	0.144	0.309
L38	LTE B7	QPSK20M	21350	1	99	Left Tilted	1	24.00	22.95	-0.05	0.132	0.072	0.168
L39	LTE B7	QPSK20M	21350	50	50	Right Cheek	1	23.00	22.03	0.04	0.542	0.287	0.678
L40	LTE B7	QPSK20M	21350	50	50	Right Tilted	1	23.00	22.03	0.05	0.082	0.046	0.103
L41	LTE B7	QPSK20M	21350	50	50	Left Cheek	1	23.00	22.03	0.09	0.198	0.117	0.248
L42	LTE B7	QPSK20M	21350	50	50	Left Tilted	1	23.00	22.03	0.16	0.106	0.059	0.133
L43	LTE B7	QPSK20M	21350	100	0	Right Cheek	1	23.00	21.74	-0.04	0.523	0.279	0.699
L44	LTE B7	QPSK20M	20850	1	99	Right Cheek	1	24.00	22.55	-0.02	0.533	0.289	0.744
L45	LTE B7	QPSK20M	21100	1	99	Right Cheek	1	24.00	22.66	0.13	0.587	0.314	0.799
L46	LTE B7	QPSK20M	21350	1	99	Right Cheek(Repeated)	1	24.00	22.95	0.08	0.641	0.34	0.816

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L47	LTE B12	QPSK10M	23095	1	24	Right Cheek	0	24.00	22.68	-0.13	0.201	0.144	0.272
L48	LTE B12	QPSK10M	23095	1	24	Right Tilted	0	24.00	22.68	0.04	0.077	0.060	0.104
L49	LTE B12	QPSK10M	23095	1	24	Left Cheek	0	24.00	22.68	0.12	0.563	0.352	0.763
L50	LTE B12	QPSK10M	23095	1	24	Left Tilted	0	24.00	22.68	-0.01	0.121	0.092	0.164
L51	LTE B12	QPSK10M	23060	25	12	Right Cheek	0	23.00	21.94	0.1	0.171	0.122	0.218
L52	LTE B12	QPSK10M	23060	25	12	Right Tilted	0	23.00	21.94	0.05	0.061	0.047	0.078
L53	LTE B12	QPSK10M	23060	25	12	Left Cheek	0	23.00	21.94	-0.04	0.453	0.283	0.578
L54	LTE B12	QPSK10M	23060	25	12	Left Tilted	0	23.00	21.94	-0.13	0.092	0.070	0.117
L55	LTE B12	QPSK10M	23060	1	24	Left Cheek	0	24.00	22.60	0.02	0.558	0.348	0.770
L56	LTE B12	QPSK10M	23130	1	24	Left Cheek	0	24.00	22.64	-0.06	0.581	0.363	0.795
L57	LTE B13	QPSK10M	23230	1	24	Right Cheek	0	24.00	23.25	0.01	0.328	0.241	0.390
L58	LTE B13	QPSK10M	23230	1	24	Right Tilted	0	24.00	23.25	-0.03	0.155	0.125	0.184
L59	LTE B13	QPSK10M	23230	1	24	Left Cheek	0	24.00	23.25	-0.1	0.752	0.49	0.894
L60	LTE B13	QPSK10M	23230	1	24	Left Tilted	0	24.00	23.25	-0.01	0.249	0.192	0.296
L61	LTE B13	QPSK10M	23230	25	12	Right Cheek	0	23.00	22.25	0.16	0.275	0.203	0.327
L62	LTE B13	QPSK10M	23230	25	12	Right Tilted	0	23.00	22.25	-0.01	0.124	0.1	0.147
L63	LTE B13	QPSK10M	23230	25	12	Left Cheek	0	23.00	22.25	-0.02	0.595	0.389	0.707
L64	LTE B13	QPSK10M	23230	25	12	Left Tilted	0	23.00	22.25	0.03	0.197	0.15	0.234
L65	LTE B13	QPSK10M	23230	50	0	Left Cheek	0	23.00	21.95	-0.04	0.554	0.342	0.706
L66	LTE B13	QPSK10M	23230	1	24	Left Cheek(Repeated)	0	24.00	23.25	-0.07	0.736	0.481	0.875
L67	LTE B14	QPSK10M	23330	1	24	Right Cheek	0	24.00	23.24	0.04	0.325	0.227	0.387
L68	LTE B14	QPSK10M	23330	1	24	Right Tilted	0	24.00	23.24	0.07	0.171	0.129	0.204
L69	LTE B14	QPSK10M	23330	1	24	Left Cheek	0	24.00	23.24	-0.03	0.785	0.511	0.935
L70	LTE B14	QPSK10M	23330	1	24	Left Tilted	0	24.00	23.24	-0.02	0.247	0.181	0.294
L71	LTE B14	QPSK10M	23330	25	12	Right Cheek	0	23.00	22.23	-0.11	0.228	0.21	0.272
L72	LTE B14	QPSK10M	23330	25	12	Right Tilted	0	23.00	22.23	0.02	0.142	0.107	0.170
L73	LTE B14	QPSK10M	23330	25	12	Left Cheek	0	23.00	22.23	0.09	0.508	0.322	0.607
L74	LTE B14	QPSK10M	23330	25	12	Left Tilted	0	23.00	22.23	0.01	0.197	0.145	0.235
L75	LTE B14	QPSK10M	23330	50	0	Left Cheek	0	23.00	22.00	0.05	0.553	0.342	0.696
L76	LTE B14	QPSK10M	23330	1	24	Left Cheek(Repeated)	0	24.00	23.24	-0.03	0.776	0.502	0.924
L77	LTE B17	QPSK10M	23790	1	49	Right Cheek	0	24.00	23.50	0.03	0.238	0.169	0.267
L78	LTE B17	QPSK10M	23790	1	49	Right Tilted	0	24.00	23.50	0	0.0948	0.0746	0.106
L79	LTE B17	QPSK10M	23790	1	49	Left Cheek	0	24.00	23.50	-0.06	0.656	0.411	0.736
L80	LTE B17	QPSK10M	23790	1	49	Left Tilted	0	24.00	23.50	0.01	0.137	0.105	0.154
L81	LTE B17	QPSK10M	23780	25	12	Right Cheek	0	23.00	22.53	0.03	0.224	0.158	0.250
L82	LTE B17	QPSK10M	23780	25	12	Right Tilted	0	23.00	22.53	-0.01	0.0762	0.0588	0.085
L83	LTE B17	QPSK10M	23780	25	12	Left Cheek	0	23.00	22.53	0.07	0.503	0.318	0.560
L84	LTE B17	QPSK10M	23780	25	12	Left Tilted	0	23.00	22.53	0.01	0.107	0.0855	0.119
L85	LTE B17	QPSK10M	23780	1	49	Left Cheek	0	24.00	23.38	0.12	0.632	0.406	0.729
L86	LTE B17	QPSK10M	23800	1	49	Left Cheek	0	24.00	23.44	0.14	0.639	0.403	0.727

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L87	LTE B25	QPSK20M	26590	1	0	Right Cheek	1	22.00	21.04	-0.02	0.731	0.404	0.912
L88	LTE B25	QPSK20M	26590	1	0	Right Tilted	1	22.00	21.04	-0.17	0.108	0.064	0.135
L89	LTE B25	QPSK20M	26590	1	0	Left Cheek	1	22.00	21.04	0.07	0.341	0.207	0.425
L90	LTE B25	QPSK20M	26590	1	0	Left Tilted	1	22.00	21.04	0.06	0.163	0.088	0.203
L91	LTE B25	QPSK20M	26365	50	25	Right Cheek	1	22.00	20.94	-0.12	0.708	0.393	0.904
L92	LTE B25	QPSK20M	26365	50	25	Right Tilted	1	22.00	20.94	0.17	0.107	0.064	0.137
L93	LTE B25	QPSK20M	26365	50	25	Left Cheek	1	22.00	20.94	-0.08	0.34	0.206	0.434
L94	LTE B25	QPSK20M	26365	50	25	Left Tilted	1	22.00	20.94	0.09	0.161	0.087	0.206
L95	LTE B25	QPSK20M	26590	100	0	Right Cheek	1	22.00	20.76	-0.06	0.658	0.372	0.875
L96	LTE B25	QPSK20M	26140	1	0	Right Cheek	1	22.00	20.89	0.14	0.672	0.374	0.868
L97	LTE B25	QPSK20M	26365	1	0	Right Cheek	1	22.00	20.95	-0.03	0.61	0.340	0.777
L98	LTE B25	QPSK20M	26590	1	0	Right Cheek(Repeated)	1	22.00	21.04	0.05	0.722	0.401	0.901
L99	LTE B26	QPSK15M	26865	1	37	Right Cheek	0	24.00	23.39	-0.11	0.383	0.283	0.441
L100	LTE B26	QPSK15M	26865	1	37	Right Tilted	0	24.00	23.39	-0.05	0.204	0.158	0.235
L101	LTE B26	QPSK15M	26865	1	37	Left Cheek	0	24.00	23.39	0.05	0.805	0.521	0.926
L102	LTE B26	QPSK15M	26865	1	37	Left Tilted	0	24.00	23.39	-0.12	0.288	0.219	0.331
L103	LTE B26	QPSK15M	26865	36	0	Right Cheek	0	23.00	22.36	-0.03	0.284	0.209	0.329
L104	LTE B26	QPSK15M	26865	36	0	Right Tilted	0	23.00	22.36	0.15	0.155	0.114	0.180
L105	LTE B26	QPSK15M	26865	36	0	Left Cheek	0	23.00	22.36	-0.05	0.629	0.41	0.729
L106	LTE B26	QPSK15M	26865	36	0	Left Tilted	0	23.00	22.36	0.04	0.231	0.177	0.268
L107	LTE B26	QPSK15M	26865	75	0	Left Tilted	0	23.00	22.12	0.07	0.634	0.413	0.776
L108	LTE B26	QPSK15M	26765	1	37	Left Cheek	0	24.00	23.21	-0.17	0.74	0.477	0.888
L109	LTE B26	QPSK15M	26965	1	37	Left Cheek	0	24.00	23.25	-0.09	0.771	0.502	0.916
L110	LTE B26	QPSK15M	26865	1	37	Left Cheek(Repeated)	0	24.00	23.39	0.03	0.792	0.516	0.911
L111	LTE B30	QPSK10M	27710	1	24	Right Cheek	1	21.00	20.42	0.02	0.926	0.501	1.058
L112	LTE B30	QPSK10M	27710	1	24	Right Tilted	1	21.00	20.42	0.16	0.109	0.062	0.125
L113	LTE B30	QPSK10M	27710	1	24	Left Cheek	1	21.00	20.42	0.05	0.349	0.211	0.399
L114	LTE B30	QPSK10M	27710	1	24	Left Tilted	1	21.00	20.42	0	0.15	0.084	0.171
L115	LTE B30	QPSK10M	27710	25	25	Right Cheek	1	21.00	20.33	0.13	0.901	0.487	1.051
L116	LTE B30	QPSK10M	27710	25	25	Right Tilted	1	21.00	20.33	-0.18	0.111	0.064	0.130
L117	LTE B30	QPSK10M	27710	25	25	Left Cheek	1	21.00	20.33	0.15	0.345	0.211	0.403
L118	LTE B30	QPSK10M	27710	25	25	Left Tilted	1	21.00	20.33	-0.19	0.153	0.085	0.179
L119	LTE B30	QPSK10M	27710	50	0	Right Cheek	1	21.00	20.31	-0.12	0.903	0.489	1.058
L120	LTE B30	QPSK10M	27710	1	24	Right Cheek(Repeated)	1	21.00	20.42	0.07	0.914	0.492	1.045
L121	LTE B38	QPSK20M	38000	1	0	Right Cheek	1	24.00	23.19	0.01	0.533	0.278	0.642
L122	LTE B38	QPSK20M	38000	1	0	Right Tilted	1	24.00	23.19	0.15	0.076	0.041	0.092
L123	LTE B38	QPSK20M	38000	1	0	Left Cheek	1	24.00	23.19	0.17	0.199	0.116	0.240
L124	LTE B38	QPSK20M	38000	1	0	Left Tilted	1	24.00	23.19	-0.01	0.117	0.059	0.141
L125	LTE B38	QPSK20M	37850	50	25	Right Cheek	1	23.00	22.19	-0.08	0.433	0.224	0.522
L126	LTE B38	QPSK20M	37850	50	25	Right Tilted	1	23.00	22.19	-0.04	0.064	0.036	0.077
L127	LTE B38	QPSK20M	37850	50	25	Left Cheek	1	23.00	22.19	-0.03	0.163	0.095	0.196
L128	LTE B38	QPSK20M	37850	50	25	Left Tilted	1	23.00	22.19	-0.04	0.098	0.05	0.118
L129	LTE B38	QPSK20M	37850	1	0	Right Cheek	1	24.00	23.17	0.14	0.51	0.264	0.617
L130	LTE B38	QPSK20M	38150	1	0	Right Cheek	1	24.00	22.99	0.12	0.493	0.255	0.622

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L131	LTE B40	QPSK10M	38750	1	0	Right Cheek	1	23.00	22.42	-0.1	0.766	0.401	0.875
L132	LTE B40	QPSK10M	38750	1	0	Right Tilted	1	23.00	22.42	-0.03	0.094	0.054	0.107
L133	LTE B40	QPSK10M	38750	1	0	Left Cheek	1	23.00	22.42	0.14	0.312	0.183	0.357
L134	LTE B40	QPSK10M	38750	1	0	Left Tilted	1	23.00	22.42	-0.11	0.121	0.066	0.138
L135	LTE B40	QPSK10M	38750	25	12	Right Cheek	1	23.00	22.25	0.06	0.799	0.424	0.950
L136	LTE B40	QPSK10M	38750	25	12	Right Tilted	1	23.00	22.25	-0.12	0.095	0.055	0.113
L137	LTE B40	QPSK10M	38750	25	12	Left Cheek	1	23.00	22.25	-0.17	0.285	0.167	0.339
L138	LTE B40	QPSK10M	38750	25	12	Left Tilted	1	23.00	22.25	0.05	0.12	0.066	0.143
L139	LTE B40	QPSK10M	38750	50	0	Right Cheek	1	23.00	22.23	0.12	0.773	0.409	0.923
L140	LTE B40	QPSK10M	38750	25	12	Right Cheek	1	23.00	22.25	0.09	0.791	0.42	0.940
L141	LTE B40	QPSK10M	39200	1	0	Right Cheek	1	23.00	22.33	0.06	0.79	0.431	0.922
L142	LTE B40	QPSK10M	39200	1	0	Right Tilted	1	23.00	22.33	0.16	0.09	0.054	0.105
L143	LTE B40	QPSK10M	39200	1	0	Left Cheek	1	23.00	22.33	0.13	0.28	0.17	0.327
L144	LTE B40	QPSK10M	39200	1	0	Left Tilted	1	23.00	22.33	-0.17	0.124	0.069	0.145
L145	LTE B40	QPSK10M	39200	25	0	Right Cheek	1	23.00	22.24	0.03	0.794	0.418	0.946
L146	LTE B40	QPSK10M	39200	25	0	Right Tilted	1	23.00	22.24	0.1	0.096	0.059	0.114
L147	LTE B40	QPSK10M	39200	25	0	Left Cheek	1	23.00	22.24	-0.01	0.269	0.164	0.320
L148	LTE B40	QPSK10M	39200	25	0	Left Tilted	1	23.00	22.24	0.18	0.123	0.069	0.147
L149	LTE B40	QPSK10M	39200	50	0	Right Cheek	1	23.00	22.16	0.05	0.772	0.407	0.937
L150	LTE B40	QPSK10M	39200	25	0	Right Cheek(Repeated)	1	23.00	22.24	-0.04	0.781	0.413	0.930
L151	LTE B41	QPSK20M	40620	1	0	Right Cheek	1	26.00	25.57	-0.03	0.498	0.254	0.550
L152	LTE B41	QPSK20M	40620	1	0	Right Tilted	1	26.00	25.57	-0.01	0.075	0.039	0.083
L153	LTE B41	QPSK20M	40620	1	0	Left Cheek	1	26.00	25.57	-0.03	0.183	0.105	0.202
L154	LTE B41	QPSK20M	40620	1	0	Left Tilted	1	26.00	25.57	-0.14	0.102	0.052	0.113
L155	LTE B41	QPSK20M	40620	50	25	Right Cheek	1	26.00	25.08	0.18	0.437	0.236	0.540
L156	LTE B41	QPSK20M	40620	50	25	Right Tilted	1	26.00	25.08	-0.1	0.071	0.037	0.088
L157	LTE B41	QPSK20M	40620	50	25	Left Cheek	1	26.00	25.08	-0.13	0.172	0.101	0.213
L158	LTE B41	QPSK20M	40620	50	25	Left Tilted	1	26.00	25.08	0.08	0.093	0.051	0.115
L159	LTE B41	QPSK20M	39750	1	0	Right Cheek	1	26.00	25.27	0.08	0.339	0.178	0.401
L160	LTE B41	QPSK20M	41490	1	0	Right Cheek	1	26.00	25.34	-0.02	0.568	0.283	0.661
L161	LTE B42	QPSK20M	42990	1	50	Right Cheek	4	24.00	23.61	0.01	0.155	0.069	0.170
L162	LTE B42	QPSK20M	42990	1	50	Right Tilted	4	24.00	23.61	-0.08	0.037	0.015	0.040
L163	LTE B42	QPSK20M	42990	1	50	Left Cheek	4	24.00	23.61	0.08	0.083	0.04	0.091
L164	LTE B42	QPSK20M	42990	1	50	Left Tilted	4	24.00	23.61	-0.14	0.016	0.007	0.018
L165	LTE B42	QPSK20M	42190	50	25	Right Cheek	4	23.00	22.45	0.01	0.12	0.055	0.136
L166	LTE B42	QPSK20M	42190	50	25	Right Tilted	4	23.00	22.45	-0.1	0.023	0.011	0.026
L167	LTE B42	QPSK20M	42190	50	25	Left Cheek	4	23.00	22.45	-0.19	0.067	0.028	0.076
L168	LTE B42	QPSK20M	42190	50	25	Left Tilted	4	23.00	22.45	-0.05	0.008	0.003	0.009
L169	LTE B42	QPSK20M	42190	1	50	Right Cheek	4	24.00	23.50	-0.08	0.149	0.068	0.167
L170	LTE B42	QPSK20M	42590	1	50	Right Cheek	4	24.00	23.22	-0.12	0.139	0.066	0.166

Test No.	Band	Mode	Channel	RB	offset	Test Position	Ant	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L171	LTE B48	QPSK20M	55340	1	50	Right Cheek	4	24.00	23.15	-0.09	0.108	0.046	0.131
L172	LTE B48	QPSK20M	55340	1	50	Right Tilted	4	24.00	23.15	0.16	0.008	0.004	0.010
L173	LTE B48	QPSK20M	55340	1	50	Left Cheek	4	24.00	23.15	0.05	0.053	0.023	0.064
L174	LTE B48	QPSK20M	55340	1	50	Left Tilted	4	24.00	23.15	-0.08	0.017	0.008	0.021
L175	LTE B48	QPSK20M	55340	50	25	Right Cheek	4	23.00	22.03	0.11	0.106	0.041	0.133
L176	LTE B48	QPSK20M	55340	50	25	Right Tilted	4	23.00	22.03	0.1	0.007	0.003	0.009
L177	LTE B48	QPSK20M	55340	50	25	Left Cheek	4	23.00	22.03	0.19	0.039	0.018	0.049
L178	LTE B48	QPSK20M	55340	50	25	Left Tilted	4	23.00	22.03	-0.03	0.014	0.007	0.018
L179	LTE B48	QPSK20M	55990	1	50	Right Cheek	4	24.00	23.03	0.01	0.116	0.045	0.145
L180	LTE B48	QPSK20M	56640	1	50	Right Cheek	4	24.00	22.86	0.13	0.091	0.036	0.118
L181	LTE B66	QPSK20M	132072	1	0	Right Cheek	1	22.00	21.54	-0.07	0.419	0.244	0.466
L182	LTE B66	QPSK20M	132072	1	0	Right Tilted	1	22.00	21.54	-0.09	0.071	0.045	0.079
L183	LTE B66	QPSK20M	132072	1	0	Left Cheek	1	22.00	21.54	-0.13	0.211	0.147	0.235
L184	LTE B66	QPSK20M	132072	1	0	Left Tilted	1	22.00	21.54	-0.16	0.095	0.059	0.106
L185	LTE B66	QPSK20M	132072	50	25	Right Cheek	1	22.00	21.25	0.14	0.442	0.258	0.525
L186	LTE B66	QPSK20M	132072	50	25	Right Tilted	1	22.00	21.25	0.05	0.077	0.048	0.092
L187	LTE B66	QPSK20M	132072	50	25	Left Cheek	1	22.00	21.25	-0.04	0.234	0.154	0.278
L188	LTE B66	QPSK20M	132072	50	25	Left Tilted	1	22.00	21.25	0.06	0.105	0.064	0.125
L189	LTE B66	QPSK20M	132322	50	25	Right Cheek	1	22.00	21.09	-0.15	0.443	0.259	0.546
L190	LTE B66	QPSK20M	132572	50	25	Right Cheek	1	22.00	20.91	0.04	0.463	0.27	0.595
L191	LTE B71	QPSK20M	133222	1	0	Right Cheek	0	24.00	23.37	0.01	0.166	0.114	0.192
L192	LTE B71	QPSK20M	133222	1	0	Right Tilted	0	24.00	23.37	0	0.006	0.003	0.007
L193	LTE B71	QPSK20M	133222	1	0	Left Cheek	0	24.00	23.37	-0.04	0.461	0.287	0.533
L194	LTE B71	QPSK20M	133222	1	0	Left Tilted	0	24.00	23.37	0	0.079	0.058	0.092
L195	LTE B71	QPSK20M	133222	50	25	Right Cheek	0	23.00	22.29	0.03	0.126	0.086	0.148
L196	LTE B71	QPSK20M	133222	50	25	Right Tilted	0	23.00	22.29	0	0.003	0.001	0.004
L197	LTE B71	QPSK20M	133222	50	25	Left Cheek	0	23.00	22.29	0.08	0.383	0.241	0.451
L198	LTE B71	QPSK20M	133222	50	25	Left Tilted	0	23.00	22.29	0.02	0.063	0.048	0.075
L199	LTE B71	QPSK20M	133322	1	0	Left Cheek	0	24.00	23.09	-0.07	0.476	0.293	0.587
L200	LTE B71	QPSK20M	133372	1	0	Left Cheek	0	24.00	23.08	-0.09	0.504	0.313	0.623

Note: The value with boldface is the maximum SAR Value of each test band.

4. Head SAR test results of 5G NR

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Ant	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N01	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Right Cheek	1	15K	100	21.00	20.89	0.06	0.958	0.569	0.983
N02	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Right Tilted	1	15K	100	21.00	20.89	-0.15	0.194	0.121	0.199
N03	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Left Cheek	1	15K	100	21.00	20.89	0.18	0.51	0.33	0.523
N04	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Left Tilted	1	15K	100	21.00	20.89	0.03	0.253	0.15	0.259
N05	5G n2	DFT-s-OFDM QPSK	20M	376000	1880	1	1	Right Cheek	1	15K	100	21.00	20.78	0.09	1.01	0.596	1.062
N06	5G n2	DFT-s-OFDM QPSK	20M	380000	1900	1	1	Right Cheek	1	15K	100	21.00	20.62	0.1	1.03	0.607	1.124
N07	5G n2	DFT-s-OFDM QPSK	20M	380000	1900	1	1	Right Cheek (Repeated)	1	15K	100	21.00	20.62	0.08	0.994	0.602	1.085
N08	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Right Cheek	0	15K	100	24.00	23.48	-0.07	0.4	0.29	0.451
N09	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Right Tilted	0	15K	100	24.00	23.48	0.19	0.214	0.16	0.241
N10	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Left Cheek	0	15K	100	24.00	23.48	-0.05	0.814	0.534	0.918
N11	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Left Tilted	0	15K	100	24.00	23.48	0.01	0.307	0.226	0.346
N12	5G n5	DFT-s-OFDM QPSK	20M	166800	834	1	1	Left Cheek	0	15K	100	24.00	23.40	0.07	0.834	0.538	0.958
N13	5G n5	DFT-s-OFDM QPSK	20M	167800	839	1	1	Left Cheek	0	15K	100	24.00	23.32	-0.01	0.849	0.544	0.993
N14	5G n5	DFT-s-OFDM QPSK	20M	167800	839	1	1	Left Cheek (Repeated)	0	15K	100	24.00	23.48	0.03	0.827	0.534	0.932
N15	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Right Cheek	1	15K	100	22.50	22.46	-0.05	0.441	0.225	0.445
N16	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Right Tilted	1	15K	100	22.50	22.46	-0.06	0.05	0.025	0.050
N17	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Left Cheek	1	15K	100	22.50	22.46	-0.17	0.112	0.064	0.113
N18	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Left Tilted	1	15K	100	22.50	22.46	-0.06	0.08	0.036	0.081
N19	5G n7	DFT-s-OFDM QPSK	20M	502000	2510	1	104	Right Cheek	1	15K	100	22.50	22.34	-0.02	0.327	0.17	0.339
N20	5G n7	DFT-s-OFDM QPSK	20M	507000	2535	1	104	Right Cheek	1	15K	100	22.50	22.42	-0.09	0.394	0.203	0.401
N21	5G n12	DFT-s-OFDM QPSK	15M	141500	707.5	1	1	Right Cheek	0	15K	100	24.00	23.24	-0.03	0.191	0.134	0.228
N22	5G n12	DFT-s-OFDM QPSK	15M	141500	707.5	1	1	Right Tilted	0	15K	100	24.00	23.24	-0.13	0.05	0.038	0.060
N23	5G n12	DFT-s-OFDM QPSK	15M	141500	707.5	1	1	Left Cheek	0	15K	100	24.00	23.24	-0.16	0.496	0.32	0.591
N24	5G n12	DFT-s-OFDM QPSK	15M	141500	707.5	1	1	Left Tilted	0	15K	100	24.00	23.24	-0.1	0.111	0.086	0.132
N25	5G n12	DFT-s-OFDM QPSK	15M	141300	706.5	1	1	Left Cheek	0	15K	100	24.00	23.17	0.02	0.495	0.317	0.599
N26	5G n12	DFT-s-OFDM QPSK	15M	141700	708.5	1	1	Left Cheek	0	15K	100	24.00	23.15	-0.07	0.51	0.33	0.620
N27	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Right Cheek	0	15K	100	24.00	23.28	0.07	0.339	0.246	0.400
N28	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Right Tilted	0	15K	100	24.00	23.28	0.04	0.155	0.122	0.183
N29	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Left Cheek	0	15K	100	24.00	23.28	-0.04	0.731	0.477	0.863
N30	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Left Tilted	0	15K	100	24.00	23.28	0.07	0.242	0.183	0.286
N31	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Left Cheek (Repeated)	0	15K	100	24.00	23.28	0	0.718	0.461	0.847

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Ant	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N32	NR n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Right Cheek	1	15K	100	21.00	20.82	-0.01	0.958	0.56	0.999
N33	NR n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Right Tilted	1	15K	100	21.00	20.82	0.04	0.159	0.096	0.166
N34	NR n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Left Cheek	1	15K	100	21.00	20.82	0.13	0.496	0.322	0.517
N35	NR n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Left Tilted	1	15K	100	21.00	20.82	-0.07	0.215	0.129	0.224
N36	NR n25	DFT-s-OFDM QPSK	30M	373000	1865	1	1	Right Cheek	1	15K	100	21.00	20.64	0.06	0.914	0.532	0.993
N37	NR n25	DFT-s-OFDM QPSK	30M	376500	1882.5	1	1	Right Cheek	1	15K	100	21.00	20.74	0.12	0.9	0.525	0.956
N38	NR n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Right Cheek (Repeated)	1	15K	100	21.00	20.82	0.02	0.937	0.547	0.977
N39	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Right Cheek	0	15K	100	24.00	23.30	-0.09	0.355	0.256	0.417
N40	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Right Tilted	0	15K	100	24.00	23.30	0.01	0.179	0.136	0.210
N41	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Left Cheek	0	15K	100	24.00	23.30	-0.15	0.778	0.491	0.914
N42	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Left Tilted	0	15K	100	24.00	23.30	0.1	0.277	0.207	0.325
N43	5G n26	DFT-s-OFDM QPSK	20M	166300	831.5	50	25	Left Cheek	0	15K	100	24.00	22.91	-0.1	0.789	0.501	1.014
N44	5G n26	DFT-s-OFDM QPSK	20M	167800	839	50	25	Left Cheek	0	15K	100	24.00	22.75	-0.05	0.821	0.522	1.095
N45	5G n26	DFT-s-OFDM QPSK	20M	167800	839	50	25	Left Cheek (Repeated)	0	15K	100	24.00	22.75	0.01	0.804	0.513	1.072
N46	NR n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Right Cheek	1	15K	100	21.00	20.13	0.02	0.829	0.444	1.013
N47	NR n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Right Tilted	1	15K	100	21.00	20.13	0.17	0.108	0.065	0.132
N48	NR n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Left Cheek	1	15K	100	21.00	20.13	-0.06	0.336	0.203	0.411
N49	NR n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Left Tilted	1	15K	100	21.00	20.13	0.03	0.153	0.088	0.187
N50	NR n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Right Cheek (Repeated)	1	15K	100	21.00	20.13	0.07	0.801	0.424	0.979
N51	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Right Cheek	1	30K	100	22.50	22.46	0.1	0.608	0.304	0.614
N52	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Right Tilted	1	30K	100	22.50	22.46	-0.05	0.103	0.05	0.104
N53	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Left Cheek	1	30K	100	22.50	22.46	0.06	0.257	0.142	0.259
N54	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Left Tilted	1	30K	100	22.50	22.46	0.12	0.171	0.075	0.173
N55	5G n38	DFT-s-OFDM QPSK	40M	518000	2590	1	1	Right Cheek	1	30K	100	22.50	22.39	-0.07	0.593	0.299	0.608
N56	5G n38	DFT-s-OFDM QPSK	40M	519000	2595	1	1	Right Cheek	1	30K	100	22.50	22.42	-0.02	0.614	0.311	0.625
N57	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	271	Right Cheek	1	30K	100	23.00	22.56	-0.04	0.599	0.296	0.663
N58	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	271	Right Tilted	1	30K	100	23.00	22.56	0.12	0.078	0.037	0.086
N59	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	271	Left Cheek	1	30K	100	23.00	22.56	-0.07	0.221	0.122	0.245
N60	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	271	Left Tilted	1	30K	100	23.00	22.56	0.03	0.104	0.051	0.115
N61	5G n41	DFT-s-OFDM QPSK	100M	509202	2546.01	1	271	Right Cheek	1	30K	100	23.00	22.38	-0.11	0.565	0.286	0.652
N62	5G n41	DFT-s-OFDM QPSK	100M	528000	2640	1	271	Right Cheek	1	30K	100	23.00	22.22	0.1	0.545	0.264	0.652

Test No.	Band	Mode	BW	Channel	Frequ ency (MHz)	RB	offset	Test Position	Ant	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N63	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Right Cheek	4	30K	100	24.00	22.77	0.08	0.403	0.165	0.535
N64	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Right Tilted	4	30K	100	24.00	22.77	-0.13	0.088	0.037	0.117
N65	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Left Cheek	4	30K	100	24.00	22.77	0.01	0.298	0.13	0.396
N66	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Left Tilted	4	30K	100	24.00	22.77	0.05	0.079	0.025	0.105
N67	5G n48	DFT-s-OFDM QPSK	40M	641666	3624.99	1	1	Right Cheek	4	30K	100	24.00	22.72	0	0.476	0.194	0.639
N68	5G n48	DFT-s-OFDM QPSK	40M	645332	3679.98	1	1	Right Cheek	4	30K	100	24.00	22.48	-0.02	0.424	0.171	0.602
N69	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Right Cheek	1	15K	100	24.00	22.93	0.15	0.608	0.359	0.778
N70	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Right Tilted	1	15K	100	24.00	22.93	-0.02	0.111	0.074	0.142
N71	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Left Cheek	1	15K	100	24.00	22.93	0.05	0.334	0.216	0.427
N72	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Left Tilted	1	15K	100	24.00	22.93	0.06	0.16	0.097	0.205
N73	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	158	Right Cheek	1	15K	100	24.00	22.81	-0.17	0.589	0.35	0.775
N74	5G n66	DFT-s-OFDM QPSK	30M	353000	1765	1	158	Right Cheek	1	15K	100	24.00	22.58	-0.03	0.623	0.365	0.864
N75	5G n66	DFT-s-OFDM QPSK	30M	353000	1765	1	158	Right Cheek (Repeated)	1	15K	100	24.00	22.58	0.07	0.608	0.358	0.843
N77	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Right Cheek	1	15K	100	24.00	23.01	-0.08	0.743	0.434	0.933
N78	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Right Tilted	1	15K	100	24.00	23.01	0.18	0.115	0.077	0.144
N79	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Left Cheek	1	15K	100	24.00	23.01	0.07	0.4	0.254	0.502
N80	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Left Tilted	1	15K	100	24.00	23.01	0.11	0.163	0.095	0.205
N81	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Right Cheek (Repeated)	1	15K	100	24.00	23.01	0.04	0.722	0.427	0.907
N82	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Right Cheek	0	15K	100	24.00	23.01	0.11	0.105	0.076	0.132
N83	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Right Tilted	0	15K	100	24.00	23.01	0.08	0.024	0.007	0.030
N84	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Left Cheek	0	15K	100	24.00	23.01	0.1	0.273	0.18	0.343
N85	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Left Tilted	0	15K	100	24.00	23.01	0.02	0.049	0.038	0.062
N86	5G n71	DFT-s-OFDM QPSK	20M	136100	680.5	1	1	Left Cheek	0	15K	100	24.00	22.72	-0.07	0.351	0.233	0.471
N87	5G n71	DFT-s-OFDM QPSK	20M	137600	688	1	1	Left Cheek	0	15K	100	24.00	22.85	-0.04	0.368	0.245	0.480
N88	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Cheek	4	30K	100	27.00	25.50	0	0.372	0.153	0.525
N89	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Tilted	4	30K	100	27.00	25.50	0.17	0.086	0.032	0.121
N90	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Left Cheek	4	30K	100	27.00	25.50	0.08	0.178	0.065	0.251
N91	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Left Tilted	4	30K	100	27.00	25.50	0.09	0.041	0.016	0.058

Test No.	Band	Mode	BW	Channel	Frequ ency (MHz)	RB	offset	Test Position	Ant	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N92	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Right Cheek	4	30K	100	27.00	25.72	-0.02	0.163	0.061	0.219
N93	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Right Tilted	4	30K	100	27.00	25.72	0.07	0.042	0.017	0.056
N94	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Left Cheek	4	30K	100	27.00	25.72	0.18	0.063	0.023	0.085
N95	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Left Tilted	4	30K	100	27.00	25.72	0.09	0.031	0.012	0.042
N96	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Right Cheek	4	30K	100	27.00	25.68	0.03	0.15	0.057	0.203
N97	5G n77	DFT-s-OFDM QPSK	100M	656000	3840	135	67	Right Cheek	4	30K	100	27.00	25.53	0	0.252	0.097	0.354
N98	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Cheek	4	30K	100	27.00	25.71	0	0.418	0.168	0.563
N99	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Tilted	4	30K	100	27.00	25.71	0.16	0.068	0.031	0.092
N100	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Left Cheek	4	30K	100	27.00	25.71	0.1	0.254	0.107	0.342
N101	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Left Tilted	4	30K	100	27.00	25.71	0.07	0.031	0.014	0.042
N102	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Right Cheek	4	30K	100	27.00	25.61	-0.07	0.358	0.136	0.493
N103	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Right Tilted	4	30K	100	27.00	25.61	0.08	0.062	0.024	0.085
N104	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Left Cheek	4	30K	100	27.00	25.61	0.09	0.228	0.089	0.314
N105	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Left Tilted	4	30K	100	27.00	25.61	0.13	0.028	0.014	0.039

Note: The value with boldface is the maximum SAR Value of each test band.

5. Head SAR test results of EN-DC

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	SCS (kHz)							
E01	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Right Cheek	0+1	1.320	0.733	1.437
E02	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Right Tilted	0+1	0.175	0.105	0.191
E03	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Left Cheek	0+1	0.518	0.318	0.564
E04	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Left Tilted	0+1	0.211	0.123	0.230
E05	B2	20	QPSK	18700	1/50	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.57	Right Cheek	0+1	1.156	0.651	1.279
E06	B2	20	QPSK	18900	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.56	Right Cheek	0+1	1.189	0.662	1.319
E07	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Right Cheek (Repeated)	0+1	1.250	0.729	1.361
E09	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Right Cheek	0+1	0.175	0.090	0.189
E10	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Right Tilted	0+1	0.048	0.027	0.052
E11	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Left Cheek	0+1	0.335	0.155	0.362
E12	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Left Tilted	0+1	0.047	0.026	0.051
E13	B2	20	QPSK	18700	1/50	N41	100	DFT-s-OFDM QPSK	509202	135/67	30	24.01	23.6	Left Cheek	0+1	0.307	0.139	0.337
E14	B2	20	QPSK	19100	1/50	N41	100	DFT-s-OFDM QPSK	528000	1/271	30	24.01	23.63	Left Cheek	0+1	0.246	0.127	0.268
E16	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Right Cheek	0+1	0.985	0.578	1.051
E17	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Right Tilted	0+1	0.190	0.121	0.203
E18	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Left Cheek	0+1	0.533	0.343	0.568
E19	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Left Tilted	0+1	0.233	0.146	0.249
E20	B2	20	QPSK	18900	1/50	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.5	Right Cheek	0+1	0.807	0.471	0.908
E21	B2	20	QPSK	19100	1/50	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.66	Right Cheek	0+1	0.924	0.562	1.002
E22	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Right Cheek (Repeated)	0+1	0.967	0.569	1.031
E24	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Right Cheek	0+4	0.243	0.111	0.263
E25	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Right Tilted	0+4	0.093	0.047	0.101
E26	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Left Cheek	0+4	0.326	0.152	0.353
E27	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Left Tilted	0+4	0.091	0.031	0.099
E28	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.65	Left Cheek	0+4	0.480	0.219	0.521
E29	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.58	Left Cheek	0+4	0.563	0.254	0.622

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	SCS (kHz)							
E31	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Right Cheek	0+4	0.182	0.084	0.197
E32	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Right Tilted	0+4	0.102	0.047	0.110
E33	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Left Cheek	0+4	0.518	0.224	0.560
E34	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Left Tilted	0+4	0.089	0.038	0.096
E35	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.65	Left Cheek	0+4	0.470	0.203	0.511
E36	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.53	Left Cheek	0+4	0.423	0.189	0.472
E38	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Right Cheek	0+1	0.708	0.442	0.766
E39	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Right Tilted	0+1	0.130	0.087	0.141
E40	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Left Cheek	0+1	0.339	0.236	0.367
E41	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Left Tilted	0+1	0.151	0.100	0.163
E42	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.52	Right Cheek	0+1	0.655	0.424	0.733
E43	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.55	Right Cheek	0+1	0.792	0.502	0.880
E44	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.55	Right Cheek (Repeated)	0+1	0.771	0.487	0.857
E46	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Right Cheek	0+1	1.180	0.734	1.291
E47	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Right Tilted	0+1	0.240	0.170	0.263
E48	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Left Cheek	0+1	0.707	0.516	0.773
E49	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Left Tilted	0+1	0.235	0.159	0.257
E50	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.56	Right Cheek	0+1	1.190	0.739	1.320
E51	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.51	Right Cheek	0+1	1.069	0.678	1.199
E52	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.56	Right Cheek (Repeated)	0+1	1.030	0.731	1.142
E54	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Right Cheek	0+1	1.180	0.678	1.253
E55	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Right Tilted	0+1	0.182	0.113	0.193
E56	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Left Cheek	0+1	0.610	0.391	0.648
E57	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Left Tilted	0+1	0.296	0.173	0.314
E58	B66	20	QPSK	132322	1/0	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.58	Right Cheek	0+1	1.100	0.649	1.214
E59	B66	20	QPSK	132572	1/0	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.66	Right Cheek	0+1	1.120	0.648	1.214
E60	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Right Cheek (Repeated)	0+1	1.030	0.669	1.094

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	SCS (kHz)							
E62	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Right Cheek	0+1	1.320	0.762	1.427
E63	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Right Tilted	0+1	0.169	0.105	0.183
E64	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Left Cheek	0+1	0.508	0.335	0.549
E65	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Left Tilted	0+1	0.215	0.133	0.233
E66	B66	20	QPSK	132322	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.51	Right Cheek	0+1	1.160	0.738	1.302
E67	B66	20	QPSK	132572	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.58	Right Cheek	0+1	1.240	0.746	1.369
E68	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Right Cheek (Repeated)	0+1	1.240	0.748	1.341
E70	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Right Cheek	0+4	0.138	0.067	0.152
E71	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Right Tilted	0+4	0.047	0.024	0.052
E72	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Left Cheek	0+4	0.380	0.168	0.420
E73	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Left Tilted	0+4	0.041	0.021	0.045
E74	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.50	Left Cheek	0+4	0.362	0.155	0.407
E75	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.47	Left Cheek	0+4	0.364	0.158	0.412
E77	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Right Cheek	0+4	0.174	0.103	0.189
E78	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Right Tilted	0+4	0.057	0.035	0.062
E79	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Left Cheek	0+4	0.460	0.245	0.501
E80	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Left Tilted	0+4	0.054	0.033	0.059
E81	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.62	Left Cheek	0+4	0.477	0.262	0.522
E82	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.48	Left Cheek	0+4	0.500	0.272	0.565

Note: The value with boldface is the maximum SAR Value of each test band.

6. Head SAR test results of WiFi 2.4G

Test No.	Band	Channel	Test Position	Ant	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W01	802.11b	6	Right Cheek	3	1	98.55	12	11.71	0.07	0.16	0.069	0.174
W02	802.11b	6	Right Tilted	3	1	98.55	12	11.71	-0.02	0.062	0.027	0.067
W03	802.11b	6	Left Cheek	3	1	98.55	12	11.71	0.08	0.098	0.049	0.106
W04	802.11b	6	Left Tilted	3	1	98.55	12	11.71	-0.02	0.041	0.016	0.044
W05	802.11b	1	Right Cheek	3	1	98.55	12	11.67	0.07	0.155	0.072	0.170
W06	802.11b	11	Right Cheek	3	1	98.55	12	11.61	0.09	0.148	0.066	0.164

Note: The value with boldface is the maximum SAR Value of each test band.

7. Head SAR test results of BT

Test No.	Band	Channel	Test Position	Ant	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
B01	BT DH5	39	Right Cheek	3	1	76.51	10	8.81	0.18	0.058	0.023	0.100
B02	BT DH5	39	Right Tilted	3	1	76.51	10	8.81	-0.01	<0.001	<0.001	<0.001
B03	BT DH5	39	Left Cheek	3	1	76.51	10	8.81	-0.09	0.017	0.008	0.029
B04	BT DH5	39	Left Tilted	3	1	76.51	10	8.81	-0.08	<0.001	<0.001	<0.001
B05	BT DH5	0	Right Cheek	3	1	76.51	10	8.44	-0.05	0.055	0.02	0.103
B06	BT DH5	78	Right Cheek	3	1	76.51	10	8.69	-0.03	0.060	0.022	0.106

Note: The value with boldface is the maximum SAR Value of each test band.

8. Head SAR test results of WiFi 5G

Test No.	Band	Channel	Test Position	Ant	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W07	802.11a	48	Right Cheek	3	6	97.82	10.5	10.42	-0.01	0.212	0.056	0.221
W08	802.11a	48	Right Tilted	3	6	97.82	10.5	10.42	-0.02	0.033	0.008	0.035
W09	802.11a	48	Left Cheek	3	6	97.82	10.5	10.42	0.04	0.108	0.031	0.112
W10	802.11a	48	Left Tilted	3	6	97.82	10.5	10.42	0.07	0.021	0.005	0.022
W11	802.11a	40	Right Cheek	3	6	97.82	10.5	10.41	-0.01	0.223	0.054	0.233
W12	802.11a	44	Right Cheek	3	6	97.82	10.5	10.38	0.13	0.209	0.056	0.220
W13	802.11a	64	Right Cheek	3	6	97.82	10.5	10.38	-0.16	0.283	0.074	0.297
W14	802.11a	64	Right Tilted	3	6	97.82	10.5	10.38	0.14	0.046	0.011	0.048
W15	802.11a	64	Left Cheek	3	6	97.82	10.5	10.38	0.12	0.165	0.044	0.173
W16	802.11a	64	Left Tilted	3	6	97.82	10.5	10.38	-0.03	0.047	0.01	0.049
W17	802.11a	56	Right Cheek	3	6	97.82	10.5	10.27	0.14	0.309	0.082	0.333
W18	802.11a	60	Right Cheek	3	6	97.82	10.5	10.33	0.04	0.342	0.087	0.364
W19	802.11a	132	Right Cheek	3	6	97.82	10.5	10.43	-0.11	0.159	0.043	0.165
W20	802.11a	132	Right Tilted	3	6	97.82	10.5	10.43	-0.11	0.047	0.009	0.049
W21	802.11a	132	Left Cheek	3	6	97.82	10.5	10.43	-0.12	0.139	0.026	0.144
W22	802.11a	132	Left Tilted	3	6	97.82	10.5	10.43	-0.07	0.069	0.021	0.072
W23	802.11a	116	Right Cheek	3	6	97.82	10.5	10.37	0.08	0.164	0.042	0.173
W24	802.11a	136	Right Cheek	3	6	97.82	10.5	10.41	-0.18	0.156	0.040	0.163
W25	802.11a	165	Right Cheek	3	6	97.82	10.5	10.29	0.08	0.139	0.035	0.149
W26	802.11a	165	Right Tilted	3	6	97.82	10.5	10.29	-0.09	0.042	<0.001	0.045
W27	802.11a	165	Left Cheek	3	6	97.82	10.5	10.29	0.18	0.084	0.002	0.090
W28	802.11a	165	Left Tilted	3	6	97.82	10.5	10.29	0	0.018	0.004	0.020
W29	802.11a	149	Right Cheek	3	6	97.82	10.5	10.27	-0.05	0.068	0.001	0.073
W30	802.11a	153	Right Cheek	3	6	97.82	10.5	10.21	-0.04	0.067	0.001	0.073

Note: The value with boldface is the maximum SAR Value of each test band.

7.2.2 SAR MEASUREMENT RESULT OF BODY-WORN

1. Body-worn SAR test results of GSM

Test No.	Band	Mode	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
G15	GSM 850	GSM	190	Front Face	15	0	Sensor off	34.00	33.48	0.07	0.823	0.581	0.928
G16	GSM 850	GSM	190	Rear Face	15	0	Sensor off	34.00	33.48	-0.02	0.865	0.613	0.975
G17	GSM 850	GSM	128	Rear Face	15	0	Sensor off	34.00	33.04	-0.03	0.629	0.443	0.785
G18	GSM 850	GSM	251	Rear Face	15	0	Sensor off	34.00	32.97	0.11	0.763	0.577	0.967
G19	GSM 850	GSM	190	Rear Face (Repeated)	15	0	Sensor off	34.00	33.48	-0.02	0.843	0.601	0.950
G27	GSM 1900	GSM	661	Front Face	15	1	Sensor off	31.00	30.10	-0.16	0.241	0.154	0.296
G28	GSM 1900	GSM	661	Rear Face	15	1	Sensor off	31.00	30.10	-0.08	0.257	0.163	0.316
G29	GSM 1900	GSM	512	Rear Face	15	1	Sensor off	31.00	29.86	0.08	0.334	0.206	0.434
G30	GSM 1900	GSM	810	Rear Face	15	1	Sensor off	31.00	29.97	-0.07	0.277	0.179	0.351

Note: The value with boldface is the maximum SAR Value of each test band.

2. Body-worn SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
U22	UMTS B2	RMC12.2K	9400	Front Face	15	1	Sensor off	25.00	23.40	-0.02	0.629	0.377	0.909
U23	UMTS B2	RMC12.2K	9400	Rear Face	15	1	Sensor off	25.00	23.40	0.03	0.622	0.381	0.899
U24	UMTS B2	RMC12.2K	9262	Front Face	15	1	Sensor off	25.00	23.39	-0.12	0.617	0.378	0.894
U25	UMTS B2	RMC12.2K	9538	Front Face	15	1	Sensor off	25.00	23.30	-0.13	0.556	0.341	0.822
U26	UMTS B2	RMC12.2K	9400	Front Face (Repeated)	15	1	Sensor off	25.00	23.40	0.08	0.622	0.374	0.899
U35	UMTS B4	RMC12.2K	1413	Front Face	15	1	Sensor off	25.00	23.44	0.14	0.57	0.373	0.816
U36	UMTS B4	RMC12.2K	1413	Rear Face	15	1	Sensor off	25.00	23.44	-0.14	0.608	0.381	0.871
U37	UMTS B4	RMC12.2K	1312	Rear Face	15	1	Sensor off	25.00	23.41	-0.16	0.538	0.338	0.776
U38	UMTS B4	RMC12.2K	1513	Rear Face	15	1	Sensor off	25.00	23.34	0.09	0.651	0.406	0.954
U39	UMTS B4	RMC12.2K	1513	Rear Face (Repeated)	15	1	Sensor off	25.00	23.34	0.13	0.642	0.401	0.941
U48	UMTS B5	RMC12.2K	4132	Front Face	15	0	Sensor off	25.00	23.84	0.03	0.552	0.387	0.721
U49	UMTS B5	RMC12.2K	4132	Rear Face	15	0	Sensor off	25.00	23.84	0.11	0.591	0.416	0.772
U50	UMTS B5	RMC12.2K	4182	Rear Face	15	0	Sensor off	25.00	23.76	-0.07	0.603	0.428	0.802
U51	UMTS B5	RMC12.2K	4233	Rear Face	15	0	Sensor off	25.00	23.61	-0.06	0.576	0.412	0.793
U52	UMTS B5	RMC12.2K	4182	Rear Face (Repeated)	15	0	Sensor off	25.00	23.76	0.02	0.588	0.421	0.782

Note: The value with boldface is the maximum SAR Value of each test band.

3. Body-worn SAR test results of LTE

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L201	LTE B2	QPSK20M	18700	1	0	Front Face	15	1	Sensor off	24.00	22.85	-0.06	0.532	0.327	0.693
L202	LTE B2	QPSK20M	18700	1	0	Rear Face	15	1	Sensor off	24.00	22.85	-0.06	0.589	0.364	0.768
L203	LTE B2	QPSK20M	19100	50	25	Front Face	15	1	Sensor off	23.00	21.95	0.06	0.483	0.296	0.615
L204	LTE B2	QPSK20M	19100	50	25	Rear Face	15	1	Sensor off	23.00	21.95	0.16	0.513	0.308	0.653
L205	LTE B2	QPSK20M	18900	100	0	Rear Face	15	1	Sensor off	23.00	21.82	-0.07	0.498	0.301	0.653
L206	LTE B2	QPSK20M	18900	1	0	Rear Face	15	1	Sensor off	24.00	22.79	-0.15	0.596	0.360	0.787
L207	LTE B2	QPSK20M	19100	1	0	Rear Face	15	1	Sensor off	24.00	22.77	0.09	0.643	0.389	0.854
L208	LTE B2	QPSK20M	19100	1	0	Rear Face (Repeated)	15	1	Sensor off	24.00	22.77	0.04	0.627	0.380	0.832
L223	LTE B4	QPSK20M	20050	1	0	Front Face	15	1	Sensor off	24.00	23.09	0.03	0.458	0.287	0.565
L224	LTE B4	QPSK20M	20050	1	0	Rear Face	15	1	Sensor off	24.00	23.09	0.1	0.47	0.296	0.580
L225	LTE B4	QPSK20M	20050	50	0	Front Face	15	1	Sensor off	23.00	22.01	0.05	0.382	0.237	0.480
L226	LTE B4	QPSK20M	20050	50	0	Rear Face	15	1	Sensor off	23.00	22.01	-0.08	0.389	0.244	0.489
L227	LTE B4	QPSK20M	20175	1	0	Rear Face	15	1	Sensor off	24.00	22.88	-0.07	0.486	0.303	0.629
L228	LTE B4	QPSK20M	20300	1	0	Rear Face	15	1	Sensor off	24.00	22.81	0.02	0.507	0.314	0.667
L243	LTE B5	QPSK10M	20450	1	0	Front Face	15	0	Sensor off	24.00	23.01	0.03	0.41	0.291	0.515
L244	LTE B5	QPSK10M	20450	1	0	Rear Face	15	0	Sensor off	24.00	23.01	-0.13	0.444	0.321	0.558
L245	LTE B5	QPSK10M	20450	25	12	Front Face	15	0	Sensor off	23.00	22.46	-0.03	0.33	0.234	0.374
L246	LTE B5	QPSK10M	20450	25	12	Rear Face	15	0	Sensor off	23.00	22.46	0.03	0.368	0.267	0.417
L247	LTE B5	QPSK10M	20525	1	0	Rear Face	15	0	Sensor off	24.00	22.92	-0.04	0.467	0.329	0.599
L248	LTE B5	QPSK10M	20600	1	0	Rear Face	15	0	Sensor off	24.00	22.80	0.18	0.453	0.318	0.597
L261	LTE B7	QPKS20M	21350	1	99	Front Face	16	1	Sensor off	24.00	22.95	0.01	0.261	0.144	0.332
L262	LTE B7	QPKS20M	21350	1	99	Rear Face	16	1	Sensor off	24.00	22.95	0.08	0.361	0.197	0.460
L263	LTE B7	QPKS20M	21350	1	99	Left Side	16	1	Sensor off	24.00	22.95	0.18	0.056	0.032	0.071
L264	LTE B7	QPKS20M	21350	1	99	Right Side	16	1	Sensor off	24.00	22.95	0.11	0.334	0.180	0.425
L265	LTE B7	QPKS20M	21350	1	99	Bottom Side	16	1	Sensor off	24.00	22.95	0.01	0.599	0.326	0.763
L266	LTE B7	QPKS20M	21350	50	50	Front Face	16	1	Sensor off	23.00	22.03	0.1	0.202	0.113	0.253
L267	LTE B7	QPKS20M	21350	50	50	Rear Face	16	1	Sensor off	23.00	22.03	-0.1	0.29	0.161	0.363
L268	LTE B7	QPKS20M	21350	50	50	Left Side	16	1	Sensor off	23.00	22.03	-0.19	0.044	0.025	0.055
L269	LTE B7	QPKS20M	21350	50	50	Right Side	16	1	Sensor off	23.00	22.03	0.13	0.293	0.157	0.366
L270	LTE B7	QPKS20M	21350	50	50	Bottom Side	16	1	Sensor off	23.00	22.03	-0.02	0.505	0.279	0.631
L271	LTE B7	QPKS20M	21350	1	0	Front Face	15	1	Sensor on	23.50	22.48	0.15	0.236	0.123	0.298
L272	LTE B7	QPKS20M	21350	1	0	Rear Face	15	1	Sensor on	23.50	22.48	0.03	0.305	0.169	0.386
L273	LTE B7	QPKS20M	21350	1	0	Left Side	15	1	Sensor on	23.50	22.48	-0.17	0.042	0.022	0.053
L274	LTE B7	QPKS20M	21350	1	0	Right Side	15	1	Sensor on	23.50	22.48	0.05	0.254	0.134	0.321
L275	LTE B7	QPKS20M	21350	1	0	Bottom Side	15	1	Sensor on	23.50	22.48	-0.01	0.518	0.282	0.655
L276	LTE B7	QPKS20M	21350	50	0	Front Face	15	1	Sensor on	23.50	21.87	-0.1	0.217	0.119	0.316
L277	LTE B7	QPKS20M	21350	50	0	Rear Face	15	1	Sensor on	23.50	21.87	0.13	0.325	0.175	0.473
L278	LTE B7	QPKS20M	21350	50	0	Left Side	15	1	Sensor on	23.50	21.87	-0.11	0.049	0.027	0.071
L279	LTE B7	QPKS20M	21350	50	0	Right Side	15	1	Sensor on	23.50	21.87	-0.12	0.271	0.147	0.394
L280	LTE B7	QPKS20M	21350	50	0	Bottom Side	15	1	Sensor on	23.50	21.87	-0.12	0.519	0.282	0.755
L281	LTE B7	QPKS20M	20850	1	99	Bottom Side	16	1	Sensor off	24.00	22.55	0.03	0.544	0.299	0.760
L282	LTE B7	QPKS20M	21100	1	99	Bottom Side	16	1	Sensor off	24.00	22.66	-0.09	0.559	0.305	0.761

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L297	LTE B12	QPSK10M	23130	1	24	Front Face	15	0	Sensor off	24.00	22.68	0.05	0.203	0.142	0.275
L298	LTE B12	QPSK10M	23130	1	24	Rear Face	15	0	Sensor off	24.00	22.68	-0.02	0.239	0.164	0.324
L299	LTE B12	QPSK10M	23060	25	12	Front Face	15	0	Sensor off	23.00	21.94	-0.13	0.156	0.105	0.199
L300	LTE B12	QPSK10M	23060	25	12	Rear Face	15	0	Sensor off	23.00	21.94	0.08	0.168	0.114	0.214
L301	LTE B12	QPSK10M	23060	1	24	Rear Face	15	0	Sensor off	24.00	22.60	0.11	0.22	0.151	0.304
L302	LTE B12	QPSK10M	23095	1	24	Rear Face	15	0	Sensor off	24.00	22.64	0.06	0.229	0.155	0.313
L313	LTE B13	QPSK10M	23230	1	24	Front Face	15	0	Sensor off	24.00	23.25	0.03	0.403	0.288	0.479
L314	LTE B13	QPSK10M	23230	1	24	Rear Face	15	0	Sensor off	24.00	23.25	-0.08	0.457	0.325	0.543
L315	LTE B13	QPSK10M	23230	25	12	Front Face	15	0	Sensor off	23.00	22.25	0.01	0.346	0.242	0.411
L316	LTE B13	QPSK10M	23230	25	12	Rear Face	15	0	Sensor off	23.00	22.25	-0.07	0.372	0.263	0.442
L325	LTE B14	QPSK10M	23330	1	24	Front Face	15	0	Sensor off	24.00	23.24	0.08	0.392	0.275	0.467
L326	LTE B14	QPSK10M	23330	1	24	Rear Face	15	0	Sensor off	24.00	23.24	0.01	0.454	0.322	0.541
L327	LTE B14	QPSK10M	23330	25	12	Front Face	15	0	Sensor off	23.00	22.23	0.09	0.335	0.231	0.400
L328	LTE B14	QPSK10M	23330	25	12	Rear Face	15	0	Sensor off	23.00	22.23	-0.05	0.356	0.249	0.425
L337	LTE B17	QPSK10M	23790	1	49	Front Face	15	0	Sensor off	24.00	23.50	0.08	0.217	0.150	0.243
L338	LTE B17	QPSK10M	23790	1	49	Rear Face	15	0	Sensor off	24.00	23.50	0.04	0.249	0.174	0.279
L339	LTE B17	QPSK10M	23780	25	12	Front Face	15	0	Sensor off	23.00	22.53	0.07	0.182	0.121	0.203
L340	LTE B17	QPSK10M	23780	25	12	Rear Face	15	0	Sensor off	23.00	22.53	0.07	0.189	0.126	0.211
L341	LTE B17	QPSK10M	23780	1	49	Rear Face	15	0	Sensor off	24.00	23.38	-0.19	0.250	0.173	0.288
L342	LTE B17	QPSK10M	23800	1	49	Rear Face	15	0	Sensor off	24.00	23.44	-0.1	0.248	0.172	0.282
L353	LTE B25	QPSK20M	26365	1	0	Front Face	15	1	Sensor off	24.00	23.1	0.05	0.562	0.347	0.691
L354	LTE B25	QPSK20M	26365	1	0	Rear Face	15	1	Sensor off	24.00	23.1	0.09	0.601	0.364	0.739
L355	LTE B25	QPSK20M	26365	50	25	Front Face	15	1	Sensor off	23.00	22.12	-0.12	0.444	0.275	0.544
L356	LTE B25	QPSK20M	26365	50	25	Rear Face	15	1	Sensor off	23.00	22.12	0.01	0.497	0.299	0.609
L357	LTE B25	QPSK20M	26140	1	0	Rear Face	15	1	Sensor off	24.00	22.69	-0.14	0.478	0.287	0.646
L358	LTE B25	QPSK20M	26590	1	0	Rear Face	15	1	Sensor off	24.00	22.88	-0.17	0.526	0.316	0.681
L373	LTE B26	QPSK15M	26865	1	37	Front Face	15	0	Sensor off	24.00	23.29	-0.02	0.397	0.280	0.468
L374	LTE B26	QPSK15M	26865	1	37	Rear Face	15	0	Sensor off	24.00	23.29	-0.1	0.454	0.321	0.535
L375	LTE B26	QPSK15M	26865	36	0	Front Face	15	0	Sensor off	23.00	22.36	-0.09	0.333	0.230	0.386
L376	LTE B26	QPSK15M	26865	36	0	Rear Face	15	0	Sensor off	23.00	22.36	-0.1	0.372	0.262	0.431
L377	LTE B26	QPSK15M	26765	1	37	Rear Face	15	0	Sensor off	24.00	23.21	0.13	0.354	0.251	0.425
L378	LTE B26	QPSK15M	26965	1	37	Rear Face	15	0	Sensor off	24.00	23.14	0.05	0.375	0.266	0.457
L391	LTE B30	QPSK10M	27710	1	49	Front Face	15	1	Sensor off	24.00	23.04	-0.05	0.361	0.216	0.450
L392	LTE B30	QPSK10M	27710	1	49	Rear Face	15	1	Sensor off	24.00	23.04	-0.08	0.514	0.310	0.641
L393	LTE B30	QPSK10M	27710	25	25	Front Face	15	1	Sensor off	23.00	21.94	0.13	0.316	0.186	0.403
L394	LTE B30	QPSK10M	27710	25	25	Rear Face	15	1	Sensor off	23.00	21.94	0.03	0.418	0.242	0.534
L407	LTE B38	QPSK20M	38000	1	0	Front Face	15	1	Sensor off	24.00	23.19	-0.02	0.128	0.072	0.154
L408	LTE B38	QPSK20M	38000	1	0	Rear Face	15	1	Sensor off	24.00	23.19	-0.14	0.176	0.100	0.212
L409	LTE B38	QPSK20M	37850	50	25	Front Face	15	1	Sensor off	23.00	22.19	0.15	0.109	0.058	0.131
L410	LTE B38	QPSK20M	37850	50	25	Rear Face	15	1	Sensor off	23.00	22.19	0.06	0.147	0.083	0.177
L411	LTE B38	QPSK20M	37850	1	0	Rear Face	15	1	Sensor off	24.00	23.17	0	0.181	0.103	0.219
L412	LTE B38	QPSK20M	38150	1	0	Rear Face	15	1	Sensor off	24.00	22.99	0.07	0.198	0.111	0.250

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L427	LTE B40	QPSK10M	38750	1	24	Front Face	15	1	Sensor off	24.00	22.77	0.07	0.259	0.163	0.344
L428	LTE B40	QPSK10M	38750	1	24	Rear Face	15	1	Sensor off	24.00	22.77	-0.03	0.399	0.239	0.530
L429	LTE B40	QPSK10M	38750	25	0	Front Face	15	1	Sensor off	23.00	21.65	-0.16	0.200	0.128	0.273
L430	LTE B40	QPSK10M	38750	25	0	Rear Face	15	1	Sensor off	23.00	21.65	-0.01	0.320	0.191	0.437
L443	LTE B40	QPSK10M	39200	1	24	Front Face	15	1	Sensor off	24.00	22.66	-0.14	0.228	0.134	0.310
L444	LTE B40	QPSK10M	39200	1	24	Rear Face	15	1	Sensor off	24.00	22.66	-0.03	0.352	0.208	0.479
L445	LTE B40	QPSK10M	39200	25	0	Front Face	15	1	Sensor off	23.00	21.67	0	0.183	0.119	0.249
L446	LTE B40	QPSK10M	39200	25	0	Rear Face	15	1	Sensor off	23.00	21.67	0.04	0.266	0.158	0.361
L459	LTE B41	QPSK20M	41490	1	0	Front Face	15	1	Sensor off	27.00	25.80	-0.1	0.19	0.102	0.250
L460	LTE B41	QPSK20M	41490	1	0	Rear Face	15	1	Sensor off	27.00	25.80	-0.02	0.269	0.148	0.355
L461	LTE B41	QPSK20M	40620	50	25	Front Face	15	1	Sensor off	26.00	24.64	-0.07	0.145	0.078	0.198
L462	LTE B41	QPSK20M	40620	50	25	Rear Face	15	1	Sensor off	26.00	24.64	-0.13	0.211	0.118	0.289
L463	LTE B41	QPSK20M	39750	1	0	Rear Face	15	1	Sensor off	27.00	25.54	0.1	0.21	0.111	0.294
L464	LTE B41	QPSK20M	40620	1	0	Rear Face	15	1	Sensor off	27.00	25.66	-0.16	0.256	0.138	0.349
L479	LTE B42	QPSK20M	42990	1	50	Front Face	16	4	Sensor off	24.00	23.61	0.11	0.185	0.081	0.202
L480	LTE B42	QPSK20M	42990	1	50	Rear Face	16	4	Sensor off	24.00	23.61	0.17	0.331	0.151	0.362
L481	LTE B42	QPSK20M	42990	1	50	Right Side	16	4	Sensor off	24.00	23.61	0.06	0.095	0.043	0.104
L482	LTE B42	QPSK20M	42990	1	50	Bottom Side	16	4	Sensor off	24.00	23.61	0.09	0.426	0.184	0.466
L483	LTE B42	QPSK20M	42190	50	25	Front Face	16	4	Sensor off	23.00	22.45	0.18	0.154	0.066	0.175
L484	LTE B42	QPSK20M	42190	50	25	Rear Face	16	4	Sensor off	23.00	22.45	0.14	0.274	0.118	0.311
L485	LTE B42	QPSK20M	42190	50	25	Right Side	16	4	Sensor off	23.00	22.45	0.13	0.082	0.040	0.093
L486	LTE B42	QPSK20M	42190	50	25	Bottom Side	16	4	Sensor off	23.00	22.45	0.15	0.388	0.173	0.440
L487	LTE B42	QPSK20M	42990	1	99	Front Face	15	4	Sensor on	22.50	21.65	0.1	0.117	0.050	0.142
L488	LTE B42	QPSK20M	42990	1	99	Rear Face	15	4	Sensor on	22.50	21.65	0.15	0.223	0.097	0.271
L489	LTE B42	QPSK20M	42990	1	99	Right Side	15	4	Sensor on	22.50	21.65	0.16	0.06	0.029	0.073
L490	LTE B42	QPSK20M	42990	1	99	Bottom Side	15	4	Sensor on	22.50	21.65	0.06	0.299	0.128	0.364
L491	LTE B42	QPSK20M	42990	50	50	Front Face	15	4	Sensor on	22.50	20.73	0.17	0.104	0.045	0.156
L492	LTE B42	QPSK20M	42990	50	50	Rear Face	15	4	Sensor on	22.50	20.73	0.14	0.215	0.092	0.323
L493	LTE B42	QPSK20M	42990	50	50	Right Side	15	4	Sensor on	22.50	20.73	0.17	0.062	0.029	0.093
L494	LTE B42	QPSK20M	42990	50	50	Bottom Side	15	4	Sensor on	22.50	20.73	0.14	0.264	0.109	0.397
L495	LTE B42	QPSK20M	42190	1	50	Bottom Side	16	4	Sensor off	24.00	23.50	0.03	0.498	0.219	0.559
L496	LTE B42	QPSK20M	42590	1	50	Bottom Side	16	4	Sensor off	24.00	23.22	0.15	0.453	0.198	0.542
L509	LTE B48	QPSK20M	55340	1	50	Front Face	15	4	Sensor off	24.00	23.15	0.04	0.205	0.090	0.249
L510	LTE B48	QPSK20M	55340	1	50	Rear Face	15	4	Sensor off	24.00	23.15	0.1	0.329	0.148	0.400
L511	LTE B48	QPSK20M	55340	50	25	Front Face	15	4	Sensor off	23.00	22.33	-0.15	0.158	0.071	0.184
L512	LTE B48	QPSK20M	55340	50	25	Rear Face	15	4	Sensor off	23.00	22.33	0.09	0.275	0.124	0.321
L513	LTE B48	QPSK20M	55990	1	50	Rear Face	15	4	Sensor off	24.00	23.03	-0.12	0.330	0.146	0.413
L514	LTE B48	QPSK20M	56640	1	50	Rear Face	15	4	Sensor off	24.00	22.86	-0.16	0.296	0.131	0.385
L527	LTE B66	QPSK20M	132072	1	0	Front Face	15	1	Sensor off	24.00	23.03	0.06	0.455	0.258	0.569
L528	LTE B66	QPSK20M	132072	1	0	Rear Face	15	1	Sensor off	24.00	23.03	0.1	0.41	0.244	0.513
L529	LTE B66	QPSK20M	132072	50	0	Front Face	15	1	Sensor off	23.00	21.94	-0.03	0.356	0.211	0.454
L530	LTE B66	QPSK20M	132072	50	0	Rear Face	15	1	Sensor off	23.00	21.94	0.09	0.351	0.208	0.448
L531	LTE B66	QPSK20M	132322	1	0	Front Face	15	1	Sensor off	24.00	22.66	-0.04	0.466	0.278	0.634
L532	LTE B66	QPSK20M	132572	1	0	Front Face	15	1	Sensor off	24.00	22.40	0.07	0.505	0.304	0.730

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L547	LTE B71	QPSK20M	133222	1	0	Front Face	15	0	Sensor off	24.00	23.37	-0.1	0.206	0.152	0.238
L548	LTE B71	QPSK20M	133222	1	0	Rear Face	15	0	Sensor off	24.00	23.37	0.09	0.233	0.170	0.269
L549	LTE B71	QPSK20M	133222	50	25	Front Face	15	0	Sensor off	23.00	22.29	0.16	0.173	0.127	0.204
L550	LTE B71	QPSK20M	133222	50	25	Rear Face	15	0	Sensor off	23.00	22.29	0.06	0.197	0.141	0.232
L551	LTE B71	QPSK20M	133322	1	0	Rear Face	15	0	Sensor off	24.00	23.09	-0.17	0.219	0.163	0.270
L552	LTE B71	QPSK20M	133372	1	0	Rear Face	15	0	Sensor off	24.00	23.08	-0.01	0.236	0.169	0.292

Note: The value with boldface is the maximum SAR Value of each test band.

4. Body-worn SAR test results of 5G NR

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N106	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Front Face	15	1	Sensor off	15K	100	24.00	22.97	0.06	0.367	0.237	0.465
N107	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Rear Face	15	1	Sensor off	15K	100	24.00	22.97	0.04	0.386	0.246	0.489
N108	5G n2	DFT-s-OFDM QPSK	20M	376000	1880	1	1	Rear Face	15	1	Sensor off	15K	100	24.00	22.93	0.08	0.435	0.271	0.557
N109	5G n2	DFT-s-OFDM QPSK	20M	380000	1900	1	1	Rear Face	15	1	Sensor off	15K	100	24.00	22.91	0.1	0.426	0.268	0.548
N118	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Front Face	15	0	Sensor off	15K	100	24.00	23.48	-0.1	0.429	0.303	0.484
N119	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.48	0.17	0.456	0.324	0.514
N120	5G n5	DFT-s-OFDM QPSK	20M	166800	834	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.40	-0.18	0.473	0.337	0.543
N121	5G n5	DFT-s-OFDM QPSK	20M	167800	839	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.32	-0.15	0.483	0.341	0.565
N129	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	1	Front Face	16	1	Sensor off	15K	100	24.00	23.17	-0.1	0.154	0.086	0.186
N130	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	1	Rear Face	16	1	Sensor off	15K	100	24.00	23.17	0.17	0.232	0.132	0.281
N131	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	1	Left Side	16	1	Sensor off	15K	100	24.00	23.17	0.04	0.024	0.013	0.029
N132	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	1	Right Side	16	1	Sensor off	15K	100	24.00	23.17	0.08	0.207	0.115	0.251
N133	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	1	Bottom Side	16	1	Sensor off	15K	100	24.00	23.17	-0.06	0.413	0.228	0.500
N134	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Front Face	15	1	Sensor on	15K	100	22.50	21.83	0.07	0.157	0.086	0.183
N135	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Rear Face	15	1	Sensor on	15K	100	22.50	21.83	0.05	0.198	0.115	0.231
N136	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Left Side	15	1	Sensor on	15K	100	22.50	21.83	0	0.024	0.013	0.028
N137	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Right Side	15	1	Sensor on	15K	100	22.50	21.83	0.12	0.17	0.094	0.198
N138	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Bottom Side	15	1	Sensor on	15K	100	22.50	21.83	-0.05	0.313	0.178	0.365
N139	5G n7	DFT-s-OFDM QPSK	20M	502000	2510	1	1	Bottom Side	16	1	Sensor off	15K	100	24.00	22.96	0.14	0.322	0.178	0.409
N140	5G n7	DFT-s-OFDM QPSK	20M	507000	2535	1	1	Bottom Side	16	1	Sensor off	15K	100	24.00	23.06	-0.05	0.477	0.257	0.592
N149	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Front Face	15	0	Sensor off	15K	100	24.00	23.24	-0.13	0.209	0.142	0.249
N150	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.24	-0.17	0.232	0.158	0.276
N151	5G n12	DFT-s-OFDM QPSK	20M	141300	706.5	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.17	-0.09	0.24	0.164	0.291
N152	5G n12	DFT-s-OFDM QPSK	20M	141700	708.5	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.15	0.06	0.227	0.155	0.276
N159	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Front Face	15	0	Sensor off	15K	100	24.00	23.28	-0.01	0.432	0.295	0.510
N160	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Rear Face	15	0	Sensor off	15K	100	24.00	23.28	-0.04	0.45	0.314	0.531
N166	5G n25	DFT-s-OFDM QPSK	30M	373000	1865	80	40	Front Face	15	1	Sensor off	15K	100	24.00	22.98	-0.04	0.356	0.214	0.450
N167	5G n25	DFT-s-OFDM QPSK	30M	373000	1865	80	40	Rear Face	15	1	Sensor off	15K	100	24.00	22.98	0.01	0.379	0.227	0.479
N168	5G n25	DFT-s-OFDM QPSK	30M	376500	1882.5	80	40	Rear Face	15	1	Sensor off	15K	100	24.00	22.97	0.07	0.384	0.226	0.487
N169	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	80	40	Rear Face	15	1	Sensor off	15K	100	24.00	22.94	0.07	0.482	0.294	0.615
N177	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Front Face	15	0	Sensor off	15K	100	24.00	23.13	-0.03	0.305	0.22	0.373
N178	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Rear Face	15	0	Sensor off	15K	100	24.00	23.13	0.14	0.337	0.243	0.412
N179	5G n26	DFT-s-OFDM QPSK	20M	166300	831.5	50	25	Rear Face	15	0	Sensor off	15K	100	24.00	22.91	0.07	0.344	0.248	0.442
N180	5G n26	DFT-s-OFDM QPSK	20M	167800	839	50	25	Rear Face	15	0	Sensor off	15K	100	24.00	22.75	0.01	0.356	0.251	0.475

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N188	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Front Face	15	1	Sensor off	15K	100	24.00	23.51	-0.02	0.465	0.274	0.521
N189	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Rear Face	15	1	Sensor off	15K	100	24.00	23.51	0.07	0.605	0.36	0.677
N196	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Front Face	16	1	Sensor off	30K	100	24.00	23.46	0	0.216	0.118	0.245
N197	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Rear Face	16	1	Sensor off	30K	100	24.00	23.46	0.14	0.322	0.178	0.365
N198	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Left Side	16	1	Sensor off	30K	100	24.00	23.46	0.13	0.046	0.026	0.052
N199	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Right Side	16	1	Sensor off	30K	100	24.00	23.46	-0.17	0.357	0.189	0.404
N200	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Bottom Side	16	1	Sensor off	30K	100	24.00	23.46	-0.14	0.6	0.319	0.679
N201	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Front Face	15	1	Sensor on	30K	100	23.00	22.61	-0.12	0.206	0.107	0.225
N202	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Rear Face	15	1	Sensor on	30K	100	23.00	22.61	0.04	0.282	0.157	0.308
N203	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Left Side	15	1	Sensor on	30K	100	23.00	22.61	-0.02	0.039	0.02	0.043
N204	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Right Side	15	1	Sensor on	30K	100	23.00	22.61	0.04	0.279	0.147	0.305
N205	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Bottom Side	15	1	Sensor on	30K	100	23.00	22.61	-0.15	0.476	0.255	0.521
N206	5G n38	DFT-s-OFDM QPSK	40M	518000	2590	1	1	Bottom Side	16	1	Sensor off	30K	100	24.00	23.43	-0.05	0.603	0.321	0.688
N207	5G n38	DFT-s-OFDM QPSK	40M	519000	2595	1	1	Bottom Side	16	1	Sensor off	30K	100	24.00	23.44	0.05	0.607	0.326	0.691
N216	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Front Face	16	1	Sensor off	30K	100	27.00	25.53	-0.04	0.234	0.125	0.328
N217	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Rear Face	16	1	Sensor off	30K	100	27.00	25.53	0.16	0.317	0.179	0.445
N218	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Left Side	16	1	Sensor off	30K	100	27.00	25.53	-0.07	0.097	0.051	0.136
N219	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Right Side	16	1	Sensor off	30K	100	27.00	25.53	-0.09	0.259	0.14	0.363
N220	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Bottom Side	16	1	Sensor off	30K	100	27.00	25.53	-0.03	0.614	0.333	0.861
N221	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Front Face	15	1	Sensor on	30K	100	24.50	24.20	-0.15	0.207	0.108	0.222
N222	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Rear Face	15	1	Sensor on	30K	100	24.50	24.20	-0.09	0.251	0.134	0.269
N223	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Left Side	15	1	Sensor on	30K	100	24.50	24.20	0.04	0.065	0.039	0.070
N224	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Right Side	15	1	Sensor on	30K	100	24.50	24.20	-0.09	0.217	0.122	0.233
N225	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Bottom Side	15	1	Sensor on	30K	100	24.50	24.20	0.07	0.521	0.289	0.558
N226	5G n41	DFT-s-OFDM QPSK	100M	509202	2546.01	1	1	Bottom Side	16	1	Sensor off	30K	100	27.00	25.49	0.04	0.508	0.267	0.719
N227	5G n41	DFT-s-OFDM QPSK	100M	528000	2640	1	1	Bottom Side	16	1	Sensor off	30K	100	27.00	25.28	-0.05	0.541	0.294	0.804
N228	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Bottom Side (Repeated)	16	1	Sensor off	30K	100	27.00	25.53	0.11	0.591	0.318	0.829
N237	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Front Face	15	4	Sensor off	30K	100	24.00	22.77	0.11	0.267	0.119	0.354
N238	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Rear Face	15	4	Sensor off	30K	100	24.00	22.77	-0.01	0.405	0.183	0.538
N239	5G n48	DFT-s-OFDM QPSK	40M	641666	3624.99	1	1	Rear Face	15	4	Sensor off	30K	100	24.00	22.72	0.04	0.396	0.18	0.532
N240	5G n48	DFT-s-OFDM QPSK	40M	645332	3679.98	1	1	Rear Face	15	4	Sensor off	30K	100	24.00	22.48	0.09	0.369	0.166	0.524
N248	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Front Face	15	1	Sensor off	15K	100	24.00	22.93	0.13	0.343	0.203	0.439
N249	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	158	Rear Face	15	1	Sensor off	15K	100	24.00	22.93	0.05	0.328	0.197	0.420
N250	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	158	Front Face	15	1	Sensor off	15K	100	24.00	22.81	0.02	0.305	0.182	0.401
N251	5G n66	DFT-s-OFDM QPSK	30M	353000	1765	1	158	Front Face	15	1	Sensor off	15K	100	24.00	22.58	22.58	0.346	0.209	0.480

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N260	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Front Face	15	1	Sensor off	15K	100	24.00	23.01	-0.08	0.274	0.163	0.344
N261	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Rear Face	15	1	Sensor off	15K	100	24.00	23.01	0.09	0.248	0.152	0.311
N267	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Front Face	15	0	Sensor off	15K	100	24.00	23.01	0.07	0.128	0.091	0.161
N268	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	23.01	0.14	0.141	0.1	0.177
N269	5G n71	DFT-s-OFDM QPSK	20M	136100	680.5	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	22.91	-0.01	0.176	0.124	0.226
N270	5G n71	DFT-s-OFDM QPSK	20M	137600	688	1	1	Rear Face	15	0	Sensor off	15K	100	24.00	22.85	0.03	0.167	0.121	0.218
N277	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Front Face	16	4	Sensor off	30K	100	27.00	25.50	-0.04	0.23	0.103	0.325
N278	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Rear Face	16	4	Sensor off	30K	100	27.00	25.50	0.08	0.413	0.179	0.583
N279	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Side	16	4	Sensor off	30K	100	27.00	25.50	0.06	0.113	0.055	0.160
N280	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side	16	4	Sensor off	30K	100	27.00	25.50	-0.01	0.557	0.248	0.787
N281	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Front Face	15	4	Sensor on	30K	100	23.00	22.77	0.03	0.148	0.059	0.156
N282	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Rear Face	15	4	Sensor on	30K	100	23.00	22.77	0.09	0.251	0.126	0.265
N283	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Right Side	15	4	Sensor on	30K	100	23.00	22.77	-0.02	0.074	0.033	0.078
N284	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Bottom Side	15	4	Sensor on	30K	100	23.00	22.77	0.14	0.326	0.152	0.344
N290	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Front Face	16	4	Sensor off	30K	100	27.00	25.72	0.04	0.202	0.095	0.271
N291	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Rear Face	16	4	Sensor off	30K	100	27.00	25.72	-0.01	0.423	0.182	0.568
N292	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Right Side	16	4	Sensor off	30K	100	27.00	25.72	0.07	0.138	0.058	0.185
N293	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Bottom Side	16	4	Sensor off	30K	100	27.00	25.72	0.09	0.578	0.245	0.776
N294	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	1	1	Front Face	15	4	Sensor on	30K	100	23.00	22.87	0.1	0.128	0.061	0.132
N295	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	1	1	Rear Face	15	4	Sensor on	30K	100	23.00	22.87	0.08	0.253	0.124	0.261
N296	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	1	1	Right Side	15	4	Sensor on	30K	100	23.00	22.87	0.13	0.074	0.033	0.076
N297	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	1	1	Bottom Side	15	4	Sensor on	30K	100	23.00	22.87	-0.06	0.311	0.172	0.320
N298	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Bottom Side	16	4	Sensor off	30K	100	27.00	25.68	0.12	0.663	0.286	0.898
N299	5G n77	DFT-s-OFDM QPSK	100M	656000	3840	135	67	Bottom Side	16	4	Sensor off	30K	100	27.00	25.53	0.07	0.627	0.255	0.880
N300	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Bottom Side (Repeated)	16	4	Sensor off	30K	100	27.00	25.68	0.04	0.648	0.276	0.878
N308	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Front Face	16	4	Sensor off	30K	100	27.00	25.71	0.07	0.398	0.178	0.536
N309	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Rear Face	16	4	Sensor off	30K	100	27.00	25.71	0.08	0.677	0.295	0.911
N310	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Side	16	4	Sensor off	30K	100	27.00	25.71	0.12	0.249	0.108	0.335
N311	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side	16	4	Sensor off	30K	100	27.00	25.71	-0.12	0.941	0.413	1.266
N312	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Front Face	15	4	Sensor on	30K	100	23.00	22.86	-0.07	0.163	0.082	0.168
N313	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Rear Face	15	4	Sensor on	30K	100	23.00	22.86	0.04	0.395	0.149	0.408
N314	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Right Side	15	4	Sensor on	30K	100	23.00	22.86	0.01	0.132	0.057	0.136
N315	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	1	1	Bottom Side	15	4	Sensor on	30K	100	23.00	22.86	0.09	0.527	0.206	0.544
N316	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side (Repeated)	16	4	Sensor off	30K	100	27.00	25.71	-0.12	0.922	0.401	1.241

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N322	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Front Face	16	4	Sensor off	30K	100	27.00	25.61	0.11	0.233	0.096	0.321
N323	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Rear Face	16	4	Sensor off	30K	100	27.00	25.61	0.03	0.389	0.17	0.536
N324	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Right Side	16	4	Sensor off	30K	100	27.00	25.61	0.09	0.105	0.05	0.145
N325	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	271	Bottom Side	16	4	Sensor off	30K	100	27.00	25.61	-0.17	0.487	0.209	0.671
N326	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Front Face	15	4	Sensor on	30K	100	23.00	22.81	0.07	0.159	0.062	0.166
N327	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Rear Face	15	4	Sensor on	30K	100	23.00	22.81	-0.13	0.268	0.114	0.280
N328	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Right Side	15	4	Sensor on	30K	100	23.00	22.81	-0.04	0.065	0.027	0.068
N329	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Bottom Side	15	4	Sensor on	30K	100	23.00	22.81	0.02	0.301	0.113	0.314

Note: The value with boldface is the maximum SAR Value of each test band.

5. Body-worn SAR test results of EN-DC

Separation distance: 15mm

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	Condition	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/Offset	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/Offset	SCS (kHz)								
E84	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Front Face	0+1	Sensor off	0.465	0.322	0.506
E85	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.57	Rear Face	0+1	Sensor off	0.589	0.389	0.652
E86	B2	20	QPSK	18700	1/50	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.56	Rear Face	0+1	Sensor off	0.394	0.259	0.437
E87	B2	20	QPSK	18900	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.64	Rear Face	0+1	Sensor off	0.403	0.288	0.439
E98	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Front Face	0+1	Sensor off	0.451	0.336	0.488
E99	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Rear Face	0+1	Sensor off	0.409	0.315	0.442
E100	B2	20	QPSK	18700	1/50	N41	100	DFT-s-OFDM QPSK	509202	135/67	30	24.01	23.6	Rear Face	0+1	Sensor off	0.463	0.353	0.509
E101	B2	20	QPSK	19100	1/50	N41	100	DFT-s-OFDM QPSK	528000	1/271	30	24.01	23.63	Rear Face	0+1	Sensor off	0.492	0.351	0.537
E112	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Front Face	0+1	Sensor off	0.455	0.358	0.485
E113	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.5	Rear Face	0+1	Sensor off	0.518	0.307	0.583
E114	B2	20	QPSK	18900	1/50	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.66	Rear Face	0+1	Sensor off	0.427	0.329	0.463
E115	B2	20	QPSK	19100	1/50	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.73	Rear Face	0+1	Sensor off	0.501	0.434	0.534
E126	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Front Face	0+4	Sensor off	0.256	0.180	0.277
E127	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Rear Face	0+4	Sensor off	0.285	0.256	0.309
E128	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.65	Rear Face	0+4	Sensor off	0.334	0.232	0.363
E129	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.58	Rear Face	0+4	Sensor off	0.338	0.193	0.373
E139	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Front Face	0+4	Sensor off	0.306	0.240	0.331
E140	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Rear Face	0+4	Sensor off	0.332	0.185	0.359
E141	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.65	Rear Face	0+4	Sensor off	0.282	0.215	0.306
E142	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.53	Rear Face	0+4	Sensor off	0.308	0.190	0.344
E152	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Front Face	0+1	Sensor off	0.482	0.402	0.521
E153	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.52	Rear Face	0+1	Sensor off	0.570	0.372	0.638
E154	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.55	Rear Face	0+1	Sensor off	0.501	0.422	0.557
E155	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.55	Rear Face	0+1	Sensor off	0.539	0.352	0.599

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	Condition	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	SCS (kHz)								
E166	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Front Face	0+1	Sensor off	0.488	0.346	0.534
E167	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Rear Face	0+1	Sensor off	0.557	0.326	0.609
E168	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.56	Rear Face	0+1	Sensor off	0.564	0.373	0.626
E169	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.51	Rear Face	0+1	Sensor off	0.541	0.402	0.607
E180	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Front Face	0+1	Sensor off	0.535	0.416	0.568
E181	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Rear Face	0+1	Sensor off	0.550	0.389	0.584
E182	B66	20	QPSK	132322	1/0	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.58	Rear Face	0+1	Sensor off	0.598	0.382	0.660
E183	B66	20	QPSK	132572	1/0	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.66	Rear Face	0+1	Sensor off	0.568	0.393	0.616
E194	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Front Face	0+1	Sensor off	0.493	0.406	0.533
E195	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Rear Face	0+1	Sensor off	0.722	0.457	0.781
E196	B66	20	QPSK	132322	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.51	Rear Face	0+1	Sensor off	0.568	0.364	0.637
E197	B66	20	QPSK	132572	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.58	Rear Face	0+1	Sensor off	0.683	0.418	0.754
E208	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Front Face	0+4	Sensor off	0.214	0.212	0.236
E209	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Rear Face	0+4	Sensor off	0.338	0.247	0.373
E210	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.50	Rear Face	0+4	Sensor off	0.233	0.190	0.262
E211	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.47	Rear Face	0+4	Sensor off	0.279	0.160	0.316
E221	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Front Face	0+4	Sensor off	0.232	0.145	0.253
E222	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Rear Face	0+4	Sensor off	0.269	0.201	0.293
E223	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.62	Rear Face	0+4	Sensor off	0.301	0.173	0.329
E224	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.48	Rear Face	0+4	Sensor off	0.224	0.241	0.253

Note: The value with boldface is the maximum SAR Value of each test band.

6. Body-worn SAR test results of WiFi 2.4G

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W31	802.11b	6	Front Face	16	3	Sensor off	1	98.55	17	16.81	0.05	0.084	0.047	0.089
W32	802.11b	6	Rear Face	16	3	Sensor off	1	98.55	17	16.81	0.11	0.105	0.059	0.111
W33	802.11b	6	Left Side	16	3	Sensor off	1	98.55	17	16.81	0.07	0.205	0.111	0.217
W34	802.11b	6	Top Side	16	3	Sensor off	1	98.55	17	16.81	0.18	0.037	0.02	0.039
W35	802.11b	6	Bottom Side	16	3	Sensor off	1	98.55	17	16.81	0.01	0.028	0.016	0.030
W36	802.11b	1	Front Face	15	3	Sensor on	1	98.55	15	14.68	0.15	0.047	0.025	0.051
W37	802.11b	1	Rear Face	15	3	Sensor on	1	98.55	15	14.68	-0.04	0.059	0.033	0.064
W38	802.11b	1	Left Side	15	3	Sensor on	1	98.55	15	14.68	0.09	0.116	0.062	0.127
W39	802.11b	1	Top Side	15	3	Sensor on	1	98.55	15	14.68	0.01	0.018	0.009	0.020
W40	802.11b	1	Bottom Side	15	3	Sensor on	1	98.55	15	14.68	-0.05	0.012	0.006	0.013
W41	802.11b	1	Left Side	16	3	Sensor off	1	98.55	17	16.64	-0.14	0.132	0.073	0.146
W42	802.11b	11	Left Side	16	3	Sensor off	1	98.55	17	16.72	-0.17	0.157	0.085	0.170

Note: The value with boldface is the maximum SAR Value of each test band.

7. Body-worn SAR test results of BT

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
B07	BT DH5	39	Front Face	15	3	Sensor off	1	76.51	10	8.81	0	0.010	0.005	0.018
B08	BT DH5	39	Rear Face	15	3	Sensor off	1	76.51	10	8.81	-0.01	0.014	0.007	0.024
B09	BT DH5	0	Rear Face	15	3	Sensor off	1	76.51	10	8.44	0.09	0.018	0.010	0.034
B10	BT DH5	78	Rear Face	15	3	Sensor off	1	76.51	10	8.69	-0.07	0.011	0.006	0.020

Note: The value with boldface is the maximum SAR Value of each test band.

8. Body-worn SAR test results of WiFi 5G

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W50	802.11a	44	Front Face	16	3	Sensor off	6	97.82	17	16.63	0.03	0.062	0.024	0.069
W51	802.11a	44	Rear Face	16	3	Sensor off	6	97.82	17	16.63	-0.17	0.250	0.103	0.278
W52	802.11a	44	Left Side	16	3	Sensor off	6	97.82	17	16.63	-0.19	0.111	0.044	0.124
W53	802.11a	44	Top Side	16	3	Sensor off	6	97.82	17	16.63	-0.14	0.076	0.036	0.085
W54	802.11a	44	Bottom Side	16	3	Sensor off	6	97.82	17	16.63	-0.01	0.032	0.012	0.036
W55	802.11a	44	Front Face	15	3	Sensor on	6	97.82	11	10.84	0.02	0.030	0.009	0.031
W56	802.11a	44	Rear Face	15	3	Sensor on	6	97.82	11	10.84	-0.19	0.060	0.024	0.064
W57	802.11a	44	Left Side	15	3	Sensor on	6	97.82	11	10.84	-0.18	0.036	0.014	0.039
W58	802.11a	44	Top Side	15	3	Sensor on	6	97.82	11	10.84	0.04	0.046	0.015	0.049
W59	802.11a	44	Bottom Side	15	3	Sensor on	6	97.82	11	10.84	-0.05	0.032	0.011	0.034
W60	802.11a	36	Rear Face	16	3	Sensor off	6	97.82	17	16.60	-0.03	0.251	0.101	0.281
W61	802.11a	48	Rear Face	16	3	Sensor off	6	97.82	17	16.57	0.02	0.247	0.099	0.279
W69	802.11a	56	Front Face	16	3	Sensor off	6	97.82	17	16.91	0.19	0.057	0.021	0.060
W70	802.11a	56	Rear Face	16	3	Sensor off	6	97.82	17	16.91	-0.08	0.229	0.096	0.239
W71	802.11a	56	Left Side	16	3	Sensor off	6	97.82	17	16.91	-0.01	0.108	0.043	0.113
W72	802.11a	56	Top Side	16	3	Sensor off	6	97.82	17	16.91	0.11	0.102	0.042	0.106
W73	802.11a	56	Bottom Side	16	3	Sensor off	6	97.82	17	16.91	0	0.031	0.014	0.032
W74	802.11a	64	Front Face	15	3	Sensor on	6	97.82	11	10.84	0.03	0.066	0.018	0.070
W75	802.11a	64	Rear Face	15	3	Sensor on	6	97.82	11	10.84	-0.08	0.065	0.018	0.069
W76	802.11a	64	Left Side	15	3	Sensor on	6	97.82	11	10.84	-0.05	0.044	0.009	0.047
W77	802.11a	64	Top Side	15	3	Sensor on	6	97.82	11	10.84	0.01	0.029	0.008	0.031
W78	802.11a	64	Bottom Side	15	3	Sensor on	6	97.82	11	10.84	0.15	0.029	0.009	0.031
W79	802.11a	52	Rear Face	16	3	Sensor off	6	97.82	17	16.75	-0.08	0.242	0.097	0.262
W80	802.11a	64	Rear Face	16	3	Sensor off	6	97.82	17	16.74	0.05	0.235	0.095	0.255
W88	802.11a	112	Front Face	16	3	Sensor off	6	97.82	17	16.78	0.11	0.093	0.028	0.100
W89	802.11a	112	Rear Face	16	3	Sensor off	6	97.82	17	16.78	0.12	0.379	0.154	0.408
W90	802.11a	112	Left Side	16	3	Sensor off	6	97.82	17	16.78	0.17	0.146	0.061	0.157
W91	802.11a	112	Top Side	16	3	Sensor off	6	97.82	17	16.78	-0.15	0.096	0.031	0.103
W92	802.11a	112	Bottom Side	16	3	Sensor off	6	97.82	17	16.78	-0.02	0.086	0.027	0.092
W93	802.11ac VHT20	116	Front Face	15	3	Sensor on	6	97.82	11	10.88	0.16	0.057	0.021	0.060
W94	802.11ac VHT20	116	Rear Face	15	3	Sensor on	6	97.82	11	10.88	-0.13	0.113	0.045	0.119
W95	802.11ac VHT20	116	Left Side	15	3	Sensor on	6	97.82	11	10.88	-0.16	0.065	0.025	0.068
W96	802.11ac VHT20	116	Top Side	15	3	Sensor on	6	97.82	11	10.88	-0.09	0.063	0.021	0.066
W97	802.11ac VHT20	116	Bottom Side	15	3	Sensor on	6	97.82	11	10.88	-0.04	0.056	0.018	0.059
W98	802.11a	100	Rear Face	16	3	Sensor off	6	97.82	17	16.77	-0.06	0.423	0.168	0.456
W99	802.11a	108	Rear Face	16	3	Sensor off	6	97.82	17	16.74	0.19	0.408	0.158	0.443

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W107	802.11a	165	Front Face	16	3	Sensor off	6	97.82	17	16.56	-0.07	0.087	0.032	0.098
W108	802.11a	165	Rear Face	16	3	Sensor off	6	97.82	17	16.56	-0.05	0.475	0.189	0.537
W109	802.11a	165	Left Side	16	3	Sensor off	6	97.82	17	16.56	-0.08	0.118	0.048	0.133
W110	802.11a	165	Top Side	16	3	Sensor off	6	97.82	17	16.56	0.19	0.069	0.026	0.078
W111	802.11a	165	Bottom Side	16	3	Sensor off	6	97.82	17	16.56	0.14	0.060	0.020	0.068
W112	802.11a	165	Front Face	15	3	Sensor on	6	97.82	11	10.83	0.07	0.023	0.009	0.025
W113	802.11a	165	Rear Face	15	3	Sensor on	6	97.82	11	10.83	-0.12	0.112	0.042	0.119
W114	802.11a	165	Left Side	15	3	Sensor on	6	97.82	11	10.83	0.19	0.033	0.012	0.035
W115	802.11a	165	Top Side	15	3	Sensor on	6	97.82	11	10.83	0.07	0.017	0.007	0.018
W116	802.11a	165	Bottom Side	15	3	Sensor on	6	97.82	11	10.83	-0.14	0.015	0.006	0.016
W117	802.11a	149	Rear Face	16	3	Sensor off	6	97.82	17	16.49	0.05	0.406	0.163	0.467
W118	802.11a	157	Rear Face	16	3	Sensor off	6	97.82	17	16.54	0.18	0.424	0.169	0.482

Note: The value with boldface is the maximum SAR Value of each test band.

7.2.3 SAR MEASUREMENT RESULT OF HOTSPOT

1. Hotspot SAR test results of GSM

Test No.	Band	Mode	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
G20	GSM 850	GPRS2TX	251	Front Face	10	0	Hotspot on	32.00	31.87	0.12	0.933	0.685	0.961
G21	GSM 850	GPRS2TX	251	Rear Face	10	0	Hotspot on	32.00	31.87	-0.05	1.02	0.751	1.051
G22	GSM 850	GPRS2TX	251	Left Side	10	0	Hotspot on	32.00	31.87	-0.01	1.09	0.719	1.123
G23	GSM 850	GPRS2TX	251	Bottom Side	10	0	Hotspot on	32.00	31.87	0.03	0.55	0.371	0.567
G24	GSM 850	GPRS2TX	128	Left Side	10	0	Hotspot on	32.00	31.70	0.14	0.884	0.607	0.947
G25	GSM 850	GPRS2TX	190	Left Side	10	0	Hotspot on	32.00	31.39	-0.08	0.892	0.622	1.027
G26	GSM 850	GPRS2TX	251	Left Side (Repeated)	10	0	Hotspot on	32.00	31.87	0.08	1.03	0.716	1.061
G31	GSM 1900	GPRS2TX	810	Front Face	10	1	Hotspot on	30.00	29.78	-0.14	0.878	0.515	0.924
G32	GSM 1900	GPRS2TX	810	Rear Face	10	1	Hotspot on	30.00	29.78	-0.1	0.806	0.483	0.848
G33	GSM 1900	GPRS2TX	810	Left Side	10	1	Hotspot on	30.00	29.78	0.02	0.126	0.077	0.133
G34	GSM 1900	GPRS2TX	810	Right Side	10	1	Hotspot on	30.00	29.78	-0.14	0.57	0.32	0.600
G35	GSM 1900	GPRS2TX	810	Bottom Side	10	1	Hotspot on	30.00	29.78	-0.18	1.06	0.592	1.115
G36	GSM 1900	GPRS2TX	512	Bottom Side	10	1	Hotspot on	30.00	29.66	0.08	1.28	0.706	1.384
G37	GSM 1900	GPRS2TX	661	Bottom Side	10	1	Hotspot on	30.00	29.57	0.02	0.958	0.526	1.058
G38	GSM 1900	GPRS2TX	512	Bottom Side (Repeated)	10	1	Hotspot on	30.00	29.66	-0.06	1.22	0.702	1.319

Note: The value with boldface is the maximum SAR Value of each test band.

2. Hotspot SAR test results of UMTS

Test No.	Band	Mode	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
U27	UMTS B2	RMC12.2K	9400	Front Face	10	1	Hotspot on	23.00	21.76	-0.02	0.787	0.451	1.047
U28	UMTS B2	RMC12.2K	9400	Rear Face	10	1	Hotspot on	23.00	21.76	-0.11	0.729	0.436	0.970
U29	UMTS B2	RMC12.2K	9400	Left Side	10	1	Hotspot on	23.00	21.76	-0.05	0.159	0.089	0.212
U30	UMTS B2	RMC12.2K	9400	Right Side	10	1	Hotspot on	23.00	21.76	-0.03	0.502	0.274	0.668
U31	UMTS B2	RMC12.2K	9400	Bottom Side	10	1	Hotspot on	23.00	21.76	0	0.844	0.475	1.123
U32	UMTS B2	RMC12.2K	9262	Bottom Side	10	1	Hotspot on	23.00	21.75	0.06	0.91	0.511	1.214
U33	UMTS B2	RMC12.2K	9538	Bottom Side	10	1	Hotspot on	23.00	21.72	0.04	0.776	0.437	1.042
U34	UMTS B2	RMC12.2K	9262	Bottom Side (Repeated)	10	1	Hotspot on	23.00	21.75	0.02	0.886	0.499	1.181
U40	UMTS B4	RMC12.2K	1413	Front Face	10	1	Hotspot on	23.50	21.97	0.08	0.772	0.448	1.098
U41	UMTS B4	RMC12.2K	1413	Rear Face	10	1	Hotspot on	23.50	21.97	-0.04	0.721	0.441	1.025
U42	UMTS B4	RMC12.2K	1413	Left Side	10	1	Hotspot on	23.50	21.97	0.01	0.176	0.105	0.250
U43	UMTS B4	RMC12.2K	1413	Right Side	10	1	Hotspot on	23.50	21.97	0.13	0.654	0.378	0.930
U44	UMTS B4	RMC12.2K	1413	Bottom Side	10	1	Hotspot on	23.50	21.97	0.03	0.967	0.547	1.375
U45	UMTS B4	RMC12.2K	1312	Bottom Side	10	1	Hotspot on	23.50	21.92	0.09	0.913	0.515	1.314
U46	UMTS B4	RMC12.2K	1513	Bottom Side	10	1	Hotspot on	23.50	21.87	0.1	0.943	0.531	1.372
U47	UMTS B4	RMC12.2K	1413	Bottom Side (Repeated)	10	1	Hotspot on	23.50	21.97	0.12	0.955	0.541	1.358
U53	UMTS B5	RMC12.2K	4132	Front Face	10	0	Hotspot on	25.00	23.84	0.12	0.611	0.409	0.798
U54	UMTS B5	RMC12.2K	4132	Rear Face	10	0	Hotspot on	25.00	23.84	-0.04	0.604	0.417	0.789
U55	UMTS B5	RMC12.2K	4132	Left Side	10	0	Hotspot on	25.00	23.84	0.07	0.655	0.425	0.856
U56	UMTS B5	RMC12.2K	4132	Bottom Side	10	0	Hotspot on	25.00	23.84	0.05	0.336	0.209	0.439
U57	UMTS B5	RMC12.2K	4182	Left Side	10	0	Hotspot on	25.00	23.76	0.07	0.691	0.452	0.919
U58	UMTS B5	RMC12.2K	4233	Left Side	10	0	Hotspot on	25.00	23.61	0.1	0.641	0.421	0.883
U59	UMTS B5	RMC12.2K	4182	Left Side (Repeated)	10	0	Hotspot on	25.00	23.76	-0.01	0.683	0.448	0.909

Note: The value with boldface is the maximum SAR Value of each test band.

3. Hotspot SAR test results of LTE

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L209	LTE B2	QPSK20M	19100	1	0	Front Face	10	1	Hotspot on	23.50	22.50	-0.02	0.909	0.537	1.144
L210	LTE B2	QPSK20M	19100	1	0	Rear Face	10	1	Hotspot on	23.50	22.50	0.1	0.901	0.536	1.134
L211	LTE B2	QPSK20M	19100	1	0	Left Side	10	1	Hotspot on	23.50	22.50	0.02	0.020	0.012	0.026
L212	LTE B2	QPSK20M	19100	1	0	Right Side	10	1	Hotspot on	23.50	22.50	0.02	0.616	0.339	0.775
L213	LTE B2	QPSK20M	19100	1	0	Bottom Side	10	1	Hotspot on	23.50	22.50	0.08	0.650	0.353	0.818
L214	LTE B2	QPSK20M	19100	50	25	Front Face	10	1	Hotspot on	22.50	21.85	0.06	0.806	0.483	0.936
L215	LTE B2	QPSK20M	19100	50	25	Rear Face	10	1	Hotspot on	22.50	21.85	0.17	0.825	0.484	0.958
L216	LTE B2	QPSK20M	19100	50	25	Left Side	10	1	Hotspot on	22.50	21.85	0.02	0.017	0.010	0.020
L217	LTE B2	QPSK20M	19100	50	25	Right Side	10	1	Hotspot on	22.50	21.85	0.09	0.565	0.323	0.656
L218	LTE B2	QPSK20M	19100	50	25	Bottom Side	10	1	Hotspot on	22.50	21.85	0.07	0.595	0.321	0.691
L219	LTE B2	QPSK20M	19100	100	0	Front Face	10	1	Hotspot on	22.50	21.86	-0.01	0.778	0.462	0.902
L220	LTE B2	QPSK20M	18700	1	0	Front Face	10	1	Hotspot on	23.50	22.46	-0.05	0.853	0.511	1.084
L221	LTE B2	QPSK20M	18900	1	0	Front Face	10	1	Hotspot on	23.50	22.47	0.08	0.875	0.520	1.109
L222	LTE B2	QPSK20M	19100	1	0	Front Face (Repeated)	10	1	Hotspot on	23.50	22.50	0.06	0.896	0.533	1.128
L229	LTE B4	QPSK20M	20050	1	0	Front Face	10	1	Hotspot on	23.50	22.79	-0.09	0.728	0.412	0.857
L230	LTE B4	QPSK20M	20050	1	0	Rear Face	10	1	Hotspot on	23.50	22.79	-0.08	0.676	0.396	0.796
L231	LTE B4	QPSK20M	20050	1	0	Left Side	10	1	Hotspot on	23.50	22.79	-0.11	0.172	0.099	0.203
L232	LTE B4	QPSK20M	20050	1	0	Right Side	10	1	Hotspot on	23.50	22.79	0.02	0.723	0.408	0.851
L233	LTE B4	QPSK20M	20050	1	0	Bottom Side	10	1	Hotspot on	23.50	22.79	-0.01	0.935	0.518	1.101
L234	LTE B4	QPSK20M	20050	50	0	Front Face	10	1	Hotspot on	22.50	22.04	-0.14	0.666	0.383	0.740
L235	LTE B4	QPSK20M	20050	50	0	Rear Face	10	1	Hotspot on	22.50	22.04	0.1	0.667	0.378	0.742
L236	LTE B4	QPSK20M	20050	50	0	Left Side	10	1	Hotspot on	22.50	22.04	-0.04	0.157	0.091	0.175
L237	LTE B4	QPSK20M	20050	50	0	Right Side	10	1	Hotspot on	22.50	22.04	-0.1	0.622	0.353	0.691
L238	LTE B4	QPSK20M	20050	50	0	Bottom Side	10	1	Hotspot on	22.50	22.04	-0.04	0.916	0.506	1.018
L239	LTE B4	QPSK20M	20050	100	0	Bottom Side	10	1	Hotspot on	22.50	22.02	0.12	0.902	0.498	1.007
L240	LTE B4	QPSK20M	20175	1	0	Bottom Side	10	1	Hotspot on	23.50	22.61	-0.04	1.05	0.583	1.289
L241	LTE B4	QPSK20M	20300	1	0	Bottom Side	10	1	Hotspot on	23.50	22.50	0.02	0.974	0.575	1.226
L242	LTE B4	QPSK20M	20175	1	0	Bottom Side (Repeated)	10	1	Hotspot on	23.50	22.61	0.03	0.997	0.580	1.224
L249	LTE B5	QPSK10M	20450	1	0	Front Face	10	0	Hotspot on	24.00	23.01	-0.09	0.647	0.443	0.813
L250	LTE B5	QPSK10M	20450	1	0	Rear Face	10	0	Hotspot on	24.00	23.01	-0.13	0.768	0.556	0.965
L251	LTE B5	QPSK10M	20450	1	0	Left Side	10	0	Hotspot on	24.00	23.01	-0.04	0.793	0.522	0.996
L252	LTE B5	QPSK10M	20450	1	0	Bottom Side	10	0	Hotspot on	24.00	23.01	-0.04	0.417	0.293	0.524
L253	LTE B5	QPSK10M	20450	25	12	Front Face	10	0	Hotspot on	23.00	22.46	-0.16	0.525	0.364	0.595
L254	LTE B5	QPSK10M	20450	25	12	Rear Face	10	0	Hotspot on	23.00	22.46	0.07	0.596	0.414	0.675
L255	LTE B5	QPSK10M	20450	25	12	Left Side	10	0	Hotspot on	23.00	22.46	-0.06	0.683	0.447	0.773
L256	LTE B5	QPSK10M	20450	25	12	Bottom Side	10	0	Hotspot on	23.00	22.46	-0.06	0.306	0.198	0.347
L257	LTE B5	QPSK10M	20450	50	0	Left Side	10	0	Hotspot on	23.00	21.97	-0.08	0.714	0.459	0.905
L258	LTE B5	QPSK10M	20525	1	0	Left Side	10	0	Hotspot on	24.00	22.92	-0.17	0.771	0.519	0.989
L259	LTE B5	QPSK10M	20600	1	0	Left Side	10	0	Hotspot on	24.00	22.80	0.09	0.748	0.597	0.986
L260	LTE B5	QPSK10M	20450	1	0	Left Side (Repeated)	10	0	Hotspot on	24.00	23.01	0.03	0.776	0.515	0.975

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L283	LTE B7	QPSK20M	21350	1	99	Front Face	10	1	Hotspot on	22.00	21.29	0.04	0.323	0.163	0.380
L284	LTE B7	QPSK20M	21350	1	99	Rear Face	10	1	Hotspot on	22.00	21.29	-0.04	0.385	0.210	0.453
L285	LTE B7	QPSK20M	21350	1	99	Left Side	10	1	Hotspot on	22.00	21.29	-0.13	0.046	0.024	0.054
L286	LTE B7	QPSK20M	21350	1	99	Right Side	10	1	Hotspot on	22.00	21.29	-0.02	0.326	0.166	0.384
L287	LTE B7	QPSK20M	21350	1	99	Bottom Side	10	1	Hotspot on	22.00	21.29	0.05	0.74	0.380	0.871
L288	LTE B7	QPSK20M	21350	50	50	Front Face	10	1	Hotspot on	22.00	20.82	0.01	0.271	0.143	0.356
L289	LTE B7	QPSK20M	21350	50	50	Rear Face	10	1	Hotspot on	22.00	20.82	-0.05	0.371	0.205	0.487
L290	LTE B7	QPSK20M	21350	50	50	Left Side	10	1	Hotspot on	22.00	20.82	-0.15	0.045	0.023	0.059
L291	LTE B7	QPSK20M	21350	50	50	Right Side	10	1	Hotspot on	22.00	20.82	-0.15	0.317	0.161	0.416
L292	LTE B7	QPSK20M	21350	50	50	Bottom Side	10	1	Hotspot on	22.00	20.91	0.08	0.668	0.349	0.859
L293	LTE B7	QPSK20M	21350	100	0	Bottom Side	10	1	Hotspot on	22.00	20.80	-0.03	0.633	0.309	0.834
L294	LTE B7	QPSK20M	20850	1	99	Bottom Side	10	1	Hotspot on	22.00	21.17	-0.17	0.708	0.360	0.857
L295	LTE B7	QPSK20M	21100	1	99	Bottom Side	10	1	Hotspot on	22.00	21.23	-0.06	0.711	0.361	0.849
L296	LTE B7	QPSK20M	21350	1	99	Bottom Side (Repeated)	10	1	Hotspot on	22.00	21.29	-0.13	0.727	0.374	0.856
L303	LTE B12	QPSK10M	23130	1	24	Front Face	10	0	Hotspot on	24.00	22.68	0.09	0.362	0.237	0.491
L304	LTE B12	QPSK10M	23130	1	24	Rear Face	10	0	Hotspot on	24.00	22.68	-0.02	0.418	0.277	0.566
L305	LTE B12	QPSK10M	23130	1	24	Left Side	10	0	Hotspot on	24.00	22.68	0.04	0.346	0.223	0.469
L306	LTE B12	QPSK10M	23130	1	24	Bottom Side	10	0	Hotspot on	24.00	22.68	-0.07	0.204	0.119	0.276
L307	LTE B12	QPSK10M	23060	25	12	Front Face	10	0	Hotspot on	23.00	21.94	-0.12	0.306	0.203	0.391
L308	LTE B12	QPSK10M	23060	25	12	Rear Face	10	0	Hotspot on	23.00	21.94	0.16	0.311	0.206	0.397
L309	LTE B12	QPSK10M	23060	25	12	Left Side	10	0	Hotspot on	23.00	21.94	-0.01	0.289	0.183	0.369
L310	LTE B12	QPSK10M	23060	25	12	Bottom Side	10	0	Hotspot on	23.00	21.94	0.09	0.176	0.093	0.225
L311	LTE B12	QPSK10M	23060	1	24	Rear Face	10	0	Hotspot on	24.00	22.60	0.1	0.405	0.263	0.559
L312	LTE B12	QPSK10M	23095	1	24	Rear Face	10	0	Hotspot on	24.00	22.64	-0.04	0.415	0.276	0.568
L317	LTE B13	QPSK10M	23230	1	24	Front Face	10	0	Hotspot on	24.00	23.25	0.14	0.537	0.369	0.638
L318	LTE B13	QPSK10M	23230	1	24	Rear Face	10	0	Hotspot on	24.00	23.25	0.03	0.656	0.447	0.780
L319	LTE B13	QPSK10M	23230	1	24	Left Side	10	0	Hotspot on	24.00	23.25	-0.05	0.631	0.427	0.750
L320	LTE B13	QPSK10M	23230	1	24	Bottom Side	10	0	Hotspot on	24.00	23.25	0.08	0.297	0.189	0.353
L321	LTE B13	QPSK10M	23230	25	12	Front Face	10	0	Hotspot on	23.00	22.25	0.17	0.439	0.306	0.522
L322	LTE B13	QPSK10M	23230	25	12	Rear Face	10	0	Hotspot on	23.00	22.25	0.12	0.563	0.370	0.669
L323	LTE B13	QPSK10M	23230	25	12	Left Side	10	0	Hotspot on	23.00	22.25	-0.06	0.536	0.361	0.637
L324	LTE B13	QPSK10M	23230	25	12	Bottom Side	10	0	Hotspot on	23.00	22.25	0.01	0.322	0.182	0.383
L329	LTE B14	QPSK10M	23330	1	24	Front Face	10	0	Hotspot on	24.00	23.24	0.06	0.514	0.358	0.612
L330	LTE B14	QPSK10M	23330	1	24	Rear Face	10	0	Hotspot on	24.00	23.24	0.12	0.588	0.403	0.700
L331	LTE B14	QPSK10M	23330	1	24	Left Side	10	0	Hotspot on	24.00	23.24	-0.08	0.601	0.405	0.716
L332	LTE B14	QPSK10M	23330	1	24	Bottom Side	10	0	Hotspot on	24.00	23.24	0.09	0.293	0.187	0.349
L333	LTE B14	QPSK10M	23330	25	12	Front Face	10	0	Hotspot on	23.00	22.23	0.06	0.411	0.285	0.491
L334	LTE B14	QPSK10M	23330	25	12	Rear Face	10	0	Hotspot on	23.00	22.23	0.03	0.463	0.326	0.553
L335	LTE B14	QPSK10M	23330	25	12	Left Side	10	0	Hotspot on	23.00	22.23	-0.17	0.514	0.343	0.614
L336	LTE B14	QPSK10M	23330	25	12	Bottom Side	10	0	Hotspot on	23.00	22.23	0.09	0.227	0.147	0.271

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L343	LTE B17	QPSK10M	23790	1	49	Front Face	10	0	Hotspot on	24.00	23.50	0.06	0.385	0.258	0.432
L344	LTE B17	QPSK10M	23790	1	49	Rear Face	10	0	Hotspot on	24.00	23.50	-0.04	0.416	0.276	0.467
L345	LTE B17	QPSK10M	23790	1	49	Left Side	10	0	Hotspot on	24.00	23.50	0.07	0.366	0.240	0.411
L346	LTE B17	QPSK10M	23790	1	49	Bottom Side	10	0	Hotspot on	24.00	23.50	0.08	0.223	0.119	0.250
L347	LTE B17	QPSK10M	23780	25	12	Front Face	10	0	Hotspot on	23.00	22.53	-0.17	0.304	0.209	0.339
L348	LTE B17	QPSK10M	23780	25	12	Rear Face	10	0	Hotspot on	23.00	22.53	0.07	0.328	0.217	0.365
L349	LTE B17	QPSK10M	23780	25	12	Left Side	10	0	Hotspot on	23.00	22.53	0.16	0.279	0.186	0.311
L350	LTE B17	QPSK10M	23780	25	12	Bottom Side	10	0	Hotspot on	23.00	22.53	0.07	0.14	0.082	0.156
L351	LTE B17	QPSK10M	23780	1	49	Rear Face	10	0	Hotspot on	24.00	23.38	-0.04	0.402	0.276	0.464
L352	LTE B17	QPSK10M	23800	1	49	Rear Face	10	0	Hotspot on	24.00	23.44	0.14	0.408	0.279	0.464
L359	LTE B25	QPSK20M	26590	1	50	Front Face	10	1	Hotspot on	23.00	22.29	-0.04	0.815	0.481	0.960
L360	LTE B25	QPSK20M	26590	1	50	Rear Face	10	1	Hotspot on	23.00	22.29	-0.06	0.772	0.460	0.909
L361	LTE B25	QPSK20M	26590	1	50	Left Side	10	1	Hotspot on	23.00	22.29	0.1	0.023	0.013	0.027
L362	LTE B25	QPSK20M	26590	1	50	Right Side	10	1	Hotspot on	23.00	22.29	0.08	0.565	0.309	0.665
L363	LTE B25	QPSK20M	26590	1	50	Bottom Side	10	1	Hotspot on	23.00	22.29	0.1	0.560	0.302	0.659
L364	LTE B25	QPSK20M	26590	50	0	Front Face	10	1	Hotspot on	22.00	21.92	0.01	0.779	0.457	0.793
L365	LTE B25	QPSK20M	26590	50	0	Rear Face	10	1	Hotspot on	22.00	21.92	-0.05	0.785	0.459	0.800
L366	LTE B25	QPSK20M	26590	50	0	Left Side	10	1	Hotspot on	22.00	21.92	-0.05	0.017	0.010	0.017
L367	LTE B25	QPSK20M	26590	50	0	Right Side	10	1	Hotspot on	22.00	21.92	0.01	0.555	0.307	0.565
L368	LTE B25	QPSK20M	26590	50	0	Bottom Side	10	1	Hotspot on	22.00	21.92	-0.1	0.552	0.294	0.562
L369	LTE B25	QPSK20M	26590	100	0	Front Face	10	1	Hotspot on	22.00	21.89	-0.14	0.763	0.439	0.783
L370	LTE B25	QPSK20M	26140	1	50	Front Face	10	1	Hotspot on	23.00	22.20	0.14	0.764	0.448	0.919
L371	LTE B25	QPSK20M	26365	1	50	Front Face	10	1	Hotspot on	23.00	22.24	-0.03	0.773	0.454	0.921
L372	LTE B25	QPSK20M	26590	1	50	Front Face (Repeated)	10	1	Hotspot on	23.00	22.29	0.07	0.796	0.472	0.937
L379	LTE B26	QPSK15M	26865	1	37	Front Face	10	0	Hotspot on	24.00	23.29	0.11	0.605	0.419	0.712
L380	LTE B26	QPSK15M	26865	1	37	Rear Face	10	0	Hotspot on	24.00	23.29	0.01	0.646	0.454	0.761
L381	LTE B26	QPSK15M	26865	1	37	Left Side	10	0	Hotspot on	24.00	23.29	-0.13	0.707	0.465	0.833
L382	LTE B26	QPSK15M	26865	1	37	Bottom Side	10	0	Hotspot on	24.00	23.29	-0.01	0.348	0.230	0.410
L383	LTE B26	QPSK15M	26865	36	0	Front Face	10	0	Hotspot on	23.00	22.36	0.14	0.477	0.336	0.553
L384	LTE B26	QPSK15M	26865	36	0	Rear Face	10	0	Hotspot on	23.00	22.36	-0.11	0.529	0.368	0.613
L385	LTE B26	QPSK15M	26865	36	0	Left Side	10	0	Hotspot on	23.00	22.36	0.14	0.585	0.384	0.678
L386	LTE B26	QPSK15M	26865	36	0	Bottom Side	10	0	Hotspot on	23.00	22.36	0.02	0.292	0.188	0.338
L387	LTE B26	QPSK15M	26865	75	0	Left Side	10	0	Hotspot on	23.00	22.12	-0.04	0.559	0.372	0.685
L388	LTE B26	QPSK15M	26765	1	37	Left Side	10	0	Hotspot on	24.00	23.21	0.02	0.679	0.453	0.814
L389	LTE B26	QPSK15M	26965	1	37	Left Side	10	0	Hotspot on	24.00	23.14	0.11	0.672	0.450	0.819
L390	LTE B26	QPSK15M	26865	1	37	Left Side (Repeated)	10	0	Hotspot on	24.00	23.29	0.07	0.698	0.461	0.822
L395	LTE B30	QPSK10M	27710	1	0	Front Face	10	1	Hotspot on	23.00	22.26	-0.03	0.855	0.532	1.014
L396	LTE B30	QPSK10M	27710	1	0	Rear Face	10	1	Hotspot on	23.00	22.26	-0.09	0.941	0.583	1.116
L397	LTE B30	QPSK10M	27710	1	0	Left Side	10	1	Hotspot on	23.00	22.26	0.08	0.033	0.018	0.039
L398	LTE B30	QPSK10M	27710	1	0	Right Side	10	1	Hotspot on	23.00	22.26	-0.1	0.895	0.477	1.061
L399	LTE B30	QPSK10M	27710	1	0	Bottom Side	10	1	Hotspot on	23.00	22.26	0.02	0.620	0.336	0.735
L400	LTE B30	QPSK10M	27710	25	25	Front Face	10	1	Hotspot on	23.00	21.72	0.05	0.671	0.393	0.901
L401	LTE B30	QPSK10M	27710	25	25	Rear Face	10	1	Hotspot on	23.00	21.72	-0.08	0.848	0.452	1.139
L402	LTE B30	QPSK10M	27710	25	25	Left Side	10	1	Hotspot on	23.00	21.72	-0.06	0.038	0.021	0.051
L403	LTE B30	QPSK10M	27710	25	25	Right Side	10	1	Hotspot on	23.00	21.72	-0.07	0.899	0.479	1.207
L404	LTE B30	QPSK10M	27710	25	25	Bottom Side	10	1	Hotspot on	23.00	21.72	0.12	0.750	0.405	1.007
L405	LTE B30	QPSK10M	27710	50	0	Right Side	10	1	Hotspot on	23.00	21.56	0.09	0.824	0.439	1.148
L406	LTE B30	QPSK10M	27710	25	25	Right Side (Repeated)	10	1	Hotspot on	23.00	21.72	-0.04	0.883	0.473	1.186

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L413	LTE B38	QPSK20M	38000	1	0	Front Face	10	1	Hotspot on	24.00	23.19	-0.02	0.259	0.140	0.312
L414	LTE B38	QPSK20M	38000	1	0	Rear Face	10	1	Hotspot on	24.00	23.19	-0.07	0.346	0.202	0.417
L415	LTE B38	QPSK20M	38000	1	0	Left Side	10	1	Hotspot on	24.00	23.19	-0.19	0.051	0.028	0.061
L416	LTE B38	QPSK20M	38000	1	0	Right Side	10	1	Hotspot on	24.00	23.19	0.02	0.347	0.181	0.418
L417	LTE B38	QPSK20M	38000	1	0	Bottom Side	10	1	Hotspot on	24.00	23.19	-0.19	0.676	0.360	0.815
L418	LTE B38	QPSK20M	37850	50	25	Front Face	10	1	Hotspot on	23.00	22.19	-0.1	0.215	0.115	0.259
L419	LTE B38	QPSK20M	37850	50	25	Rear Face	10	1	Hotspot on	23.00	22.19	0.06	0.276	0.158	0.333
L420	LTE B38	QPSK20M	37850	50	25	Left Side	10	1	Hotspot on	23.00	22.19	0.11	0.043	0.024	0.052
L421	LTE B38	QPSK20M	37850	50	25	Right Side	10	1	Hotspot on	23.00	22.19	-0.03	0.262	0.138	0.316
L422	LTE B38	QPSK20M	37850	50	25	Bottom Side	10	1	Hotspot on	23.00	22.19	0.04	0.583	0.308	0.703
L423	LTE B38	QPSK20M	38000	100	0	Bottom Side	10	1	Hotspot on	23.00	22.03	0.07	0.569	0.297	0.711
L424	LTE B38	QPSK20M	37850	1	0	Bottom Side	10	1	Hotspot on	24.00	23.17	-0.05	0.770	0.391	0.932
L425	LTE B38	QPSK20M	38150	1	0	Bottom Side	10	1	Hotspot on	24.00	22.99	-0.02	0.698	0.367	0.881
L426	LTE B38	QPSK20M	37850	1	0	Bottom Side (Repeated)	10	1	Hotspot on	24.00	23.17	-0.03	0.762	0.388	0.922
L431	LTE B40	QPSK10M	38750	1	24	Front Face	10	1	Hotspot on	24.00	22.77	0.04	0.505	0.306	0.670
L432	LTE B40	QPSK10M	38750	1	24	Rear Face	10	1	Hotspot on	24.00	22.77	-0.06	0.715	0.433	0.949
L433	LTE B40	QPSK10M	38750	1	24	Left Side	10	1	Hotspot on	24.00	22.77	-0.13	0.063	0.038	0.084
L434	LTE B40	QPSK10M	38750	1	24	Right Side	10	1	Hotspot on	24.00	22.77	-0.13	0.724	0.385	0.961
L435	LTE B40	QPSK10M	38750	1	24	Bottom Side	10	1	Hotspot on	24.00	22.77	0.08	0.524	0.268	0.696
L436	LTE B40	QPSK10M	38750	25	0	Front Face	10	1	Hotspot on	23.00	21.65	0.05	0.398	0.243	0.543
L437	LTE B40	QPSK10M	38750	25	0	Rear Face	10	1	Hotspot on	23.00	21.65	-0.11	0.523	0.316	0.714
L438	LTE B40	QPSK10M	38750	25	0	Left Side	10	1	Hotspot on	23.00	21.65	-0.18	0.035	0.018	0.048
L439	LTE B40	QPSK10M	38750	25	0	Right Side	10	1	Hotspot on	23.00	21.65	0.13	0.473	0.261	0.645
L440	LTE B40	QPSK10M	38750	25	0	Bottom Side	10	1	Hotspot on	23.00	21.65	0.1	0.385	0.219	0.525
L441	LTE B40	QPSK10M	38750	50	0	Right Side	10	1	Hotspot on	23.00	21.56	0.06	0.458	0.249	0.638
L442	LTE B40	QPSK10M	38750	1	24	Right Side (Repeated)	10	1	Hotspot on	24.00	22.77	0.14	0.709	0.376	0.941
L447	LTE B40	QPSK10M	39200	1	24	Front Face	10	1	Hotspot on	24.00	22.66	-0.19	0.501	0.283	0.682
L448	LTE B40	QPSK10M	39200	1	24	Rear Face	10	1	Hotspot on	24.00	22.66	-0.12	0.623	0.365	0.848
L449	LTE B40	QPSK10M	39200	1	24	Left Side	10	1	Hotspot on	24.00	22.66	-0.01	0.049	0.026	0.067
L450	LTE B40	QPSK10M	39200	1	24	Right Side	10	1	Hotspot on	24.00	22.66	0.04	0.643	0.338	0.875
L451	LTE B40	QPSK10M	39200	1	24	Bottom Side	10	1	Hotspot on	24.00	22.66	0.08	0.516	0.273	0.703
L452	LTE B40	QPSK10M	39200	25	12	Front Face	10	1	Hotspot on	23.00	21.67	0.01	0.451	0.268	0.613
L453	LTE B40	QPSK10M	39200	25	12	Rear Face	10	1	Hotspot on	23.00	21.67	-0.1	0.572	0.341	0.777
L454	LTE B40	QPSK10M	39200	25	12	Left Side	10	1	Hotspot on	23.00	21.67	0.11	0.026	0.017	0.035
L455	LTE B40	QPSK10M	39200	25	12	Right Side	10	1	Hotspot on	23.00	21.67	-0.09	0.594	0.316	0.807
L456	LTE B40	QPSK10M	39200	25	12	Bottom Side	10	1	Hotspot on	23.00	21.67	-0.1	0.442	0.241	0.600
L457	LTE B40	QPSK10M	39200	50	0	Right Side	10	1	Hotspot on	23.00	21.65	0.04	0.573	0.304	0.782
L458	LTE B40	QPSK10M	39200	1	24	Right Side (Repeated)	10	1	Hotspot on	24.00	22.66	-0.07	0.627	0.332	0.854

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L465	LTE B41	QPSK20M	40620	1	50	Front Face	10	1	Hotspot on	24.00	23.29	-0.12	0.335	0.168	0.394
L466	LTE B41	QPSK20M	40620	1	50	Rear Face	10	1	Hotspot on	24.00	23.29	-0.05	0.422	0.237	0.497
L467	LTE B41	QPSK20M	40620	1	50	Left Side	10	1	Hotspot on	24.00	23.29	0.16	0.057	0.031	0.067
L468	LTE B41	QPSK20M	40620	1	50	Right Side	10	1	Hotspot on	24.00	23.29	-0.06	0.447	0.230	0.526
L469	LTE B41	QPSK20M	40620	1	50	Bottom Side	10	1	Hotspot on	24.00	23.29	0.03	0.935	0.489	1.101
L470	LTE B41	QPSK20M	41490	50	0	Front Face	10	1	Hotspot on	24.00	23.02	0.15	0.314	0.159	0.393
L471	LTE B41	QPSK20M	41490	50	0	Rear Face	10	1	Hotspot on	24.00	23.02	-0.06	0.397	0.218	0.497
L472	LTE B41	QPSK20M	41490	50	0	Left Side	10	1	Hotspot on	24.00	23.02	0.09	0.053	0.028	0.066
L473	LTE B41	QPSK20M	41490	50	0	Right Side	10	1	Hotspot on	24.00	23.02	-0.13	0.417	0.215	0.523
L474	LTE B41	QPSK20M	41490	50	0	Bottom Side	10	1	Hotspot on	24.00	23.02	-0.09	0.854	0.437	1.070
L475	LTE B41	QPSK20M	40620	100	0	Bottom Side	10	1	Hotspot on	24.00	22.93	0.09	0.791	0.412	1.012
L476	LTE B41	QPSK20M	39750	1	50	Bottom Side	10	1	Hotspot on	24.00	23.21	-0.1	0.889	0.462	1.066
L477	LTE B41	QPSK20M	41490	1	50	Bottom Side	10	1	Hotspot on	24.00	23.28	0.12	0.836	0.443	0.987
L478	LTE B41	QPSK20M	40620	1	50	Bottom Side (Repeated)	10	1	Hotspot on	24.00	23.29	-0.13	0.921	0.479	1.085
L497	LTE B42	QPSK20M	42590	1	50	Front Face	10	4	Hotspot on	22.00	20.91	0	0.246	0.107	0.316
L498	LTE B42	QPSK20M	42590	1	50	Rear Face	10	4	Hotspot on	22.00	20.91	0.04	0.385	0.176	0.495
L499	LTE B42	QPSK20M	42590	1	50	Right Side	10	4	Hotspot on	22.00	20.91	0.05	0.119	0.055	0.153
L500	LTE B42	QPSK20M	42590	1	50	Bottom Side	10	4	Hotspot on	22.00	20.91	0.13	0.717	0.300	0.922
L501	LTE B42	QPSK20M	42990	50	25	Front Face	10	4	Hotspot on	22.00	20.60	0.17	0.264	0.115	0.364
L502	LTE B42	QPSK20M	42990	50	25	Rear Face	10	4	Hotspot on	22.00	20.60	-0.14	0.366	0.171	0.505
L503	LTE B42	QPSK20M	42990	50	25	Right Side	10	4	Hotspot on	22.00	20.60	0.03	0.094	0.046	0.130
L504	LTE B42	QPSK20M	42990	50	25	Bottom Side	10	4	Hotspot on	22.00	20.60	0.01	0.805	0.338	1.111
L505	LTE B42	QPSK20M	42990	100	0	Bottom Side	10	4	Hotspot on	22.00	20.50	0.03	0.769	0.320	1.086
L506	LTE B42	QPSK20M	42190	50	25	Bottom Side	10	4	Hotspot on	22.00	20.45	-0.14	0.751	0.315	1.073
L507	LTE B42	QPSK20M	42590	50	25	Bottom Side	10	4	Hotspot on	22.00	20.53	0.06	0.727	0.307	1.020
L508	LTE B42	QPSK20M	42990	50	25	Bottom Side (Repeated)	10	4	Hotspot on	22.00	20.60	-0.02	0.791	0.332	1.092
L515	LTE B48	QPSK20M	55340	1	50	Front Face	10	4	Hotspot on	21.50	20.41	0.1	0.256	0.105	0.329
L516	LTE B48	QPSK20M	55340	1	50	Rear Face	10	4	Hotspot on	21.50	20.41	-0.01	0.392	0.167	0.504
L517	LTE B48	QPSK20M	55340	1	50	Right Side	10	4	Hotspot on	21.50	20.41	0.14	0.088	0.042	0.113
L518	LTE B48	QPSK20M	55340	1	50	Bottom Side	10	4	Hotspot on	21.50	20.41	0.19	0.682	0.285	0.877
L519	LTE B48	QPSK20M	55340	50	25	Front Face	10	4	Hotspot on	21.50	20.38	0.19	0.258	0.107	0.334
L520	LTE B48	QPSK20M	55340	50	25	Rear Face	10	4	Hotspot on	21.50	20.38	-0.04	0.415	0.177	0.537
L521	LTE B48	QPSK20M	55340	50	25	Right Side	10	4	Hotspot on	21.50	20.38	0.13	0.1	0.047	0.129
L522	LTE B48	QPSK20M	55340	50	25	Bottom Side	10	4	Hotspot on	21.50	20.38	0.04	0.695	0.290	0.899
L523	LTE B48	QPSK20M	55340	100	0	Bottom Side	10	4	Hotspot on	21.50	20.18	0.07	0.653	0.268	0.885
L524	LTE B48	QPSK20M	55990	50	25	Bottom Side	10	4	Hotspot on	21.50	20.26	-0.01	0.666	0.273	0.886
L525	LTE B48	QPSK20M	56640	50	25	Bottom Side	10	4	Hotspot on	21.50	20.06	-0.09	0.606	0.248	0.844
L526	LTE B48	QPSK20M	55340	50	25	Bottom Side (Repeated)	10	4	Hotspot on	21.50	20.38	-0.09	0.68	0.281	0.880

Test No.	Band	Mode	Channel	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
L533	LTE B66	QPSK20M	132072	1	0	Front Face	10	1	Hotspot on	22.50	21.99	-0.01	0.576	0.333	0.648
L534	LTE B66	QPSK20M	132072	1	0	Rear Face	10	1	Hotspot on	22.50	21.99	-0.07	0.694	0.459	0.780
L535	LTE B66	QPSK20M	132072	1	0	Left Side	10	1	Hotspot on	22.50	21.99	-0.16	0.15	0.086	0.169
L536	LTE B66	QPSK20M	132072	1	0	Right Side	10	1	Hotspot on	22.50	21.99	0.12	0.547	0.313	0.615
L537	LTE B66	QPSK20M	132072	1	0	Bottom Side	10	1	Hotspot on	22.50	21.99	-0.12	0.728	0.405	0.819
L538	LTE B66	QPSK20M	132072	50	25	Front Face	10	1	Hotspot on	22.50	21.63	0.01	0.633	0.359	0.773
L539	LTE B66	QPSK20M	132072	50	25	Rear Face	10	1	Hotspot on	22.50	21.63	0.19	0.574	0.334	0.701
L540	LTE B66	QPSK20M	132072	50	25	Left Side	10	1	Hotspot on	22.50	21.63	0.04	0.136	0.079	0.166
L541	LTE B66	QPSK20M	132072	50	25	Right Side	10	1	Hotspot on	22.50	21.63	-0.09	0.567	0.323	0.693
L542	LTE B66	QPSK20M	132072	50	25	Bottom Side	10	1	Hotspot on	22.50	21.63	0.11	0.793	0.441	0.969
L543	LTE B66	QPSK20M	132072	100	0	Bottom Side	10	1	Hotspot on	22.50	21.61	-0.1	0.823	0.461	1.010
L544	LTE B66	QPSK20M	132322	50	25	Bottom Side	10	1	Hotspot on	22.50	21.46	-0.01	0.812	0.450	1.032
L545	LTE B66	QPSK20M	132572	50	25	Bottom Side	10	1	Hotspot on	22.50	21.30	0.06	0.849	0.472	1.119
L546	LTE B66	QPSK20M	132572	50	25	Bottom Side (Repeated)	10	1	Hotspot on	22.50	21.30	0.11	0.833	0.467	1.098
L553	LTE B71	QPSK20M	133222	1	0	Front Face	10	0	Hotspot on	24.00	23.37	0.07	0.339	0.207	0.392
L554	LTE B71	QPSK20M	133322	1	0	Rear Face	10	0	Hotspot on	24.00	23.37	-0.13	0.367	0.220	0.424
L555	LTE B71	QPSK20M	133322	1	0	Left Side	10	0	Hotspot on	24.00	23.37	0.06	0.378	0.228	0.437
L556	LTE B71	QPSK20M	133322	1	0	Bottom Side	10	0	Hotspot on	24.00	23.37	0.01	0.187	0.081	0.216
L557	LTE B71	QPSK20M	133222	50	25	Front Face	10	0	Hotspot on	23.00	22.29	0.09	0.284	0.175	0.334
L558	LTE B71	QPSK20M	133322	50	25	Rear Face	10	0	Hotspot on	23.00	22.29	-0.06	0.299	0.185	0.352
L559	LTE B71	QPSK20M	133322	50	25	Left Side	10	0	Hotspot on	23.00	22.29	0.17	0.269	0.153	0.317
L560	LTE B71	QPSK20M	133322	50	25	Bottom Side	10	0	Hotspot on	23.00	22.29	-0.05	0.167	0.075	0.197
L561	LTE B71	QPSK20M	133322	1	0	Left Side	10	0	Hotspot on	24.00	23.09	0.07	0.358	0.217	0.441
L562	LTE B71	QPSK20M	133372	1	0	Left Side	10	0	Hotspot on	24.00	23.08	-0.18	0.369	0.224	0.456

Note: The value with boldface is the maximum SAR Value of each test band.

4. Hotspot SAR test results of 5G NR

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N110	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Front Face	10	1	Hotspot on	15K	100	23.00	22.60	0.12	0.680	0.428	0.746
N111	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.60	0.04	0.702	0.447	0.770
N112	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Left Side	10	1	Hotspot on	15K	100	23.00	22.60	-0.15	0.053	0.032	0.058
N113	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Right Side	10	1	Hotspot on	15K	100	23.00	22.60	0.03	0.605	0.356	0.663
N114	5G n2	DFT-s-OFDM QPSK	20M	372000	1860	1	1	Bottom Side	10	1	Hotspot on	15K	100	23.00	22.60	0.05	0.527	0.292	0.578
N115	5G n2	DFT-s-OFDM QPSK	20M	376000	1880	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.33	0.08	0.759	0.471	0.886
N116	5G n2	DFT-s-OFDM QPSK	20M	380000	1900	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.51	-0.04	0.699	0.448	0.782
N117	5G n2	DFT-s-OFDM QPSK	20M	376000	1880	1	1	Rear Face (Repeated)	10	1	Hotspot on	15K	100	23.00	22.33	0.03	0.736	0.464	0.859
N122	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Front Face	10	0	Hotspot on	15K	100	24.00	23.48	0.18	0.628	0.435	0.708
N123	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.48	-0.05	0.711	0.481	0.801
N124	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Left Side	10	0	Hotspot on	15K	100	24.00	23.48	-0.08	0.696	0.469	0.785
N125	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Bottom Side	10	0	Hotspot on	15K	100	24.00	23.48	0.01	0.421	0.261	0.475
N126	5G n5	DFT-s-OFDM QPSK	20M	166800	834	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.40	-0.14	0.687	0.478	0.789
N127	5G n5	DFT-s-OFDM QPSK	20M	167800	839	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.32	0.1	0.683	0.477	0.799
N128	5G n5	DFT-s-OFDM QPSK	20M	167300	836.5	1	1	Rear Face (Repeated)	10	0	Hotspot on	15K	100	24.00	23.48	0.07	0.702	0.476	0.791
N141	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Front Face	10	1	Hotspot on	15K	100	22.00	21.83	-0.15	0.323	0.169	0.336
N142	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Rear Face	10	1	Hotspot on	15K	100	22.00	21.83	0.09	0.43	0.239	0.447
N143	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Left Side	10	1	Hotspot on	15K	100	22.00	21.83	-0.07	0.046	0.024	0.048
N144	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Right Side	10	1	Hotspot on	15K	100	22.00	21.83	0.05	0.393	0.204	0.409
N145	5G n7	DFT-s-OFDM QPSK	20M	512000	2560	1	104	Bottom Side	10	1	Hotspot on	15K	100	22.00	21.83	0.02	0.818	0.421	0.851
N146	5G n7	DFT-s-OFDM QPSK	20M	502000	2510	1	104	Bottom Side	10	1	Hotspot on	15K	100	22.00	21.77	-0.13	0.984	0.507	1.038
N147	5G n7	DFT-s-OFDM QPSK	20M	507000	2535	1	104	Bottom Side	10	1	Hotspot on	15K	100	22.00	21.75	-0.06	0.941	0.482	0.997
N148	5G n7	DFT-s-OFDM QPSK	20M	502000	2510	1	104	Bottom Side (Repeated)	10	1	Hotspot on	15K	100	22.00	21.77	0.07	0.961	0.489	1.013
N153	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Front Face	10	0	Hotspot on	15K	100	24.00	23.24	0.1	0.362	0.235	0.431
N154	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.24	0.14	0.399	0.266	0.475
N155	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Left Side	10	0	Hotspot on	15K	100	24.00	23.24	-0.13	0.37	0.236	0.441
N156	5G n12	DFT-s-OFDM QPSK	20M	141500	707.5	1	1	Bottom Side	10	0	Hotspot on	15K	100	24.00	23.24	0.09	0.311	0.143	0.370
N157	5G n12	DFT-s-OFDM QPSK	20M	141300	706.5	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.17	-0.16	0.407	0.266	0.493
N158	5G n12	DFT-s-OFDM QPSK	20M	141700	708.5	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.15	0.02	0.401	0.252	0.488
N161	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Front Face	10	0	Hotspot on	15K	100	24.00	23.28	-0.04	0.608	0.415	0.718
N162	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Rear Face	10	0	Hotspot on	15K	100	24.00	23.28	0.16	0.652	0.454	0.770
N163	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Left Side	10	0	Hotspot on	15K	100	24.00	23.28	-0.03	0.689	0.455	0.813
N164	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Bottom Side	10	0	Hotspot on	15K	100	24.00	23.28	0.18	0.324	0.203	0.382
N165	5G n14	DFT-s-OFDM QPSK	10M	158600	793	25	12	Left Side (Repeated)	10	0	Hotspot on	15K	100	24.00	23.28	-0.07	0.677	0.446	0.799

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N170	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Front Face	10	1	Hotspot on	15K	100	23.00	22.49	0.01	0.701	0.443	0.788
N171	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.49	0.05	0.749	0.454	0.842
N172	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Left Side	10	1	Hotspot on	15K	100	23.00	22.49	0	0.063	0.034	0.071
N173	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Right Side	10	1	Hotspot on	15K	100	23.00	22.49	0.06	0.583	0.335	0.656
N174	5G n25	DFT-s-OFDM QPSK	30M	380000	1900	1	1	Bottom Side	10	1	Hotspot on	15K	100	23.00	22.49	0.11	0.508	0.285	0.571
N175	5G n25	DFT-s-OFDM QPSK	30M	373000	1865	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.39	0.05	0.64	0.405	0.737
N176	5G n25	DFT-s-OFDM QPSK	30M	376500	1882.5	1	1	Rear Face	10	1	Hotspot on	15K	100	23.00	22.46	-0.12	0.735	0.456	0.832
N181	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Front Face	10	0	Hotspot on	15K	100	24.00	23.13	0.17	0.682	0.481	0.833
N182	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Rear Face	10	0	Hotspot on	15K	100	24.00	23.13	0.13	0.76	0.536	0.929
N183	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Left Side	10	0	Hotspot on	15K	100	24.00	23.13	0	0.818	0.548	0.999
N184	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Bottom Side	10	0	Hotspot on	15K	100	24.00	23.13	0.14	0.413	0.276	0.505
N185	5G n26	DFT-s-OFDM QPSK	20M	166300	831.5	50	25	Left Side	10	0	Hotspot on	15K	100	24.00	23.13	-0.14	0.769	0.522	0.940
N186	5G n26	DFT-s-OFDM QPSK	20M	167800	839	50	25	Left Side	10	0	Hotspot on	15K	100	24.00	22.91	-0.17	0.757	0.514	0.973
N187	5G n26	DFT-s-OFDM QPSK	20M	164800	824	50	25	Left Side (Repeated)	10	0	Hotspot on	15K	100	24.00	23.13	0.03	0.797	0.528	0.974
N190	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Front Face	10	1	Hotspot on	15K	100	24.00	23.51	0.04	0.9	0.517	1.007
N191	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Rear Face	10	1	Hotspot on	15K	100	24.00	23.51	-0.03	1.21	0.695	1.355
N192	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Left Side	10	1	Hotspot on	15K	100	24.00	23.51	0.15	0.051	0.022	0.057
N193	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Right Side	10	1	Hotspot on	15K	100	24.00	23.51	-0.04	1.122	0.604	1.256
N194	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Bottom Side	10	1	Hotspot on	15K	100	24.00	23.51	-0.05	0.853	0.462	0.955
N195	5G n30	DFT-s-OFDM QPSK	10M	462000	2310	1	50	Rear Face (Repeated)	10	1	Hotspot on	15K	100	24.00	23.51	-0.01	1.08	0.621	1.209
N208	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Front Face	10	1	Hotspot on	30K	100	22.50	22.17	-0.16	0.347	0.185	0.374
N209	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Rear Face	10	1	Hotspot on	30K	100	22.50	22.17	-0.09	0.482	0.265	0.520
N210	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Left Side	10	1	Hotspot on	30K	100	22.50	22.17	0.02	0.053	0.028	0.057
N211	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Right Side	10	1	Hotspot on	30K	100	22.50	22.17	0.18	0.433	0.223	0.467
N212	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Bottom Side	10	1	Hotspot on	30K	100	22.50	22.17	0.04	0.98	0.505	1.057
N213	5G n38	DFT-s-OFDM QPSK	40M	518000	2590	1	1	Bottom Side	10	1	Hotspot on	30K	100	22.50	22.14	0.12	0.944	0.489	1.026
N214	5G n38	DFT-s-OFDM QPSK	40M	519000	2595	1	1	Bottom Side	10	1	Hotspot on	30K	100	22.50	22.16	0.06	0.955	0.496	1.033
N215	5G n38	DFT-s-OFDM QPSK	40M	520000	2600	1	1	Bottom Side (Repeated)	10	1	Hotspot on	30K	100	22.50	22.17	0.04	0.967	0.497	1.043
N229	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Front Face	10	1	Hotspot on	30K	100	24.00	23.68	-0.17	0.518	0.275	0.558
N230	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Rear Face	10	1	Hotspot on	30K	100	24.00	23.68	-0.1	0.648	0.36	0.698
N231	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Left Side	10	1	Hotspot on	30K	100	24.00	23.68	0	0.064	0.035	0.069
N232	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Right Side	10	1	Hotspot on	30K	100	24.00	23.68	-0.12	0.439	0.228	0.473
N233	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Bottom Side	10	1	Hotspot on	30K	100	24.00	23.68	-0.03	1.27	0.66	1.367
N234	5G n41	DFT-s-OFDM QPSK	100M	509202	2546.01	1	1	Bottom Side	10	1	Hotspot on	30K	100	24.00	23.57	0.07	1.078	0.557	1.190
N235	5G n41	DFT-s-OFDM QPSK	100M	528000	2640	1	1	Bottom Side	10	1	Hotspot on	30K	100	24.00	23.66	-0.05	1.13	0.59	1.222
N236	5G n41	DFT-s-OFDM QPSK	100M	518598	2592.99	1	1	Bottom Side (Repeated)	10	1	Hotspot on	30K	100	24.00	23.68	0.09	1.21	0.652	1.303

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N241	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Front Face	10	4	Hotspot on	30K	100	21.50	20.69	0.08	0.392	0.166	0.472
N242	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Rear Face	10	4	Hotspot on	30K	100	21.50	20.69	-0.02	0.535	0.241	0.645
N243	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Right Side	10	4	Hotspot on	30K	100	21.50	20.69	0.13	0.132	0.067	0.159
N244	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Bottom Side	10	4	Hotspot on	30K	100	21.50	20.69	0.02	1.03	0.432	1.241
N245	5G n48	DFT-s-OFDM QPSK	40M	641666	3624.99	1	1	Bottom Side	10	4	Hotspot on	30K	100	21.50	20.59	0.03	0.901	0.377	1.111
N246	5G n48	DFT-s-OFDM QPSK	40M	645332	3679.98	1	1	Bottom Side	10	4	Hotspot on	30K	100	21.50	20.38	0.06	0.88	0.368	1.139
N247	5G n48	DFT-s-OFDM QPSK	40M	638000	3570	1	1	Bottom Side (Repeated)	10	4	Hotspot on	30K	100	21.50	20.69	-0.13	0.992	0.424	1.195
N252	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	1	Front Face	10	1	Hotspot on	15K	100	22.50	22.03	-0.04	0.625	0.354	0.696
N253	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	1	Rear Face	10	1	Hotspot on	15K	100	22.50	22.03	0.01	0.574	0.326	0.640
N254	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	1	Left Side	10	1	Hotspot on	15K	100	22.50	22.03	0.13	0.178	0.1	0.198
N255	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	1	Right Side	10	1	Hotspot on	15K	100	22.50	22.03	-0.08	0.582	0.337	0.649
N256	5G n66	DFT-s-OFDM QPSK	30M	345000	1725	1	1	Bottom Side	10	1	Hotspot on	15K	100	22.50	22.03	0.02	0.734	0.413	0.818
N257	5G n66	DFT-s-OFDM QPSK	30M	349000	1745	1	1	Bottom Side	10	1	Hotspot on	15K	100	22.50	21.86	-0.02	0.82	0.461	0.950
N258	5G n66	DFT-s-OFDM QPSK	30M	353000	1765	1	1	Bottom Side	10	1	Hotspot on	15K	100	22.50	21.76	0.05	0.837	0.474	0.992
N259	5G n66	DFT-s-OFDM QPSK	30M	353000	1765	1	1	Bottom Side (Repeated)	10	1	Hotspot on	15K	100	22.50	21.76	-0.07	0.819	0.462	0.971
N262	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Front Face	10	1	Hotspot on	15K	100	24.00	23.01	-0.06	0.515	0.279	0.647
N263	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Rear Face	10	1	Hotspot on	15K	100	24.00	23.01	0.03	0.409	0.23	0.514
N264	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Left Side	10	1	Hotspot on	15K	100	24.00	23.01	0.05	0.11	0.061	0.138
N265	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Right Side	10	1	Hotspot on	15K	100	24.00	23.01	0.07	0.417	0.234	0.524
N266	5G n70	DFT-s-OFDM QPSK	15M	340500	1702.5	1	77	Bottom Side	10	1	Hotspot on	15K	100	24.00	23.01	-0.04	0.501	0.271	0.629
N271	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Front Face	10	0	Hotspot on	15K	100	24.00	23.01	0.05	0.229	0.156	0.288
N272	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	23.01	-0.09	0.255	0.17	0.320
N273	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Left Side	10	0	Hotspot on	15K	100	24.00	23.01	0.06	0.222	0.141	0.279
N274	5G n71	DFT-s-OFDM QPSK	20M	134600	673	1	1	Bottom Side	10	0	Hotspot on	15K	100	24.00	23.01	0.01	0.186	0.081	0.234
N275	5G n71	DFT-s-OFDM QPSK	20M	136100	680.5	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	22.72	-0.02	0.302	0.205	0.406
N276	5G n71	DFT-s-OFDM QPSK	20M	137600	688	1	1	Rear Face	10	0	Hotspot on	15K	100	24.00	22.85	0.07	0.287	0.198	0.374
N285	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Front Face	10	4	Hotspot on	30K	100	20.00	19.85	0.07	0.433	0.181	0.448
N286	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Rear Face	10	4	Hotspot on	30K	100	20.00	19.85	0.04	0.592	0.258	0.613
N287	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Side	10	4	Hotspot on	30K	100	20.00	19.85	0.13	0.162	0.076	0.168
N288	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.85	0.01	1.06	0.44	1.097
N289	5G n77	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side (Repeated)	10	4	Hotspot on	30K	100	20.00	19.85	-0.03	0.982	0.425	1.017
N301	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Front Face	10	4	Hotspot on	30K	100	20.00	19.84	0.09	0.313	0.128	0.325
N302	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Rear Face	10	4	Hotspot on	30K	100	20.00	19.84	-0.11	0.496	0.218	0.515
N303	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Right Side	10	4	Hotspot on	30K	100	20.00	19.84	0.02	0.113	0.05	0.117
N304	5G n77	DFT-s-OFDM QPSK	100M	650000	3750	135	67	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.84	0.08	0.785	0.326	0.814
N305	5G n77	DFT-s-OFDM QPSK	100M	656000	3840	135	67	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.71	0.1	0.914	0.373	0.977
N306	5G n77	DFT-s-OFDM QPSK	100M	662000	3930	135	67	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.53	-0.01	0.803	0.345	0.895
N307	5G n77	DFT-s-OFDM QPSK	100M	656000	3840	135	67	Bottom Side (Repeated)	10	4	Hotspot on	30K	100	20.00	19.71	-0.02	0.886	0.358	0.947

Test No.	Band	Mode	BW	Channel	Frequency (MHz)	RB	offset	Test Position	Separation Distance (mm)	Ant	Condition	SCS Setting	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
N317	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Front Face	10	4	Hotspot on	30K	100	20.00	19.90	0.04	0.571	0.229	0.584
N318	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Rear Face	10	4	Hotspot on	30K	100	20.00	19.90	0.03	0.76	0.324	0.778
N319	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Right Side	10	4	Hotspot on	30K	100	20.00	19.90	0.11	0.204	0.094	0.209
N320	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.90	-0.16	1.2	0.497	1.228
N321	5G n78	DFT-s-OFDM QPSK	100M	633334	3500.01	135	67	Bottom Side (Repeated)	10	4	Hotspot on	30K	100	20.00	19.90	0.07	1.07	0.484	1.095
N330	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Front Face	10	4	Hotspot on	30K	100	20.00	19.86	0.09	0.461	0.181	0.476
N331	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Rear Face	10	4	Hotspot on	30K	100	20.00	19.86	0.04	0.696	0.299	0.719
N332	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Right Side	10	4	Hotspot on	30K	100	20.00	19.86	0.11	0.144	0.069	0.149
N333	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Bottom Side	10	4	Hotspot on	30K	100	20.00	19.86	-0.18	1.08	0.439	1.115
N334	5G n78	DFT-s-OFDM QPSK	100M	650000	3750	1	1	Bottom Side (Repeated)	10	4	Hotspot on	30K	100	20.00	19.86	-0.03	1.01	0.433	1.043

Note: The value with boldface is the maximum SAR Value of each test band.

5. Hotspot SAR test results of EN-DC

Separation distance: 10mm

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	Condition	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	SCS (kHz)								
E89	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Front Face	0+1	Hotspot on	0.740	0.488	0.806
E90	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Rear Face	0+1	Hotspot on	1.07	0.711	1.165
E91	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Left Side	0+1	Hotspot on	0.403	0.297	0.439
E92	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Right Side	0+1	Hotspot on	0.917	0.553	0.999
E93	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.57	Bottom Side	0+1	Hotspot on	0.801	0.543	0.886
E94	B2	20	QPSK	18700	1/50	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.56	Rear Face	0+1	Hotspot on	0.941	0.596	1.044
E95	B2	20	QPSK	18900	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.64	Rear Face	0+1	Hotspot on	0.768	0.557	0.836
E96	B2	20	QPSK	19100	1/50	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.64	Rear Face (Repeated)	0+1	Hotspot on	0.993	0.698	1.081
E103	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Front Face	0+1	Hotspot on	0.647	0.432	0.700
E104	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Rear Face	0+1	Hotspot on	0.743	0.419	0.804
E105	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Left Side	0+1	Hotspot on	1.23	0.740	1.330
E106	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Right Side	0+1	Hotspot on	0.259	0.207	0.280
E107	B2	20	QPSK	18900	1/50	N41	100	DFT-s-OFDM QPSK	518598	1/1	30	24.01	23.67	Bottom Side	0+1	Hotspot on	0.346	0.193	0.374
E108	B2	20	QPSK	18700	1/50	N41	100	DFT-s-OFDM QPSK	509202	135/67	30	24.01	23.6	Left Side	0+1	Hotspot on	1.27	0.713	1.396
E109	B2	20	QPSK	19100	1/50	N41	100	DFT-s-OFDM QPSK	528000	1/271	30	24.01	23.63	Left Side	0+1	Hotspot on	1.33	0.787	1.452
E110	B2	20	QPSK	19100	1/50	N41	100	DFT-s-OFDM QPSK	528000	1/271	30	24.01	23.63	Left Side (Repeated)	0+1	Hotspot on	1.29	0.782	1.408
E117	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Front Face	0+1	Hotspot on	0.748	0.485	0.798
E118	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Rear Face	0+1	Hotspot on	0.714	0.446	0.762
E119	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Left Side	0+1	Hotspot on	0.331	0.261	0.353
E120	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.73	Right Side	0+1	Hotspot on	0.726	0.438	0.774
E121	B2	20	QPSK	18700	1/50	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.5	Bottom Side	0+1	Hotspot on	0.836	0.580	0.940
E122	B2	20	QPSK	18900	1/50	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.66	Bottom Side	0+1	Hotspot on	0.891	0.532	0.966
E123	B2	20	QPSK	19100	1/50	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.73	Bottom Side	0+1	Hotspot on	0.788	0.472	0.840
E124	B2	20	QPSK	18900	1/50	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.66	Bottom Side (Repeated)	0+1	Hotspot on	0.874	0.523	0.947

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	Condition	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	Band	Band width [MHz]	Modulation	Channel (UL)	RB Size/Offset	SCS (kHz)								
E131	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Front Face	0+4	Hotspot on	0.296	0.271	0.321
E132	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Rear Face	0+4	Hotspot on	0.402	0.285	0.436
E133	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Left Side	0+4	Hotspot on	0.390	0.296	0.423
E134	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Right Side	0+4	Hotspot on	0.246	0.195	0.267
E135	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.66	Bottom Side	0+4	Hotspot on	0.616	0.376	0.668
E136	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.65	Bottom Side	0+4	Hotspot on	0.579	0.392	0.629
E137	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.58	Bottom Side	0+4	Hotspot on	0.628	0.368	0.693
E144	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Front Face	0+4	Hotspot on	0.370	0.215	0.400
E145	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Rear Face	0+4	Hotspot on	0.498	0.243	0.539
E146	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Left Side	0+4	Hotspot on	0.483	0.315	0.522
E147	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Right Side	0+4	Hotspot on	0.254	0.211	0.275
E148	B2	20	QPSK	19100	1/50	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.67	Bottom Side	0+4	Hotspot on	0.699	0.409	0.756
E149	B2	20	QPSK	18700	1/50	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.65	Bottom Side	0+4	Hotspot on	0.644	0.391	0.700
E150	B2	20	QPSK	18900	1/50	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.53	Bottom Side	0+4	Hotspot on	0.637	0.348	0.711
E157	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Front Face	0+1	Hotspot on	0.839	0.495	0.907
E158	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Rear Face	0+1	Hotspot on	0.756	0.508	0.818
E159	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Left Side	0+1	Hotspot on	0.344	0.322	0.372
E160	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.67	Right Side	0+1	Hotspot on	0.556	0.324	0.601
E161	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.52	Bottom Side	0+1	Hotspot on	0.950	0.575	1.063
E162	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.55	Bottom Side	0+1	Hotspot on	0.823	0.520	0.915
E163	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.55	Bottom Side	0+1	Hotspot on	0.878	0.532	0.976
E164	B30	10	QPSK	27710	1/49	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.52	Bottom Side (Repeated)	0+1	Hotspot on	0.938	0.569	1.050
E171	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Front Face	0+1	Hotspot on	0.774	0.446	0.847
E172	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Rear Face	0+1	Hotspot on	0.712	0.461	0.779
E173	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Left Side	0+1	Hotspot on	0.329	0.250	0.360
E174	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Right Side	0+1	Hotspot on	0.670	0.447	0.733
E175	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	345000	80/40	15	24.01	23.62	Bottom Side	0+1	Hotspot on	0.909	0.533	0.994
E176	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.56	Bottom Side	0+1	Hotspot on	0.943	0.564	1.046
E177	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	353000	1/158	15	24.01	23.51	Bottom Side	0+1	Hotspot on	0.818	0.519	0.918
E178	B30	10	QPSK	27710	1/49	N66	30	DFT-s-OFDM QPSK	349000	1/1	15	24.01	23.56	Bottom Side (Repeated)	0+1	Hotspot on	0.924	0.551	1.025

Test No.	LTE					NR						Tune up For ENDC TX Power	ENDC TX Power	Test Position	Ant	Condition	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	Band	Band width [MHZ]	Modulation	Chan nel (UL)	RB Size/ Offset	SCS (kHz)								
E185	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Front Face	0+1	Hotspot on	0.873	0.560	0.927
E186	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Rear Face	0+1	Hotspot on	0.848	0.621	0.900
E187	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Left Side	0+1	Hotspot on	0.324	0.260	0.344
E188	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Right Side	0+1	Hotspot on	0.676	0.432	0.718
E189	B66	20	QPSK	132072	1/0	N2	20	DFT-s-OFDM QPSK	372000	50/25	15	24.01	23.75	Bottom Side	0+1	Hotspot on	0.698	0.473	0.741
E190	B66	20	QPSK	132322	1/0	N2	20	DFT-s-OFDM QPSK	376000	1/1	15	24.01	23.58	Front Face	0+1	Hotspot on	0.780	0.506	0.861
E191	B66	20	QPSK	132572	1/0	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.66	Front Face	0+1	Hotspot on	0.871	0.550	0.944
E192	B66	20	QPSK	132572	1/0	N2	20	DFT-s-OFDM QPSK	380000	1/104	15	24.01	23.66	Front Face (Repeated)	0+1	Hotspot on	0.849	0.538	0.920
E199	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Front Face	0+1	Hotspot on	0.904	0.607	0.978
E200	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Rear Face	0+1	Hotspot on	1.12	0.709	1.211
E201	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Left Side	0+1	Hotspot on	0.304	0.244	0.329
E202	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Right Side	0+1	Hotspot on	1.020	0.558	1.103
E203	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Bottom Side	0+1	Hotspot on	0.886	0.527	0.958
E204	B66	20	QPSK	132322	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/1	15	24.01	23.51	Rear Face	0+1	Hotspot on	1.04	0.610	1.167
E205	B66	20	QPSK	132572	1/0	N30	10	DFT-s-OFDM QPSK	462000	1/50	15	24.01	23.58	Rear Face	0+1	Hotspot on	1.05	0.652	1.159
E206	B66	20	QPSK	132072	1/0	N30	10	DFT-s-OFDM QPSK	462000	25/12	15	24.01	23.67	Rear Face (Repeated)	0+1	Hotspot on	1.09	0.690	1.179
E213	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Front Face	0+4	Hotspot on	0.306	0.283	0.338
E214	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Rear Face	0+4	Hotspot on	0.501	0.323	0.553
E215	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Left Side	0+4	Hotspot on	0.352	0.231	0.389
E216	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Right Side	0+4	Hotspot on	0.214	0.234	0.236
E217	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	633334	135/67	30	24.01	23.58	Bottom Side	0+4	Hotspot on	0.674	0.345	0.744
E218	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/1	30	24.01	23.50	Bottom Side	0+4	Hotspot on	0.625	0.307	0.703
E219	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	633334	1/271	30	24.01	23.47	Bottom Side	0+4	Hotspot on	0.501	0.308	0.567
E226	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Front Face	0+4	Hotspot on	0.341	0.195	0.371
E227	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Rear Face	0+4	Hotspot on	0.487	0.289	0.530
E228	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Left Side	0+4	Hotspot on	0.450	0.286	0.490
E229	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Right Side	0+4	Hotspot on	0.210	0.128	0.229
E230	B66	20	QPSK	132072	1/0	N77	100	DFT-s-OFDM QPSK	650000	135/67	30	24.01	23.64	Bottom Side	0+4	Hotspot on	0.559	0.286	0.609
E231	B66	20	QPSK	132322	1/0	N77	100	DFT-s-OFDM QPSK	656000	1/1	30	24.01	23.62	Bottom Side	0+4	Hotspot on	0.604	0.321	0.661
E232	B66	20	QPSK	132572	1/0	N77	100	DFT-s-OFDM QPSK	662000	1/271	30	24.01	23.48	Bottom Side	0+4	Hotspot on	0.505	0.324	0.571

Note: The value with boldface is the maximum SAR Value of each test band.

6. Hotspot SAR test results of WiFi 2.4G

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W43	802.11b	1	Front Face	10	3	Hotspot on	1	98.55	14	13.72	-0.16	0.065	0.036	0.070
W44	802.11b	1	Rear Face	10	3	Hotspot on	1	98.55	14	13.72	-0.03	0.087	0.047	0.094
W45	802.11b	1	Left Side	10	3	Hotspot on	1	98.55	14	13.72	0.18	0.178	0.092	0.193
W46	802.11b	1	Top Side	10	3	Hotspot on	1	98.55	14	13.72	-0.1	0.033	0.017	0.036
W47	802.11b	1	Bottom Side	10	3	Hotspot on	1	98.55	14	13.72	-0.15	0.02	0.011	0.022
W48	802.11b	6	Left Side	10	3	Hotspot on	1	98.55	14	13.65	0.05	0.212	0.106	0.233
W49	802.11b	11	Left Side	10	3	Hotspot on	1	98.55	14	13.59	0.08	0.204	0.105	0.227

Note: The value with boldface is the maximum SAR Value of each test band.

7. Hotspot SAR test results of WiFi 5G

Test No.	Band	Channel	Test Position	Separation Distance (mm)	Ant	Condition	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W62	802.11a	44	Front Face	10	3	Hotspot on	6	97.82	11	10.84	0.14	0.061	0.018	0.065
W63	802.11a	44	Rear Face	10	3	Hotspot on	6	97.82	11	10.84	0.06	0.076	0.027	0.081
W64	802.11a	44	Left Side	10	3	Hotspot on	6	97.82	11	10.84	-0.1	0.070	0.024	0.074
W65	802.11a	44	Top Side	10	3	Hotspot on	6	97.82	11	10.84	-0.13	0.043	0.010	0.046
W66	802.11a	44	Bottom Side	10	3	Hotspot on	6	97.82	11	10.84	0.01	0.032	0.007	0.034
W67	802.11a	40	Rear Face	10	3	Hotspot on	6	97.82	11	10.80	-0.08	0.08	0.029	0.086
W68	802.11a	48	Rear Face	10	3	Hotspot on	6	97.82	11	10.78	0.11	0.076	0.026	0.081
W81	802.11a	64	Front Face	10	3	Hotspot on	6	97.82	11	10.84	0.06	0.065	0.020	0.069
W82	802.11a	64	Rear Face	10	3	Hotspot on	6	97.82	11	10.84	-0.02	0.097	0.036	0.103
W83	802.11a	64	Left Side	10	3	Hotspot on	6	97.82	11	10.84	0.08	0.081	0.033	0.086
W84	802.11a	64	Top Side	10	3	Hotspot on	6	97.82	11	10.84	-0.14	0.052	0.015	0.056
W85	802.11a	64	Bottom Side	10	3	Hotspot on	6	97.82	11	10.84	-0.12	0.068	0.016	0.072
W86	802.11a	56	Rear Face	10	3	Hotspot on	6	97.82	11	10.77	0.08	0.085	0.034	0.092
W87	802.11a	60	Rear Face	10	3	Hotspot on	6	97.82	11	10.81	0.18	0.089	0.035	0.095
W100	802.11ac VHT20	116	Front Face	10	3	Hotspot on	MCS0	97.82	11	10.88	-0.19	0.019	0.009	0.020
W101	802.11ac VHT20	116	Rear Face	10	3	Hotspot on	MCS0	97.82	11	10.88	-0.14	0.026	0.013	0.028
W102	802.11ac VHT20	116	Left Side	10	3	Hotspot on	MCS0	97.82	11	10.88	-0.05	0.030	0.011	0.032
W103	802.11ac VHT20	116	Top Side	10	3	Hotspot on	MCS0	97.82	11	10.88	0.02	0.026	0.010	0.027
W104	802.11ac VHT20	116	Bottom Side	10	3	Hotspot on	MCS0	97.82	11	10.88	0.11	0.022	0.010	0.023
W105	802.11ac VHT20	136	Left Side	10	3	Hotspot on	MCS0	97.82	11	10.83	0.15	0.026	0.013	0.027
W106	802.11ac VHT20	140	Left Side	10	3	Hotspot on	MCS0	97.82	11	10.81	0.11	0.028	0.015	0.030
W119	802.11a	165	Front Face	10	3	Hotspot on	6	97.82	11	10.83	0.19	0.015	0.004	0.015
W120	802.11a	165	Rear Face	10	3	Hotspot on	6	97.82	11	10.83	0.18	0.121	0.040	0.129
W121	802.11a	165	Left Side	10	3	Hotspot on	6	97.82	11	10.83	-0.13	0.064	0.021	0.068
W122	802.11a	165	Top Side	10	3	Hotspot on	6	97.82	11	10.83	0.12	0.072	0.013	0.077
W123	802.11a	165	Bottom Side	10	3	Hotspot on	6	97.82	11	10.83	0.17	0.059	0.013	0.063
W124	802.11a	149	Rear Face	10	3	Hotspot on	6	97.82	11	10.77	-0.01	0.129	0.041	0.139
W125	802.11a	153	Rear Face	10	3	Hotspot on	6	97.82	11	10.80	-0.04	0.128	0.041	0.136

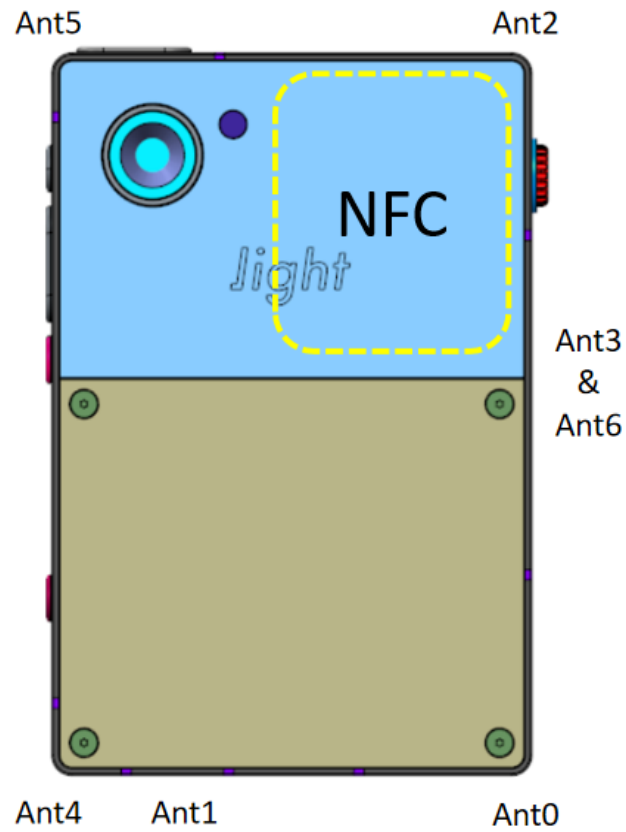
Note: The value with boldface is the maximum SAR Value of each test band.

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

7.3 MULTIPLE TRANSMITTER EVALUATION

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498D01 General RF Exposure Guidance v06.

The location of the antenna inside EUT is as below:



7.3.1 SIMULTANEOUS TRANSMISSION CONDITIONS

Per FCC KDB 447498 D01, SAR compliance for simultaneous transmission must be considered when the maximum duration of overlapping transmissions, including network hand-offs, is greater than 30 seconds. This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis.

The Simultaneous Transmission Possibilities of this device are as below:

NO.	Simultaneous Tx Combination	Head	Body -worn	Hotspot
1	GSM/UMTS/LTE/5G NR (Ant 0&1&4) + WiFi 2.4G	Yes	Yes	Yes
2	GSM/UMTS/LTE/5G NR (Ant 0&1&4) + WiFi 5G	Yes	Yes	Yes
3	GSM/UMTS/LTE/5G NR (Ant 0&1&4) + BT	Yes	Yes	Yes
4	EN-DC	Yes	Yes	Yes
5	EN-DC + WiFi 2.4G	Yes	Yes	Yes
6	EN-DC + WiFi 5G	Yes	Yes	Yes
7	EN-DC + BT	Yes	Yes	Yes

Note:

- 1) 2G&3G&4G&5G NR share the same Tx antenna and can't transmit simultaneously.
- 2) WiFi and Bluetooth share the same Tx antenna and can't transmit simultaneously.

7.3.2 SAR SUMMATION SCENARIO

1. GSM/UMTS/LTE/5G NR antenna (Ant 0&1&4) + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
GSM850	0.441	0.233	1.267	0.304	0.928	0.975	/	/	/	/	/	/	/	/	/	/
GSM1900	0.833	0.121	0.337	0.194	0.296	0.434	/	/	/	/	/	/	/	/	/	/
UMTS B2	1.097	0.213	0.525	0.281	0.909	0.899	/	/	/	/	/	/	/	/	/	/
UMTS B4	1.136	0.189	0.616	0.252	0.816	0.954	/	/	/	/	/	/	/	/	/	/
UMTS B5	0.416	0.229	0.874	0.291	0.721	0.802	/	/	/	/	/	/	/	/	/	/
LTE B2	1.061	0.149	0.491	0.229	0.693	0.854	/	/	/	/	/	/	/	/	/	/
LTE B4	0.698	0.113	0.347	0.148	0.565	0.667	/	/	/	/	/	/	/	/	/	/
LTE B5	0.458	0.251	1.119	0.367	0.515	0.599	/	/	/	/	/	/	/	/	/	/
LTE B7	0.833	0.120	0.309	0.168	0.316	0.473	0.071	0.394	/	0.755	0.332	0.460	0.071	0.425	/	0.763
LTE B12	0.272	0.104	0.795	0.164	0.275	0.324	/	/	/	/	/	/	/	/	/	/
LTE B13	0.390	0.184	0.894	0.296	0.479	0.543	/	/	/	/	/	/	/	/	/	/
LTE B14	0.387	0.204	0.935	0.294	0.467	0.541	/	/	/	/	/	/	/	/	/	/
LTE B17	0.267	0.106	0.736	0.154	0.243	0.288	/	/	/	/	/	/	/	/	/	/
LTE B25	0.912	0.137	0.434	0.206	0.691	0.739	/	/	/	/	/	/	/	/	/	/
LTE B26	0.441	0.235	0.926	0.331	0.468	0.535	/	/	/	/	/	/	/	/	/	/
LTE B30	1.058	0.130	0.403	0.179	0.450	0.641	/	/	/	/	/	/	/	/	/	/
LTE B38	0.642	0.092	0.240	0.141	0.154	0.250	/	/	/	/	/	/	/	/	/	/
LTE B40	0.950	0.113	0.367	0.143	0.344	0.530	/	/	/	/	/	/	/	/	/	/
LTE B41	0.661	0.088	0.213	0.115	0.250	0.355	/	/	/	/	/	/	/	/	/	/
LTE B42	0.170	0.040	0.091	0.018	0.156	0.323	/	0.093	/	0.397	0.202	0.362	/	0.104	/	0.559
LTE B48	0.145	0.010	0.064	0.021	0.249	0.413	/	/	/	/	/	/	/	/	/	/
LTE B66	0.595	0.092	0.278	0.125	0.730	0.513	/	/	/	/	/	/	/	/	/	/
LTE B71	0.192	0.007	0.623	0.092	0.238	0.292	/	/	/	/	/	/	/	/	/	/
NR n2	1.124	0.199	0.523	0.259	0.465	0.557	/	/	/	/	/	/	/	/	/	/
NR n5	0.451	0.241	0.993	0.346	0.484	0.565	/	/	/	/	/	/	/	/	/	/
NR n7	0.445	0.050	0.113	0.081	/	/	/	/	/	/	0.186	0.281	0.029	0.251	/	0.592
NR n12	0.228	0.060	0.620	0.132	0.249	0.291	/	/	/	/	/	/	/	/	/	/
NR n14	0.400	0.183	0.863	0.286	0.510	0.531	/	/	/	/	/	/	/	/	/	/
NR n25	0.999	0.166	0.517	0.224	0.450	0.615	/	/	/	/	/	/	/	/	/	/
NR n26	0.417	0.210	1.095	0.325	0.373	0.475	/	/	/	/	/	/	/	/	/	/
NR n30	1.013	0.132	0.411	0.187	0.521	0.677	/	/	/	/	/	/	/	/	/	/
NR n38	0.625	0.104	0.259	0.173	/	/	/	/	/	/	0.245	0.365	0.052	0.404	/	0.691
NR n41	0.663	0.086	0.245	0.115	/	/	/	/	/	/	0.328	0.445	0.136	0.363	/	0.861
NR n48	0.639	0.117	0.396	0.105	0.354	0.538	/	/	/	/	/	/	/	/	/	/
NR n66	0.864	0.142	0.427	0.205	0.480	0.420	/	/	/	/	/	/	/	/	/	/
NR n70	0.933	0.144	0.502	0.205	0.344	0.311	/	/	/	/	/	/	/	/	/	/
NR n71	0.132	0.030	0.480	0.062	0.161	0.226	/	/	/	/	/	/	/	/	/	/
NR n77	0.525	0.121	0.251	0.058	/	/	/	/	/	/	0.325	0.583	/	0.185	/	0.898
NR n78	0.563	0.092	0.342	0.042	/	/	/	/	/	/	0.536	0.911	/	0.335	/	1.266
WLAN 2.4G	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WLAN 5.2G	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WLAN 5.3G	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WLAN 5.6G	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WLAN 5.8G	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.500	0.318	1.440	0.439	0.998	1.094	0.198	0.394	0.066	0.814	0.636	1.448	0.353	0.425	0.106	1.358
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
GSM850	0.961	1.051	1.123	/	/	0.567
GSM1900	0.978	0.898	0.140	0.635	/	1.384
UMTS B2	1.047	0.970	0.212	0.668	/	1.123
UMTS B4	1.098	1.025	0.250	0.930	/	1.375
UMTS B5	0.798	0.789	0.919	/	/	0.439
LTE B2	1.144	1.134	0.026	0.775	/	0.818
LTE B4	0.857	0.796	0.203	0.851	/	1.289
LTE B5	0.813	0.965	0.996	/	/	0.524
LTE B7	0.380	0.487	0.059	0.416	/	0.871
LTE B12	0.491	0.568	0.469	/	/	0.276
LTE B13	0.638	0.780	0.750	/	/	0.353
LTE B14	0.612	0.700	0.716	/	/	0.349
LTE B17	0.432	0.467	0.411	/	/	0.250
LTE B25	0.960	0.909	0.027	0.665	/	0.659
LTE B26	0.712	0.761	0.833	/	/	0.410
LTE B30	1.014	1.139	0.051	1.207	/	1.007
LTE B38	0.312	0.417	0.061	0.418	/	0.932
LTE B40	0.682	0.949	0.084	0.961	/	0.703
LTE B41	0.394	0.497	0.067	0.526	/	1.101
LTE B42	0.364	0.505	/	0.153	/	1.111
LTE B48	0.334	0.537	/	0.129	/	0.899
LTE B66	0.773	0.780	0.169	0.693	/	1.119
LTE B71	0.392	0.424	0.437	/	/	0.456
NR n2	0.746	0.886	0.058	0.663	/	0.578
NR n5	0.708	0.801	0.785	/	/	0.474
NR n7	0.336	0.447	0.048	0.409	/	1.038
NR n12	0.431	0.493	0.441	/	/	0.370
NR n14	0.718	0.770	0.813	/	/	0.382
NR n25	0.788	0.842	0.071	0.656	/	0.571
NR n26	0.833	0.929	0.999	/	/	0.505
NR n30	1.085	1.355	0.061	1.352	/	1.028
NR n38	0.374	0.520	0.057	0.467	/	1.057
NR n41	0.558	0.698	0.069	0.473	/	1.367
NR n48	0.472	0.645	/	0.159	/	1.241
NR n66	0.696	0.640	0.198	0.649	/	0.992
NR n70	0.647	0.514	0.138	0.524	/	0.629
NR n71	0.288	0.406	0.279	/	/	0.234
NR n77	0.448	0.613	/	0.168	/	1.097
NR n78	0.584	0.778	/	0.209	/	1.228
WLAN 2.4G	0.070	0.094	0.233	/	0.036	0.022
WLAN 5.2G	0.065	0.086	0.074	/	0.046	0.034
WLAN 5.3G	0.069	0.103	0.086	/	0.056	0.072
WLAN 5.6G	0.020	0.028	0.032	/	0.027	0.023
WLAN 5.8G	0.015	0.139	0.068	/	0.077	0.063
Bluetooth	/	/	/	/	/	/
Max. SAR Summation	1.214	1.494	1.356	1.352	0.077	1.456
Hot Spot Separation	-	-	-	-	-	-

Note:

- 1) MAX. $\sum SAR_{1g} = 1.500 \text{ W/Kg} < 1.6 \text{ W/Kg}$, so the SAR to peak location separation ratio should not be considered.
- 2) The maximum SAR summation is calculated based on the same configuration and test position.

2. EN-DC

DC_2A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B2 Ant 1	1.061	0.149	0.491	0.229	0.693	0.854	/	/	/	/	/	/	/	/	/	/
NR n5 Ant 0	0.451	0.241	0.993	0.346	0.484	0.565	/	/	/	/	/	/	/	/	/	/
NR n71 Ant 0	0.132	0.030	0.480	0.062	0.161	0.226	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.512	0.390	1.484	0.575	1.177	1.419	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	1.163	-	1.151	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B2 Ant 1	1.144	1.134	0.026	0.775	/	0.818
NR n5 Ant 0	0.708	0.801	0.785	/	/	0.474
NR n71 Ant 0	0.288	0.406	0.279	/	/	0.234
Max. SAR Summation	1.852	1.935	0.811	0.775	0.000	1.292
Hot Spot Separation	1.100	1.200	-	-	-	-

DC_2A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_2A	1.163	0.390	1.151	0.575	1.177	1.419	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.527	0.457	1.324	0.647	1.247	1.538	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_2A	1.100	1.200	0.811	0.775	0.000	1.292
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.170	1.339	1.044	0.775	0.077	1.364
Hot Spot Separation	-	-	-	-	-	-

DC_2A (Ant 0) + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_2A_n30A	1.437	0.191	0.564	0.230	0.506	0.652	/	/	/	/	/	/	/	/	/	/
DC_2A_n41A	0.189	0.052	0.362	0.051	0.448	0.537	/	/	/	/	/	/	/	/	/	/
DC_2A_n66A	1.051	0.203	0.568	0.249	0.485	0.583	/	/	/	/	/	/	/	/	/	/
DC_2A_n77A	0.263	0.110	0.622	0.090	0.331	0.359	/	/	/	/	/	/	/	/	/	/
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.801	0.270	0.795	0.321	0.576	0.771	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	1.371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_2A_n30A	0.806	1.165	0.439	0.999	/	0.886
DC_2A_n41A	0.700	0.804	1.452	0.280	/	0.374
DC_2A_n66A	0.798	0.762	0.353	0.774	/	0.966
DC_2A_n77A	0.400	0.539	0.522	0.275	/	0.756
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	0.876	1.304	1.685	0.999	0.077	1.038
Hot Spot Separation	-	-	1.427	-	-	-

DC_5A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B5 Ant 0	0.458	0.251	1.119	0.367	0.515	0.599	/	/	/	/	/	/	/	/	/	/
NR n2 Ant 1	1.124	0.199	0.523	0.259	0.465	0.557	/	/	/	/	/	/	/	/	/	/
NR n30 Ant 1	1.013	0.132	0.411	0.187	0.521	0.677	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.582	0.450	1.642	0.626	1.036	1.276	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	1.060	-	0.895	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B5 Ant 0	0.813	0.965	0.996	/	/	0.524
NR n2 Ant 1	0.746	0.886	0.058	0.663	/	0.578
NR n30 Ant 1	1.085	1.355	0.061	1.352	/	1.028
Max. SAR Summation	1.898	2.320	1.057	1.352	0.000	1.552
Hot Spot Separation	1.200	1.410	-	-	-	0.977

DC_5A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_5A	1.060	0.450	0.895	0.626	1.036	1.276	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.424	0.517	1.068	0.698	1.106	1.395	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_5A	1.200	1.410	1.057	1.352	0.000	0.977
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.270	1.549	1.290	1.352	0.077	1.049
Hot Spot Separation	-	-	-	-	-	-

DC_12A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B12 Ant 0	0.272	0.104	0.795	0.164	0.275	0.324	/	/	/	/	/	/	/	/	/	/
NR n2 Ant 1	1.124	0.199	0.523	0.259	0.465	0.557	/	/	/	/	/	/	/	/	/	/
NR n30 Ant 1	1.013	0.132	0.411	0.187	0.521	0.677	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.396	0.303	1.318	0.423	0.796	1.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	0.970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B12 Ant 0	0.491	0.568	0.469	/	/	0.276
NR n2 Ant 1	0.746	0.886	0.058	0.663	/	0.578
NR n30 Ant 1	1.085	1.355	0.061	1.352	/	1.028
Max. SAR Summation	1.576	1.923	0.530	1.352	0.000	1.304
Hot Spot Separation	1.190	1.340	-	-	-	-

DC_12A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_12A	0.970	0.303	1.318	0.423	0.796	1.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.334	0.370	1.491	0.495	0.866	1.120	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_12A	1.190	1.340	0.530	1.352	0.000	1.304
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.260	1.479	0.763	1.352	0.077	1.376
Hot Spot Separation	-	-	-	-	-	-

DC_13A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B13 Ant 0	0.390	0.184	0.894	0.296	0.479	0.543	/	/	/	/	/	/	/	/	/	/
NR n2 Ant 1	1.124	0.199	0.523	0.259	0.465	0.557	/	/	/	/	/	/	/	/	/	/
NR n66 Ant 1	0.864	0.142	0.427	0.205	0.480	0.420	/	/	/	/	/	/	/	/	/	/
NR n77 Ant 4	0.525	0.121	0.251	0.058	/	/	/	/	/	/	0.325	0.583	/	0.185	/	0.898
Max. SAR Summation	1.514	0.383	1.417	0.555	0.959	1.100	0.000	0.000	0.000	0.000	0.325	0.583	0.000	0.185	0.000	0.898
Hot Spot Separation	1.030	-	0.809	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B13 Ant 0	0.638	0.780	0.750	/	/	0.353
NR n2 Ant 1	0.746	0.886	0.058	0.663	/	0.578
NR n66 Ant 1	0.696	0.640	0.198	0.649	/	0.992
NR n77 Ant 4	0.448	0.613	/	0.168	/	1.097
Max. SAR Summation	1.384	1.666	0.948	0.663	0.000	1.450
Hot Spot Separation	-	0.976	-	-	-	-

DC_13A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_13A	1.030	0.383	0.809	0.555	0.959	1.100	0.000	0.000	0.000	0.000	0.325	0.583	0.000	0.185	0.000	0.898
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.394	0.450	0.982	0.627	1.029	1.219	0.127	0.000	0.066	0.059	0.425	1.120	0.217	0.185	0.106	0.990
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_13A	1.384	0.976	0.948	0.663	0.000	1.450
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.454	1.115	1.181	0.663	0.077	1.522
Hot Spot Separation	-	-	-	-	-	-

DC_14A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B14 Ant 0	0.387	0.204	0.935	0.294	0.467	0.541	/	/	/	/	/	/	/	/	/	/
NR n2 Ant 1	1.124	0.199	0.523	0.259	0.465	0.557	/	/	/	/	/	/	/	/	/	/
NR n30 Ant 1	1.013	0.132	0.411	0.187	0.521	0.677	/	/	/	/	/	/	/	/	/	/
NR n66 Ant 1	0.864	0.142	0.427	0.205	0.480	0.420	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.511	0.403	1.458	0.553	0.988	1.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	1.030	-	0.843	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B14 Ant 0	0.612	0.700	0.716	/	/	0.349
NR n2 Ant 1	0.746	0.886	0.058	0.663	/	0.578
NR n30 Ant 1	1.085	1.355	0.061	1.352	/	1.028
NR n66 Ant 1	0.696	0.640	0.198	0.649	/	0.992
Max. SAR Summation	1.697	2.055	0.914	1.352	0.000	1.377
Hot Spot Separation	1.180	1.380	-	-	-	-

DC_14A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_14A	1.030	0.403	0.843	0.553	0.988	1.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.394	0.470	1.016	0.625	1.058	1.337	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_14A	1.180	1.380	0.914	1.352	0.000	1.377
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.250	1.519	1.147	1.352	0.077	1.449
Hot Spot Separation	-	-	-	-	-	-

DC_30A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B30 Ant 1	1.058	0.130	0.403	0.179	0.450	0.641	/	/	/	/	/	/	/	/	/	/
NR n5 Ant 0	0.451	0.241	0.993	0.346	0.484	0.565	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.509	0.371	1.396	0.525	0.934	1.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	0.896	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B30 Ant 1	1.014	1.139	0.051	1.207	/	1.007
NR n5 Ant 0	0.708	0.801	0.785	/	/	0.474
Max. SAR Summation	1.722	1.940	0.836	1.207	0.000	1.481
Hot Spot Separation	1.130	1.180	-	-	-	-

DC_30A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_30A	0.896	0.371	1.396	0.525	0.934	1.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.260	0.438	1.569	0.597	1.004	1.325	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_30A	1.130	1.180	0.836	1.207	0.000	1.481
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.200	1.319	1.069	1.207	0.077	1.553
Hot Spot Separation	-	-	-	-	-	-

DC_30A (Ant 0) + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_30A_n2A	0.880	0.141	0.367	0.163	0.521	0.638	/	/	/	/	/	/	/	/	/	/
DC_30A_n66A	1.320	0.263	0.773	0.257	0.534	0.626	/	/	/	/	/	/	/	/	/	/
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.684	0.330	0.946	0.329	0.604	0.757	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	1.156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_30A_n2A	0.907	0.818	0.372	0.601	/	1.063
DC_30A_n66A	0.847	0.779	0.360	0.733	/	1.046
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	0.977	0.957	0.605	0.733	0.077	1.135
Hot Spot Separation	-	-	-	-	-	-

DC_48A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B48 Ant 4	0.145	0.010	0.064	0.021	0.249	0.413	/	/	/	/	/	/	/	/	/	/
NR n5 Ant 0	0.451	0.241	0.993	0.346	0.484	0.565	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	0.596	0.251	1.057	0.367	0.733	0.978	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B48 Ant 4	0.334	0.537	/	0.129	/	0.899
NR n5 Ant 0	0.708	0.801	0.785	/	/	0.474
Max. SAR Summation	1.042	1.338	0.785	0.129	0.000	1.373
Hot Spot Separation	-	-	-	-	-	-

DC_48A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_48A	0.596	0.251	1.057	0.367	0.733	0.978	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	0.960	0.318	1.230	0.439	0.803	1.097	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_48A	1.042	1.338	0.785	0.129	0.000	1.373
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.112	1.477	1.018	0.129	0.077	1.445
Hot Spot Separation	-	-	-	-	-	-

DC_66A

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
LTE B66 Ant 1	0.595	0.092	0.278	0.125	0.730	0.513	/	/	/	/	/	/	/	/	/	/
NR n5 Ant 0	0.451	0.241	0.993	0.346	0.484	0.565	/	/	/	/	/	/	/	/	/	/
NR n71 Ant 0	0.132	0.030	0.480	0.062	0.161	0.226	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.046	0.333	1.271	0.471	1.214	1.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
LTE B66 Ant 1	0.773	0.780	0.169	0.693	/	1.119
NR n5 Ant 0	0.708	0.801	0.785	/	/	0.474
NR n71 Ant 0	0.288	0.406	0.279	/	/	0.234
Max. SAR Summation	1.481	1.581	0.954	0.693	0.000	1.593
Hot Spot Separation	-	1.290	-	-	-	1.020

DC_66A + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_66A	1.046	0.333	1.271	0.471	1.214	1.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.410	0.400	1.444	0.543	1.284	1.197	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_66A	1.481	1.290	0.954	0.693	0.000	1.020
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.551	1.429	1.187	0.693	0.077	1.092
Hot Spot Separation	-	-	-	-	-	-

DC_66A (Ant 0) + BT/WiFi 2.4G/5G (Ant 3)

Position	Head				Body-worn											
	Right Cheek	Right Tilted	Left Cheek	Left Tilted	Front Face (15mm)	Rear Face (15mm)	Left Side (15mm)	Right Side (15mm)	Top Side (15mm)	Bottom Side (15mm)	Front Face (16mm)	Rear Face (16mm)	Left Side (16mm)	Right Side (16mm)	Top Side (16mm)	Bottom Side (16mm)
DC_66A_n2A	1.253	0.193	0.648	0.314	0.568	0.660	/	/	/	/	/	/	/	/	/	/
DC_66A_n30A	1.427	0.183	0.549	0.233	0.533	0.781	/	/	/	/	/	/	/	/	/	/
DC_66A_n77A	0.189	0.062	0.565	0.059	0.236	0.373	/	/	/	/	/	/	/	/	/	/
WIFI 2.4G Ant 3	0.174	0.067	0.106	0.044	0.051	0.064	0.127	/	0.020	0.013	0.089	0.111	0.217	/	0.039	0.030
WIFI 5.2G Ant 3	0.233	0.035	0.112	0.022	0.031	0.064	0.039	/	0.049	0.034	0.069	0.281	0.124	/	0.085	0.036
WIFI 5.3G Ant 3	0.364	0.048	0.173	0.049	0.070	0.069	0.047	/	0.031	0.031	0.060	0.262	0.113	/	0.106	0.032
WIFI 5.6G Ant3	0.173	0.049	0.144	0.072	0.060	0.118	0.068	/	0.066	0.059	0.100	0.456	0.157	/	0.103	0.092
WIFI 5.8G Ant 3	0.145	0.045	0.090	0.020	0.025	0.119	0.035	/	0.018	0.016	0.098	0.537	0.133	/	0.078	0.068
Bluetooth Ant 3	0.106	<0.001	0.029	<0.001	0.018	0.034	/	/	/	/	/	/	/	/	/	/
Max. SAR Summation	1.791	0.260	0.821	0.386	0.638	0.900	0.127	0.000	0.066	0.059	0.100	0.537	0.217	0.000	0.106	0.092
Hot Spot Separation	1.217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Position	Hotspot					
	Front Face (10mm)	Rear Face (10mm)	Left Side (10mm)	Right Side (10mm)	Top Side (10mm)	Bottom Side (10mm)
DC_66A_n2A	0.944	0.900	0.344	0.718	/	0.741
DC_66A_n30A	0.978	1.211	0.329	1.103	/	0.958
DC_66A_n77A	0.338	0.553	0.389	0.236	/	0.744
WIFI 2.4G Ant 3	0.070	0.094	0.233	/	0.036	0.022
WIFI 5.2G Ant 3	0.065	0.086	0.074	/	0.046	0.034
WIFI 5.3G Ant 3	0.069	0.103	0.086	/	0.056	0.072
WIFI 5.6G Ant3	0.020	0.028	0.032	/	0.027	0.023
WIFI 5.8G Ant 3	0.015	0.139	0.068	/	0.077	0.063
Bluetooth Ant 3	/	/	/	/	/	/
Max. SAR Summation	1.048	1.350	0.577	1.103	0.077	1.030
Hot Spot Separation	-	-	-	-	-	-

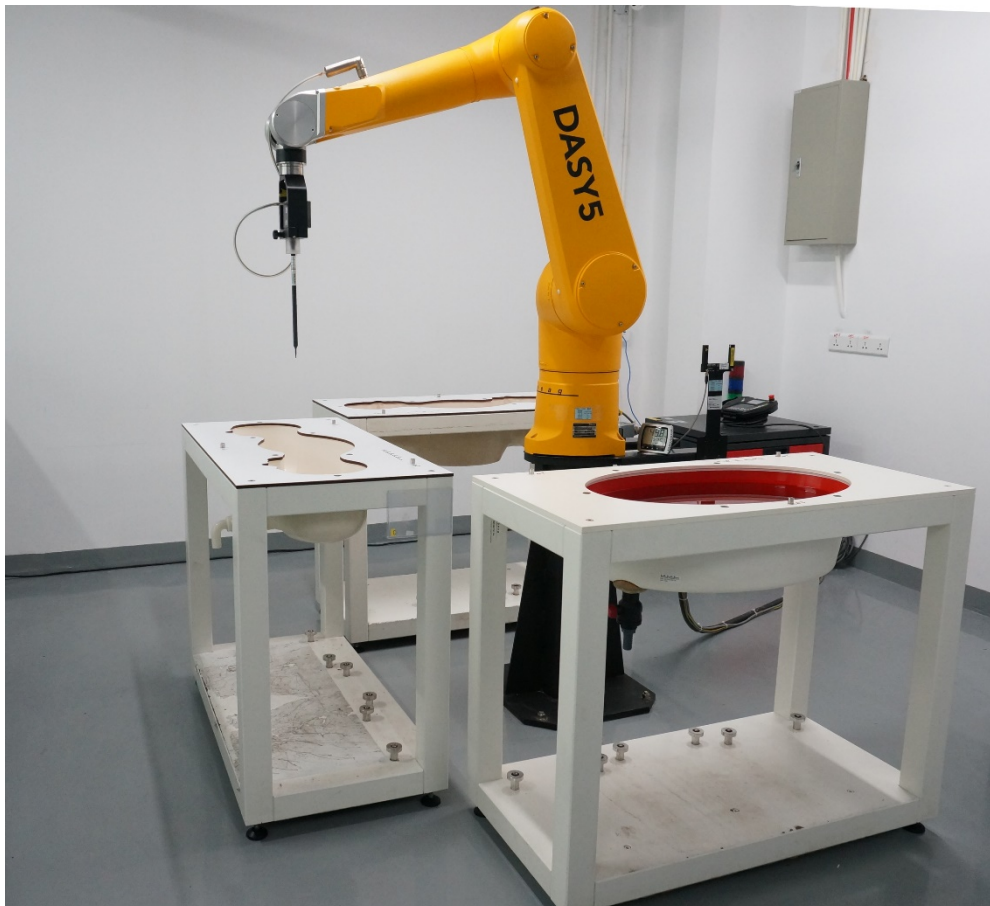
Note:

- 1) MAX. $\sum SAR_{1g} = 1.569 \text{ W/Kg} < 1.6 \text{ W/Kg}$, so the SAR to peak location separation ratio should not be considered.
- 2) The maximum SAR summation is calculated based on the same configuration and test position.

APPENDIX

1. TEST LAYOUT

Specific Absorption Rate Test Layout

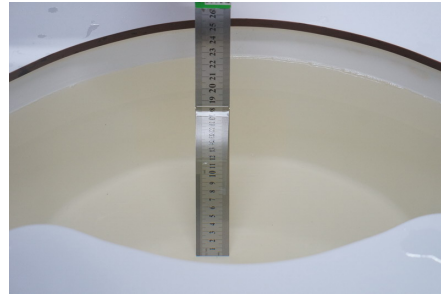


Liquid depth in the flat Phantom ($\geq 15\text{cm}$ depth)

Head_695-925_15.4cm



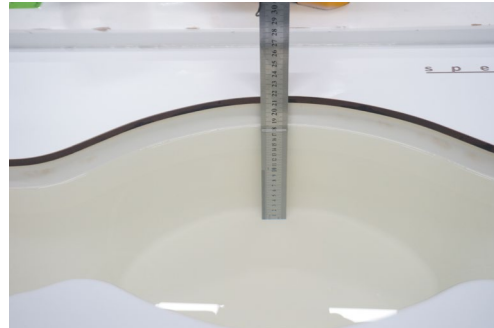
Body_695-925_18.5cm



Head_1700-1900_15cm



Body_1700-1900_18.1cm



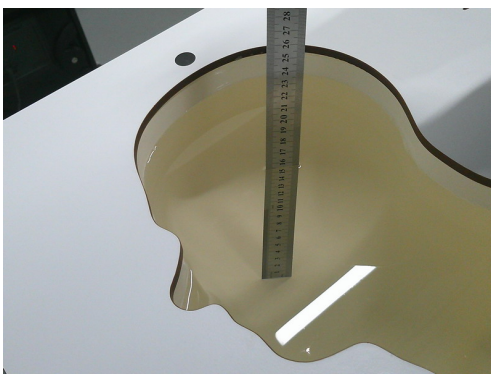
Head_1900-2300_15.4cm



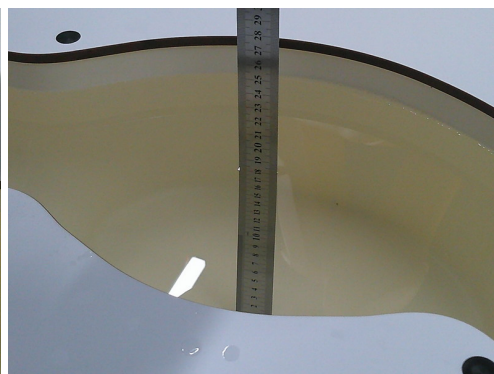
Body_1900-2300_18.5cm



Head_2300-2700_15.5cm



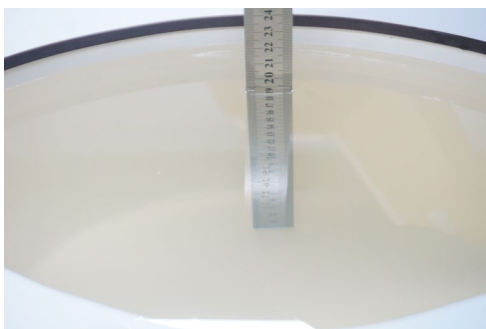
Body_2300-2700_18.5cm



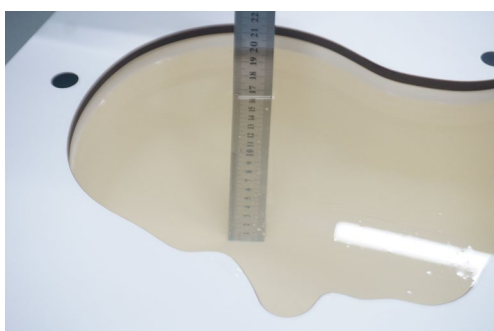
Head_3300-4200_16.1cm



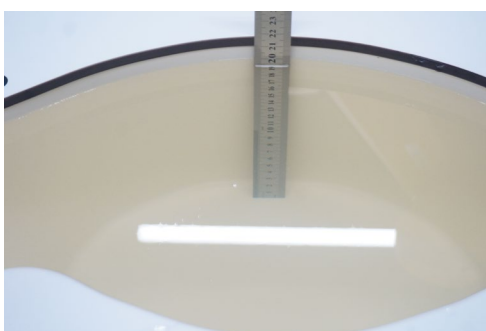
Body_3300-4200_19.4cm



Head_4500-6000_16.5cm



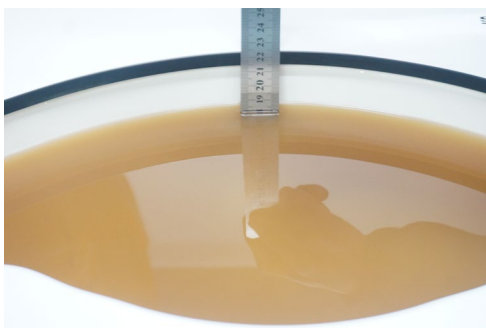
Body_4500-6000_19.5cm



Head_600-7000_15.5cm



Body_600-7000_18.2cm



Appendix A. SAR Plots of System Verification

(Pls See BTL-FCC SAR-1-2410C020_Appendix A.)

Appendix B. SAR Plots of SAR Measurement

(Pls See BTL-FCC SAR-1-2410C020_Appendix B.)

Appendix C. Calibration Certificate

(Pls See BTL-FCC SAR-1-2410C020_Appendix C.)

Appendix D. Photographs of the Test Set-Up

(Pls See BTL-FCC SAR-1-2410C020_Appendix D.)

Appendix E. Conducted power measurement result

(Pls See BTL-FCC SAR-1-2410C020_Appendix E.)

Appendix F. Antenna location

(Pls See BTL-FCC SAR-1-2410C020_Appendix F.)

End of Test Report