

FCC SAR TEST REPORT



Report No.: E5/2020/70020
Applicant: GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Manufacturer: GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Factory: GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Product Name: Mobile Phone
Model No.(EUT): CPH2089
Trade Mark: OPPO
FCC ID: R9C-CPH2089
Standards: FCC 47CFR §2.1093
Date of Receipt: 2020-06-04
Date of Test: 2020-06-20 to 2020-07-29
Date of Issue: 2020-08-04
Test conclusion: **PASS ***

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

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

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Signed on behalf of SGS

Engineer

Jay Tseng

Date: Aug. 04, 2020

Asst. Manager

John Yeh

Date: Aug. 04, 2020

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REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-08-04		Original

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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Product specific 10g SAR
GSM850	0.40	0.28	0.68	/
GSM1900	0.38	0.23	0.47	/
WCDMA Band II	0.46	0.27	0.89	/
WCDMA Band IV	0.62	0.22	0.81	/
WCDMA Band V	0.91	0.27	0.68	/
LTE Band 2	0.40	0.22	0.67	/
LTE Band 4	0.71	0.31	0.87	/
LTE Band 5	0.61	0.22	0.65	/
LTE Band 7	0.97	0.24	0.78	/
LTE Band 12	0.67	0.20	0.61	/
LTE Band 17	0.54	0.15	0.43	/
LTE Band 26	0.60	0.23	0.62	/
LTE Band 38	1.11	0.15	0.49	/
LTE Band 41	1.19	0.33	0.58	/
LTE Band 66	0.85	0.38	0.83	/
NR Band n5	0.66	0.25	0.60	/
NR Band n7	1.11	0.42	1.00	/
NR Band n41	1.19	0.34	1.19	/
WI-FI (2.4GHz)	1.00	0.20	0.57	/
WI-FI (5GHz)	1.16	0.41	0.79	2.29
BT	0.46	<0.10	0.12	/
SAR Limited(W/kg)	1.6			4.0
Maximum Simultaneous Transmission SAR (W/kg)				
Scenario	Head	Body-worn	Hotspot	Product specific 10g SAR
Sum SAR	1.49	0.92	1.49	2.71
SPLSR	N/A	N/A	N/A	N/A
SPLSR Limited	0.04			0.1

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1 General Information

1.1 Details of Client

Applicant:	GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Address:	NO.18 HaiBin Road, Wusha Village, Chang An Town, DongGuan City , GuangDong,China
Manufacturer:	GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Address:	NO.18 HaiBin Road, Wusha Village, Chang An Town, DongGuan City , GuangDong,China
Factory:	GuangDong OPPO Mobile Telecommunications Corp., Ltd.
Address:	NO.18 HaiBin Road, Wusha Village, Chang An Town, DongGuan City , GuangDong,China

1.2 Test Location

Company	SGS Taiwan Ltd. Central RF Lab
Address:	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan
Tel	+886-2-2299-3279
Fax	+886-2-2298-0488
Internet	http://www.tw.sgs.com/

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1.3 General Description of EUT

Product Name:	Mobile Phone		
Model No.(EUT):	CPH2089		
Trade Mark:	OPPO		
FCC ID:	R9C-CPH2089		
Product Phase:	production unit		
Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
SN:	30e1997d/ 4d13844a/ 80b4eb97/ bd91df44/ ba1aaebc		
Hardware Version:	11		
Software Version:	ColorOS V7.2		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Modulation Mode:	GSM: GMSK, 8PSK; WCDMA: QPSK, 16QAM(HSPA+); LTE: QPSK , 16QAM, 64QAM; 5G NR: DFT-s-OFDM (QPSK, 16QAM, 64QAM, 256QAM), CP-OFDM (QPSK, 16QAM, 64QAM, 256QAM); WIFI: DSSS; OFDM; BT: GFSK, $\pi/4$ DQPSK,8DPSK		
Device Class:	B		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	14	HSUPA UE Category	6
DC-HSDPA UE Category:	24		
Power Class:	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(WCDMA Band II/IV/V)		
	3, tested with power control Max Power(LTE Band 2/4/5/7/12/17/26/38/41/66)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824 - 849	869 - 894
	GSM1900	1850-1910	1930-1990
	WCDMA Band V	824 - 849	869 - 894
	WCDMA Band IV	1710–1755	2110–2155
	WCDMA Band II	1850-1910	1930-1990
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710–1755	2110–2155
	LTE Band 5	824 - 849	869 - 894
	LTE Band 7	2500-2570	2620-2690
	LTE Band 12	699-716	729-746
	LTE Band 17	704-716	734-746
	LTE Band 26	814-849	859-894
	LTE Band 38	2570-2620	2570-2620

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	LTE Band 41	2496-2690	2496-2690
	LTE Band 66	1710~1780	2110~2200
	NR Band n5	824 - 849	869 - 894
	NR Band n7	2500~2570	2620~2690
	NR Band n41	2496~2690	2496~2690
	WIFI 2.4G	2400-2483.5	2400-2483.5
	Wi-Fi 5G	5150~5250 5250~5350 5470~5725 5725~5850	5150~5250 5250~5350 5470~5725 5725~5850
	BT	2402-2480	2402-2480
Battery Information:	Model:	BLP787	
	Normal Voltage:	7.74V	
	Rated capacity:	1955mAh	
	Manufacturer:	GuangDong OPPO Mobile Telecommunications Corp., Ltd.	
Headset Information:	Model:	MH147	
	Manufacturer:	GuangDong OPPO Mobile Telecommunications Corp., Ltd.	

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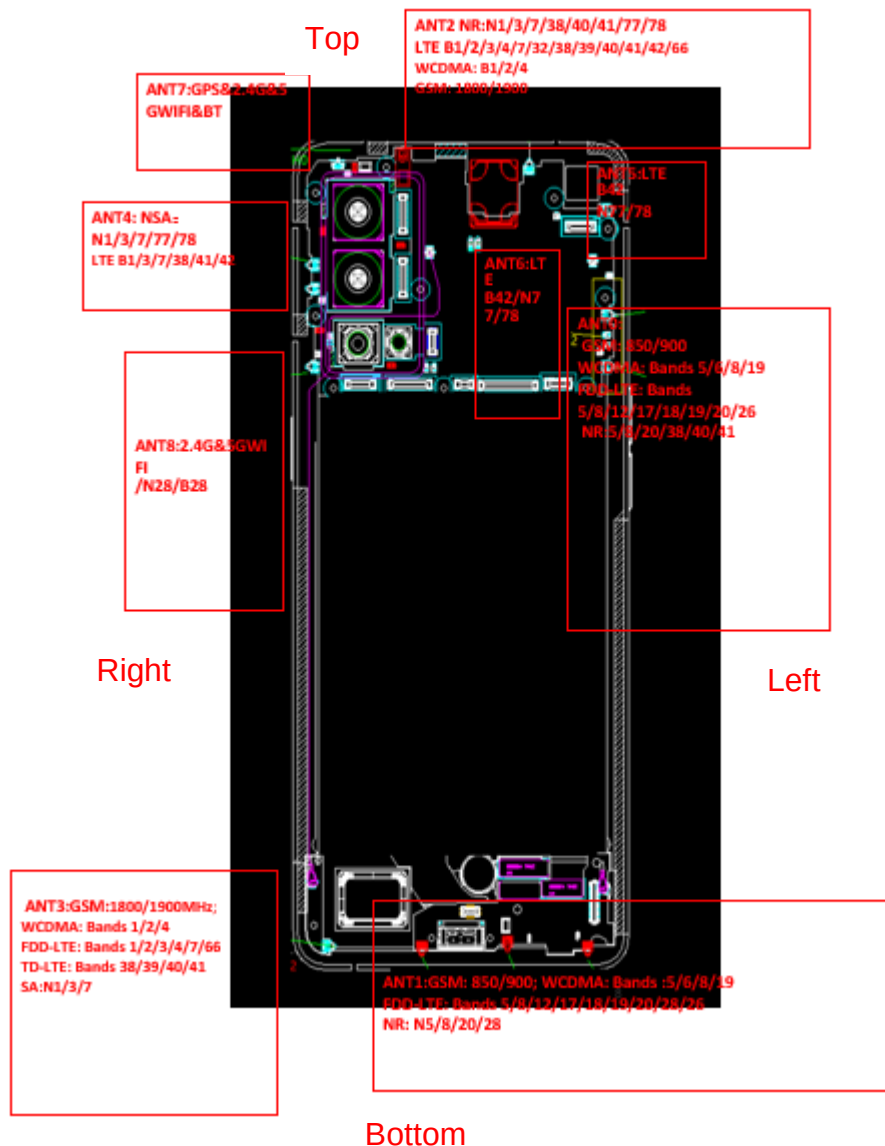
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1.3.1 DUT Antenna Locations



Note:

The test device is a mobile phone. The display diagonal dimension is 16.2 cm and the overall diagonal dimension of this device is 16.8 cm.

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

Antennas Description	
WWAN UAT	Ant0 / Ant2
WWAN LAT	Ant1 / Ant3
WiFi 2.4G(chain0)/WiFi 5G(chain1)/BT	Ant7
WiFi 2.4G(chain1)/WiFi 5G(chain0)	Ant8

EUT Sides for SAR Testing						
Mode	Front	Back	Left	Right	Top	Bottom
WWAN UAT	Yes	Yes	Yes	Yes	Yes	No
WWAN LAT	Yes	Yes	Yes	Yes	No	Yes
BT&WLAN	Yes	Yes	No	Yes	Yes	No

Table 1: EUT Sides for SAR Testing

Note:

- 1) When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
- 2) The Ant5 and Ant6 do not support transmitter function.
- 3) For WiFi 2.4G Ant8(Chain1) and WiFi 2.4G MIMO/CDD do not support 802.11b mode.

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1.3.2 Downlink and Uplink LTE CA additional specification

The device supports downlink and uplink LTE Carrier Aggregation (CA). When carrier aggregation applies, implementation and measurement details for the following are necessary.

- Intra-band and inter-band carrier aggregation requirements for both uplink and downlink.
- Support of contiguous and non-contiguous component carriers for intra-band aggregation for intra-band aggregation requirements for downlink.
- Support of contiguous component carriers for intra-band aggregation requirements for uplink.

The possible downlink and uplink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.0.0. The conducted power measurement results of downlink and uplink LTE CA are provided in Section 8 of this report per 3GPP TS 36.521-1 V14.4.0. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

SAR test procedure for intra-band contiguous UL LTE CA is as below:

- Maximum output power is measured for each UL CA configuration for the required test channels described in KDB 941225 D05
 - UL PCC configuration is determined by the required test channel
 - SCC and subsequent CCs are added alternatively to either side of the PCC or within the transmission band for channels at the ends of a frequency band.
- SAR for UL CA is required in each exposure condition and frequency band combination
- For this device, as the maximum output for Intra-band uplink LTE CA is $\leq$ standalone LTE mode (without CA),
 - PCC is configured according to the highest standalone SAR configuration tested.
 - SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC
- When the reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels (PCC based)
- UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level.

Intra-band contiguous CA operating bands:

E-UTRA CA Band	E-UTRA Band	Uplink (UL) operating band			Downlink (DL) operating band			Duplex Mode
		BS receive / UE transmit			BS transmit / UE receive			
		$F_{UL\ low} - F_{UL\ high}$			$F_{DL\ low} - F_{DL\ high}$			
CA 7	7	2500 MHz	–	2570 MHz	2620 MHz	–	2690 MHz	FDD
CA 38	38	2570 MHz	–	2620 MHz	2570 MHz	–	2620 MHz	TDD
CA 41	41	2535MHz	–	2655 MHz	2535 MHz	–	2655 MHz	TDD

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	E-UTRA CA configuration / Bandwidth combination set						
E-UTRA CA configuration	Uplink CA configurations (NOTE 3)	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	CA_7C	15	15			40	0
		20	20				
		10	20			40	1
		15	15, 20				
		20	10, 15, 20				
		15	10, 15			40	2
		20	15, 20				
CA_38C	CA_38C	15	15			40	0
		20	20				
CA_41C	CA_41C	10	20			40	0
		15	15, 20				
		20	10, 15, 20				
		5, 10	20			40	1
		15	15, 20				
		20	5, 10, 15, 20				
		10	15, 20			40	2
		15	10, 15, 20				
		20	10, 15, 20				
		10	20			40	3
		20	20				
NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.							
NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.							
NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.							

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1.3.3 Power reduction specification

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

- 1) 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/NR and Wi-Fi antennas accordingly.
- 2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.

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

Antenna Power Level (dBm)	Ant0					
Power Reduction Scenario	GSM850	WCDMA Band V	LTE Band 5	LTE Band 12	LTE Band 17	LTE Band 26
receiver on	31.0	25.0	23.0	24.5	24.5	23.0
Receiver on+WiFi/BT	29.0	20.0	19.0	21.5	21.5	19.0
receiver off	33.5	25.0	24.5	24.5	24.5	24.5
Receiver off+WiFi/BT	33.5	25.0	24.5	24.5	24.5	24.5

Antenna Power Level (dBm)	Ant2								
Power Reduction Scenario	GSM1900	WCDMA Band II	WCDMA Band IV	LTE Band 2	LTE Band 4	LTE Band 7	LTE Band 38	LTE Band 41	LTE Band 66
receiver on	24.5	17.0	15.5	17.0	16.0	16.0	17.0	17.0	16.0
Receiver on+WiFi/BT	24.5	17.0	15.5	17.0	13.0	13.0	14.0	13.0	13.0
receiver off	30.5	21.0	20.0	21.5	21.0	19.0	22.0	22.0	21.0
Receiver off+WiFi/BT	28.5	21.0	20.0	20.5	21.0	19.0	22.0	22.0	21.0

Antenna Power Level (dBm)	Ant3						
Power Reduction Scenario	WCDMA Band II	WCDMA Band IV	LTE Band 2	LTE Band 4	LTE Band 7	LTE Band 41	LTE Band 66
receiver on	24.5	24.5	24.0	24.5	24.0	24.5	24.5
Receiver on+WiFi/BT	24.5	24.5	24.0	24.5	24.0	24.5	24.5
receiver off	22.0	20.5	21.5	21.0	20.0	24.5	21.0
Receiver off+WiFi/BT	21.0	20.5	21.5	21.0	20.0	23.5	21.0

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WiFi 2.4G Power Level (dBm)									
Antenna Power Level (dBm)	WiFi 2.4G Ant7(Chain0)			WiFi 2.4G Ant8(Chain1)			WiFi 2.4G MIMO (Chain0+Chain1)		
Antenna Power Reduction Scenario	802.11b	802.11g	802.11n20	802.11b	802.11g	802.11n20	802.11b	802.11g	802.11n20
receiver on	15.5	15.0	15.0	/	14.5	14.5	/	18.0	18.0
Synchronous Transmission_5G WIFI(chain0) receiver on	/	/	/	/	/	/	/	/	/
Synchronous Transmission_5G WIFI(chain1) receiver on	10.0	9.5	9.5	/	/	/	/	/	/
Synchronous Transmission_WWAN receiver on	10.0	9.5	9.5	/	9.5	9.5	/	12.5	12.5
Synchronous Transmission_BT receiver on	/	/	/	/	9.5	9.5	/	/	/
Synchronous Transmission_WWAN+5G WIFI(chain0) receiver on	/	/	/	/	/	/	/	/	/
Synchronous Transmission_WWAN+5G WIFI(chain1) receiver on	8.5	8.0	8.0	/	/	/	/	/	/
receiver off	19.5	19.0	19.0	/	18.0	18.0	/	22.0	22.0
Synchronous Transmission_5G WIFI(chain1) receiver off	/	/	/	/	/	/	/	/	/
Synchronous Transmission_5G WIFI(chain0) receiver off	14.5	14.0	14.0	/	/	/	/	/	/
Synchronous Transmission_WWAN receiver off	14.5	14.0	14.0	/	13.0	13.0	/	22.0	22.0
Synchronous Transmission_BT receiver off	/	/	/	/	13.0	13.0	/	/	/
Synchronous Transmission_WWAN+5G WIFI(chain0) receiver off	/	/	/	/	/	/	/	/	/
Synchronous Transmission_WWAN+5G WIFI(chain1) receiver off	13.0	12.5	12.5	/	/	/	/	/	/

Antenna Power Level (dBm)	WiFi 5G Ant7 (Chain1)					
Antenna Power Reduction Scenario	802.11a	802.11nHT20	802.11nHT40	802.11acHT20	802.11acHT40	802.11acHT80
receiver on	11.0	10.5	10.5	10.0	10.0	10.0
Synchronous Transmission_2.4G WIFI(chain0) receiver on	7.5	7.0	7.0	6.5	6.5	6.5
Synchronous Transmission_2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver on	7.5	7.0	7.0	6.5	6.5	6.5
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver on	6.5	6.0	6.0	5.5	5.5	5.5
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
receiver off	18.0	17.5	17.5	17.0	17.0	17.0
Synchronous Transmission_2.4G WIFI(chain0) receiver off	13.0	12.5	12.5	12.0	12.0	12.0
Synchronous Transmission_2.4G WIFI(chain1) receiver off	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver off	13.0	12.5	12.5	12.0	12.0	12.0
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver off	13.0	12.5	12.5	12.0	12.0	12.0
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver off	/	/	/	/	/	/

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Antenna Power Level (dBm)	WiFi 5G Ant8 (Chain0)Power Level (dBm)					
Antenna Power Reduction Scenario	802.11a	802.11nHT20	802.11nHT40	802.11acHT20	802.11acHT40	802.11acHT80
receiver on	14.0	13.5	13.5	13.0	13.0	13.0
Synchronous Transmission_2.4G WIFI(chain0) receiver on	/	/	/	/	/	/
Synchronous Transmission_2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver on	9.5	9.0	9.0	8.5	8.5	8.5
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver on	/	/	/	/	/	/
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
receiver off	18.0	17.5	17.5	17.0	17.0	17.0
Synchronous Transmission_2.4G WIFI(chain0) receiver off	/	/	/	/	/	/
Synchronous Transmission_2.4G WIFI(chain1) receiver off	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver off	13.0	12.5	12.5	12.0	12.0	12.0
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver off	/	/	/	/	/	/
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver off	/	/	/	/	/	/

Antenna Power Level (dBm)	WiFi 5G MIMO (Chain0+Chain1)					
Antenna Power Reduction Scenario	802.11a	802.11nHT20	802.11nHT40	802.11acHT20	802.11acHT40	802.11acHT80
receiver on	14.0	13.5	13.5	13.5	13.5	13.5
Synchronous Transmission_2.4G WIFI(chain0) receiver on	/	/	/	/	/	/
Synchronous Transmission_2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver on	10.0	9.5	9.5	9.0	9.0	9.0
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver on	/	/	/	/	/	/
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver on	/	/	/	/	/	/
receiver off	20.0	19.5	19.5	19.0	19.0	19.0
Synchronous Transmission_2.4G WIFI(chain0) receiver off	/	/	/	/	/	/
Synchronous Transmission_2.4G WIFI(chain1) receiver off	/	/	/	/	/	/
Synchronous Transmission_WWAN/BT/(WWAN+BT) receiver off	16.0	15.5	15.5	15.0	15.0	15.0
Synchronous Transmission_WWAN+2.4G WIFI(chain0) receiver off	/	/	/	/	/	/
Synchronous Transmission_WWAN+2.4G WIFI(chain1) receiver off	/	/	/	/	/	/

SAR test Plan:

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

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

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1.4 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1 – 1992	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01 3G SAR Procedures v03r01	3G SAR Measurement Procedures
KDB 941225 D05 SAR for LTE Devices v02r05	SAR Evaluation Considerations for LTE Devices
KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02	Rel. 10 LTE SAR Test Guidance and KDB Inquiries
KDB 941225 D06 Hotspot Mode SAR v02r01	SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities
KDB 248227 D01 802.11 Wi-Fi SAR v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 648474 D04 Handset SAR v01r03	SAR Evaluation Considerations for Wireless Handsets
KDB447498 D01 General RF Exposure Guidance v06	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04	SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 RF Exposure Reporting v01r02	RF Exposure Compliance Reporting and Documentation Considerations
KDB 690783 D01	SAR Listings on Grants v01r03

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1.5 RF exposure limits

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

Notes:

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

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

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

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

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

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2 Laboratory Environment

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

Table 2: The Ambient Conditions

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3 SAR Measurements System Configuration

3.1 The SAR Measurement System

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

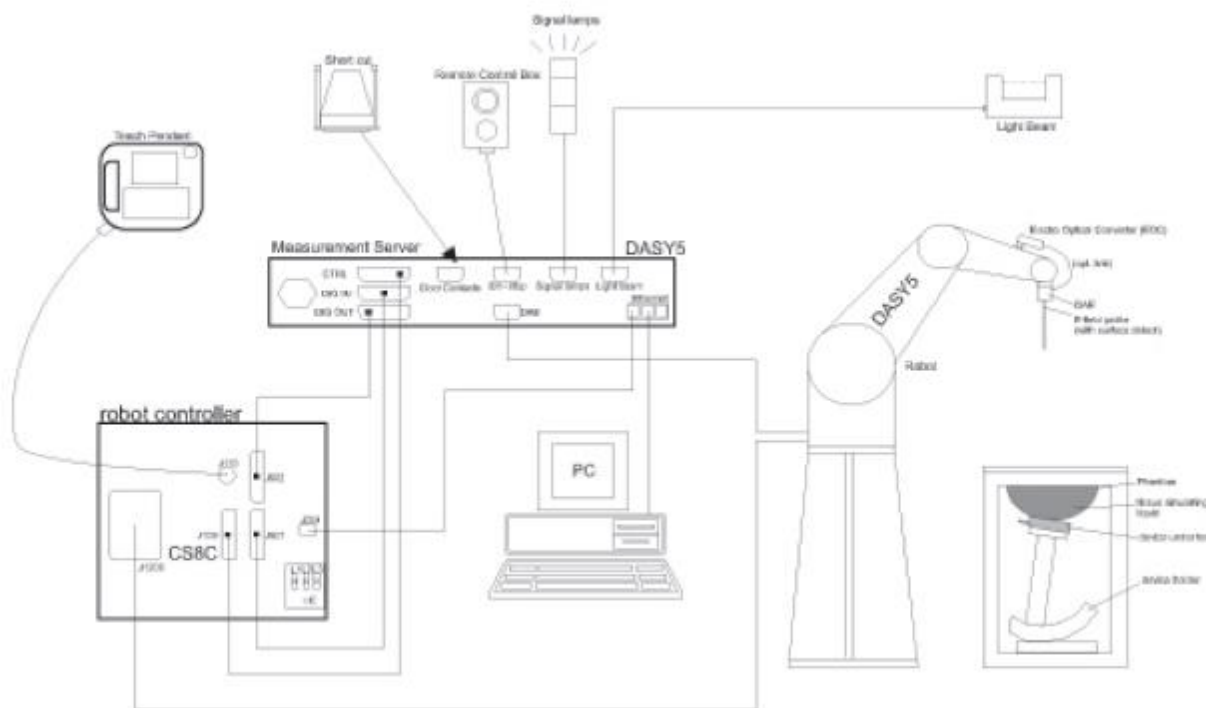
The DASY5 system for performing compliance tests consists of the following items:

A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension for accommodation the data acquisition electronics (DAE).

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

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

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



F-1. SAR Measurement System Configuration

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

3.2 Isotropic E-field Probe EX3DV4

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

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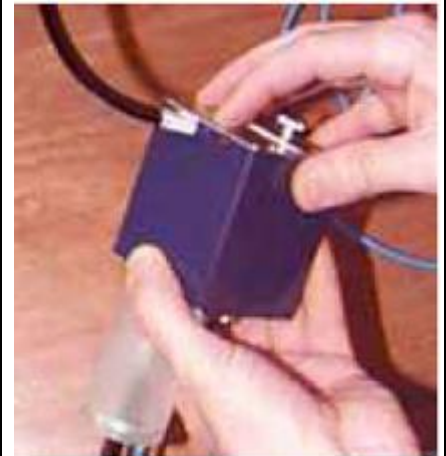
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3.3 Data Acquisition Electronics (DAE)

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



3.4 SAM Twin Phantom

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



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

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

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3.5 ELI Phantom

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

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

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

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3.6 Device Holder for Transmitters



F-2. Device Holder for Transmitters

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

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3.7 Measurement procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

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

Step 2: Area scan

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

Step 3: Zoom scan

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

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

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

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

Step 4: Power reference measurement (drift)

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

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3.7.2 Data Storage

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

3.7.3 Data Evaluation by SEMCAD

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

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

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

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

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

The formula for each channel can be given as:

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

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)

dcpi = diode compression point (DASY parameter)

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

E-field probes:

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

H-field probes:

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

With 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):

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

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

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

with SAR = local specific absorption rate in mW/g

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

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

ϵ = equivalent tissue density in g/cm³

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

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

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

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

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

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4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

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

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

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4.2 SAR measurement uncertainty

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

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5 Description of Test Position

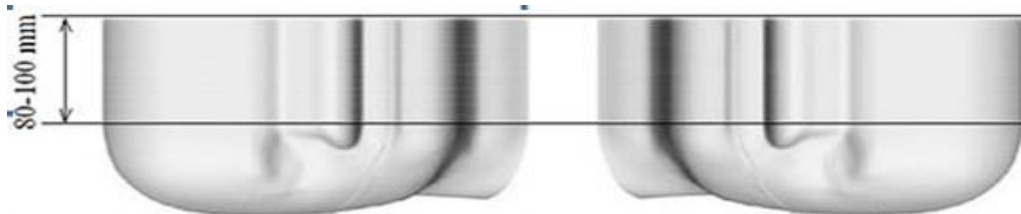
5.1 Head Exposure Condition

5.1.1 SAM Phantom Shape

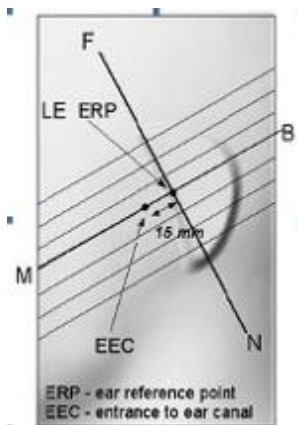


F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

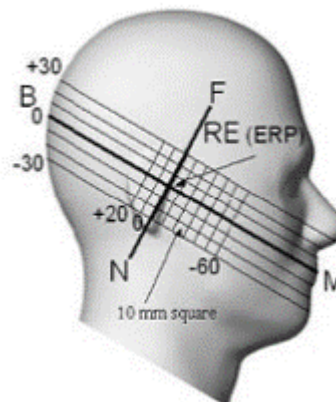
Note: The centre strip including the nose region has a different thickness tolerance.



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



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

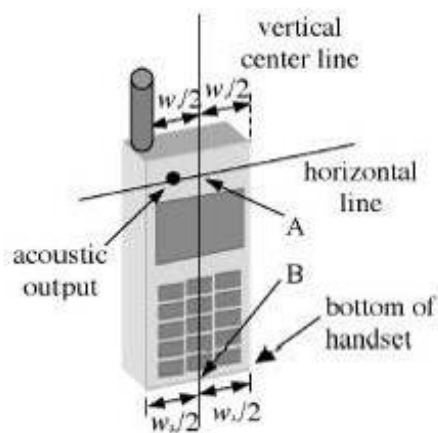


F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

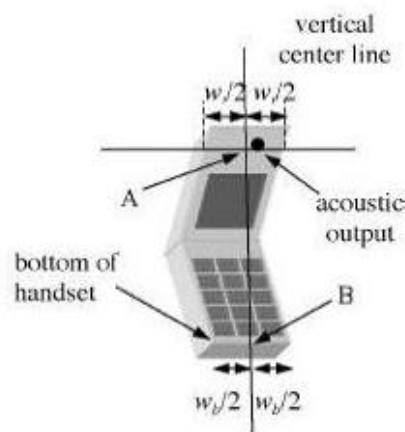
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5.1.2 EUT constructions



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



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

5.1.3 Definition of the “cheek” position

- Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom (“initial position”). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.
- Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

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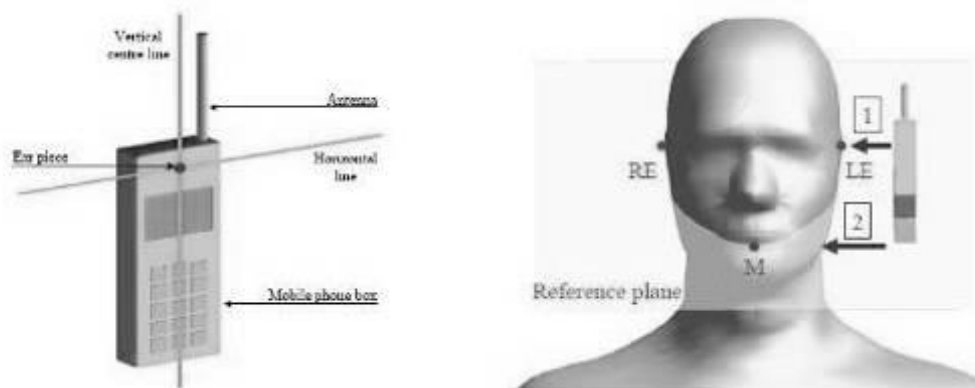
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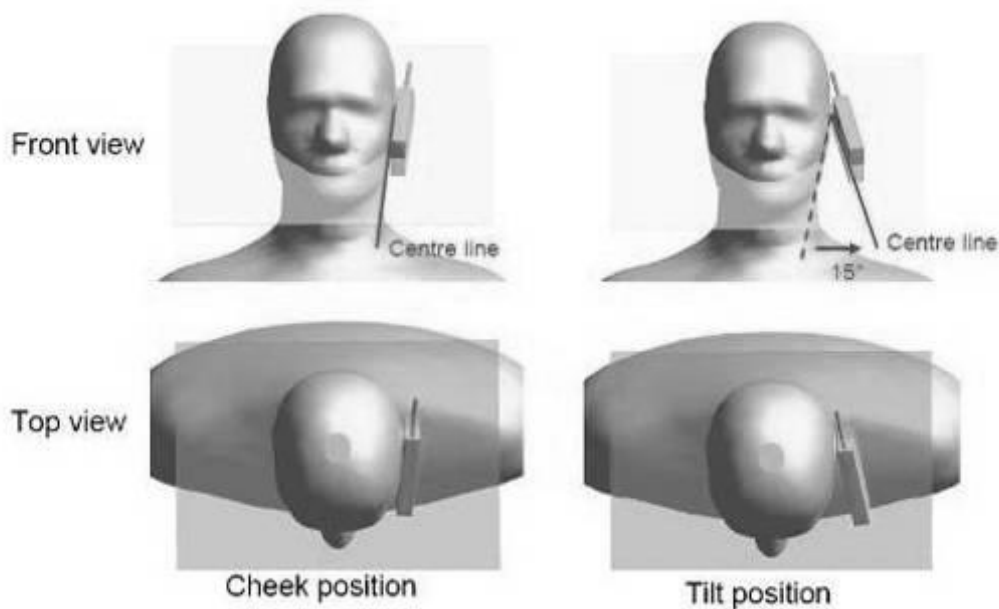
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5.1.4 Definition of the “tilted” position

- Position the device in the “cheek” position described above;
- While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



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



F-10. “Cheek” and “tilt” positions of the mobile phone on the left side

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5.2 Body Exposure Condition

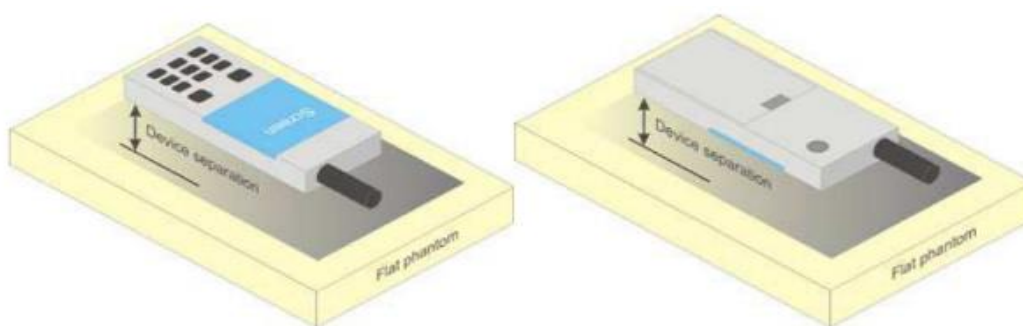
5.2.1 Body-worn accessory exposure conditions

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

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

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

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



F-11. Test positions for body-worn devices

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5.2.2 Wireless Router exposure conditions

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

5.3 Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension $> 15.0 \text{ cm}$ or an overall diagonal dimension $> 16.0 \text{ cm}$ that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as "Phablet".

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at $\leq 25 \text{ mm}$ from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR $> 1.2 \text{ W/kg}$; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Due to the SAR result, the LAT and UAT antenna frequency bands are not required to test with 0mm for the Product Specific 10-g SAR.

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6 SAR System Check Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1800-2000	2300-2500	2500-4200
Tissue Type	Head				
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85
Salt: 99+% Pure Sodium Chloride Water: De-ionized, 16 MΩ+ resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate Sucrose: 98+% Pure Sucrose HEC: Hydroxyethyl Cellulose					
HSL5GHz is composed of the following ingredients: Water: 50-65% Mineral oil: 10-30% Emulsifiers: 8-25% Sodium salt: 0-1.5%					

Table 3: Recipe of Tissue Simulate Liquid

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6.1.2 Measurement for Tissue Simulate Liquid

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

Tissue Type	Measured Frequency (MHz)	Target Tissue ($\pm 5\%$)		Measured Tissue		Liquid Temp. ($^{\circ}\text{C}$)	Measured Date
		ϵ_r	$\sigma(\text{S/m})$	ϵ_r	$\sigma(\text{S/m})$		
750 Head	750	41.90 (39.81~44.00)	0.89 (0.85~0.94)	42.609	0.903	22.1	2020/06/20
835 Head	835	41.50 (39.43~43.58)	0.90 (0.86~0.95)	41.668	0.909	22.1	2020/07/02
835 Head	835	41.50 (39.43~43.58)	0.90 (0.86~0.95)	42.275	0.943	22.1	2020/07/03
835 Head	835	41.50 (39.43~43.58)	0.90 (0.86~0.95)	42.479	0.932	22.1	2020/07/04
1750 Head	1750	40.10 (38.10~42.11)	1.37 (1.30~1.44)	40.162	1.349	22.2	2020/07/06
1750 Head	1750	40.10 (38.10~42.11)	1.37 (1.30~1.44)	40.757	1.332	22.2	2020/07/08
1900 Head	1900	40.00 (38.00~42.00)	1.40 (1.33~1.47)	40.111	1.361	22.3	2020/07/10
2450 Head	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	40.738	1.784	22.0	2020/07/12
2600 Head	2600	39.00 (37.05~40.95)	1.96 (1.86~2.06)	40.228	1.953	22.1	2020/07/14
2600 Head	2600	39.00 (37.05~40.95)	1.96 (1.86~2.06)	38.833	1.934	22.1	2020/07/16
2600 Head	2600	39.00 (37.05~40.95)	1.96 (1.86~2.06)	39.679	1.966	22.1	2020/07/19
2600 Head	2600	39.00 (37.05~40.95)	1.96 (1.86~2.06)	40.535	1.983	22.1	2020/07/20
2600 Head	2600	39.00 (37.05~40.95)	1.96 (1.86~2.06)	37.831	2.011	22.1	2020/07/29
5250Head	5250	35.90 (34.11~37.70)	4.71 (4.47~4.95)	36.730	4.675	22.2	2020/07/24
5600 Head	5600	35.50 (33.73~37.30)	5.07 (4.82~5.32)	35.778	5.059	22.2	2020/07/25
5750 Head	5750	35.40 (33.63~37.17)	5.22 (4.96~5.48)	35.414	5.229	22.2	2020/07/26

Table 4: Measurement result of Tissue electric parameters

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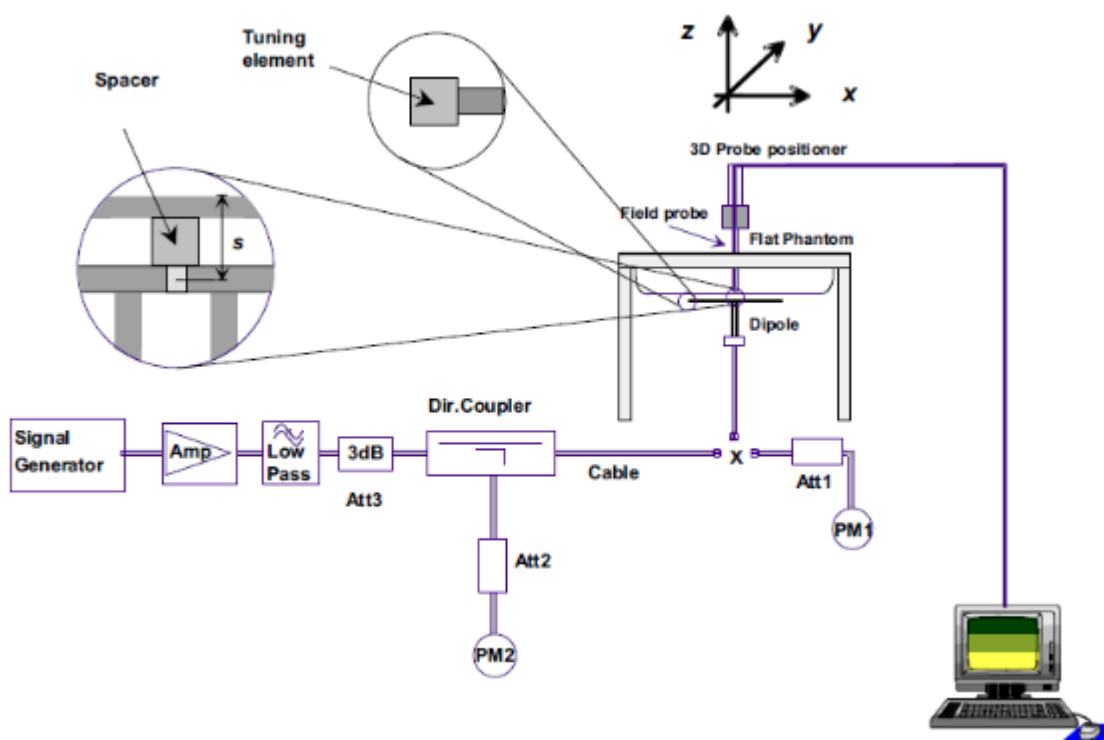
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6.2 SAR System Check

The microwave circuit arrangement for system check is sketched in below figure. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table(A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range $22\pm 2^{\circ}\text{C}$, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15 ± 0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



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

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6.2.1 Justification for Extended SAR Dipole Calibrations

- 1) Instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
 - a) There is no physical damage on the dipole;
 - b) System check with specific dipole is within 10% of calibrated value;
 - c) Return-loss is within 20% of calibrated measurement;
 - d) Impedance is within 5Ω from the previous measurement.
- 2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters

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6.2.2 Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (°C)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.21	1.42	8.84	5.68	8.39 (7.55~9.23)	5.63 (5.07~6.19)	22.1	2020/06/20
D835V2	Head	2.52	1.65	10.08	6.60	9.64 (8.68~10.60)	6.29 (5.66~6.92)	22.1	2020/07/02
D835V2	Head	2.62	1.71	10.48	6.84	9.64 (8.68~10.60)	6.29 (5.66~6.92)	22.1	2020/07/03
D835V2	Head	2.59	1.69	10.36	6.76	9.64 (8.68~10.60)	6.29 (5.66~6.92)	22.1	2020/07/04
D1750V2	Head	9.37	4.99	37.48	19.96	36.30 (32.67~39.93)	19.20 (17.28~21.12)	22.2	2020/07/06
D1750V2	Head	9.25	4.92	37.00	19.68	36.30 (32.67~39.93)	19.20 (17.28~21.12)	22.2	2020/07/08
D1900V2	Head	10.10	5.20	40.40	20.80	39.30 (35.37~43.23)	20.20 (17.28~22.22)	22.3	2020/07/10
D2450V2	Head	13.00	6.02	52.00	24.08	51.90 (46.71~57.09)	23.80 (21.42~26.18)	22.0	2020/07/12
D2600V2	Head	13.50	6.02	54.00	24.08	56.80 (51.12~62.48)	24.90 (22.41~27.39)	22.1	2020/07/14
D2600V2	Head	13.40	5.98	53.60	23.92	56.80 (51.12~62.48)	24.90 (22.41~27.39)	22.1	2020/07/16
D2600V2	Head	13.80	6.21	55.20	24.84	56.80 (51.12~62.48)	24.90 (22.41~27.39)	22.1	2020/07/19
D2600V2	Head	14.00	6.27	56.00	25.08	56.80 (51.12~62.48)	24.90 (22.41~27.39)	22.1	2020/07/20
D2600V2	Head	14.20	6.39	56.80	25.56	56.80 (51.12~62.48)	24.90 (22.41~27.39)	22.1	2020/07/29
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (°C)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D5GHzV2	Head (5.25GHz)	7.26	2.16	72.60	21.60	75.20 (67.68~82.72)	21.50 (19.35~23.65)	22.2	2020/07/24
	Head (5.6GHz)	7.47	2.10	74.70	21.00	80.00 (72.00~88.00)	22.70 (20.43~24.97)	22.2	2020/07/25
	Head (5.75GHz)	7.67	2.19	76.70	21.90	78.70 (70.83~86.57)	22.30 (20.07~24.53)	22.2	2020/07/26

Table 5: SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

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7 Test Configuration

7.1 Operation Configurations

7.2 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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.

7.3 Operation Configurations

7.3.1 GSM Test Configuration

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

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

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

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

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7.3.2 WCDMA Test Configuration

1) . Output Power Verification

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

2) . Head SAR

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

3) . Body SAR

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

4) . HSDPA / HSUPA / DC-HSDPA

According to KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

a) HSDPA

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

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Sub-test	β_c	Bd	$\beta_d(\text{SF})$	β_c/β_d	β_{hs}	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note1: ΔACK, ΔNACK and $\Delta\text{CQI} = 8$ Ahs = $\beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$ Note2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1.A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, ΔACK and $\Delta\text{NACK} = 8$ (Ahs = $30/15$) with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta\text{CQI} = 7$ (Ahs = $24/15$) with $\beta_{hs} = 24/15 * \beta_c$. Note3: 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.							

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

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

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

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

Table 7: HSDPA UE category

b) HSUPA

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

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Sub-test ^a	β_c ^c	β_d ^c	β_d (SF) ^c	β_c/β_d ^c	β_{hs} ⁽¹⁾ ^c	β_{ec} ^c	β_{ed} ^c	β_c ^c (SF) ^c	β_{ed} ^c (code) ^c	CM ⁽²⁾ ^c (dB) ^c	MP R ^c (dB) ^c	AG ⁽⁴⁾ ^c Index ^c	E-TFC I ^c
1 ^c	11/15 ⁽³⁾	15/15 ⁽³⁾	64 ^c	11/15 ⁽³⁾	22/15 ^c	209/225 ^c	1039/225 ^c	4 ^c	1 ^c	1.0 ^c	0.0 ^c	20 ^c	75 ^c
2 ^c	6/15 ^c	15/15 ^c	64 ^c	6/15 ^c	12/15 ^c	12/15 ^c	94/75 ^c	4 ^c	1 ^c	3.0 ^c	2.0 ^c	12 ^c	67 ^c
3 ^c	15/15 ^c	9/15 ^c	64 ^c	15/9 ^c	30/15 ^c	30/15 ^c	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4 ^c	2 ^c	2.0 ^c	1.0 ^c	15 ^c	92 ^c
4 ^c	2/15 ^c	15/15 ^c	64 ^c	2/15 ^c	4/15 ^c	2/15 ^c	56/75 ^c	4 ^c	1 ^c	3.0 ^c	2.0 ^c	17 ^c	71 ^c
5 ^c	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64 ^c	15/15 ⁽⁴⁾	30/15 ^c	24/15 ^c	134/15 ^c	4 ^c	1 ^c	1.0 ^c	0.0 ^c	21 ^c	81 ^c
Note 1: ΔACK , $\Delta NACK$ and $\Delta CQI=8$ $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_{ec}$ Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference. Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$. Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$. Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g. Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.													

Table 8: Subtests for UMTS Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum 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&2SF	11484	5.76
	4	4	2	4	20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF	22996	?
	4	4	10	4	20000	?

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

Table 9: HSUPA UE category

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c) DC-HSDPA

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

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

A summary of these settings are illustrated below:

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

Table E.5.0: Levels for HSDPA connection setup

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

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

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

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

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

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

Note:

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

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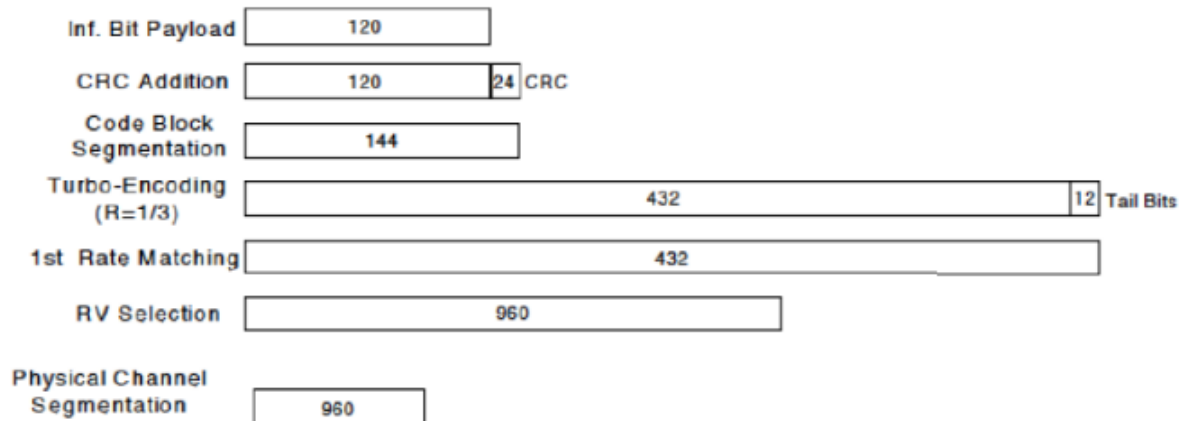


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

Note1: Δ ACK, Δ NACK and Δ CQI=8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$
Note2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCCH 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.
Note3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

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

Note:

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

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d) HSPA+

SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

■ **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_{ed1} (2xSF2) (Note 4)	β_{ed3} (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 Δ_{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, $MPR = \text{MAX}(CM-1, 0)$. 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 signalled to use the extrapolation algorithm.											

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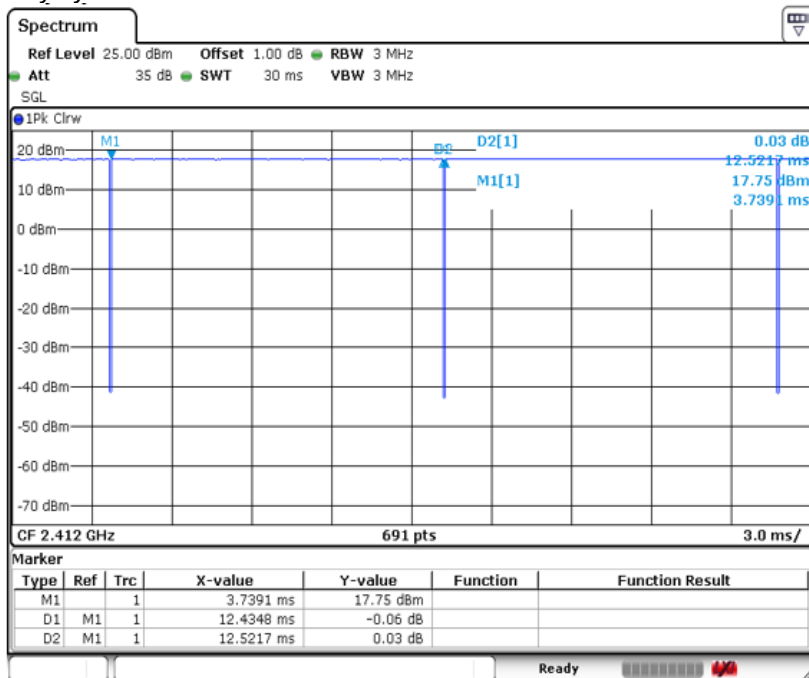
7.3.3 WiFi Test Configuration

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

7.3.3.1 Duty cycle

2.4GHz Wi-Fi Ant7 802.11b:

duty cycle=12.4348/12.5217=99.31%

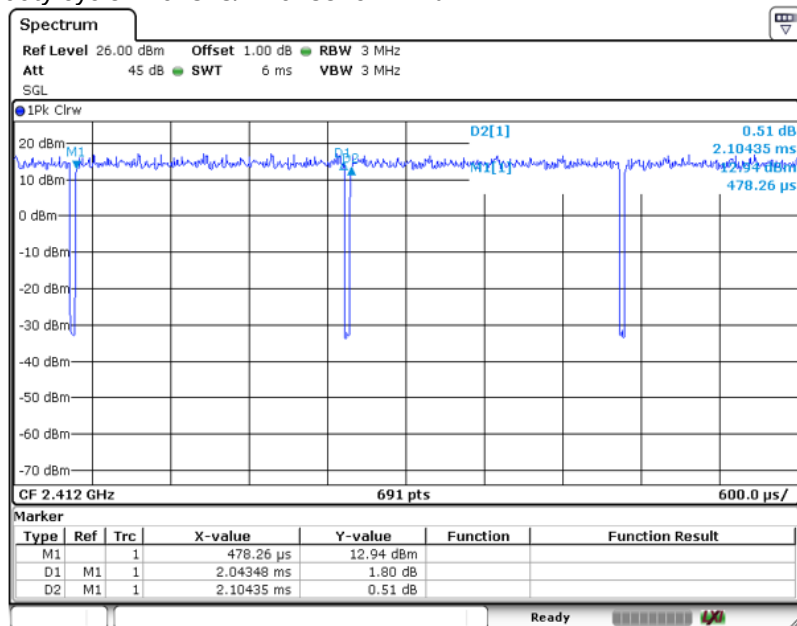


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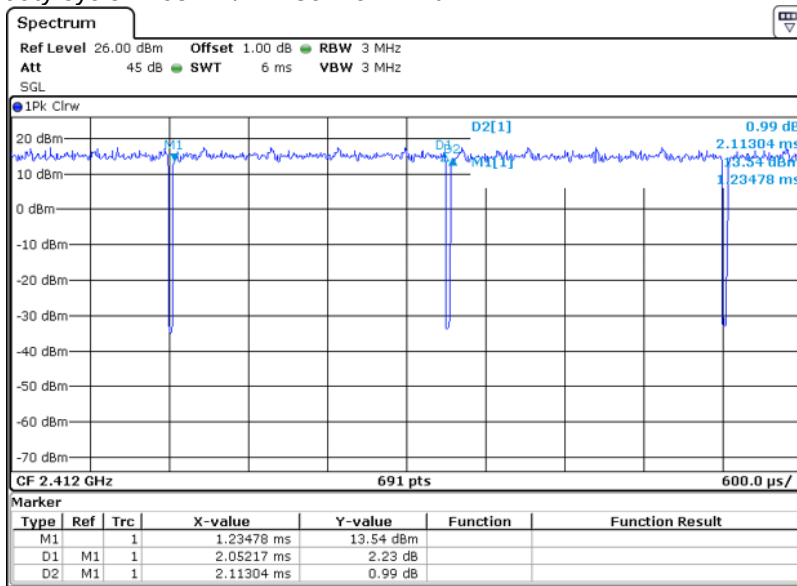
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2.4GHz Wi-Fi Ant8 802.11g:
duty cycle= $2.04348/2.10435=97.11\%$



2.4GHz Wi-Fi MIMO 802.11g:
duty cycle= $2.05217/2.11304=97.12\%$

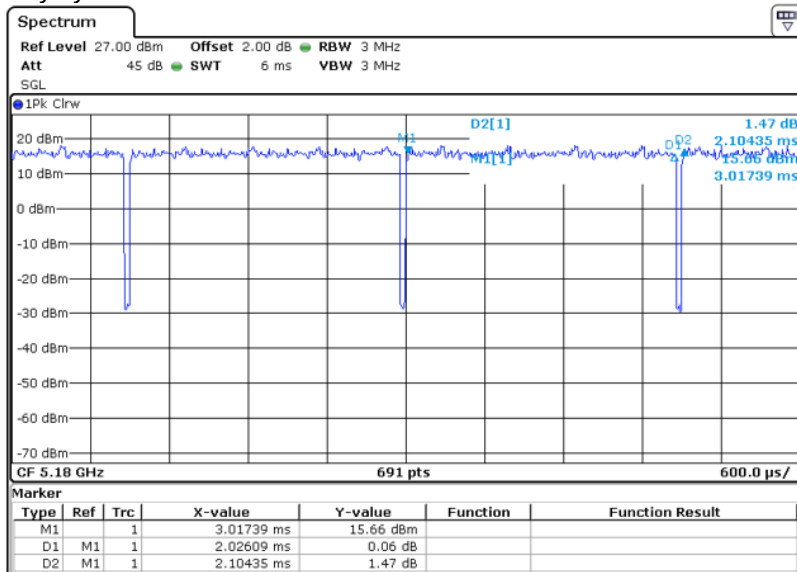


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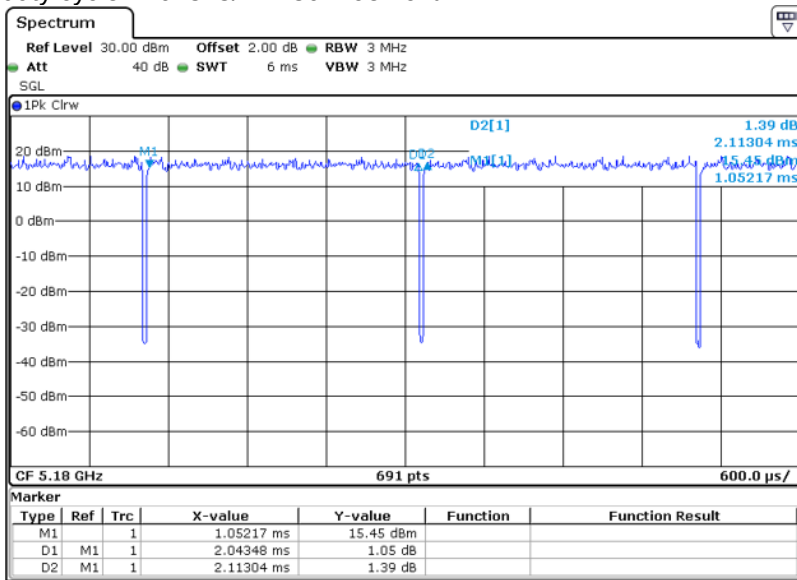
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5GHz Wi-Fi Ant7 802.11a:
duty cycle= $2.02609/2.10435=96.28\%$



5GHz Wi-Fi Ant8 802.11a:
duty cycle= $2.01348/2.11304=95.29\%$

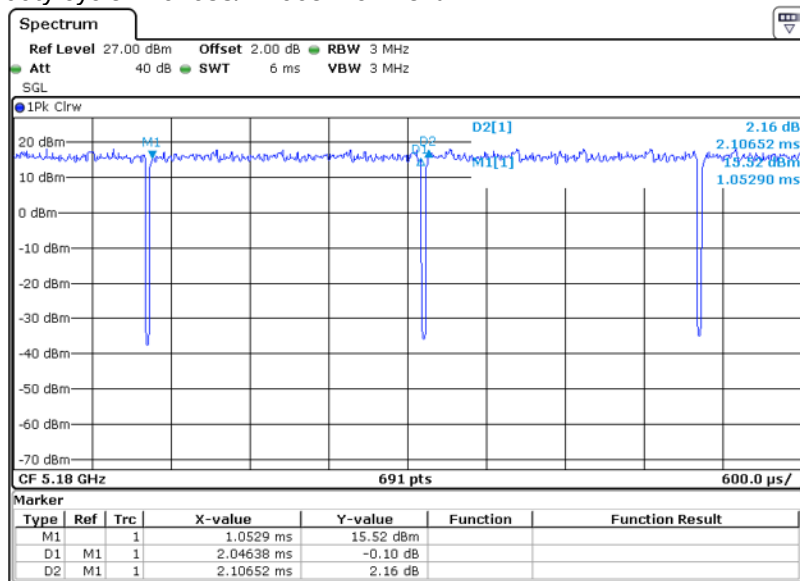


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5GHz Wi-Fi MIMO 802.11a:
duty cycle= $2.04638/2.10652=97.15\%$



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7.3.3.2 Initial Test Position SAR Test Reduction Procedure

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

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

7.3.3.3 Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

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7.3.3.4 Subsequent Test Configuration Procedures

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

- 1) . When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
- 2) . When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
- 3) . The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.
 - a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.
 - b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.
- 4) . SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:
 - a) replace "subsequent test configuration" with "next subsequent test configuration" (i.e., subsequent next highest specified maximum output power configuration)
 - b) replace "initial test configuration" with "all tested higher output power configurations"

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7.3.3.5 2.4 GHz WiFi SAR Procedures

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

- **802.11b DSSS SAR Test Requirements**

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

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

- **2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

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

- **SAR Test Requirements for OFDM configurations**

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

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7.3.3.6 5 GHz WiFi SAR Procedures

- **U-NII-1 and U-NII-2A Bands**

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) 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.
- 2) 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.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

- **U-NII-2C and 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, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. 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. 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. 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.

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- **OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements**

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- 1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
- 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
- 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
 - a) The channel closest to mid-band frequency is selected for SAR measurement.
 - b) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. 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.

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7.3.3.7 WiFi CDD/MIMO SAR Considerations

Per KDB 248227D01v02r02, simultaneous transmission provisions in KDB Publication 447498 should be used to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1-g SAR single transmission SAR measurement is $<1.6\text{W/kg}$, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

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7.3.4 LTE Test Configuration

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

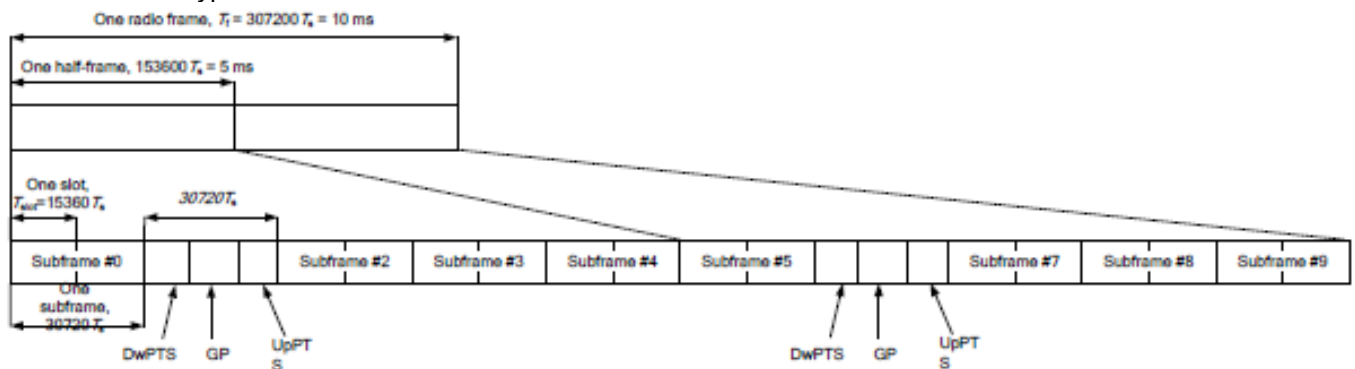
TDD LTE test consideration

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.

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.

LTE TDD Band support 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.

Frame structure type 2:



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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.Ts	2192.Ts	2560.Ts	7680.Ts	2192.Ts	2560.Ts
1	19760.Ts			20480.Ts		
2	21952.Ts			23040.Ts		
3	24144.Ts			25600.Ts		
4	26336.Ts			7680.Ts	4384.Ts	5120.Ts
5	6592.Ts	4384.Ts	5120.Ts	20480.Ts		
6	19760.Ts			23040.Ts		
7	21952.Ts			25600.Ts		
8	24144.Ts			-	-	-
9	13168.Ts			-	-	-

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

Calculated Duty Cycle=[Extended cyclic prefix in uplink x (Ts) x # of S + # of U]/10ms

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

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A) Spectrum Plots for RB Configurations

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

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 V13.5.0 (2016-09) Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

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
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

C) A-MPR

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

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

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

4) Higher order modulations

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

E) Other channel bandwidth standalone SAR test requirements

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

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7.3.5 NR Band Test Configuration

1. NR Band n7/n41 support SA mode, NR Band n5 support NSA mode. LTE+NR Band n5 operations are possible only with LTE under EN-DC mode and the operations are possible as following table:

Band/Antenna		LTE Band 7	
		Ant2	Ant4
n5	Ant0	√	√
	Ant1	√	√

2. The following NR Band power for NR Band n41 performed 100/90/80/60/50/40/20MHz base on DFT-s-OFDM/CP-OFDM QPSK/16QAM/64QAM/256QAM SCS 30kHz declared by manufacturer.

3. The following NR Band n5/n7 performed 20/15/10/5MHz base on DFT-s-OFDM/CP-OFDM QPSK/16QAM/64QAM/256QAM SCS 15kHz declared by manufacturer.

4. For 5G NR test procedure was following step similar FCC KDB 941225 D05:

a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.

b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.

c. SAR testing 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.

d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure

e. 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 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.

f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.

g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device

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5. MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS 38.101-1 Section 6.2.2 under Table 6.2.2 -1.

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

6. For FDD NR Band operation does not have the fixed UL/DL frame structure, but during the transmitting/ receiving it can be operated in the slot structure of 100% UL duty cycle, we are proposing the conservative way to evaluate SAR at 100% duty cycle. For the purpose of test NR Band standalone SAR, and also test SAR level at 100% TX duty cycle.

7. For TDD NR Band operation and final implementation, TDD NR slot configuration extended cyclic prefix uplink duty cycle =92.5%; However, EN-DC transmission on test DUT is only possible using FTM mode with continuous transmission (duty cycle =100%). SAR testing was performed using FTM mode at maximum output power adjusted for duty cycle to mimic final 92.5% cycle.

5G NR(SA) Antenna Power Level (dBm)	Not Adjusted for duty cycle		Adjusted for duty cycle	
	Ant0	Ant2	Ant0	Ant2
Power Reduction Scenario	n41	n41	n41	n41
receiver on	16.7	16.7	16.4	16.4
Receiver on+WiFi/BT	16.7	12.7	16.4	12.4
receiver off	21.2	20.2	20.9	19.9
Receiver off+WiFi/BT	20.2	20.2	19.9	19.9

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8. For 5G NR Sub6GHz SISO Mode, SAR Test plan as below:

- 1) For SA SISO, each NR Tx antenna is set to the maximum transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions.
 - 2) For 5G NR NSA mode with the same UL EN_DC combination but different DL EN_DC combinations, eg: EN-DC configuration: UL DC_7A_n5 (UL two bands) with DL DC_7C_n5 (DL two bands)
 - a) The UL EN-DC configuration, including the Tx antenna configuration, RF path, the channel bandwidth and other operating parameters are the same.
 - b) The maximum output power, including tolerance, for the UL EN-DC configuration with DL two or more bands must be $\leq$ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.
9. For EN-DC SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative "max + max" multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative "max + max" multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report.
10. When the reported SAR for and EN DC configuration is greater than 1.2 W/kg, EN DC SAR is also required for other NR based test channels.
11. EN DC SAR is also required for standalone NR configurations greater than 1.2 W/kg when scaled to the EN DC power level.

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8 Test Result

8.1 Measurement of RF Conducted Power

The detailed conducted power table can refer to Appendix E.

8.1.1 Conducted Power of GSM

Note:

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

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

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

8.1.2 Conducted Power of WCDMA

Note:

- 1) 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.

8.1.3 Conducted Power of LTE

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8.1.4 Conducted Power of Downlink and Uplink LTE CA

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

Power test equipment: Anritsu Radio Communication Analyzer MT8821C were used.

8.1.4.1 Conducted Power of Uplink LTE CA

Note:

- 1) This device supports uplink carrier aggregation for LTE CA_7C, CA_38C, CA_41C with a maximum of two 20MHz component carriers.
- 2) According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
- 3) In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs.
- 4) Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05.

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8.1.4.2 Conducted Power of Downlink LTE CA

According to 201711 FCC RF Exposure TCB workshop slides, in applying the existing power measurement procedures for DL CA SAR test exclusion, the configurations that require power measurements are highlighted in the table as below:

1 band / 2CC	1 band / 3CC	1 band / 4CC	2 bands / 2CC	2 bands / 3CC	2 bands / 4CC
CA_7B					
CA_7A-7A					
CA_4A-4A					
CA_38C					
CA_41A-41A					
			CA_2A-5A		
			CA_2A-7A		
			CA_4A-5A		
			CA_26A-41A	CA_26A-41C	
			CA_5A-38A		
			CA_5A-41A		
CA_7C				CA_4A-7C	
			CA_4A-7A	CA_4A-7C	
			CA_5A-7A	CA_5A-7C	
CA_41C				CA_41A-41C	
CA_41C				CA_26A-41C	
	CA_41D	CA_41A-41D			
CA_66A-66A				CA_5A-66A-66A	
CA_66A-66A				CA_7A-66A-66A	CA_7C-66A-66A

Note:

- 1) Only green highlighted cells need power measurement.
- 2) The downlink LTE CA SAR test is not required since the maximum output power for downlink LTE CA was not more than 0.25dB higher than the maximum output power for without downlink LTE CA.

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8.1.5 Conducted Power of WIFI and BT

Note:

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

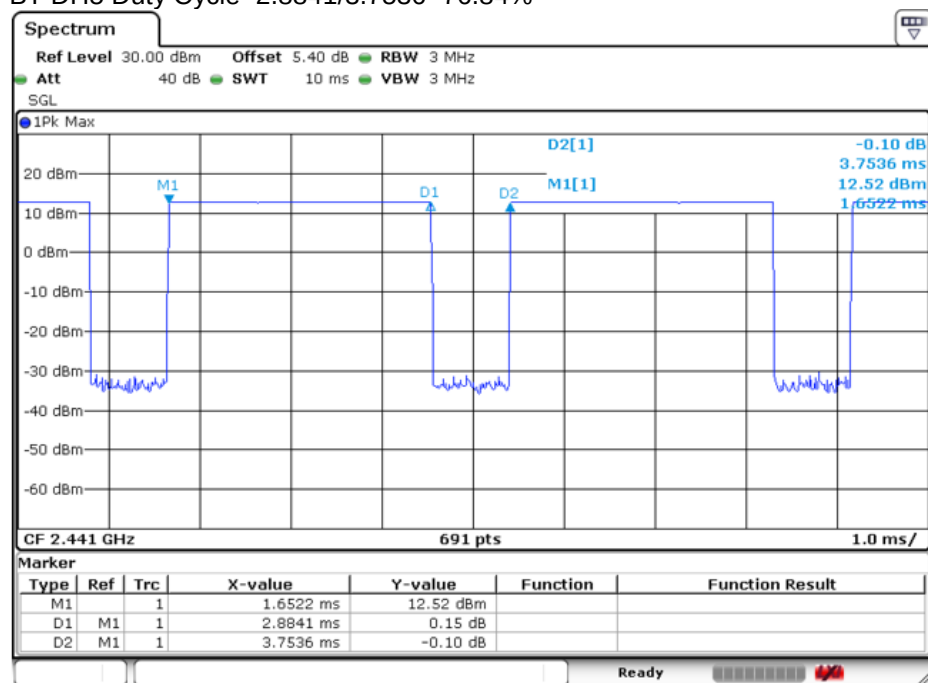
b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.

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

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

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

BT DH5 Duty Cycle=2.8841/3.7536=76.84%



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8.2 Stand-alone SAR test evaluation

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

Freq. Band	Frequency (GHz)	Position	Average Power		Test Separation (mm)	Calculate Value	Exclusion Threshold	Exclusion (Y/N)
			dBm	mW				
Wi-Fi	2.45	Head	19.50	89.13	0	27.9	3	N
		Body-worn	19.50	89.13	15	9.3	3	N
		hotspot	19.50	89.13	10	14.0	3	N
Wi-Fi	5	Head	18.00	63.10	0	28.2	3	N
		Body-worn	18.00	63.10	15	9.4	3	N
		hotspot	18.00	63.10	10	14.1	3	N
Bluetooth	2.48	Head	14.00	25.12	0	7.9	3	N
		Body-worn	14.00	25.12	15	2.6	3	Y
		hotspot	14.00	25.12	10	4.0	3	N

Note:

1) * - maximum possible output power declared by manufacturer

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

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

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8.3 Measurement of SAR Data

8.3.1 SAR Result of GSM850

Ant0 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.267	0.07	29.78	31.00	1.324	0.354	22.1
Left tilted	GSM	190/836.6	1:8.3	0.078	-0.18	29.78	31.00	1.324	0.103	22.1
Right cheek	GSM	190/836.6	1:8.3	0.298	0.10	29.78	31.00	1.324	0.395	22.1
Right tilted	GSM	190/836.6	1:8.3	0.117	-0.03	29.78	31.00	1.324	0.155	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	190/836.6	1:8.3	0.126	0.11	32.40	33.50	1.288	0.162	22.1
Back side	GSM	190/836.6	1:8.3	0.218	-0.09	32.40	33.50	1.288	0.281	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.218	-0.15	27.32	28.50	1.312	0.286	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.315	0.06	27.32	28.50	1.312	0.413	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.519	0.03	27.32	28.50	1.312	0.681	22.1
Right side	GPRS 4TS	190/836.6	1:2.075	0.001	0.15	27.32	28.50	1.312	0.001	22.1
Top side	GPRS 4TS	190/836.6	1:2.075	0.002	0.17	27.32	28.50	1.312	0.003	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.162	-0.13	27.85	29.00	1.303	0.211	22.1

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Ant1 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.017	0.06	32.61	33.50	1.227	0.021	22.1
Left tilted	GSM	190/836.6	1:8.3	0.008	0.01	32.61	33.50	1.227	0.010	22.1
Right cheek	GSM	190/836.6	1:8.3	0.043	-0.08	32.61	33.50	1.227	0.053	22.1
Right tilted	GSM	190/836.6	1:8.3	0.010	0.04	32.61	33.50	1.227	0.013	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	190/836.6	1:8.3	0.049	0.07	32.61	33.50	1.227	0.060	22.1
Back side	GSM	190/836.6	1:8.3	0.062	0.16	32.61	33.50	1.227	0.076	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.092	0.09	27.62	28.50	1.225	0.113	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.166	0.10	27.62	28.50	1.225	0.203	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.003	0.14	27.62	28.50	1.225	0.004	22.1
Right side	GPRS 4TS	190/836.6	1:2.075	0.002	-0.06	27.62	28.50	1.225	0.002	22.1
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.075	0.13	27.62	28.50	1.225	0.092	22.1

Table 11: SAR of GSM850 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
- 3) When multiple slots can be used, SAR should be tested to account for the maximum source-based time-averaged output power.

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8.3.2 SAR Result of GSM1900

Ant2 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	661/1880	1:8.3	0.208	-0.11	24.20	24.50	1.072	0.223	22.3
Left tilted	GSM	661/1880	1:8.3	0.268	0.06	24.20	24.50	1.072	0.287	22.3
Right cheek	GSM	661/1880	1:8.3	0.298	0.12	24.20	24.50	1.072	0.319	22.3
Right tilted	GSM	661/1880	1:8.3	0.357	0.09	24.20	24.50	1.072	0.383	22.3
Body worn Test data(Separate 15mm)										
Front side	GSM	661/1880	1:8.3	0.083	0.10	29.50	30.50	1.259	0.104	22.3
Back side	GSM	661/1880	1:8.3	0.092	-0.06	29.50	30.50	1.259	0.115	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	661/1880	1:2.075	0.193	0.05	24.29	25.50	1.321	0.255	22.3
Back side	GPRS 4TS	661/1880	1:2.075	0.238	0.09	24.29	25.50	1.321	0.314	22.3
Left side	GPRS 4TS	661/1880	1:2.075	0.044	-0.03	24.29	25.50	1.321	0.058	22.3
Right side	GPRS 4TS	661/1880	1:2.075	0.001	-0.11	24.29	25.50	1.321	0.001	22.3
Top side	GPRS 4TS	661/1880	1:2.075	0.348	-0.03	24.29	25.50	1.321	0.460	22.3
Ant3 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	661/1880	1:8.3	0.059	0.06	29.91	30.50	1.146	0.067	22.3
Left tilted	GSM	661/1880	1:8.3	0.047	0.14	29.91	30.50	1.146	0.054	22.3
Right cheek	GSM	661/1880	1:8.3	0.052	0.06	29.91	30.50	1.146	0.060	22.3
Right tilted	GSM	661/1880	1:8.3	0.046	0.09	29.91	30.50	1.146	0.053	22.3
Body worn Test data(Separate 15mm)										
Front side	GSM	661/1880	1:8.3	0.176	0.13	29.91	30.50	1.146	0.202	22.3
Back side	GSM	661/1880	1:8.3	0.202	-0.18	29.91	30.50	1.146	0.231	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	661/1880	1:2.075	0.201	0.00	24.40	25.50	1.288	0.259	22.3
Back side	GPRS 4TS	661/1880	1:2.075	0.246	-0.04	24.40	25.50	1.288	0.317	22.3
Left side	GPRS 4TS	661/1880	1:2.075	0.031	-0.18	24.40	25.50	1.288	0.040	22.3
Right side	GPRS 4TS	661/1880	1:2.075	0.154	-0.01	24.40	25.50	1.288	0.198	22.3
Bottom side	GPRS 4TS	661/1880	1:2.075	0.367	0.13	24.40	25.50	1.288	0.473	22.3

Table 12: SAR of GSM1900 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
- 3) When multiple slots can be used, SAR should be tested to account for the maximum source-based time-averaged output power.

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8.3.3 SAR Result of WCDMA Band II

Ant2 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	9400/1880	1:1	0.201	-0.03	16.10	17.00	1.230	0.247	22.3
Left tilted	RMC	9400/1880	1:1	0.254	0.01	16.10	17.00	1.230	0.312	22.3
Right cheek	RMC	9400/1880	1:1	0.320	0.14	16.10	17.00	1.230	0.394	22.3
Right tilted	RMC	9400/1880	1:1	0.375	-0.12	16.10	17.00	1.230	0.461	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.071	0.17	19.78	20.00	1.052	0.075	22.3
Back side	RMC	9400/1880	1:1	0.098	0.10	19.78	20.00	1.052	0.103	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.140	0.05	19.78	20.00	1.052	0.147	22.3
Back side	RMC	9400/1880	1:1	0.175	0.14	19.78	20.00	1.052	0.184	22.3
Left side	RMC	9400/1880	1:1	0.023	0.09	19.78	20.00	1.052	0.024	22.3
Right side	RMC	9400/1880	1:1	0.028	0.11	19.78	20.00	1.052	0.029	22.3
Top side	RMC	9400/1880	1:1	0.349	-0.05	19.78	20.00	1.052	0.367	22.3
Ant3 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	9400/1880	1:1	0.071	-0.13	23.59	24.50	1.233	0.088	22.3
Left tilted	RMC	9400/1880	1:1	0.054	0.11	23.59	24.50	1.233	0.067	22.3
Right cheek	RMC	9400/1880	1:1	0.132	0.04	23.59	24.50	1.233	0.163	22.3
Right tilted	RMC	9400/1880	1:1	0.060	0.09	23.59	24.50	1.233	0.074	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.135	0.07	20.75	22.00	1.334	0.180	22.3
Back side	RMC	9400/1880	1:1	0.201	0.04	20.75	22.00	1.334	0.268	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.237	-0.14	20.75	22.00	1.334	0.316	22.3
Back side	RMC	9400/1880	1:1	0.269	0.16	20.75	22.00	1.334	0.359	22.3
Left side	RMC	9400/1880	1:1	0.001	0.13	20.75	22.00	1.334	0.001	22.3
Right side	RMC	9400/1880	1:1	0.150	-0.09	20.75	22.00	1.334	0.200	22.3
Bottom side	RMC	9400/1880	1:1	0.605	-0.02	20.75	22.00	1.334	0.807	22.3
Bottom side	RMC	9262/1852.4	1:1	0.575	0.05	20.71	22.00	1.346	0.774	22.3
Bottom side	RMC	9538/1907.6	1:1	0.671	0.06	20.80	22.00	1.318	0.885	22.3

Table 13: SAR of WCDMA Band II for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.4 SAR Result of WCDMA Band IV

Ant2 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	1412/1732.4	1:1	0.337	0.14	14.44	15.50	1.276	0.430	22.2
Left tilted	RMC	1412/1732.4	1:1	0.403	0.19	14.44	15.50	1.276	0.514	22.2
Right cheek	RMC	1412/1732.4	1:1	0.465	0.12	14.44	15.50	1.276	0.594	22.2
Right tilted	RMC	1412/1732.4	1:1	0.483	-0.10	14.44	15.50	1.276	0.617	22.2
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.143	0.13	18.78	20.00	1.324	0.189	22.2
Back side	RMC	1412/1732.4	1:1	0.167	0.07	18.78	20.00	1.324	0.221	22.2
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.276	0.06	18.78	20.00	1.324	0.366	22.2
Back side	RMC	1412/1732.4	1:1	0.342	0.09	18.78	20.00	1.324	0.453	22.2
Left side	RMC	1412/1732.4	1:1	0.067	0.14	18.78	20.00	1.324	0.089	22.2
Right side	RMC	1412/1732.4	1:1	0.002	0.10	18.78	20.00	1.324	0.003	22.2
Top side	RMC	1412/1732.4	1:1	0.435	0.18	18.78	20.00	1.324	0.576	22.2
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	1412/1732.4	1:1	0.201	0.02	12.55	13.50	1.245	0.250	22.2
Left tilted	RMC	1412/1732.4	1:1	0.242	0.13	12.55	13.50	1.245	0.301	22.2

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Ant3 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	1412/1732.4	1:1	0.159	0.04	23.41	24.50	1.285	0.204	22.2
Left tilted	RMC	1412/1732.4	1:1	0.055	0.01	23.41	24.50	1.285	0.071	22.2
Right cheek	RMC	1412/1732.4	1:1	0.142	0.09	23.41	24.50	1.285	0.183	22.2
Right tilted	RMC	1412/1732.4	1:1	0.069	0.04	23.41	24.50	1.285	0.089	22.2
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.133	-0.09	19.23	20.50	1.340	0.178	22.2
Back side	RMC	1412/1732.4	1:1	0.139	-0.13	19.23	20.50	1.340	0.186	22.2
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.296	-0.11	19.23	20.50	1.340	0.397	22.2
Back side	RMC	1412/1732.4	1:1	0.324	0.06	19.23	20.50	1.340	0.434	22.2
Left side	RMC	1412/1732.4	1:1	0.001	-0.14	19.23	20.50	1.340	0.001	22.2
Right side	RMC	1412/1732.4	1:1	0.216	0.17	19.23	20.50	1.340	0.289	22.2
Bottom side	RMC	1412/1732.4	1:1	0.601	-0.04	19.23	20.50	1.340	0.805	22.2
Bottom side	RMC	1312/1712.4	1:1	0.404	-0.03	19.16	20.50	1.361	0.550	22.2
Bottom side	RMC	1513/1752.6	1:1	0.487	-0.06	19.38	20.50	1.294	0.630	22.2

Table 14: SAR of WCDMA Band IV for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.5 SAR Result of WCDMA Band V

Ant0 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	4182/836.4	1:1	0.599	0.03	23.68	25.00	1.355	0.812	22.1
Left cheek	RMC	4132/826.4	1:1	0.466	0.14	23.45	25.00	1.429	0.666	22.1
Left cheek	RMC	4233/846.6	1:1	0.630	0.06	23.67	25.00	1.358	0.856	22.1
Left tilted	RMC	4182/836.4	1:1	0.146	0.04	23.68	25.00	1.355	0.198	22.1
Right cheek	RMC	4182/836.4	1:1	0.659	-0.10	23.68	25.00	1.355	0.893	22.1
Right cheek	RMC	4132/826.4	1:1	0.562	0.19	23.45	25.00	1.429	0.803	22.1
Right cheek	RMC	4233/846.6	1:1	0.668	-0.09	23.67	25.00	1.358	0.907	22.1
Right tilted	RMC	4182/836.4	1:1	0.195	-0.01	23.68	25.00	1.355	0.264	22.1
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.113	0.01	23.68	25.00	1.355	0.153	22.1
Back side	RMC	4182/836.4	1:1	0.196	0.04	23.68	25.00	1.355	0.266	22.1
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.211	0.17	23.68	25.00	1.355	0.286	22.1
Back side	RMC	4182/836.4	1:1	0.272	0.16	23.68	25.00	1.355	0.369	22.1
Left side	RMC	4182/836.4	1:1	0.505	-0.05	23.68	25.00	1.355	0.684	22.1
Right side	RMC	4182/836.4	1:1	0.001	0.11	23.68	25.00	1.355	0.001	22.1
Top side	RMC	4182/836.4	1:1	0.002	0.00	23.68	25.00	1.355	0.003	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WLAN/BT)										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	4182/836.4	1:1	0.183	-0.06	18.73	20.00	1.340	0.245	22.1

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Ant1 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data										
Left cheek	RMC	4182/836.4	1:1	0.026	-0.18	23.76	25.00	1.330	0.035	22.1
Left tilted	RMC	4182/836.4	1:1	0.013	0.03	23.76	25.00	1.330	0.017	22.1
Right cheek	RMC	4182/836.4	1:1	0.041	0.02	23.76	25.00	1.330	0.054	22.1
Right tilted	RMC	4182/836.4	1:1	0.017	0.04	23.76	25.00	1.330	0.023	22.1
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.086	0.10	23.76	25.00	1.330	0.114	22.1
Back side	RMC	4182/836.4	1:1	0.109	0.03	23.76	25.00	1.330	0.145	22.1
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.147	0.14	23.76	25.00	1.330	0.196	22.1
Back side	RMC	4182/836.4	1:1	0.268	0.00	23.76	25.00	1.330	0.357	22.1
Left side	RMC	4182/836.4	1:1	0.002	0.13	23.76	25.00	1.330	0.003	22.1
Right side	RMC	4182/836.4	1:1	0.068	0.05	23.76	25.00	1.330	0.090	22.1
Bottom side	RMC	4182/836.4	1:1	0.127	0.09	23.76	25.00	1.330	0.169	22.1

Table 15: SAR of WCDMA Band V for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.6 SAR Result of LTE Band 2

Ant2 Test Record											
Test position	BW	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	18700/1860	1:1	0.188	-0.11	15.76	17.00	1.330	0.250	22.3
Left tilted	20	QPSK 1RB_0	18700/1860	1:1	0.211	0.09	15.76	17.00	1.330	0.281	22.3
Right cheek	20	QPSK 1RB_0	18700/1860	1:1	0.234	0.06	15.76	17.00	1.330	0.311	22.3
Right tilted	20	QPSK 1RB_0	18700/1860	1:1	0.283	0.11	15.76	17.00	1.330	0.377	22.3
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	18700/1860	1:1	0.149	0.14	15.89	17.00	1.291	0.192	22.3
Left tilted	20	QPSK 50RB_25	18700/1860	1:1	0.221	0.03	15.89	17.00	1.291	0.285	22.3
Right cheek	20	QPSK 50RB_25	18700/1860	1:1	0.244	0.08	15.89	17.00	1.291	0.315	22.3
Right tilted	20	QPSK 50RB_25	18700/1860	1:1	0.310	-0.09	15.89	17.00	1.291	0.400	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_99	18700/1860	1:1	0.084	0.09	20.49	21.50	1.262	0.106	22.3
Back side	20	QPSK 1RB_99	18700/1860	1:1	0.092	0.11	20.49	21.50	1.262	0.116	22.3
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	18900/1880	1:1	0.088	0.06	20.45	21.50	1.274	0.112	22.3
Back side	20	QPSK 50RB_0	18900/1880	1:1	0.100	0.10	20.45	21.50	1.274	0.127	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_99	18700/1860	1:1	0.105	-0.06	20.49	21.50	1.262	0.132	22.3
Back side	20	QPSK 1RB_99	18700/1860	1:1	0.147	0.09	20.49	21.50	1.262	0.185	22.3
Left side	20	QPSK 1RB_99	18700/1860	1:1	0.022	-0.11	20.49	21.50	1.262	0.028	22.3
Right side	20	QPSK 1RB_99	18700/1860	1:1	0.011	0.06	20.49	21.50	1.262	0.014	22.3
Top side	20	QPSK 1RB_99	18700/1860	1:1	0.254	0.00	20.49	21.50	1.262	0.321	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	18900/1880	1:1	0.130	0.03	20.45	21.50	1.274	0.166	22.3
Back side	20	QPSK 50RB_0	18900/1880	1:1	0.148	0.11	20.45	21.50	1.274	0.188	22.3
Left side	20	QPSK 50RB_0	18900/1880	1:1	0.024	0.17	20.45	21.50	1.274	0.031	22.3
Right side	20	QPSK 50RB_0	18900/1880	1:1	0.014	0.03	20.45	21.50	1.274	0.018	22.3
Top side	20	QPSK 50RB_0	18900/1880	1:1	0.278	-0.14	20.45	21.50	1.274	0.354	22.3

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Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	18900/1880	1:1	0.060	-0.12	22.92	24.00	1.282	0.077	22.3
Left tilted	20	QPSK 1RB_0	18900/1880	1:1	0.045	0.11	22.92	24.00	1.282	0.058	22.3
Right cheek	20	QPSK 1RB_0	18900/1880	1:1	0.108	-0.08	22.92	24.00	1.282	0.138	22.3
Right tilted	20	QPSK 1RB_0	18900/1880	1:1	0.051	0.06	22.92	24.00	1.282	0.065	22.3
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	18700/1860	1:1	0.048	0.17	22.00	23.00	1.259	0.060	22.3
Left tilted	20	QPSK 50RB_25	18700/1860	1:1	0.001	0.08	22.00	23.00	1.259	0.001	22.3
Right cheek	20	QPSK 50RB_25	18700/1860	1:1	0.074	0.15	22.00	23.00	1.259	0.093	22.3
Right tilted	20	QPSK 50RB_25	18700/1860	1:1	0.012	0.10	22.00	23.00	1.259	0.015	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	18700/1860	1:1	0.153	0.13	20.46	21.50	1.271	0.194	22.3
Back side	20	QPSK 1RB_50	18700/1860	1:1	0.170	0.12	20.46	21.50	1.271	0.216	22.3
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	18700/1860	1:1	0.161	0.00	20.53	21.50	1.250	0.201	22.3
Back side	20	QPSK 50RB_50	18700/1860	1:1	0.173	0.07	20.53	21.50	1.250	0.216	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	18700/1860	1:1	0.259	0.06	20.46	21.50	1.271	0.329	22.3
Back side	20	QPSK 1RB_50	18700/1860	1:1	0.317	0.01	20.46	21.50	1.271	0.403	22.3
Left side	20	QPSK 1RB_50	18700/1860	1:1	0.040	-0.10	20.46	21.50	1.271	0.051	22.3
Right side	20	QPSK 1RB_50	18700/1860	1:1	0.174	0.03	20.46	21.50	1.271	0.221	22.3
Bottom side	20	QPSK 1RB_50	18700/1860	1:1	0.525	0.14	20.46	21.50	1.271	0.667	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_50	18900/1880	1:1	0.275	-0.06	20.53	21.50	1.250	0.344	22.3
Back side	20	QPSK 50RB_50	18900/1880	1:1	0.320	0.10	20.53	21.50	1.250	0.400	22.3
Left side	20	QPSK 50RB_50	18900/1880	1:1	0.049	0.11	20.53	21.50	1.250	0.061	22.3
Right side	20	QPSK 50RB_50	18900/1880	1:1	0.169	0.09	20.53	21.50	1.250	0.211	22.3
Bottom side	20	QPSK 50RB_50	18900/1880	1:1	0.539	0.05	20.53	21.50	1.250	0.674	22.3

Table 16: SAR of LTE Band 2 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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8.3.7 SAR Result of LTE Band 4

Ant2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	20300/1745	1:1	0.337	-0.06	14.64	16.00	1.368	0.461	22.2
Left tilted	20	QPSK 1RB_50	20300/1745	1:1	0.410	0.13	14.64	16.00	1.368	0.561	22.2
Right cheek	20	QPSK 1RB_50	20300/1745	1:1	0.487	0.07	14.64	16.00	1.368	0.666	22.2
Right tilted	20	QPSK 1RB_50	20300/1745	1:1	0.490	0.11	14.64	16.00	1.368	0.670	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	20175/1732.5	1:1	0.348	0.09	14.57	16.00	1.390	0.484	22.2
Left tilted	20	QPSK 50RB_0	20175/1732.5	1:1	0.415	0.16	14.57	16.00	1.390	0.577	22.2
Right cheek	20	QPSK 50RB_0	20175/1732.5	1:1	0.504	0.07	14.57	16.00	1.390	0.701	22.2
Right tilted	20	QPSK 50RB_0	20175/1732.5	1:1	0.508	-0.12	14.57	16.00	1.390	0.706	22.2
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	20175/1732.5	1:1	0.187	0.16	19.67	21.00	1.358	0.254	22.2
Back side	20	QPSK 1RB_0	20175/1732.5	1:1	0.225	-0.10	19.67	21.00	1.358	0.306	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	20175/1732.5	1:1	0.194	0.01	19.86	21.00	1.300	0.252	22.2
Back side	20	QPSK 50RB_0	20175/1732.5	1:1	0.237	0.12	19.86	21.00	1.300	0.308	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	20300/1745	1:1	0.334	0.03	19.67	21.00	1.358	0.454	22.2
Back side	20	QPSK 1RB_0	20175/1732.5	1:1	0.431	0.09	19.67	21.00	1.358	0.585	22.2
Left side	20	QPSK 1RB_0	20175/1732.5	1:1	0.079	-0.01	19.67	21.00	1.358	0.107	22.2
Right side	20	QPSK 1RB_0	20175/1732.5	1:1	0.011	0.09	19.67	21.00	1.358	0.015	22.2
Top side	20	QPSK 1RB_0	20175/1732.5	1:1	0.575	0.14	19.67	21.00	1.358	0.781	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	20175/1732.5	1:1	0.397	0.11	19.86	21.00	1.300	0.516	22.2
Back side	20	QPSK 50RB_0	20175/1732.5	1:1	0.448	0.15	19.86	21.00	1.300	0.582	22.2
Left side	20	QPSK 50RB_0	20175/1732.5	1:1	0.078	0.02	19.86	21.00	1.300	0.101	22.2
Right side	20	QPSK 50RB_0	20175/1732.5	1:1	0.009	-0.05	19.86	21.00	1.300	0.012	22.2
Top side	20	QPSK 50RB_0	20175/1732.5	1:1	0.668	-0.04	19.86	21.00	1.300	0.869	22.2
Top side	20	QPSK 50RB_0	20050/1720	1:1	0.642	-0.09	19.70	21.00	1.349	0.866	22.2
Top side	20	QPSK 50RB_0	20300/1745	1:1	0.660	-0.03	19.82	21.00	1.312	0.866	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Top side	20	QPSK 100RB_0	20175/1732.5	1:1	0.579	-0.11	19.65	21.00	1.365	0.790	22.2
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	20300/1745	1:1	0.160	0.07	11.75	13.00	1.334	0.213	22.2
Left tilted	20	QPSK 1RB_50	20300/1745	1:1	0.195	0.12	11.75	13.00	1.334	0.260	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	20175/1732.5	1:1	0.168	0.08	11.62	13.00	1.374	0.231	22.2
Left tilted	20	QPSK 50RB_0	20175/1732.5	1:1	0.197	0.11	11.62	13.00	1.374	0.271	22.2

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Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20175/1732.5	1:1	0.119	0.02	23.40	24.50	1.288	0.153	22.2
Left tilted	20	QPSK 1RB_0	20175/1732.5	1:1	0.061	0.11	23.40	24.50	1.288	0.079	22.2
Right cheek	20	QPSK 1RB_0	20175/1732.5	1:1	0.151	0.08	23.40	24.50	1.288	0.195	22.2
Right tilted	20	QPSK 1RB_0	20175/1732.5	1:1	0.082	0.09	23.40	24.50	1.288	0.106	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	20175/1732.5	1:1	0.095	-0.17	22.35	23.50	1.303	0.124	22.2
Left tilted	20	QPSK 50RB_25	20175/1732.5	1:1	0.047	0.09	22.35	23.50	1.303	0.061	22.2
Right cheek	20	QPSK 50RB_25	20175/1732.5	1:1	0.118	-0.10	22.35	23.50	1.303	0.154	22.2
Right tilted	20	QPSK 50RB_25	20175/1732.5	1:1	0.069	0.14	22.35	23.50	1.303	0.090	22.2
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	20050/1720	1:1	0.102	0.09	19.68	21.00	1.355	0.138	22.2
Back side	20	QPSK 1RB_0	20050/1720	1:1	0.145	0.04	19.68	21.00	1.355	0.197	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_25	20050/1720	1:1	0.100	0.11	19.73	21.00	1.340	0.134	22.2
Back side	20	QPSK 50RB_25	20050/1720	1:1	0.130	0.02	19.73	21.00	1.340	0.174	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	20050/1720	1:1	0.316	-0.11	19.68	21.00	1.355	0.428	22.2
Back side	20	QPSK 1RB_0	20050/1720	1:1	0.347	0.17	19.68	21.00	1.355	0.470	22.2
Left side	20	QPSK 1RB_0	20050/1720	1:1	0.004	0.00	19.68	21.00	1.355	0.005	22.2
Right side	20	QPSK 1RB_0	20050/1720	1:1	0.224	0.09	19.68	21.00	1.355	0.304	22.2
Bottom side	20	QPSK 1RB_0	20050/1720	1:1	0.470	0.15	19.68	21.00	1.355	0.637	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_25	20050/1720	1:1	0.312	0.11	19.73	21.00	1.340	0.418	22.2
Back side	20	QPSK 50RB_25	20050/1720	1:1	0.337	0.09	19.73	21.00	1.340	0.451	22.2
Left side	20	QPSK 50RB_25	20050/1720	1:1	0.002	0.15	19.73	21.00	1.340	0.003	22.2
Right side	20	QPSK 50RB_25	20050/1720	1:1	0.228	0.06	19.73	21.00	1.340	0.305	22.2
Bottom side	20	QPSK 50RB_25	20050/1720	1:1	0.544	-0.01	19.73	21.00	1.340	0.729	22.2

Table 17: SAR of LTE Band 4 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.8 SAR Result of LTE Band 5

Ant0 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	20600/844	1:1	0.441	0.08	21.92	23.00	1.282	0.566	22.1
Left tilted	10	QPSK 1RB_0	20600/844	1:1	0.083	0.13	21.92	23.00	1.282	0.106	22.1
Right cheek	10	QPSK 1RB_0	20600/844	1:1	0.477	-0.17	21.92	23.00	1.282	0.612	22.1
Right tilted	10	QPSK 1RB_0	20600/844	1:1	0.086	-0.04	21.92	23.00	1.282	0.110	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	20450/829	1:1	0.430	0.13	21.79	23.00	1.321	0.568	22.1
Left tilted	10	QPSK 25RB_13	20450/829	1:1	0.076	-0.10	21.79	23.00	1.321	0.100	22.1
Right cheek	10	QPSK 25RB_13	20450/829	1:1	0.424	-0.02	21.79	23.00	1.321	0.560	22.1
Right tilted	10	QPSK 25RB_13	20450/829	1:1	0.077	0.12	21.79	23.00	1.321	0.102	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_0	20450/829	1:1	0.102	0.01	23.24	24.50	1.337	0.136	22.1
Back side	10	QPSK 1RB_0	20450/829	1:1	0.161	-0.05	23.24	24.50	1.337	0.215	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_13	20450/829	1:1	0.088	-0.12	22.31	23.50	1.315	0.116	22.1
Back side	10	QPSK 25RB_13	20450/829	1:1	0.118	-0.09	22.31	23.50	1.315	0.155	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_0	20450/829	1:1	0.166	0.08	23.24	24.50	1.337	0.222	22.1
Back side	10	QPSK 1RB_0	20450/829	1:1	0.250	0.10	23.24	24.50	1.337	0.334	22.1
Left side	10	QPSK 1RB_0	20450/829	1:1	0.489	0.04	23.24	24.50	1.337	0.654	22.1
Right side	10	QPSK 1RB_0	20450/829	1:1	0.011	0.04	23.24	24.50	1.337	0.015	22.1
Top side	10	QPSK 1RB_0	20450/829	1:1	0.022	0.06	23.24	24.50	1.337	0.029	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_13	20450/829	1:1	0.139	-0.07	22.31	23.50	1.315	0.183	22.1
Back side	10	QPSK 25RB_13	20450/829	1:1	0.206	0.08	22.31	23.50	1.315	0.271	22.1
Left side	10	QPSK 25RB_13	20450/829	1:1	0.240	-0.06	22.31	23.50	1.315	0.316	22.1
Right side	10	QPSK 25RB_13	20450/829	1:1	0.007	-0.03	22.31	23.50	1.315	0.009	22.1
Top side	10	QPSK 25RB_13	20450/829	1:1	0.012	0.10	22.31	23.50	1.315	0.016	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	20600/844	1:1	0.168	-0.15	18.03	19.00	1.250	0.210	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	20450/829	1:1	0.163	0.08	17.87	19.00	1.297	0.211	22.1

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Ant1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	20600/844	1:1	0.042	0.09	23.64	25.00	1.368	0.057	22.1
Left tilted	10	QPSK 1RB_0	20600/844	1:1	0.026	0.06	23.64	25.00	1.368	0.035	22.1
Right cheek	10	QPSK 1RB_0	20600/844	1:1	0.049	0.03	23.64	25.00	1.368	0.067	22.1
Right tilted	10	QPSK 1RB_0	20600/844	1:1	0.024	0.07	23.64	25.00	1.368	0.033	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	20450/829	1:1	0.040	0.01	22.76	24.00	1.330	0.053	22.1
Left tilted	10	QPSK 25RB_0	20450/829	1:1	0.0186	0.03	22.76	24.00	1.330	0.025	22.1
Right cheek	10	QPSK 25RB_0	20450/829	1:1	0.0417	0.09	22.76	24.00	1.330	0.055	22.1
Right tilted	10	QPSK 25RB_0	20450/829	1:1	0.018	0.05	22.76	24.00	1.330	0.024	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_0	20600/844	1:1	0.077	0.17	23.64	25.00	1.368	0.105	22.1
Back side	10	QPSK 1RB_0	20600/844	1:1	0.103	-0.03	23.64	25.00	1.368	0.141	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	20450/829	1:1	0.089	-0.01	22.76	24.00	1.330	0.118	22.1
Back side	10	QPSK 25RB_0	20450/829	1:1	0.083	-0.14	22.76	24.00	1.330	0.110	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_0	20600/844	1:1	0.161	-0.07	23.64	25.00	1.368	0.220	22.1
Back side	10	QPSK 1RB_0	20600/844	1:1	0.248	0.02	23.64	25.00	1.368	0.339	22.1
Left side	10	QPSK 1RB_0	20600/844	1:1	0.007	0.04	23.64	25.00	1.368	0.010	22.1
Right side	10	QPSK 1RB_0	20600/844	1:1	0.059	0.00	23.64	25.00	1.368	0.081	22.1
Bottom side	10	QPSK 1RB_0	20600/844	1:1	0.095	0.01	23.64	25.00	1.368	0.130	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	20450/829	1:1	0.143	0.10	22.76	24.00	1.330	0.190	22.1
Back side	10	QPSK 25RB_0	20450/829	1:1	0.181	0.04	22.76	24.00	1.330	0.241	22.1
Left side	10	QPSK 25RB_0	20450/829	1:1	0.002	0.05	22.76	24.00	1.330	0.003	22.1
Right side	10	QPSK 25RB_0	20450/829	1:1	0.061	-0.09	22.76	24.00	1.330	0.081	22.1
Bottom side	10	QPSK 25RB_0	20450/829	1:1	0.111	-0.13	22.76	24.00	1.330	0.148	22.1

Table 18: SAR of LTE Band 5 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.9 SAR Result of LTE Band 7

Ant2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_99	20850/2510	1:1	0.415	0.02	14.96	16.00	1.271	0.527	22.1
Left tilted	20	QPSK 1RB_99	20850/2510	1:1	0.469	-0.06	14.96	16.00	1.271	0.596	22.1
Right cheek	20	QPSK 1RB_99	20850/2510	1:1	0.519	-0.04	14.96	16.00	1.271	0.659	22.1
Right tilted	20	QPSK 1RB_99	20850/2510	1:1	0.616	0.10	14.96	16.00	1.271	0.783	22.1
Right tilted	20	QPSK 1RB_99	21100/2535.5	1:1	0.608	-0.06	14.95	16.00	1.274	0.774	22.1
Right tilted	20	QPSK 1RB_99	21350/2560	1:1	0.767	-0.15	14.95	16.00	1.274	0.977	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	20850/2510	1:1	0.429	-0.06	14.90	16.00	1.288	0.553	22.1
Left tilted	20	QPSK 50RB_25	20850/2510	1:1	0.478	-0.08	14.90	16.00	1.288	0.616	22.1
Right cheek	20	QPSK 50RB_25	20850/2510	1:1	0.520	-0.17	14.90	16.00	1.288	0.670	22.1
Right tilted	20	QPSK 50RB_25	20850/2510	1:1	0.680	0.17	14.90	16.00	1.288	0.876	22.1
Right tilted	20	QPSK 50RB_25	21100/2535.5	1:1	0.718	0.05	14.77	16.00	1.327	0.953	22.1
Right tilted	20	QPSK 50RB_25	21350/2560	1:1	0.751	-0.01	14.89	16.00	1.291	0.970	22.1
Right tilted	20	QPSK PCC 1_0	21350/2560	1:1	0.716	0.03	14.79	16.00	1.321	0.946	22.1
	20	QPSK SCC 1_99	21152/2540.2								
Head Test data(100%RB)											
Right tilted	20	QPSK 100RB_0	20850/2510	1:1	0.700	0.02	14.82	16.00	1.312	0.919	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.108	-0.10	17.85	19.00	1.303	0.141	22.1
Back side	20	QPSK 1RB_0	20850/2510	1:1	0.111	-0.03	17.85	19.00	1.303	0.145	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	20850/2510	1:1	0.103	-0.04	18.00	19.00	1.259	0.130	22.1
Back side	20	QPSK 50RB_0	20850/2510	1:1	0.150	0.02	18.00	19.00	1.259	0.189	22.1
Back side	20	QPSK PCC 1_99	20850/2510	1:1	0.112	-0.09	17.75	19.00	1.334	0.149	22.1
	20	QPSK SCC 1_0	21048/2529.8								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.253	-0.14	17.85	19.00	1.303	0.330	22.1
Back side	20	QPSK 1RB_0	20850/2510	1:1	0.322	0.09	17.85	19.00	1.303	0.420	22.1
Left side	20	QPSK 1RB_0	20850/2510	1:1	0.032	0.04	17.85	19.00	1.303	0.042	22.1
Right side	20	QPSK 1RB_0	20850/2510	1:1	0.042	0.15	17.85	19.00	1.303	0.055	22.1
Top side	20	QPSK 1RB_0	20850/2510	1:1	0.474	0.02	17.85	19.00	1.303	0.618	22.1
Top side	20	QPSK PCC 1_99	20850/2510	1:1	0.428	-0.11	17.75	19.00	1.334	0.571	22.1
	20	QPSK SCC 1_0	21048/2529.8								
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	20850/2510	1:1	0.281	-0.17	18.00	19.00	1.259	0.354	22.1
Back side	20	QPSK 50RB_0	20850/2510	1:1	0.331	0.16	18.00	19.00	1.259	0.417	22.1
Left side	20	QPSK 50RB_0	20850/2510	1:1	0.035	0.03	18.00	19.00	1.259	0.044	22.1
Right side	20	QPSK 50RB_0	20850/2510	1:1	0.040	0.14	18.00	19.00	1.259	0.050	22.1
Top side	20	QPSK 50RB_0	20850/2510	1:1	0.456	0.11	18.00	19.00	1.259	0.574	22.1
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_99	20850/2510	1:1	0.197	0.15	12.01	13.00	1.256	0.247	22.1

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Left tilted	20	QPSK 1RB_99	20850/2510	1:1	0.213	0.03	12.01	13.00	1.256	0.268	22.1
Right tilted	20	QPSK 1RB_99	20850/2510	1:1	0.302	-0.18	12.01	13.00	1.256	0.379	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	20850/2510	1:1	0.201	-0.15	12.06	13.00	1.242	0.250	22.1
Left tilted	20	QPSK 50RB_25	20850/2510	1:1	0.221	0.06	12.06	13.00	1.242	0.274	22.1
Right tilted	20	QPSK 50RB_25	20850/2510	1:1	0.352	-0.17	12.06	13.00	1.242	0.437	22.1
Ant2 Test Record(ENDC)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20850/2510	1:1	0.315	-0.06	12.95	14.00	1.274	0.401	22.1
Left tilted	20	QPSK 1RB_0	20850/2510	1:1	0.345	-0.06	12.95	14.00	1.274	0.439	22.1
Right cheek	20	QPSK 1RB_0	20850/2510	1:1	0.471	0.12	12.95	14.00	1.274	0.600	22.1
Right cheek	20	QPSK 1RB_50	21100/2535.5	1:1	0.444	0.07	12.90	14.00	1.288	0.572	22.1
Right cheek	20	QPSK 1RB_50	21350/2560	1:1	0.459	-0.04	12.89	14.00	1.291	0.593	22.1
Right tilted	20	QPSK 1RB_0	20850/2510	1:1	0.503	-0.09	12.95	14.00	1.274	0.641	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	21350/2560	1:1	0.307	0.02	12.93	14.00	1.279	0.393	22.1
Left tilted	20	QPSK 50RB_50	21350/2560	1:1	0.327	0.02	12.93	14.00	1.279	0.418	22.1
Right cheek	20	QPSK 50RB_50	21350/2560	1:1	0.499	-0.11	12.93	14.00	1.279	0.638	22.1
Right cheek	20	QPSK 50RB_0	20850/2510	1:1	0.434	0.02	12.88	14.00	1.294	0.562	22.1
Right cheek	20	QPSK 50RB_0	21100/2535.5	1:1	0.476	0.09	12.89	14.00	1.291	0.615	22.1
Right tilted	20	QPSK 50RB_50	21350/2560	1:1	0.494	-0.07	12.93	14.00	1.279	0.632	22.1
Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20850/2510	1:1	0.044	0.07	23.15	24.00	1.216	0.054	22.1
Left tilted	20	QPSK 1RB_0	20850/2510	1:1	0.004	0.11	23.15	24.00	1.216	0.005	22.1
Right cheek	20	QPSK 1RB_0	20850/2510	1:1	0.079	0.04	23.15	24.00	1.216	0.096	22.1
Right cheek	20	QPSK PCC 1_99	20850/2510	1:1	0.065	-0.13	23.02	24.00	1.253	0.081	22.1
	20	QPSK SCC 1_0	21048/2529.8								
Right tilted	20	QPSK 1RB_0	20850/2510	1:1	0.003	0.02	23.15	24.00	1.216	0.004	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	20850/2510	1:1	0.050	0.06	22.20	23.00	1.202	0.060	22.1
Left tilted	20	QPSK 50RB_0	20850/2510	1:1	0.002	0.13	22.20	23.00	1.202	0.002	22.1
Right cheek	20	QPSK 50RB_0	20850/2510	1:1	0.065	-0.12	22.20	23.00	1.202	0.078	22.1
Right tilted	20	QPSK 50RB_0	20850/2510	1:1	0.001	0.04	22.20	23.00	1.202	0.001	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.061	0.01	19.18	20.00	1.208	0.074	22.1
Back side	20	QPSK 1RB_0	20850/2510	1:1	0.058	0.00	19.18	20.00	1.208	0.070	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	20850/2510	1:1	0.082	-0.03	19.30	20.00	1.175	0.096	22.1
Front side	20	QPSK PCC 1_99	20850/2510	1:1	0.073	0.17	19.02	20.00	1.253	0.091	22.1
	20	QPSK SCC 1_0	21048/2529.8								
Back side	20	QPSK 50RB_50	20850/2510	1:1	0.047	-0.17	19.30	20.00	1.175	0.055	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.108	-0.05	19.18	20.00	1.208	0.130	22.1
Front side	20	QPSK PCC 1_99	20850/2510	1:1	0.101	0.06	19.02	20.00	1.253	0.127	22.1
	20	QPSK SCC 1_0	21048/2529.8								

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Back side	20	QPSK 1RB_0	20850/2510	1:1	0.042	0.02	19.18	20.00	1.208	0.050	22.1
Left side	20	QPSK 1RB_0	20850/2510	1:1	0.008	-0.11	19.18	20.00	1.208	0.010	22.1
Right side	20	QPSK 1RB_0	20850/2510	1:1	0.029	0.08	19.18	20.00	1.208	0.035	22.1
Bottom side	20	QPSK 1RB_0	20850/2510	1:1	0.059	0.17	19.18	20.00	1.208	0.071	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_50	20850/2510	1:1	0.106	0.10	19.30	20.00	1.175	0.125	22.1
Back side	20	QPSK 50RB_50	20850/2510	1:1	0.104	0.04	19.30	20.00	1.175	0.122	22.1
Left side	20	QPSK 50RB_50	20850/2510	1:1	0.009	-0.05	19.30	20.00	1.175	0.011	22.1
Right side	20	QPSK 50RB_50	20850/2510	1:1	0.028	-0.08	19.30	20.00	1.175	0.033	22.1
Bottom side	20	QPSK 50RB_50	20850/2510	1:1	0.047	-0.07	19.30	20.00	1.175	0.055	22.1
Ant4 Test Record(ENDC)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20850/2510	1:1	0.604	-0.02	16.33	17.00	1.167	0.705	22.1
Left cheek	20	QPSK 1RB_99	21100/2535.5	1:1	0.574	-0.05	16.32	17.00	1.169	0.671	22.1
Left cheek	20	QPSK 1RB_0	21350/2560	1:1	0.589	0.08	16.25	17.00	1.189	0.700	22.1
Left tilted	20	QPSK 1RB_0	20850/2510	1:1	0.139	0.06	16.33	17.00	1.167	0.162	22.1
Right cheek	20	QPSK 1RB_0	20850/2510	1:1	0.177	0.10	16.33	17.00	1.167	0.207	22.1
Right tilted	20	QPSK 1RB_0	20850/2510	1:1	0.056	0.00	16.33	17.00	1.167	0.065	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	20850/2510	1:1	0.681	0.12	16.39	17.00	1.151	0.784	22.1
Left cheek	20	QPSK 50RB_0	21100/2535.5	1:1	0.593	0.03	16.29	17.00	1.178	0.698	22.1
Left cheek	20	QPSK 50RB_50	21350/2560	1:1	0.646	-0.06	16.33	17.00	1.167	0.754	22.1
Left tilted	20	QPSK 50RB_50	20850/2510	1:1	0.157	-0.04	16.39	17.00	1.151	0.181	22.1
Right cheek	20	QPSK 50RB_50	20850/2510	1:1	0.188	-0.04	16.39	17.00	1.151	0.216	22.1
Right tilted	20	QPSK 50RB_50	20850/2510	1:1	0.056	0.18	16.39	17.00	1.151	0.064	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	20850/2510	1:1	0.124	-0.03	20.38	21.00	1.153	0.143	22.1
Back side	20	QPSK 1RB_50	20850/2510	1:1	0.181	0.12	20.38	21.00	1.153	0.209	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	20850/2510	1:1	0.127	0.01	20.36	21.00	1.159	0.147	22.1
Back side	20	QPSK 50RB_50	20850/2510	1:1	0.203	0.08	20.36	21.00	1.159	0.235	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	20850/2510	1:1	0.216	-0.03	20.38	21.00	1.153	0.249	22.1
Back side	20	QPSK 1RB_50	20850/2510	1:1	0.237	0.11	20.38	21.00	1.153	0.273	22.1
Left side	20	QPSK 1RB_50	20850/2510	1:1	0.015	-0.04	20.38	21.00	1.153	0.017	22.1
Right side	20	QPSK 1RB_50	20850/2510	1:1	0.654	0.05	20.38	21.00	1.153	0.754	22.1
Top side	20	QPSK 1RB_50	20850/2510	1:1	0.087	0.13	20.38	21.00	1.153	0.100	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_50	20850/2510	1:1	0.215	0.07	20.46	21.00	1.132	0.243	22.1
Back side	20	QPSK 50RB_50	20850/2510	1:1	0.285	0.17	20.46	21.00	1.132	0.323	22.1
Left side	20	QPSK 50RB_50	20850/2510	1:1	0.038	0.16	20.46	21.00	1.132	0.043	22.1
Right side	20	QPSK 50RB_50	20850/2510	1:1	0.689	-0.15	20.46	21.00	1.132	0.780	22.1
Top side	20	QPSK 50RB_50	20850/2510	1:1	0.082	0.14	20.46	21.00	1.132	0.093	22.1
Ant4 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20850/2510	1:1	0.231	0.03	12.39	13.00	1.151	0.266	22.1

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Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	20850/2510	1:1	0.258	0.09	12.43	13.00	1.140	0.294	22.1

Table 19: SAR of LTE Band 7 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.10 SAR Result of LTE Band 12

Ant0 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_49	23130/711	1:1	0.321	0.11	23.13	24.50	1.371	0.440	22.1
Left tilted	10	QPSK 1RB_49	23130/711	1:1	0.080	0.07	23.13	24.50	1.371	0.110	22.1
Right cheek	10	QPSK 1RB_49	23130/711	1:1	0.485	0.03	23.13	24.50	1.371	0.665	22.1
Right tilted	10	QPSK 1RB_49	23130/711	1:1	0.072	0.01	23.13	24.50	1.371	0.099	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	23060/704	1:1	0.241	-0.07	22.18	23.50	1.355	0.327	22.1
Left tilted	10	QPSK 25RB_13	23060/704	1:1	0.049	0.02	22.18	23.50	1.355	0.066	22.1
Right cheek	10	QPSK 25RB_13	23060/704	1:1	0.269	-0.03	22.18	23.50	1.355	0.365	22.1
Right tilted	10	QPSK 25RB_13	23060/704	1:1	0.041	-0.04	22.18	23.50	1.355	0.056	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_49	23130/711	1:1	0.115	0.15	23.13	24.50	1.371	0.158	22.1
Back side	10	QPSK 1RB_49	23130/711	1:1	0.146	0.00	23.13	24.50	1.371	0.200	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.066	0.16	22.18	23.50	1.355	0.089	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.089	-0.14	22.18	23.50	1.355	0.121	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_49	23130/711	1:1	0.181	0.02	23.13	24.50	1.371	0.248	22.1
Back side	10	QPSK 1RB_49	23130/711	1:1	0.194	-0.12	23.13	24.50	1.371	0.266	22.1
Left side	10	QPSK 1RB_49	23130/711	1:1	0.448	0.04	23.13	24.50	1.371	0.614	22.1
Right side	10	QPSK 1RB_49	23130/711	1:1	0.016	-0.02	23.13	24.50	1.371	0.022	22.1
Top side	10	QPSK 1RB_49	23130/711	1:1	0.024	0.13	23.13	24.50	1.371	0.033	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.097	-0.02	22.18	23.50	1.355	0.131	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.135	0.11	22.18	23.50	1.355	0.183	22.1
Left side	10	QPSK 25RB_13	23060/704	1:1	0.267	-0.14	22.18	23.50	1.355	0.362	22.1
Right side	10	QPSK 25RB_13	23060/704	1:1	0.009	-0.06	22.18	23.50	1.355	0.012	22.1
Top side	10	QPSK 25RB_13	23060/704	1:1	0.013	-0.13	22.18	23.50	1.355	0.018	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_49	23130/711	1:1	0.155	0.14	20.19	21.50	1.352	0.210	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	23060/704	1:1	0.148	0.11	20.20	21.50	1.349	0.200	22.1

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Ant1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	23095/707.5	1:1	0.057	0.04	23.56	25.00	1.393	0.079	22.1
Left tilted	10	QPSK 1RB_0	23095/707.5	1:1	0.017	0.06	23.56	25.00	1.393	0.024	22.1
Right cheek	10	QPSK 1RB_0	23095/707.5	1:1	0.061	0.12	23.56	25.00	1.393	0.085	22.1
Right tilted	10	QPSK 1RB_0	23095/707.5	1:1	0.029	0.06	23.56	25.00	1.393	0.041	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	23095/707.5	1:1	0.037	0.01	22.73	24.00	1.340	0.050	22.1
Left tilted	10	QPSK 25RB_0	23095/707.5	1:1	0.024	0.08	22.73	24.00	1.340	0.032	22.1
Right cheek	10	QPSK 25RB_0	23095/707.5	1:1	0.044	0.04	22.73	24.00	1.340	0.059	22.1
Right tilted	10	QPSK 25RB_0	23095/707.5	1:1	0.020	0.08	22.73	24.00	1.340	0.027	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_0	23095/707.5	1:1	0.093	-0.01	23.56	25.00	1.393	0.130	22.1
Back side	10	QPSK 1RB_0	23095/707.5	1:1	0.105	0.02	23.56	25.00	1.393	0.146	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	23095/707.5	1:1	0.082	0.16	22.73	24.00	1.340	0.110	22.1
Back side	10	QPSK 25RB_0	23095/707.5	1:1	0.085	0.10	22.73	24.00	1.340	0.114	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_0	23095/707.5	1:1	0.123	-0.13	23.56	25.00	1.393	0.171	22.1
Back side	10	QPSK 1RB_0	23095/707.5	1:1	0.139	0.02	23.56	25.00	1.393	0.194	22.1
Left side	10	QPSK 1RB_0	23095/707.5	1:1	0.012	-0.13	23.56	25.00	1.393	0.017	22.1
Right side	10	QPSK 1RB_0	23095/707.5	1:1	0.063	0.16	23.56	25.00	1.393	0.088	22.1
Bottom side	10	QPSK 1RB_0	23095/707.5	1:1	0.077	0.06	23.56	25.00	1.393	0.107	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	23095/707.5	1:1	0.107	-0.15	22.73	24.00	1.340	0.143	22.1
Back side	10	QPSK 25RB_0	23095/707.5	1:1	0.118	-0.17	22.73	24.00	1.340	0.158	22.1
Left side	10	QPSK 25RB_0	23095/707.5	1:1	0.006	-0.04	22.73	24.00	1.340	0.008	22.1
Right side	10	QPSK 25RB_0	23095/707.5	1:1	0.049	-0.08	22.73	24.00	1.340	0.066	22.1
Bottom side	10	QPSK 25RB_0	23095/707.5	1:1	0.067	-0.07	22.73	24.00	1.340	0.090	22.1

Table 20: SAR of LTE Band 12 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.11 SAR Result of LTE Band 17

Ant0 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	23780/709	1:1	0.310	0.00	23.33	24.50	1.309	0.406	22.1
Left tilted	10	QPSK 1RB_0	23780/709	1:1	0.059	0.02	23.33	24.50	1.309	0.077	22.1
Right cheek	10	QPSK 1RB_0	23780/709	1:1	0.410	0.04	23.33	24.50	1.309	0.537	22.1
Right tilted	10	QPSK 1RB_0	23780/709	1:1	0.052	0.15	23.33	24.50	1.309	0.068	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	23780/709	1:1	0.268	0.16	22.33	23.50	1.309	0.351	22.1
Left tilted	10	QPSK 25RB_0	23780/709	1:1	0.053	0.05	22.33	23.50	1.309	0.069	22.1
Right cheek	10	QPSK 25RB_0	23780/709	1:1	0.304	-0.04	22.33	23.50	1.309	0.398	22.1
Right tilted	10	QPSK 25RB_0	23780/709	1:1	0.043	-0.11	22.33	23.50	1.309	0.056	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_0	23780/709	1:1	0.084	-0.03	23.33	24.50	1.309	0.110	22.1
Back side	10	QPSK 1RB_0	23780/709	1:1	0.108	0.12	23.33	24.50	1.309	0.141	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	23780/709	1:1	0.073	0.01	22.14	23.50	1.368	0.100	22.1
Back side	10	QPSK 25RB_0	23780/709	1:1	0.098	-0.07	22.14	23.50	1.368	0.134	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_0	23780/709	1:1	0.131	0.11	23.33	24.50	1.309	0.172	22.1
Back side	10	QPSK 1RB_0	23780/709	1:1	0.185	0.05	23.33	24.50	1.309	0.242	22.1
Left side	10	QPSK 1RB_0	23780/709	1:1	0.325	0.01	23.33	24.50	1.309	0.425	22.1
Right side	10	QPSK 1RB_0	23780/709	1:1	0.014	0.07	23.33	24.50	1.309	0.018	22.1
Top side	10	QPSK 1RB_0	23780/709	1:1	0.019	-0.14	23.33	24.50	1.309	0.025	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	23780/709	1:1	0.117	0.03	22.14	23.50	1.368	0.160	22.1
Back side	10	QPSK 25RB_0	23780/709	1:1	0.161	-0.02	22.14	23.50	1.368	0.220	22.1
Left side	10	QPSK 25RB_0	23780/709	1:1	0.243	-0.16	22.14	23.50	1.368	0.332	22.1
Right side	10	QPSK 25RB_0	23780/709	1:1	0.007	-0.12	22.14	23.50	1.368	0.010	22.1
Top side	10	QPSK 25RB_0	23780/709	1:1	0.011	0.08	22.14	23.50	1.368	0.015	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+Wi-Fi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	23780/709	1:1	0.147	-0.03	20.37	21.50	1.297	0.191	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	23780/709	1:1	0.161	0.07	20.32	21.50	1.312	0.211	22.1

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Ant1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_0	23790/710	1:1	0.048	0.04	23.73	25.00	1.340	0.064	22.1
Left tilted	10	QPSK 1RB_0	23790/710	1:1	0.026	0.01	23.73	25.00	1.340	0.035	22.1
Right cheek	10	QPSK 1RB_0	23790/710	1:1	0.055	0.05	23.73	25.00	1.340	0.074	22.1
Right tilted	10	QPSK 1RB_0	23790/710	1:1	0.025	0.07	23.73	25.00	1.340	0.034	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	23790/710	1:1	0.039	0.01	22.74	24.00	1.337	0.053	22.1
Left tilted	10	QPSK 25RB_0	23790/710	1:1	0.022	0.01	22.74	24.00	1.337	0.030	22.1
Right cheek	10	QPSK 25RB_0	23790/710	1:1	0.047	0.06	22.74	24.00	1.337	0.063	22.1
Right tilted	10	QPSK 25RB_0	23790/710	1:1	0.022	-0.09	22.74	24.00	1.337	0.029	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_0	23790/710	1:1	0.100	0.00	23.73	25.00	1.340	0.134	22.1
Back side	10	QPSK 1RB_0	23790/710	1:1	0.113	0.06	23.73	25.00	1.340	0.151	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	23790/710	1:1	0.087	0.03	22.74	24.00	1.337	0.116	22.1
Back side	10	QPSK 25RB_0	23790/710	1:1	0.087	-0.09	22.74	24.00	1.337	0.116	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_0	23790/710	1:1	0.135	0.13	23.73	25.00	1.340	0.181	22.1
Back side	10	QPSK 1RB_0	23790/710	1:1	0.150	0.01	23.73	25.00	1.340	0.201	22.1
Left side	10	QPSK 1RB_0	23790/710	1:1	0.007	-0.11	23.73	25.00	1.340	0.009	22.1
Right side	10	QPSK 1RB_0	23790/710	1:1	0.063	0.08	23.73	25.00	1.340	0.084	22.1
Bottom side	10	QPSK 1RB_0	23790/710	1:1	0.086	0.10	23.73	25.00	1.340	0.115	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	23790/710	1:1	0.114	-0.17	22.74	24.00	1.337	0.152	22.1
Back side	10	QPSK 25RB_0	23790/710	1:1	0.128	0.17	22.74	24.00	1.337	0.171	22.1
Left side	10	QPSK 25RB_0	23790/710	1:1	0.003	-0.01	22.74	24.00	1.337	0.004	22.1
Right side	10	QPSK 25RB_0	23790/710	1:1	0.052	0.02	22.74	24.00	1.337	0.070	22.1
Bottom side	10	QPSK 25RB_0	23790/710	1:1	0.078	-0.11	22.74	24.00	1.337	0.104	22.1

Table 21: SAR of LTE Band 17 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.12 SAR Result of LTE Band 26

Ant0 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	15	QPSK 1RB_0	26965/841.5	1:1	0.437	-0.17	22.02	23.00	1.253	0.548	22.1
Left tilted	15	QPSK 1RB_0	26965/841.5	1:1	0.078	0.06	22.02	23.00	1.253	0.098	22.1
Right cheek	15	QPSK 1RB_0	26965/841.5	1:1	0.475	-0.17	22.02	23.00	1.253	0.595	22.1
Right tilted	15	QPSK 1RB_0	26965/841.5	1:1	0.081	-0.10	22.02	23.00	1.253	0.102	22.1
Head Test data(50%RB)											
Left cheek	15	QPSK 36RB_39	26865/831.5	1:1	0.448	-0.03	22.06	23.00	1.242	0.556	22.1
Left tilted	15	QPSK 36RB_39	26865/831.5	1:1	0.081	0.05	22.06	23.00	1.242	0.101	22.1
Right cheek	15	QPSK 36RB_39	26865/831.5	1:1	0.481	0.11	22.06	23.00	1.242	0.597	22.1
Right tilted	15	QPSK 36RB_39	26865/831.5	1:1	0.085	0.10	22.06	23.00	1.242	0.106	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	15	QPSK 1RB_74	26775/822.5	1:1	0.097	-0.10	23.06	24.50	1.393	0.135	22.1
Back side	15	QPSK 1RB_74	26775/822.5	1:1	0.166	-0.01	23.06	24.50	1.393	0.231	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	15	QPSK 36RB_18	26775/822.5	1:1	0.079	0.17	22.14	23.50	1.368	0.108	22.1
Back side	15	QPSK 36RB_18	26775/822.5	1:1	0.112	-0.12	22.14	23.50	1.368	0.153	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1RB_74	26775/822.5	1:1	0.141	-0.07	23.06	24.50	1.393	0.196	22.1
Back side	15	QPSK 1RB_74	26775/822.5	1:1	0.208	-0.15	23.06	24.50	1.393	0.290	22.1
Left side	15	QPSK 1RB_74	26775/822.5	1:1	0.447	0.01	23.06	24.50	1.393	0.623	22.1
Right side	15	QPSK 1RB_74	26775/822.5	1:1	0.015	-0.07	23.06	24.50	1.393	0.021	22.1
Top side	15	QPSK 1RB_74	26775/822.5	1:1	0.028	-0.03	23.06	24.50	1.393	0.039	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	15	QPSK 36RB_18	26775/822.5	1:1	0.124	0.05	22.14	23.50	1.368	0.170	22.1
Back side	15	QPSK 36RB_18	26775/822.5	1:1	0.179	0.07	22.14	23.50	1.368	0.245	22.1
Left side	15	QPSK 36RB_18	26775/822.5	1:1	0.236	0.11	22.14	23.50	1.368	0.323	22.1
Right side	15	QPSK 36RB_18	26775/822.5	1:1	0.011	0.14	22.14	23.50	1.368	0.015	22.1
Top side	15	QPSK 36RB_18	26775/822.5	1:1	0.016	0.11	22.14	23.50	1.368	0.022	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	15	QPSK 1RB_0	26965/841.5	1:1	0.165	0.13	18.10	19.00	1.230	0.203	22.1
Head Test data(50%RB)											
Left cheek	15	QPSK 36RB_39	26865/831.5	1:1	0.168	0.09	18.12	19.00	1.225	0.206	22.1

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Ant1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	15	QPSK 1RB_0	26865/831.5	1:1	0.033	0.07	23.53	25.00	1.403	0.046	22.1
Left tilted	15	QPSK 1RB_0	26865/831.5	1:1	0.019	0.09	23.53	25.00	1.403	0.026	22.1
Right cheek	15	QPSK 1RB_0	26865/831.5	1:1	0.045	0.01	23.53	25.00	1.403	0.063	22.1
Right tilted	15	QPSK 1RB_0	26865/831.5	1:1	0.019	0.08	23.53	25.00	1.403	0.026	22.1
Head Test data(50%RB)											
Left cheek	15	QPSK 36RB_0	26865/831.5	1:1	0.025	0.06	22.68	24.00	1.355	0.033	22.1
Left tilted	15	QPSK 36RB_0	26865/831.5	1:1	0.014	0.04	22.68	24.00	1.355	0.019	22.1
Right cheek	15	QPSK 36RB_0	26865/831.5	1:1	0.034	0.08	22.68	24.00	1.355	0.046	22.1
Right tilted	15	QPSK 36RB_0	26865/831.5	1:1	0.013	0.08	22.68	24.00	1.355	0.017	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	15	QPSK 1RB_0	26865/831.5	1:1	0.086	0.13	23.53	25.00	1.403	0.121	22.1
Back side	15	QPSK 1RB_0	26865/831.5	1:1	0.101	-0.09	23.53	25.00	1.403	0.142	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	15	QPSK 36RB_0	26865/831.5	1:1	0.070	0.00	22.68	24.00	1.355	0.095	22.1
Back side	15	QPSK 36RB_0	26865/831.5	1:1	0.100	0.00	22.68	24.00	1.355	0.136	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1RB_0	26865/831.5	1:1	0.177	-0.04	23.53	25.00	1.403	0.248	22.1
Back side	15	QPSK 1RB_0	26865/831.5	1:1	0.237	0.04	23.53	25.00	1.403	0.332	22.1
Left side	15	QPSK 1RB_0	26865/831.5	1:1	0.013	0.09	23.53	25.00	1.403	0.018	22.1
Right side	15	QPSK 1RB_0	26865/831.5	1:1	0.075	-0.09	23.53	25.00	1.403	0.105	22.1
Bottom side	15	QPSK 1RB_0	26865/831.5	1:1	0.130	-0.04	23.53	25.00	1.403	0.182	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	15	QPSK 36RB_0	26865/831.5	1:1	0.139	0.04	22.68	24.00	1.355	0.188	22.1
Back side	15	QPSK 36RB_0	26865/831.5	1:1	0.179	0.10	22.68	24.00	1.355	0.243	22.1
Left side	15	QPSK 36RB_0	26865/831.5	1:1	0.004	0.01	22.68	24.00	1.355	0.005	22.1
Right side	15	QPSK 36RB_0	26865/831.5	1:1	0.060	-0.08	22.68	24.00	1.355	0.081	22.1
Bottom side	15	QPSK 36RB_0	26865/831.5	1:1	0.099	-0.17	22.68	24.00	1.355	0.134	22.1

Table 22: SAR of LTE Band 26 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.13 SAR Result of LTE Band 38

Ant2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	37850/2580	1:1.58	0.493	-0.09	16.03	17.00	1.250	0.616	22.1
Left tilted	20	QPSK 1RB_0	37850/2580	1:1.58	0.509	-0.03	16.03	17.00	1.250	0.636	22.1
Right cheek	20	QPSK 1RB_0	37850/2580	1:1.58	0.694	-0.13	16.03	17.00	1.250	0.868	22.1
Right tilted	20	QPSK 1RB_0	37850/2580	1:1.58	0.852	0.02	16.03	17.00	1.250	1.065	22.1
Right cheek	20	QPSK 1RB_0	38000/2595	1:1.58	0.698	-0.19	15.96	17.00	1.271	0.887	22.1
Right cheek	20	QPSK 1RB_0	38150/2610	1:1.58	0.688	-0.16	15.97	17.00	1.268	0.872	22.1
Right tilted	20	QPSK 1RB_0	38000/2595	1:1.58	0.827	-0.01	15.96	17.00	1.271	1.051	22.1
Right tilted	20	QPSK 1RB_0	38150/2610	1:1.58	0.813	-0.02	15.97	17.00	1.268	1.031	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	37850/2580	1:1.58	0.517	-0.01	16.09	17.00	1.233	0.638	22.1
Left tilted	20	QPSK 50RB_0	37850/2580	1:1.58	0.521	-0.02	16.09	17.00	1.233	0.642	22.1
Right cheek	20	QPSK 50RB_0	37850/2580	1:1.58	0.711	-0.15	16.09	17.00	1.233	0.877	22.1
Right tilted	20	QPSK 50RB_0	37850/2580	1:1.58	0.702	-0.12	16.09	17.00	1.233	0.866	22.1
Right cheek	20	QPSK 50RB_25	38150/2610	1:1.58	0.700	-0.14	16.01	17.00	1.256	0.879	22.1
Right cheek	20	QPSK 50RB_0	38000/2595	1:1.58	0.896	-0.01	16.07	17.00	1.239	1.110	22.1
Right cheek	20	QPSK PCC 1_0	38150/2610	1:1.58	0.791	0.08	15.93	17.00	1.279	1.012	22.1
	20	QPSK SCC 1_99	37952/2590.2								
Right cheek -repeat	20	QPSK 50RB_0	38000/2595	1:1.58	0.869	-0.04	16.07	17.00	1.239	1.077	22.1
Right tilted	20	QPSK 50RB_0	38000/2595	1:1.58	0.865	-0.01	16.07	17.00	1.239	1.072	22.1
Right tilted	20	QPSK 50RB_25	38150/2610	1:1.58	0.841	-0.15	16.01	17.00	1.256	1.056	22.1
Head Test data(100%RB)											
Right cheek	20	QPSK 100RB_0	37850/2580	1:1.58	0.661	-0.08	16.09	17.00	1.233	0.815	22.1
Right tilted	20	QPSK 100RB_0	37850/2580	1:1.58	0.792	-0.13	16.09	17.00	1.233	0.977	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	38150/2610	1:1.58	0.101	0.12	20.93	22.00	1.279	0.129	22.1
Back side	20	QPSK 1RB_0	38150/2610	1:1.58	0.107	-0.01	20.93	22.00	1.279	0.137	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	38150/2610	1:1.58	0.104	-0.01	20.95	22.00	1.274	0.132	22.1
Back side	20	QPSK 50RB_0	38150/2610	1:1.58	0.115	0.04	20.95	22.00	1.274	0.146	22.1
Back side	20	QPSK PCC 1_0	38150/2610	1:1.58	0.103	-0.09	20.79	22.00	1.321	0.136	22.1
	20	QPSK SCC 1_99	37952/2590.2								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	38150/2610	1:1.58	0.283	0.09	20.93	22.00	1.279	0.362	22.1
Back side	20	QPSK 1RB_0	38150/2610	1:1.58	0.334	0.14	20.93	22.00	1.279	0.427	22.1
Left side	20	QPSK 1RB_0	38150/2610	1:1.58	0.042	0.07	20.93	22.00	1.279	0.054	22.1
Right side	20	QPSK 1RB_0	38150/2610	1:1.58	0.040	0.01	20.93	22.00	1.279	0.051	22.1
Top side	20	QPSK 1RB_0	38150/2610	1:1.58	0.383	0.04	20.93	22.00	1.279	0.490	22.1
Top side	20	QPSK PCC 1_0	38150/2610	1:1.58	0.351	0.12	20.79	22.00	1.321	0.464	22.1
	20	QPSK SCC 1_99	37952/2590.2								
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	38150/2610	1:1.58	0.295	0.13	20.95	22.00	1.274	0.376	22.1
Back side	20	QPSK 50RB_0	38150/2610	1:1.58	0.338	0.08	20.95	22.00	1.274	0.430	22.1
Left side	20	QPSK 50RB_0	38150/2610	1:1.58	0.047	0.18	20.95	22.00	1.274	0.060	22.1

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Right side	20	QPSK 50RB_0	38150/2610	1:1.58	0.040	0.14	20.95	22.00	1.274	0.051	22.1
Top side	20	QPSK 50RB_0	38150/2610	1:1.58	0.357	0.17	20.95	22.00	1.274	0.455	22.1
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	37850/2580	1:1.58	0.200	0.03	13.12	14.00	1.225	0.245	22.1
Left tilted	20	QPSK 1RB_0	37850/2580	1:1.58	0.244	0.14	13.12	14.00	1.225	0.299	22.1
Right cheek	20	QPSK 1RB_0	37850/2580	1:1.58	0.333	0.09	13.12	14.00	1.225	0.408	22.1
Right tilted	20	QPSK 1RB_0	37850/2580	1:1.58	0.391	-0.01	13.12	14.00	1.225	0.479	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	37850/2580	1:1.58	0.203	-0.15	13.18	14.00	1.208	0.245	22.1
Left tilted	20	QPSK 50RB_0	37850/2580	1:1.58	0.251	0.16	13.18	14.00	1.208	0.303	22.1
Right cheek	20	QPSK 50RB_0	37850/2580	1:1.58	0.350	0.08	13.18	14.00	1.208	0.423	22.1
Right tilted	20	QPSK 50RB_0	37850/2580	1:1.58	0.342	0.14	13.18	14.00	1.208	0.413	22.1
Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	38000/2595	1:1.58	0.041	-0.04	23.06	24.50	1.393	0.057	22.1
Left tilted	20	QPSK 1RB_0	38000/2595	1:1.58	0.033	0.15	23.06	24.50	1.393	0.046	22.1
Right cheek	20	QPSK 1RB_0	38000/2595	1:1.58	0.046	0.03	23.06	24.50	1.393	0.064	22.1
Right cheek	20	QPSK PCC 1_0	38150/2610	1:1.58	0.033	-0.04	22.87	24.50	1.455	0.048	22.1
	20	QPSK SCC 1_99	37952/2590.2	1:1.58	0.033	-0.04	22.87	24.50	1.455	0.048	22.1
Right tilted	20	QPSK 1RB_0	38000/2595	1:1.58	0.034	-0.01	23.06	24.50	1.393	0.047	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	38000/2595	1:1.58	0.040	-0.04	22.18	23.50	1.355	0.054	22.1
Left tilted	20	QPSK 50RB_0	38000/2595	1:1.58	0.034	0.04	22.18	23.50	1.355	0.046	22.1
Right cheek	20	QPSK 50RB_0	38000/2595	1:1.58	0.042	-0.01	22.18	23.50	1.355	0.057	22.1
Right tilted	20	QPSK 50RB_0	38000/2595	1:1.58	0.035	-0.01	22.18	23.50	1.355	0.047	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	38000/2595	1:1.58	0.092	-0.02	23.06	24.50	1.393	0.128	22.1
Front side	20	QPSK PCC 1_0	38150/2610	1:1.58	0.078	0.01	22.87	24.50	1.455	0.114	22.1
	20	QPSK SCC 1_99	37952/2590.2	1:1.58	0.078	0.01	22.87	24.50	1.455	0.114	22.1
Back side	20	QPSK 1RB_0	38000/2595	1:1.58	0.063	0.11	23.06	24.50	1.393	0.088	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	38000/2595	1:1.58	0.091	-0.03	22.18	23.50	1.355	0.123	22.1
Back side	20	QPSK 50RB_0	38000/2595	1:1.58	0.045	-0.04	22.18	23.50	1.355	0.061	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	38000/2595	1:1.58	0.200	0.02	23.06	24.50	1.393	0.279	22.1
Front side	20	QPSK PCC 1_0	38150/2610	1:1.58	0.181	0.15	22.87	24.50	1.455	0.263	22.1
	20	QPSK SCC 1_99	37952/2590.2	1:1.58	0.181	0.15	22.87	24.50	1.455	0.263	22.1
Back side	20	QPSK 1RB_0	38000/2595	1:1.58	0.130	0.04	23.06	24.50	1.393	0.181	22.1
Left side	20	QPSK 1RB_0	38000/2595	1:1.58	0.029	0.00	23.06	24.50	1.393	0.040	22.1
Right side	20	QPSK 1RB_0	38000/2595	1:1.58	0.100	0.18	23.06	24.50	1.393	0.139	22.1
Bottom side	20	QPSK 1RB_0	38000/2595	1:1.58	0.039	0.10	23.06	24.50	1.393	0.054	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	38000/2595	1:1.58	0.195	0.09	22.18	23.50	1.355	0.264	22.1
Back side	20	QPSK 50RB_0	38000/2595	1:1.58	0.105	0.16	22.18	23.50	1.355	0.142	22.1
Left side	20	QPSK 50RB_0	38000/2595	1:1.58	0.033	0.01	22.18	23.50	1.355	0.045	22.1

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Right side	20	QPSK 50RB_0	38000/2595	1:1.58	0.081	0.03	22.18	23.50	1.355	0.110	22.1
Bottom side	20	QPSK 50RB_0	38000/2595	1:1.58	0.040	-0.04	22.18	23.50	1.355	0.054	22.1

Table 23: SAR of LTE Band 38 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

Test Position	Channel/ Frequency	Measured SAR (1g)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)
Right cheek (Ant2)	38000/2595	0.896	0.869	1.031	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

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

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

Table 24: SAR Measurement Variability Results

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8.3.14 SAR Result of LTE Band 41

Ant2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	40620/2593	1:1.58	0.641	0.04	16.59	17.00	1.099	0.704	22.1
Left tilted	20	QPSK 1RB_0	40620/2593	1:1.58	0.782	0.15	16.59	17.00	1.099	0.859	22.1
Right cheek	20	QPSK 1RB_0	40620/2593	1:1.58	0.758	0.11	16.59	17.00	1.099	0.833	22.1
Right tilted	20	QPSK 1RB_0	40620/2593	1:1.58	1.080	-0.10	16.59	17.00	1.099	1.187	22.1
Right tilted	20	QPSK PCC 1_0	40620/2593	1:1.58	0.911	0.17	16.21	17.00	1.199	1.093	22.1
	20	QPSK SCC 1_99	40422/2573.2								
Right tilted -repeat	20	QPSK 1RB_0	40620/2593	1:1.58	0.978	-0.02	16.59	17.00	1.099	1.075	22.1
Left cheek	20	QPSK 1RB_0	39750/2506	1:1.58	0.625	0.02	16.24	17.00	1.191	0.745	22.1
Left cheek	20	QPSK 1RB_0	40185/2549.5	1:1.58	0.546	-0.01	16.21	17.00	1.199	0.655	22.1
Left cheek	20	QPSK 1RB_0	41490/2680	1:1.58	0.558	-0.04	16.16	17.00	1.213	0.677	22.1
Left cheek	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.564	0.12	16.32	17.00	1.169	0.660	22.1
Left tilted	20	QPSK 1RB_0	39750/2506	1:1.58	0.815	0.06	16.24	17.00	1.191	0.971	22.1
Left tilted	20	QPSK 1RB_0	40185/2549.5	1:1.58	0.605	0.10	16.21	17.00	1.199	0.726	22.1
Left tilted	20	QPSK 1RB_0	41490/2680	1:1.58	0.783	0.11	16.16	17.00	1.213	0.950	22.1
Left tilted	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.814	0.12	16.32	17.00	1.169	0.952	22.1
Right cheek	20	QPSK 1RB_0	39750/2506	1:1.58	0.793	0.16	16.24	17.00	1.191	0.945	22.1
Right cheek	20	QPSK 1RB_0	40185/2549.5	1:1.58	0.737	0.17	16.21	17.00	1.199	0.884	22.1
Right cheek	20	QPSK 1RB_0	41490/2680	1:1.58	0.709	0.09	16.16	17.00	1.213	0.860	22.1
Right cheek	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.752	0.17	16.32	17.00	1.169	0.879	22.1
Right tilted	20	QPSK 1RB_0	39750/2506	1:1.58	0.897	0.10	16.21	17.00	1.199	1.076	22.1
Right tilted	20	QPSK 1RB_0	40185/2549.5	1:1.58	0.875	0.15	16.21	17.00	1.199	1.050	22.1
Right tilted	20	QPSK 1RB_0	41490/2680	1:1.58	0.883	0.02	16.16	17.00	1.213	1.071	22.1
Right tilted	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.923	0.14	16.32	17.00	1.169	1.079	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	40620/2593	1:1.58	0.582	0.10	16.53	17.00	1.114	0.649	22.1
Left tilted	20	QPSK 50RB_25	40620/2593	1:1.58	0.773	0.01	16.53	17.00	1.114	0.861	22.1
Right cheek	20	QPSK 50RB_25	40620/2593	1:1.58	0.739	0.07	16.53	17.00	1.114	0.823	22.1
Right tilted	20	QPSK 50RB_25	40620/2593	1:1.58	0.945	0.08	16.53	17.00	1.114	1.053	22.1
Left cheek	20	QPSK 50RB_25	39750/2506	1:1.58	0.621	0.14	16.24	17.00	1.191	0.740	22.1
Left cheek	20	QPSK 50RB_25	40185/2549.5	1:1.58	0.531	0.06	16.45	17.00	1.135	0.603	22.1
Left cheek	20	QPSK 50RB_25	41055/2636.5	1:1.58	0.575	-0.02	16.37	17.00	1.156	0.665	22.1
Left cheek	20	QPSK 50RB_25	41490/2680	1:1.58	0.585	0.04	16.14	17.00	1.219	0.713	22.1
Left tilted	20	QPSK 50RB_25	39750/2506	1:1.58	0.782	0.01	16.24	17.00	1.191	0.932	22.1
Left tilted	20	QPSK 50RB_25	40185/2549.5	1:1.58	0.636	-0.04	16.45	17.00	1.135	0.722	22.1
Left tilted	20	QPSK 50RB_25	41055/2636.5	1:1.58	0.797	0.00	16.37	17.00	1.156	0.921	22.1
Left tilted	20	QPSK 50RB_25	41490/2680	1:1.58	0.826	0.10	16.14	17.00	1.219	1.007	22.1
Right cheek	20	QPSK 50RB_25	39750/2506	1:1.58	0.802	0.14	16.24	17.00	1.191	0.955	22.1
Right cheek	20	QPSK 50RB_25	40185/2549.5	1:1.58	0.773	0.17	16.45	17.00	1.135	0.877	22.1
Right cheek	20	QPSK 50RB_25	41055/2636.5	1:1.58	0.757	0.14	16.37	17.00	1.156	0.875	22.1
Right cheek	20	QPSK 50RB_25	41490/2680	1:1.58	0.754	0.04	16.14	17.00	1.219	0.919	22.1
Right tilted	20	QPSK 50RB_25	39750/2506	1:1.58	0.849	-0.04	16.24	17.00	1.191	1.011	22.1
Right tilted	20	QPSK 50RB_25	40185/2549.5	1:1.58	0.929	0.18	16.45	17.00	1.135	1.054	22.1
Right tilted	20	QPSK 50RB_25	41055/2636.5	1:1.58	0.871	-0.01	16.37	17.00	1.156	1.007	22.1

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Right tilted	20	QPSK 50RB_25	41490/2680	1:1.58	0.857	-0.02	16.14	17.00	1.219	1.045	22.1
Head Test data(100%RB)											
Left cheek	20	QPSK 100RB_0	40620/2593	1:1.58	0.512	0.16	16.49	17.00	1.125	0.576	22.1
Left tilted	20	QPSK 100RB_0	40620/2593	1:1.58	0.764	0.06	16.49	17.00	1.125	0.859	22.1
Right cheek	20	QPSK 100RB_0	40620/2593	1:1.58	0.774	0.14	16.49	17.00	1.125	0.870	22.1
Right tilted	20	QPSK 100RB_0	40620/2593	1:1.58	0.910	0.12	16.49	17.00	1.125	1.023	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.161	0.14	20.76	22.00	1.330	0.214	22.1
Back side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.245	0.03	20.76	22.00	1.330	0.326	22.1
Back side	20	QPSK PCC 1_0	41055/2636.5	1:1.58	0.217	-0.04	20.64	22.00	1.368	0.297	22.1
	20	QPSK SCC 1_99	40857/2616.7								
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	40620/2593	1:1.58	0.149	0.13	20.91	22.00	1.285	0.192	22.1
Back side	20	QPSK 50RB_0	40620/2593	1:1.58	0.120	0.02	20.91	22.00	1.285	0.154	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.306	0.16	20.76	22.00	1.330	0.407	22.1
Back side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.341	0.02	20.76	22.00	1.330	0.454	22.1
Left side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.049	-0.01	20.76	22.00	1.330	0.065	22.1
Right side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.035	0.17	20.76	22.00	1.330	0.047	22.1
Top side	20	QPSK 1RB_0	41055/2636.5	1:1.58	0.358	0.12	20.76	22.00	1.330	0.476	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	40620/2593	1:1.58	0.303	0.08	20.91	22.00	1.285	0.389	22.1
Back side	20	QPSK 50RB_0	40620/2593	1:1.58	0.337	0.17	20.91	22.00	1.285	0.433	22.1
Left side	20	QPSK 50RB_0	40620/2593	1:1.58	0.043	0.16	20.91	22.00	1.285	0.055	22.1
Right side	20	QPSK 50RB_0	40620/2593	1:1.58	0.039	0.06	20.91	22.00	1.285	0.050	22.1
Top side	20	QPSK 50RB_0	40620/2593	1:1.58	0.444	-0.04	20.91	22.00	1.285	0.571	22.1
Top side	20	QPSK PCC 1_0	40620/2593	1:1.58	0.371	0.11	20.69	22.00	1.352	0.502	22.1
	20	QPSK SCC 1_99	40422/2573.2								
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	40620/2593	1:1.58	0.230	0.18	12.64	13.00	1.086	0.250	22.1
Left tilted	20	QPSK 1RB_0	40620/2593	1:1.58	0.306	-0.14	12.64	13.00	1.086	0.332	22.1
Right tilted	20	QPSK 1RB_0	40620/2593	1:1.58	0.434	0.09	12.64	13.00	1.086	0.472	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	40620/2593	1:1.58	0.212	0.12	12.60	13.00	1.096	0.232	22.1
Left tilted	20	QPSK 50RB_25	40620/2593	1:1.58	0.295	0.09	12.60	13.00	1.096	0.323	22.1
Right tilted	20	QPSK 50RB_25	40620/2593	1:1.58	0.363	-0.03	12.60	13.00	1.096	0.398	22.1
Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	40620/2593	1:1.58	0.042	0.12	23.16	24.50	1.361	0.057	22.1
Left tilted	20	QPSK 1RB_0	40620/2593	1:1.58	0.039	0.17	23.16	24.50	1.361	0.053	22.1
Right cheek	20	QPSK 1RB_0	40620/2593	1:1.58	0.049	0.02	23.16	24.50	1.361	0.067	22.1
Right cheek	20	QPSK PCC 1_0	40620/2593	1:1.58	0.041	-0.05	23.02	24.50	1.406	0.058	22.1
	20	QPSK SCC 1_99	40422/2573.2								
Right tilted	20	QPSK 1RB_0	40620/2593	1:1.58	0.044	0.13	23.16	24.50	1.361	0.060	22.1

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Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	41490/2680	1:1.58	0.041	0.05	22.20	23.50	1.349	0.055	22.1
Left tilted	20	QPSK 50RB_50	41490/2680	1:1.58	0.040	0.18	22.20	23.50	1.349	0.054	22.1
Right cheek	20	QPSK 50RB_50	41490/2680	1:1.58	0.047	0.00	22.20	23.50	1.349	0.063	22.1
Right tilted	20	QPSK 50RB_50	41490/2680	1:1.58	0.042	0.05	22.20	23.50	1.349	0.057	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	40620/2593	1:1.58	0.183	0.01	23.16	24.50	1.361	0.249	22.1
Back side	20	QPSK 1RB_0	40620/2593	1:1.58	0.214	-0.04	23.16	24.50	1.361	0.291	22.1
Back side	20	QPSK PCC 1_0	40620/2593	1:1.58	0.193	0.17	23.02	24.50	1.406	0.271	22.1
	20	QPSK SCC 1_99	40422/2573.2								
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	41490/2680	1:1.58	0.147	0.04	22.20	23.50	1.349	0.198	22.1
Back side	20	QPSK 50RB_50	41490/2680	1:1.58	0.208	0.12	22.20	23.50	1.349	0.281	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	40620/2593	1:1.58	0.348	0.14	23.16	24.50	1.361	0.474	22.1
Back side	20	QPSK 1RB_0	40620/2593	1:1.58	0.422	-0.03	23.16	24.50	1.361	0.575	22.1
Back side	20	QPSK PCC 1_0	40620/2593	1:1.58	0.379	0.06	23.02	24.50	1.406	0.533	22.1
	20	QPSK SCC 1_99	40422/2573.2								
Left side	20	QPSK 1RB_0	40620/2593	1:1.58	0.067	0.12	23.16	24.50	1.361	0.091	22.1
Right side	20	QPSK 1RB_0	40620/2593	1:1.58	0.194	0.07	23.16	24.50	1.361	0.264	22.1
Bottom side	20	QPSK 1RB_0	40620/2593	1:1.58	0.405	0.01	23.16	24.50	1.361	0.551	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_25	41490/2680	1:1.58	0.277	0.06	22.20	23.50	1.349	0.374	22.1
Back side	20	QPSK 50RB_25	41490/2680	1:1.58	0.417	-0.03	22.20	23.50	1.349	0.563	22.1
Left side	20	QPSK 50RB_25	41490/2680	1:1.58	0.057	0.02	22.20	23.50	1.349	0.077	22.1
Right side	20	QPSK 50RB_25	41490/2680	1:1.58	0.150	0.05	22.20	23.50	1.349	0.202	22.1
Bottom side	20	QPSK 50RB_25	41490/2680	1:1.58	0.350	0.00	22.20	23.50	1.349	0.472	22.1

Table 25: SAR of LTE Band 41 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
- 3) Per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100 MHz.
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

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Test Position	Channel/ Frequency	Measured SAR (1g)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)
Right tilted (Ant2)	40620/2593	1.080	0.978	1.104	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 26: SAR Measurement Variability Results

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8.3.15 SAR Result of LTE Band 66

Ant2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	132322/1745	1:1	0.381	-0.16	14.72	16.00	1.343	0.512	22.2
Left tilted	20	QPSK 1RB_0	132322/1745	1:1	0.448	0.01	14.72	16.00	1.343	0.602	22.2
Right cheek	20	QPSK 1RB_0	132322/1745	1:1	0.587	0.06	14.72	16.00	1.343	0.788	22.2
Right cheek	20	QPSK 1RB_99	132072/1720	1:1	0.538	-0.01	14.47	16.00	1.422	0.765	22.2
Right cheek	20	QPSK 1RB_0	132572/1770	1:1	0.606	-0.02	14.59	16.00	1.384	0.838	22.2
Right tilted	20	QPSK 1RB_0	132322/1745	1:1	0.623	-0.01	14.72	16.00	1.343	0.837	22.2
Right tilted	20	QPSK 1RB_99	132072/1720	1:1	0.578	0.04	14.47	16.00	1.422	0.822	22.2
Right tilted	20	QPSK 1RB_0	132572/1770	1:1	0.625	0.02	14.66	16.00	1.361	0.851	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	132322/1745	1:1	0.389	0.06	14.86	16.00	1.300	0.506	22.2
Left tilted	20	QPSK 50RB_0	132322/1745	1:1	0.450	0.02	14.86	16.00	1.300	0.585	22.2
Right cheek	20	QPSK 50RB_0	132322/1745	1:1	0.595	0.03	14.86	16.00	1.300	0.774	22.2
Right tilted	20	QPSK 50RB_0	132322/1745	1:1	0.631	-0.10	14.86	16.00	1.300	0.820	22.2
Right tilted	20	QPSK 50RB_0	132072/1720	1:1	0.572	-0.03	14.60	16.00	1.380	0.790	22.2
Right tilted	20	QPSK 50RB_0	132572/1770	1:1	0.656	-0.04	14.86	16.00	1.300	0.853	22.2
Head Test data(100%RB)											
Right cheek	20	QPSK 100RB_0	132072/1720	1:1	0.509	0.14	14.69	16.00	1.352	0.688	22.1
Right tilted	20	QPSK 100RB_0	132072/1720	1:1	0.551	0.09	14.69	16.00	1.352	0.745	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	132322/1745	1:1	0.269	0.18	19.81	21.00	1.315	0.354	22.2
Back side	20	QPSK 1RB_0	132322/1745	1:1	0.261	-0.08	19.81	21.00	1.315	0.343	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	132322/1745	1:1	0.274	0.05	19.81	21.00	1.315	0.360	22.2
Back side	20	QPSK 50RB_0	132322/1745	1:1	0.289	0.17	19.81	21.00	1.315	0.380	22.2
Hotspot Test data (Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	132322/1745	1:1	0.437	0.05	19.81	21.00	1.315	0.575	22.2
Back side	20	QPSK 1RB_0	132322/1745	1:1	0.497	0.04	19.81	21.00	1.315	0.654	22.2
Left side	20	QPSK 1RB_0	132322/1745	1:1	0.097	0.07	19.81	21.00	1.315	0.127	22.2
Right side	20	QPSK 1RB_0	132322/1745	1:1	0.035	0.15	19.81	21.00	1.315	0.046	22.2
Top side	20	QPSK 1RB_0	132322/1745	1:1	0.612	0.14	19.81	21.00	1.315	0.805	22.2
Top side	20	QPSK 1RB_99	132072/1720	1:1	0.554	0.09	19.75	21.00	1.334	0.739	22.2
Top side	20	QPSK 1RB_0	132572/1770	1:1	0.616	0.07	19.77	21.00	1.327	0.818	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	132322/1745	1:1	0.452	0.16	19.81	21.00	1.315	0.594	22.2
Back side	20	QPSK 50RB_0	132322/1745	1:1	0.513	0.03	19.81	21.00	1.315	0.675	22.2
Left side	20	QPSK 50RB_0	132322/1745	1:1	0.099	0.09	19.81	21.00	1.315	0.131	22.2
Right side	20	QPSK 50RB_0	132322/1745	1:1	0.034	0.05	19.81	21.00	1.315	0.045	22.2
Top side	20	QPSK 50RB_0	132322/1745	1:1	0.630	0.04	19.81	21.00	1.315	0.829	22.2
Top side	20	QPSK 50RB_25	132072/1720	1:1	0.571	0.08	19.76	21.00	1.330	0.760	22.2
Top side	20	QPSK 50RB_25	132572/1770	1:1	0.625	0.00	19.80	21.00	1.318	0.824	22.2
Hotspot Test data (Separate 10mm 100%RB)											
Top side	20	QPSK 100RB_0	132072/1720	1:1	0.613	0.07	19.79	21.00	1.321	0.810	22.1

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Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	132322/1745	1:1	0.185	-0.02	11.83	13.00	1.309	0.242	22.2
Left tilted	20	QPSK 1RB_0	132322/1745	1:1	0.206	0.13	11.83	13.00	1.309	0.270	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	132322/1745	1:1	0.188	-0.15	11.96	13.00	1.271	0.239	22.2
Left tilted	20	QPSK 50RB_0	132322/1745	1:1	0.207	0.09	11.96	13.00	1.271	0.263	22.2
Ant3 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	132072/1720	1:1	0.145	0.03	23.51	24.50	1.256	0.182	22.2
Left tilted	20	QPSK 1RB_0	132072/1720	1:1	0.050	0.16	23.51	24.50	1.256	0.063	22.2
Right cheek	20	QPSK 1RB_0	132072/1720	1:1	0.151	0.19	23.51	24.50	1.256	0.190	22.2
Right tilted	20	QPSK 1RB_0	132072/1720	1:1	0.068	0.03	23.51	24.50	1.256	0.086	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_25	132572/1770	1:1	0.109	0.00	22.49	23.50	1.262	0.138	22.2
Left tilted	20	QPSK 50RB_25	132572/1770	1:1	0.040	0.05	22.49	23.50	1.262	0.050	22.2
Right cheek	20	QPSK 50RB_25	132572/1770	1:1	0.126	0.01	22.49	23.50	1.262	0.159	22.2
Right tilted	20	QPSK 50RB_25	132572/1770	1:1	0.055	0.03	22.49	23.50	1.262	0.069	22.2
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	132572/1770	1:1	0.210	0.07	19.85	21.00	1.303	0.274	22.2
Back side	20	QPSK 1RB_0	132572/1770	1:1	0.204	-0.14	19.85	21.00	1.303	0.266	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	132572/1770	1:1	0.207	0.08	19.98	21.00	1.265	0.262	22.2
Back side	20	QPSK 50RB_0	132572/1770	1:1	0.206	0.10	19.98	21.00	1.265	0.261	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	132572/1770	1:1	0.275	0.08	19.85	21.00	1.303	0.358	22.2
Back side	20	QPSK 1RB_0	132572/1770	1:1	0.369	-0.02	19.85	21.00	1.303	0.481	22.2
Left side	20	QPSK 1RB_0	132572/1770	1:1	0.049	0.07	19.85	21.00	1.303	0.063	22.2
Right side	20	QPSK 1RB_0	132572/1770	1:1	0.234	0.12	19.85	21.00	1.303	0.305	22.2
Bottom side	20	QPSK 1RB_0	132572/1770	1:1	0.576	0.10	19.85	21.00	1.303	0.751	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	132572/1770	1:1	0.271	0.07	19.98	21.00	1.265	0.343	22.2
Back side	20	QPSK 50RB_0	132572/1770	1:1	0.363	-0.08	19.98	21.00	1.265	0.459	22.2
Left side	20	QPSK 50RB_0	132572/1770	1:1	0.048	0.13	19.98	21.00	1.265	0.061	22.2
Right side	20	QPSK 50RB_0	132572/1770	1:1	0.234	0.04	19.98	21.00	1.265	0.296	22.2
Bottom side	20	QPSK 50RB_0	132572/1770	1:1	0.579	0.06	19.98	21.00	1.265	0.732	22.2

Table 27: SAR of LTE Band 66 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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8.3.16 SAR Result of 5G NR n5

Ant0 Test Record										
Test position	BW.	Test mode	Test ch./Freq.	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data 1RB										
Left cheek	20	QPSK 1RB_53	167800/839	0.420	0.00	21.54	22.50	1.247	0.524	22.1
Left cheek	20	QPSK 1RB_53	166800/834	0.416	0.08	21.52	22.50	1.253	0.521	22.1
Left cheek	20	QPSK 1RB_53	167300/836.5	0.411	-0.06	21.53	22.50	1.250	0.514	22.1
Left tilted	20	QPSK 1RB_53	167800/839	0.100	2.00	21.54	22.50	1.247	0.125	22.1
Right cheek	20	QPSK 1RB_53	167800/839	0.530	0.09	21.54	22.50	1.247	0.661	22.1
Right cheek	20	QPSK 1RB_53	166800/834	0.527	-0.03	21.52	22.50	1.253	0.660	22.1
Right cheek	20	QPSK 1RB_53	167300/836.5	0.521	0.05	21.53	22.50	1.250	0.651	22.1
Right tilted	20	QPSK 1RB_53	167800/839	0.131	0.05	21.54	22.50	1.247	0.163	22.1
Head Test Data 50%RB										
Left cheek	20	QPSK 50RB_28	166800/834	0.415	0.19	21.41	22.50	1.285	0.533	22.1
Left cheek	20	QPSK 50RB_28	167300/836.5	0.408	-0.04	21.36	22.50	1.300	0.530	22.1
Left cheek	20	QPSK 50RB_28	167800/839	0.403	0.07	21.30	22.50	1.318	0.531	22.1
Left tilted	20	QPSK 50RB_28	166800/834	0.092	0.02	21.41	22.50	1.285	0.118	22.1
Right cheek	20	QPSK 50RB_28	166800/834	0.508	0.02	21.41	22.50	1.285	0.653	22.1
Right cheek	20	QPSK 50RB_28	167300/836.5	0.501	0.07	21.36	22.50	1.300	0.651	22.1
Right cheek	20	QPSK 50RB_28	167800/839	0.491	-0.08	21.30	22.50	1.318	0.647	22.1
Right tilted	20	QPSK 50RB_28	166800/834	0.128	0.03	21.41	22.50	1.285	0.165	22.1
Body worn Test Data (15mm 1RB)										
Front side	20	QPSK 1RB_53	166800/834	0.154	0.12	23.03	24.00	1.250	0.193	22.1
Back side	20	QPSK 1RB_53	166800/834	0.197	-0.03	23.03	24.00	1.250	0.246	22.1
Body worn Test Data (15mm 50%RB)										
Front side	20	QPSK 50RB_28	166800/834	0.097	0.00	22.88	24.00	1.294	0.126	22.1
Back side	20	QPSK 50RB_28	166800/834	0.135	0.06	22.88	24.00	1.294	0.175	22.1
Hotspot Test Data (10mm 1RB)										
Front side	20	QPSK 1RB_53	166800/834	0.230	0.10	23.03	24.00	1.250	0.288	22.1
Back side	20	QPSK 1RB_53	166800/834	0.480	0.02	23.03	24.00	1.250	0.600	22.1
Left side	20	QPSK 1RB_53	166800/834	0.449	-0.11	23.03	24.00	1.250	0.561	22.1
Right side	20	QPSK 1RB_53	166800/834	0.025	-0.03	23.03	24.00	1.250	0.032	22.1
Top side	20	QPSK 1RB_53	166800/834	0.018	-0.14	23.03	24.00	1.250	0.022	22.1
Hotspot Test Data (10mm 50%RB)										
Front side	20	QPSK 50RB_28	166800/834	0.170	0.02	22.88	24.00	1.294	0.220	22.1
Back side	20	QPSK 50RB_28	166800/834	0.230	0.11	22.88	24.00	1.294	0.298	22.1
Left side	20	QPSK 50RB_28	166800/834	0.263	0.02	22.88	24.00	1.294	0.340	22.1
Right side	20	QPSK 50RB_28	166800/834	0.008	0.04	22.88	24.00	1.294	0.010	22.1
Top side	20	QPSK 50RB_28	166800/834	0.002	0.00	22.88	24.00	1.294	0.003	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)										
Test position	BW.	Test mode	Test ch./Freq.	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data 1RB										
Left cheek	20	QPSK 1RB_53	167800/839	0.135	0.05	17.10	18.00	1.230	0.166	22.1
Right cheek	20	QPSK 1RB_53	167800/839	0.176	-0.13	17.10	18.00	1.230	0.217	22.1
Head Test Data 50%RB										
Left cheek	20	QPSK 50RB_28	166800/834	0.132	0.11	17.05	18.00	1.245	0.164	22.1
Right cheek	20	QPSK 50RB_28	166800/834	0.173	-0.06	17.05	18.00	1.245	0.215	22.1

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Ant1 Test Record										
Test position	BW.	Test mode	Test ch./Freq.	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data 1RB										
Left cheek	20	QPSK 1RB_53	167300/836.5	0.029	-0.03	23.77	24.50	1.183	0.035	22.1
Left tilted	20	QPSK 1RB_53	167300/836.5	0.014	0.02	23.77	24.50	1.183	0.017	22.1
Right cheek	20	QPSK 1RB_53	167300/836.5	0.045	0.06	23.77	24.50	1.183	0.053	22.1
Right tilted	20	QPSK 1RB_53	167300/836.5	0.023	0.03	23.77	24.50	1.183	0.027	22.1
Head Test Data 50%RB										
Left cheek	20	QPSK 50RB_28	167300/836.5	0.015	0.03	23.54	24.50	1.247	0.019	22.1
Left tilted	20	QPSK 50RB_28	167300/836.5	0.007	0.02	23.54	24.50	1.247	0.008	22.1
Right cheek	20	QPSK 50RB_28	167300/836.5	0.026	0.03	23.54	24.50	1.247	0.033	22.1
Right tilted	20	QPSK 50RB_28	167300/836.5	0.010	0.04	23.54	24.50	1.247	0.013	22.1
Body worn Test Data (15mm 1RB)										
Front side	20	QPSK 1RB_53	167300/836.5	0.096	0.01	23.77	24.50	1.183	0.114	22.1
Back side	20	QPSK 1RB_53	167300/836.5	0.124	0.09	23.77	24.50	1.183	0.147	22.1
Body worn Test Data (15mm 50%RB)										
Front side	20	QPSK 50RB_28	167300/836.5	0.090	-0.12	23.54	24.50	1.247	0.112	22.1
Back side	20	QPSK 50RB_28	167300/836.5	0.131	-0.01	23.54	24.50	1.247	0.163	22.1
Hotspot Test Data (10mm 1RB)										
Front side	20	QPSK 1RB_53	167300/836.5	0.187	0.01	23.77	24.50	1.183	0.221	22.1
Back side	20	QPSK 1RB_53	167300/836.5	0.273	-0.03	23.77	24.50	1.183	0.323	22.1
Left side	20	QPSK 1RB_53	167300/836.5	0.026	0.04	23.77	24.50	1.183	0.031	22.1
Right side	20	QPSK 1RB_53	167300/836.5	0.091	-0.02	23.77	24.50	1.183	0.108	22.1
Bottom side	20	QPSK 1RB_53	167300/836.5	0.158	-0.05	23.77	24.50	1.183	0.187	22.1
Hotspot Test Data (10mm 50%RB)										
Front side	20	QPSK 50RB_28	167300/836.5	0.170	-0.06	23.54	24.50	1.247	0.212	22.1
Back side	20	QPSK 50RB_28	167300/836.5	0.267	0.04	23.54	24.50	1.247	0.333	22.1
Left side	20	QPSK 50RB_28	167300/836.5	0.025	0.04	23.54	24.50	1.247	0.031	22.1
Right side	20	QPSK 50RB_28	167300/836.5	0.078	-0.06	23.54	24.50	1.247	0.098	22.1
Bottom side	20	QPSK 50RB_28	167300/836.5	0.145	-0.06	23.54	24.50	1.247	0.181	22.1

Table 28: SAR of 5G NR n5 for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.3.17 SAR Result of 5G NR n7

Ant2 Test Record											
Test position	BW	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data(1RB)											
Left cheek	20	QPSK 1RB_1	512000/2560	1:1	0.520	0.00	15.55	16.00	1.109	0.577	22.1
Left tilted	20	QPSK 1RB_1	512000/2560	1:1	0.566	-0.14	15.55	16.00	1.109	0.628	22.1
Right cheek	20	QPSK 1RB_1	512000/2560	1:1	0.666	-0.09	15.55	16.00	1.109	0.739	22.1
Right tilted	20	QPSK 1RB_1	512000/2560	1:1	1.000	-0.15	15.55	16.00	1.109	1.109	22.1
Right tilted-repeat	20	QPSK 1RB_1	512000/2560	1:1	0.953	0.02	15.55	16.00	1.109	1.057	22.1
Right tilted	20	QPSK 1RB_1	502000/2510	1:1	0.862	-0.09	15.47	16.00	1.130	0.974	22.1
Right tilted	20	QPSK 1RB_1	507000/2535	1:1	0.899	0.04	15.52	16.00	1.117	1.004	22.1
Head Test Data(50%RB)											
Left cheek	20	QPSK 50RB_28	507000/2535	1:1	0.575	-0.02	15.57	16.00	1.104	0.635	22.1
Left tilted	20	QPSK 50RB_28	507000/2535	1:1	0.565	0.01	15.57	16.00	1.104	0.624	22.1
Right cheek	20	QPSK 50RB_28	507000/2535	1:1	0.845	-0.10	15.57	16.00	1.104	0.933	22.1
Right cheek	20	QPSK 50RB_28	502000/2510	1:1	0.832	0.02	15.50	16.00	1.122	0.934	22.1
Right cheek	20	QPSK 50RB_28	512000/2560	1:1	0.864	0.17	15.54	16.00	1.112	0.961	22.1
Right tilted	20	QPSK 50RB_28	507000/2535	1:1	0.969	-0.10	15.57	16.00	1.104	1.070	22.1
Right tilted	20	QPSK 50RB_28	502000/2510	1:1	0.869	-0.08	15.50	16.00	1.122	0.975	22.1
Right tilted	20	QPSK 50RB_28	512000/2560	1:1	0.964	-0.11	15.54	16.00	1.112	1.072	22.1
Head Test Data(100%RB)											
Right cheek	20	QPSK 100RB_0	512000/2560	1:1	0.832	-0.06	15.55	16.00	1.109	0.923	22.1
Right tilted	20	QPSK 100RB_0	512000/2560	1:1	0.895	0.13	15.55	16.00	1.109	0.993	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_104	507000/2535	1:1	0.306	-0.09	19.98	20.50	1.127	0.345	22.1
Back side	20	QPSK 1RB_104	507000/2535	1:1	0.376	-0.08	19.98	20.50	1.127	0.424	22.1
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_28	512000/2560	1:1	0.297	0.17	20.00	20.50	1.122	0.333	22.1
Back side	20	QPSK 50RB_28	512000/2560	1:1	0.358	0.02	20.00	20.50	1.122	0.402	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_104	507000/2535	1:1	0.446	-0.14	19.98	20.50	1.127	0.503	22.1
Back side	20	QPSK 1RB_104	507000/2535	1:1	0.524	0.08	19.98	20.50	1.127	0.591	22.1
Left side	20	QPSK 1RB_104	507000/2535	1:1	0.132	-0.06	19.98	20.50	1.127	0.149	22.1
Right side	20	QPSK 1RB_104	507000/2535	1:1	0.107	-0.05	19.98	20.50	1.127	0.121	22.1
Top side	20	QPSK 1RB_104	502000/2510	1:1	0.674	-0.04	19.98	20.50	1.127	0.760	22.1
Top side	20	QPSK 1RB_104	512000/2560	1:1	0.820	-0.18	19.84	20.50	1.164	0.955	22.1
Top side	20	QPSK 1RB_104	507000/2535	1:1	0.685	-0.01	19.97	20.50	1.130	0.774	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_28	512000/2560	1:1	0.418	-0.03	20.00	20.50	1.122	0.469	22.1
Back side	20	QPSK 50RB_28	512000/2560	1:1	0.505	0.04	20.00	20.50	1.122	0.567	22.1
Left side	20	QPSK 50RB_28	512000/2560	1:1	0.130	-0.06	20.00	20.50	1.122	0.146	22.1
Right side	20	QPSK 50RB_28	512000/2560	1:1	0.102	-0.03	20.00	20.50	1.122	0.114	22.1
Top side	20	QPSK 50RB_28	512000/2560	1:1	0.836	-0.15	20.00	20.50	1.122	0.938	22.1
Top side-repeat	20	QPSK 50RB_28	512000/2560	1:1	0.802	-0.15	20.00	20.50	1.122	0.900	22.1
Top side	20	QPSK 50RB_28	502000/2510	1:1	0.706	-0.10	19.71	20.50	1.199	0.847	22.1
Top side	20	QPSK 50RB_28	507000/2535	1:1	0.627	-0.03	19.87	20.50	1.156	0.725	22.1

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Hotspot Test data(Separate 10mm 100%RB)											
Top side	20	QPSK 50RB_28	512000/2560	1:1	0.785	0.11	19.47	20.50	1.268	0.995	22.1
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT)											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data(1RB)											
Left cheek	20	QPSK 1RB_1	512000/2560	1:1	0.226	-0.10	12.61	13.00	1.094	0.247	22.1
Left tilted	20	QPSK 1RB_1	512000/2560	1:1	0.268	0.06	12.61	13.00	1.094	0.293	22.1
Right cheek	20	QPSK 1RB_1	512000/2560	1:1	0.321	0.11	12.61	13.00	1.094	0.351	22.1
Right tilted	20	QPSK 1RB_1	512000/2560	1:1	0.457	0.17	12.61	13.00	1.094	0.500	22.1
Head Test Data(50%RB)											
Left cheek	20	QPSK 50RB_28	507000/2535	1:1	0.221	-0.02	12.59	13.00	1.099	0.243	22.1
Left tilted	20	QPSK 50RB_28	507000/2535	1:1	0.265	0.16	12.59	13.00	1.099	0.291	22.1
Right cheek	20	QPSK 50RB_28	507000/2535	1:1	0.318	-0.07	12.59	13.00	1.099	0.349	22.1
Right tilted	20	QPSK 50RB_28	507000/2535	1:1	0.453	0.14	12.59	13.00	1.099	0.498	22.1
Ant3 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data(1RB)											
Left cheek	20	QPSK 1RB_1	512000/2560	1:1	0.094	-0.13	22.88	23.50	1.153	0.109	22.1
Left tilted	20	QPSK 1RB_1	512000/2560	1:1	0.082	0.00	22.88	23.50	1.153	0.095	22.1
Right cheek	20	QPSK 1RB_1	512000/2560	1:1	0.116	0.03	22.88	23.50	1.153	0.134	22.1
Right tilted	20	QPSK 1RB_1	512000/2560	1:1	0.063	0.12	22.88	23.50	1.153	0.073	22.1
Head Test Data(50%RB)											
Left cheek	20	QPSK 50RB_28	512000/2560	1:1	0.122	-0.12	22.79	23.50	1.178	0.144	22.1
Left tilted	20	QPSK 50RB_28	512000/2560	1:1	0.046	0.03	22.79	23.50	1.178	0.055	22.1
Right cheek	20	QPSK 50RB_28	512000/2560	1:1	0.113	-0.08	22.79	23.50	1.178	0.133	22.1
Right tilted	20	QPSK 50RB_28	512000/2560	1:1	0.071	-0.04	22.79	23.50	1.178	0.084	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_1	512000/2560	1:1	0.259	-0.15	22.42	22.50	1.019	0.264	22.1
Back side	20	QPSK 1RB_1	512000/2560	1:1	0.402	-0.13	22.42	22.50	1.019	0.409	22.1
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_28	512000/2560	1:1	0.185	-0.07	22.41	22.50	1.021	0.189	22.1
Back side	20	QPSK 50RB_28	512000/2560	1:1	0.111	-0.08	22.41	22.50	1.021	0.113	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_1	507000/2535	1:1	0.458	0.02	22.42	22.50	1.019	0.467	22.1
Back side	20	QPSK 1RB_1	507000/2535	1:1	0.690	-0.03	22.42	22.50	1.019	0.703	22.1
Left side	20	QPSK 1RB_1	507000/2535	1:1	0.116	0.05	22.42	22.50	1.019	0.118	22.1
Right side	20	QPSK 1RB_1	507000/2535	1:1	0.317	-0.08	22.42	22.50	1.019	0.323	22.1
Bottom side	20	QPSK 1RB_1	507000/2535	1:1	0.549	-0.06	22.42	22.50	1.019	0.559	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_28	502000/2510	1:1	0.365	-0.04	22.41	22.50	1.021	0.373	22.1
Back side	20	QPSK 50RB_28	502000/2510	1:1	0.294	-0.06	22.41	22.50	1.021	0.300	22.1
Left side	20	QPSK 50RB_28	502000/2510	1:1	0.051	-0.07	22.41	22.50	1.021	0.052	22.1
Right side	20	QPSK 50RB_28	502000/2510	1:1	0.194	-0.12	22.41	22.50	1.021	0.198	22.1
Bottom side	20	QPSK 50RB_28	502000/2510	1:1	0.258	0.03	22.41	22.50	1.021	0.263	22.1

Table 29: SAR of 5G NR n7 for Head and Body.

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Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

Test Position	Channel/ Frequency	Measured SAR (1g)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)
Right tilted (Ant2)	512000/2560	1.000	0.953	1.049	N/A	N/A
Top side (Ant2)	512000/2560	0.836	0.802	1.042	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

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

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

Table 30: SAR Measurement Variability Results

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8.3.18 SAR Result of 5G NR n41

Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data(1RB)											
Left cheek	100	QPSK 1RB_271	523302/2616.51	1:1	0.212	-0.06	16.02	16.40	1.091	0.231	22.1
Left tilted	100	QPSK 1RB_271	523302/2616.51	1:1	0.120	0.01	16.02	16.40	1.091	0.131	22.1
Right cheek	100	QPSK 1RB_271	523302/2616.51	1:1	0.638	-0.07	16.02	16.40	1.091	0.696	22.1
Right cheek	100	QPSK 1RB_271	509202/2546.01	1:1	0.714	-0.06	15.73	16.40	1.167	0.833	22.1
Right cheek	100	QPSK 1RB_271	513900/2569.5	1:1	0.720	-0.07	15.83	16.40	1.140	0.821	22.1
Right cheek	100	QPSK 1RB_271	518598/2592.99	1:1	0.671	-0.03	15.90	16.40	1.122	0.753	22.1
Right cheek	100	QPSK 1RB_271	528000/2640	1:1	0.650	-0.02	16.01	16.40	1.094	0.711	22.1
Right tilted	100	QPSK 1RB_271	523302/2616.51	1:1	0.231	-0.06	16.02	16.40	1.091	0.252	22.1
Head Test Data(50%RB)											
Left cheek	100	QPSK 135RB_138	513900/2569.5	1:1	0.218	-0.13	15.82	16.40	1.143	0.249	22.1
Left tilted	100	QPSK 135RB_138	513900/2569.5	1:1	0.106	-0.03	15.82	16.40	1.143	0.121	22.1
Right cheek	100	QPSK 135RB_138	513900/2569.5	1:1	0.811	-0.09	15.82	16.40	1.143	0.927	22.1
Right cheek-repeat	100	QPSK 135RB_138	513900/2569.5	1:1	0.801	0.03	15.82	16.40	1.143	0.915	22.1
Right cheek	100	QPSK 135RB_138	518598/2592.99	1:1	0.709	-0.01	15.76	16.40	1.159	0.822	22.1
Right cheek	100	QPSK 135RB_138	509202/2546.01	1:1	0.756	0.07	15.62	16.40	1.197	0.905	22.1
Right cheek	100	QPSK 135RB_138	523302/2616.51	1:1	0.646	0.07	15.81	16.40	1.146	0.740	22.1
Right cheek	100	QPSK 135RB_138	528000/2640	1:1	0.649	0.01	15.80	16.40	1.148	0.745	22.1
Right tilted	100	QPSK 135RB_138	513900/2569.5	1:1	0.222	-0.06	15.82	16.40	1.143	0.254	22.1
Head Test Data(100%RB)											
Right cheek	100	QPSK 270RB_0	513900/2569.5	1:1	0.781	0.06	15.74	16.40	1.164	0.909	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	100	QPSK 1RB_271	509202/2546.01	1:1	0.239	0.08	20.47	20.90	1.104	0.264	22.1
Back side	100	QPSK 1RB_271	509202/2546.01	1:1	0.289	-0.13	20.47	20.90	1.104	0.319	22.1
Body worn Test data(Separate 15mm 50%RB)											
Front side	100	QPSK 135RB_69	528000/2640	1:1	0.257	-0.15	20.36	20.90	1.132	0.291	22.1
Back side	100	QPSK 135RB_69	528000/2640	1:1	0.304	-0.12	20.36	20.90	1.132	0.344	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1RB_271	509202/2546.01	1:1	0.445	-0.02	20.47	20.90	1.104	0.491	22.1
Back side	100	QPSK 1RB_271	509202/2546.01	1:1	0.542	-0.19	20.47	20.90	1.104	0.598	22.1
Left side	100	QPSK 1RB_271	509202/2546.01	1:1	0.960	-0.06	20.47	20.90	1.104	1.060	22.1
Left side	100	QPSK 1RB_137	513900/2569.5	1:1	0.948	-0.06	20.27	20.90	1.156	1.096	22.1
Left side	100	QPSK 1RB_137	518598/2592.99	1:1	1.070	0.02	20.44	20.90	1.112	1.190	22.1
Left side-repeat	100	QPSK 1RB_137	518598/2592.99	1:1	1.030	0.12	20.44	20.90	1.112	1.145	22.1
Left side	100	QPSK 1RB_137	523302/2616.51	1:1	1.020	-0.17	20.35	20.90	1.135	1.158	22.1
Left side	100	QPSK 1RB_137	528000/2640	1:1	1.060	-0.04	20.41	20.90	1.119	1.187	22.1
Right side	100	QPSK 1RB_271	509202/2546.01	1:1	0.045	-0.04	20.47	20.90	1.104	0.049	22.1
Top side	100	QPSK 1RB_271	509202/2546.01	1:1	0.101	-0.01	20.47	20.90	1.104	0.112	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135RB_69	528000/2640	1:1	0.460	0.14	20.36	20.90	1.132	0.521	22.1
Back side	100	QPSK 135RB_69	528000/2640	1:1	0.524	-0.10	20.36	20.90	1.132	0.593	22.1
Left side	100	QPSK 135RB_69	528000/2640	1:1	0.929	-0.03	20.36	20.90	1.132	1.052	22.1
Left side	100	QPSK 135RB_69	509202/2546.01	1:1	0.971	0.08	20.10	20.90	1.202	1.167	22.1
Left side	100	QPSK 135RB_69	513900/2569.5	1:1	0.974	-0.07	20.11	20.90	1.199	1.168	22.1

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Left side	100	QPSK 135RB_69	518598/2592.99	1:1	1.045	0.02	20.35	20.90	1.135	1.186	22.1
Left side	100	QPSK 135RB_69	523302/2616.51	1:1	0.880	-0.02	20.24	20.90	1.164	1.024	22.1
Right side	100	QPSK 135RB_69	528000/2640	1:1	0.039	-0.06	20.36	20.90	1.132	0.044	22.1
Top side	100	QPSK 135RB_69	528000/2640	1:1	0.087	0.04	20.36	20.90	1.132	0.098	22.1
Hotspot Test data(Separate 10mm 100%RB)											
Left side	100	QPSK 270RB_0	518598/2592.99	1:1	0.961	0.03	20.27	20.90	1.156	1.111	22.1
Ant0 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg)	Power 1-g	Conducted Drift (dB)	Power (dBm)	Tune up Limit (dBm)	Scaled factor	Liquid SAR (W/kg) Temp
Hotspot Test data(Separate 10mm 1RB)											
Left side	100	QPSK 1RB_271	509202/2546.01	1:1	0.782	0.09	19.54	19.90	1.086	0.850	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Left side	100	QPSK 135RB_69	528000/2640	1:1	0.743	0.14	19.44	19.90	1.112	0.826	22.1
Ant2 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg)	Power 1-g	Conducted Drift (dB)	Power (dBm)	Tune up Limit (dBm)	Scaled factor	Liquid SAR (W/kg) Temp
Head Test Data(1RB)											
Left cheek	100	QPSK 1RB_1	509202/2546.01	1:1	0.540	-0.18	15.99	16.40	1.099	0.593	22.1
Left tilted	100	QPSK 1RB_1	509202/2546.01	1:1	0.720	-0.03	15.99	16.40	1.099	0.791	22.1
Left tilted	100	QPSK 1RB_271	513900/2569.5	1:1	0.631	0.13	15.92	16.40	1.117	0.705	22.1
Left tilted	100	QPSK 1RB_271	518598/2592.99	1:1	0.583	0.06	15.91	16.40	1.119	0.653	22.1
Left tilted	100	QPSK 1RB_271	523302/2616.51	1:1	0.622	0.09	15.95	16.40	1.109	0.690	22.1
Left tilted	100	QPSK 1RB_1	528000/2640	1:1	0.608	-0.11	15.94	16.40	1.112	0.676	22.1
Right cheek	100	QPSK 1RB_1	509202/2546.01	1:1	0.820	-0.12	15.99	16.40	1.099	0.901	22.1
Right cheek	100	QPSK 1RB_271	513900/2569.5	1:1	0.785	0.08	15.92	16.40	1.117	0.877	22.1
Right cheek	100	QPSK 1RB_271	518598/2592.99	1:1	0.696	-0.14	15.91	16.40	1.119	0.779	22.1
Right cheek	100	QPSK 1RB_271	523302/2616.51	1:1	0.749	-0.05	15.95	16.40	1.109	0.831	22.1
Right cheek	100	QPSK 1RB_1	528000/2640	1:1	0.700	-0.05	15.94	16.40	1.112	0.778	22.1
Right tilted	100	QPSK 1RB_1	509202/2546.01	1:1	1.030	-0.19	15.99	16.40	1.099	1.132	22.1
Right tilted	100	QPSK 1RB_271	513900/2569.5	1:1	0.839	-0.19	15.92	16.40	1.117	0.937	22.1
Right tilted	100	QPSK 1RB_271	518598/2592.99	1:1	0.807	-0.12	15.91	16.40	1.119	0.903	22.1
Right tilted	100	QPSK 1RB_271	523302/2616.51	1:1	0.830	-0.01	15.95	16.40	1.109	0.921	22.1
Right tilted	100	QPSK 1RB_1	528000/2640	1:1	1.070	-0.17	15.93	16.40	1.114	1.192	22.1
Right tilted -repeat	100	QPSK 1RB_1	528000/2640	1:1	1.010	0.06	15.93	16.40	1.114	1.125	22.1
Head Test Data(50%RB)											
Left cheek	100	QPSK 135RB_138	509202/2546.01	1:1	0.521	0.02	15.83	16.40	1.140	0.594	22.1
Left tilted	100	QPSK 135RB_138	509202/2546.01	1:1	0.652	-0.08	15.83	16.40	1.140	0.743	22.1
Left tilted	100	QPSK 135RB_138	513900/2569.5	1:1	0.561	-0.06	15.81	16.40	1.146	0.643	22.1
Left tilted	100	QPSK 135RB_138	518598/2592.99	1:1	0.643	0.12	15.80	16.40	1.148	0.738	22.1
Left tilted	100	QPSK 135RB_138	523302/2616.51	1:1	0.631	0.07	15.81	16.40	1.146	0.723	22.1
Left tilted	100	QPSK 135RB_138	528000/2640	1:1	0.554	-0.09	15.80	16.40	1.148	0.636	22.1
Right cheek	100	QPSK 135RB_138	509202/2546.01	1:1	0.817	-0.01	15.83	16.40	1.140	0.932	22.1
Right cheek	100	QPSK 135RB_138	513900/2569.5	1:1	0.729	-0.17	15.81	16.40	1.146	0.835	22.1
Right cheek	100	QPSK 135RB_138	518598/2592.99	1:1	0.817	-0.03	15.80	16.40	1.148	0.938	22.1
Right cheek	100	QPSK 135RB_138	523302/2616.51	1:1	0.820	-0.05	15.81	16.40	1.146	0.939	22.1
Right cheek	100	QPSK 135RB_138	528000/2640	1:1	0.749	-0.01	15.80	16.40	1.148	0.860	22.1
Right tilted	100	QPSK 135RB_138	509202/2546.01	1:1	0.996	-0.03	15.83	16.40	1.140	1.136	22.1
Right tilted	100	QPSK 135RB_138	513900/2569.5	1:1	0.947	-0.06	15.81	16.40	1.146	1.085	22.1
Right tilted	100	QPSK 135RB_138	518598/2592.99	1:1	0.970	-0.06	15.80	16.40	1.148	1.114	22.1

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Right tilted	100	QPSK 135RB_138	523302/2616.51	1:1	0.924	-0.04	15.81	16.40	1.146	1.058	22.1
Right tilted	100	QPSK 135RB_138	528000/2640	1:1	0.882	-0.03	15.80	16.40	1.148	1.013	22.1
Head Test Data(100%RB)											
Left tilted	100	QPSK 270RB_0	509202/2546.01	1:1	0.603	0.02	15.84	16.40	1.138	0.686	22.1
Right cheek	100	QPSK 270RB_0	509202/2546.01	1:1	0.758	0.13	15.84	16.40	1.138	0.862	22.1
Right tilted	100	QPSK 270RB_0	509202/2546.01	1:1	0.852	-0.06	15.84	16.40	1.138	0.969	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	100	QPSK 1RB_271	523302/2616.51	1:1	0.209	-0.01	19.27	19.90	1.156	0.242	22.1
Back side	100	QPSK 1RB_271	523302/2616.51	1:1	0.251	-0.07	19.27	19.90	1.156	0.290	22.1
Body worn Test data(Separate 15mm 50%RB)											
Front side	100	QPSK 135RB_138	513900/2569.5	1:1	0.164	-0.15	19.20	19.90	1.175	0.193	22.1
Back side	100	QPSK 135RB_138	513900/2569.5	1:1	0.197	-0.05	19.20	19.90	1.175	0.231	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1RB_271	523302/2616.51	1:1	0.357	-0.01	19.27	19.90	1.156	0.413	22.1
Back side	100	QPSK 1RB_271	523302/2616.51	1:1	0.397	-0.08	19.27	19.90	1.156	0.459	22.1
Left side	100	QPSK 1RB_271	523302/2616.51	1:1	0.082	-0.03	19.27	19.90	1.156	0.095	22.1
Right side	100	QPSK 1RB_271	523302/2616.51	1:1	0.062	-0.10	19.27	19.90	1.156	0.072	22.1
Top side	100	QPSK 1RB_271	523302/2616.51	1:1	0.787	-0.04	19.27	19.90	1.156	0.910	22.1
Top side	100	QPSK 1RB_271	509202/2546.01	1:1	0.556	-0.09	19.22	19.90	1.169	0.650	22.1
Top side	100	QPSK 1RB_271	513900/2569.5	1:1	0.634	0.18	19.24	19.90	1.164	0.738	22.1
Top side	100	QPSK 1RB_137	518598/2592.99	1:1	0.751	0.16	19.22	19.90	1.169	0.878	22.1
Top side	100	QPSK 1RB_137	528000/2640	1:1	0.739	0.14	19.14	19.90	1.191	0.880	22.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135RB_138	513900/2569.5	1:1	0.335	-0.01	19.20	19.90	1.175	0.394	22.1
Back side	100	QPSK 135RB_138	513900/2569.5	1:1	0.356	-0.08	19.20	19.90	1.175	0.418	22.1
Left side	100	QPSK 135RB_138	513900/2569.5	1:1	0.096	-0.08	19.20	19.90	1.175	0.112	22.1
Right side	100	QPSK 135RB_138	513900/2569.5	1:1	0.070	-0.06	19.20	19.90	1.175	0.082	22.1
Top side	100	QPSK 135RB_138	513900/2569.5	1:1	0.730	0.14	19.20	19.90	1.175	0.858	22.1
Top side	100	QPSK 135RB_138	509202/2546.01	1:1	0.661	0.16	19.15	19.90	1.189	0.786	22.1
Top side	100	QPSK 135RB_138	518598/2592.99	1:1	0.736	0.04	19.19	19.90	1.178	0.867	22.1
Top side	100	QPSK 135RB_69	523302/2616.51	1:1	0.734	0.05	19.16	19.90	1.186	0.870	22.1
Top side	100	QPSK 135RB_138	528000/2640	1:1	0.702	0.13	19.19	19.90	1.178	0.827	22.1
Hotspot Test data(Separate 10mm 100%RB)											
Top side	100	QPSK 270RB_0	523302/2616.51	1:1	0.685	0.01	19.17	19.90	1.183	0.810	22.1
Ant2 Additional Test data(simultaneous transmission with (WWAN+WiFi/BT))											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg)	Power 1-g Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test Data(1RB)											
Left cheek	100	QPSK 1RB_1	528000/2640	1:1	0.207	0.01	11.85	12.40	1.135	0.235	22.1
Left tilted	100	QPSK 1RB_1	528000/2640	1:1	0.266	-0.17	11.85	12.40	1.135	0.302	22.1
Right tilted	100	QPSK 1RB_1	528000/2640	1:1	0.425	0.08	11.85	12.40	1.135	0.482	22.1
Head Test Data(50%RB)											
Left cheek	100	QPSK 135RB_138	509202/2546.01	1:1	0.201	0.10	11.87	12.40	1.130	0.227	22.1
Left tilted	100	QPSK 135RB_138	509202/2546.01	1:1	0.253	-0.06	11.87	12.40	1.130	0.286	22.1
Right tilted	100	QPSK 135RB_138	509202/2546.01	1:1	0.391	0.08	11.87	12.40	1.130	0.442	22.1

Table 31: SAR of 5G NR n41 for Head and Body.

Note:

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

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

3) Per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg for 1-g or 2.0 W/kg for 10-g respectively, when the transmission band is ≤ 100 MHz.
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

Test Position	Channel/ Frequency	Measured SAR (1g)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)
Right cheek (Ant0)	513900/2569.5	0.811	0.801	1.012	N/A	N/A
Left side (Ant0)	518598/2592.99	1.070	1.030	1.039	N/A	N/A
Right tilted (Ant2)	528000/2640	1.070	1.010	1.059	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 32: SAR Measurement Variability Results

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8.3.19 SAR Result of WIFI 2.4G

Ant7 Test Record Chain0											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11b	6/2437	99.31%	1.007	0.600	-0.09	14.26	15.50	1.330	0.804	22.0
Left cheek	802.11b	1/2412	99.31%	1.007	0.726	0.03	14.21	15.50	1.346	0.984	22.0
Left cheek	802.11b	11/2462	99.31%	1.007	0.556	0.05	14.25	15.50	1.334	0.747	22.0
Left tilted	802.11b	6/2437	99.31%	1.007	0.546	0.11	14.26	15.50	1.330	0.732	22.0
Right cheek	802.11b	6/2437	99.31%	1.007	0.296	0.16	14.26	15.50	1.330	0.397	22.0
Right tilted	802.11b	6/2437	99.31%	1.007	0.351	0.09	14.26	15.50	1.330	0.470	22.0
Body worn Test data(Separate 15mm)											
Front side	802.11b	1/2412	99.31%	1.007	0.165	-0.05	18.62	19.50	1.225	0.203	22.0
Back side	802.11b	1/2412	99.31%	1.007	0.145	0.10	18.62	19.50	1.225	0.179	22.0
Hotspot Test data (Separate 10mm)											
Front side	802.11b	1/2412	99.31%	1.007	0.253	0.11	18.62	19.50	1.225	0.312	22.0
Back side	802.11b	1/2412	99.31%	1.007	0.240	0.06	18.62	19.50	1.225	0.296	22.0
Left side	802.11b	1/2412	99.31%	1.007	0.042	0.07	18.62	19.50	1.225	0.052	22.0
Right side	802.11b	1/2412	99.31%	1.007	0.153	-0.10	18.62	19.50	1.225	0.189	22.0
Top side	802.11b	1/2412	99.31%	1.007	0.461	0.06	18.62	19.50	1.225	0.568	22.0
Ant7(Chain 0) Additional Test data(simultaneous transmission with (WWAN+WiFi 2.4G))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11b	1/2412	99.31%	1.007	0.193	-0.06	8.82	10.00	1.312	0.255	22.0
Left tilted	802.11b	1/2412	99.31%	1.007	0.138	-0.02	8.82	10.00	1.312	0.182	22.0
Right cheek	802.11b	1/2412	99.31%	1.007	0.071	0.14	8.82	10.00	1.312	0.094	22.0
Right tilted	802.11b	1/2412	99.31%	1.007	0.089	0.18	8.82	10.00	1.312	0.118	22.0
Ant7(Chain 0) Additional Test data(simultaneous transmission with (WWAN+WiFi 2.4G+WiFi 5G))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11b	1/2412	99.31%	1.007	0.139	0.17	7.43	8.50	1.279	0.179	22.0
Left tilted	802.11b	1/2412	99.31%	1.007	0.101	-0.08	7.43	8.50	1.279	0.130	22.0
Right cheek	802.11b	1/2412	99.31%	1.007	0.051	-0.02	7.43	8.50	1.279	0.066	22.0
Right tilted	802.11b	1/2412	99.31%	1.007	0.063	-0.16	7.43	8.50	1.279	0.081	22.0
Ant7(Chain 0) Additional Test data(simultaneous transmission with(WWAN+WiFi 2.4G/WiFi 2.4G+WiFi 5G))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Hotspot Test data (Separate 10mm)											
Top side	802.11b	1/2412	99.31%	1.007	0.163	0.05	13.13	14.50	1.371	0.225	22.0
Ant7(Chain 0) Additional Test data(simultaneous transmission with (WWAN+WiFi 2.4G+WiFi 5G))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Hotspot Test data (Separate 10mm)											
Top side	802.11b	1/2412	99.31%	1.007	0.112	-0.09	11.48	13.00	1.419	0.160	22.0

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Ant8 Test Record											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11g	1/2412	97.11%	1.030	0.094	-0.06	13.21	14.50	1.346	0.130	22.0
Left tilted	802.11g	1/2412	97.11%	1.030	0.030	0.07	13.21	14.50	1.346	0.042	22.0
Right cheek	802.11g	1/2412	97.11%	1.030	0.100	-0.09	13.21	14.50	1.346	0.139	22.0
Right tilted	802.11g	1/2412	97.11%	1.030	0.082	0.11	13.21	14.50	1.346	0.114	22.0
Body worn Test data(Separate 15mm)											
Front side	802.11g	1/2412	97.11%	1.030	0.031	0.09	17.14	18.00	1.219	0.039	22.0
Back side	802.11g	1/2412	97.11%	1.030	0.033	-0.06	17.14	18.00	1.219	0.041	22.0
Hotspot Test data (Separate 10mm)											
Front side	802.11g	1/2412	97.11%	1.030	0.113	0.08	17.14	18.00	1.219	0.142	22.0
Back side	802.11g	1/2412	97.11%	1.030	0.130	0.14	17.14	18.00	1.219	0.163	22.0
Left side	802.11g	1/2412	97.11%	1.030	0.006	0.11	17.14	18.00	1.219	0.008	22.0
Right side	802.11g	1/2412	97.11%	1.030	0.285	0.01	17.14	18.00	1.219	0.358	22.0
Top side	802.11g	1/2412	97.11%	1.030	0.003	-0.17	17.14	18.00	1.219	0.004	22.0

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CDD/MIMO Test Record											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11g	1/2412	97.12%	1.030	0.726	-0.07	16.76	18.00	1.330	0.995	22.0
Left cheek	802.11g	6/2437	97.12%	1.030	0.592	0.03	16.50	18.00	1.413	0.861	22.0
Left cheek	802.11g	11/2462	97.12%	1.030	0.548	0.06	16.12	18.00	1.542	0.870	22.0
Left tilted	802.11g	1/2412	97.12%	1.030	0.476	0.09	16.76	18.00	1.330	0.652	22.0
Right cheek	802.11g	1/2412	97.12%	1.030	0.316	-0.14	16.76	18.00	1.330	0.433	22.0
Right tilted	802.11g	1/2412	97.12%	1.030	0.320	0.13	16.76	18.00	1.330	0.438	22.0
Body worn Test data (Separate 15mm)											
Front side	802.11g	1/2412	97.12%	1.030	0.123	-0.06	20.88	22.00	1.294	0.164	22.0
Back side	802.11g	1/2412	97.12%	1.030	0.115	0.17	20.88	22.00	1.294	0.153	22.0
Hotspot Test data (Separate 10mm)											
Front side	802.11g	1/2412	97.12%	1.030	0.218	0.09	20.88	22.00	1.294	0.291	22.0
Back side	802.11g	1/2412	97.12%	1.030	0.215	0.11	20.88	22.00	1.294	0.287	22.0
Left side	802.11g	1/2412	97.12%	1.030	0.030	0.15	20.88	22.00	1.294	0.040	22.0
Right side	802.11g	1/2412	97.12%	1.030	0.232	-0.02	20.88	22.00	1.294	0.309	22.0
Top side	802.11g	1/2412	97.12%	1.030	0.372	-0.15	20.88	22.00	1.294	0.496	22.0
CDD/MIMO Additional Test data (simultaneous transmission with (WWAN+WiFi 2.4G))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	802.11g	1/2412	97.12%	1.030	0.198	0.11	10.90	12.50	1.445	0.295	22.0
Left tilted	802.11g	1/2412	97.12%	1.030	0.127	-0.06	10.90	12.50	1.445	0.189	22.0
Right cheek	802.11g	1/2412	97.12%	1.030	0.083	-0.11	10.90	12.50	1.445	0.124	22.0
Right tilted	802.11g	1/2412	97.12%	1.030	0.084	0.07	10.90	12.50	1.445	0.125	22.0

Table 33 : SAR of WIFI 2.4G for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg (≤ 2.0 W/kg for 10g) then testing at the other channels is not required for such test configuration(s).
- 3) Each channel was tested at the lowest data rate.
- 4) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, 802.11g/n OFDM SAR Test is not required.

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8.3.20 SAR Result of WIFI 5G

Ant7 Test Record chain1											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data of U-NII-2A											
Left cheek	802.11a	64/5320	96.28%	1.039	0.857	-0.09	9.84	11.00	1.306	1.163	22.2
Left cheek -repeat	802.11a	64/5320	96.28%	1.039	0.824	-0.15	9.84	11.00	1.306	1.118	22.2
Left cheek	802.11a	52/5260	96.28%	1.039	0.691	-0.09	9.69	11.00	1.352	0.970	22.2
Left cheek	802.11a	60/5300	96.28%	1.039	0.820	-0.15	9.68	11.00	1.355	1.154	22.2
Left tilted	802.11a	64/5320	96.28%	1.039	0.818	-0.09	9.84	11.00	1.306	1.110	22.2
Left tilted	802.11a	52/5260	96.28%	1.039	0.657	-0.08	9.69	11.00	1.352	0.923	22.2
Left tilted	802.11a	60/5300	96.28%	1.039	0.802	-0.18	9.68	11.00	1.355	1.129	22.2
Right cheek	802.11a	64/5320	96.28%	1.039	0.424	-0.03	9.84	11.00	1.306	0.575	22.2
Right tilted	802.11a	64/5320	96.28%	1.039	0.445	0.05	9.84	11.00	1.306	0.604	22.2
Head Test data of U-NII-2C											
Left cheek	802.11a	116/5580	96.28%	1.039	0.451	0.04	10.40	11.00	1.148	0.538	22.2
Left tilted	802.11a	116/5580	96.28%	1.039	0.490	-0.06	10.40	11.00	1.148	0.584	22.2
Right cheek	802.11a	116/5580	96.28%	1.039	0.350	-0.02	10.40	11.00	1.148	0.417	22.2
Right tilted	802.11a	116/5580	96.28%	1.039	0.312	-0.09	10.40	11.00	1.148	0.372	22.2
Head Test data of U-NII-3											
Left cheek	802.11a	149/5745	96.28%	1.039	0.465	-0.09	10.17	11.00	1.211	0.585	22.2
Left tilted	802.11a	149/5745	96.28%	1.039	0.465	-0.06	10.17	11.00	1.211	0.585	22.2
Right cheek	802.11a	149/5745	96.28%	1.039	0.326	-0.05	10.17	11.00	1.211	0.410	22.2
Right tilted	802.11a	149/5745	96.28%	1.039	0.296	-0.04	10.17	11.00	1.211	0.372	22.2
Body worn Test data of U-NII-2A (Separate 15mm)											
Front side	802.11a	64/5320	96.28%	1.039	0.117	0.00	17.19	18.00	1.205	0.146	22.2
Back side	802.11a	64/5320	96.28%	1.039	0.103	0.00	17.19	18.00	1.205	0.129	22.2
Body worn Test data of U-NII-2C (Separate 15mm)											
Front side	802.11a	108/5540	96.28%	1.039	0.116	0.00	17.32	18.00	1.169	0.141	22.2
Back side	802.11a	108/5540	96.28%	1.039	0.096	0.00	17.32	18.00	1.169	0.117	22.2
Body worn Test data of U-NII-3 (Separate 15mm)											
Front side	802.11a	149/5745	96.28%	1.039	0.107	0.00	16.94	18.00	1.276	0.142	22.2
Back side	802.11a	149/5745	96.28%	1.039	0.088	0.00	16.94	18.00	1.276	0.117	22.2
Hotspot Test data of U-NII-1 (Separate 10mm)											
Front side	802.11a	48/5240	96.28%	1.039	0.198	0.00	17.53	18.00	1.114	0.229	22.2
Back side	802.11a	48/5240	96.28%	1.039	0.090	0.00	17.53	18.00	1.114	0.104	22.2
Left side	802.11a	48/5240	96.28%	1.039	0.144	-0.03	17.53	18.00	1.114	0.167	22.2
Right side	802.11a	48/5240	96.28%	1.039	0.212	-0.05	17.53	18.00	1.114	0.245	22.2
Top side	802.11a	48/5240	96.28%	1.039	0.678	-0.14	17.53	18.00	1.114	0.785	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)											
Front side	802.11a	149/5745	96.28%	1.039	0.197	0.00	16.94	18.00	1.276	0.261	22.2
Back side	802.11a	149/5745	96.28%	1.039	0.108	0.03	16.94	18.00	1.276	0.143	22.2
Left side	802.11a	149/5745	96.28%	1.039	0.164	-0.06	16.94	18.00	1.276	0.217	22.2
Right side	802.11a	149/5745	96.28%	1.039	0.186	-0.04	16.94	18.00	1.276	0.247	22.2
Top side	802.11a	149/5745	96.28%	1.039	0.442	-0.03	16.94	18.00	1.276	0.586	22.2

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Ant7(Chain 1) Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WiFi 2.4G+WiFi 5G)/(WiFi 5G+BT))												
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Head Test data of U-NII-2A												
Left cheek	802.11a	64/5320	96.28%	1.039	0.365	0.01	6.64	7.50	1.219	0.462	22.2	
Left tilted	802.11a	64/5320	96.28%	1.039	0.362	-0.09	6.64	7.50	1.219	0.458	22.2	
Right cheek	802.11a	64/5320	96.28%	1.039	0.177	0.08	6.64	7.50	1.219	0.224	22.2	
Right tilted	802.11a	64/5320	96.28%	1.039	0.198	0.03	6.64	7.50	1.219	0.251	22.2	
Head Test data of U-NII-2C												
Left cheek	802.11a	116/5580	96.28%	1.039	0.193	0.09	6.81	7.50	1.172	0.235	22.2	
Left tilted	802.11a	116/5580	96.28%	1.039	0.199	0.14	6.81	7.50	1.172	0.242	22.2	
Right cheek	802.11a	116/5580	96.28%	1.039	0.151	-0.05	6.81	7.50	1.172	0.184	22.2	
Right tilted	802.11a	64/5320	96.28%	1.039	0.138	-0.11	6.64	7.50	1.219	0.175	22.2	
Head Test data of U-NII-3												
Left cheek	802.11a	149/5745	96.28%	1.039	0.190	-0.11	6.54	7.50	1.247	0.246	22.2	
Left tilted	802.11a	149/5745	96.28%	1.039	0.192	-0.06	6.54	7.50	1.247	0.249	22.2	
Right cheek	802.11a	149/5745	96.28%	1.039	0.135	0.01	6.54	7.50	1.247	0.175	22.2	
Right tilted	802.11a	64/5320	96.28%	1.039	0.126	0.16	6.64	7.50	1.219	0.160	22.2	
Ant7(Chain 1) Additional Test data(simultaneous transmission with (WWAN+WiFi 2.4G+WiFi 5G))												
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Head Test data of U-NII-2A												
Left cheek	802.11a	64/5320	96.28%	1.039	0.289	-0.11	5.49	6.50	1.262	0.379	22.2	
Left tilted	802.11a	64/5320	96.28%	1.039	0.271	0.03	5.49	6.50	1.262	0.355	22.2	
Right cheek	802.11a	64/5320	96.28%	1.039	0.135	0.08	5.49	6.50	1.262	0.177	22.2	
Right tilted	802.11a	64/5320	96.28%	1.039	0.149	-0.14	5.49	6.50	1.262	0.195	22.2	
Head Test data of U-NII-2C												
Left cheek	802.11a	116/5580	96.28%	1.039	0.148	0.15	5.91	6.50	1.146	0.176	22.2	
Left tilted	802.11a	116/5580	96.28%	1.039	0.151	0.09	5.91	6.50	1.146	0.180	22.2	
Right cheek	802.11a	116/5580	96.28%	1.039	0.109	0.10	5.91	6.50	1.146	0.130	22.2	
Right tilted	802.11a	116/5580	96.28%	1.039	0.104	0.15	5.91	6.50	1.146	0.124	22.2	
Head Test data of U-NII-3												
Left cheek	802.11a	149/5745	96.28%	1.039	0.146	-0.03	5.66	6.50	1.213	0.184	22.2	
Left tilted	802.11a	149/5745	96.28%	1.039	0.150	0.07	5.66	6.50	1.213	0.189	22.2	
Right cheek	802.11a	149/5745	96.28%	1.039	0.102	-0.16	5.66	6.50	1.213	0.129	22.2	
Right tilted	802.11a	149/5745	96.28%	1.039	0.098	0.18	5.66	6.50	1.213	0.124	22.2	
Ant7(Chain 1) Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WWAN+WiFi 2.4G+WiFi 5G)/(WiFi 2.4G+WiFi 5G)/(WiFi 5G+BT))												
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Hotspot Test data of U-NII-1(Separate 10mm)												
Top side	802.11a	48/5240	96.28%	1.039	0.231	0.07	12.14	13.00	1.219	0.292	22.2	
Hotspot Test data of U-NII-3 (Separate 10mm)												
Top side	802.11a	149/5745	96.28%	1.039	0.151	0.12	12.11	13.00	1.227	0.193	22.2	

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Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Product specific 10g SAR Test data of U-NII-2A(Separate 0mm)											
Front side	802.11a	64/5320	96.28%	1.039	1.570	-0.19	17.19	18.00	1.205	1.965	22.2
Back side	802.11a	64/5320	96.28%	1.039	0.761	-0.07	17.19	18.00	1.205	0.952	22.2
Left side	802.11a	64/5320	96.28%	1.039	0.272	-0.08	17.19	18.00	1.205	0.340	22.2
Right side	802.11a	64/5320	96.28%	1.039	0.409	-0.18	17.19	18.00	1.205	0.512	22.2
Top side	802.11a	64/5320	96.28%	1.039	1.830	-0.03	17.19	18.00	1.205	2.290	22.2
Top side	802.11a	60/5300	96.28%	1.039	1.810	-0.11	17.18	18.00	1.208	2.271	22.2
Product specific 10g SAR Test data of U-NII-2C(Separate 0mm)											
Front side	802.11a	108/5540	96.28%	1.039	1.270	-0.05	17.32	18.00	1.169	1.543	22.2
Back side	802.11a	108/5540	96.28%	1.039	0.536	-0.04	17.32	18.00	1.169	0.651	22.2
Left side	802.11a	108/5540	96.28%	1.039	0.085	0.08	17.32	18.00	1.169	0.103	22.2
Right side	802.11a	108/5540	96.28%	1.039	0.208	0.08	17.32	18.00	1.169	0.253	22.2
Top side	802.11a	108/5540	96.28%	1.039	1.350	-0.12	17.32	18.00	1.169	1.640	22.2
Ant8 Test Record chain0											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data of U-NII-2A											
Left cheek	802.11a	52/5260	95.29%	1.049	0.323	-0.07	13.13	14.00	1.222	0.414	22.2
Left tilted	802.11a	52/5260	95.29%	1.049	0.173	0.06	13.13	14.00	1.222	0.222	22.2
Right cheek	802.11a	52/5260	95.29%	1.049	0.115	0.05	13.13	14.00	1.222	0.147	22.2
Right tilted	802.11a	52/5260	95.29%	1.049	0.097	0.03	13.13	14.00	1.222	0.125	22.2
Head Test data of U-NII-2C											
Left cheek	802.11a	100/5500	95.29%	1.049	0.421	-0.01	13.29	14.00	1.178	0.520	22.2
Left tilted	802.11a	100/5500	95.29%	1.049	0.193	-0.07	13.29	14.00	1.178	0.239	22.2
Right cheek	802.11a	100/5500	95.29%	1.049	0.218	-0.04	13.29	14.00	1.178	0.269	22.2
Right tilted	802.11a	100/5500	95.29%	1.049	0.161	0.03	13.29	14.00	1.178	0.199	22.2
Head Test data of U-NII-3											
Left cheek	802.11a	149/5745	95.29%	1.049	0.351	-0.06	12.98	14.00	1.265	0.466	22.2
Left tilted	802.11a	149/5745	95.29%	1.049	0.183	-0.09	12.98	14.00	1.265	0.243	22.2
Right cheek	802.11a	149/5745	95.29%	1.049	0.188	-0.09	12.98	14.00	1.265	0.250	22.2
Right tilted	802.11a	149/5745	95.29%	1.049	0.144	0.06	12.98	14.00	1.265	0.191	22.2
Body worn Test data of U-NII-2A (Separate 15mm)											
Front side	802.11a	52/5260	95.29%	1.049	0.104	0.09	17.02	18.00	1.253	0.137	22.2
Back side	802.11a	52/5260	95.29%	1.049	0.103	0.00	17.02	18.00	1.253	0.135	22.2
Body worn Test data of U-NII-2C(Separate 15mm)											
Front side	802.11a	100/5500	95.29%	1.049	0.107	0.00	17.17	18.00	1.211	0.136	22.2
Back side	802.11a	100/5500	95.29%	1.049	0.214	0.03	17.17	18.00	1.211	0.272	22.2
Body worn Test data of U-NII-3(Separate 15mm)											
Front side	802.11a	149/5745	95.29%	1.049	0.118	-0.05	16.95	18.00	1.274	0.158	22.2
Back side	802.11a	149/5745	95.29%	1.049	0.128	-0.08	16.95	18.00	1.274	0.171	22.2
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11a	48/5240	95.29%	1.049	0.136	0.02	17.15	18.00	1.216	0.174	22.2
Back side	802.11a	48/5240	95.29%	1.049	0.187	0.01	17.15	18.00	1.216	0.239	22.2
Left side	802.11a	48/5240	95.29%	1.049	0.114	-0.01	17.15	18.00	1.216	0.146	22.2
Right side	802.11a	48/5240	95.29%	1.049	0.474	-0.07	17.15	18.00	1.216	0.605	22.2
Top side	802.11a	48/5240	95.29%	1.049	0.084	-0.01	17.15	18.00	1.216	0.108	22.2

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Hotspot Test data of U-NII-3 (Separate 10mm)												
Front side	802.11a	149/5745	95.29%	1.049	0.127	0.00	16.95	18.00	1.274	0.170	22.2	
Back side	802.11a	149/5745	95.29%	1.049	0.191	0.00	16.95	18.00	1.274	0.255	22.2	
Left side	802.11a	149/5745	95.29%	1.049	0.140	-0.08	16.95	18.00	1.274	0.187	22.2	
Right side	802.11a	149/5745	95.29%	1.049	0.450	-0.02	16.95	18.00	1.274	0.601	22.2	
Top side	802.11a	149/5745	95.29%	1.049	0.091	0.05	16.95	18.00	1.274	0.122	22.2	
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Product specific 10g SAR Test data of U-NII-2A(Separate 0mm)												
Front side	802.11a	52/5260	95.29%	1.049	0.616	0.03	17.02	18.00	1.253	0.810	22.2	
Back side	802.11a	52/5260	95.29%	1.049	0.508	0.16	17.02	18.00	1.253	0.668	22.2	
Left side	802.11a	52/5260	95.29%	1.049	0.049	0.00	17.02	18.00	1.253	0.064	22.2	
Right side	802.11a	52/5260	95.29%	1.049	1.130	-0.03	17.02	18.00	1.253	1.486	22.2	
Top side	802.11a	52/5260	95.29%	1.049	0.091	0.09	17.02	18.00	1.253	0.120	22.2	
Product specific 10g SAR Test data of U-NII-2C(Separate 0mm)												
Front side	802.11a	100/5500	95.29%	1.049	0.859	-0.06	17.17	18.00	1.211	1.091	22.2	
Back side	802.11a	100/5500	95.29%	1.049	0.832	0.09	17.17	18.00	1.211	1.057	22.2	
Left side	802.11a	100/5500	95.29%	1.049	0.115	-0.04	17.17	18.00	1.211	0.146	22.2	
Right side	802.11a	100/5500	95.29%	1.049	1.370	-0.06	17.17	18.00	1.211	1.741	22.2	
Top side	802.11a	100/5500	95.29%	1.049	0.115	0.03	17.17	18.00	1.211	0.146	22.2	
Ant8(Chain 1) Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WiFi 5G+BT))												
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Head Test data of U-NII-2A												
Left cheek	802.11a	52/5260	95.29%	1.049	0.103	0.06	8.74	9.50	1.191	0.129	22.2	
Left tilted	802.11a	52/5260	95.29%	1.049	0.055	0.03	8.74	9.50	1.191	0.069	22.2	
Right cheek	802.11a	52/5260	95.29%	1.049	0.038	0.14	8.74	9.50	1.191	0.048	22.2	
Right tilted	802.11a	52/5260	95.29%	1.049	0.029	-0.09	8.74	9.50	1.191	0.036	22.2	
Head Test data of U-NII-2C												
Left cheek	802.11a	100/5500	95.29%	1.049	0.145	-0.07	8.94	9.50	1.138	0.173	22.2	
Left tilted	802.11a	100/5500	95.29%	1.049	0.068	0.11	8.94	9.50	1.138	0.081	22.2	
Right cheek	802.11a	100/5500	95.29%	1.049	0.070	0.02	8.94	9.50	1.138	0.084	22.2	
Right tilted	802.11a	100/5500	95.29%	1.049	0.052	0.03	8.94	9.50	1.138	0.062	22.2	
Head Test data of U-NII-3												
Left cheek	802.11a	149/5745	95.29%	1.049	0.126	0.13	8.60	9.50	1.230	0.163	22.2	
Left tilted	802.11a	149/5745	95.29%	1.049	0.057	-0.06	8.60	9.50	1.230	0.074	22.2	
Right cheek	802.11a	149/5745	95.29%	1.049	0.059	-0.15	8.60	9.50	1.230	0.076	22.2	
Right tilted	802.11a	149/5745	95.29%	1.049	0.043	0.08	8.60	9.50	1.230	0.056	22.2	
Ant8(Chain 1) Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WiFi 2.4G+WiFi 5G)/(WiFi 5G+BT)/(WiFi 2.4G+WiFi 5G+BT))												
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp	
Hotspot Test data of U-NII-1(Separate 10mm)												
Right side	802.11a	48/5240	95.29%	1.049	0.150	0.11	12.27	13.00	1.183	0.186	22.2	
Hotspot Test data of U-NII-3 (Separate 10mm)												
Right side	802.11a	149/5745	95.29%	1.049	0.142	0.06	11.96	13.00	1.271	0.189	22.2	

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CDD/MIMO Test Record											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data of U-NII-2A											
Left cheek	802.11a	64/5320	97.15%	1.029	0.851	0.03	13.13	14.00	1.222	1.070	22.2
Left cheek -repeat	802.11a	64/5320	97.15%	1.029	0.846	0.13	13.13	14.00	1.222	1.064	22.2
Left cheek	802.11a	56/5280	97.15%	1.029	0.726	-0.06	12.99	14.00	1.262	0.943	22.2
Left cheek	802.11a	60/5300	97.15%	1.029	0.799	0.05	12.97	14.00	1.268	1.043	22.2
Left tilted	802.11a	64/5320	97.15%	1.029	0.839	-0.02	13.13	14.00	1.222	1.055	22.2
Left tilted	802.11a	56/5280	97.15%	1.029	0.714	-0.09	12.99	14.00	1.262	0.927	22.2
Left tilted	802.11a	60/5300	97.15%	1.029	0.777	0.07	12.97	14.00	1.268	1.014	22.2
Right cheek	802.11a	64/5320	97.15%	1.029	0.338	-0.03	13.13	14.00	1.222	0.425	22.2
Right tilted	802.11a	64/5320	97.15%	1.029	0.405	-0.02	13.13	14.00	1.222	0.509	22.2
Head Test data of U-NII-2C											
Left cheek	802.11a	108/5540	97.15%	1.029	0.666	-0.08	13.30	14.00	1.175	0.805	22.2
Left cheek	802.11a	100/5500	97.15%	1.029	0.526	-0.04	13.29	14.00	1.178	0.638	22.2
Left cheek	802.11a	104/5520	97.15%	1.029	0.561	-0.02	13.27	14.00	1.183	0.683	22.2
Left tilted	802.11a	108/5540	97.15%	1.029	0.495	-0.10	13.30	14.00	1.175	0.599	22.2
Right cheek	802.11a	108/5540	97.15%	1.029	0.236	0.05	13.30	14.00	1.175	0.285	22.2
Right tilted	802.11a	108/5540	97.15%	1.029	0.231	0.03	13.30	14.00	1.175	0.279	22.2
Head Test data of U-NII-3											
Left cheek	802.11a	153/5765	97.15%	1.029	0.463	0.15	12.97	14.00	1.268	0.604	22.2
Left tilted	802.11a	153/5765	97.15%	1.029	0.433	-0.04	12.97	14.00	1.268	0.565	22.2
Right cheek	802.11a	153/5765	97.15%	1.029	0.345	0.09	12.97	14.00	1.268	0.450	22.2
Right tilted	802.11a	153/5765	97.15%	1.029	0.321	-0.02	12.97	14.00	1.268	0.419	22.2
Body worn Test data of U-NII-2A (Separate 15mm)											
Front side	802.11a	64/5320	97.15%	1.029	0.205	-0.07	19.26	20.00	1.186	0.250	22.2
Back side	802.11a	64/5320	97.15%	1.029	0.337	-0.03	19.26	20.00	1.186	0.411	22.2
Body worn Test data of U-NII-2C(Separate 15mm)											
Front side	802.11a	108/5540	97.15%	1.029	0.217	-0.06	19.28	20.00	1.180	0.264	22.2
Back side	802.11a	108/5540	97.15%	1.029	0.248	-0.04	19.28	20.00	1.180	0.301	22.2
Body worn Test data of U-NII-3(Separate 15mm)											
Front side	802.11a	153/5765	97.15%	1.029	0.204	-0.08	18.85	20.00	1.303	0.274	22.2
Back side	802.11a	153/5765	97.15%	1.029	0.245	-0.08	18.85	20.00	1.303	0.329	22.2
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11a	48/5240	97.15%	1.029	0.388	-0.03	19.18	20.00	1.208	0.482	22.2
Back side	802.11a	48/5240	97.15%	1.029	0.436	-0.06	19.18	20.00	1.208	0.542	22.2
Left side	802.11a	48/5240	97.15%	1.029	0.127	-0.08	19.18	20.00	1.208	0.158	22.2
Right side	802.11a	48/5240	97.15%	1.029	0.519	-0.01	19.18	20.00	1.208	0.645	22.2
Top side	802.11a	48/5240	97.15%	1.029	0.502	0.04	19.18	20.00	1.208	0.624	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)											
Front side	802.11a	153/5765	97.15%	1.029	0.220	-0.09	18.85	20.00	1.303	0.295	22.2
Back side	802.11a	153/5765	97.15%	1.029	0.268	0.02	18.85	20.00	1.303	0.360	22.2
Left side	802.11a	153/5765	97.15%	1.029	0.217	-0.05	18.85	20.00	1.303	0.291	22.2
Right side	802.11a	153/5765	97.15%	1.029	0.480	-0.08	18.85	20.00	1.303	0.644	22.2
Top side	802.11a	153/5765	97.15%	1.029	0.396	-0.06	18.85	20.00	1.303	0.531	22.2

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Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Product specific 10g SAR Test data of U-NII-2A(Separate 0mm)											
Front side	802.11a	64/5320	97.15%	1.029	1.300	-0.08	19.26	20.00	1.186	1.587	22.2
Back side	802.11a	64/5320	97.15%	1.029	0.654	-0.04	19.26	20.00	1.186	0.798	22.2
Left side	802.11a	64/5320	97.15%	1.029	0.078	0.00	19.26	20.00	1.186	0.095	22.2
Right side	802.11a	64/5320	97.15%	1.029	1.110	0.15	19.26	20.00	1.186	1.355	22.2
Top side	802.11a	64/5320	97.15%	1.029	1.800	0.06	19.26	20.00	1.186	2.197	22.2
Top side	802.11a	60/5300	97.15%	1.029	1.840	0.06	19.23	20.00	1.194	2.262	22.2
Top side	802.11a	56/5280	97.15%	1.029	1.760	0.05	19.09	20.00	1.233	2.234	22.2
Product specific 10g SAR Test data of U-NII-2C(Separate 0mm)											
Front side	802.11a	108/5540	97.15%	1.029	1.080	-0.04	19.28	20.00	1.180	1.312	22.2
Back side	802.11a	108/5540	97.15%	1.029	0.539	-0.02	19.28	20.00	1.180	0.655	22.2
Left side	802.11a	108/5540	97.15%	1.029	0.069	0.00	19.28	20.00	1.180	0.083	22.2
Right side	802.11a	108/5540	97.15%	1.029	1.340	0.17	19.28	20.00	1.180	1.628	22.2
Top side	802.11a	108/5540	97.15%	1.029	1.300	-0.01	19.28	20.00	1.180	1.580	22.2
CDD/MIMO Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WiFi 5G+BT))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data of U-NII-2A											
Left cheek	802.11a	64/5320	97.15%	1.029	0.336	-0.03	8.84	10.00	1.306	0.452	22.2
Left tilted	802.11a	64/5320	97.15%	1.029	0.320	0.01	8.84	10.00	1.306	0.430	22.2
Right cheek	802.11a	64/5320	97.15%	1.029	0.124	0.14	8.84	10.00	1.306	0.167	22.2
Right tilted	802.11a	64/5320	97.15%	1.029	0.148	0.15	8.84	10.00	1.306	0.199	22.2
Head Test data of U-NII-2C											
Left cheek	802.11a	108/5540	97.15%	1.029	0.244	0.09	9.39	10.00	1.151	0.289	22.2
Left tilted	802.11a	108/5540	97.15%	1.029	0.192	-0.08	9.39	10.00	1.151	0.227	22.2
Right cheek	802.11a	108/5540	97.15%	1.029	0.092	0.11	9.39	10.00	1.151	0.109	22.2
Right tilted	802.11a	108/5540	97.15%	1.029	0.091	0.01	9.39	10.00	1.151	0.108	22.2
Head Test data of U-NII-3											
Left cheek	802.11a	153/5765	97.15%	1.029	0.179	0.06	8.67	10.00	1.358	0.250	22.2
Left tilted	802.11a	153/5765	97.15%	1.029	0.171	-0.07	8.67	10.00	1.358	0.239	22.2
Right cheek	802.11a	153/5765	97.15%	1.029	0.131	0.13	8.67	10.00	1.358	0.183	22.2
Right tilted	802.11a	153/5765	97.15%	1.029	0.126	-0.01	8.67	10.00	1.358	0.176	22.2
CDD/MIMO Additional Test data(simultaneous transmission with (WWAN+WiFi 5G)/(WWAN+WiFi 5G+BT)/(WiFi 5G+BT))											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Hotspot Test data of U-NII-1(Separate 10mm)											
Back side	802.11a	48/5240	97.15%	1.029	0.172	0.02	15.28	16.00	1.180	0.209	22.2
Right side	802.11a	48/5240	97.15%	1.029	0.202	0.14	15.28	16.00	1.180	0.245	22.2
Top side	802.11a	48/5240	97.15%	1.029	0.198	0.07	15.28	16.00	1.180	0.241	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)											
Back side	802.11a	153/5765	97.15%	1.029	0.101	-0.03	14.91	16.00	1.285	0.134	22.2
Right side	802.11a	153/5765	97.15%	1.029	0.192	0.16	14.91	16.00	1.285	0.254	22.2
Top side	802.11a	153/5765	97.15%	1.029	0.153	0.13	14.91	16.00	1.285	0.202	22.2

Table 34 : SAR of WIFI 2.4G for Head and Body.

Note:

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

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- 2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg (≤ 2.0 W/kg for 10g) then testing at the other channels is not required for such test configuration(s).
- 3) Each channel was tested at the lowest data rate.
- 4) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. As 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;
- 5) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.
- 6) When the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

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8.3.21 SAR Result of BT

Bluetooth SAR Test Record											
Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power Drift (dB)	Conducted Power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg)	Liquid Temp
Head Test data											
Left cheek	DH5	39/2441	76.84%	1.301	0.339	-0.14	13.79	14.00	1.050	0.463	22
Left tilted	DH5	39/2441	76.84%	1.301	0.304	-0.12	13.79	14.00	1.050	0.415	22
Right cheek	DH5	39/2441	76.84%	1.301	0.161	-0.15	13.79	14.00	1.050	0.220	22
Right tilted	DH5	39/2441	76.84%	1.301	0.196	0.04	13.79	14.00	1.050	0.268	22
Body worn Test data (Separate 15mm)											
Front side	DH5	39/2441	76.84%	1.301	0.055	-0.04	13.79	14.00	1.050	0.076	22
Back side	DH5	39/2441	76.84%	1.301	0.054	-0.08	13.79	14.00	1.050	0.074	22
Hotspot Test data (Separate 10mm)											
Front side	DH5	39/2441	76.84%	1.301	0.075	-0.04	13.79	14.00	1.050	0.102	22
Back side	DH5	39/2441	76.84%	1.301	0.073	-0.06	13.79	14.00	1.050	0.099	22
Left side	DH5	39/2441	76.84%	1.301	0.041	-0.08	13.79	14.00	1.050	0.056	22
Right side	DH5	39/2441	76.84%	1.301	0.052	-0.03	13.79	14.00	1.050	0.071	22
Top side	DH5	39/2441	76.84%	1.301	0.085	-0.05	13.79	14.00	1.050	0.116	22

Table 35 : SAR of BT for Head and Body.

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B.
- 2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg (≤ 2.0 W/kg for 10g) then testing at the other channels is not required for such test configuration(s).

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8.4 Multiple Transmitter Evaluation

8.4.1 Simultaneous Transmission

NO.	Simultaneous Tx Combination	Head	Body-worn	Hotspot	Product specific 10g SAR
1	WWAN+WLAN 2.4GHz(chain0)	Yes	Yes	Yes	Yes
2	WWAN+WLAN 2.4GHz(chain1)	Yes	Yes	Yes	Yes
3	WWAN+WLAN 2.4GHz MIMO/CDD	Yes	Yes	Yes	Yes
4	WWAN+WLAN 5GHz(chain0)	Yes	Yes	Yes	Yes
5	WWAN+WLAN 5GHz(chain1)	Yes	Yes	Yes	Yes
6	WWAN+WLAN 5GHz MIMO/CDD	Yes	Yes	Yes	Yes
7	WWAN+BT	Yes	Yes	Yes	Yes
8	WWAN+WLAN 2.4GHz(chain0)+BT	N/A	N/A	N/A	N/A
9	WWAN+WLAN 2.4GHz(chain1)+BT	Yes	Yes	Yes	Yes
10	WWAN+WLAN 5GHz(chain0)+BT	Yes	Yes	Yes	Yes
11	WWAN+WLAN 5GHz(chain1)+BT	Yes	Yes	Yes	Yes
12	WWAN+WLAN 2.4GHz MIMO/CDD+BT	N/A	N/A	N/A	N/A
13	WWAN+WLAN 5GHz MIMO/CDD+BT	Yes	Yes	Yes	Yes
14	WWAN+WLAN 2.4GHz(chain0)+ WLAN 5GHz(chain1)	Yes	Yes	Yes	Yes
15	WWAN+WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain0)	N/A	N/A	N/A	N/A
16	WWAN+WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain1)	N/A	N/A	N/A	N/A
17	WWAN+WLAN 5GHz MIMO/CDD+ WLAN 2.4GHz(chain1)	N/A	N/A	N/A	N/A
18	WWAN+WLAN 2.4GHz MIMO/CDD+ WLAN 5GHz(chain1)	N/A	N/A	N/A	N/A
19	WWAN+WLAN 2.4GHz(chain0)+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A
20	WWAN+WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain0)+BT	N/A	N/A	N/A	N/A
21	WWAN+WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A
22	WWAN+WLAN 5GHz MIMO/CDD+ WLAN 2.4GHz(chain1)+BT	N/A	N/A	N/A	N/A
23	WWAN+WLAN 2.4GHz MIMO/CDD+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A
24	WLAN 2.4GHz(chain0)+BT	N/A	N/A	N/A	N/A
25	WLAN 2.4GHz(chain1)+BT	Yes	Yes	Yes	Yes
26	WLAN 5GHz(chain0)+BT	Yes	Yes	Yes	Yes
27	WLAN 5GHz(chain1)+BT	Yes	Yes	Yes	Yes
28	WLAN 2.4GHz MIMO/CDD+BT	N/A	N/A	N/A	N/A
29	WLAN 5GHz MIMO/CDD+BT	Yes	Yes	Yes	Yes
30	WLAN 2.4GHz(chain0)+ WLAN 5GHz(chain1)	Yes	Yes	Yes	Yes
31	WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain0)	N/A	N/A	N/A	N/A
32	WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain1)	N/A	N/A	N/A	N/A
33	WLAN 5GHz MIMO/CDD+ WLAN 2.4GHz(chain1)	N/A	N/A	N/A	N/A
34	WLAN 2.4GHz MIMO/CDD+ WLAN 5GHz(chain1)	N/A	N/A	N/A	N/A
35	WLAN 2.4GHz(chain0)+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A
36	WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain0)+BT	N/A	N/A	N/A	N/A
37	WLAN 2.4GHz(chain1)+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A
38	WLAN 5GHz MIMO/CDD+ WLAN 2.4GHz(chain1)+BT	N/A	N/A	N/A	N/A
39	WLAN 2.4GHz MIMO/CDD+ WLAN 5GHz(chain1)+BT	N/A	N/A	N/A	N/A

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Note:

- 1) The device does not support DTM function.
- 2) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.
- 3) For WiFi 2.4G Ant8(Chain1) and WiFi 2.4G MIMO/CDD do not support 802.11b mode.

8.4.2 Estimated SAR

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

- $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$;

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

- 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is $> 50 \text{ mm}$.

Estimated SAR Result

Freq. Band	Frequency (GHz)	Test Position	max. power(dBm)	Test Separation (mm)	Estimated 10g SAR (W/kg)
Bluetooth	2.48	Product specific 10g SAR	14.00	0	0.422

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8.4.3 Simultaneous Transmission SAR Summation Scenario

EN-DC Head:

LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant0	
Band 7	Left cheek	0.401	0.784	0.533	1.317
	Left tilted	0.439	0.181	0.125	0.564
	Right cheek	0.638	0.216	0.661	1.299
	Right tilted	0.641	0.065	0.165	0.806
LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant1	
Band 7	Left cheek	0.401	0.784	0.035	0.819
	Left tilted	0.439	0.181	0.017	0.456
	Right cheek	0.638	0.216	0.053	0.691
	Right tilted	0.641	0.065	0.027	0.668
LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant0	
Band 7	Left cheek	0.401	0.294	0.166	0.567
	Left tilted	0.439	0.181	0.125	0.564
	Right cheek	0.638	0.216	0.217	0.855
	Right tilted	0.641	0.065	0.165	0.806

EN-DC Body-worn:

LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant0	
Band 7	Front	0.141	0.147	0.193	0.334
	Back	0.189	0.235	0.246	0.435
LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant1	
Band 7	Front	0.141	0.147	0.114	0.261
	Back	0.189	0.235	0.163	0.398

EN-DC Hotspot:

LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant0	
Band 7	Front	0.354	0.249	0.288	0.642
	Back	0.420	0.323	0.600	1.020
	Left	0.044	0.043	0.561	0.605
	Right	0.055	0.780	0.032	0.812
	Top	0.618	0.100	0.022	0.640
	Bottom	/	/	/	/
LTE Band (EN-DC)	Exposure position	Ant2	Ant4	n5	EN-DC Summed SAR
				Ant1	
Band 7	Front	0.354	0.249	0.221	0.575
	Back	0.420	0.323	0.333	0.753
	Left	0.044	0.043	0.031	0.075
	Right	0.055	0.780	0.108	0.888
	Top	0.618	0.100	/	0.618
	Bottom	/	/	0.187	0.187

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8.4.3.1 Simultaneous Transmission SAR Summation Scenario for Head

Exposure position	SARmax (W/kg)						3+8	5+8	6+8	7+8	2+5
	2	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
	WiFi 2.4G		WiFi 5G			BT					
	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO						
Left Touch	0.984	0.130	0.462	0.520	0.452	0.463	0.593	0.925	0.983	0.915	1.446
Left Tilt	0.732	0.042	0.458	0.243	1.055	0.415	0.457	0.873	0.658	1.470	1.190
Right Touch	0.397	0.139	0.575	0.269	0.450	0.220	0.359	0.795	0.489	0.670	0.972
Right Tilt	0.470	0.114	0.604	0.199	0.509	0.268	0.382	0.872	0.467	0.777	1.074

Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant0	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Left Touch	0.354	0.179	0.295	0.379	0.649	0.912
	Left Tilt	0.103	0.130	0.652	0.355	0.755	0.588
	Right Touch	0.395	0.066	0.433	0.177	0.828	0.638
	Right Tilt	0.155	0.081	0.438	0.195	0.593	0.431
WCDMA Band V	Left Touch	0.856	0.179	0.295	0.379	1.151	1.414
	Left Tilt	0.198	0.130	0.652	0.355	0.850	0.683
	Right Touch	0.907	0.066	0.433	0.177	1.340	1.150
	Right Tilt	0.264	0.081	0.438	0.195	0.702	0.540
LTE Band 5	Left Touch	0.568	0.179	0.295	0.379	0.863	1.126
	Left Tilt	0.106	0.130	0.652	0.355	0.758	0.591
	Right Touch	0.612	0.066	0.433	0.177	1.045	0.855
	Right Tilt	0.110	0.081	0.438	0.195	0.548	0.386
WCDMA Band V	Left Touch	0.440	0.179	0.995	0.379	1.435	0.998
	Left Tilt	0.110	0.130	0.652	0.355	0.762	0.595
	Right Touch	0.665	0.066	0.433	0.177	1.098	0.908
	Right Tilt	0.099	0.081	0.438	0.195	0.537	0.375
LTE Band 17	Left Touch	0.406	0.179	0.995	0.379	1.401	0.964
	Left Tilt	0.077	0.130	0.652	0.355	0.729	0.562
	Right Touch	0.537	0.066	0.433	0.177	0.970	0.780
	Right Tilt	0.068	0.081	0.438	0.195	0.506	0.344
WCDMA Band V	Left Touch	0.556	0.179	0.295	0.379	0.851	1.114
	Left Tilt	0.101	0.130	0.652	0.355	0.753	0.586
	Right Touch	0.597	0.066	0.433	0.177	1.030	0.840
	Right Tilt	0.106	0.081	0.438	0.195	0.544	0.382
WCDMA Band V	Left Touch	0.249	0.179	0.995	0.379	1.244	0.807
	Left Tilt	0.131	0.130	0.652	0.355	0.783	0.616
	Right Touch	0.927	0.066	0.433	0.177	1.360	1.170
	Right Tilt	0.254	0.081	0.438	0.195	0.692	0.530

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Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant1	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Left Touch	0.021	0.179	0.995	0.379	1.016	0.579
	Left Tilt	0.010	0.130	0.652	0.355	0.662	0.495
	Right Touch	0.053	0.066	0.433	0.177	0.486	0.296
	Right Tilt	0.013	0.081	0.438	0.195	0.451	0.289
WCDMA Band V	Left Touch	0.035	0.179	0.995	0.379	1.030	0.593
	Left Tilt	0.017	0.130	0.652	0.355	0.669	0.502
	Right Touch	0.054	0.066	0.433	0.177	0.487	0.297
	Right Tilt	0.023	0.081	0.438	0.195	0.461	0.299
LTE Band 5	Left Touch	0.057	0.179	0.995	0.379	1.052	0.615
	Left Tilt	0.035	0.130	0.652	0.355	0.687	0.520
	Right Touch	0.067	0.066	0.433	0.177	0.500	0.310
	Right Tilt	0.033	0.081	0.438	0.195	0.471	0.309
LTE Band 12	Left Touch	0.079	0.179	0.995	0.379	1.074	0.637
	Left Tilt	0.032	0.130	0.652	0.355	0.684	0.517
	Right Touch	0.085	0.066	0.433	0.177	0.518	0.328
	Right Tilt	0.041	0.081	0.438	0.195	0.479	0.317
LTE Band 17	Left Touch	0.064	0.179	0.995	0.379	1.059	0.622
	Left Tilt	0.035	0.130	0.652	0.355	0.687	0.520
	Right Touch	0.074	0.066	0.433	0.177	0.507	0.317
	Right Tilt	0.034	0.081	0.438	0.195	0.472	0.310
LTE Band 26	Left Touch	0.046	0.179	0.995	0.379	1.041	0.604
	Left Tilt	0.026	0.130	0.652	0.355	0.678	0.511
	Right Touch	0.063	0.066	0.433	0.177	0.496	0.306
	Right Tilt	0.026	0.081	0.438	0.195	0.464	0.302

Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant2	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Left Touch	0.223	0.179	0.295	0.379	0.518	0.781
	Left Tilt	0.287	0.130	0.652	0.355	0.939	0.772
	Right Touch	0.319	0.066	0.433	0.177	0.752	0.562
	Right Tilt	0.383	0.081	0.438	0.195	0.821	0.659
WCDMA Band II	Left Touch	0.247	0.179	0.995	0.379	1.242	0.805
	Left Tilt	0.312	0.130	0.652	0.355	0.964	0.797
	Right Touch	0.394	0.066	0.433	0.177	0.827	0.637
	Right Tilt	0.461	0.081	0.438	0.195	0.899	0.737
WCDMA Band IV	Left Touch	0.430	0.179	0.995	0.379	1.425	0.988
	Left Tilt	0.514	0.130	0.652	0.355	1.166	0.999
	Right Touch	0.594	0.066	0.433	0.177	1.027	0.837
	Right Tilt	0.617	0.081	0.438	0.195	1.055	0.893
LTE Band 2	Left Touch	0.250	0.179	0.995	0.379	1.245	0.808
	Left Tilt	0.285	0.130	0.652	0.355	0.937	0.770

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	Right Touch	0.315	0.066	0.433	0.177	0.748	0.558
	Right Tilt	0.400	0.081	0.438	0.195	0.838	0.676
LTE Band 4	Left Touch	0.484	0.179	0.995	0.379	1.479	1.042
	Left Tilt	0.577	0.130	0.652	0.355	1.229	1.062
	Right Touch	0.701	0.066	0.433	0.177	1.134	0.944
	Right Tilt	0.706	0.081	0.438	0.195	1.144	0.982
LTE Band 7	Left Touch	0.553	0.179	0.295	0.379	0.848	1.111
	Left Tilt	0.616	0.130	0.652	0.355	1.268	1.101
	Right Touch	0.670	0.066	0.433	0.177	1.103	0.913
	Right Tilt	0.970	0.081	0.438	0.195	1.408	1.246
LTE Band 38	Left Touch	0.638	0.179	0.295	0.379	0.933	1.196
	Left Tilt	0.642	0.130	0.652	0.355	1.294	1.127
	Right Touch	1.110	0.066	0.124	0.177	1.234	1.353
	Right Tilt	1.072	0.081	0.125	0.195	1.197	1.348
LTE Band 41	Left Touch	0.745	0.179	0.295	0.379	1.040	1.303
	Left Tilt	1.007	0.130	0.189	0.355	1.196	1.492
	Right Touch	0.955	0.066	0.433	0.177	1.388	1.198
	Right Tilt	1.187	0.081	0.125	0.195	1.312	1.463
LTE Band 66	Left Touch	0.512	0.179	0.295	0.379	0.807	1.070
	Left Tilt	0.602	0.130	0.652	0.355	1.254	1.087
	Right Touch	0.788	0.066	0.433	0.177	1.221	1.031
	Right Tilt	0.853	0.081	0.438	0.195	1.291	1.129
n7	Left Touch	0.635	0.179	0.295	0.379	0.930	1.193
	Left Tilt	0.628	0.130	0.652	0.355	1.280	1.113
	Right Touch	0.961	0.066	0.433	0.177	1.394	1.204
	Right Tilt	1.109	0.081	0.125	0.195	1.234	1.385
n41	Left Touch	0.594	0.179	0.295	0.379	0.889	1.152
	Left Tilt	0.791	0.130	0.652	0.355	1.443	1.276
	Right Touch	0.939	0.066	0.433	0.177	1.372	1.182
	Right Tilt	1.192	0.081	0.125	0.195	1.317	1.468

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant3	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Left Touch	0.067	0.179	0.995	0.379	1.062	0.625
	Left Tilt	0.054	0.130	0.652	0.355	0.706	0.539
	Right Touch	0.060	0.066	0.433	0.177	0.493	0.303
	Right Tilt	0.053	0.081	0.438	0.195	0.491	0.329
WCDMA Band II	Left Touch	0.088	0.179	0.995	0.379	1.083	0.646
	Left Tilt	0.067	0.130	0.652	0.355	0.719	0.552
	Right Touch	0.163	0.066	0.433	0.177	0.596	0.406
	Right Tilt	0.074	0.081	0.438	0.195	0.512	0.350
WCDMA Band IV	Left Touch	0.204	0.179	0.995	0.379	1.199	0.762
	Left Tilt	0.071	0.130	0.652	0.355	0.723	0.556
	Right Touch	0.183	0.066	0.433	0.177	0.616	0.426
	Right Tilt	0.089	0.081	0.438	0.195	0.527	0.365
LTE Band 2	Left Touch	0.077	0.179	0.995	0.379	1.072	0.635

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	Left Tilt	0.058	0.130	0.652	0.355	0.710	0.543
	Right Touch	0.138	0.066	0.433	0.177	0.571	0.381
	Right Tilt	0.065	0.081	0.438	0.195	0.503	0.341
	Left Touch	0.153	0.179	0.995	0.379	1.148	0.711
LTE Band 4	Left Tilt	0.079	0.130	0.652	0.355	0.731	0.564
	Right Touch	0.195	0.066	0.433	0.177	0.628	0.438
	Right Tilt	0.106	0.081	0.438	0.195	0.544	0.382
	Left Touch	0.060	0.179	0.995	0.379	1.055	0.618
LTE Band 7	Left Tilt	0.005	0.130	0.652	0.355	0.657	0.490
	Right Touch	0.096	0.066	0.433	0.177	0.529	0.339
	Right Tilt	0.004	0.081	0.438	0.195	0.442	0.280
	Left Touch	0.057	0.179	0.995	0.379	1.052	0.615
LTE Band 38	Left Tilt	0.046	0.130	0.652	0.355	0.698	0.531
	Right Touch	0.064	0.066	0.433	0.177	0.497	0.307
	Right Tilt	0.047	0.081	0.438	0.195	0.485	0.323
	Left Touch	0.057	0.179	0.995	0.379	1.052	0.615
LTE Band 41	Left Tilt	0.054	0.130	0.652	0.355	0.706	0.539
	Right Touch	0.067	0.066	0.433	0.177	0.500	0.310
	Right Tilt	0.060	0.081	0.438	0.195	0.498	0.336
	Left Touch	0.182	0.179	0.995	0.379	1.177	0.740
LTE Band 66	Left Tilt	0.063	0.130	0.652	0.355	0.715	0.548
	Right Touch	0.190	0.066	0.433	0.177	0.623	0.433
	Right Tilt	0.086	0.081	0.438	0.195	0.524	0.362
	Left Touch	0.144	0.179	0.995	0.379	1.139	0.702
n7	Left Tilt	0.095	0.130	0.652	0.355	0.747	0.580
	Right Touch	0.134	0.066	0.433	0.177	0.567	0.377
	Right Tilt	0.084	0.081	0.438	0.195	0.522	0.360
	Left Touch	0.057	0.179	0.995	0.379	1.052	0.615

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		EN-DC	Ant7 (chian0)	MIMO	Ant7 (chian1)		
EN-DC n5_B7	Left Touch	0.567	0.179	0.295	0.379	0.862	1.125
	Left Tilt	0.564	0.130	0.652	0.355	1.216	1.049
	Right Touch	0.855	0.066	0.433	0.177	1.288	1.098
	Right Tilt	0.806	0.081	0.438	0.195	1.244	1.082

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant0	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Left Touch	0.354	0.984	0.130	0.462	0.463	1.338	0.484	0.816	0.817
	Left Tilt	0.103	0.732	0.042	1.129	0.415	0.835	0.145	1.232	0.518
	Right Touch	0.395	0.397	0.139	0.575	0.220	0.792	0.534	0.970	0.615
	Right Tilt	0.155	0.470	0.114	0.604	0.268	0.625	0.269	0.759	0.423
WCDMA Band V	Left Touch	0.856	0.255	0.130	0.462	0.463	1.111	0.986	1.318	1.319
	Left Tilt	0.198	0.732	0.042	1.129	0.415	0.930	0.240	1.327	0.613

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	Right Touch	0.907	0.397	0.139	0.575	0.220	1.304	1.046	1.482	1.127
	Right Tilt	0.264	0.470	0.114	0.604	0.268	0.734	0.378	0.868	0.532
LTE Band 5	Left Touch	0.568	0.255	0.130	0.462	0.463	0.823	0.698	1.030	1.031
	Left Tilt	0.106	0.732	0.042	1.129	0.415	0.838	0.148	1.235	0.521
	Right Touch	0.612	0.397	0.139	0.575	0.220	1.009	0.751	1.187	0.832
	Right Tilt	0.110	0.470	0.114	0.604	0.268	0.580	0.224	0.714	0.378
LTE Band 12	Left Touch	0.440	0.984	0.130	0.462	0.463	1.424	0.570	0.902	0.903
	Left Tilt	0.110	0.732	0.042	1.129	0.415	0.842	0.152	1.239	0.525
	Right Touch	0.665	0.397	0.139	0.575	0.220	1.062	0.804	1.240	0.885
	Right Tilt	0.099	0.470	0.114	0.604	0.268	0.569	0.213	0.703	0.367
LTE Band 17	Left Touch	0.406	0.984	0.130	0.462	0.463	1.390	0.536	0.868	0.869
	Left Tilt	0.077	0.732	0.042	1.129	0.415	0.809	0.119	1.206	0.492
	Right Touch	0.537	0.397	0.139	0.575	0.220	0.934	0.676	1.112	0.757
	Right Tilt	0.068	0.470	0.114	0.604	0.268	0.538	0.182	0.672	0.336
LTE Band 26	Left Touch	0.556	0.255	0.130	0.462	0.463	0.811	0.686	1.018	1.019
	Left Tilt	0.101	0.732	0.042	1.129	0.415	0.833	0.143	1.230	0.516
	Right Touch	0.597	0.397	0.139	0.575	0.220	0.994	0.736	1.172	0.817
	Right Tilt	0.106	0.470	0.114	0.604	0.268	0.576	0.220	0.710	0.374
n41	Left Touch	0.249	0.984	0.130	1.163	0.463	1.233	0.379	1.412	0.712
	Left Tilt	0.131	0.732	0.042	1.129	0.415	0.863	0.173	1.260	0.546
	Right Touch	0.927	0.397	0.139	0.224	0.220	1.324	1.066	1.151	1.147
	Right Tilt	0.254	0.470	0.114	0.604	0.268	0.724	0.368	0.858	0.522

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant1	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Left Touch	0.021	0.984	0.130	1.163	0.463	1.005	0.151	1.184	0.484
	Left Tilt	0.010	0.732	0.042	1.129	0.415	0.742	0.052	1.139	0.425
	Right Touch	0.053	0.397	0.139	0.575	0.220	0.450	0.192	0.628	0.273
	Right Tilt	0.013	0.470	0.114	0.604	0.268	0.483	0.127	0.617	0.281
WCDMA Band V	Left Touch	0.035	0.984	0.130	1.163	0.463	1.019	0.165	1.198	0.498
	Left Tilt	0.017	0.732	0.042	1.129	0.415	0.749	0.059	1.146	0.432
	Right Touch	0.054	0.397	0.139	0.575	0.220	0.451	0.193	0.629	0.274
	Right Tilt	0.023	0.470	0.114	0.604	0.268	0.493	0.137	0.627	0.291
LTE Band 5	Left Touch	0.057	0.984	0.130	1.163	0.463	1.041	0.187	1.220	0.520
	Left Tilt	0.035	0.732	0.042	1.129	0.415	0.767	0.077	1.164	0.450
	Right Touch	0.067	0.397	0.139	0.575	0.220	0.464	0.206	0.642	0.287
	Right Tilt	0.033	0.470	0.114	0.604	0.268	0.503	0.147	0.637	0.301
LTE Band 12	Left Touch	0.079	0.984	0.130	1.163	0.463	1.063	0.209	1.242	0.542
	Left Tilt	0.032	0.732	0.042	1.129	0.415	0.764	0.074	1.161	0.447
	Right Touch	0.085	0.397	0.139	0.575	0.220	0.482	0.224	0.660	0.305
	Right Tilt	0.041	0.470	0.114	0.604	0.268	0.511	0.155	0.645	0.309
LTE Band 17	Left Touch	0.064	0.984	0.130	1.163	0.463	1.048	0.194	1.227	0.527
	Left Tilt	0.035	0.732	0.042	1.129	0.415	0.767	0.077	1.164	0.450
	Right Touch	0.074	0.397	0.139	0.575	0.220	0.471	0.213	0.649	0.294
	Right Tilt	0.034	0.470	0.114	0.604	0.268	0.504	0.148	0.638	0.302
	Left Touch	0.046	0.984	0.130	1.163	0.463	1.030	0.176	1.209	0.509

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LTE Band 26	Left Tilt	0.026	0.732	0.042	1.129	0.415	0.758	0.068	1.155	0.441
	Right Touch	0.063	0.397	0.139	0.575	0.220	0.460	0.202	0.638	0.283
	Right Tilt	0.026	0.470	0.114	0.604	0.268	0.496	0.140	0.630	0.294

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant2	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Left Touch	0.223	0.984	0.130	1.163	0.463	1.207	0.353	1.386	0.686
	Left Tilt	0.287	0.732	0.042	1.129	0.415	1.019	0.329	1.416	0.702
	Right Touch	0.319	0.397	0.139	0.575	0.220	0.716	0.458	0.894	0.539
	Right Tilt	0.383	0.470	0.114	0.604	0.268	0.853	0.497	0.987	0.651
WCDMA Band II	Left Touch	0.247	0.984	0.130	1.163	0.463	1.231	0.377	1.410	0.710
	Left Tilt	0.312	0.732	0.042	1.129	0.415	1.044	0.354	1.441	0.727
	Right Touch	0.394	0.397	0.139	0.575	0.220	0.791	0.533	0.969	0.614
	Right Tilt	0.461	0.470	0.114	0.604	0.268	0.931	0.575	1.065	0.729
WCDMA Band IV	Left Touch	0.430	0.984	0.130	0.462	0.463	1.414	0.560	0.892	0.893
	Left Tilt	0.514	0.732	0.042	0.458	0.415	1.246	0.556	0.972	0.929
	Right Touch	0.594	0.397	0.139	0.575	0.220	0.991	0.733	1.169	0.814
	Right Tilt	0.617	0.470	0.114	0.604	0.268	1.087	0.731	1.221	0.885
LTE Band 2	Left Touch	0.250	0.984	0.130	1.163	0.463	1.234	0.380	1.413	0.713
	Left Tilt	0.285	0.732	0.042	1.129	0.415	1.017	0.327	1.414	0.700
	Right Touch	0.315	0.397	0.139	0.575	0.220	0.712	0.454	0.890	0.535
	Right Tilt	0.400	0.470	0.114	0.604	0.268	0.870	0.514	1.004	0.668
LTE Band 4	Left Touch	0.484	0.984	0.130	0.462	0.463	1.468	0.614	0.946	0.947
	Left Tilt	0.577	0.732	0.042	0.458	0.415	1.309	0.619	1.035	0.992
	Right Touch	0.701	0.397	0.139	0.575	0.220	1.098	0.840	1.276	0.921
	Right Tilt	0.706	0.470	0.114	0.604	0.268	1.176	0.820	1.310	0.974
LTE Band 7	Left Touch	0.553	0.255	0.130	0.462	0.463	0.808	0.683	1.015	1.016
	Left Tilt	0.616	0.732	0.042	0.458	0.415	1.348	0.658	1.074	1.031
	Right Touch	0.670	0.397	0.139	0.575	0.220	1.067	0.809	1.245	0.890
	Right Tilt	0.970	0.470	0.114	0.251	0.268	1.440	1.084	1.221	1.238
LTE Band 38	Left Touch	0.638	0.255	0.130	0.462	0.463	0.893	0.768	1.100	1.101
	Left Tilt	0.642	0.732	0.042	0.458	0.415	1.374	0.684	1.100	1.057
	Right Touch	1.110	0.094	0.139	0.224	0.220	1.204	1.249	1.334	1.330
	Right Tilt	1.072	0.118	0.114	0.251	0.268	1.190	1.186	1.323	1.340
LTE Band 41	Left Touch	0.745	0.255	0.130	0.462	0.463	1.000	0.875	1.207	1.208
	Left Tilt	1.007	0.182	0.042	0.458	0.415	1.189	1.049	1.465	1.422
	Right Touch	0.955	0.397	0.139	0.224	0.220	1.352	1.094	1.179	1.175
	Right Tilt	1.187	0.118	0.114	0.251	0.268	1.305	1.301	1.438	1.455
LTE Band 66	Left Touch	0.512	0.255	0.130	0.462	0.463	0.767	0.642	0.974	0.975
	Left Tilt	0.602	0.732	0.042	0.458	0.415	1.334	0.644	1.060	1.017
	Right Touch	0.788	0.397	0.139	0.224	0.220	1.185	0.927	1.012	1.008
	Right Tilt	0.853	0.470	0.114	0.251	0.268	1.323	0.967	1.104	1.121
n7	Left Touch	0.635	0.255	0.130	0.462	0.463	0.890	0.765	1.097	1.098
	Left Tilt	0.628	0.732	0.042	0.458	0.415	1.360	0.670	1.086	1.043
	Right Touch	0.961	0.397	0.139	0.224	0.220	1.358	1.100	1.185	1.181
	Right Tilt	1.109	0.118	0.114	0.251	0.268	1.227	1.223	1.360	1.377

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n41	Left Touch	0.594	0.255	0.130	0.462	0.463	0.849	0.724	1.056	1.057
	Left Tilt	0.791	0.182	0.042	0.458	0.415	0.973	0.833	1.249	1.206
	Right Touch	0.939	0.397	0.139	0.224	0.220	1.336	1.078	1.163	1.159
	Right Tilt	1.192	0.118	0.114	0.251	0.268	1.310	1.306	1.443	1.460

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant3	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Left Touch	0.067	0.984	0.130	1.163	0.463	1.051	0.197	1.230	0.530
	Left Tilt	0.054	0.732	0.042	1.129	0.415	0.786	0.096	1.183	0.469
	Right Touch	0.060	0.397	0.139	0.575	0.220	0.457	0.199	0.635	0.280
	Right Tilt	0.053	0.470	0.114	0.604	0.268	0.523	0.167	0.657	0.321
WCDMA Band II	Left Touch	0.088	0.984	0.130	1.163	0.463	1.072	0.218	1.251	0.551
	Left Tilt	0.067	0.732	0.042	1.129	0.415	0.799	0.109	1.196	0.482
	Right Touch	0.163	0.397	0.139	0.575	0.220	0.560	0.302	0.738	0.383
	Right Tilt	0.074	0.470	0.114	0.604	0.268	0.544	0.188	0.678	0.342
WCDMA Band IV	Left Touch	0.204	0.984	0.130	1.163	0.463	1.188	0.334	1.367	0.667
	Left Tilt	0.071	0.732	0.042	1.129	0.415	0.803	0.113	1.200	0.486
	Right Touch	0.183	0.397	0.139	0.575	0.220	0.580	0.322	0.758	0.403
	Right Tilt	0.089	0.470	0.114	0.604	0.268	0.559	0.203	0.693	0.357
LTE Band 2	Left Touch	0.077	0.984	0.130	1.163	0.463	1.061	0.207	1.240	0.540
	Left Tilt	0.058	0.732	0.042	1.129	0.415	0.790	0.100	1.187	0.473
	Right Touch	0.138	0.397	0.139	0.575	0.220	0.535	0.277	0.713	0.358
	Right Tilt	0.065	0.470	0.114	0.604	0.268	0.535	0.179	0.669	0.333
LTE Band 4	Left Touch	0.153	0.984	0.130	1.163	0.463	1.137	0.283	1.316	0.616
	Left Tilt	0.079	0.732	0.042	1.129	0.415	0.811	0.121	1.208	0.494
	Right Touch	0.195	0.397	0.139	0.575	0.220	0.592	0.334	0.770	0.415
	Right Tilt	0.106	0.470	0.114	0.604	0.268	0.576	0.220	0.710	0.374
LTE Band 7	Left Touch	0.060	0.984	0.130	1.163	0.463	1.044	0.190	1.223	0.523
	Left Tilt	0.005	0.732	0.042	1.129	0.415	0.737	0.047	1.134	0.420
	Right Touch	0.096	0.397	0.139	0.575	0.220	0.493	0.235	0.671	0.316
	Right Tilt	0.004	0.470	0.114	0.604	0.268	0.474	0.118	0.608	0.272
LTE Band 38	Left Touch	0.057	0.984	0.130	1.163	0.463	1.041	0.187	1.220	0.520
	Left Tilt	0.046	0.732	0.042	1.129	0.415	0.778	0.088	1.175	0.461
	Right Touch	0.064	0.397	0.139	0.575	0.220	0.461	0.203	0.639	0.284
	Right Tilt	0.047	0.470	0.114	0.604	0.268	0.517	0.161	0.651	0.315
LTE Band 41	Left Touch	0.057	0.984	0.130	1.163	0.463	1.041	0.187	1.220	0.520
	Left Tilt	0.054	0.732	0.042	1.129	0.415	0.786	0.096	1.183	0.469
	Right Touch	0.067	0.397	0.139	0.575	0.220	0.464	0.206	0.642	0.287
	Right Tilt	0.060	0.470	0.114	0.604	0.268	0.530	0.174	0.664	0.328
LTE Band 66	Left Touch	0.182	0.984	0.130	1.163	0.463	1.166	0.312	1.345	0.645
	Left Tilt	0.063	0.732	0.042	1.129	0.415	0.795	0.105	1.192	0.478
	Right Touch	0.190	0.397	0.139	0.575	0.220	0.587	0.329	0.765	0.410
	Right Tilt	0.086	0.470	0.114	0.604	0.268	0.556	0.200	0.690	0.354
n7	Left Touch	0.144	0.984	0.130	1.163	0.463	1.128	0.274	1.307	0.607
	Left Tilt	0.095	0.732	0.042	1.129	0.415	0.827	0.137	1.224	0.510
	Right Touch	0.134	0.397	0.139	0.575	0.220	0.531	0.273	0.709	0.354

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	Right Tilt	0.084	0.470	0.114	0.604	0.268	0.554	0.198	0.688	0.352
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Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		EN-DC	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
EN-DC n5_B7	Left Touch	0.567	0.255	0.130	0.462	0.463	0.822	0.697	1.029	1.030
	Left Tilt	0.564	0.732	0.042	0.458	0.415	1.296	0.606	1.022	0.979
	Right Touch	0.855	0.397	0.139	0.575	0.220	1.252	0.994	1.430	1.075
	Right Tilt	0.806	0.470	0.114	0.604	0.268	1.276	0.920	1.410	1.074

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant0	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Left Touch	0.354	0.130	0.462	0.520	0.452	0.463	0.874	0.806	0.947	1.279	1.337	1.269
	Left Tilt	0.103	0.042	0.458	0.243	0.430	0.415	0.346	0.533	0.560	0.976	0.761	0.948
	Right Touch	0.395	0.139	0.575	0.269	0.450	0.220	0.664	0.845	0.754	1.190	0.884	1.065
	Right Tilt	0.155	0.114	0.604	0.199	0.509	0.268	0.354	0.664	0.537	1.027	0.622	0.932
WCDMA Band V	Left Touch	0.245	0.130	0.462	0.520	0.452	0.463	0.765	0.697	0.838	1.170	1.228	1.160
	Left Tilt	0.198	0.042	0.458	0.243	0.430	0.415	0.441	0.628	0.655	1.071	0.856	1.043
	Right Touch	0.907	0.139	0.224	0.269	0.183	0.220	1.176	1.090	1.266	1.351	1.396	1.310
	Right Tilt	0.264	0.114	0.604	0.199	0.509	0.268	0.463	0.773	0.646	1.136	0.731	1.041
LTE Band 5	Left Touch	0.568	0.130	0.462	0.173	0.452	0.463	0.741	1.020	1.161	1.493	1.204	1.483
	Left Tilt	0.106	0.042	0.458	0.243	0.430	0.415	0.349	0.536	0.563	0.979	0.764	0.951
	Right Touch	0.612	0.139	0.575	0.269	0.450	0.220	0.881	1.062	0.971	1.407	1.101	1.282
	Right Tilt	0.110	0.114	0.604	0.199	0.509	0.268	0.309	0.619	0.492	0.982	0.577	0.887
LTE Band 12	Left Touch	0.440	0.130	0.462	0.520	0.452	0.463	0.960	0.892	1.033	1.365	1.423	1.355
	Left Tilt	0.110	0.042	0.458	0.243	0.430	0.415	0.353	0.540	0.567	0.983	0.768	0.955
	Right Touch	0.665	0.139	0.575	0.269	0.450	0.220	0.934	1.115	1.024	1.460	1.154	1.335
	Right Tilt	0.099	0.114	0.604	0.199	0.509	0.268	0.298	0.608	0.481	0.971	0.566	0.876
LTE Band 17	Left Touch	0.406	0.130	0.462	0.520	0.452	0.463	0.926	0.858	0.999	1.331	1.389	1.321
	Left Tilt	0.077	0.042	0.458	0.243	0.430	0.415	0.320	0.507	0.534	0.950	0.735	0.922
	Right Touch	0.537	0.139	0.575	0.269	0.450	0.220	0.806	0.987	0.896	1.332	1.026	1.207
	Right Tilt	0.068	0.114	0.604	0.199	0.509	0.268	0.267	0.577	0.450	0.940	0.535	0.845
LTE Band 26	Left Touch	0.556	0.130	0.462	0.173	0.452	0.463	0.729	1.008	1.149	1.481	1.192	1.471
	Left Tilt	0.101	0.042	0.458	0.243	0.430	0.415	0.344	0.531	0.558	0.974	0.759	0.946
	Right Touch	0.597	0.139	0.575	0.269	0.450	0.220	0.866	1.047	0.956	1.392	1.086	1.267
	Right Tilt	0.106	0.114	0.604	0.199	0.509	0.268	0.305	0.615	0.488	0.978	0.573	0.883
n41	Left Touch	0.249	0.130	0.462	0.520	0.452	0.463	0.769	0.701	0.842	1.174	1.232	1.164
	Left Tilt	0.131	0.042	0.458	0.243	0.430	0.415	0.374	0.561	0.588	1.004	0.789	0.976
	Right Touch	0.927	0.139	0.224	0.269	0.183	0.220	1.196	1.110	1.286	1.371	1.416	1.330
	Right Tilt	0.254	0.114	0.604	0.199	0.509	0.268	0.453	0.763	0.636	1.126	0.721	1.031

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Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant1	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Left Touch	0.021	0.130	0.462	0.520	0.452	0.463	0.541	0.473	0.614	0.946	1.004	0.936
	Left Tilt	0.010	0.042	0.458	0.243	0.430	0.415	0.253	0.440	0.467	0.883	0.668	0.855
	Right Touch	0.053	0.139	0.575	0.269	0.450	0.220	0.322	0.503	0.412	0.848	0.542	0.723
	Right Tilt	0.013	0.114	0.604	0.199	0.509	0.268	0.212	0.522	0.395	0.885	0.480	0.790
WCDMA Band V	Left Touch	0.035	0.130	0.462	0.520	0.452	0.463	0.555	0.487	0.628	0.960	1.018	0.950
	Left Tilt	0.017	0.042	0.458	0.243	1.055	0.415	0.260	1.072	0.474	0.890	0.675	1.487
	Right Touch	0.054	0.139	0.575	0.269	0.450	0.220	0.323	0.504	0.413	0.849	0.543	0.724
	Right Tilt	0.023	0.114	0.604	0.199	0.509	0.268	0.222	0.532	0.405	0.895	0.490	0.800
LTE Band 5	Left Touch	0.057	0.130	0.462	0.520	0.452	0.463	0.577	0.509	0.650	0.982	1.040	0.972
	Left Tilt	0.035	0.042	0.458	0.243	0.430	0.415	0.278	0.465	0.492	0.908	0.693	0.880
	Right Touch	0.067	0.139	0.575	0.269	0.450	0.220	0.336	0.517	0.426	0.862	0.556	0.737
	Right Tilt	0.033	0.114	0.604	0.199	0.509	0.268	0.232	0.542	0.415	0.905	0.500	0.810
LTE Band 12	Left Touch	0.079	0.130	0.462	0.520	0.452	0.463	0.599	0.531	0.672	1.004	1.062	0.994
	Left Tilt	0.032	0.042	0.458	0.243	0.430	0.415	0.275	0.462	0.489	0.905	0.690	0.877
	Right Touch	0.085	0.139	0.575	0.269	0.450	0.220	0.354	0.535	0.444	0.880	0.574	0.755
	Right Tilt	0.041	0.114	0.604	0.199	0.509	0.268	0.240	0.550	0.423	0.913	0.508	0.818
LTE Band 17	Left Touch	0.064	0.130	0.462	0.520	0.452	0.463	0.584	0.516	0.657	0.989	1.047	0.979
	Left Tilt	0.035	0.042	0.458	0.243	0.430	0.415	0.278	0.465	0.492	0.908	0.693	0.880
	Right Touch	0.074	0.139	0.575	0.269	0.450	0.220	0.343	0.524	0.433	0.869	0.563	0.744
	Right Tilt	0.034	0.114	0.604	0.199	0.509	0.268	0.233	0.543	0.416	0.906	0.501	0.811
LTE Band 26	Left Touch	0.046	0.130	0.462	0.520	0.452	0.463	0.566	0.498	0.639	0.971	1.029	0.961
	Left Tilt	0.026	0.042	0.458	0.243	0.430	0.415	0.269	0.456	0.483	0.899	0.684	0.871
	Right Touch	0.063	0.139	0.575	0.269	0.450	0.220	0.332	0.513	0.422	0.858	0.552	0.733
	Right Tilt	0.026	0.114	0.604	0.199	0.509	0.268	0.225	0.535	0.408	0.898	0.493	0.803

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant2	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM1900	Left Touch	0.223	0.130	0.462	0.520	0.452	0.463	0.743	0.675	0.816	1.148	1.206	1.138
	Left Tilt	0.287	0.042	0.458	0.243	0.430	0.415	0.530	0.717	0.744	1.160	0.945	1.132
	Right Touch	0.319	0.139	0.575	0.269	0.450	0.220	0.588	0.769	0.678	1.114	0.808	0.989
	Right Tilt	0.383	0.114	0.604	0.199	0.509	0.268	0.582	0.892	0.765	1.255	0.850	1.160
WCDMA Band II	Left Touch	0.247	0.130	0.462	0.520	0.452	0.463	0.767	0.699	0.840	1.172	1.230	1.162
	Left Tilt	0.312	0.042	0.458	0.243	0.430	0.415	0.555	0.742	0.769	1.185	0.970	1.157
	Right Touch	0.394	0.139	0.575	0.269	0.450	0.220	0.663	0.844	0.753	1.189	0.883	1.064
	Right Tilt	0.461	0.114	0.604	0.199	0.509	0.268	0.660	0.970	0.843	1.333	0.928	1.238
WCDMA Band IV	Left Touch	0.430	0.130	0.462	0.520	0.452	0.463	0.950	0.882	1.023	1.355	1.413	1.345
	Left Tilt	0.514	0.042	0.458	0.243	0.430	0.415	0.757	0.944	0.971	1.387	1.172	1.359
	Right Touch	0.594	0.139	0.575	0.269	0.450	0.220	0.863	1.044	0.953	1.389	1.083	1.264
	Right Tilt	0.617	0.114	0.604	0.199	0.509	0.268	0.816	1.126	0.999	1.489	1.084	1.394
LTE Band 2	Left Touch	0.250	0.130	0.462	0.520	0.452	0.463	0.770	0.702	0.843	1.175	1.233	1.165
	Left Tilt	0.285	0.042	0.458	0.243	0.430	0.415	0.528	0.715	0.742	1.158	0.943	1.130

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	Right Touch	0.315	0.139	0.575	0.269	0.450	0.220	0.584	0.765	0.674	1.110	0.804	0.985
	Right Tilt	0.400	0.114	0.604	0.199	0.509	0.268	0.599	0.909	0.782	1.272	0.867	1.177
LTE Band 4	Left Touch	0.484	0.130	0.462	0.520	0.452	0.463	1.004	0.936	1.077	1.409	1.467	1.399
	Left Tilt	0.577	0.042	0.458	0.243	0.430	0.415	0.820	1.007	1.034	1.450	1.235	1.422
	Right Touch	0.701	0.139	0.224	0.269	0.450	0.220	0.970	1.151	1.060	1.145	1.190	1.371
	Right Tilt	0.706	0.114	0.251	0.199	0.509	0.268	0.905	1.215	1.088	1.225	1.173	1.483
LTE Band 7	Left Touch	0.250	0.130	0.462	0.520	0.452	0.463	0.770	0.702	0.843	1.175	1.233	1.165
	Left Tilt	0.616	0.042	0.458	0.243	0.430	0.415	0.859	1.046	1.073	1.489	1.274	1.461
	Right Touch	0.670	0.139	0.575	0.269	0.450	0.220	0.939	1.120	1.029	1.465	1.159	1.340
	Right Tilt	0.970	0.114	0.251	0.199	0.199	0.268	1.169	1.169	1.352	1.489	1.437	1.437
LTE Band 38	Left Touch	0.245	0.130	0.462	0.520	0.452	0.463	0.765	0.697	0.838	1.170	1.228	1.160
	Left Tilt	0.303	0.042	0.458	0.243	0.430	0.415	0.546	0.733	0.760	1.176	0.961	1.148
	Right Touch	0.423	0.139	0.224	0.269	0.183	0.220	0.692	0.606	0.782	0.867	0.912	0.826
	Right Tilt	0.479	0.114	0.251	0.199	0.199	0.268	0.678	0.678	0.861	0.998	0.946	0.946
LTE Band 41	Left Touch	0.250	0.130	0.462	0.520	0.452	0.463	0.770	0.702	0.843	1.175	1.233	1.165
	Left Tilt	0.332	0.042	0.458	0.243	0.430	0.415	0.575	0.762	0.789	1.205	0.990	1.177
	Right Touch	0.955	0.139	0.224	0.269	0.183	0.220	1.224	1.138	1.314	1.399	1.444	1.358
	Right Tilt	0.472	0.114	0.251	0.199	0.199	0.268	0.671	0.671	0.854	0.991	0.939	0.939
LTE Band 66	Left Touch	0.242	0.130	0.462	0.520	0.452	0.463	0.762	0.694	0.835	1.167	1.225	1.157
	Left Tilt	0.602	0.042	0.458	0.243	0.430	0.415	0.845	1.032	1.059	1.475	1.260	1.447
	Right Touch	0.788	0.139	0.224	0.269	0.183	0.220	1.057	0.971	1.147	1.232	1.277	1.191
	Right Tilt	0.853	0.114	0.251	0.199	0.199	0.268	1.052	1.052	1.235	1.372	1.320	1.320
n7	Left Touch	0.247	0.130	0.462	0.520	0.452	0.463	0.767	0.699	0.840	1.172	1.230	1.162
	Left Tilt	0.293	0.042	0.458	0.243	0.430	0.415	0.536	0.723	0.750	1.166	0.951	1.138
	Right Touch	0.961	0.139	0.224	0.269	0.183	0.220	1.230	1.144	1.320	1.405	1.450	1.364
	Right Tilt	0.500	0.114	0.251	0.199	0.199	0.268	0.699	0.699	0.882	1.019	0.967	0.967
n41	Left Touch	0.235	0.130	0.462	0.520	0.452	0.463	0.755	0.687	0.828	1.160	1.218	1.150
	Left Tilt	0.302	0.042	0.458	0.243	0.430	0.415	0.545	0.732	0.759	1.175	0.960	1.147
	Right Touch	0.939	0.139	0.224	0.269	0.183	0.220	1.208	1.122	1.298	1.383	1.428	1.342
	Right Tilt	0.482	0.114	0.251	0.199	0.199	0.268	0.681	0.681	0.864	1.001	0.949	0.949

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant3	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM1900	Left Touch	0.067	0.130	0.462	0.520	0.452	0.463	0.587	0.519	0.660	0.992	1.050	0.982
	Left Tilt	0.054	0.042	0.458	0.243	0.430	0.415	0.297	0.484	0.511	0.927	0.712	0.899
	Right Touch	0.060	0.139	0.575	0.269	0.450	0.220	0.329	0.510	0.419	0.855	0.549	0.730
	Right Tilt	0.053	0.114	0.604	0.199	0.509	0.268	0.252	0.562	0.435	0.925	0.520	0.830
WCDMA Band II	Left Touch	0.088	0.130	0.462	0.520	0.452	0.463	0.608	0.540	0.681	1.013	1.071	1.003
	Left Tilt	0.067	0.042	0.458	0.243	0.430	0.415	0.310	0.497	0.524	0.940	0.725	0.912
	Right Touch	0.163	0.139	0.575	0.269	0.450	0.220	0.432	0.613	0.522	0.958	0.652	0.833
	Right Tilt	0.074	0.114	0.604	0.199	0.509	0.268	0.273	0.583	0.456	0.946	0.541	0.851
WCDMA Band IV	Left Touch	0.204	0.130	0.462	0.520	0.452	0.463	0.724	0.656	0.797	1.129	1.187	1.119
	Left Tilt	0.071	0.042	0.458	0.243	0.430	0.415	0.314	0.501	0.528	0.944	0.729	0.916
	Right Touch	0.183	0.139	0.575	0.269	0.450	0.220	0.452	0.633	0.542	0.978	0.672	0.853
	Right Tilt	0.089	0.114	0.604	0.199	0.509	0.268	0.288	0.598	0.471	0.961	0.556	0.866
	Left Touch	0.077	0.130	0.462	0.520	0.452	0.463	0.597	0.529	0.670	1.002	1.060	0.992

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LTE Band 2	Left Tilt	0.058	0.042	0.458	0.243	0.430	0.415	0.301	0.488	0.515	0.931	0.716	0.903
	Right Touch	0.138	0.139	0.575	0.269	0.450	0.220	0.407	0.588	0.497	0.933	0.627	0.808
	Right Tilt	0.065	0.114	0.604	0.199	0.509	0.268	0.264	0.574	0.447	0.937	0.532	0.842
LTE Band 4	Left Touch	0.153	0.130	0.462	0.520	0.452	0.463	0.673	0.605	0.746	1.078	1.136	1.068
	Left Tilt	0.079	0.042	0.458	0.243	0.430	0.415	0.322	0.509	0.536	0.952	0.737	0.924
	Right Touch	0.195	0.139	0.575	0.269	0.450	0.220	0.464	0.645	0.554	0.990	0.684	0.865
LTE Band 7	Right Tilt	0.106	0.114	0.604	0.199	0.509	0.268	0.305	0.615	0.488	0.978	0.573	0.883
	Left Touch	0.060	0.130	0.462	0.520	0.452	0.463	0.580	0.512	0.653	0.985	1.043	0.975
	Left Tilt	0.005	0.042	0.458	0.243	1.055	0.415	0.248	1.060	0.462	0.878	0.663	1.475
LTE Band 38	Right Touch	0.096	0.139	0.575	0.269	0.450	0.220	0.365	0.546	0.455	0.891	0.585	0.766
	Right Tilt	0.004	0.114	0.604	0.199	0.509	0.268	0.203	0.513	0.386	0.876	0.471	0.781
	Left Touch	0.057	0.130	0.462	0.520	0.452	0.463	0.577	0.509	0.650	0.982	1.040	0.972
LTE Band 41	Left Tilt	0.046	0.042	0.458	0.243	0.430	0.415	0.289	0.476	0.503	0.919	0.704	0.891
	Right Touch	0.064	0.139	0.575	0.269	0.450	0.220	0.333	0.514	0.423	0.859	0.553	0.734
	Right Tilt	0.047	0.114	0.604	0.199	0.509	0.268	0.246	0.556	0.429	0.919	0.514	0.824
LTE Band 66	Left Touch	0.057	0.130	0.462	0.520	0.452	0.463	0.577	0.509	0.650	0.982	1.040	0.972
	Left Tilt	0.054	0.042	0.458	0.243	0.430	0.415	0.297	0.484	0.511	0.927	0.712	0.899
	Right Touch	0.067	0.139	0.575	0.269	0.450	0.220	0.336	0.517	0.426	0.862	0.556	0.737
n7	Right Tilt	0.060	0.114	0.604	0.199	0.509	0.268	0.259	0.569	0.442	0.932	0.527	0.837
	Left Touch	0.182	0.130	0.462	0.520	0.452	0.463	0.702	0.634	0.775	1.107	1.165	1.097
	Left Tilt	0.063	0.042	0.458	0.243	0.430	0.415	0.306	0.493	0.520	0.936	0.721	0.908
n7	Right Touch	0.190	0.139	0.575	0.269	0.450	0.220	0.459	0.640	0.549	0.985	0.679	0.860
	Right Tilt	0.086	0.114	0.604	0.199	0.509	0.268	0.285	0.595	0.468	0.958	0.553	0.863
	Left Touch	0.144	0.130	0.462	0.520	0.452	0.463	0.664	0.596	0.737	1.069	1.127	1.059
n7	Left Tilt	0.095	0.042	0.458	0.243	0.430	0.415	0.338	0.525	0.552	0.968	0.753	0.940
	Right Touch	0.134	0.139	0.575	0.269	0.450	0.220	0.403	0.584	0.493	0.929	0.623	0.804
	Right Tilt	0.084	0.114	0.604	0.199	0.509	0.268	0.283	0.593	0.466	0.956	0.551	0.861

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		EN-DC	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
EN-DC n5_B7	Left Touch	0.567	0.130	0.462	0.173	0.452	0.463	0.740	1.019	1.160	1.492	1.203	1.482
	Left Tilt	0.564	0.042	0.458	0.243	0.430	0.415	0.807	0.994	1.021	1.437	1.222	1.409
	Right Touch	0.855	0.139	0.224	0.269	0.183	0.220	1.124	1.038	1.214	1.299	1.344	1.258
	Right Tilt	0.806	0.114	0.251	0.199	0.199	0.268	1.005	1.005	1.188	1.325	1.273	1.273

8.4.3.2 Simultaneous Transmission SAR Summation Scenario for Body-worn

Exposure position	SARmax (W/kg)						3+8	5+8	6+8	7+8	2+5
	2	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
	WiFi 2.4G		WiFi 5G			BT					
	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO						
Front	0.203	0.039	0.146	0.158	0.274	0.076	0.115	0.222	0.234	0.350	0.349
Back	0.179	0.041	0.129	0.272	0.411	0.074	0.115	0.203	0.346	0.485	0.308

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Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant0	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Front	0.162	0.203	0.164	0.146	0.326	0.511
	Back	0.281	0.179	0.153	0.129	0.434	0.589
WCDMA Band V	Front	0.153	0.203	0.164	0.146	0.317	0.502
	Back	0.266	0.179	0.153	0.129	0.419	0.574
LTE Band 5	Front	0.136	0.203	0.164	0.146	0.300	0.485
	Back	0.215	0.179	0.153	0.129	0.368	0.523
LTE Band 12	Front	0.158	0.203	0.164	0.146	0.322	0.507
	Back	0.200	0.179	0.153	0.129	0.353	0.508
LTE Band 17	Front	0.110	0.203	0.164	0.146	0.274	0.459
	Back	0.141	0.179	0.153	0.129	0.294	0.449
LTE Band 26	Front	0.135	0.203	0.164	0.146	0.299	0.484
	Back	0.231	0.179	0.153	0.129	0.384	0.539
n41	Front	0.291	0.203	0.164	0.146	0.455	0.640
	Back	0.344	0.179	0.153	0.129	0.497	0.652

Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant1	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Front	0.060	0.203	0.164	0.146	0.224	0.409
	Back	0.076	0.179	0.153	0.129	0.229	0.384
WCDMA Band V	Front	0.114	0.203	0.164	0.146	0.278	0.463
	Back	0.145	0.179	0.153	0.129	0.298	0.453
LTE Band 5	Front	0.118	0.203	0.164	0.146	0.282	0.467
	Back	0.141	0.179	0.153	0.129	0.294	0.449
LTE Band 12	Front	0.130	0.203	0.164	0.146	0.294	0.479
	Back	0.146	0.179	0.153	0.129	0.299	0.454
LTE Band 17	Front	0.134	0.203	0.164	0.146	0.298	0.483
	Back	0.151	0.179	0.153	0.129	0.304	0.459
LTE Band 26	Front	0.121	0.203	0.164	0.146	0.285	0.470
	Back	0.142	0.179	0.153	0.129	0.295	0.450

Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant2	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Front	0.104	0.203	0.164	0.146	0.268	0.453
	Back	0.115	0.179	0.153	0.129	0.268	0.423
WCDMA Band II	Front	0.075	0.203	0.164	0.146	0.239	0.424
	Back	0.103	0.179	0.153	0.129	0.256	0.411
WCDMA Band IV	Front	0.189	0.203	0.164	0.146	0.353	0.538
	Back	0.221	0.179	0.153	0.129	0.374	0.529
LTE Band 2	Front	0.112	0.203	0.164	0.146	0.276	0.461

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LTE Band 4	Back	0.127	0.179	0.153	0.129	0.280	0.435
	Front	0.254	0.203	0.164	0.146	0.418	0.603
LTE Band 7	Back	0.308	0.179	0.153	0.129	0.461	0.616
	Front	0.141	0.203	0.164	0.146	0.305	0.490
LTE Band 38	Back	0.189	0.179	0.153	0.129	0.342	0.497
	Front	0.132	0.203	0.164	0.146	0.296	0.481
LTE Band 41	Back	0.146	0.179	0.153	0.129	0.299	0.454
	Front	0.214	0.203	0.164	0.146	0.378	0.563
LTE Band 66	Back	0.326	0.179	0.153	0.129	0.479	0.634
	Front	0.360	0.203	0.164	0.146	0.524	0.709
n7	Back	0.380	0.179	0.153	0.129	0.533	0.688
	Front	0.345	0.203	0.164	0.146	0.509	0.694
n41	Back	0.424	0.179	0.153	0.129	0.577	0.732
	Front	0.242	0.203	0.164	0.146	0.406	0.591
	Back	0.290	0.179	0.153	0.129	0.443	0.598

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant3	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Front	0.202	0.203	0.164	0.146	0.366	0.551
	Back	0.231	0.179	0.153	0.129	0.384	0.539
WCDMA Band II	Front	0.180	0.203	0.164	0.146	0.344	0.529
	Back	0.268	0.179	0.153	0.129	0.421	0.576
WCDMA Band IV	Front	0.178	0.203	0.164	0.146	0.342	0.527
	Back	0.186	0.179	0.153	0.129	0.339	0.494
LTE Band 2	Front	0.201	0.203	0.164	0.146	0.365	0.550
	Back	0.216	0.179	0.153	0.129	0.369	0.524
LTE Band 4	Front	0.138	0.203	0.164	0.146	0.302	0.487
	Back	0.197	0.179	0.153	0.129	0.350	0.505
LTE Band 7	Front	0.096	0.203	0.164	0.146	0.260	0.445
	Back	0.070	0.179	0.153	0.129	0.223	0.378
LTE Band 38	Front	0.128	0.203	0.164	0.146	0.292	0.477
	Back	0.088	0.179	0.153	0.129	0.241	0.396
LTE Band 41	Front	0.249	0.203	0.164	0.146	0.413	0.598
	Back	0.291	0.179	0.153	0.129	0.444	0.599
LTE Band 66	Front	0.274	0.203	0.164	0.146	0.438	0.623
	Back	0.266	0.179	0.153	0.129	0.419	0.574
n7	Front	0.264	0.203	0.164	0.146	0.428	0.613
	Back	0.409	0.179	0.153	0.129	0.562	0.717

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		EN-DC	Ant7 (chian0)	MIMO	Ant7 (chian1)		
EN-DC n5_B7	Front	0.334	0.203	0.164	0.146	0.498	0.683
	Back	0.435	0.179	0.153	0.129	0.588	0.743

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Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant0	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Front	0.162	0.203	0.039	0.146	0.076	0.365	0.201	0.308	0.238
	Back	0.281	0.179	0.041	0.129	0.074	0.460	0.322	0.410	0.355
WCDMA Band V	Front	0.153	0.203	0.039	0.146	0.076	0.356	0.192	0.299	0.229
	Back	0.266	0.179	0.041	0.129	0.074	0.445	0.307	0.395	0.340
LTE Band 5	Front	0.136	0.203	0.039	0.146	0.076	0.339	0.175	0.282	0.212
	Back	0.215	0.179	0.041	0.129	0.074	0.394	0.256	0.344	0.289
LTE Band 12	Front	0.158	0.203	0.039	0.146	0.076	0.361	0.197	0.304	0.234
	Back	0.200	0.179	0.041	0.129	0.074	0.379	0.241	0.329	0.274
LTE Band 17	Front	0.110	0.203	0.039	0.146	0.076	0.313	0.149	0.256	0.186
	Back	0.141	0.179	0.041	0.129	0.074	0.320	0.182	0.270	0.215
LTE Band 26	Front	0.135	0.203	0.039	0.146	0.076	0.338	0.174	0.281	0.211
	Back	0.231	0.179	0.041	0.129	0.074	0.410	0.272	0.360	0.305
n41	Front	0.291	0.203	0.039	0.146	0.076	0.494	0.330	0.437	0.367
	Back	0.344	0.179	0.041	0.129	0.074	0.523	0.385	0.473	0.418

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant1	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Front	0.060	0.203	0.039	0.146	0.076	0.263	0.099	0.206	0.136
	Back	0.076	0.179	0.041	0.129	0.074	0.255	0.117	0.205	0.150
WCDMA Band V	Front	0.114	0.203	0.039	0.146	0.076	0.317	0.153	0.260	0.190
	Back	0.145	0.179	0.041	0.129	0.074	0.324	0.186	0.274	0.219
LTE Band 5	Front	0.118	0.203	0.039	0.146	0.076	0.321	0.157	0.264	0.194
	Back	0.141	0.179	0.041	0.129	0.074	0.320	0.182	0.270	0.215
LTE Band 12	Front	0.130	0.203	0.039	0.146	0.076	0.333	0.169	0.276	0.206
	Back	0.146	0.179	0.041	0.129	0.074	0.325	0.187	0.275	0.220
LTE Band 17	Front	0.134	0.203	0.039	0.146	0.076	0.337	0.173	0.280	0.210
	Back	0.151	0.179	0.041	0.129	0.074	0.330	0.192	0.280	0.225
LTE Band 26	Front	0.121	0.203	0.039	0.146	0.076	0.324	0.160	0.267	0.197
	Back	0.142	0.179	0.041	0.129	0.074	0.321	0.183	0.271	0.216

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant2	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Front	0.104	0.203	0.039	0.146	0.076	0.307	0.143	0.250	0.180
	Back	0.115	0.179	0.041	0.129	0.074	0.294	0.156	0.244	0.189
WCDMA Band II	Front	0.075	0.203	0.039	0.146	0.076	0.278	0.114	0.221	0.151
	Back	0.103	0.179	0.041	0.129	0.074	0.282	0.144	0.232	0.177
WCDMA Band IV	Front	0.189	0.203	0.039	0.146	0.076	0.392	0.228	0.335	0.265
	Back	0.221	0.179	0.041	0.129	0.074	0.400	0.262	0.350	0.295

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LTE Band 2	Front	0.112	0.203	0.039	0.146	0.076	0.315	0.151	0.258	0.188
	Back	0.127	0.179	0.041	0.129	0.074	0.306	0.168	0.256	0.201
LTE Band 4	Front	0.254	0.203	0.039	0.146	0.076	0.457	0.293	0.400	0.330
	Back	0.308	0.179	0.041	0.129	0.074	0.487	0.349	0.437	0.382
LTE Band 7	Front	0.141	0.203	0.039	0.146	0.076	0.344	0.180	0.287	0.217
	Back	0.189	0.179	0.041	0.129	0.074	0.368	0.230	0.318	0.263
LTE Band 38	Front	0.132	0.203	0.039	0.146	0.076	0.335	0.171	0.278	0.208
	Back	0.146	0.179	0.041	0.129	0.074	0.325	0.187	0.275	0.220
LTE Band 41	Front	0.214	0.203	0.039	0.146	0.076	0.417	0.253	0.360	0.290
	Back	0.326	0.179	0.041	0.129	0.074	0.505	0.367	0.455	0.400
LTE Band 66	Front	0.360	0.203	0.039	0.146	0.076	0.563	0.399	0.506	0.436
	Back	0.380	0.179	0.041	0.129	0.074	0.559	0.421	0.509	0.454
n7	Front	0.345	0.203	0.039	0.146	0.076	0.548	0.384	0.491	0.421
	Back	0.424	0.179	0.041	0.129	0.074	0.603	0.465	0.553	0.498
n41	Front	0.242	0.203	0.039	0.146	0.076	0.445	0.281	0.388	0.318
	Back	0.290	0.179	0.041	0.129	0.074	0.469	0.331	0.419	0.364

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant3	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Front	0.202	0.203	0.039	0.146	0.076	0.405	0.241	0.348	0.278
	Back	0.231	0.179	0.041	0.129	0.074	0.410	0.272	0.360	0.305
WCDMA Band II	Front	0.180	0.203	0.039	0.146	0.076	0.383	0.219	0.326	0.256
	Back	0.268	0.179	0.041	0.129	0.074	0.447	0.309	0.397	0.342
WCDMA Band IV	Front	0.178	0.203	0.039	0.146	0.076	0.381	0.217	0.324	0.254
	Back	0.186	0.179	0.041	0.129	0.074	0.365	0.227	0.315	0.260
LTE Band 2	Front	0.201	0.203	0.039	0.146	0.076	0.404	0.240	0.347	0.277
	Back	0.216	0.179	0.041	0.129	0.074	0.395	0.257	0.345	0.290
LTE Band 4	Front	0.138	0.203	0.039	0.146	0.076	0.341	0.177	0.284	0.214
	Back	0.197	0.179	0.041	0.129	0.074	0.376	0.238	0.326	0.271
LTE Band 7	Front	0.096	0.203	0.039	0.146	0.076	0.299	0.135	0.242	0.172
	Back	0.070	0.179	0.041	0.129	0.074	0.249	0.111	0.199	0.144
LTE Band 38	Front	0.128	0.203	0.039	0.146	0.076	0.331	0.167	0.274	0.204
	Back	0.088	0.179	0.041	0.129	0.074	0.267	0.129	0.217	0.162
LTE Band 41	Front	0.249	0.203	0.039	0.146	0.076	0.452	0.288	0.395	0.325
	Back	0.291	0.179	0.041	0.129	0.074	0.470	0.332	0.420	0.365
LTE Band 66	Front	0.274	0.203	0.039	0.146	0.076	0.477	0.313	0.420	0.350
	Back	0.266	0.179	0.041	0.129	0.074	0.445	0.307	0.395	0.340
n7	Front	0.264	0.203	0.039	0.146	0.076	0.467	0.303	0.410	0.340
	Back	0.409	0.179	0.041	0.129	0.074	0.588	0.450	0.538	0.483

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		EN-DC	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
	Front	0.334	0.203	0.039	0.146	0.076	0.537	0.373	0.480	0.410

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EN-DC n5_B7	Back	0.435	0.179	0.041	0.129	0.074	0.614	0.476	0.564	0.509
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Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant0	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Front	0.162	0.039	0.146	0.158	0.274	0.076	0.320	0.436	0.277	0.384	0.396	0.512
	Back	0.281	0.041	0.129	0.272	0.411	0.074	0.553	0.692	0.396	0.484	0.627	0.766
WCDMA Band V	Front	0.153	0.039	0.146	0.158	0.274	0.076	0.311	0.427	0.268	0.375	0.387	0.503
	Back	0.266	0.041	0.129	0.272	0.411	0.074	0.538	0.677	0.381	0.469	0.612	0.751
LTE Band 5	Front	0.136	0.039	0.146	0.158	0.274	0.076	0.294	0.410	0.251	0.358	0.370	0.486
	Back	0.215	0.041	0.129	0.272	0.411	0.074	0.487	0.626	0.330	0.418	0.561	0.700
LTE Band 12	Front	0.158	0.039	0.146	0.158	0.274	0.076	0.316	0.432	0.273	0.380	0.392	0.508
	Back	0.200	0.041	0.129	0.272	0.411	0.074	0.472	0.611	0.315	0.403	0.546	0.685
LTE Band 17	Front	0.110	0.039	0.146	0.158	0.274	0.076	0.268	0.384	0.225	0.332	0.344	0.460
	Back	0.141	0.041	0.129	0.272	0.411	0.074	0.413	0.552	0.256	0.344	0.487	0.626
LTE Band 26	Front	0.135	0.039	0.146	0.158	0.274	0.076	0.293	0.409	0.250	0.357	0.369	0.485
	Back	0.231	0.041	0.129	0.272	0.411	0.074	0.503	0.642	0.346	0.434	0.577	0.716
n41	Front	0.291	0.039	0.146	0.158	0.274	0.076	0.449	0.565	0.406	0.513	0.525	0.641
	Back	0.344	0.041	0.129	0.272	0.411	0.074	0.616	0.755	0.459	0.547	0.690	0.829

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant1	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Front	0.060	0.039	0.146	0.158	0.274	0.076	0.218	0.334	0.175	0.282	0.294	0.410
	Back	0.076	0.041	0.129	0.272	0.411	0.074	0.348	0.487	0.191	0.279	0.422	0.561
WCDMA Band V	Front	0.114	0.039	0.146	0.158	0.274	0.076	0.272	0.388	0.229	0.336	0.348	0.464
	Back	0.145	0.041	0.129	0.272	0.411	0.074	0.417	0.556	0.260	0.348	0.491	0.630
LTE Band 5	Front	0.118	0.039	0.146	0.158	0.274	0.076	0.276	0.392	0.233	0.340	0.352	0.468
	Back	0.141	0.041	0.129	0.272	0.411	0.074	0.413	0.552	0.256	0.344	0.487	0.626
LTE Band 12	Front	0.130	0.039	0.146	0.158	0.274	0.076	0.288	0.404	0.245	0.352	0.364	0.480
	Back	0.146	0.041	0.129	0.272	0.411	0.074	0.418	0.557	0.261	0.349	0.492	0.631
LTE Band 17	Front	0.134	0.039	0.146	0.158	0.274	0.076	0.292	0.408	0.249	0.356	0.368	0.484
	Back	0.151	0.041	0.129	0.272	0.411	0.074	0.423	0.562	0.266	0.354	0.497	0.636
LTE Band 26	Front	0.121	0.039	0.146	0.158	0.274	0.076	0.279	0.395	0.236	0.343	0.355	0.471
	Back	0.142	0.041	0.129	0.272	0.411	0.074	0.414	0.553	0.257	0.345	0.488	0.627

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant2	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM1900	Front	0.104	0.039	0.146	0.158	0.274	0.076	0.262	0.378	0.219	0.326	0.338	0.454
	Back	0.115	0.041	0.129	0.272	0.411	0.074	0.387	0.526	0.230	0.318	0.461	0.600
WCDMA Band II	Front	0.075	0.039	0.146	0.158	0.274	0.076	0.233	0.349	0.190	0.297	0.309	0.425
	Back	0.103	0.041	0.129	0.272	0.411	0.074	0.375	0.514	0.218	0.306	0.449	0.588

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WCDMA Band IV	Front	0.189	0.039	0.146	0.158	0.274	0.076	0.347	0.463	0.304	0.411	0.423	0.539
	Back	0.221	0.041	0.129	0.272	0.411	0.074	0.493	0.632	0.336	0.424	0.567	0.706
LTE Band 2	Front	0.112	0.039	0.146	0.158	0.274	0.076	0.270	0.386	0.227	0.334	0.346	0.462
	Back	0.127	0.041	0.129	0.272	0.411	0.074	0.399	0.538	0.242	0.330	0.473	0.612
LTE Band 4	Front	0.254	0.039	0.146	0.158	0.274	0.076	0.412	0.528	0.369	0.476	0.488	0.604
	Back	0.308	0.041	0.129	0.272	0.411	0.074	0.580	0.719	0.423	0.511	0.654	0.793
LTE Band 7	Front	0.141	0.039	0.146	0.158	0.274	0.076	0.299	0.415	0.256	0.363	0.375	0.491
	Back	0.189	0.041	0.129	0.272	0.411	0.074	0.461	0.600	0.304	0.392	0.535	0.674
LTE Band 38	Front	0.132	0.039	0.146	0.158	0.274	0.076	0.290	0.406	0.247	0.354	0.366	0.482
	Back	0.146	0.041	0.129	0.272	0.411	0.074	0.418	0.557	0.261	0.349	0.492	0.631
LTE Band 41	Front	0.214	0.039	0.146	0.158	0.274	0.076	0.372	0.488	0.329	0.436	0.448	0.564
	Back	0.326	0.041	0.129	0.272	0.411	0.074	0.598	0.737	0.441	0.529	0.672	0.811
LTE Band 66	Front	0.360	0.039	0.146	0.158	0.274	0.076	0.518	0.634	0.475	0.582	0.594	0.710
	Back	0.380	0.041	0.129	0.272	0.411	0.074	0.652	0.791	0.495	0.583	0.726	0.865
n7	Front	0.345	0.039	0.146	0.158	0.274	0.076	0.503	0.619	0.460	0.567	0.579	0.695
	Back	0.424	0.041	0.129	0.272	0.411	0.074	0.696	0.835	0.539	0.627	0.770	0.909
n41	Front	0.242	0.039	0.146	0.158	0.274	0.076	0.400	0.516	0.357	0.464	0.476	0.592
	Back	0.290	0.041	0.129	0.272	0.411	0.074	0.562	0.701	0.405	0.493	0.636	0.775

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant3	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM1900	Front	0.202	0.039	0.146	0.158	0.274	0.076	0.360	0.476	0.317	0.424	0.436	0.552
	Back	0.231	0.041	0.129	0.272	0.411	0.074	0.503	0.642	0.346	0.434	0.577	0.716
WCDMA Band II	Front	0.180	0.039	0.146	0.158	0.274	0.076	0.338	0.454	0.295	0.402	0.414	0.530
	Back	0.268	0.041	0.129	0.272	0.411	0.074	0.540	0.679	0.383	0.471	0.614	0.753
WCDMA Band IV	Front	0.178	0.039	0.146	0.158	0.274	0.076	0.336	0.452	0.293	0.400	0.412	0.528
	Back	0.186	0.041	0.129	0.272	0.411	0.074	0.458	0.597	0.301	0.389	0.532	0.671
LTE Band 2	Front	0.201	0.039	0.146	0.158	0.274	0.076	0.359	0.475	0.316	0.423	0.435	0.551
	Back	0.216	0.041	0.129	0.272	0.411	0.074	0.488	0.627	0.331	0.419	0.562	0.701
LTE Band 4	Front	0.138	0.039	0.146	0.158	0.274	0.076	0.296	0.412	0.253	0.360	0.372	0.488
	Back	0.197	0.041	0.129	0.272	0.411	0.074	0.469	0.608	0.312	0.400	0.543	0.682
LTE Band 7	Front	0.096	0.039	0.146	0.158	0.274	0.076	0.254	0.370	0.211	0.318	0.330	0.446
	Back	0.070	0.041	0.129	0.272	0.411	0.074	0.342	0.481	0.185	0.273	0.416	0.555
LTE Band 38	Front	0.128	0.039	0.146	0.158	0.274	0.076	0.286	0.402	0.243	0.350	0.362	0.478
	Back	0.088	0.041	0.129	0.272	0.411	0.074	0.360	0.499	0.203	0.291	0.434	0.573
LTE Band 41	Front	0.249	0.039	0.146	0.158	0.274	0.076	0.407	0.523	0.364	0.471	0.483	0.599
	Back	0.291	0.041	0.129	0.272	0.411	0.074	0.563	0.702	0.406	0.494	0.637	0.776
LTE Band 66	Front	0.274	0.039	0.146	0.158	0.274	0.076	0.432	0.548	0.389	0.496	0.508	0.624
	Back	0.266	0.041	0.129	0.272	0.411	0.074	0.538	0.677	0.381	0.469	0.612	0.751
n7	Front	0.264	0.039	0.146	0.158	0.274	0.076	0.422	0.538	0.379	0.486	0.498	0.614
	Back	0.409	0.041	0.129	0.272	0.411	0.074	0.681	0.820	0.524	0.612	0.755	0.894

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Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		EN-DC	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
EN-DC n5_B7	Front	0.334	0.039	0.146	0.158	0.274	0.076	0.492	0.608	0.449	0.556	0.568	0.684
	Back	0.435	0.041	0.129	0.272	0.411	0.074	0.707	0.846	0.550	0.638	0.781	0.920

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8.4.3.3 Simultaneous Transmission SAR Summation Scenario for Hotspot

Exposure position	SARmax (W/kg)						3+8	5+8	6+8	7+8	2+5
	2	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
	WiFi 2.4G		WiFi 5G			BT					
	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO						
Front	0.312	0.142	0.261	0.174	0.482	0.102	0.244	0.363	0.276	0.584	0.573
Back	0.296	0.163	0.143	0.255	0.542	0.099	0.262	0.242	0.354	0.641	0.439
Left	0.052	0.008	0.217	0.187	0.291	0.056	0.064	0.273	0.243	0.347	0.269
Right	0.189	0.358	0.247	0.605	0.645	0.071	0.429	0.318	0.676	0.716	0.436
Top	0.568	0.004	0.785	0.122	0.624	0.116	0.120	0.901	0.238	0.740	1.353
Bottom	/	/	/	/	/	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant0	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Front	0.286	0.312	0.291	0.261	0.577	0.859
	Back	0.413	0.296	0.287	0.143	0.700	0.852
	Left	0.681	0.052	0.040	0.217	0.721	0.950
	Right	0.001	0.189	0.309	0.247	0.310	0.437
	Top	0.003	0.568	0.496	0.785	0.499	1.356
	Bottom	/	/	/	/	/	/
WCDMA Band V	Front	0.286	0.312	0.291	0.261	0.577	0.859
	Back	0.369	0.296	0.287	0.143	0.656	0.808
	Left	0.684	0.052	0.040	0.217	0.724	0.953
	Right	0.001	0.189	0.309	0.247	0.310	0.437
	Top	0.003	0.568	0.496	0.785	0.499	1.356
	Bottom	/	/	/	/	/	/
LTE Band 5	Front	0.222	0.312	0.291	0.261	0.513	0.795
	Back	0.334	0.296	0.287	0.143	0.621	0.773
	Left	0.654	0.052	0.040	0.217	0.694	0.923
	Right	0.015	0.189	0.309	0.247	0.324	0.451
	Top	0.029	0.568	0.496	0.785	0.525	1.382
	Bottom	/	/	/	/	/	/
LTE Band 12	Front	0.248	0.312	0.291	0.261	0.539	0.821
	Back	0.266	0.296	0.287	0.143	0.553	0.705
	Left	0.614	0.052	0.040	0.217	0.654	0.883
	Right	0.022	0.189	0.309	0.247	0.331	0.458
	Top	0.033	0.568	0.496	0.785	0.529	1.386
	Bottom	/	/	/	/	/	/
LTE Band 17	Front	0.172	0.312	0.291	0.261	0.463	0.745
	Back	0.242	0.296	0.287	0.143	0.529	0.681
	Left	0.425	0.052	0.040	0.217	0.465	0.694
	Right	0.018	0.189	0.309	0.247	0.327	0.454
	Top	0.025	0.568	0.496	0.785	0.521	1.378
	Bottom	/	/	/	/	/	/
LTE Band 26	Front	0.196	0.312	0.291	0.261	0.487	0.769

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n41	Back	0.290	0.296	0.287	0.143	0.577	0.729
	Left	0.623	0.052	0.040	0.217	0.663	0.892
	Right	0.021	0.189	0.309	0.247	0.330	0.457
	Top	0.039	0.568	0.496	0.785	0.535	1.392
	Bottom	/	/	/	/	/	/
	Front	0.521	0.312	0.291	0.261	0.812	1.094
	Back	0.598	0.296	0.287	0.143	0.885	1.037
	Left	1.190	0.052	0.040	0.217	1.230	1.459
	Right	0.049	0.189	0.309	0.247	0.358	0.485
	Top	0.112	0.568	0.496	0.785	0.608	1.465
	Bottom	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant1	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM850	Front	0.113	0.312	0.291	0.261	0.404	0.686
	Back	0.203	0.296	0.287	0.143	0.490	0.642
	Left	0.004	0.052	0.040	0.217	0.044	0.273
	Right	0.002	0.189	0.309	0.247	0.311	0.438
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.092	/	/	/	0.092	0.092
WCDMA Band V	Front	0.196	0.312	0.291	0.261	0.487	0.769
	Back	0.357	0.296	0.287	0.143	0.644	0.796
	Left	0.003	0.052	0.040	0.217	0.043	0.272
	Right	0.090	0.189	0.309	0.247	0.399	0.526
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.169	/	/	/	0.169	0.169
LTE Band 5	Front	0.220	0.312	0.291	0.261	0.511	0.793
	Back	0.339	0.296	0.287	0.143	0.626	0.778
	Left	0.010	0.052	0.040	0.217	0.050	0.279
	Right	0.081	0.189	0.309	0.247	0.390	0.517
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.148	/	/	/	0.148	0.148
LTE Band 12	Front	0.171	0.312	0.291	0.261	0.462	0.744
	Back	0.194	0.296	0.287	0.143	0.481	0.633
	Left	0.017	0.052	0.040	0.217	0.057	0.286
	Right	0.088	0.189	0.309	0.247	0.397	0.524
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.107	/	/	/	0.107	0.107
LTE Band 17	Front	0.181	0.312	0.291	0.261	0.472	0.754
	Back	0.201	0.296	0.287	0.143	0.488	0.640
	Left	0.009	0.052	0.040	0.217	0.049	0.278
	Right	0.084	0.189	0.309	0.247	0.393	0.520
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.115	/	/	/	0.115	0.115
LTE Band 26	Front	0.248	0.312	0.291	0.261	0.539	0.821
	Back	0.332	0.296	0.287	0.143	0.619	0.771

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	Left	0.018	0.052	0.040	0.217	0.058	0.287
	Right	0.081	0.189	0.309	0.247	0.390	0.517
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.182	/	/	/	0.182	0.182

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant2	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Front	0.255	0.312	0.291	0.261	0.546	0.828
	Back	0.314	0.296	0.287	0.143	0.601	0.753
	Left	0.058	0.052	0.040	0.217	0.098	0.327
	Right	0.001	0.189	0.309	0.247	0.310	0.437
	Top	0.460	0.160	0.496	0.785	0.956	1.405
	Bottom	/	/	/	/	/	/
WCDMA Band II	Front	0.147	0.312	0.291	0.261	0.438	0.720
	Back	0.184	0.296	0.287	0.143	0.471	0.623
	Left	0.024	0.052	0.040	0.217	0.064	0.293
	Right	0.029	0.189	0.309	0.247	0.338	0.465
	Top	0.367	0.160	0.496	0.785	0.863	1.312
	Bottom	/	/	/	/	/	/
WCDMA Band IV	Front	0.366	0.312	0.291	0.261	0.657	0.939
	Back	0.453	0.296	0.287	0.143	0.740	0.892
	Left	0.089	0.052	0.040	0.217	0.129	0.358
	Right	0.003	0.189	0.309	0.247	0.312	0.439
	Top	0.576	0.160	0.496	0.292	1.072	1.028
	Bottom	/	/	/	/	/	/
LTE Band 2	Front	0.166	0.312	0.291	0.261	0.457	0.739
	Back	0.188	0.296	0.287	0.143	0.475	0.627
	Left	0.031	0.052	0.040	0.217	0.071	0.300
	Right	0.018	0.189	0.309	0.247	0.327	0.454
	Top	0.354	0.160	0.496	0.785	0.850	1.299
	Bottom	/	/	/	/	/	/
LTE Band 4	Front	0.516	0.312	0.291	0.261	0.807	1.089
	Back	0.585	0.296	0.287	0.143	0.872	1.024
	Left	0.107	0.052	0.040	0.217	0.147	0.376
	Right	0.015	0.189	0.309	0.247	0.324	0.451
	Top	0.869	0.160	0.496	0.292	1.365	1.321
	Bottom	/	/	/	/	/	/
LTE Band 7	Front	0.354	0.312	0.291	0.261	0.645	0.927
	Back	0.420	0.296	0.287	0.143	0.707	0.859
	Left	0.044	0.052	0.040	0.217	0.084	0.313
	Right	0.055	0.189	0.309	0.247	0.364	0.491
	Top	0.618	0.160	0.496	0.292	1.114	1.070
	Bottom	/	/	/	/	/	/
LTE Band 38	Front	0.376	0.312	0.291	0.261	0.667	0.949
	Back	0.430	0.296	0.287	0.143	0.717	0.869
	Left	0.060	0.052	0.040	0.217	0.100	0.329

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	Right	0.051	0.189	0.309	0.247	0.360	0.487
	Top	0.490	0.160	0.496	0.785	0.986	1.435
	Bottom	/	/	/	/	/	/
LTE Band 41	Front	0.407	0.312	0.291	0.261	0.698	0.980
	Back	0.454	0.296	0.287	0.143	0.741	0.893
	Left	0.065	0.052	0.040	0.217	0.105	0.334
	Right	0.050	0.189	0.309	0.247	0.359	0.486
	Top	0.571	0.160	0.496	0.292	1.067	1.023
	Bottom	/	/	/	/	/	/
LTE Band 66	Front	0.594	0.312	0.291	0.261	0.885	1.167
	Back	0.675	0.296	0.287	0.143	0.962	1.114
	Left	0.131	0.052	0.040	0.217	0.171	0.400
	Right	0.046	0.189	0.309	0.247	0.355	0.482
	Top	0.829	0.160	0.496	0.292	1.325	1.281
	Bottom	/	/	/	/	/	/
n7	Front	0.503	0.312	0.291	0.261	0.794	1.076
	Back	0.591	0.296	0.287	0.143	0.878	1.030
	Left	0.149	0.052	0.040	0.217	0.189	0.418
	Right	0.121	0.189	0.309	0.247	0.430	0.557
	Top	0.995	0.160	0.496	0.292	1.491	1.447
	Bottom	/	/	/	/	/	/
n41	Front	0.413	0.312	0.291	0.261	0.704	0.986
	Back	0.459	0.296	0.287	0.143	0.746	0.898
	Left	0.112	0.052	0.040	0.217	0.152	0.381
	Right	0.082	0.189	0.309	0.247	0.391	0.518
	Top	0.910	0.160	0.496	0.292	1.406	1.362
	Bottom	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)				1+4 Summed SAR (W/kg)	1+2+5 Summed SAR (W/kg)
		1	2	4	5		
		WWAN	WiFi 2.4G		WiFi 5G		
		Ant3	Ant7 (chian0)	MIMO	Ant7 (chian1)		
GSM1900	Front	0.259	0.312	0.291	0.261	0.550	0.832
	Back	0.317	0.296	0.287	0.143	0.604	0.756
	Left	0.040	0.052	0.040	0.217	0.080	0.309
	Right	0.198	0.189	0.309	0.247	0.507	0.634
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.473	/	/	/	0.473	0.473
WCDMA Band II	Front	0.316	0.312	0.291	0.261	0.607	0.889
	Back	0.359	0.296	0.287	0.143	0.646	0.798
	Left	0.001	0.052	0.040	0.217	0.041	0.270
	Right	0.200	0.189	0.309	0.247	0.509	0.636
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.885	/	/	/	0.885	0.885
WCDMA Band IV	Front	0.397	0.312	0.291	0.261	0.688	0.970
	Back	0.434	0.296	0.287	0.143	0.721	0.873
	Left	0.001	0.052	0.040	0.217	0.041	0.270
	Right	0.289	0.189	0.309	0.247	0.598	0.725

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	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.805	/	/	/	0.805	0.805
LTE Band 2	Front	0.344	0.312	0.291	0.261	0.635	0.917
	Back	0.403	0.296	0.287	0.143	0.690	0.842
	Left	0.061	0.052	0.040	0.217	0.101	0.330
	Right	0.221	0.189	0.309	0.247	0.530	0.657
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.674	/	/	/	0.674	0.674
LTE Band 4	Front	0.428	0.312	0.291	0.261	0.719	1.001
	Back	0.470	0.296	0.287	0.143	0.757	0.909
	Left	0.005	0.052	0.040	0.217	0.045	0.274
	Right	0.305	0.189	0.309	0.247	0.614	0.741
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.729	/	/	/	0.729	0.729
LTE Band 7	Front	0.130	0.312	0.291	0.261	0.421	0.703
	Back	0.122	0.296	0.287	0.143	0.409	0.561
	Left	0.011	0.052	0.040	0.217	0.051	0.280
	Right	0.035	0.189	0.309	0.247	0.344	0.471
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.071	/	/	/	0.071	0.071
LTE Band 38	Front	0.279	0.312	0.291	0.261	0.570	0.852
	Back	0.181	0.296	0.287	0.143	0.468	0.620
	Left	0.045	0.052	0.040	0.217	0.085	0.314
	Right	0.139	0.189	0.309	0.247	0.448	0.575
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.054	/	/	/	0.054	0.054
LTE Band 41	Front	0.474	0.312	0.291	0.261	0.765	1.047
	Back	0.575	0.296	0.287	0.143	0.862	1.014
	Left	0.091	0.052	0.040	0.217	0.131	0.360
	Right	0.264	0.189	0.309	0.247	0.573	0.700
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.551	/	/	/	0.551	0.551
LTE Band 66	Front	0.358	0.312	0.291	0.261	0.649	0.931
	Back	0.481	0.296	0.287	0.143	0.768	0.920
	Left	0.063	0.052	0.040	0.217	0.103	0.332
	Right	0.305	0.189	0.309	0.247	0.614	0.741
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.751	/	/	/	0.751	0.751
n7	Front	0.467	0.312	0.291	0.261	0.758	1.040
	Back	0.703	0.296	0.287	0.143	0.990	1.142
	Left	0.118	0.052	0.040	0.217	0.158	0.387
	Right	0.323	0.189	0.309	0.247	0.632	0.759
	Top	/	0.568	0.496	0.785	0.496	1.353
	Bottom	0.559	/	/	/	0.559	0.559

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Band	Exposure position	SARmax (W/kg)				1+4	1+2+5
		1	2	4	5	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G		
		/	Ant7 (chian0)	MIMO	Ant7 (chian1)		
EN-DC n5_B7	Front	0.642	0.312	0.291	0.261	0.933	1.215
	Back	1.020	0.296	0.287	0.143	1.307	1.459
	Left	0.605	0.052	0.040	0.217	0.645	0.874
	Right	0.888	0.189	0.309	0.247	1.197	1.324
	Top	0.640	0.160	0.496	0.292	1.136	1.092
	Bottom	0.187	/	/	/	0.187	0.187

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant0	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Front	0.286	0.312	0.142	0.261	0.102	0.598	0.428	0.547	0.388
	Back	0.413	0.296	0.163	0.143	0.099	0.709	0.576	0.556	0.512
	Left	0.681	0.052	0.008	0.217	0.056	0.733	0.689	0.898	0.737
	Right	0.001	0.189	0.358	0.247	0.071	0.190	0.359	0.248	0.072
	Top	0.003	0.568	0.004	0.785	0.116	0.571	0.007	0.788	0.119
	Bottom	/	/	/	/	/	/	/	/	/
WCDMA Band V	Front	0.286	0.312	0.142	0.261	0.102	0.598	0.428	0.547	0.388
	Back	0.369	0.296	0.163	0.143	0.099	0.665	0.532	0.512	0.468
	Left	0.684	0.052	0.008	0.217	0.056	0.736	0.692	0.901	0.740
	Right	0.001	0.189	0.358	0.247	0.071	0.190	0.359	0.248	0.072
	Top	0.003	0.568	0.004	0.785	0.116	0.571	0.007	0.788	0.119
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 5	Front	0.222	0.312	0.142	0.261	0.102	0.534	0.364	0.483	0.324
	Back	0.334	0.296	0.163	0.143	0.099	0.630	0.497	0.477	0.433
	Left	0.654	0.052	0.008	0.217	0.056	0.706	0.662	0.871	0.710
	Right	0.015	0.189	0.358	0.247	0.071	0.204	0.373	0.262	0.086
	Top	0.029	0.568	0.004	0.785	0.116	0.597	0.033	0.814	0.145
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 12	Front	0.248	0.312	0.142	0.261	0.102	0.560	0.390	0.509	0.350
	Back	0.266	0.296	0.163	0.143	0.099	0.562	0.429	0.409	0.365
	Left	0.614	0.052	0.008	0.217	0.056	0.666	0.622	0.831	0.670
	Right	0.022	0.189	0.358	0.247	0.071	0.211	0.380	0.269	0.093
	Top	0.033	0.568	0.004	0.785	0.116	0.601	0.037	0.818	0.149
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 17	Front	0.172	0.312	0.142	0.261	0.102	0.484	0.314	0.433	0.274
	Back	0.242	0.296	0.163	0.143	0.099	0.538	0.405	0.385	0.341
	Left	0.425	0.052	0.008	0.217	0.056	0.477	0.433	0.642	0.481
	Right	0.018	0.189	0.358	0.247	0.071	0.207	0.376	0.265	0.089
	Top	0.025	0.568	0.004	0.785	0.116	0.593	0.029	0.810	0.141
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 26	Front	0.196	0.312	0.142	0.261	0.102	0.508	0.338	0.457	0.298
	Back	0.290	0.296	0.163	0.143	0.099	0.586	0.453	0.433	0.389

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	Left	0.623	0.052	0.008	0.217	0.056	0.675	0.631	0.840	0.679
	Right	0.021	0.189	0.358	0.247	0.071	0.210	0.379	0.268	0.092
	Top	0.039	0.568	0.004	0.785	0.116	0.607	0.043	0.824	0.155
	Bottom	/	/	/	/	/	/	/	/	/
n41	Front	0.521	0.312	0.142	0.261	0.102	0.833	0.663	0.782	0.623
	Back	0.598	0.296	0.163	0.143	0.099	0.894	0.761	0.741	0.697
	Left	1.190	0.052	0.008	0.217	0.056	1.242	1.198	1.407	1.246
	Right	0.049	0.189	0.358	0.247	0.071	0.238	0.407	0.296	0.120
	Top	0.112	0.568	0.004	0.785	0.116	0.680	0.116	0.897	0.228
	Bottom	/	/	/	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant1	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM850	Front	0.113	0.312	0.142	0.261	0.102	0.425	0.255	0.374	0.215
	Back	0.203	0.296	0.163	0.143	0.099	0.499	0.366	0.346	0.302
	Left	0.004	0.052	0.008	0.217	0.056	0.056	0.012	0.221	0.060
	Right	0.002	0.189	0.358	0.247	0.071	0.191	0.360	0.249	0.073
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.092	/	/	/	/	0.092	0.092	0.092	0.092
WCDMA Band V	Front	0.196	0.312	0.142	0.261	0.102	0.508	0.338	0.457	0.298
	Back	0.357	0.296	0.163	0.143	0.099	0.653	0.520	0.500	0.456
	Left	0.003	0.052	0.008	0.217	0.056	0.055	0.011	0.220	0.059
	Right	0.090	0.189	0.358	0.247	0.071	0.279	0.448	0.337	0.161
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.169	/	/	/	/	0.169	0.169	0.169	0.169
LTE Band 5	Front	0.220	0.312	0.142	0.261	0.102	0.532	0.362	0.481	0.322
	Back	0.339	0.296	0.163	0.143	0.099	0.635	0.502	0.482	0.438
	Left	0.010	0.052	0.008	0.217	0.056	0.062	0.018	0.227	0.066
	Right	0.081	0.189	0.358	0.247	0.071	0.270	0.439	0.328	0.152
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.148	/	/	/	/	0.148	0.148	0.148	0.148
LTE Band 12	Front	0.171	0.312	0.142	0.261	0.102	0.483	0.313	0.432	0.273
	Back	0.194	0.296	0.163	0.143	0.099	0.490	0.357	0.337	0.293
	Left	0.017	0.052	0.008	0.217	0.056	0.069	0.025	0.234	0.073
	Right	0.088	0.189	0.358	0.247	0.071	0.277	0.446	0.335	0.159
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.107	/	/	/	/	0.107	0.107	0.107	0.107
LTE Band 17	Front	0.181	0.312	0.142	0.261	0.102	0.493	0.323	0.442	0.283
	Back	0.201	0.296	0.163	0.143	0.099	0.497	0.364	0.344	0.300
	Left	0.009	0.052	0.008	0.217	0.056	0.061	0.017	0.226	0.065
	Right	0.084	0.189	0.358	0.247	0.071	0.273	0.442	0.331	0.155
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.115	/	/	/	/	0.115	0.115	0.115	0.115
LTE Band 26	Front	0.248	0.312	0.142	0.261	0.102	0.560	0.390	0.509	0.350
	Back	0.332	0.296	0.163	0.143	0.099	0.628	0.495	0.475	0.431
	Left	0.018	0.052	0.008	0.217	0.056	0.070	0.026	0.235	0.074

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	Right	0.081	0.189	0.358	0.247	0.071	0.270	0.439	0.328	0.152
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.182	/	/	/	/	0.182	0.182	0.182	0.182

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant2	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Front	0.255	0.312	0.142	0.261	0.102	0.567	0.397	0.516	0.357
	Back	0.314	0.296	0.163	0.143	0.099	0.610	0.477	0.457	0.413
	Left	0.058	0.052	0.008	0.217	0.056	0.110	0.066	0.275	0.114
	Right	0.001	0.189	0.358	0.247	0.071	0.190	0.359	0.248	0.072
	Top	0.460	0.568	0.004	0.785	0.116	1.028	0.464	1.245	0.576
	Bottom	/	/	/	/	/	/	/	/	/
WCDMA Band II	Front	0.147	0.312	0.142	0.261	0.102	0.459	0.289	0.408	0.249
	Back	0.184	0.296	0.163	0.143	0.099	0.480	0.347	0.327	0.283
	Left	0.024	0.052	0.008	0.217	0.056	0.076	0.032	0.241	0.080
	Right	0.029	0.189	0.358	0.247	0.071	0.218	0.387	0.276	0.100
	Top	0.367	0.568	0.004	0.785	0.116	0.935	0.371	1.152	0.483
	Bottom	/	/	/	/	/	/	/	/	/
WCDMA Band IV	Front	0.366	0.312	0.142	0.261	0.102	0.678	0.508	0.627	0.468
	Back	0.453	0.296	0.163	0.143	0.099	0.749	0.616	0.596	0.552
	Left	0.089	0.052	0.008	0.217	0.056	0.141	0.097	0.306	0.145
	Right	0.003	0.189	0.358	0.247	0.071	0.192	0.361	0.250	0.074
	Top	0.576	0.568	0.004	0.785	0.116	1.144	0.580	1.361	0.692
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 2	Front	0.166	0.312	0.142	0.261	0.102	0.478	0.308	0.427	0.268
	Back	0.188	0.296	0.163	0.143	0.099	0.484	0.351	0.331	0.287
	Left	0.031	0.052	0.008	0.217	0.056	0.083	0.039	0.248	0.087
	Right	0.018	0.189	0.358	0.247	0.071	0.207	0.376	0.265	0.089
	Top	0.354	0.568	0.004	0.785	0.116	0.922	0.358	1.139	0.470
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 4	Front	0.516	0.312	0.142	0.261	0.102	0.828	0.658	0.777	0.618
	Back	0.585	0.296	0.163	0.143	0.099	0.881	0.748	0.728	0.684
	Left	0.107	0.052	0.008	0.217	0.056	0.159	0.115	0.324	0.163
	Right	0.015	0.189	0.358	0.247	0.071	0.204	0.373	0.262	0.086
	Top	0.869	0.568	0.004	0.292	0.116	1.437	0.873	1.161	0.985
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 7	Front	0.354	0.312	0.142	0.261	0.102	0.666	0.496	0.615	0.456
	Back	0.420	0.296	0.163	0.143	0.099	0.716	0.583	0.563	0.519
	Left	0.044	0.052	0.008	0.217	0.056	0.096	0.052	0.261	0.100
	Right	0.055	0.189	0.358	0.247	0.071	0.244	0.413	0.302	0.126
	Top	0.618	0.568	0.004	0.785	0.116	1.186	0.622	1.403	0.734
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 38	Front	0.376	0.312	0.142	0.261	0.102	0.688	0.518	0.637	0.478
	Back	0.430	0.296	0.163	0.143	0.099	0.726	0.593	0.573	0.529
	Left	0.060	0.052	0.008	0.217	0.056	0.112	0.068	0.277	0.116
	Right	0.051	0.189	0.358	0.247	0.071	0.240	0.409	0.298	0.122

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	Top	0.490	0.568	0.004	0.785	0.116	1.058	0.494	1.275	0.606
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 41	Front	0.407	0.312	0.142	0.261	0.102	0.719	0.549	0.668	0.509
	Back	0.454	0.296	0.163	0.143	0.099	0.750	0.617	0.597	0.553
	Left	0.065	0.052	0.008	0.217	0.056	0.117	0.073	0.282	0.121
	Right	0.050	0.189	0.358	0.247	0.071	0.239	0.408	0.297	0.121
	Top	0.571	0.568	0.004	0.785	0.116	1.139	0.575	1.356	0.687
	Bottom	/	/	/	/	/	/	/	/	/
LTE Band 66	Front	0.594	0.312	0.142	0.261	0.102	0.906	0.736	0.855	0.696
	Back	0.675	0.296	0.163	0.143	0.099	0.971	0.838	0.818	0.774
	Left	0.131	0.052	0.008	0.217	0.056	0.183	0.139	0.348	0.187
	Right	0.046	0.189	0.358	0.247	0.071	0.235	0.404	0.293	0.117
	Top	0.829	0.568	0.004	0.292	0.116	1.397	0.833	1.121	0.945
	Bottom	/	/	/	/	/	/	/	/	/
n7	Front	0.503	0.312	0.142	0.261	0.102	0.815	0.645	0.764	0.605
	Back	0.591	0.296	0.163	0.143	0.099	0.887	0.754	0.734	0.690
	Left	0.149	0.052	0.008	0.217	0.056	0.201	0.157	0.366	0.205
	Right	0.121	0.189	0.358	0.247	0.071	0.310	0.479	0.368	0.192
	Top	0.995	0.225	0.004	0.292	0.116	1.220	0.999	1.287	1.111
	Bottom	/	/	/	/	/	/	/	/	/
n41	Front	0.413	0.312	0.142	0.261	0.102	0.725	0.555	0.674	0.515
	Back	0.459	0.296	0.163	0.143	0.099	0.755	0.622	0.602	0.558
	Left	0.112	0.052	0.008	0.217	0.056	0.164	0.120	0.329	0.168
	Right	0.082	0.189	0.358	0.247	0.071	0.271	0.440	0.329	0.153
	Top	0.910	0.568	0.004	0.292	0.116	1.478	0.914	1.202	1.026
	Bottom	/	/	/	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		Ant3	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
GSM1900	Front	0.259	0.312	0.142	0.261	0.102	0.571	0.401	0.520	0.361
	Back	0.317	0.296	0.163	0.143	0.099	0.613	0.480	0.460	0.416
	Left	0.040	0.052	0.008	0.217	0.056	0.092	0.048	0.257	0.096
	Right	0.198	0.189	0.358	0.247	0.071	0.387	0.556	0.445	0.269
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.473	/	/	/	/	0.473	0.473	0.473	0.473
WCDMA Band II	Front	0.316	0.312	0.142	0.261	0.102	0.628	0.458	0.577	0.418
	Back	0.359	0.296	0.163	0.143	0.099	0.655	0.522	0.502	0.458
	Left	0.001	0.052	0.008	0.217	0.056	0.053	0.009	0.218	0.057
	Right	0.200	0.189	0.358	0.247	0.071	0.389	0.558	0.447	0.271
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.885	/	/	/	/	0.885	0.885	0.885	0.885
WCDMA Band IV	Front	0.397	0.312	0.142	0.261	0.102	0.709	0.539	0.658	0.499
	Back	0.434	0.296	0.163	0.143	0.099	0.730	0.597	0.577	0.533
	Left	0.001	0.052	0.008	0.217	0.056	0.053	0.009	0.218	0.057
	Right	0.289	0.189	0.358	0.247	0.071	0.478	0.647	0.536	0.360
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116

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	Bottom	0.805	/	/	/	/	0.805	0.805	0.805	0.805
LTE Band 2	Front	0.344	0.312	0.142	0.261	0.102	0.656	0.486	0.605	0.446
	Back	0.403	0.296	0.163	0.143	0.099	0.699	0.566	0.546	0.502
	Left	0.061	0.052	0.008	0.217	0.056	0.113	0.069	0.278	0.117
	Right	0.221	0.189	0.358	0.247	0.071	0.410	0.579	0.468	0.292
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.674	/	/	/	/	0.674	0.674	0.674	0.674
LTE Band 4	Front	0.428	0.312	0.142	0.261	0.102	0.740	0.570	0.689	0.530
	Back	0.470	0.296	0.163	0.143	0.099	0.766	0.633	0.613	0.569
	Left	0.005	0.052	0.008	0.217	0.056	0.057	0.013	0.222	0.061
	Right	0.305	0.189	0.358	0.247	0.071	0.494	0.663	0.552	0.376
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.729	/	/	/	/	0.729	0.729	0.729	0.729
LTE Band 7	Front	0.130	0.312	0.142	0.261	0.102	0.442	0.272	0.391	0.232
	Back	0.122	0.296	0.163	0.143	0.099	0.418	0.285	0.265	0.221
	Left	0.011	0.052	0.008	0.217	0.056	0.063	0.019	0.228	0.067
	Right	0.035	0.189	0.358	0.247	0.071	0.224	0.393	0.282	0.106
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.071	/	/	/	/	0.071	0.071	0.071	0.071
LTE Band 38	Front	0.279	0.312	0.142	0.261	0.102	0.591	0.421	0.540	0.381
	Back	0.181	0.296	0.163	0.143	0.099	0.477	0.344	0.324	0.280
	Left	0.045	0.052	0.008	0.217	0.056	0.097	0.053	0.262	0.101
	Right	0.139	0.189	0.358	0.247	0.071	0.328	0.497	0.386	0.210
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.054	/	/	/	/	0.054	0.054	0.054	0.054
LTE Band 41	Front	0.474	0.312	0.142	0.261	0.102	0.786	0.616	0.735	0.576
	Back	0.575	0.296	0.163	0.143	0.099	0.871	0.738	0.718	0.674
	Left	0.091	0.052	0.008	0.217	0.056	0.143	0.099	0.308	0.147
	Right	0.264	0.189	0.358	0.247	0.071	0.453	0.622	0.511	0.335
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.551	/	/	/	/	0.551	0.551	0.551	0.551
LTE Band 66	Front	0.358	0.312	0.142	0.261	0.102	0.670	0.500	0.619	0.460
	Back	0.481	0.296	0.163	0.143	0.099	0.777	0.644	0.624	0.580
	Left	0.063	0.052	0.008	0.217	0.056	0.115	0.071	0.280	0.119
	Right	0.305	0.189	0.358	0.247	0.071	0.494	0.663	0.552	0.376
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.751	/	/	/	/	0.751	0.751	0.751	0.751
n7	Front	0.467	0.312	0.142	0.261	0.102	0.779	0.609	0.728	0.569
	Back	0.703	0.296	0.163	0.143	0.099	0.999	0.866	0.846	0.802
	Left	0.118	0.052	0.008	0.217	0.056	0.170	0.126	0.335	0.174
	Right	0.323	0.189	0.358	0.247	0.071	0.512	0.681	0.570	0.394
	Top	/	0.568	0.004	0.785	0.116	0.568	0.004	0.785	0.116
	Bottom	0.559	/	/	/	/	0.559	0.559	0.559	0.559

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Band	Exposure position	SARmax (W/kg)					1+2	1+3	1+5	1+8
		1	2	3	5	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G		WiFi 5G	BT				
		/	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)					
EN-DC n5_B7	Front	0.642	0.312	0.142	0.261	0.102	0.954	0.784	0.903	0.744
	Back	1.020	0.296	0.163	0.143	0.099	1.316	1.183	1.163	1.119
	Left	0.605	0.052	0.008	0.217	0.056	0.657	0.613	0.822	0.661
	Right	0.888	0.189	0.358	0.247	0.071	1.077	1.246	1.135	0.959
	Top	0.640	0.568	0.004	0.785	0.116	1.208	0.644	1.425	0.756
	Bottom	0.187	/	/	/	/	0.187	0.187	0.187	0.187

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant0	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Front	0.286	0.142	0.261	0.174	0.482	0.102	0.460	0.768	0.530	0.649	0.562	0.870
	Back	0.413	0.163	0.143	0.255	0.542	0.099	0.668	0.955	0.675	0.655	0.767	1.054
	Left	0.681	0.008	0.217	0.187	0.291	0.056	0.868	0.972	0.745	0.954	0.924	1.028
	Right	0.001	0.358	0.247	0.605	0.645	0.071	0.606	0.646	0.430	0.319	0.677	0.717
	Top	0.003	0.004	0.785	0.122	0.624	0.116	0.125	0.627	0.123	0.904	0.241	0.743
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
WCDMA Band V	Front	0.286	0.142	0.261	0.174	0.482	0.102	0.460	0.768	0.530	0.649	0.562	0.870
	Back	0.369	0.163	0.143	0.255	0.542	0.099	0.624	0.911	0.631	0.611	0.723	1.010
	Left	0.684	0.008	0.217	0.187	0.291	0.056	0.871	0.975	0.748	0.957	0.927	1.031
	Right	0.001	0.358	0.247	0.605	0.645	0.071	0.606	0.646	0.430	0.319	0.677	0.717
	Top	0.003	0.004	0.785	0.122	0.624	0.116	0.125	0.627	0.123	0.904	0.241	0.743
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 5	Front	0.222	0.142	0.261	0.174	0.482	0.102	0.396	0.704	0.466	0.585	0.498	0.806
	Back	0.334	0.163	0.143	0.255	0.542	0.099	0.589	0.876	0.596	0.576	0.688	0.975
	Left	0.654	0.008	0.217	0.187	0.291	0.056	0.841	0.945	0.718	0.927	0.897	1.001
	Right	0.015	0.358	0.247	0.605	0.645	0.071	0.620	0.660	0.444	0.333	0.691	0.731
	Top	0.029	0.004	0.785	0.122	0.624	0.116	0.151	0.653	0.149	0.930	0.267	0.769
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 12	Front	0.248	0.142	0.261	0.174	0.482	0.102	0.422	0.730	0.492	0.611	0.524	0.832
	Back	0.266	0.163	0.143	0.255	0.542	0.099	0.521	0.808	0.528	0.508	0.620	0.907
	Left	0.614	0.008	0.217	0.187	0.291	0.056	0.801	0.905	0.678	0.887	0.857	0.961
	Right	0.022	0.358	0.247	0.605	0.645	0.071	0.627	0.667	0.451	0.340	0.698	0.738
	Top	0.033	0.004	0.785	0.122	0.624	0.116	0.155	0.657	0.153	0.934	0.271	0.773
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 17	Front	0.172	0.142	0.261	0.174	0.482	0.102	0.346	0.654	0.416	0.535	0.448	0.756
	Back	0.242	0.163	0.143	0.255	0.542	0.099	0.497	0.784	0.504	0.484	0.596	0.883
	Left	0.425	0.008	0.217	0.187	0.291	0.056	0.612	0.716	0.489	0.698	0.668	0.772
	Right	0.018	0.358	0.247	0.605	0.645	0.071	0.623	0.663	0.447	0.336	0.694	0.734
	Top	0.025	0.004	0.785	0.122	0.624	0.116	0.147	0.649	0.145	0.926	0.263	0.765
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 26	Front	0.196	0.142	0.261	0.174	0.482	0.102	0.370	0.678	0.440	0.559	0.472	0.780
	Back	0.290	0.163	0.143	0.255	0.542	0.099	0.545	0.832	0.552	0.532	0.644	0.931

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SGS Taiwan Ltd.

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	Left	0.623	0.008	0.217	0.187	0.291	0.056	0.810	0.914	0.687	0.896	0.866	0.970
	Right	0.021	0.358	0.247	0.605	0.645	0.071	0.626	0.666	0.450	0.339	0.697	0.737
	Top	0.039	0.004	0.785	0.122	0.624	0.116	0.161	0.663	0.159	0.940	0.277	0.779
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
n41	Front	0.521	0.142	0.261	0.174	0.482	0.102	0.695	1.003	0.765	0.884	0.797	1.105
	Back	0.598	0.163	0.143	0.255	0.542	0.099	0.853	1.140	0.860	0.840	0.952	1.239
	Left	0.850	0.008	0.217	0.187	0.291	0.056	1.037	1.141	0.914	1.123	1.093	1.197
	Right	0.049	0.358	0.247	0.605	0.645	0.071	0.654	0.694	0.478	0.367	0.725	0.765
	Top	0.112	0.004	0.785	0.122	0.624	0.116	0.234	0.736	0.232	1.013	0.350	0.852
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		Ant1	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
GSM850	Front	0.113	0.142	0.261	0.174	0.482	0.102	0.287	0.595	0.357	0.476	0.389	0.697
	Back	0.203	0.163	0.143	0.255	0.542	0.099	0.458	0.745	0.465	0.445	0.557	0.844
	Left	0.004	0.008	0.217	0.187	0.291	0.056	0.191	0.295	0.068	0.277	0.247	0.351
	Right	0.002	0.358	0.247	0.605	0.645	0.071	0.607	0.647	0.431	0.320	0.678	0.718
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.092	/	/	/	/	/	0.092	0.092	0.092	0.092	0.092	0.092
WCDMA Band V	Front	0.196	0.142	0.261	0.174	0.482	0.102	0.370	0.678	0.440	0.559	0.472	0.780
	Back	0.357	0.163	0.143	0.255	0.542	0.099	0.612	0.899	0.619	0.599	0.711	0.998
	Left	0.003	0.008	0.217	0.187	0.291	0.056	0.190	0.294	0.067	0.276	0.246	0.350
	Right	0.090	0.358	0.247	0.605	0.645	0.071	0.695	0.735	0.519	0.408	0.766	0.806
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.169	/	/	/	/	/	0.169	0.169	0.169	0.169	0.169	0.169
LTE Band 5	Front	0.220	0.142	0.261	0.174	0.482	0.102	0.394	0.702	0.464	0.583	0.496	0.804
	Back	0.339	0.163	0.143	0.255	0.542	0.099	0.594	0.881	0.601	0.581	0.693	0.980
	Left	0.010	0.008	0.217	0.187	0.291	0.056	0.197	0.301	0.074	0.283	0.253	0.357
	Right	0.081	0.358	0.247	0.605	0.645	0.071	0.686	0.726	0.510	0.399	0.757	0.797
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.148	/	/	/	/	/	0.148	0.148	0.148	0.148	0.148	0.148
LTE Band 12	Front	0.171	0.142	0.261	0.174	0.482	0.102	0.345	0.653	0.415	0.534	0.447	0.755
	Back	0.194	0.163	0.143	0.255	0.542	0.099	0.449	0.736	0.456	0.436	0.548	0.835
	Left	0.017	0.008	0.217	0.187	0.291	0.056	0.204	0.308	0.081	0.290	0.260	0.364
	Right	0.088	0.358	0.247	0.605	0.645	0.071	0.693	0.733	0.517	0.406	0.764	0.804
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.107	/	/	/	/	/	0.107	0.107	0.107	0.107	0.107	0.107
LTE Band 17	Front	0.181	0.142	0.261	0.174	0.482	0.102	0.355	0.663	0.425	0.544	0.457	0.765
	Back	0.201	0.163	0.143	0.255	0.542	0.099	0.456	0.743	0.463	0.443	0.555	0.842
	Left	0.009	0.008	0.217	0.187	0.291	0.056	0.196	0.300	0.073	0.282	0.252	0.356
	Right	0.084	0.358	0.247	0.605	0.645	0.071	0.689	0.729	0.513	0.402	0.760	0.800
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.115	/	/	/	/	/	0.115	0.115	0.115	0.115	0.115	0.115
LTE Band 26	Front	0.248	0.142	0.261	0.174	0.482	0.102	0.422	0.730	0.492	0.611	0.524	0.832
	Back	0.332	0.163	0.143	0.255	0.542	0.099	0.587	0.874	0.594	0.574	0.686	0.973
	Left	0.018	0.008	0.217	0.187	0.291	0.056	0.205	0.309	0.082	0.291	0.261	0.365

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Right	0.081	0.358	0.247	0.605	0.645	0.071	0.686	0.726	0.510	0.399	0.757	0.797
Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
Bottom	0.182	/	/	/	/	/	0.182	0.182	0.182	0.182	0.182	0.182

Band	Exposure position	SARmax (W/kg)					8	1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8	
		1	3	5	6	7								
		WWAN	WiFi 2.4G	WiFi 5G										BT
		Ant2	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO								
GSM1900	Front	0.255	0.142	0.261	0.174	0.482	0.102	0.429	0.737	0.499	0.618	0.531	0.839	
	Back	0.314	0.163	0.143	0.255	0.542	0.099	0.569	0.856	0.576	0.556	0.668	0.955	
	Left	0.058	0.008	0.217	0.187	0.291	0.056	0.245	0.349	0.122	0.331	0.301	0.405	
	Right	0.001	0.358	0.247	0.605	0.645	0.071	0.606	0.646	0.430	0.319	0.677	0.717	
	Top	0.460	0.004	0.785	0.122	0.624	0.116	0.582	1.084	0.580	1.361	0.698	1.200	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
WCDMA Band II	Front	0.147	0.142	0.261	0.174	0.482	0.102	0.321	0.629	0.391	0.510	0.423	0.731	
	Back	0.184	0.163	0.143	0.255	0.542	0.099	0.439	0.726	0.446	0.426	0.538	0.825	
	Left	0.024	0.008	0.217	0.187	0.291	0.056	0.211	0.315	0.088	0.297	0.267	0.371	
	Right	0.029	0.358	0.247	0.605	0.645	0.071	0.634	0.674	0.458	0.347	0.705	0.745	
	Top	0.367	0.004	0.785	0.122	0.624	0.116	0.489	0.991	0.487	1.268	0.605	1.107	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
WCDMA Band IV	Front	0.366	0.142	0.261	0.174	0.482	0.102	0.540	0.848	0.610	0.729	0.642	0.950	
	Back	0.453	0.163	0.143	0.255	0.542	0.099	0.708	0.995	0.715	0.695	0.807	1.094	
	Left	0.089	0.008	0.217	0.187	0.291	0.056	0.276	0.380	0.153	0.362	0.332	0.436	
	Right	0.003	0.358	0.247	0.605	0.645	0.071	0.608	0.648	0.432	0.321	0.679	0.719	
	Top	0.576	0.004	0.785	0.122	0.624	0.116	0.698	1.200	0.696	1.477	0.814	1.316	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
LTE Band 2	Front	0.166	0.142	0.261	0.174	0.482	0.102	0.340	0.648	0.410	0.529	0.442	0.750	
	Back	0.188	0.163	0.143	0.255	0.542	0.099	0.443	0.730	0.450	0.430	0.542	0.829	
	Left	0.031	0.008	0.217	0.187	0.291	0.056	0.218	0.322	0.095	0.304	0.274	0.378	
	Right	0.018	0.358	0.247	0.605	0.645	0.071	0.623	0.663	0.447	0.336	0.694	0.734	
	Top	0.354	0.004	0.785	0.122	0.624	0.116	0.476	0.978	0.474	1.255	0.592	1.094	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
LTE Band 4	Front	0.516	0.142	0.261	0.174	0.482	0.102	0.690	0.998	0.760	0.879	0.792	1.100	
	Back	0.585	0.163	0.143	0.255	0.542	0.099	0.840	1.127	0.847	0.827	0.939	1.226	
	Left	0.107	0.008	0.217	0.187	0.291	0.056	0.294	0.398	0.171	0.380	0.350	0.454	
	Right	0.015	0.358	0.247	0.605	0.645	0.071	0.620	0.660	0.444	0.333	0.691	0.731	
	Top	0.869	0.004	0.292	0.122	0.241	0.116	0.991	1.110	0.989	1.277	1.107	1.226	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
LTE Band 7	Front	0.354	0.142	0.261	0.174	0.482	0.102	0.528	0.836	0.598	0.717	0.630	0.938	
	Back	0.420	0.163	0.143	0.255	0.542	0.099	0.675	0.962	0.682	0.662	0.774	1.061	
	Left	0.044	0.008	0.217	0.187	0.291	0.056	0.231	0.335	0.108	0.317	0.287	0.391	
	Right	0.055	0.358	0.247	0.605	0.645	0.071	0.660	0.700	0.484	0.373	0.731	0.771	
	Top	0.618	0.004	0.292	0.122	0.624	0.116	0.740	1.242	0.738	1.026	0.856	1.358	
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	
LTE Band 38	Front	0.376	0.142	0.261	0.174	0.482	0.102	0.550	0.858	0.620	0.739	0.652	0.960	
	Back	0.430	0.163	0.143	0.255	0.542	0.099	0.685	0.972	0.692	0.672	0.784	1.071	
	Left	0.060	0.008	0.217	0.187	0.291	0.056	0.247	0.351	0.124	0.333	0.303	0.407	
	Right	0.051	0.358	0.247	0.605	0.645	0.071	0.656	0.696	0.480	0.369	0.727	0.767	

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	Top	0.490	0.004	0.785	0.122	0.624	0.116	0.612	1.114	0.610	1.391	0.728	1.230
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 41	Front	0.407	0.142	0.261	0.174	0.482	0.102	0.581	0.889	0.651	0.770	0.683	0.991
	Back	0.454	0.163	0.143	0.255	0.542	0.099	0.709	0.996	0.716	0.696	0.808	1.095
	Left	0.065	0.008	0.217	0.187	0.291	0.056	0.252	0.356	0.129	0.338	0.308	0.412
	Right	0.050	0.358	0.247	0.605	0.645	0.071	0.655	0.695	0.479	0.368	0.726	0.766
	Top	0.571	0.004	0.785	0.122	0.624	0.116	0.693	1.195	0.691	1.472	0.809	1.311
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
LTE Band 66	Front	0.594	0.142	0.261	0.174	0.482	0.102	0.768	1.076	0.838	0.957	0.870	1.178
	Back	0.675	0.163	0.143	0.255	0.542	0.099	0.930	1.217	0.937	0.917	1.029	1.316
	Left	0.131	0.008	0.217	0.187	0.291	0.056	0.318	0.422	0.195	0.404	0.374	0.478
	Right	0.046	0.358	0.247	0.605	0.645	0.071	0.651	0.691	0.475	0.364	0.722	0.762
	Top	0.829	0.004	0.292	0.122	0.241	0.116	0.951	1.070	0.949	1.237	1.067	1.186
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
n7	Front	0.503	0.142	0.261	0.174	0.482	0.102	0.677	0.985	0.747	0.866	0.779	1.087
	Back	0.591	0.163	0.143	0.255	0.542	0.099	0.846	1.133	0.853	0.833	0.945	1.232
	Left	0.149	0.008	0.217	0.187	0.291	0.056	0.336	0.440	0.213	0.422	0.392	0.496
	Right	0.121	0.358	0.247	0.605	0.645	0.071	0.726	0.766	0.550	0.439	0.797	0.837
	Top	0.995	0.004	0.292	0.122	0.241	0.116	1.117	1.236	1.115	1.403	1.233	1.352
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/
n41	Front	0.413	0.142	0.261	0.174	0.482	0.102	0.587	0.895	0.657	0.776	0.689	0.997
	Back	0.459	0.163	0.143	0.255	0.542	0.099	0.714	1.001	0.721	0.701	0.813	1.100
	Left	0.112	0.008	0.217	0.187	0.291	0.056	0.299	0.403	0.176	0.385	0.355	0.459
	Right	0.082	0.358	0.247	0.605	0.645	0.071	0.687	0.727	0.511	0.400	0.758	0.798
	Top	0.910	0.004	0.292	0.122	0.241	0.116	1.032	1.151	1.030	1.318	1.148	1.267
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/

Band	Exposure position	SARmax (W/kg)					8	1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7							
		WWAN	WiFi 2.4G	WiFi 5G									
		Ant3	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
		BT					Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	
GSM1900	Front	0.259	0.142	0.261	0.174	0.482	0.102	0.433	0.741	0.503	0.622	0.535	0.843
	Back	0.317	0.163	0.143	0.255	0.542	0.099	0.572	0.859	0.579	0.559	0.671	0.958
	Left	0.040	0.008	0.217	0.187	0.291	0.056	0.227	0.331	0.104	0.313	0.283	0.387
	Right	0.198	0.358	0.247	0.605	0.645	0.071	0.803	0.843	0.627	0.516	0.874	0.914
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.473	/	/	/	/	/	0.473	0.473	0.473	0.473	0.473	0.473
WCDMA Band II	Front	0.316	0.142	0.261	0.174	0.482	0.102	0.490	0.798	0.560	0.679	0.592	0.900
	Back	0.359	0.163	0.143	0.255	0.542	0.099	0.614	0.901	0.621	0.601	0.713	1.000
	Left	0.001	0.008	0.217	0.187	0.291	0.056	0.188	0.292	0.065	0.274	0.244	0.348
	Right	0.200	0.358	0.247	0.605	0.645	0.071	0.805	0.845	0.629	0.518	0.876	0.916
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.885	/	/	/	/	/	0.885	0.885	0.885	0.885	0.885	0.885
WCDMA Band IV	Front	0.397	0.142	0.261	0.174	0.482	0.102	0.571	0.879	0.641	0.760	0.673	0.981
	Back	0.434	0.163	0.143	0.255	0.542	0.099	0.689	0.976	0.696	0.676	0.788	1.075
	Left	0.001	0.008	0.217	0.187	0.291	0.056	0.188	0.292	0.065	0.274	0.244	0.348
	Right	0.289	0.358	0.247	0.605	0.645	0.071	0.894	0.934	0.718	0.607	0.965	1.005
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740

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	Bottom	0.805	/	/	/	/	/	0.805	0.805	0.805	0.805	0.805	0.805
LTE Band 2	Front	0.344	0.142	0.261	0.174	0.482	0.102	0.518	0.826	0.588	0.707	0.620	0.928
	Back	0.403	0.163	0.143	0.255	0.542	0.099	0.658	0.945	0.665	0.645	0.757	1.044
	Left	0.061	0.008	0.217	0.187	0.291	0.056	0.248	0.352	0.125	0.334	0.304	0.408
	Right	0.221	0.358	0.247	0.605	0.645	0.071	0.826	0.866	0.650	0.539	0.897	0.937
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.674	/	/	/	/	/	0.674	0.674	0.674	0.674	0.674	0.674
LTE Band 4	Front	0.428	0.142	0.261	0.174	0.482	0.102	0.602	0.910	0.672	0.791	0.704	1.012
	Back	0.470	0.163	0.143	0.255	0.542	0.099	0.725	1.012	0.732	0.712	0.824	1.111
	Left	0.005	0.008	0.217	0.187	0.291	0.056	0.192	0.296	0.069	0.278	0.248	0.352
	Right	0.305	0.358	0.247	0.605	0.645	0.071	0.910	0.950	0.734	0.623	0.981	1.021
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.729	/	/	/	/	/	0.729	0.729	0.729	0.729	0.729	0.729
LTE Band 7	Front	0.130	0.142	0.261	0.174	0.482	0.102	0.304	0.612	0.374	0.493	0.406	0.714
	Back	0.122	0.163	0.143	0.255	0.542	0.099	0.377	0.664	0.384	0.364	0.476	0.763
	Left	0.011	0.008	0.217	0.187	0.291	0.056	0.198	0.302	0.075	0.284	0.254	0.358
	Right	0.035	0.358	0.247	0.605	0.645	0.071	0.640	0.680	0.464	0.353	0.711	0.751
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.071	/	/	/	/	/	0.071	0.071	0.071	0.071	0.071	0.071
LTE Band 38	Front	0.279	0.142	0.261	0.174	0.482	0.102	0.453	0.761	0.523	0.642	0.555	0.863
	Back	0.181	0.163	0.143	0.255	0.542	0.099	0.436	0.723	0.443	0.423	0.535	0.822
	Left	0.045	0.008	0.217	0.187	0.291	0.056	0.232	0.336	0.109	0.318	0.288	0.392
	Right	0.139	0.358	0.247	0.605	0.645	0.071	0.744	0.784	0.568	0.457	0.815	0.855
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.054	/	/	/	/	/	0.054	0.054	0.054	0.054	0.054	0.054
LTE Band 41	Front	0.474	0.142	0.261	0.174	0.482	0.102	0.648	0.956	0.718	0.837	0.750	1.058
	Back	0.575	0.163	0.143	0.255	0.542	0.099	0.830	1.117	0.837	0.817	0.929	1.216
	Left	0.091	0.008	0.217	0.187	0.291	0.056	0.278	0.382	0.155	0.364	0.334	0.438
	Right	0.264	0.358	0.247	0.605	0.645	0.071	0.869	0.909	0.693	0.582	0.940	0.980
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.551	/	/	/	/	/	0.551	0.551	0.551	0.551	0.551	0.551
LTE Band 66	Front	0.358	0.142	0.261	0.174	0.482	0.102	0.532	0.840	0.602	0.721	0.634	0.942
	Back	0.481	0.163	0.143	0.255	0.542	0.099	0.736	1.023	0.743	0.723	0.835	1.122
	Left	0.063	0.008	0.217	0.187	0.291	0.056	0.250	0.354	0.127	0.336	0.306	0.410
	Right	0.305	0.358	0.247	0.605	0.645	0.071	0.910	0.950	0.734	0.623	0.981	1.021
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.751	/	/	/	/	/	0.751	0.751	0.751	0.751	0.751	0.751
n7	Front	0.467	0.142	0.261	0.174	0.482	0.102	0.641	0.949	0.711	0.830	0.743	1.051
	Back	0.703	0.163	0.143	0.255	0.542	0.099	0.958	1.245	0.965	0.945	1.057	1.344
	Left	0.118	0.008	0.217	0.187	0.291	0.056	0.305	0.409	0.182	0.391	0.361	0.465
	Right	0.323	0.358	0.247	0.605	0.645	0.071	0.928	0.968	0.752	0.641	0.999	1.039
	Top	/	0.004	0.785	0.122	0.624	0.116	0.122	0.624	0.120	0.901	0.238	0.740
	Bottom	0.559	/	/	/	/	/	0.559	0.559	0.559	0.559	0.559	0.559

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Band	Exposure position	SARmax (W/kg)						1+6	1+7	1+3+8	1+5+8	1+6+8	1+7+8
		1	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
		WWAN	WiFi 2.4G	WiFi 5G			BT						
		/	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO							
EN-DC n5_B7	Front	0.642	0.142	0.261	0.174	0.482	0.102	0.816	1.124	0.886	1.005	0.918	1.226
	Back	1.020	0.163	0.143	0.255	0.209	0.099	1.275	1.229	1.282	1.262	1.374	1.328
	Left	0.605	0.008	0.217	0.187	0.291	0.056	0.792	0.896	0.669	0.878	0.848	0.952
	Right	0.888	0.358	0.247	0.189	0.254	0.071	1.077	1.142	1.317	1.206	1.148	1.213
	Top	0.640	0.004	0.292	0.122	0.624	0.116	0.762	1.264	0.760	1.048	0.878	1.380
	Bottom	0.187	/	/	/	/	/	0.187	0.187	0.187	0.187	0.187	0.187

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8.4.3.4 Simultaneous Transmission SAR Summation Scenario for Product specific 10g SAR

Exposure position	SARmax (W/kg)						3+8	5+8	6+8	7+8	2+5
	2	3	5	6	7	8	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)	Summed SAR (W/kg)
	WiFi 2.4G		WiFi 5G			BT					
	Ant7 (chian0)	Ant8 (chian1)	Ant7 (chian1)	Ant8 (chian0)	MIMO						
Front	/	/	1.965	1.091	1.587	0.422	0.422	2.387	1.513	2.009	1.965
Back	/	/	0.952	1.057	0.798	0.422	0.422	1.374	1.479	1.220	0.952
Left	/	/	/	/	/	0.422	0.422	0.422	0.422	0.422	0.000
Right	/	/	0.512	1.741	1.628	0.422	0.422	0.934	2.163	2.050	0.512
Top	/	/	2.290	0.146	2.262	0.422	0.422	2.712	0.568	2.684	2.290
Bottom	/	/	/	/	/	0.422	0.422	0.422	0.422	0.422	0.000

Note: WWAN part of the test does not need to test Product specific 10g SAR, so there is no calculation to synchronize transmission with the WWLN part.

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9 Equipment list

Test Platform		SPEAG DASY5 Professional				
Description		SAR Test System (Frequency range 300MHz-6GHz)				
Software Reference		DASY52 52; SEMCAD X				
Hardware Reference						
Equipment		Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Twin Phantom	SPEAG	SAM 1	1640	NCR	NCR
☒	Twin Phantom	SPEAG	SAM 2	1913	NCR	NCR
☒	Twin Phantom	SPEAG	SAM 7	1027	NCR	NCR
☒	DAE	SPEAG	DAE4	1267	2019-12-17	2020-12-16
☒	DAE	SPEAG	DAE4	1428	2020-03-03	2021-03-02
☒	E-Field Probe	SPEAG	EX3DV4	3923	2019-10-22	2020-10-21
☒	E-Field Probe	SPEAG	EX3DV4	3793	2020-05-09	2021-05-08
☒	Validation Kits	SPEAG	D750V3	1160	2019-05-22	2022-05-21
☒	Validation Kits	SPEAG	D835V2	4d105	2019-12-17	2022-12-16
☒	Validation Kits	SPEAG	D1750V2	1149	2019-05-21	2022-05-20
☒	Validation Kits	SPEAG	D1900V2	5d028	2019-12-17	2022-12-16
☒	Validation Kits	SPEAG	D2450V2	733	2019-12-17	2022-12-16
☒	Validation Kits	SPEAG	D2600V2	1125	2019-05-20	2022-05-19
☒	Validation Kits	SPEAG	D5GHzV2	1165	2019-12-20	2022-12-19
☒	Agilent Network Analyzer	Agilent	E5071C	MY46523591	2020-04-16	2021-04-15
☒	Dielectric Probe Kit	Agilent	85070E	US01440210	NCR	NCR
☒	Universal Radio Communication Tester	R&S	CMU200	123090	2020-06-11	2021-06-10
☒	Universal Radio Communication Tester	R&S	CMW500	111637	2020-04-16	2021-04-15

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☒	Radio Communication Analyzer	Anritsu	MT8821C	6201502984	2019-06-25	2020-06-24
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	Agilent	N5171B	MY53050736	2020-04-15	2021-04-14
☒	Preamplifier	Mini-Circuits	ZHL-42W	15542	NCR	NCR
☒	Preamplifier	Compliance Directions Systems Inc.	AMP28-3W	073501433	NCR	NCR
☒	Power Meter	Agilent	E4416A	GB41292095	2020-04-15	2021-04-14
☒	Power Sensor	Agilent	8481H	MY41091234	2020-04-15	2021-04-14
☒	Power Sensor	R&S	NRP-Z92	100025	2020-04-16	2021-04-15
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	MingGao	T809	NA	2020-04-21	2021-04-20
☒	Humidity and Temperature Indicator	KIMTOKA	KIMTOKA	NA	2020-04-21	2021-04-20

Note: All the equipments are within the valid period when the tests are performed.

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10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D

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Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

Appendix E: Conducted RF Output Power Table

---END---

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