FCC SAR TEST REPORT

Application No.:	SZCR2410003954WM
Applicant:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address of Applicant:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Manufacturer:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address of Manufacturer:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
EUT Description:	Mobile Phone
Model No.:	RMX5051
Trade Mark:	realme
FCC ID:	2AUYFRMX5051
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2024-11-05
Date of Test:	2024-11-06 to 2024-11-26
Date of Issue:	2024-11-29
Test Result :	**PASS ***

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

Keny. xu

Keny Xu
EMC Laboratory Manager

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Revision Record			
Version	**Description**	**Date**	**Remark**
01		2024-11-29	

Authorized for issue by:				
		Sherlock Fang **Sherlock Fang/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Product specific 10g SAR
GSM850	0.29	0.28	0.56	/
GSM1900	0.06	0.13	0.39	/
WCDMA Band II	1.06	0.29	0.73	/
WCDMA Band IV	1.00	0.31	0.68	/
WCDMA Band V	0.22	0.23	0.40	/
LTE Band 2	1.14	0.30	0.64	/
LTE Band 7	1.15	0.40	0.93	/
LTE Band 12/17	0.26	0.17	0.31	/
LTE Band 13	0.16	0.23	0.30	/
LTE Band 26/5	0.18	0.19	0.35	/
LTE Band 41/38	**1.16**	0.21	0.53	/
LTE Band 66/4	0.78	0.29	0.69	/
NR Band n2	0.95	0.26	0.63	/
NR Band n7	0.95	0.30	0.77	/
NR Band n26/5	0.23	0.24	0.46	/
NR Band n41/38	1.12	0.45	**1.08**	/
NR Band n66	0.94	0.25	0.69	/
WI-FI (2.4GHz)	0.64	0.21	0.65	/
WI-FI (5GHz)	0.73	**0.70**	0.75	**1.65**
BT	0.30	0.21	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	1.46	1.35	1.35	1.65
SPLSR	/	/	/	/
SPLSR Limited	0.04			0.1

Note: The Simultaneous transmission SAR is the same test position of the WWAN Antenna + WiFi/BT Antenna.
According to TCB workshop (Overlapping LTE Bands): SAR in LTE band 4 (frequency range: 1710-1755 MHz) is covered by LTE band 66 (frequency range: 1710-1780 MHz). SAR in LTE band 5 (frequency range: 824-849 MHz) is covered by LTE band 26 (frequency range: 814-849 MHz). SAR in LTE band 17 (frequency range: 704-716 MHz) is covered by LTE band 12 (frequency range: 699-716 MHz). SAR in NR Band n5 (frequency range: 824-849 MHz) is covered by NR Band n26 (frequency range: 814-849 MHz). The SAR in NR Band n38 (frequency range: 2570-2620 MHz) is covered by NR Band n41 (frequency range: 2496-2690 MHz).

Because the frequency range is similar, the maximum tuning limit is the same, and the channel bandwidth and other operating parameters for the smaller band is fully supported by the larger band.

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1 General Information

1.1 General Description of EUT

Product Name:	Mobile Phone		
Model No.:	RMX5051		
Trade Mark:	realme		
Product Phase:	production unit		
Device Type:	portable device		
Exposure Category:	uncontrolled environment / general population		
IMEI:	864347070019633; 864347070019591; 864347070010561; 864347070010468; 864347070019617; 864347070019930; 864347070019898; 864347070019932		
Hardware Version	11		
Software Version	realme UI 6.0		
Antenna Type:	Integrated		
Device Operating Configurations:			
Modulation Mode:	GSM: GMSK, 8PSK; WCDMA: QPSK,16QAM LTE: QPSK,16QAM,64QAM 5G NR: DFT-s-OFDM (QPSK, 16QAM, 64QAM, 256QAM), CP-OFDM (QPSK, 16QAM, 64QAM, 256QAM) WIFI: DSSS, OFDM, OFDMA; BT: GFSK, π/4DQPSK,8DPSK		
Device Class:	B		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	24	HSUPA UE Category	7
DC-HSDPA UE Category:	24		
Power Class:	4, tested with power level 5(GSM850,GSM900)		
	3, tested with power control “all 1”(WCDMA Band)		
	3, tested with power control “max power”(LTE Band)		
Frequency Bands:	Band	Tx(MHz)	Rx(MHz)
	GSM850	824~849	869~894
	GSM1900	1850~1910	1930~1990
	WCDMA Band II	1850~1910	1930~1990
	WCDMA Band IV	1710~1755	2110~2155
	WCDMA Band V	824~849	869~894
	LTE Band 2	1850 ~1910	1930 ~1990
	LTE Band 4	1710~1755	2110~2155

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	LTE Band 5	824~849	869-894
	LTE Band 7	2500~2570	2620~2690
	LTE Band 12	699~716	729~746
	LTE Band 13	777~787	746~756
	LTE Band 17	704~716	734~746
	LTE Band 26	814~849	859~894
	LTE Band 38	2570~2620	2570~2620
	LTE Band 41	2496~2690	2496~2690
	LTE Band 66	1710~1780	2110~2180
	NR Band n2	1850 ~1910	1930 ~1990
	NR Band n5	824~849	869-894
	NR Band n7	2500~2570	2620~2690
	NR Band n26	814~849	859~894
	NR Band n38	2570~2620	2570~2620
	NR Band n41	2496~2690	2496~2690
	NR Band n66	1710~1780	2110~2180
	WIFI 2.4G	2412~2462	2412~2462
	WIFI 5G	5150~5250	5150~5250
		5250~5350	5250~5350
		5470~5725	5470~5725
		5725~5850	5725~5850
	BT	2402~2480	2402~2480
RF Cable:	☒Provided by applicant ☐Provided by the laboratory		
Battery Information 1#:	Model:	BLPB77 Li-ion polymer Battery	
	Normal Voltage:	3.92V	
	Rated capacity:	5860mAh	
	Manufacturer:	Dongguan NVT Technology Co., Ltd	

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1.1.1 DUT Antenna Locations (Back View)

The DUT Antenna Locations can be referred to Appendix D.

Note:

1) The test device is a smart phone. The overall diagonal dimension of this device is 175mm. Per KDB 648474 D04, because the diagonal distance of this device is ≥160mm, so it is a phablet.

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

Distance of the Antenna to the EUT surface/edge						
Mode	Front	Back	Left	Right	Top	Bottom
Ant0	≤25mm	≤25mm	≤25mm	>25mm	≤25mm	>25mm
Ant1	≤25mm	≤25mm	≤25mm	>25mm	>25mm	≤25mm
Ant4	≤25mm	≤25mm	≤25mm	>25mm	≤25mm	>25mm
Ant5	≤25mm	≤25mm	>25mm	≤25mm	>25mm	≤25mm
Ant6	≤25mm	≤25mm	>25mm	≤25mm	>25mm	>25mm
Ant8	≤25mm	≤25mm	>25mm	≤25mm	≤25mm	>25mm
Ant9	≤25mm	≤25mm	>25mm	≤25mm	≤25mm	>25mm
Ant12	≤25mm	≤25mm	>25mm	≤25mm	≤25mm	>25mm

Table 1： Distance of the Antenna to the EUT surface/edge

Note:

1) When the antenna-to-edge distance is greater than 25mm, such position does not need to be tested.

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1.1.2 Smart Transmit feature for RF Exposure compliance

The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmit power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR(transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

The patameters obtained form SAR characterization(referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System(EFS) to enable the Smart Transmit Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR_design_target
P_{max}	Maximum tune-up power level
SAR_design_target	The design target for SAR compliance. It should be less than SAR limit to account for all device design related uncertainties.
SAR char	Plimit for all the technologies/bands

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

SAR_design_target and Uncertainty

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer.

SAR_design_target < SARregulatory_limit x 10(-total uncertainty)/10

Uncertainty dB(k=2)	All Band
Total uncertainty	1.2

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Exposure position	Frequency band	SAR Regulatory Limit W/kg(1g)	SAR design target W/kg(1g)
Head	WWAN	1.6	1.2
Body worn	WWAN	1.6	1.2
Hotspot	WWAN	1.6	1.2

Exposure position	Frequency band	SAR Regulatory Limit W/kg(10g)	SAR design target W/kg(10g)
Product specific 10gSAR	WWAN	4.0	3.0

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.
Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (DSI: Device State Index).

P_{limt} for supported technologies and bands (actual EFS settings)

Band	Mode	Antenna	P_{max*}	P_{limit} (average)		
				Head	Body Worn/ Product specific 10gSAR	Hotspot
				DSI5(State5)	DSI3(State3)	DSI8(State8)
GSM 850	GPRS 2TS	1#	25.0	25.0	25.0	25.0
GSM 1900	GPRS 2TS	5#	22.0	22.0	22.0	22.0
WCDMA_B2	RMC	4#	23.0	20.0	22.5	22.5
	RMC	5#	23.0	23.0	23.0	23.0
WCDMA_B4	RMC	4#	24.2	21.2	23.2	23.2
	RMC	5#	24.2	24.2	22.7	22.7
WCDMA_B5	RMC	0#	24.2	24.2	24.2	24.2
	RMC	1#	24.2	24.2	24.2	24.2
LTE_B2	QPSK	4#	23.0	21.0	22.5	22.5
	QPSK	5#	23.0	23.0	23.0	23.0
LTE_B4	QPSK	4#	24.2	20.2	23.2	23.2

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	QPSK	5#	24.2	24.2	24.2	24.2
	QPSK	0#	24.2	24.2	24.2	24.2
LTE_B5	QPSK	0#	24.2	24.2	24.2	24.2
	QPSK	1#	24.2	24.2	24.2	24.2
LTE_B7	QPSK	4#	23.2	20.7	20.7	20.7
	QPSK	5#	23.2	23.2	21.2	21.2
	QPSK	0#	23.2	23.2	21.2	21.2
LTE_B12	QPSK	0#	24.2	24.2	24.2	24.2
	QPSK	1#	24.2	24.2	24.2	24.2
LTE_B13	QPSK	0#	23.5	23.5	23.5	23.5
	QPSK	1#	23.5	23.5	23.5	23.5
LTE_B17	QPSK	0#	24.2	24.2	24.2	24.2
	QPSK	1#	24.2	24.2	24.2	24.2
LTE_B26	QPSK	0#	24.2	24.2	24.2	24.2
	QPSK	1#	24.2	24.2	24.2	24.2
LTE_B66	QPSK	4#	24.2	20.2	23.7	23.7
	QPSK	5#	24.2	24.2	24.2	24.2
	QPSK	0#	24.2	24.2	24.2	24.2
LTE_B71	QPSK	0#	23.5	23.5	23.5	23.5
	QPSK	1#	23.5	23.5	23.5	23.5
LTE_B38	QPSK	4#	22.2	22.2	19.7	19.7
	QPSK	5#	22.2	22.2	21.7	21.7
	QPSK	0#	22.2	22.2	20.2	20.2
LTE_B41	QPSK	4#	22.2	22.2	19.7	19.7
	QPSK	5#	22.2	22.2	21.7	21.7
	QPSK	0#	22.2	22.2	20.2	20.2
NR5G_N2	QPSK	4#	23.0	19.5	22.5	22.5
	QPSK	5#	23.0	23.0	23.0	23.0
NR5G_N5	QPSK	0#	24.7	24.7	24.7	24.7
	QPSK	1#	24.7	24.7	24.7	24.7
NR5G_N7	QPSK	4#	23.2	20.7	20.7	20.7
	QPSK	5#	23.2	23.2	21.2	21.2
	QPSK	0#	23.2	23.2	19.2	19.2

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NR5G_N26	QPSK	0#	24.7	24.7	24.7	24.7
	QPSK	1#	24.7	24.7	24.7	24.7
NR5G_N38	QPSK	4#	24.7	21.2	20.2	20.2
	QPSK	0#	24.7	21.2	21.7	21.7
NR5G_N41	QPSK	4#	24.7	21.2	20.2	20.2
	QPSK	0#	24.7	21.2	21.7	21.7
NR5G_N66	QPSK	4#	24.7	21.2	24.2	24.2
	QPSK	5#	24.7	24.7	23.7	23.7
NR5G_N71	QPSK	0#	24.5	24.5	24.5	24.5
	QPSK	1#	24.5	24.5	24.5	24.5

Note:
1) *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + Total uncertainty.
2) The max allowed output power is the Plimit + Total uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.
3) Note that WLAN operations are not enabled with Smart Transmit.

The purpose of this report (Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

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1.1.3 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 uses the receiver to indicate whether the user is making a voice call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. A fixed level power reduction is applied for some frequency bands when the audio receiver is on.

2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions.

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

The detailed power reduction information can be referred to Appendix E Conducted RF Output Power.

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1.2 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01	3G SAR Measurement Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D05A	LTE Rel.10 KDB Inquiry Sheet v01r02
KDB 941225 D06	Hotspot Mode SAR v02r01
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 648474 D04	Handset SAR v01r03
KDB 447498 D04	Interim General RF Exposure Guidance v01
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

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1.3 RF exposure limits

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

Notes:
* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time
** The Spatial Average value of the SAR averaged over the whole body.
*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.
Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)

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1.4 Test Location

All tests were performed at:
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No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.
Tel: +86 755 2601 2053 Fax: +86 755 2671 0594
No tests were sub-contracted.

1.5 Test Facility

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

• A2LA (Certificate No. 3816.01)

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

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.
Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0006.
IC#: 4620C.

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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.	

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3 SAR Measurements System Configuraion

3.1 The SAR Measurement System

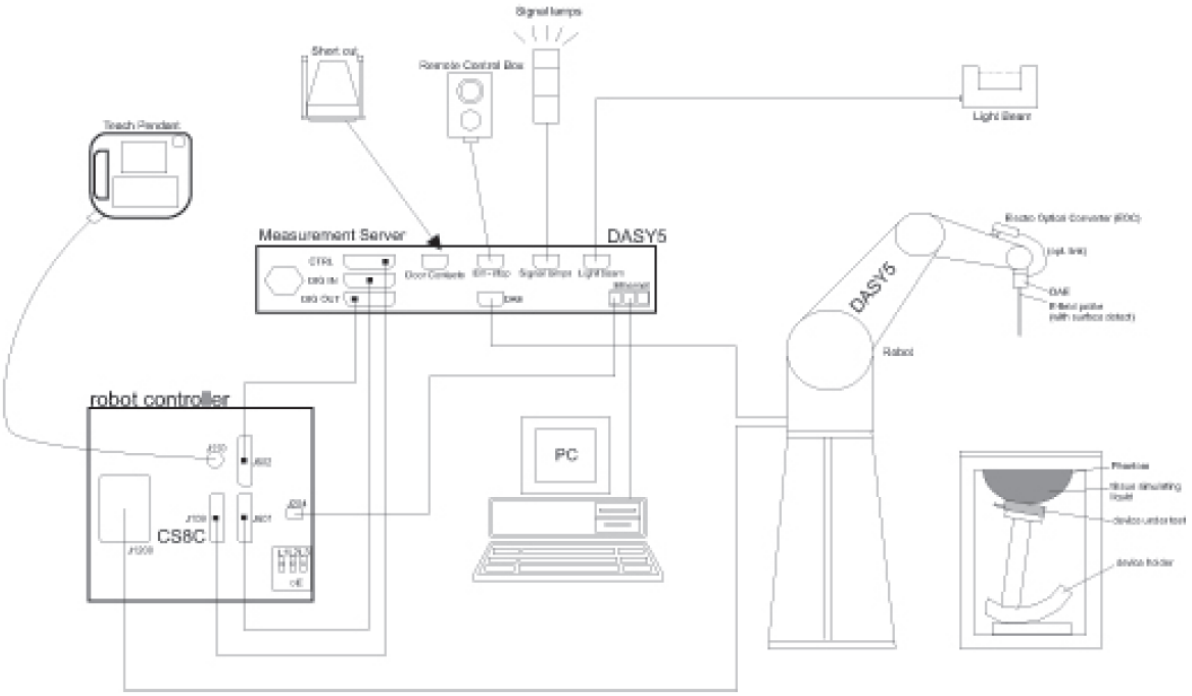
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY 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 system.
- DASY 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.

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3.2 Isotropic E-field Proble EX3DV4

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

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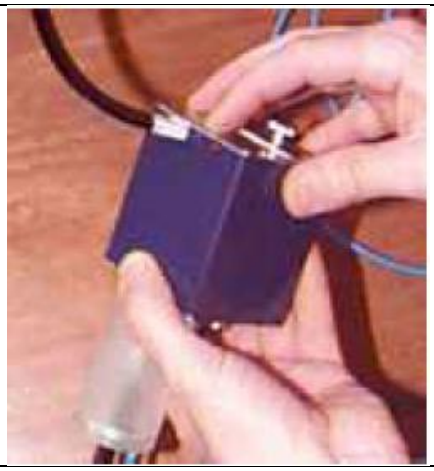
3.3 Data Acquisition Electronics (DAE)

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	< 5μV (with auto zero)	
Input Bias Current	< 50 f A	
Dimensions	60 x 60 x 68 mm	

3.4 SAM Twin Phantom

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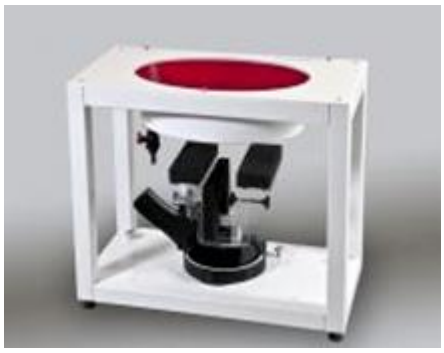
3.5 ELI Phantom

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	pprox.. 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 ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

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

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

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

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

Step 4: Power reference measurement (drift)

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

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

3.7.3 Data Evaluation by SEMCAD

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

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

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

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

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

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

With Vi = compensated signal of channel I (I = x, y, z)
Ui = input signal of channel I (I = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp I = diode compression point (DASY parameter)

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

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

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H-field probes:

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

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

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

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

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

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

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

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

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

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

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4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

Per KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

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

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

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

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

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

4.2 SAR measurement uncertainty

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

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5 Desciption of Test Position

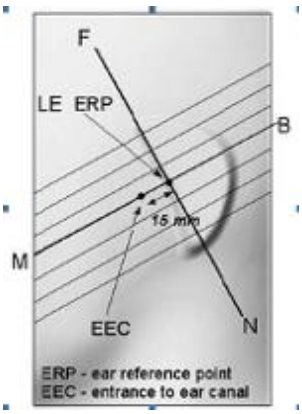
5.1 The Head Test Position

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

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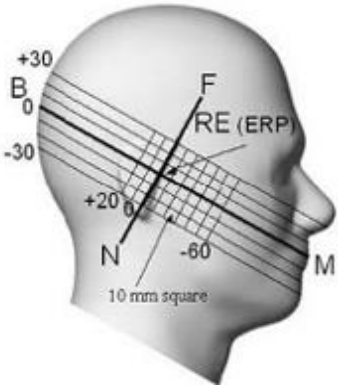
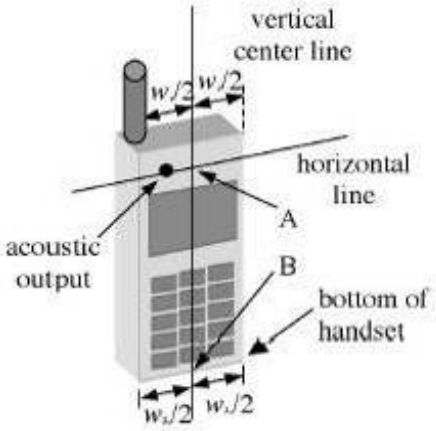
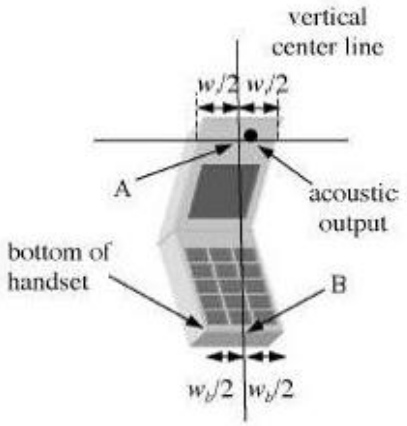


F-6.Side view of the phantom showing relevant markings and seven cross-sectional plane locations

5.1.2 EUT constructions



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



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

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5.1.3 Definition of the “check” position

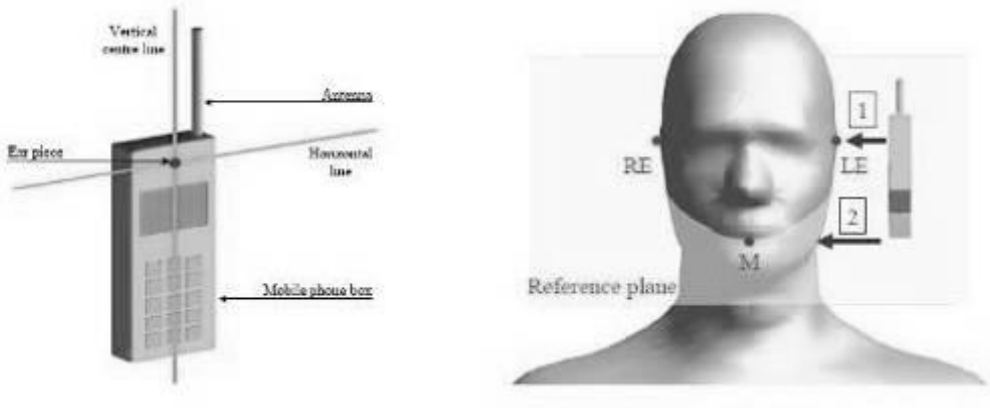
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom (“initial position”). While maintaining the device in this plane, align the vertical centre line with the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

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

5.1.4 Definition of the “tilted” position

a) Position the device in the “cheek” position described above.

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



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

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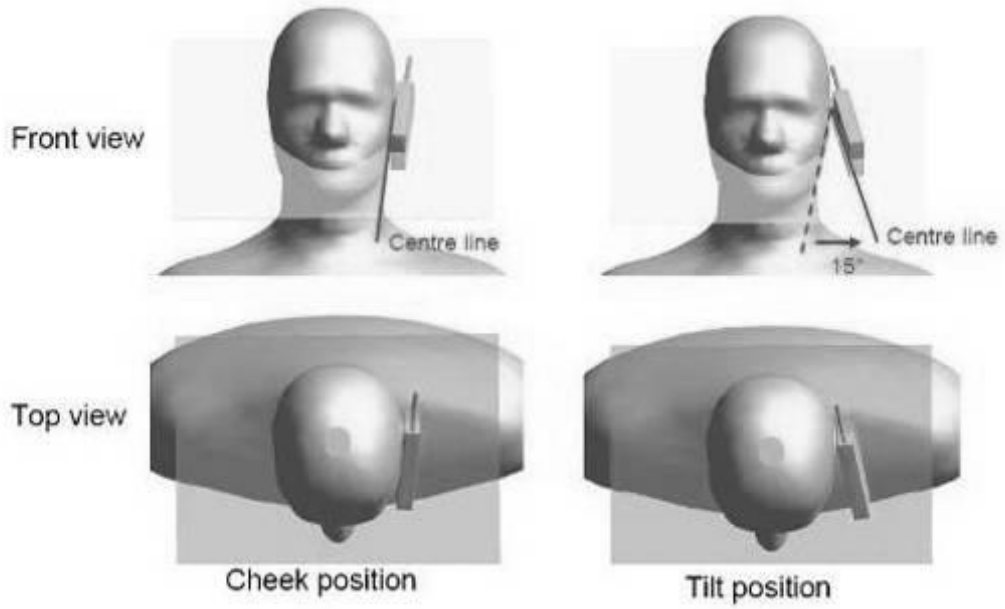

F-10. “Cheek” and “tilt” positions of the mobile phone on the left side

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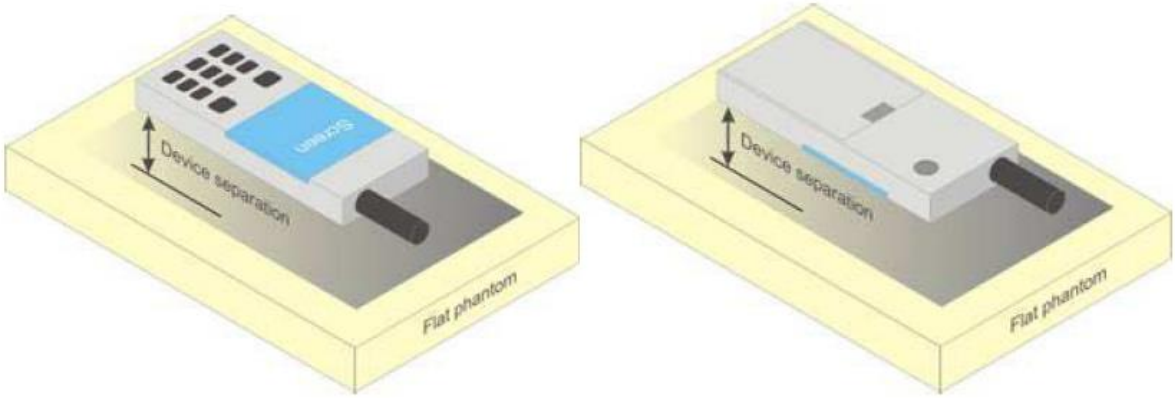
5.2 The Body Test Position

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 D04 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

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



F-11.Test positions for body-worn devices

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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 x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed-use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

5.3 Extremity exposure conditions

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

Due to the SAR result, no frequency bands need to test with 0mm for the Product Specific 10-g SAR.

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6 SAR System Verificaion Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)				
	450	700-1000	1700-2000	2300-2500	2500-2700
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: (Manufactured by SPEAG) Water: 50-65% Mineral oil: 10-30% Emulsifiers: 8-25% Sodium salt: 0-1.5%					

Table 2： Recipe of Tissue Simulate Liquid

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6.1.2 Measurement for Tissue Simulate Liquid

The Conductivity (σ) and Permittivity (εr) are listed in Table 2. For the SAR measurement given in this report.

The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Measurement for Tissue Simulate Liquid									
Tissue Type	Measured Frequency (MHz)	Measured Tissue		Target Tissue (±5%)		Deviation (Within ±5%)		Liquid Temp. (℃)	Test Date
		εr	σ(S/m)	εr	σ(S/m)	εr	σ(S/m)		
750 Head	750	41.905	0.886	41.50	0.90	0.98%	-1.56%	22.3	2024/11/7
750 Head	750	41.865	0.885	41.50	0.90	0.88%	-1.67%	22.3	2024/11/8
750 Head	750	41.863	0.885	41.50	0.90	0.87%	-1.67%	22.5	2024/11/13
750 Head	750	41.893	0.886	41.50	0.90	0.95%	-1.56%	22.3	2024/11/15
835 Head	835	41.318	0.905	41.50	0.90	-0.44%	0.56%	22.1	2024/11/6
835 Head	835	41.318	0.905	41.50	0.90	-0.44%	0.56%	22.3	2024/11/12
835 Head	835	41.426	0.910	41.50	0.90	-0.18%	1.11%	22.5	2024/11/14
1750 Head	1750	40.660	1.395	40.10	1.37	1.40%	1.82%	22.5	2024/11/8
1750 Head	1750	40.758	1.405	40.10	1.37	1.64%	2.55%	22.3	2024/11/11
1750 Head	1750	40.401	1.321	40.10	1.37	0.75%	-3.58%	22.0	2024/11/15
1900 Head	1900	40.448	1.413	40.00	1.40	1.12%	0.93%	22.3	2024/11/12
1900 Head	1900	38.867	1.387	40.00	1.40	-2.83%	-0.93%	22.1	2024/11/13
1900 Head	1900	40.498	1.419	40.00	1.40	1.24%	1.36%	22.2	2024/11/14
2450 Head	2450	38.520	1.801	39.20	1.80	-1.73%	0.06%	22.4	2024/11/21
2450 Head	2450	38.507	1.800	39.20	1.80	-1.77%	0.00%	22.2	2024/11/22
2600 Head	2600	38.258	1.882	39.00	1.96	-1.90%	-3.98%	22.5	2024/11/6
2600 Head	2600	38.236	1.879	39.00	1.96	-1.96%	-4.13%	22.0	2024/11/7
2600 Head	2600	38.298	1.888	39.00	1.96	-1.80%	-3.67%	22.1	2024/11/16
2600 Head	2600	38.286	1.886	39.00	1.96	-1.83%	-3.78%	22.3	2024/11/18
5250 Head	5250	36.832	4.841	35.90	4.66	2.60%	3.88%	22.2	2024/11/24
5600 Head	5600	35.929	5.257	35.50	5.07	1.21%	3.69%	22.0	2024/11/25
5750 Head	5750	35.502	5.420	35.40	5.22	0.29%	3.83%	22.1	2024/11/26

Table 3： Measurement result of Tissue electric parameters

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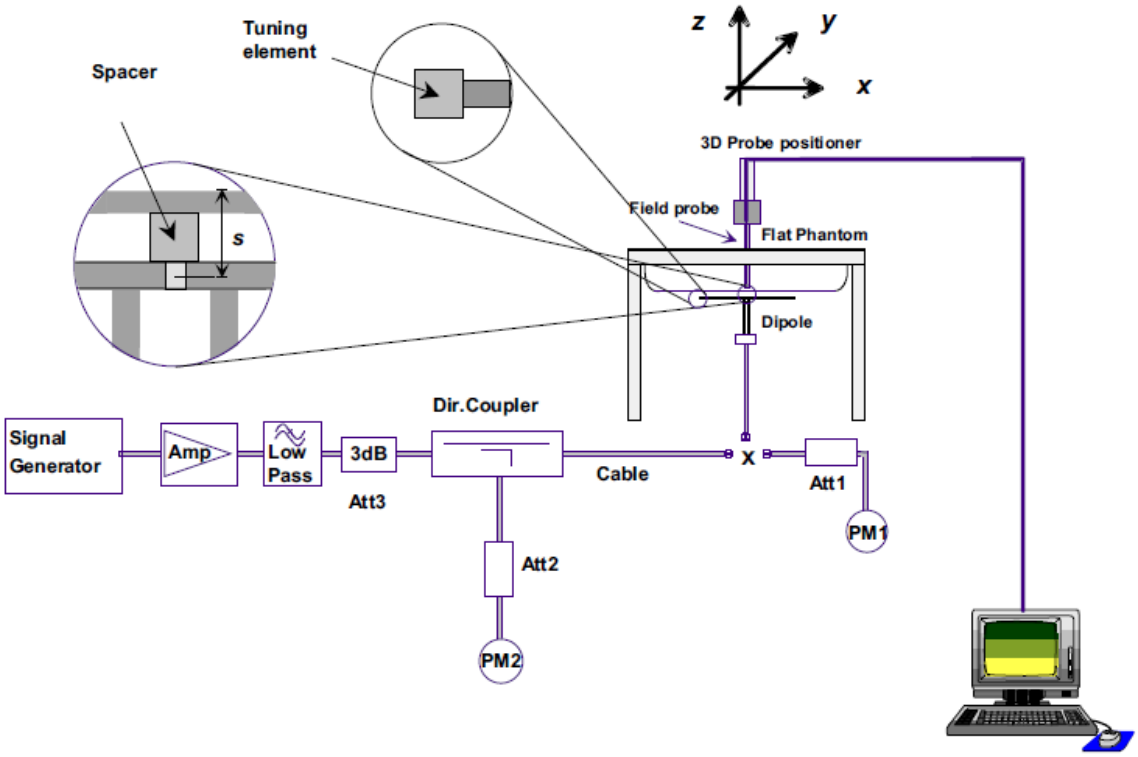
6.2 SAR System Check

The microwave circuit arrangement for system Check is sketched in F-12. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (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±2°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)

SAR System Validation Result(s)											
Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.21	1.46	8.84	5.84	8.37	5.53	5.62%	5.61%	22.3	2024/11/7
D750V3	Head	2.13	1.43	8.52	5.72	8.37	5.53	1.79%	3.44%	22.3	2024/11/8
D750V3	Head	2.14	1.45	8.56	5.80	8.37	5.53	2.27%	4.88%	22.5	2024/11/13
D750V3	Head	2.21	1.46	8.84	5.84	8.37	5.53	5.62%	5.61%	22.3	2024/11/15
D835V2	Head	2.48	1.61	9.92	6.44	9.53	6.29	4.09%	2.38%	22.1	2024/11/6
D835V2	Head	2.37	1.53	9.48	6.12	9.53	6.29	-0.52%	-2.70%	22.3	2024/11/12
D835V2	Head	2.33	1.50	9.32	6.00	9.53	6.29	-2.20%	-4.61%	22.5	2024/11/14
D1750V2	Head	9.13	4.91	36.52	19.64	36.60	19.30	-0.22%	1.76%	22.5	2024/11/8
D1750V2	Head	9.19	4.95	36.76	19.80	36.60	19.30	0.44%	2.59%	22.3	2024/11/11
D1750V2	Head	9.28	4.99	37.12	19.96	36.60	19.30	1.42%	3.42%	22.0	2024/11/15
D1900V2	Head	9.66	5.07	38.64	20.28	39.50	20.60	-2.18%	-1.55%	22.3	2024/11/12
D1900V2	Head	9.48	4.98	37.92	19.92	39.50	20.60	-4.00%	-3.30%	22.1	2024/11/13
D1900V2	Head	9.87	5.18	39.48	20.72	39.50	20.60	-0.05%	0.58%	22.2	2024/11/14
D2450V2	Head	13.30	6.22	53.20	24.88	52.20	24.30	1.92%	2.39%	22.4	2024/11/21
D2450V2	Head	13.80	6.45	55.20	25.80	52.20	24.30	5.75%	6.17%	22.2	2024/11/22
D2600V2	Head	13.90	6.35	55.60	25.40	57.70	25.80	-3.64%	-1.55%	22.5	2024/11/6
D2600V2	Head	13.20	5.99	52.80	23.96	57.70	25.80	-8.49%	-7.13%	22.0	2024/11/7
D2600V2	Head	13.20	5.96	52.80	23.84	57.70	25.80	-8.49%	-7.60%	22.1	2024/11/16
D2600V2	Head	14.30	6.45	57.20	25.80	57.70	25.80	-0.87%	0.00%	22.3	2024/11/18
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D5GHzV2	Head(5.25GHz)	7.86	2.23	78.60	22.30	77.30	22.10	1.68%	0.90%	22.2	2024/11/24
	Head(5.6GHz)	7.94	2.23	79.40	22.30	81.30	23.10	-2.34%	-3.46%	22.0	2024/11/25
	Head(5.75GHz)	7.35	2.07	73.50	20.70	77.10	21.30	-4.67%	-2.82%	22.1	2024/11/26

Table 4： 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 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.2 Operation Configurations

7.2.1 GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using Radio Communication Analyzer, 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 5 timeslots in downlink, the maximum total timeslot is 6.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units. 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, the higher number time-slot configuration should be tested.

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

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

7.2.2 WCDMA Test Configuration

1）. Output Power Verification

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

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2）. Head SAR

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

3）. Body SAR

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

4）. HSDPA / HSUPA

RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power for production units in HSDPA / HSUPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest measured SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.5 W/kg, SAR measurement is not required for HSDPA / HSUPA.

a) HSDPA

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

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

Note1: △ACK, △NACK and △CQI= 8 Ahs = βhs/βc=30/15 βhs=30/15*βc

Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, △ACK and △NACK= 8 (Ahs=30/15) with βhs=30/15*βc,and △CQI= 7 (Ahs=24/15) with βhs=24/15*βc.

Note3: CM=1 forβc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

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

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

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

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

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

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

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

Table 7： Subtests for UMTS Release 6 HSUPA

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

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

Table 8： HSUPA UE category

c) DC-HSDPA

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

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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 9： 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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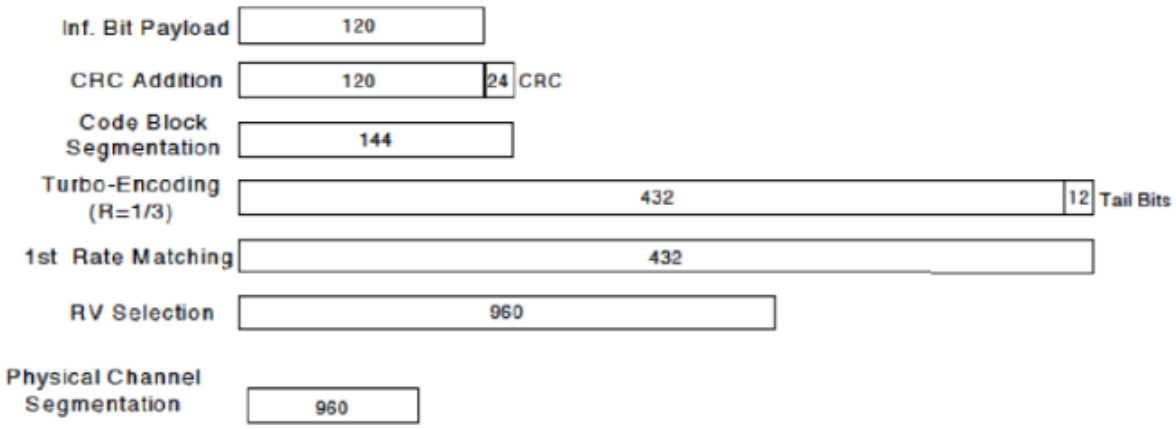

Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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

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

Note:

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

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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 (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 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 = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_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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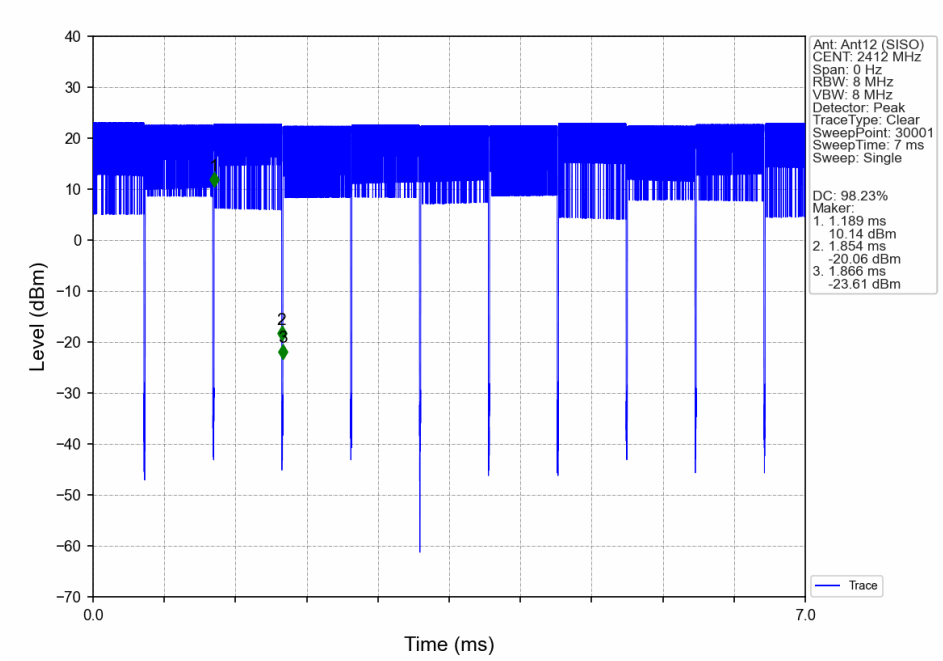
7.2.3 WIFI Test Configuration

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

7.2.3.1 Duty cycle

1) Wi-Fi 2.4GHz 2412MHz: Duty cycle: 98.23%



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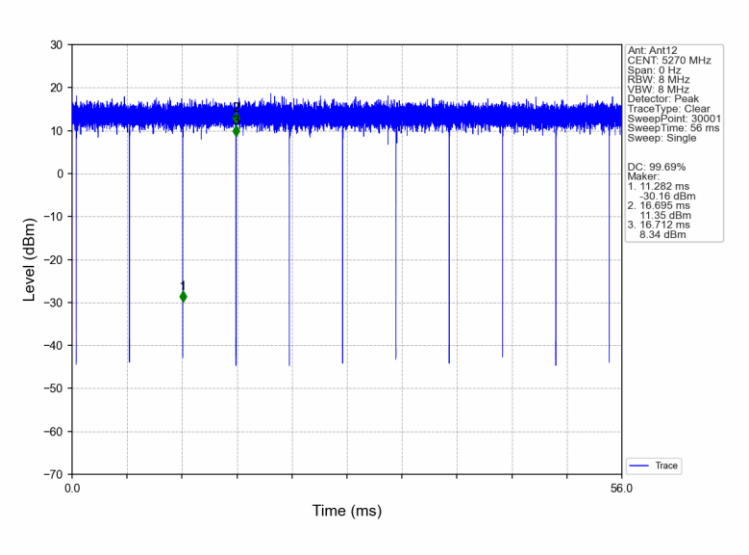
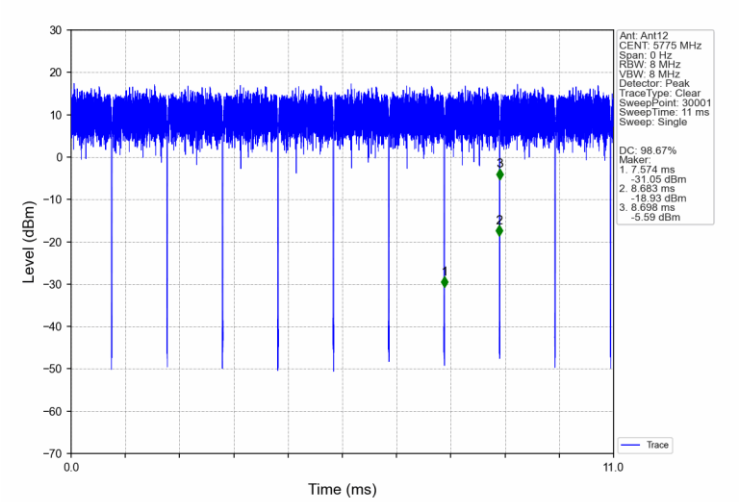
2) Wi-Fi 5GHz 5270MHz: Duty cycle: 99.06%



3) Wi-Fi 5GHz 5775MHz:Duty cycle: 98.67 %



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7.2.3.2 Initial Test Position SAR Test Reduction Procedure

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

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

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7.2.3.3 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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7.2.3.4 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/ac/ax OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n/ac/ax 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/ac/ax 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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7.2.3.5 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/ax) 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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7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The Radio Communication Analyzer 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:

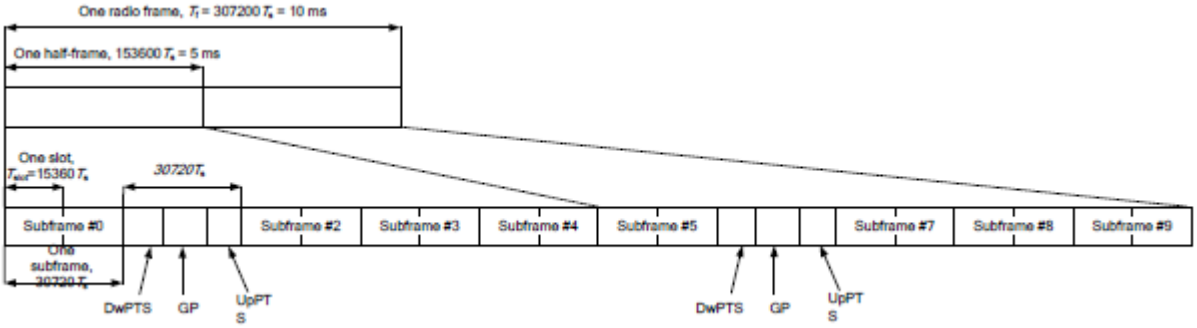

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	6592.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		

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6	19760.Ts			23040.Ts		
7	21952.Ts			25600.Ts		
8	24144.Ts			-	-	-
9	13168.Ts			-	-	-

Table 4.2-2: Uplink-downlink configurations.

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

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

A) Spectrum Plots for RB Configurations

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

B) MPR

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

Modulation	Channel bandwidth/Transmission bandwidth						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0

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QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	2
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	3
256QAM	≥1						5

C) A-MPR

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

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

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

4) Higher order modulations

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

E) Other channel bandwidth standalone SAR test requirements

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

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F) LTE CA additional specification

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

a) Intra-band carrier aggregation requirements for uplink.

b) Intra-band and inter-band carrier aggregation requirements for downlink.

The possible downlink and uplink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.4.0. The conducted power measurement results of downlink and uplink LTE CA are provided in Appendix E (Conducted RF Output Power). 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.

Downlink LTE CA
CA_7C
CA_38C
CA_41C
CA_41D
CA_7B
CA_4A-4A
CA_41A-41A
CA_66A-66A
CA_2A-4A
CA_2A-5A
CA_2A-7A
CA_2A-7C
CA_2A-12A
CA_2A-26A
CA_2A-66A
CA_4A-5A
CA_4A-7A
CA_4A-7C
CA_5A-7A
CA_5A-7C
CA_7A-66A
CA_5A-41A
CA_66A-71A
CA_5A-66A
CA_5A-66C
CA_7A-26A
CA_7C-66A
CA_12A-66A
CA_26A-41A
CA_26A-41C
CA_2A-4A-5A
CA_2A-5A-7A
CA_2A-5A-66A
CA_2A-7A-7A

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CA_41A-41A-41A
CA_41A-41D
CA_5A-7C-66A
CA_5A-7A-66A-66A
CA_7C-66A-66A
CA_2C
CA_7C
CA_2A-2A
Uplink LTE CA
CA_7C
CA_38C
CA_41C
CA 2A-7A
CA 4A-5A
CA 4A-7A
CA 5A-7A
CA 5A-66A

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

1)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.

2)SAR for UL CA is required in each exposure condition and frequency band combination

3)For this device , as the maximum output for Intra-band uplink LTE CA is ≤ standalone LTE mode (without CA),

- PCC is configured according to the highest standalone SAR configuration tested.

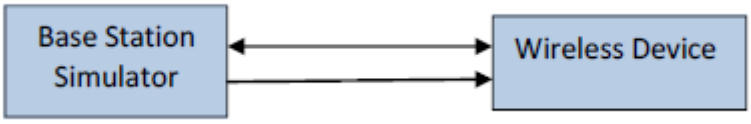
- SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC

4)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)

5)UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level.

6)General PCC and SCC configuration selection procedure
- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KDB 941225 D05 V01r02. All LTE bandwidth conducted powers needed for PCC uplink configuration selection can be found in appendix E. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.

- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.



DL CA Power Measurement Setup

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c) Inter-band carrier aggregation requirements for uplink.

1. For Inter-band uplink CA mode, Qualcomm Smart Transmit algorithm in WWAN directly adds the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from another 4G(LTE). Smart Transmit algorithm controls the total RF exposure of Inter-band uplink CA to not exceed FCC limit.

The Inter band Uplink CA as below table:

Band/ ANTenna		B5		B7			B66		
		ANT0	ANT1	ANT4	ANT5	ANT0	ANT4	ANT5	ANT0
B2	ANT4					√			
	ANT5								
B4	ANT4	√	√			√			
	ANT5								
	ANT0								
B5	ANT0			√			√		
	ANT1			√			√		

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7.2.5 NR Band Test Configuration

1. NR Band n2/5/7/26/38/41/66 support SA mode, n5/7/38/41/66 support NSA mode. LTE+NR Band operations are possible only with LTE under EN-DC mode and the operations are possible as following table:

Band/ Antenna		n5		n7			n38		n41		n66	
		Ant0	Ant1	Ant4	Ant5	Ant0	Ant4	Ant0	Ant4	Ant0	Ant4	Ant5
LTE B2	Ant4											
	Ant5			√			√		√		√	
LTE B4	Ant4				√	√						
	Ant5						√		√			
	Ant0											
LTE B5	Ant0			√			√				√	
	Ant1			√			√				√	
LTE B7	Ant4	√	√									
	Ant5										√	
	Ant0											
LTE B26	Ant0								√			
	Ant1								√			
LTE B66	Ant4	√	√		√	√						
	Ant5						√		√			
	Ant0											

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2. The general information supported by the NR band is as following table:

Band			n2	n5	n7	n26	n38	n41	n66
NR mode		SA	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		NSA	No	Yes	Yes	No	Yes	Yes	Yes
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Max Duty Cycle			100%	100%	100%	100%	100%	100%	100%

Band	SCS	Bandwidth												
		5MHz	10MHz	15MHz	20MHz	25MHz	30MHz	40MHz	50MHz	60MHz	70MHz	80MHz	90MHz	100MHz
n2	15 kHz	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n5	15 kHz	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n7	15 kHz	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n26	15 kHz	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n28	15 kHz	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n38	15 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
n41	15 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	Yes	N/A	N/A	N/A	Yes	Yes	N/A	Yes	Yes	Yes
n66	15 kHz	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
	30 kHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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3. 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 PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/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 SCS and 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 SCS/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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4. 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	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	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.

5. 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.

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

1) 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 ⩽ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.

7. For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN directly adds the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed regulatory limit.

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8 Test Result

8.1 Measurement of RF Conducted Power

The detailed conducted power can be referred to Appendix E.

Note:

1）. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

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

2）. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8.

3）. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

4）. 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.

5）. 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.

6）. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05.

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

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V15.4.0. The detailed conducted power measurement results of downlink LTE CA are provided in the SAR report per 3GPP TS 36.521-1 V14.4.0. According to KDB 941225 D05A, the downlink only carrier aggregation conditions for this device can be excluded from SAR testing.

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

8）. For conducted power of WIFI must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band. 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. Power

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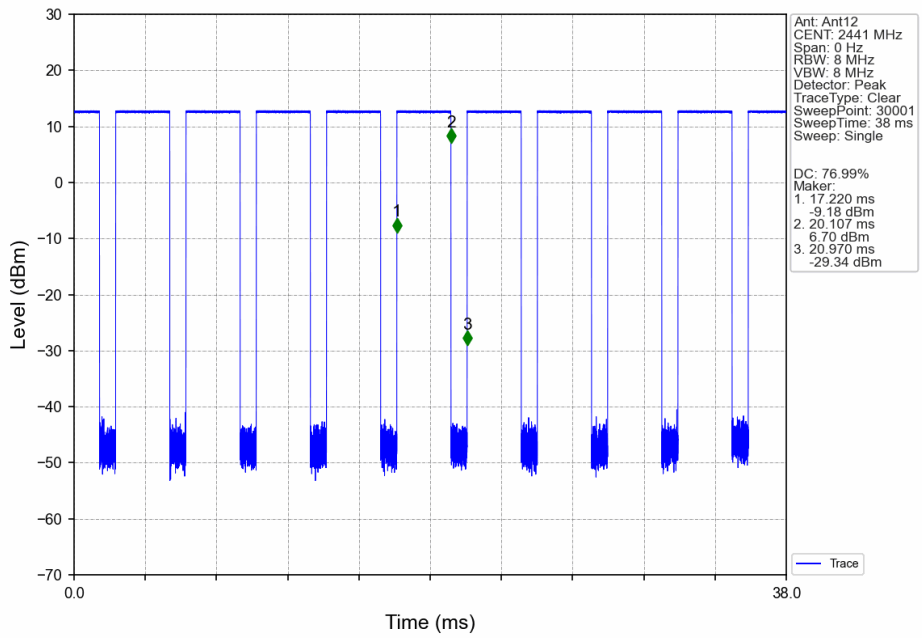
measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.

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.

9）. The conducted power of BT is measured with RMS detector.
BT 2441MHz Duty Cycle= 76.99%



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8.2 Measurement of SAR Data

Note:

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

2) Per KDB447498 D04, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
- ≤ 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.

WiFi 2.4G:

1) 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.

WiFi 5G:

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. 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.

2) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.

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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8.2.1 SAR Result of GSM850

Ant 1 Test Record											
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data state5											
Left cheek	GPRS 2TS	190/836.6	1:4.15	0.202	0.159	-0.01	30.87	32.50	1.455	**0.294**	22.1
Left tilted	GPRS 2TS	190/836.6	1:4.15	0.038	0.027	0.03	30.87	32.50	1.455	0.055	22.1
Right cheek	GPRS 2TS	190/836.6	1:4.15	0.060	0.047	0.09	30.87	32.50	1.455	0.087	22.1
Right tilted	GPRS 2TS	190/836.6	1:4.15	0.032	0.021	0.06	30.87	32.50	1.455	0.046	22.1
Sample Second	GPRS 2TS	190/836.6	1:4.15	0.198	0.152	-0.01	30.87	32.50	1.455	0.288	22.1
Body worn Test data(Separate 15mm) state3											
Front side	GPRS 2TS	190/836.6	1:4.15	0.127	0.085	0.01	30.87	32.50	1.455	0.185	22.1
Back side	GPRS 2TS	190/836.6	1:4.15	0.192	0.125	0.03	30.87	32.50	1.455	**0.279**	22.1
Sample Second	GPRS 2TS	190/836.6	1:4.15	0.189	0.121	-0.07	30.87	32.50	1.455	0.275	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	GPRS 2TS	190/836.6	1:4.15	0.245	0.164	0.06	30.87	32.50	1.455	0.357	22.1
Back side	GPRS 2TS	190/836.6	1:4.15	0.383	0.236	-0.09	30.87	32.50	1.455	**0.557**	22.1
Left side	GPRS 2TS	190/836.6	1:4.15	0.269	0.171	0.05	30.87	32.50	1.455	0.392	22.1
Bottom side	GPRS 2TS	190/836.6	1:4.15	0.145	0.092	-0.04	30.87	32.50	1.455	0.211	22.1
Sample Second	GPRS 2TS	190/836.6	1:4.15	0.379	0.229	0.04	30.87	32.50	1.455	0.552	22.1

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8.2.2 SAR Result of GSM1900

Ant 5 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data state5											
Left cheek	GPRS 2TS	661/1880	1:4.15	0.039	0.025	-0.19	27.55	29.50	1.567	**0.061**	22.1
Left tilted	GPRS 2TS	661/1880	1:4.15	0.006	0.003	0.09	27.55	29.50	1.567	0.009	22.1
Right cheek	GPRS 2TS	661/1880	1:4.15	0.012	0.008	-0.16	27.55	29.50	1.567	0.019	22.1
Right tilted	GPRS 2TS	661/1880	1:4.15	0.005	0.002	-0.16	27.55	29.50	1.567	0.008	22.1
Sample Second	GPRS 2TS	661/1880	1:4.15	0.035	0.021	0.11	27.55	29.50	1.567	0.055	22.1
Body worn Test data(Separate 15mm) state3											
Front side	GPRS 2TS	661/1880	1:4.15	0.075	0.046	0.03	27.55	29.50	1.567	0.118	22.1
Back side	GPRS 2TS	661/1880	1:4.15	0.082	0.049	-0.05	27.55	29.50	1.567	**0.128**	22.1
Sample Second	GPRS 2TS	661/1880	1:4.15	0.079	0.042	-0.15	27.55	29.50	1.567	0.124	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	GPRS 2TS	661/1880	1:4.15	0.170	0.097	-0.07	27.55	29.50	1.567	0.266	22.1
Back side	GPRS 2TS	661/1880	1:4.15	0.209	0.118	-0.01	27.55	29.50	1.567	0.327	22.1
Riht side	GPRS 2TS	661/1880	1:4.15	0.010	0.008	-0.10	27.55	29.50	1.567	0.016	22.1
Bottom side	GPRS 2TS	661/1880	1:4.15	0.250	0.133	0.08	27.55	29.50	1.567	**0.392**	22.1
Sample Second	GPRS 2TS	661/1880	1:4.15	0.243	0.126	-0.12	27.55	29.50	1.567	0.381	22.1

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8.2.3 SAR Result of WCDMA Band II

Ant 4 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data state5											
Left cheek	RMC	9400/1880	1:1	0.529	0.413	0.15	20.13	21.00	1.222	0.646	22.1
Left tilted	RMC	9400/1880	1:1	0.340	0.279	0.14	20.13	21.00	1.222	0.415	22.1
Right cheek	RMC	9400/1880	1:1	0.765	0.476	-0.03	20.13	21.00	1.222	0.935	22.1
Right tilted	RMC	9400/1880	1:1	0.424	0.295	0.03	20.13	21.00	1.222	0.518	22.1
Right cheek	RMC	9262/1852.4	1:1	0.735	0.460	-0.14	19.90	21.00	1.288	0.947	22.1
Right cheek	RMC	9538/1907.6	1:1	0.835	0.499	-0.12	19.98	21.00	1.265	**1.056**	22.1
Sample Second	RMC	9538/1907.6	1:1	0.826	0.492	-0.01	19.98	21.00	1.265	1.045	22.1
Body worn Test data(Separate 15mm) state3											
Front side	RMC	9400/1880	1:1	0.178	0.106	0.09	22.52	23.50	1.253	0.223	22.1
Back side	RMC	9400/1880	1:1	0.231	0.138	0.04	22.52	23.50	1.253	**0.289**	22.1
Sample Second	RMC	9400/1880	1:1	0.226	0.129	-0.04	22.52	23.50	1.253	0.283	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	9400/1880	1:1	0.331	0.193	0.18	22.52	23.50	1.253	0.415	22.1
Back side	RMC	9400/1880	1:1	0.584	0.320	-0.14	22.52	23.50	1.253	**0.732**	22.1
Left side	RMC	9400/1880	1:1	0.155	0.089	0.03	22.52	23.50	1.253	0.194	22.1
Top side	RMC	9400/1880	1:1	0.426	0.245	0.13	22.52	23.50	1.253	0.534	22.1
Sample Second	RMC	9400/1880	1:1	0.579	0.314	0.01	22.52	23.50	1.253	0.726	22.1
Ant 5 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data state5											
Left cheek	RMC	9400/1880	1:1	0.063	0.039	0.19	22.87	24.00	1.297	0.082	22.1
Left tilted	RMC	9400/1880	1:1	0.051	0.030	-0.16	22.87	24.00	1.297	0.066	22.1
Right cheek	RMC	9400/1880	1:1	0.064	0.039	-0.01	22.87	24.00	1.297	0.083	22.1
Right tilted	RMC	9400/1880	1:1	0.056	0.033	0.02	22.87	24.00	1.297	0.073	22.1
Body worn Test data(Separate 15mm) state3											
Front side	RMC	9400/1880	1:1	0.046	0.028	0.16	22.87	24.00	1.297	0.060	22.1
Back side	RMC	9400/1880	1:1	0.071	0.043	0.01	22.87	24.00	1.297	0.092	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	9400/1880	1:1	0.093	0.051	-0.19	22.87	24.00	1.297	0.121	22.1
Back side	RMC	9400/1880	1:1	0.132	0.075	0.19	22.87	24.00	1.297	0.171	22.1
Right side	RMC	9400/1880	1:1	0.039	0.023	-0.11	22.87	24.00	1.297	0.051	22.1
Bottom side	RMC	9400/1880	1:1	0.214	0.113	0.03	22.87	24.00	1.297	0.278	22.1

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8.2.4 SAR Result of WCDMA Band IV

Ant 4 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data state5											
Left cheek	RMC	1412/1732.4	1:1	0.658	0.448	0.13	21.54	22.20	1.164	0.766	22.3
Left tilted	RMC	1412/1732.4	1:1	0.407	0.281	0.05	21.54	22.20	1.164	0.474	22.3
Right cheek	RMC	1412/1732.4	1:1	0.777	0.446	-0.18	21.54	22.20	1.164	0.905	22.3
Right tilted	RMC	1412/1732.4	1:1	0.466	0.271	0.07	21.54	22.20	1.164	0.542	22.3
Right cheek	RMC	1312/1712.4	1:1	0.709	0.407	0.07	21.33	22.20	1.222	0.866	22.3
Right cheek	RMC	1513/1752.6	1:1	0.837	0.472	0.01	21.45	22.20	1.189	**0.995**	22.3
Right cheek- Repeated	RMC	1513/1752.6	1:1	0.806	0.469	0.02	21.45	22.20	1.189	0.958	22.3
Sample Second	RMC	1513/1752.6	1:1	0.829	0.468	0.11	21.45	22.20	1.189	0.985	22.3
Body worn Test data(Separate 15mm) state3											
Front side	RMC	1412/1732.4	1:1	0.148	0.096	0.12	23.41	24.20	1.199	0.178	22.3
Back side	RMC	1412/1732.4	1:1	0.256	0.159	0.02	23.41	24.20	1.199	**0.307**	22.3
Sample Second	RMC	1412/1732.4	1:1	0.250	0.152	-0.10	23.41	24.20	1.199	0.300	22.3
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	1412/1732.4	1:1	0.308	0.184	-0.11	23.41	24.20	1.199	0.369	22.3
Back side	RMC	1412/1732.4	1:1	0.563	0.327	-0.07	23.41	24.20	1.199	**0.675**	22.3
Left side	RMC	1412/1732.4	1:1	0.192	0.113	-0.06	23.41	24.20	1.199	0.230	22.3
Top side	RMC	1412/1732.4	1:1	0.502	0.290	-0.05	23.41	24.20	1.199	0.602	22.3
Sample Second	RMC	1412/1732.4	1:1	0.559	0.321	0.06	23.41	24.20	1.199	0.671	22.3
Ant 5 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data state5											
Left cheek	RMC	1412/1732.4	1:1	0.101	0.064	0.03	23.80	25.20	1.380	0.139	22.3
Left tilted	RMC	1412/1732.4	1:1	0.070	0.042	-0.16	23.80	25.20	1.380	0.097	22.3
Right cheek	RMC	1412/1732.4	1:1	0.099	0.063	-0.08	23.80	25.20	1.380	0.137	22.3
Right tilted	RMC	1412/1732.4	1:1	0.077	0.045	0.02	23.80	25.20	1.380	0.106	22.3
Body worn Test data(Separate 15mm) state3											
Front side	RMC	1412/1732.4	1:1	0.064	0.036	-0.17	22.35	23.70	1.365	0.087	22.3
Back side	RMC	1412/1732.4	1:1	0.069	0.042	-0.09	22.35	23.70	1.365	0.094	22.3
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	1412/1732.4	1:1	0.104	0.059	-0.16	22.35	23.70	1.365	0.142	22.3
Back side	RMC	1412/1732.4	1:1	0.148	0.084	0.09	22.35	23.70	1.365	0.202	22.3
Right side	RMC	1412/1732.4	1:1	0.043	0.024	-0.08	22.35	23.70	1.365	0.059	22.3
Bottom side	RMC	1412/1732.4	1:1	0.252	0.135	0.01	22.35	23.70	1.365	0.344	22.3

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Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	1513/1752.6	0.837	0.806	1.04	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 preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed 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						
5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.						

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8.2.5 SAR Result of WCDMA Band V

WB5 SAR Test Record											
Ant 0 Test Record											
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data state5											
Left cheek	RMC	4182/836.4	1:1	0.030	0.021	0.05	24.94	25.20	1.062	0.032	22.1
Left tilted	RMC	4182/836.4	1:1	0.019	0.013	0.02	24.94	25.20	1.062	0.020	22.1
Right cheek	RMC	4182/836.4	1:1	0.061	0.038	0.06	24.94	25.20	1.062	0.064	22.1
Right tilted	RMC	4182/836.4	1:1	0.030	0.019	0.03	24.94	25.20	1.062	0.032	22.1
Body worn Test data(Separate 15mm) state3											
Front side	RMC	4182/836.4	1:1	0.012	0.008	0.01	24.94	25.20	1.062	0.013	22.1
Back side	RMC	4182/836.4	1:1	0.034	0.023	-0.07	24.94	25.20	1.062	0.037	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	4182/836.4	1:1	0.025	0.011	0.01	24.94	25.20	1.062	0.027	22.1
Back side	RMC	4182/836.4	1:1	0.073	0.045	-0.06	24.94	25.20	1.062	0.078	22.1
Left side	RMC	4182/836.4	1:1	0.043	0.023	0.06	24.94	25.20	1.062	0.046	22.1
Top side	RMC	4182/836.4	1:1	0.006	0.002	0.08	24.94	25.20	1.062	0.006	22.1
Ant 1 Test Record											
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data state5											
Left cheek	RMC	4182/836.4	1:1	0.198	0.158	0.05	24.85	25.20	1.084	**0.215**	22.1
Left tilted	RMC	4182/836.4	1:1	0.130	0.095	0.06	24.85	25.20	1.084	0.141	22.1
Right cheek	RMC	4182/836.4	1:1	0.169	0.120	-0.19	24.85	25.20	1.084	0.183	22.1
Right tilted	RMC	4182/836.4	1:1	0.093	0.070	-0.09	24.85	25.20	1.084	0.101	22.1
Sample Second	RMC	4182/836.4	1:1	0.188	0.151	0.05	24.85	25.20	1.084	0.204	22.1
Body worn Test data(Separate 15mm) state3											
Front side	RMC	4182/836.4	1:1	0.165	0.112	-0.11	24.85	25.20	1.084	0.179	22.1
Back side	RMC	4182/836.4	1:1	0.209	0.137	0.15	24.85	25.20	1.084	**0.227**	22.1
Sample Second	RMC	4182/836.4	1:1	0.189	0.122	0.11	24.85	25.20	1.084	0.205	22.1
Hotspot Test data(Separate 10mm) state8											
Front side	RMC	4182/836.4	1:1	0.305	0.208	-0.03	24.85	25.20	1.084	0.331	22.1
Back side	RMC	4182/836.4	1:1	0.365	0.227	-0.03	24.85	25.20	1.084	**0.396**	22.1
Left side	RMC	4182/836.4	1:1	0.327	0.185	0.02	24.85	25.20	1.084	0.354	22.1
Bottom side	RMC	4182/836.4	1:1	0.174	0.112	0.05	24.85	25.20	1.084	0.189	22.1
Sample Second	RMC	4182/836.4	1:1	0.357	0.216	-0.16	24.85	25.20	1.084	0.387	22.1

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8.2.6 SAR Result of LTE Band 2

LTE Band 2 SAR Test Record												
Ant 4 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_50	18900/1880	1:1	0.483	0.315	-0.16	20.46	21.50	1.271	0.614	22.3
Left tilted	20	QPSK 1_50	18900/1880	1:1	0.556	0.324	-0.18	20.46	21.50	1.271	0.706	22.3
Right cheek	20	QPSK 1_50	18900/1880	1:1	0.805	0.439	-0.06	20.46	21.50	1.271	1.023	22.3
Right tilted	20	QPSK 1_50	18900/1880	1:1	0.561	0.311	-0.15	20.46	21.50	1.271	0.713	22.3
Right cheek	20	QPSK 1_99	18700/1860	1:1	0.783	0.428	0.12	20.13	21.50	1.371	1.073	22.3
Right cheek	20	QPSK 1_50	19100/1900	1:1	0.808	0.444	0.11	20.37	21.50	1.297	1.048	22.3
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_50	18900/1880	1:1	0.503	0.329	0.17	20.25	21.50	1.334	0.671	22.3
Left tilted	20	QPSK 50_50	18900/1880	1:1	0.581	0.337	0.09	20.25	21.50	1.334	0.775	22.3
Right cheek	20	QPSK 50_50	18900/1880	1:1	0.828	0.451	-0.09	20.25	21.50	1.334	1.104	22.3
Right tilted	20	QPSK 50_50	18900/1880	1:1	0.570	0.314	0.01	20.25	21.50	1.334	0.760	22.3
Right cheek	20	QPSK 50_25	18700/1860	1:1	0.817	0.445	-0.08	20.18	21.50	1.355	1.107	22.3
Right cheek	20	QPSK 50_50	19100/1900	1:1	0.855	0.449	0.03	20.24	21.50	1.337	**1.143**	22.3
Right cheek- Repeated	20	QPSK 50_50	19100/1900	1:1	0.840	0.426	-0.06	20.24	21.50	1.337	1.123	22.3
Sample Second	20	QPSK 50_50	19100/1900	1:1	0.846	0.432	0.08	20.24	21.50	1.337	1.131	22.3
Head Test Data (100%RB) state5												
Right cheek	20	QPSK 100_0	19100/1900	1:1	0.803	0.454	0.14	20.21	21.50	1.346	1.081	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_99	18900/1880	1:1	0.187	0.111	0.09	22.47	23.50	1.268	0.237	22.3
Back side	20	QPSK 1_99	18900/1880	1:1	0.234	0.136	-0.07	22.47	23.50	1.268	**0.297**	22.3
Sample Second	20	QPSK 1_99	18900/1880	1:1	0.226	0.131	-0.18	22.47	23.50	1.268	0.286	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	18900/1880	1:1	0.168	0.100	-0.18	21.89	23.00	1.291	0.217	22.3
Back side	20	QPSK 50_25	18900/1880	1:1	0.213	0.131	0.10	21.89	23.00	1.291	0.275	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_99	18900/1880	1:1	0.354	0.204	-0.03	22.47	23.50	1.268	0.449	22.3
Back side	20	QPSK 1_99	18900/1880	1:1	0.505	0.277	-0.12	22.47	23.50	1.268	**0.640**	22.3
Left side	20	QPSK 1_99	18900/1880	1:1	0.138	0.082	0.16	22.47	23.50	1.268	0.175	22.3
Top side	20	QPSK 1_99	18900/1880	1:1	0.349	0.202	0.10	22.47	23.50	1.268	0.442	22.3
Sample Second	20	QPSK 1_99	18900/1880	1:1	0.486	0.271	0.01	22.47	23.50	1.268	0.616	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	18900/1880	1:1	0.320	0.185	-0.01	21.89	23.00	1.291	0.413	22.3
Back side	20	QPSK 50_25	18900/1880	1:1	0.489	0.259	-0.10	21.89	23.00	1.291	0.631	22.3
Left side	20	QPSK 50_25	18900/1880	1:1	0.122	0.073	0.13	21.89	23.00	1.291	0.158	22.3
Top side	20	QPSK 50_25	18900/1880	1:1	0.315	0.182	-0.13	21.89	23.00	1.291	0.407	22.3

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Ant 5 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_99	19100/1900	1:1	0.069	0.042	0.18	23.04	24.00	1.247	0.086	22.3
Left tilted	20	QPSK 1_99	19100/1900	1:1	0.047	0.028	0.18	23.04	24.00	1.247	0.059	22.3
Right cheek	20	QPSK 1_99	19100/1900	1:1	0.057	0.034	-0.17	23.04	24.00	1.247	0.071	22.3
Right tilted	20	QPSK 1_99	19100/1900	1:1	0.068	0.039	-0.07	23.04	24.00	1.247	0.085	22.3
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_50	19100/1900	1:1	0.058	0.035	-0.03	21.72	23.00	1.343	0.078	22.3
Left tilted	20	QPSK 50_50	19100/1900	1:1	0.023	0.012	-0.02	21.72	23.00	1.343	0.031	22.3
Right cheek	20	QPSK 50_50	19100/1900	1:1	0.044	0.027	-0.19	21.72	23.00	1.343	0.059	22.3
Right tilted	20	QPSK 50_50	19100/1900	1:1	0.058	0.033	-0.19	21.72	23.00	1.343	0.078	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_99	19100/1900	1:1	0.060	0.035	-0.04	23.04	24.00	1.247	0.075	22.3
Back side	20	QPSK 1_99	19100/1900	1:1	0.089	0.054	-0.11	23.04	24.00	1.247	0.111	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_50	19100/1900	1:1	0.045	0.027	0.01	21.72	23.00	1.343	0.060	22.3
Back side	20	QPSK 50_50	19100/1900	1:1	0.067	0.041	-0.06	21.72	23.00	1.343	0.090	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_99	19100/1900	1:1	0.109	0.063	0.10	23.04	24.00	1.247	0.136	22.3
Back side	20	QPSK 1_99	19100/1900	1:1	0.156	0.089	-0.13	23.04	24.00	1.247	0.195	22.3
Right side	20	QPSK 1_99	19100/1900	1:1	0.084	0.046	-0.08	23.04	24.00	1.247	0.105	22.3
Bottom side	20	QPSK 1_99	19100/1900	1:1	0.284	0.140	-0.01	23.04	24.00	1.247	0.354	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_50	19100/1900	1:1	0.088	0.050	-0.09	21.72	23.00	1.343	0.118	22.3
Back side	20	QPSK 50_50	19100/1900	1:1	0.115	0.067	0.12	21.72	23.00	1.343	0.154	22.3
Right side	20	QPSK 50_50	19100/1900	1:1	0.036	0.011	-0.14	21.72	23.00	1.343	0.048	22.3
Bottom side	20	QPSK 50_50	19100/1900	1:1	0.238	0.124	-0.09	21.72	23.00	1.343	0.320	22.3

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8.2.7 SAR Result of LTE Band 7

LTE Band 7 SAR Test Record												
Ant 4 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_0	20850/2510	1:1	0.386	0.205	0.10	20.73	21.70	1.250	0.483	22.5
Left tilted	20	QPSK 1_0	20850/2510	1:1	0.480	0.243	-0.12	20.73	21.70	1.250	0.600	22.5
Right cheek	20	QPSK 1_0	20850/2510	1:1	0.754	0.348	-0.04	20.73	21.70	1.250	0.943	22.5
Right tilted	20	QPSK 1_0	20850/2510	1:1	0.834	0.357	-0.03	20.73	21.70	1.250	1.043	22.5
Right cheek	20	QPSK 1_50	21100/2535	1:1	0.696	0.315	0.02	20.54	21.70	1.306	0.909	22.5
Right cheek	20	QPSK 1_50	21350/2560	1:1	0.603	0.270	-0.09	20.15	21.70	1.429	0.862	22.5
Right tilted	20	QPSK 1_50	21100/2535	1:1	0.789	0.406	0.12	20.54	21.70	1.306	1.031	22.5
Right tilted	20	QPSK 1_50	21350/2560	1:1	0.726	0.359	-0.08	20.15	21.70	1.429	1.037	22.5
Right tilted	20	PCC QPSK 1_99	21100/2535	1:1	0.815	0.339	0.01	20.54	21.70	1.306	1.065	22.5
		SCC QPSK 1_0	21298/2554.8									
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_25	20850/2510	1:1	0.404	0.213	-0.12	20.40	21.70	1.349	0.545	22.5
Left tilted	20	QPSK 50_25	20850/2510	1:1	0.488	0.246	-0.06	20.40	21.70	1.349	0.658	22.5
Right cheek	20	QPSK 50_25	20850/2510	1:1	0.768	0.348	0.10	20.40	21.70	1.349	1.036	22.5
Right tilted	20	QPSK 50_25	20850/2510	1:1	0.849	0.369	0.10	20.40	21.70	1.349	**1.145**	22.5
Right cheek	20	QPSK 50_25	21100/2535	1:1	0.677	0.278	-0.01	20.25	21.70	1.396	0.945	22.5
Right cheek	20	QPSK 50_25	21350/2560	1:1	0.586	0.216	-0.09	20.33	21.70	1.371	0.803	22.5
Right tilted	20	QPSK 50_25	21100/2535	1:1	0.792	0.398	0.09	20.25	21.70	1.396	1.106	22.5
Right tilted	20	QPSK 50_25	21350/2560	1:1	0.700	0.359	-0.07	20.33	21.70	1.371	0.960	22.5
Sample Second	20	QPSK 50_25	20850/2510	1:1	0.836	0.338	-0.06	20.40	21.70	1.349	1.128	22.5
Head Test Data (100%RB) state5												
Right cheek	20	QPSK 100_0	20850/2510	1:1	0.769	0.353	0.14	20.42	21.70	1.343	1.033	22.5
Right tilted	20	QPSK 100_0	20850/2510	1:1	0.753	0.345	0.08	20.42	21.70	1.343	1.011	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_0	20850/2510	1:1	0.079	0.042	-0.05	20.73	21.70	1.250	0.099	22.5
Back side	20	QPSK 1_0	20850/2510	1:1	0.286	0.139	0.08	20.73	21.70	1.250	0.358	22.5
Back side	20	PCC QPSK 1_99	21100/2535	1:1	0.269	0.127	0.08	20.54	21.70	1.306	0.351	22.5
		SCC QPSK 1_0	21298/2554.8									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	20850/2510	1:1	0.081	0.049	0.16	20.40	21.70	1.349	0.109	22.5
Back side	20	QPSK 50_25	20850/2510	1:1	0.295	0.145	-0.07	20.40	21.70	1.349	**0.398**	22.5
Sample Second	20	QPSK 50_25	20850/2510	1:1	0.281	0.136	0.19	20.40	21.70	1.349	0.379	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_0	20850/2510	1:1	0.155	0.083	0.09	20.73	21.70	1.250	0.194	22.5
Back side	20	QPSK 1_0	20850/2510	1:1	0.673	0.307	-0.08	20.73	21.70	1.250	0.841	22.5
Left side	20	QPSK 1_0	20850/2510	1:1	0.084	0.044	-0.18	20.73	21.70	1.250	0.105	22.5
Top side	20	QPSK 1_0	20850/2510	1:1	0.518	0.232	0.05	20.73	21.70	1.250	0.648	22.5

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Back side	20	QPSK 1_50	21100/2535	1:1	0.640	0.294	0.01	20.54	21.70	1.306	0.836	22.5
Back side	20	QPSK 1_50	21350/2560	1:1	0.609	0.278	0.06	20.15	21.70	1.429	0.870	22.5
Back side	20	PCC QPSK 1_99	21100/2535	1:1	0.596	0.255	0.08	20.54	21.70	1.306	0.778	22.5
		SCC QPSK 1_0	21298/2554.8									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	20850/2510	1:1	0.159	0.083	-0.19	20.40	21.70	1.349	0.214	22.5
Back side	20	QPSK 50_25	20850/2510	1:1	0.687	0.309	-0.05	20.40	21.70	1.349	**0.927**	22.5
Left side	20	QPSK 50_25	20850/2510	1:1	0.085	0.047	-0.04	20.40	21.70	1.349	0.115	22.5
Top side	20	QPSK 50_25	20850/2510	1:1	0.524	0.233	-0.18	20.40	21.70	1.349	0.707	22.5
Back side	20	QPSK 50_25	21100/2535	1:1	0.637	0.294	0.10	20.25	21.70	1.396	0.889	22.5
Back side	20	QPSK 50_25	21350/2560	1:1	0.623	0.282	-0.03	20.33	21.70	1.371	0.854	22.5
Sample Second	20	QPSK 50_25	20850/2510	1:1	0.679	0.298	-0.19	20.40	21.70	1.349	0.916	22.5
Ant 0 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_50	21100/2535	1:1	0.080	0.037	0.04	22.79	24.20	1.384	0.111	22.5
Left tilted	20	QPSK 1_50	21100/2535	1:1	0.034	0.014	0.02	22.79	24.20	1.384	0.047	22.5
Right cheek	20	QPSK 1_50	21100/2535	1:1	0.259	0.114	0.02	22.79	24.20	1.384	0.358	22.5
Right tilted	20	QPSK 1_50	21100/2535	1:1	0.079	0.036	0.07	22.79	24.20	1.384	0.109	22.5
Right cheek	20	PCC QPSK 1_99	20850/2510	1:1	0.246	0.101	-0.08	23.32	24.20	1.225	0.301	22.5
		SCC QPSK 1_0	21048/2529.8									
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_25	21350/2560	1:1	0.066	0.031	0.16	21.56	23.20	1.459	0.096	22.5
Left tilted	20	QPSK 50_25	21350/2560	1:1	0.012	0.005	-0.06	21.56	23.20	1.459	0.018	22.5
Right cheek	20	QPSK 50_25	21350/2560	1:1	0.259	0.103	0.02	21.56	23.20	1.459	0.378	22.5
Right tilted	20	QPSK 50_25	21350/2560	1:1	0.070	0.029	-0.01	21.56	23.20	1.459	0.102	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_99	20850/2510	1:1	0.009	0.003	-0.19	20.56	22.20	1.459	0.013	22.3
Back side	20	QPSK 1_99	20850/2510	1:1	0.055	0.015	0.15	20.56	22.20	1.459	0.080	22.3
Back side	20	PCC QPSK 1_99	20850/2510	1:1	0.036	0.009	-0.06	20.63	22.20	1.435	0.052	22.5
		SCC QPSK 1_0	21048/2529.8									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	20850/2510	1:1	0.006	0.002	-0.13	20.49	22.20	1.483	0.009	22.5
Back side	20	QPSK 50_25	20850/2510	1:1	0.053	0.025	0.19	20.49	22.20	1.483	0.079	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_99	20850/2510	1:1	0.040	0.018	0.18	20.56	22.20	1.459	0.058	22.5
Back side	20	QPSK 1_99	20850/2510	1:1	0.140	0.054	-0.13	20.56	22.20	1.459	0.204	22.5
Left side	20	QPSK 1_99	20850/2510	1:1	0.122	0.050	0.05	20.56	22.20	1.459	0.178	22.5
Top side	20	QPSK 1_99	20850/2510	1:1	0.006	0.002	-0.17	20.56	22.20	1.459	0.009	22.5
Back side	20	PCC QPSK 1_99	20850/2510	1:1	0.132	0.080	-0.01	20.63	22.20	1.435	0.189	22.5
		SCC QPSK 1_0	21048/2529.8									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	20850/2510	1:1	0.044	0.020	0.19	20.49	22.20	1.483	0.065	22.5

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Back side	20	QPSK 50_25	20850/2510	1:1	0.145	0.058	-0.05	20.49	22.20	1.483	0.215	22.5
Left side	20	QPSK 50_25	20850/2510	1:1	0.129	0.055	-0.02	20.49	22.20	1.483	0.191	22.5
Top side	20	QPSK 50_25	20850/2510	1:1	0.007	0.003	-0.01	20.49	22.20	1.483	0.010	22.5
Ant 5 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_50	20850/2510	1:1	0.032	0.016	-0.07	23.24	24.20	1.247	0.040	22.5
Left tilted	20	QPSK 1_50	20850/2510	1:1	0.026	0.013	0.03	23.24	24.20	1.247	0.032	22.5
Right cheek	20	QPSK 1_50	20850/2510	1:1	0.060	0.027	0.05	23.24	24.20	1.247	0.075	22.5
Right tilted	20	QPSK 1_50	20850/2510	1:1	0.031	0.010	0.01	23.24	24.20	1.247	0.039	22.5
Right cheek	20	PCC QPSK 1_0	21100/2535	1:1	0.054	0.019	0.08	23.93	24.20	1.064	0.057	22.5
		SCC QPSK 1_99	20902/2515.2									
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_25	20850/2510	1:1	0.024	0.012	0.09	21.87	23.20	1.358	0.033	22.5
Left tilted	20	QPSK 50_25	20850/2510	1:1	0.016	0.008	0.05	21.87	23.20	1.358	0.022	22.5
Right cheek	20	QPSK 50_25	20850/2510	1:1	0.051	0.025	0.04	21.87	23.20	1.358	0.069	22.5
Right tilted	20	QPSK 50_25	20850/2510	1:1	0.012	0.050	0.15	21.87	23.20	1.358	0.016	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_99	21100/2535	1:1	0.049	0.013	0.16	22.19	23.20	1.262	0.062	22.5
Back side	20	QPSK 1_99	21100/2535	1:1	0.054	0.017	-0.12	22.19	23.20	1.262	0.068	22.5
Back side	20	PCC QPSK 1_0	21100/2535	1:1	0.039	0.009	-0.06	21.27	23.20	1.560	0.061	22.5
		SCC QPSK 1_99	20902/2515.2									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	21100/2535	1:1	0.057	0.016	-0.02	21.82	23.20	1.374	0.078	22.5
Back side	20	QPSK 50_25	21100/2535	1:1	0.061	0.021	-0.08	21.82	23.20	1.374	0.084	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_99	21100/2535	1:1	0.066	0.035	-0.08	22.19	23.20	1.262	0.083	22.5
Back side	20	QPSK 1_99	21100/2535	1:1	0.101	0.056	0.03	22.19	23.20	1.262	0.127	22.5
Right side	20	QPSK 1_99	21100/2535	1:1	0.045	0.023	-0.06	22.19	23.20	1.262	0.057	22.5
Bottom side	20	QPSK 1_99	21100/2535	1:1	0.144	0.074	-0.05	22.19	23.20	1.262	0.182	22.5
Bottom side	20	PCC QPSK 1_0	21100/2535	1:1	0.132	0.059	-0.01	21.27	23.20	1.560	0.206	22.5
		SCC QPSK 1_99	20902/2515.2									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	21100/2535	1:1	0.061	0.032	0.13	21.82	23.20	1.374	0.084	22.5
Back side	20	QPSK 50_25	21100/2535	1:1	0.096	0.051	-0.08	21.82	23.20	1.374	0.132	22.5
Right side	20	QPSK 50_25	21100/2535	1:1	0.006	0.002	-0.03	21.82	23.20	1.374	0.008	22.5
Bottom side	20	QPSK 50_25	21100/2535	1:1	0.145	0.075	-0.01	21.82	23.20	1.374	0.199	22.5

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8.2.8 SAR Result of LTE Band 12

LTE Band 12 SAR Test Record												
Ant 0 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	10	QPSK 1_25	23130/711	1:1	0.122	0.087	-0.05	24.72	25.20	1.117	0.136	22.3
Left tilted	10	QPSK 1_25	23130/711	1:1	0.077	0.054	-0.02	24.72	25.20	1.117	0.086	22.3
Right cheek	10	QPSK 1_25	23130/711	1:1	0.232	0.146	0.07	24.72	25.20	1.117	**0.259**	22.3
Right tilted	10	QPSK 1_25	23130/711	1:1	0.089	0.059	-0.11	24.72	25.20	1.117	0.099	22.3
Sample Second	10	QPSK 1_25	23130/711	1:1	0.226	0.135	0.04	24.72	25.20	1.117	0.252	22.3
Head Test Data (50%RB) state5												
Left cheek	10	QPSK 25_13	23060/704	1:1	0.090	0.064	0.18	23.66	24.20	1.132	0.102	22.3
Left tilted	10	QPSK 25_13	23060/704	1:1	0.056	0.039	0.17	23.66	24.20	1.132	0.063	22.3
Right cheek	10	QPSK 25_13	23060/704	1:1	0.211	0.133	-0.19	23.66	24.20	1.132	0.239	22.3
Right tilted	10	QPSK 25_13	23060/704	1:1	0.082	0.054	-0.14	23.66	24.20	1.132	0.093	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	10	QPSK 1_25	23130/711	1:1	0.066	0.049	0.03	24.72	25.20	1.117	0.074	22.3
Back side	10	QPSK 1_25	23130/711	1:1	0.154	0.105	0.15	24.72	25.20	1.117	**0.172**	22.3
Sample Second	10	QPSK 1_25	23130/711	1:1	0.142	0.098	0.19	24.72	25.20	1.117	0.159	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	10	QPSK 25_13	23060/704	1:1	0.059	0.042	-0.09	23.66	24.20	1.132	0.067	22.3
Back side	10	QPSK 25_13	23060/704	1:1	0.118	0.075	0.06	23.66	24.20	1.132	0.134	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	10	QPSK 1_25	23130/711	1:1	0.080	0.053	0.01	24.72	25.20	1.117	0.089	22.3
Back side	10	QPSK 1_25	23130/711	1:1	0.274	0.169	-0.01	24.72	25.20	1.117	**0.306**	22.3
Left side	10	QPSK 1_25	23130/711	1:1	0.153	0.068	-0.05	24.72	25.20	1.117	0.171	22.3
Top side	10	QPSK 1_25	23130/711	1:1	0.006	0.002	0.1	24.72	25.20	1.117	0.007	22.3
Sample Second	10	QPSK 1_25	23130/711	1:1	0.269	0.161	-0.12	24.72	25.20	1.117	0.300	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	10	QPSK 25_13	23060/704	1:1	0.062	0.041	-0.17	23.66	24.20	1.132	0.070	22.3
Back side	10	QPSK 25_13	23060/704	1:1	0.250	0.131	0.01	23.66	24.20	1.132	0.283	22.3
Left side	10	QPSK 25_13	23060/704	1:1	0.098	0.049	0.04	23.66	24.20	1.132	0.111	22.3
Top side	10	QPSK 25_13	23060/704	1:1	0.005	0.002	-0.06	23.66	24.20	1.132	0.006	22.3
Ant 1 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	10	QPSK 1_49	23095/707.5	1:1	0.137	0.096	0.10	24.70	25.20	1.122	0.154	22.3
Left tilted	10	QPSK 1_49	23095/707.5	1:1	0.079	0.056	0.02	24.70	25.20	1.122	0.089	22.3
Right cheek	10	QPSK 1_49	23095/707.5	1:1	0.126	0.100	0.05	24.70	25.20	1.122	0.141	22.3
Right tilted	10	QPSK 1_49	23095/707.5	1:1	0.067	0.047	0.01	24.70	25.20	1.122	0.075	22.3

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Head Test Data (50%RB) state5												
Left cheek	10	QPSK 25_13	23130/711	1:1	0.110	0.078	0.06	23.71	24.20	1.119	0.123	22.3
Left tilted	10	QPSK 25_13	23130/711	1:1	0.066	0.046	0.07	23.71	24.20	1.119	0.073	22.3
Right cheek	10	QPSK 25_13	23130/711	1:1	0.096	0.066	0.08	23.71	24.20	1.119	0.107	22.3
Right tilted	10	QPSK 25_13	23130/711	1:1	0.055	0.039	0.07	23.71	24.20	1.119	0.062	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	10	QPSK 1_49	23095/707.5	1:1	0.059	0.028	-0.13	24.70	25.20	1.122	0.066	22.3
Back side	10	QPSK 1_49	23095/707.5	1:1	0.133	0.106	0.09	24.70	25.20	1.122	0.149	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	10	QPSK 25_13	23130/711	1:1	0.046	0.020	-0.10	23.71	24.20	1.119	0.051	22.3
Back side	10	QPSK 25_13	23130/711	1:1	0.129	0.098	0.13	23.71	24.20	1.119	0.144	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	10	QPSK 1_49	23095/707.5	1:1	0.166	0.103	0.04	24.70	25.20	1.122	0.186	22.3
Back side	10	QPSK 1_49	23095/707.5	1:1	0.236	0.146	-0.02	24.70	25.20	1.122	0.265	22.3
Left side	10	QPSK 1_49	23095/707.5	1:1	0.187	0.112	0.16	24.70	25.20	1.122	0.210	22.3
Bottom side	10	QPSK 1_49	23095/707.5	1:1	0.121	0.066	-0.06	24.70	25.20	1.122	0.136	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	10	QPSK 25_13	23130/711	1:1	0.133	0.085	0.13	23.71	24.20	1.119	0.149	22.3
Back side	10	QPSK 25_13	23130/711	1:1	0.187	0.116	0.15	23.71	24.20	1.119	0.209	22.3
Left side	10	QPSK 25_13	23130/711	1:1	0.156	0.096	0.09	23.71	24.20	1.119	0.175	22.3
Bottom side	10	QPSK 25_13	23130/711	1:1	0.096	0.055	0.12	23.71	24.20	1.119	0.107	22.3

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8.2.9 SAR Result of LTE Band 13

LTE Band 13 SAR Test Record												
Ant 0 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	10	QPSK 1_0	23230/782	1:1	0.089	0.064	0.05	23.45	24.50	1.274	0.113	22.3
Left tilted	10	QPSK 1_0	23230/782	1:1	0.055	0.039	-0.1	23.45	24.50	1.274	0.070	22.3
Right cheek	10	QPSK 1_0	23230/782	1:1	0.111	0.091	-0.08	23.45	24.50	1.274	0.141	22.3
Right tilted	10	QPSK 1_0	23230/782	1:1	0.081	0.054	0.18	23.45	24.50	1.274	0.103	22.3
Head Test Data (50%RB) state5												
Left cheek	10	QPSK 25_0	23230/782	1:1	0.076	0.055	0.08	22.44	23.50	1.276	0.097	22.3
Left tilted	10	QPSK 25_0	23230/782	1:1	0.048	0.034	-0.03	22.44	23.50	1.276	0.061	22.3
Right cheek	10	QPSK 25_0	23230/782	1:1	0.102	0.090	0.16	22.44	23.50	1.276	0.130	22.3
Right tilted	10	QPSK 25_0	23230/782	1:1	0.072	0.048	-0.05	22.44	23.50	1.276	0.092	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	10	QPSK 1_0	23230/782	1:1	0.011	0.007	0.11	23.45	24.50	1.274	0.014	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.113	0.074	-0.03	23.45	24.50	1.274	0.144	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	10	QPSK 25_0	23230/782	1:1	0.009	0.005	0.01	22.44	23.50	1.276	0.011	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.087	0.068	-0.04	22.44	23.50	1.276	0.111	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	10	QPSK 1_0	23230/782	1:1	0.049	0.032	0.09	23.45	24.50	1.274	0.062	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.148	0.094	-0.05	23.45	24.50	1.274	0.188	22.3
Left side	10	QPSK 1_0	23230/782	1:1	0.059	0.031	-0.06	23.45	24.50	1.274	0.075	22.3
Top side	10	QPSK 1_0	23230/782	1:1	0.005	0.002	-0.12	23.45	24.50	1.274	0.006	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	10	QPSK 25_0	23230/782	1:1	0.044	0.028	-0.18	22.44	23.50	1.276	0.056	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.132	0.074	-0.05	22.44	23.50	1.276	0.168	22.3
Left side	10	QPSK 25_0	23230/782	1:1	0.057	0.037	0.14	22.44	23.50	1.276	0.073	22.3
Top side	10	QPSK 25_0	23230/782	1:1	0.008	0.003	-0.04	22.44	23.50	1.276	0.010	22.3
Ant 1 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	10	QPSK 1_25	23230/782	1:1	0.134	0.110	0.15	23.82	24.50	1.169	**0.157**	22.3
Left tilted	10	QPSK 1_25	23230/782	1:1	0.064	0.045	0.05	23.82	24.50	1.169	0.075	22.3
Right cheek	10	QPSK 1_25	23230/782	1:1	0.106	0.072	0.08	23.82	24.50	1.169	0.124	22.3
Right tilted	10	QPSK 1_25	23230/782	1:1	0.063	0.044	0.02	23.82	24.50	1.169	0.074	22.3
Sample Second	10	QPSK 1_25	23230/782	1:1	0.122	0.085	0.03	23.82	24.50	1.169	0.143	22.3
Head Test Data (50%RB) state5												
Left cheek	10	QPSK 25_0	23230/782	1:1	0.100	0.070	0.19	22.75	23.50	1.189	0.119	22.3

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Left tilted	10	QPSK 25_0	23230/782	1:1	0.050	0.035	0.09	22.75	23.50	1.189	0.059	22.3
Right cheek	10	QPSK 25_0	23230/782	1:1	0.082	0.056	0.03	22.75	23.50	1.189	0.097	22.3
Right tilted	10	QPSK 25_0	23230/782	1:1	0.049	0.034	0.05	22.75	23.50	1.189	0.058	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	10	QPSK 1_25	23230/782	1:1	0.125	0.092	-0.09	23.82	24.50	1.169	0.146	22.3
Back side	10	QPSK 1_25	23230/782	1:1	0.192	0.149	-0.04	23.82	24.50	1.169	**0.225**	22.3
Sample Second	10	QPSK 1_25	23230/782	1:1	0.186	0.138	-0.03	23.82	24.50	1.169	0.218	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	10	QPSK 25_0	23230/782	1:1	0.099	0.071	0.14	22.75	23.50	1.189	0.118	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.111	0.079	-0.02	22.75	23.50	1.189	0.132	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	10	QPSK 1_25	23230/782	1:1	0.145	0.093	-0.17	23.82	24.50	1.169	0.170	22.3
Back side	10	QPSK 1_25	23230/782	1:1	0.255	0.159	-0.13	23.82	24.50	1.169	**0.298**	22.3
Left side	10	QPSK 1_25	23230/782	1:1	0.162	0.080	-0.14	23.82	24.50	1.169	0.189	22.3
Bottom side	10	QPSK 1_25	23230/782	1:1	0.095	0.056	0.15	23.82	24.50	1.169	0.111	22.3
Sample Second	10	QPSK 1_25	23230/782	1:1	0.247	0.144	0.02	23.82	24.50	1.169	0.289	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	10	QPSK 25_0	23230/782	1:1	0.114	0.072	0.12	22.75	23.50	1.189	0.135	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.148	0.093	0.13	22.75	23.50	1.189	0.176	22.3
Left side	10	QPSK 25_0	23230/782	1:1	0.110	0.073	-0.19	22.75	23.50	1.189	0.131	22.3
Bottom side	10	QPSK 25_0	23230/782	1:1	0.071	0.042	-0.02	22.75	23.50	1.189	0.084	22.3

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8.2.10 SAR Result of LTE Band 26

LTE Band 26 SAR Test Record												
Ant 0 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	15	QPSK 1_74	26865/831.5	1:1	0.044	0.032	-0.15	24.23	25.20	1.250	0.055	22.3
Left tilted	15	QPSK 1_74	26865/831.5	1:1	0.010	0.003	0.04	24.23	25.20	1.250	0.013	22.3
Right cheek	15	QPSK 1_74	26865/831.5	1:1	0.111	0.060	-0.19	24.23	25.20	1.250	0.139	22.3
Right tilted	15	QPSK 1_74	26865/831.5	1:1	0.042	0.031	-0.03	24.23	25.20	1.250	0.053	22.3
Head Test Data (50%RB) state5												
Left cheek	15	QPSK 36_39	26965/841.5	1:1	0.063	0.046	-0.18	23.25	24.20	1.245	0.078	22.3
Left tilted	15	QPSK 36_39	26965/841.5	1:1	0.012	0.005	0.01	23.25	24.20	1.245	0.015	22.3
Right cheek	15	QPSK 36_39	26965/841.5	1:1	0.122	0.074	0.02	23.25	24.20	1.245	0.152	22.3
Right tilted	15	QPSK 36_39	26965/841.5	1:1	0.059	0.039	0.07	23.25	24.20	1.245	0.073	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	15	QPSK 1_74	26865/831.5	1:1	0.005	0.002	-0.07	24.23	25.20	1.250	0.006	22.3
Back side	15	QPSK 1_74	26865/831.5	1:1	0.023	0.011	0.19	24.23	25.20	1.250	0.029	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	15	QPSK 36_39	26965/841.5	1:1	0.009	0.004	0.13	23.25	24.20	1.245	0.011	22.3
Back side	15	QPSK 36_39	26965/841.5	1:1	0.063	0.042	-0.04	23.25	24.20	1.245	0.078	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	15	QPSK 1_74	26865/831.5	1:1	0.003	0.001	0.01	24.23	25.20	1.250	0.004	22.3
Back side	15	QPSK 1_74	26865/831.5	1:1	0.067	0.041	0.11	24.23	25.20	1.250	0.084	22.3
Left side	15	QPSK 1_74	26865/831.5	1:1	0.005	0.002	0.12	24.23	25.20	1.250	0.006	22.3
Top side	15	QPSK 1_74	26865/831.5	1:1	0.007	0.003	0.13	24.23	25.20	1.250	0.009	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	15	QPSK 36_39	26965/841.5	1:1	0.006	0.002	0.11	23.25	24.20	1.245	0.007	22.3
Back side	15	QPSK 36_39	26965/841.5	1:1	0.123	0.076	0.05	23.25	24.20	1.245	0.153	22.3
Left side	15	QPSK 36_39	26965/841.5	1:1	0.005	0.002	0.08	23.25	24.20	1.245	0.006	22.3
Top side	15	QPSK 36_39	26965/841.5	1:1	0.008	0.003	-0.08	23.25	24.20	1.245	0.010	22.3
Ant 1 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	15	QPSK 1_38	26865/831.5	1:1	0.165	0.132	0.06	24.79	25.20	1.099	**0.181**	22.3
Left tilted	15	QPSK 1_38	26865/831.5	1:1	0.109	0.079	0.13	24.79	25.20	1.099	0.120	22.3
Right cheek	15	QPSK 1_38	26865/831.5	1:1	0.131	0.094	0.18	24.79	25.20	1.099	0.144	22.3
Right tilted	15	QPSK 1_38	26865/831.5	1:1	0.080	0.059	0.03	24.79	25.20	1.099	0.088	22.3
Sample Second	15	QPSK 1_38	26865/831.5	1:1	0.162	0.129	-0.13	24.79	25.20	1.099	0.178	22.3
Head Test Data (50%RB) state5												
Left cheek	15	QPSK 36_39	26965/841.5	1:1	0.150	0.106	-0.18	23.56	24.20	1.159	0.174	22.3

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Left tilted	15	QPSK 36_39	26965/841.5	1:1	0.090	0.065	-0.15	23.56	24.20	1.159	0.104	22.3
Right cheek	15	QPSK 36_39	26965/841.5	1:1	0.106	0.076	0.10	23.56	24.20	1.159	0.123	22.3
Right tilted	15	QPSK 36_39	26965/841.5	1:1	0.067	0.050	-0.11	23.56	24.20	1.159	0.078	22.3
Body worn Test data (Separate 15mm 1RB) state3												
Front side	15	QPSK 1_38	26865/831.5	1:1	0.140	0.099	0.03	24.79	25.20	1.099	0.154	22.3
Back side	15	QPSK 1_38	26865/831.5	1:1	0.170	0.111	-0.07	24.79	25.20	1.099	**0.187**	22.3
Sample Second	15	QPSK 1_38	26865/831.5	1:1	0.163	0.103	-0.11	24.79	25.20	1.099	0.179	22.3
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	15	QPSK 36_39	26965/841.5	1:1	0.111	0.072	-0.14	23.56	24.20	1.159	0.129	22.3
Back side	15	QPSK 36_39	26965/841.5	1:1	0.152	0.095	0.17	23.56	24.20	1.159	0.176	22.3
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	15	QPSK 1_38	26865/831.5	1:1	0.215	0.135	0.01	24.79	25.20	1.099	0.236	22.3
Back side	15	QPSK 1_38	26865/831.5	1:1	0.320	0.200	-0.03	24.79	25.20	1.099	**0.352**	22.3
Left side	15	QPSK 1_38	26865/831.5	1:1	0.239	0.155	0.10	24.79	25.20	1.099	0.263	22.3
Bottom side	15	QPSK 1_38	26865/831.5	1:1	0.144	0.085	-0.15	24.79	25.20	1.099	0.158	22.3
Sample Second	15	QPSK 1_38	26865/831.5	1:1	0.313	0.189	0.07	24.79	25.20	1.099	0.344	22.3
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	15	QPSK 36_39	26965/841.5	1:1	0.192	0.121	0.04	23.56	24.20	1.159	0.222	22.3
Back side	15	QPSK 36_39	26965/841.5	1:1	0.289	0.174	0.11	23.56	24.20	1.159	0.335	22.3
Left side	15	QPSK 36_39	26965/841.5	1:1	0.206	0.112	0.07	23.56	24.20	1.159	0.239	22.3
Bottom side	15	QPSK 36_39	26965/841.5	1:1	0.125	0.075	0.16	23.56	24.20	1.159	0.145	22.3

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8.2.11 SAR Result of LTE Band 41

LTE Band 41 SAR Test Record												
Ant 4 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_50	39750/2506	1:1.58	0.452	0.245	-0.11	24.13	25.20	1.279	0.578	22
Left tilted	20	QPSK 1_50	39750/2506	1:1.58	0.555	0.288	-0.10	24.13	25.20	1.279	0.710	22
Right cheek	20	QPSK 1_50	39750/2506	1:1.58	0.849	0.405	-0.09	24.13	25.20	1.279	1.086	22
Right tilted	20	QPSK 1_50	39750/2506	1:1.58	0.906	0.392	0.07	24.13	25.20	1.279	**1.159**	22
Right tilted-Repeated	20	QPSK 1_50	39750/2506	1:1.58	0.893	0.385	0.19	24.13	25.20	1.279	1.142	22
Sample Second	20	QPSK 1_50	39750/2506	1:1.58	0.886	0.379	0.09	24.13	25.20	1.279	1.134	22
Left tilted	20	QPSK 1_50	40185/2549.5	1:1.58	0.478	0.247	0.04	24.07	25.20	1.297	0.620	22
Left tilted	20	QPSK 1_50	40620/2593	1:1.58	0.336	0.170	-0.04	24.05	25.20	1.303	0.438	22
Left tilted	20	QPSK 1_0	41055/2636.5	1:1.58	0.198	0.098	-0.04	24.10	25.20	1.288	0.255	22
Left tilted	20	QPSK 1_0	41490/2680	1:1.58	0.092	0.042	0.02	23.92	25.20	1.343	0.124	22
Right cheek	20	QPSK 1_50	40185/2549.5	1:1.58	0.693	0.313	0.02	24.07	25.20	1.297	0.899	22
Right cheek	20	QPSK 1_50	40620/2593	1:1.58	0.464	0.204	0.06	24.05	25.20	1.303	0.605	22
Right cheek	20	QPSK 1_0	41055/2636.5	1:1.58	0.290	0.121	0.03	24.10	25.20	1.288	0.374	22
Right cheek	20	QPSK 1_0	41490/2680	1:1.58	0.184	0.072	0.09	23.92	25.20	1.343	0.247	22
Right tilted	20	QPSK 1_50	40185/2549.5	1:1.58	0.743	0.234	-0.08	24.07	25.20	1.297	0.964	22
Right tilted	20	QPSK 1_50	40620/2593	1:1.58	0.479	0.212	-0.03	24.05	25.20	1.303	0.624	22
Right tilted	20	QPSK 1_0	41055/2636.5	1:1.58	0.420	0.173	0.06	24.10	25.20	1.288	0.541	22
Right tilted	20	QPSK 1_0	41490/2680	1:1.58	0.247	0.093	0.07	23.92	25.20	1.343	0.332	22
Right tilted	20	PCC QPSK 1_99 SCC QPSK 0_0	40185/2549.5 40383/2569.3	1:1.58	0.775	0.339	0.06	23.83	25.20	1.371	1.062	22
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_25	39750/2506	1:1.58	0.442	0.239	0.17	23.26	24.20	1.242	0.549	22
Left tilted	20	QPSK 50_25	39750/2506	1:1.58	0.521	0.268	0.19	23.26	24.20	1.242	0.647	22
Right cheek	20	QPSK 50_25	39750/2506	1:1.58	0.648	0.306	0.04	23.26	24.20	1.242	0.805	22
Right tilted	20	QPSK 50_25	39750/2506	1:1.58	0.795	0.343	0.10	23.26	24.20	1.242	0.987	22
Left tilted	20	QPSK 50_25	40185/2549.5	1:1.58	0.455	0.236	0.00	23.18	24.20	1.265	0.575	22
Left tilted	20	QPSK 50_25	40620/2593	1:1.58	0.308	0.158	0.17	23.25	24.20	1.245	0.383	22
Left tilted	20	QPSK 50_0	41055/2636.5	1:1.58	0.178	0.088	-0.15	23.21	24.20	1.256	0.224	22
Left tilted	20	QPSK 50_50	41490/2680	1:1.58	0.079	0.036	-0.08	22.97	24.20	1.327	0.105	22
Right cheek	20	QPSK 50_25	40185/2549.5	1:1.58	0.714	0.311	0.05	23.18	24.20	1.265	0.903	22
Right cheek	20	QPSK 50_25	40620/2593	1:1.58	0.498	0.229	0.08	23.25	24.20	1.245	0.620	22
Right cheek	20	QPSK 50_0	41055/2636.5	1:1.58	0.290	0.126	0.18	23.21	24.20	1.256	0.364	22
Right cheek	20	QPSK 50_50	41490/2680	1:1.58	0.169	0.071	-0.07	22.97	24.20	1.327	0.224	22
Right tilted	20	QPSK 50_25	40185/2549.5	1:1.58	0.770	0.339	0.06	23.18	24.20	1.265	0.974	22
Right tilted	20	QPSK 50_25	40620/2593	1:1.58	0.483	0.211	-0.11	23.25	24.20	1.245	0.601	22
Right tilted	20	QPSK 50_0	41055/2636.5	1:1.58	0.269	0.113	0.02	23.21	24.20	1.256	0.338	22

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Right tilted	20	QPSK 50_50	41490/2680	1:1.58	0.191	0.076	0.19	22.97	24.20	1.327	0.254	22
Head Test Data (100%RB) state5												
Left tilted	20	QPSK 100_0	40620/2593	1:1.58	0.330	0.169	-0.16	23.24	24.20	1.247	0.412	22
Right cheek	20	QPSK 100_0	40620/2593	1:1.58	0.495	0.226	0.06	23.24	24.20	1.247	0.617	22
Right tilted	20	QPSK 100_0	40620/2593	1:1.58	0.484	0.213	0.00	23.24	24.20	1.247	0.604	22
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_0	41055/2636.5	1:1.58	0.055	0.015	0.03	21.79	22.70	1.233	0.068	22
Back side	20	QPSK 1_0	41055/2636.5	1:1.58	0.116	0.055	0.08	21.79	22.70	1.233	0.143	22
Back side	20	PCC QPSK 1_99	40185/2549.5	1:1.58	0.089	0.048	-0.12	21.83	22.70	1.222	0.109	22
		SCC QPSK 0_0	40383/2569.3									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	40620/2593	1:1.58	0.015	0.006	0.19	21.97	22.70	1.183	0.018	22
Back side	20	QPSK 50_25	40620/2593	1:1.58	0.178	0.086	-0.14	21.97	22.70	1.183	**0.211**	22
Sample Second	20	QPSK 50_25	40620/2593	1:1.58	0.172	0.080	-0.01	21.97	22.70	1.183	0.203	22
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_0	41055/2636.5	1:1.58	0.052	0.014	-0.01	21.79	22.70	1.233	0.064	22
Back side	20	QPSK 1_0	41055/2636.5	1:1.58	0.208	0.087	-0.06	21.79	22.70	1.233	0.256	22
Left side	20	QPSK 1_0	41055/2636.5	1:1.58	0.038	0.010	0.02	21.79	22.70	1.233	0.047	22
Top side	20	QPSK 1_0	41055/2636.5	1:1.58	0.115	0.053	-0.04	21.79	22.70	1.233	0.142	22
Back side	20	PCC QPSK 1_99	40185/2549.5	1:1.58	0.186	0.069	0.12	21.83	22.70	1.222	0.227	22
		SCC QPSK 0_0	40383/2569.3									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	40620/2593	1:1.58	0.057	0.029	0.13	21.97	22.70	1.183	0.067	22
Back side	20	QPSK 50_25	40620/2593	1:1.58	0.451	0.194	0.05	21.97	22.70	1.183	**0.534**	22
Left side	20	QPSK 50_25	40620/2593	1:1.58	0.045	0.012	0.01	21.97	22.70	1.183	0.053	22
Top side	20	QPSK 50_25	40620/2593	1:1.58	0.196	0.091	-0.06	21.97	22.70	1.183	0.232	22
Sample Second	20	QPSK 50_25	40620/2593	1:1.58	0.443	0.176	0.19	21.97	22.70	1.183	0.524	22
Ant 0 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_0	40620/2593	1:1.58	0.068	0.035	-0.05	23.51	25.20	1.476	0.100	22
Left tilted	20	QPSK 1_0	40620/2593	1:1.58	0.034	0.016	0.15	23.51	25.20	1.476	0.050	22
Right cheek	20	QPSK 1_0	40620/2593	1:1.58	0.148	0.053	0.02	23.51	25.20	1.476	0.218	22
Right tilted	20	QPSK 1_0	40620/2593	1:1.58	0.035	0.013	0.06	23.51	25.20	1.476	0.051	22
Right cheek	20	PCC QPSK 1_99	40185/2549.5	1:1.58	0.136	0.042	0.03	23.35	25.20	1.531	0.208	22
		SCC QPSK 0_0	40383/2569.3									
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_0	40620/2593	1:1.58	0.053	0.030	0.02	22.57	24.20	1.455	0.077	22
Left tilted	20	QPSK 50_0	40620/2593	1:1.58	0.029	0.010	0.18	22.57	24.20	1.455	0.042	22
Right cheek	20	QPSK 50_0	40620/2593	1:1.58	0.140	0.035	-0.07	22.57	24.20	1.455	0.204	22
Right tilted	20	QPSK 50_0	40620/2593	1:1.58	0.029	0.009	-0.13	22.57	24.20	1.455	0.042	22
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_50	39750/2506	1:1.58	0.011	0.004	-0.02	21.65	23.20	1.429	0.016	22

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Back side	20	QPSK 1_50	39750/2506	1:1.58	0.043	0.019	0.05	21.65	23.20	1.429	0.061	22
Back side	20	PCC QPSK 1_99	40185/2549.5	1:1.58	0.033	0.015	-0.11	21.73	23.20	1.403	0.046	22
		SCC QPSK 0_0	40383/2569.3									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.009	0.002	-0.09	21.79	23.20	1.384	0.012	22
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.035	0.016	0.06	21.79	23.20	1.384	0.048	22
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_50	39750/2506	1:1.58	0.022	0.008	0.18	21.65	23.20	1.429	0.031	22
Back side	20	QPSK 1_50	39750/2506	1:1.58	0.119	0.049	-0.01	21.65	23.20	1.429	0.170	22
Left side	20	QPSK 1_50	39750/2506	1:1.58	0.123	0.051	0.11	21.65	23.20	1.429	0.176	22
Top side	20	QPSK 1_50	39750/2506	1:1.58	0.036	0.010	-0.13	21.65	23.20	1.429	0.051	22
Left side	20	PCC QPSK 1_99	40185/2549.5	1:1.58	0.111	0.048	0.04	21.73	23.20	1.403	0.156	22
		SCC QPSK 0_0	40383/2569.3									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.015	0.003	0.03	21.79	23.20	1.384	0.021	22
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.065	0.027	0.19	21.79	23.20	1.384	0.090	22
Left side	20	QPSK 50_0	40620/2593	1:1.58	0.070	0.031	0.14	21.79	23.20	1.384	0.097	22
Top side	20	QPSK 50_0	40620/2593	1:1.58	0.029	0.007	0.05	21.79	23.20	1.384	0.040	22
Ant 5 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_99	41490/2680	1:1.58	0.048	0.025	0.09	24.04	25.20	1.306	0.063	22
Left tilted	20	QPSK 1_99	41490/2680	1:1.58	0.043	0.021	0.07	24.04	25.20	1.306	0.056	22
Right cheek	20	QPSK 1_99	41490/2680	1:1.58	0.077	0.037	0.02	24.04	25.20	1.306	0.101	22
Right tilted	20	QPSK 1_99	41490/2680	1:1.58	0.052	0.024	0.03	24.04	25.20	1.306	0.068	22
Right cheek	20	PSS QPSK 1_0	41490/2680	1:1.58	0.064	0.029	0.03	23.74	25.20	1.400	0.090	22
		SCC QPSK 0_0	41292/2660.2									
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_0	40620/2593	1:1.58	0.014	0.005	0.09	23.21	24.20	1.256	0.018	22
Left tilted	20	QPSK 50_0	40620/2593	1:1.58	0.012	0.006	-0.04	23.21	24.20	1.256	0.015	22
Right cheek	20	QPSK 50_0	40620/2593	1:1.58	0.020	0.006	0.05	23.21	24.20	1.256	0.025	22
Right tilted	20	QPSK 50_0	40620/2593	1:1.58	0.019	0.050	0.05	23.21	24.20	1.256	0.024	22
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_50	40185/2549.5	1:1.58	0.108	0.059	-0.02	23.67	24.70	1.268	0.137	22
Back side	20	QPSK 1_50	40185/2549.5	1:1.58	0.153	0.084	0.00	23.67	24.70	1.268	0.194	22
Back side	20	PSS QPSK 1_0	41490/2680	1:1.58	0.133	0.068	0.05	23.35	24.70	1.365	0.181	22
		SCC QPSK 0_0	41292/2660.2									
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.095	0.053	-0.04	22.82	24.20	1.374	0.131	22
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.135	0.073	-0.07	22.82	24.20	1.374	0.185	22
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_50	40185/2549.5	1:1.58	0.201	0.108	0.16	23.67	24.70	1.268	0.255	22
Back side	20	QPSK 1_50	40185/2549.5	1:1.58	0.270	0.146	-0.04	23.67	24.70	1.268	0.342	22

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Right side	20	QPSK 1_50	40185/2549.5	1:1.58	0.098	0.052	-0.11	23.67	24.70	1.268	0.124	22
Bottom side	20	QPSK 1_50	40185/2549.5	1:1.58	0.417	0.207	-0.14	23.67	24.70	1.268	0.529	22
Bottom side	20	PSS QPSK 1_0	41490/2680	1:1.58	0.378	0.176	-0.07	23.35	24.70	1.365	0.516	22
		SCC QPSK 0_0	41292/2660.2									
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.181	0.096	-0.18	22.82	24.20	1.374	0.249	22
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.243	0.128	0.01	22.82	24.20	1.374	0.334	22
Right side	20	QPSK 50_0	40620/2593	1:1.58	0.086	0.045	0.10	22.82	24.20	1.374	0.118	22
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.343	0.171	-0.17	22.82	24.20	1.374	0.471	22

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right tilted	39750/2506	0.906	0.893	1.015	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 preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was preformed 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

5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

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8.2.12 SAR Result of LTE Band 66

LTE Band 66 SAR Test Record												
Ant 4 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_99	132322/1745	1:1	0.431	0.246	-0.17	20.26	21.20	1.242	0.535	22.5
Left tilted	20	QPSK 1_99	132322/1745	1:1	0.424	0.214	0.15	20.26	21.20	1.242	0.526	22.5
Right cheek	20	QPSK 1_99	132322/1745	1:1	0.627	0.356	0.10	20.26	21.20	1.242	**0.779**	22.5
Right tilted	20	QPSK 1_99	132322/1745	1:1	0.417	0.173	-0.08	20.26	21.20	1.242	0.518	22.5
Sample Second	20	QPSK 1_99	132322/1745	1:1	0.611	0.349	0.11	20.26	21.20	1.242	0.759	22.5
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_50	132322/1745	1:1	0.413	0.229	0.16	19.84	21.20	1.368	0.565	22.5
Left tilted	20	QPSK 50_50	132322/1745	1:1	0.406	0.206	0.01	19.84	21.20	1.368	0.555	22.5
Right cheek	20	QPSK 50_50	132322/1745	1:1	0.559	0.266	-0.15	19.84	21.20	1.368	0.765	22.5
Right tilted	20	QPSK 50_50	132322/1745	1:1	0.415	0.171	0.15	19.84	21.20	1.368	0.568	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_0	132322/1745	1:1	0.141	0.087	0.12	23.72	24.70	1.253	0.177	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.233	0.138	-0.11	23.72	24.70	1.253	**0.292**	22.5
Sample Second	20	QPSK 1_0	132322/1745	1:1	0.226	0.127	-0.01	23.72	24.70	1.253	0.283	22.5
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_50	132322/1745	1:1	0.128	0.080	0.11	23.20	24.20	1.259	0.161	22.5
Back side	20	QPSK 50_50	132322/1745	1:1	0.207	0.117	0.19	23.20	24.20	1.259	0.261	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_0	132322/1745	1:1	0.288	0.185	0.06	23.72	24.70	1.253	0.361	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.548	0.308	-0.16	23.72	24.70	1.253	**0.687**	22.5
Left side	20	QPSK 1_0	132322/1745	1:1	0.180	0.112	0.05	23.72	24.70	1.253	0.226	22.5
Top side	20	QPSK 1_0	132322/1745	1:1	0.335	0.200	-0.03	23.72	24.70	1.253	0.420	22.5
Sample Second	20	QPSK 1_0	132322/1745	1:1	0.533	0.289	-0.12	23.72	24.70	1.253	0.668	22.5
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_50	132322/1745	1:1	0.283	0.178	-0.01	23.20	24.20	1.259	0.356	22.5
Back side	20	QPSK 50_50	132322/1745	1:1	0.497	0.298	0.05	23.20	24.20	1.259	0.626	22.5
Left side	20	QPSK 50_50	132322/1745	1:1	0.166	0.106	-0.18	23.20	24.20	1.259	0.209	22.5
Top side	20	QPSK 50_50	132322/1745	1:1	0.329	0.197	0.10	23.20	24.20	1.259	0.414	22.5
Ant 0 Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_99	132072/1720	1:1	0.004	0.002	0.03	24.10	25.20	1.288	0.005	22.5
Left tilted	20	QPSK 1_99	132072/1720	1:1	0.002	0.001	-0.02	24.10	25.20	1.288	0.003	22.5
Right cheek	20	QPSK 1_99	132072/1720	1:1	0.076	0.038	0.14	24.10	25.20	1.288	0.098	22.5
Right tilted	20	QPSK 1_99	132072/1720	1:1	0.011	0.006	-0.06	24.10	25.20	1.288	0.014	22.5

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Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_25	132072/1720	1:1	0.003	0.001	-0.03	22.68	24.20	1.419	0.004	22.5
Left tilted	20	QPSK 50_25	132072/1720	1:1	0.002	0.001	-0.16	22.68	24.20	1.419	0.003	22.5
Right cheek	20	QPSK 50_25	132072/1720	1:1	0.069	0.034	-0.01	22.68	24.20	1.419	0.098	22.5
Right tilted	20	QPSK 50_25	132072/1720	1:1	0.008	0.005	-0.11	22.68	24.20	1.419	0.011	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_99	132072/1720	1:1	0.013	0.006	0.17	24.10	25.20	1.288	0.017	22.5
Back side	20	QPSK 1_99	132072/1720	1:1	0.019	0.009	-0.14	24.10	25.20	1.288	0.024	22.5
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_25	132072/1720	1:1	0.009	0.005	0.11	22.68	24.20	1.419	0.013	22.5
Back side	20	QPSK 50_25	132072/1720	1:1	0.015	0.008	-0.07	22.68	24.20	1.419	0.021	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_99	132072/1720	1:1	0.032	0.016	-0.02	24.10	25.20	1.288	0.041	22.5
Back side	20	QPSK 1_99	132072/1720	1:1	0.078	0.039	-0.13	24.10	25.20	1.288	0.100	22.5
Left side	20	QPSK 1_99	132072/1720	1:1	0.022	0.011	-0.09	24.10	25.20	1.288	0.028	22.5
Top side	20	QPSK 1_99	132072/1720	1:1	0.011	0.006	-0.04	24.10	25.20	1.288	0.014	22.5
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_25	132072/1720	1:1	0.026	0.011	0.07	22.68	24.20	1.419	0.037	22.5
Back side	20	QPSK 50_25	132072/1720	1:1	0.048	0.024	-0.18	22.68	24.20	1.419	0.068	22.5
Left side	20	QPSK 50_25	132072/1720	1:1	0.015	0.008	-0.10	22.68	24.20	1.419	0.021	22.5
Top side	20	QPSK 50_25	132072/1720	1:1	0.008	0.004	0.01	22.68	24.20	1.419	0.011	22.5
Ant 5 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) state5												
Left cheek	20	QPSK 1_0	132322/1745	1:1	0.113	0.071	0.16	23.61	25.20	1.442	0.163	22.5
Left tilted	20	QPSK 1_0	132322/1745	1:1	0.071	0.043	0.02	23.61	25.20	1.442	0.102	22.5
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.090	0.057	0.13	23.61	25.20	1.442	0.130	22.5
Right tilted	20	QPSK 1_0	132322/1745	1:1	0.067	0.042	0.17	23.61	25.20	1.442	0.097	22.5
Head Test Data (50%RB) state5												
Left cheek	20	QPSK 50_50	132322/1745	1:1	0.083	0.052	-0.18	22.74	24.20	1.400	0.116	22.5
Left tilted	20	QPSK 50_50	132322/1745	1:1	0.053	0.032	-0.03	22.74	24.20	1.400	0.074	22.5
Right cheek	20	QPSK 50_50	132322/1745	1:1	0.072	0.046	0.03	22.74	24.20	1.400	0.101	22.5
Right tilted	20	QPSK 50_50	132322/1745	1:1	0.050	0.031	0.04	22.74	24.20	1.400	0.070	22.5
Body worn Test data (Separate 15mm 1RB) state3												
Front side	20	QPSK 1_0	132322/1745	1:1	0.061	0.038	-0.09	23.61	25.20	1.442	0.088	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.076	0.045	0.06	23.61	25.20	1.442	0.110	22.5
Body worn Test data (Separate 15mm 50%RB) state3												
Front side	20	QPSK 50_50	132322/1745	1:1	0.069	0.040	-0.07	22.74	24.20	1.400	0.097	22.5
Back side	20	QPSK 50_50	132322/1745	1:1	0.072	0.043	0.01	22.74	24.20	1.400	0.101	22.5
Hotspot Test data (Separate 10mm 1RB) state8												
Front side	20	QPSK 1_0	132322/1745	1:1	0.164	0.091	0.01	23.61	25.20	1.442	0.237	22.5
Back side	20	QPSK 1_0	132322/1745	1:1	0.110	0.063	-0.08	23.61	25.20	1.442	0.159	22.5
Right side	20	QPSK 1_0	132322/1745	1:1	0.057	0.028	0.05	23.61	25.20	1.442	0.082	22.5

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Bottom side	20	QPSK 1_0	132322/1745	1:1	0.224	0.120	-0.16	23.61	25.20	1.442	0.323	22.5
Hotspot Test data (Separate 10mm 50%RB) state8												
Front side	20	QPSK 50_50	132322/1745	1:1	0.103	0.059	0.01	22.74	24.20	1.400	0.144	22.5
Back side	20	QPSK 50_50	132322/1745	1:1	0.147	0.084	-0.07	22.74	24.20	1.400	0.206	22.5
Right side	20	QPSK 50_50	132322/1745	1:1	0.043	0.023	0.02	22.74	24.20	1.400	0.060	22.5
Bottom side	20	QPSK 50_50	132322/1745	1:1	0.216	0.114	0.14	22.74	24.20	1.400	0.302	22.5

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8.2.13 SAR Result of NR Band n2

SA N2 SAR Test Record												
Ant4 Test Record												
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	20	QPSK 1_1	372000/1860	100%	0.420	0.270	0.01	19.50	20.50	1.259	0.529	22.2
Left tilted	20	QPSK 1_1	372000/1860	100%	0.408	0.235	-0.16	19.50	20.50	1.259	0.514	22.2
Right cheek	20	QPSK 1_1	372000/1860	100%	0.656	0.345	-0.16	19.50	20.50	1.259	0.826	22.2
Right tilted	20	QPSK 1_1	372000/1860	100%	0.525	0.229	0.19	19.50	20.50	1.259	0.661	22.2
Right cheek	20	QPSK 1_53	376000/1880	100%	0.713	0.379	-0.13	19.39	20.50	1.291	0.921	22.2
Right cheek	20	QPSK 1_53	380000/1900	100%	0.737	0.392	-0.08	19.39	20.50	1.291	**0.952**	22.2
Sample Second	20	QPSK 1_53	380000/1900	100%	0.725	0.386	0.03	19.39	20.50	1.291	0.936	22.2
Head Test Data (50%RB) State 5												
Left cheek	20	QPSK 50_28	376000/1880	100%	0.394	0.250	-0.03	19.27	20.50	1.327	0.523	22.2
Left tilted	20	QPSK 50_28	376000/1880	100%	0.370	0.213	-0.01	19.27	20.50	1.327	0.491	22.2
Right cheek	20	QPSK 50_28	376000/1880	100%	0.595	0.315	-0.10	19.27	20.50	1.327	0.790	22.2
Right tilted	20	QPSK 50_28	376000/1880	100%	0.418	0.225	-0.18	19.27	20.50	1.327	0.555	22.2
Head Test Data (100%RB) State 5												
Right cheek	20	QPSK 100_0	380000/1900	100%	0.567	0.302	0.05	18.23	19.50	1.340	0.760	22.2
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	20	QPSK 1_53	376000/1880	100%	0.159	0.097	0.09	22.42	23.50	1.282	0.204	22.2
Back side	20	QPSK 1_53	376000/1880	100%	0.203	0.119	-0.03	22.42	23.50	1.282	**0.260**	22.2
Sample Second	20	QPSK 1_53	376000/1880	100%	0.189	0.103	0.17	22.42	23.50	1.282	0.242	22.2
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	20	QPSK 50_28	376000/1880	100%	0.155	0.095	0.07	22.32	23.50	1.312	0.203	22.2
Back side	20	QPSK 50_28	376000/1880	100%	0.191	0.101	-0.12	22.32	23.50	1.312	0.251	22.2
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	20	QPSK 1_53	376000/1880	100%	0.279	0.166	0.06	22.42	23.50	1.282	0.358	22.2
Back side	20	QPSK 1_53	376000/1880	100%	0.493	0.274	-0.17	22.42	23.50	1.282	**0.632**	22.2
Left side	20	QPSK 1_53	376000/1880	100%	0.131	0.076	-0.01	22.42	23.50	1.282	0.168	22.2
Top side	20	QPSK 1_53	376000/1880	100%	0.312	0.180	0.04	22.42	23.50	1.282	0.400	22.2
Sample Second	20	QPSK 1_53	376000/1880	100%	0.482	0.268	0.13	22.42	23.50	1.282	0.618	22.2
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	20	QPSK 50_28	376000/1880	100%	0.280	0.169	-0.08	22.32	23.50	1.312	0.367	22.2
Back side	20	QPSK 50_28	376000/1880	100%	0.463	0.254	0.01	22.32	23.50	1.312	0.608	22.2
Left side	20	QPSK 50_28	376000/1880	100%	0.128	0.075	-0.06	22.32	23.50	1.312	0.168	22.2
Top side	20	QPSK 50_28	376000/1880	100%	0.304	0.176	0.16	22.32	23.50	1.312	0.399	22.2
Ant5 Test Record												
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	20	QPSK 1_1	376000/1880	100%	0.061	0.038	0.19	22.85	24.00	1.303	0.079	22.2

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Left tilted	20	QPSK 1_1	376000/1880	100%	0.045	0.027	0.12	22.85	24.00	1.303	0.059	22.2
Right cheek	20	QPSK 1_1	376000/1880	100%	0.057	0.037	-0.19	22.85	24.00	1.303	0.074	22.2
Right tilted	20	QPSK 1_1	376000/1880	100%	0.064	0.037	0.07	22.85	24.00	1.303	0.083	22.2
Head Test Data (50%RB) State 5												
Left cheek	20	QPSK 50_28	372000/1860	100%	0.075	0.047	-0.11	22.74	24.00	1.337	0.100	22.2
Left tilted	20	QPSK 50_28	372000/1860	100%	0.005	0.002	-0.18	22.74	24.00	1.337	0.007	22.2
Right cheek	20	QPSK 50_28	372000/1860	100%	0.054	0.035	-0.08	22.74	24.00	1.337	0.072	22.2
Right tilted	20	QPSK 50_28	372000/1860	100%	0.060	0.034	-0.15	22.74	24.00	1.337	0.080	22.2
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	20	QPSK 1_1	376000/1880	100%	0.036	0.022	0.03	22.85	24.00	1.303	0.047	22.2
Back side	20	QPSK 1_1	376000/1880	100%	0.053	0.032	0.13	22.85	24.00	1.303	0.069	22.2
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	20	QPSK 50_28	372000/1860	100%	0.037	0.023	0.02	22.74	24.00	1.337	0.049	22.2
Back side	20	QPSK 50_28	372000/1860	100%	0.054	0.033	0.03	22.74	24.00	1.337	0.072	22.2
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	20	QPSK 1_1	376000/1880	100%	0.069	0.041	0.14	22.85	24.00	1.303	0.090	22.2
Back side	20	QPSK 1_1	376000/1880	100%	0.104	0.059	-0.12	22.85	24.00	1.303	0.136	22.2
Right side	20	QPSK 1_1	376000/1880	100%	0.029	0.016	0.05	22.85	24.00	1.303	0.038	22.2
Bottom side	20	QPSK 1_1	376000/1880	100%	0.151	0.080	0.05	22.85	24.00	1.303	0.197	22.2
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	20	QPSK 50_28	372000/1860	100%	0.070	0.041	0.10	22.74	24.00	1.337	0.094	22.2
Back side	20	QPSK 50_28	372000/1860	100%	0.104	0.059	0.08	22.74	24.00	1.337	0.139	22.2
Right side	20	QPSK 50_28	372000/1860	100%	0.030	0.017	-0.02	22.74	24.00	1.337	0.040	22.2
Bottom side	20	QPSK 50_28	372000/1860	100%	0.151	0.080	0.01	22.74	24.00	1.337	0.202	22.2

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8.2.14 SAR Result of NR Band n7

SA N7 SAR Test Record												
Ant4 Test Record												
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	40	QPSK 1_1	505000/2525	100%	0.274	0.147	0.02	20.54	21.70	1.306	0.358	22.1
Left tilted	40	QPSK 1_1	505000/2525	100%	0.306	0.160	-0.11	20.54	21.70	1.306	0.400	22.1
Right cheek	40	QPSK 1_1	505000/2525	100%	0.552	0.251	0.09	20.54	21.70	1.306	0.721	22.1
Right tilted	40	QPSK 1_1	505000/2525	100%	0.656	0.282	-0.04	20.54	21.70	1.306	0.857	22.1
Right tilted	40	QPSK 1_108	507000/2535	100%	0.585	0.246	-0.16	20.39	21.70	1.352	0.791	22.1
Right tilted	40	QPSK 1_1	509000/2545	100%	0.721	0.311	-0.05	20.49	21.70	1.321	**0.953**	22.1
Sample Second	40	QPSK 1_1	509000/2545	100%	0.711	0.298	-0.08	20.49	21.70	1.321	0.939	22.1
Head Test Data (50%RB) State 5												
Left cheek	40	QPSK 108_54	509000/2545	100%	0.178	0.094	0.00	20.40	21.70	1.349	0.240	22.1
Left tilted	40	QPSK 108_54	509000/2545	100%	0.246	0.127	-0.19	20.40	21.70	1.349	0.332	22.1
Right cheek	40	QPSK 108_54	509000/2545	100%	0.431	0.196	0.18	20.40	21.70	1.349	0.581	22.1
Right tilted	40	QPSK 108_54	509000/2545	100%	0.492	0.208	0.16	20.40	21.70	1.349	0.664	22.1
Head Test Data (1000%RB) State 5												
Right tilted	40	QPSK 216_0	509000/2545	100%	0.576	0.283	-0.02	19.30	20.70	1.380	0.795	22.1
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	40	QPSK 1_1	505000/2525	100%	0.046	0.024	0.12	20.54	21.70	1.306	0.060	22.1
Back side	40	QPSK 1_1	505000/2525	100%	0.231	0.111	0.01	20.54	21.70	1.306	**0.302**	22.1
Sample Second	40	QPSK 1_1	505000/2525	100%	0.223	0.100	-0.17	20.54	21.70	1.306	0.291	22.1
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	40	QPSK 108_54	509000/2545	100%	0.040	0.021	0.07	20.40	21.70	1.349	0.054	22.1
Back side	40	QPSK 108_54	509000/2545	100%	0.182	0.084	0.12	20.40	21.70	1.349	0.246	22.1
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	40	QPSK 1_1	505000/2525	100%	0.107	0.057	-0.13	20.54	21.70	1.306	0.140	22.1
Back side	40	QPSK 1_1	505000/2525	100%	0.555	0.251	-0.01	20.54	21.70	1.306	0.725	22.1
Left side	40	QPSK 1_1	505000/2525	100%	0.060	0.033	0.19	20.54	21.70	1.306	0.078	22.1
Top side	40	QPSK 1_1	505000/2525	100%	0.317	0.146	-0.11	20.54	21.70	1.306	0.414	22.1
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	40	QPSK 108_54	509000/2545	100%	0.110	0.059	0.10	20.40	21.70	1.349	0.148	22.1
Back side	40	QPSK 108_54	509000/2545	100%	0.567	0.247	0.15	20.40	21.70	1.349	**0.765**	22.1
Left side	40	QPSK 108_54	509000/2545	100%	0.061	0.040	0.19	20.40	21.70	1.349	0.082	22.1
Top side	40	QPSK 108_54	509000/2545	100%	0.310	0.143	0.17	20.40	21.70	1.349	0.418	22.1
Sample Second	40	QPSK 108_54	509000/2545	100%	0.558	0.241	-0.19	20.40	21.70	1.349	0.753	22.1
Ant0 Test Record												
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	40	QPSK 1_214	507000/2535	100%	0.049	0.025	0.18	22.63	24.20	1.435	0.070	22.1

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Left tilted	40	QPSK 1_214	507000/2535	100%	0.034	0.012	0.08	22.63	24.20	1.435	0.049	22.1
Right cheek	40	QPSK 1_214	507000/2535	100%	0.201	0.088	0.17	22.63	24.20	1.435	0.289	22.1
Right tilted	40	QPSK 1_214	507000/2535	100%	0.046	0.023	0.03	22.63	24.20	1.435	0.066	22.1
Head Test Data (50%RB) State 5												
Left cheek	40	QPSK 108_54	505000/2525	100%	0.058	0.029	0.10	22.34	24.20	1.535	0.089	22.1
Left tilted	40	QPSK 108_54	505000/2525	100%	0.005	0.003	-0.06	22.34	24.20	1.535	0.008	22.1
Right cheek	40	QPSK 108_54	505000/2525	100%	0.281	0.123	-0.01	22.34	24.20	1.535	0.431	22.1
Right tilted	40	QPSK 108_54	505000/2525	100%	0.057	0.029	-0.13	22.34	24.20	1.535	0.087	22.1
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	40	QPSK 1_1	507000/2535	100%	0.013	0.008	0.08	18.65	20.20	1.429	0.019	22.1
Back side	40	QPSK 1_1	507000/2535	100%	0.035	0.019	0.09	18.65	20.20	1.429	0.050	22.1
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	40	QPSK 108_54	505000/2525	100%	0.012	0.008	0.05	18.31	20.20	1.545	0.019	22.1
Back side	40	QPSK 108_54	505000/2525	100%	0.033	0.017	-0.18	18.31	20.20	1.545	0.051	22.1
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	40	QPSK 1_1	507000/2535	100%	0.033	0.014	-0.16	18.65	20.20	1.429	0.047	22.1
Back side	40	QPSK 1_1	507000/2535	100%	0.088	0.038	0.01	18.65	20.20	1.429	0.126	22.1
Left side	40	QPSK 1_1	507000/2535	100%	0.087	0.037	0.15	18.65	20.20	1.429	0.124	22.1
Top side	40	QPSK 1_1	507000/2535	100%	0.023	0.011	0.06	18.65	20.20	1.429	0.033	22.1
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	40	QPSK 108_54	505000/2525	100%	0.031	0.013	0.16	18.31	20.20	1.545	0.048	22.1
Back side	40	QPSK 108_54	505000/2525	100%	0.079	0.033	-0.09	18.31	20.20	1.545	0.122	22.1
Left side	40	QPSK 108_54	505000/2525	100%	0.073	0.031	0.14	18.31	20.20	1.545	0.113	22.1
Top side	40	QPSK 108_54	505000/2525	100%	0.022	0.010	-0.07	18.31	20.20	1.545	0.034	22.1
Ant5 Test Record												
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	40	QPSK 1_1	505000/2525	100%	0.080	0.048	-0.15	23.57	24.20	1.156	0.092	22.1
Left tilted	40	QPSK 1_1	505000/2525	100%	0.073	0.038	-0.06	23.57	24.20	1.156	0.084	22.1
Right cheek	40	QPSK 1_1	505000/2525	100%	0.118	0.062	0.02	23.57	24.20	1.156	0.136	22.1
Right tilted	40	QPSK 1_1	505000/2525	100%	0.042	0.022	-0.15	23.57	24.20	1.156	0.049	22.1
Head Test Data (50%RB) State 5												
Left cheek	40	QPSK 108_54	507000/2535	100%	0.086	0.049	-0.12	23.34	24.20	1.219	0.105	22.1
Left tilted	40	QPSK 108_54	507000/2535	100%	0.075	0.040	0.00	23.34	24.20	1.219	0.091	22.1
Right cheek	40	QPSK 108_54	507000/2535	100%	0.119	0.062	0.07	23.34	24.20	1.219	0.145	22.1
Right tilted	40	QPSK 108_54	507000/2535	100%	0.054	0.029	0.03	23.34	24.20	1.219	0.066	22.1
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	40	QPSK 1_1	505000/2525	100%	0.107	0.060	-0.14	21.57	22.20	1.156	0.124	22.1
Back side	40	QPSK 1_1	505000/2525	100%	0.135	0.073	-0.08	21.57	22.20	1.156	0.156	22.1
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	40	QPSK 108_54	505000/2525	100%	0.105	0.058	-0.16	21.34	22.20	1.219	0.128	22.1
Back side	40	QPSK 108_54	505000/2525	100%	0.140	0.077	0.05	21.34	22.20	1.219	0.171	22.1
Hotspot Test data (Separate 10mm 1RB) State 8												

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Front side	40	QPSK 1_1	505000/2525	100%	0.177	0.096	-0.12			1.000	0.177	22.1
Back side	40	QPSK 1_1	505000/2525	100%	0.245	0.130	-0.14	21.57	22.20	1.156	0.283	22.1
Right side	40	QPSK 1_1	505000/2525	100%	0.088	0.046	-0.12	21.57	22.20	1.156	0.102	22.1
Bottom side	40	QPSK 1_1	505000/2525	100%	0.330	0.160	0.03	21.57	22.20	1.156	0.382	22.1
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	40	QPSK 108_54	505000/2525	100%	0.161	0.086	0.02	21.34	22.20	1.219	0.196	22.1
Back side	40	QPSK 108_54	505000/2525	100%	0.247	0.136	0.07	21.34	22.20	1.219	0.301	22.1
Right side	40	QPSK 108_54	505000/2525	100%	0.083	0.044	-0.04	21.34	22.20	1.219	0.101	22.1
Bottom side	40	QPSK 108_54	505000/2525	100%	0.332	0.166	-0.04	21.34	22.20	1.219	0.405	22.1

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8.2.15 SAR Result of NR Band n26

SA N26 SAR Test Record												
Ant 1 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	20	QPSK 1_53	167800/839	100%	0.154	0.112	-0.10	24.57	25.70	1.297	0.200	22.5
Left tilted	20	QPSK 1_53	167800/839	100%	0.100	0.073	0.15	24.57	25.70	1.297	0.130	22.5
Right cheek	20	QPSK 1_53	167800/839	100%	0.121	0.086	0.01	24.57	25.70	1.297	0.157	22.5
Right tilted	20	QPSK 1_53	167800/839	100%	0.072	0.053	0.00	24.57	25.70	1.297	0.093	22.5
Head Test Data (50%RB) State 5												
Left cheek	20	QPSK 50_28	164800/824	100%	0.165	0.132	-0.02	24.44	25.70	1.337	0.221	22.5
Left tilted	20	QPSK 50_28	164800/824	100%	0.108	0.089	0.13	24.44	25.70	1.337	0.144	22.5
Right cheek	20	QPSK 50_28	164800/824	100%	0.129	0.091	0.00	24.44	25.70	1.337	0.172	22.5
Right tilted	20	QPSK 50_28	164800/824	100%	0.077	0.057	-0.12	24.44	25.70	1.337	0.103	22.5
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	20	QPSK 1_53	167800/839	100%	0.122	0.088	-0.19	24.57	25.70	1.297	0.158	22.5
Back side	20	QPSK 1_53	167800/839	100%	0.161	0.102	-0.01	24.57	25.70	1.297	0.209	22.5
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	20	QPSK 50_28	164800/824	100%	0.146	0.106	0.17	24.44	25.70	1.337	0.195	22.5
Back side	20	QPSK 50_28	164800/824	100%	0.177	0.137	-0.16	24.44	25.70	1.337	**0.237**	22.5
Sample Second	20	QPSK 50_28	164800/824	100%	0.168	0.125	0.13	24.44	25.70	1.337	0.225	22.5
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	20	QPSK 1_53	167800/839	100%	0.235	0.148	0.01	24.57	25.70	1.297	0.305	22.5
Back side	20	QPSK 1_53	167800/839	100%	0.339	0.210	0.11	24.57	25.70	1.297	0.440	22.5
Left side	20	QPSK 1_53	167800/839	100%	0.292	0.194	0.01	24.57	25.70	1.297	0.379	22.5
Bottom side	20	QPSK 1_53	167800/839	100%	0.160	0.095	-0.15	24.57	25.70	1.297	0.208	22.5
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	20	QPSK 50_28	164800/824	100%	0.230	0.145	0.04	24.44	25.70	1.337	0.307	22.5
Back side	20	QPSK 50_28	164800/824	100%	0.345	0.215	-0.02	24.44	25.70	1.337	**0.461**	22.5
Left side	20	QPSK 50_28	164800/824	100%	0.275	0.181	-0.11	24.44	25.70	1.337	0.368	22.5
Bottom side	20	QPSK 50_28	164800/824	100%	0.154	0.092	0.16	24.44	25.70	1.337	0.206	22.5
Sample Second	20	QPSK 50_28	164800/824	100%	0.336	0.201	0.03	24.44	25.70	1.337	0.449	22.5
Ant 0 Test Record												
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data (1RB) State 5												
Left cheek	20	QPSK 1_1	166300/831.5	100%	0.060	0.044	0.01	24.78	25.70	1.236	0.074	22.5
Left tilted	20	QPSK 1_1	166300/831.5	100%	0.039	0.027	-0.07	24.78	25.70	1.236	0.048	22.5
Right cheek	20	QPSK 1_1	166300/831.5	100%	0.167	0.085	-0.10	24.78	25.70	1.236	0.206	22.5
Right tilted	20	QPSK 1_1	166300/831.5	100%	0.057	0.038	-0.13	24.78	25.70	1.236	0.070	22.5

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Head Test Data (50%RB) State 5												
Left cheek	20	QPSK 50_28	164800/824	100%	0.098	0.069	-0.05	24.59	25.70	1.291	0.127	22.5
Left tilted	20	QPSK 50_28	164800/824	100%	0.062	0.044	-0.13	24.59	25.70	1.291	0.080	22.5
Right cheek	20	QPSK 50_28	164800/824	100%	0.177	0.108	0.02	24.59	25.70	1.291	**0.229**	22.5
Right tilted	20	QPSK 50_28	164800/824	100%	0.095	0.063	-0.10	24.59	25.70	1.291	0.123	22.5
Sample Second	20	QPSK 50_28	164800/824	100%	0.165	0.098	-0.18	24.59	25.70	1.291	0.213	22.5
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	20	QPSK 1_1	166300/831.5	100%	0.033	0.016	-0.11	24.78	25.70	1.236	0.041	22.5
Back side	20	QPSK 1_1	166300/831.5	100%	0.080	0.049	0.18	24.78	25.70	1.236	0.099	22.5
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	20	QPSK 50_28	164800/824	100%	0.034	0.014	-0.05	24.59	25.70	1.291	0.044	22.5
Back side	20	QPSK 50_28	164800/824	100%	0.077	0.049	0.11	24.59	25.70	1.291	0.099	22.5
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	20	QPSK 1_1	166300/831.5	100%	0.047	0.030	-0.05	24.78	25.70	1.236	0.058	22.5
Back side	20	QPSK 1_1	166300/831.5	100%	0.154	0.087	0.18	24.78	25.70	1.236	0.190	22.5
Left side	20	QPSK 1_1	166300/831.5	100%	0.066	0.031	0.03	24.78	25.70	1.236	0.082	22.5
Top side	20	QPSK 1_1	166300/831.5	100%	0.031	0.014	-0.03	24.78	25.70	1.236	0.038	22.5
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	20	QPSK 50_28	164800/824	100%	0.051	0.032	-0.07	24.59	25.70	1.291	0.066	22.5
Back side	20	QPSK 50_28	164800/824	100%	0.182	0.097	0.03	24.59	25.70	1.291	0.235	22.5
Left side	20	QPSK 50_28	164800/824	100%	0.073	0.035	-0.12	24.59	25.70	1.291	0.094	22.5
Top side	20	QPSK 50_28	164800/824	100%	0.033	0.016	0.15	24.59	25.70	1.291	0.043	22.5

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8.2.16 SAR Result of NR Band n41

SA N41 SAR Test Record												
Ant4 Test Record												
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) State 5												
Left cheek	100	QPSK 1_271	523302/2616.51	100%	0.209	0.153	-0.04	21.44	22.20	1.191	0.249	22.3
Left tilted	100	QPSK 1_271	523302/2616.51	100%	0.223	0.162	-0.14	21.44	22.20	1.191	0.266	22.3
Right cheek	100	QPSK 1_271	523302/2616.51	100%	0.330	0.195	-0.18	21.44	22.20	1.191	0.393	22.3
Right tilted	100	QPSK 1_271	523302/2616.51	100%	0.356	0.209	-0.16	21.44	22.20	1.191	0.424	22.3
Head Test Data (50%RB) State 5												
Left cheek	100	QPSK 135_69	523302/2616.51	100%	0.281	0.147	-0.02	21.26	22.20	1.242	0.349	22.3
Left tilted	100	QPSK 135_69	523302/2616.51	100%	0.322	0.165	0.00	21.26	22.20	1.242	0.400	22.3
Right cheek	100	QPSK 135_69	523302/2616.51	100%	0.503	0.229	-0.09	21.26	22.20	1.242	0.625	22.3
Right tilted	100	QPSK 135_69	523302/2616.51	100%	0.576	0.253	-0.08	21.26	22.20	1.242	0.715	22.3
Right cheek	100	QPSK 135_69	509202/2546.01	100%	0.497	0.214	0.19	21.17	22.20	1.268	0.630	22.3
Right cheek	100	QPSK 135_69	513900/2569.5	100%	0.413	0.179	-0.19	21.19	22.20	1.262	0.521	22.3
Right cheek	100	QPSK 135_69	518598/2592.99	100%	0.454	0.219	0.02	21.03	22.20	1.309	0.594	22.3
Right cheek	100	QPSK 135_69	528000/2640	100%	0.372	0.160	0.19	21.05	22.20	1.303	0.485	22.3
Right tilted	100	QPSK 135_69	509202/2546.01	100%	0.613	0.264	-0.04	21.17	22.20	1.268	0.777	22.3
Right tilted	100	QPSK 135_69	513900/2569.5	100%	0.510	0.221	-0.08	21.19	22.20	1.262	0.644	22.3
Right tilted	100	QPSK 135_69	518598/2592.99	100%	0.560	0.271	-0.15	21.03	22.20	1.309	0.733	22.3
Right tilted	100	QPSK 135_69	528000/2640	100%	0.459	0.197	0.01	21.05	22.20	1.303	0.598	22.3
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	100	QPSK 1_271	523302/2616.51	100%	0.019	0.008	-0.12	20.39	21.20	1.205	0.023	22.3
Back side	100	QPSK 1_271	523302/2616.51	100%	0.146	0.055	0.12	20.39	21.20	1.205	0.176	22.3
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	100	QPSK 135_69	523302/2616.51	100%	0.028	0.013	0.05	20.25	21.20	1.245	0.035	22.3
Back side	100	QPSK 135_69	523302/2616.51	100%	0.181	0.084	0.09	20.25	21.20	1.245	0.225	22.3
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	100	QPSK 1_271	523302/2616.51	100%	0.032	0.015	0.03	20.39	21.20	1.205	0.039	22.3
Back side	100	QPSK 1_271	523302/2616.51	100%	0.194	0.081	0.08	20.39	21.20	1.205	0.234	22.3
Left side	100	QPSK 1_271	523302/2616.51	100%	0.012	0.006	0.12	20.39	21.20	1.205	0.014	22.3
Top side	100	QPSK 1_271	523302/2616.51	100%	0.111	0.050	-0.01	20.39	21.20	1.205	0.134	22.3
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	100	QPSK 135_69	523302/2616.51	100%	0.067	0.034	0.19	20.25	21.20	1.245	0.083	22.3
Back side	100	QPSK 135_69	523302/2616.51	100%	0.420	0.189	0.16	20.25	21.20	1.245	0.523	22.3
Left side	100	QPSK 135_69	523302/2616.51	100%	0.033	0.012	-0.08	20.25	21.20	1.245	0.041	22.3
Top side	100	QPSK 135_69	523302/2616.51	100%	0.243	0.111	0.17	20.25	21.20	1.245	0.302	22.3
Ant0 Test Record												
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) State 5												
Left cheek	100	QPSK 1_1	523302/2616.51	100%	0.383	0.195	0.11	21.19	22.20	1.262	0.483	22.3

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Left tilted	100	QPSK 1_1	523302/2616.51	100%	0.439	0.214	-0.12	21.19	22.20	1.262	0.554	22.3
Right cheek	100	QPSK 1_1	523302/2616.51	100%	0.624	0.282	0.03	21.19	22.20	1.262	0.787	22.3
Right tilted	100	QPSK 1_1	523302/2616.51	100%	0.764	0.327	0.03	21.19	22.20	1.262	0.964	22.3
Right cheek	100	QPSK 1_1	509202/2546.01	100%	0.710	0.305	-0.06	21.12	22.20	1.282	0.910	22.3
Right cheek	100	QPSK 1_1	513900/2569.5	100%	0.590	0.256	-0.06	21.03	22.20	1.309	0.772	22.3
Right cheek	100	QPSK 1_1	518598/2592.99	100%	0.648	0.313	0.03	21.06	22.20	1.300	0.843	22.3
Right cheek	100	QPSK 1_1	528000/2640	100%	0.531	0.228	0.19	21.01	22.20	1.315	0.698	22.3
Right tilted	100	QPSK 1_1	509202/2546.01	100%	0.876	0.377	-0.06	21.12	22.20	1.282	**1.123**	22.3
Right tilted	100	QPSK 1_1	513900/2569.5	100%	0.729	0.316	-0.14	21.03	22.20	1.309	0.954	22.3
Right tilted	100	QPSK 1_1	518598/2592.99	100%	0.800	0.387	-0.07	21.06	22.20	1.300	1.040	22.3
Right tilted	100	QPSK 1_1	528000/2640	100%	0.655	0.281	0.02	21.01	22.20	1.315	0.861	22.3
Sample Second	100	QPSK 1_1	509202/2546.01	100%	0.862	0.369	0.11	21.12	22.20	1.282	1.105	22.3
Head Test Data (50%RB) State 5												
Left cheek	100	QPSK 135_69	523302/2616.51	100%	0.170	0.085	-0.08	20.89	22.20	1.352	0.230	22.3
Left tilted	100	QPSK 135_69	523302/2616.51	100%	0.203	0.100	-0.19	20.89	22.20	1.352	0.274	22.3
Right cheek	100	QPSK 135_69	523302/2616.51	100%	0.398	0.184	0.03	20.89	22.20	1.352	0.538	22.3
Right tilted	100	QPSK 135_69	523302/2616.51	100%	0.424	0.183	-0.19	20.89	22.20	1.352	0.573	22.3
Head Test Data (100%RB) State 5												
Right cheek	100	QPSK 270_0	509202/2546.01	100%	0.486	0.219	0.05	20.09	21.20	1.291	0.628	22.3
Right tilted	100	QPSK 270_0	509202/2546.01	100%	0.598	0.276	0.16	20.09	21.20	1.291	0.772	22.3
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	100	QPSK 1_1	523302/2616.51	100%	0.073	0.038	-0.07	21.57	22.70	1.297	0.095	22.3
Back side	100	QPSK 1_1	523302/2616.51	100%	0.343	0.162	-0.02	21.57	22.70	1.297	**0.445**	22.3
Sample Second	100	QPSK 1_1	523302/2616.51	100%	0.332	0.158	0.18	21.57	22.70	1.297	0.431	22.3
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	100	QPSK 135_69	523302/2616.51	100%	0.057	0.016	-0.08	21.37	22.70	1.358	0.077	22.3
Back side	100	QPSK 135_69	523302/2616.51	100%	0.246	0.072	-0.04	21.37	22.70	1.358	0.334	22.3
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	100	QPSK 1_1	523302/2616.51	100%	0.121	0.061	0.15	21.57	22.70	1.297	0.157	22.3
Back side	100	QPSK 1_1	523302/2616.51	100%	0.653	0.293	0.01	21.57	22.70	1.297	0.847	22.3
Left side	100	QPSK 1_1	523302/2616.51	100%	0.070	0.037	-0.17	21.57	22.70	1.297	0.091	22.3
Top side	100	QPSK 1_1	523302/2616.51	100%	0.405	0.186	0.17	21.57	22.70	1.297	0.525	22.3
Back side	100	QPSK 1_1	509202/2546.01	100%	0.801	0.352	-0.03	21.39	22.70	1.352	**1.083**	22.3
Back side	100	QPSK 1_1	513900/2569.5	100%	0.690	0.336	-0.11	21.41	22.70	1.346	0.929	22.3
Back side	100	QPSK 1_1	518598/2592.99	100%	0.661	0.316	-0.06	21.28	22.70	1.387	0.917	22.3
Back side	100	QPSK 1_1	528000/2640	100%	0.597	0.252	-0.13	21.22	22.70	1.406	0.839	22.3
Sample Second	100	QPSK 1_1	509202/2546.01	100%	0.675	0.341	0.00	21.39	22.70	1.352	0.913	22.3
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	100	QPSK 135_69	523302/2616.51	100%	0.086	0.041	-0.07	21.37	22.70	1.358	0.117	22.3
Back side	100	QPSK 135_69	523302/2616.51	100%	0.390	0.161	0.12	21.37	22.70	1.358	0.530	22.3
Left side	100	QPSK 135_69	523302/2616.51	100%	0.033	0.015	-0.01	21.37	22.70	1.358	0.045	22.3
Top side	100	QPSK 135_69	523302/2616.51	100%	0.232	0.105	0.02	21.37	22.70	1.358	0.315	22.3
Hotspot Test data (Separate 10mm 100%RB) State 8												
Back side	100	QPSK 270_0	509202/2546.01	100%	0.532	0.272	-0.08	20.46	21.70	1.330	0.708	22.3

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8.2.17 SAR Result of NR Band n66

SA N66 SAR Test Record												
Ant4 Test Record												
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) State 5												
Left cheek	40	QPSK 1_1	349000/1745	100%	0.494	0.327	0.13	21.36	22.20	1.213	0.599	22
Left tilted	40	QPSK 1_1	349000/1745	100%	0.511	0.309	-0.03	21.36	22.20	1.213	0.620	22
Right cheek	40	QPSK 1_1	349000/1745	100%	0.682	0.377	-0.01	21.36	22.20	1.213	0.828	22
Right tilted	40	QPSK 1_1	349000/1745	100%	0.529	0.285	-0.04	21.36	22.20	1.213	0.642	22
Right cheek	40	QPSK 1_1	346000/1730	100%	0.525	0.300	0.18	21.32	22.20	1.225	0.643	22
Right cheek	40	QPSK 1_1	352000/1760	100%	0.637	0.391	-0.03	21.29	22.20	1.233	0.785	22
Head Test Data (50%RB) State 5												
Left cheek	40	QPSK 108_54	349000/1745	100%	0.534	0.354	-0.08	21.11	22.20	1.285	0.686	22
Left tilted	40	QPSK 108_54	349000/1745	100%	0.531	0.322	0.09	21.11	22.20	1.285	0.682	22
Right cheek	40	QPSK 108_54	349000/1745	100%	0.728	0.399	0.02	21.11	22.20	1.285	**0.936**	22
Right tilted	40	QPSK 108_54	349000/1745	100%	0.626	0.337	0.02	21.11	22.20	1.285	0.805	22
Right cheek	40	QPSK 108_54	346000/1730	100%	0.656	0.373	-0.11	21.02	22.20	1.312	0.861	22
Right cheek	40	QPSK 108_54	352000/1760	100%	0.698	0.387	0.06	21.04	22.20	1.306	0.912	22
Right tilted	40	QPSK 108_54	346000/1730	100%	0.482	0.268	-0.14	21.02	22.20	1.312	0.632	22
Right tilted	40	QPSK 108_54	352000/1760	100%	0.576	0.321	0.05	21.04	22.20	1.306	0.752	22
Sample Second	40	QPSK 108_54	349000/1745	100%	0.711	0.384	-0.12	21.04	22.20	1.306	0.929	22
Head Test Data (100%RB) State 5												
Right cheek	40	QPSK 216_0	346000/1730	100%	0.558	0.317	-0.09	21.11	22.20	1.285	0.717	22
Right tilted	40	QPSK 216_0	346000/1730	100%	0.443	0.242	-0.09	21.11	22.20	1.285	0.569	22
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	40	QPSK 1_1	349000/1745	100%	0.124	0.081	0.08	24.35	25.20	1.216	0.151	22
Back side	40	QPSK 1_1	349000/1745	100%	0.181	0.116	-0.07	24.35	25.20	1.216	0.220	22
Body worn Test data (Separate 15mm 50%RB)State 3												
Front side	40	QPSK 108_54	349000/1745	100%	0.127	0.086	-0.08	24.13	25.20	1.279	0.162	22
Back side	40	QPSK 108_54	349000/1745	100%	0.196	0.117	0.07	24.13	25.20	1.279	**0.251**	22
Sample Second	40	QPSK 108_54	349000/1745	100%	0.185	0.104	0.14	24.13	25.20	1.279	0.237	22
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	40	QPSK 1_1	349000/1745	100%	0.258	0.160	-0.15	24.35	25.20	1.216	0.314	22
Back side	40	QPSK 1_1	349000/1745	100%	0.473	0.281	-0.13	24.35	25.20	1.216	0.575	22
Left side	40	QPSK 1_1	349000/1745	100%	0.150	0.088	0.13	24.35	25.20	1.216	0.182	22
Top side	40	QPSK 1_1	349000/1745	100%	0.251	0.144	-0.07	24.35	25.20	1.216	0.305	22
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	40	QPSK 108_54	349000/1745	100%	0.284	0.175	-0.16	24.13	25.20	1.279	0.363	22
Back side	40	QPSK 108_54	349000/1745	100%	0.537	0.305	-0.04	24.13	25.20	1.279	**0.687**	22
Left side	40	QPSK 108_54	349000/1745	100%	0.168	0.098	-0.09	24.13	25.20	1.279	0.215	22
Top side	40	QPSK 108_54	349000/1745	100%	0.282	0.161	-0.15	24.13	25.20	1.279	0.361	22
Sample Second	40	QPSK 108_54	349000/1745	100%	0.526	0.278	0.16	24.13	25.20	1.279	0.673	22

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Ant5 Test Record												
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB) State 5												
Left cheek	40	QPSK 1_1	352000/1760	100%	0.109	0.069	-0.05	24.91	25.70	1.199	0.131	22
Left tilted	40	QPSK 1_1	352000/1760	100%	0.070	0.043	-0.16	24.91	25.70	1.199	0.084	22
Right cheek	40	QPSK 1_1	352000/1760	100%	0.093	0.058	0.07	24.91	25.70	1.199	0.112	22
Right tilted	40	QPSK 1_1	352000/1760	100%	0.065	0.040	0.14	24.91	25.70	1.199	0.078	22
Head Test Data (50%RB) State 5												
Left cheek	40	QPSK 108_54	349000/1745	100%	0.095	0.059	0.10	24.86	25.70	1.213	0.115	22
Left tilted	40	QPSK 108_54	349000/1745	100%	0.073	0.044	-0.16	24.86	25.70	1.213	0.089	22
Right cheek	40	QPSK 108_54	349000/1745	100%	0.096	0.060	0.19	24.86	25.70	1.213	0.116	22
Right tilted	40	QPSK 108_54	349000/1745	100%	0.067	0.041	0.08	24.86	25.70	1.213	0.081	22
Body worn Test data (Separate 15mm 1RB) State 3												
Front side	40	QPSK 1_108	346000/1730	100%	0.143	0.091	-0.04	23.93	24.70	1.194	0.171	22
Back side	40	QPSK 1_108	346000/1730	100%	0.175	0.107	-0.14	23.93	24.70	1.194	0.209	22
Body worn Test data (Separate 15mm 50%RB) State 3												
Front side	40	QPSK 108_54	349000/1745	100%	0.134	0.084	0.15	23.87	24.70	1.211	0.162	22
Back side	40	QPSK 108_54	349000/1745	100%	0.170	0.102	0.00	23.87	24.70	1.211	0.206	22
Hotspot Test data (Separate 10mm 1RB) State 8												
Front side	40	QPSK 1_108	346000/1730	100%	0.259	0.149	-0.09	23.93	24.70	1.194	0.309	22
Back side	40	QPSK 1_108	346000/1730	100%	0.350	0.198	0.12	23.93	24.70	1.194	0.418	22
Right side	40	QPSK 1_108	346000/1730	100%	0.108	0.061	0.13	23.93	24.70	1.194	0.129	22
Bottom side	40	QPSK 1_108	346000/1730	100%	0.456	0.244	0.03	23.93	24.70	1.194	0.544	22
Hotspot Test data (Separate 10mm 50%RB) State 8												
Front side	40	QPSK 108_54	349000/1745	100%	0.246	0.143	-0.02	23.87	24.70	1.211	0.298	22
Back side	40	QPSK 108_54	349000/1745	100%	0.340	0.193	0.07	23.87	24.70	1.211	0.412	22
Right side	40	QPSK 108_54	349000/1745	100%	0.107	0.060	-0.15	23.87	24.70	1.211	0.130	22
Bottom side	40	QPSK 108_54	349000/1745	100%	0.456	0.238	0.14	23.87	24.70	1.211	0.552	22

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8.2.18 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record												
Ant12 Test Record chain0												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data												
Left cheek	802.11b	1/2412	98.23%	1.018	0.489	0.242	-0.08	16.90	18.00	1.288	**0.641**	22.4
Left tilted	802.11b	1/2412	98.23%	1.018	0.329	0.164	-0.16	16.90	18.00	1.288	0.431	22.4
Right cheek	802.11b	1/2412	98.23%	1.018	0.245	0.153	-0.06	16.90	18.00	1.288	0.321	22.4
Right tilted	802.11b	1/2412	98.23%	1.018	0.208	0.116	-0.16	16.90	18.00	1.288	0.273	22.4
Body worn Test data (Separate 15mm)												
Front side	802.11b	1/2412	98.23%	1.018	0.088	0.052	0.11	18.89	20.00	1.291	0.116	22.4
Back side	802.11b	1/2412	98.23%	1.018	0.163	0.088	-0.16	18.89	20.00	1.291	**0.214**	22.4
Hotspot Test data (Separate 10mm)												
Front side	802.11b	1/2412	98.23%	1.018	0.168	0.091	-0.05	18.89	20.00	1.291	0.221	22.4
Back side	802.11b	1/2412	98.23%	1.018	0.507	0.254	-0.03	18.99	20.00	1.262	**0.651**	22.4
Right side	802.11b	1/2412	98.23%	1.018	0.137	0.072	-0.03	18.89	20.00	1.291	0.180	22.4
Top side	802.11b	1/2412	98.23%	1.018	0.191	0.100	-0.16	18.89	20.00	1.291	0.251	22.4
Hotspot Test data (Separate 10mm) with Simultaneous transmission												
Front side	802.11b	1/2412	98.23%	1.018	0.168	0.091	-0.04	18.89	13.50	0.289	0.049	22.4
Back side	802.11b	1/2412	98.23%	1.018	0.507	0.254	-0.03	18.99	13.50	0.282	0.146	22.4
Right side	802.11b	1/2412	98.23%	1.018	0.137	0.072	0.14	18.89	13.50	0.289	0.040	22.4
Top side	802.11b	1/2412	98.23%	1.018	0.191	0.100	0.08	18.89	13.50	0.289	0.056	22.4

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8.2.19 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record												
Ant12 Test Record chain0												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data of U-NII-2A												
Left cheek	802.11n 40M	54/5270	99.69%	1.003	0.379	0.140	-0.03	12.86	14.00	1.300	0.494	22.2
Left tilted	802.11n 40M	54/5270	99.69%	1.003	0.556	0.173	0.06	12.86	14.00	1.300	**0.725**	22.2
Right cheek	802.11n 40M	54/5270	99.69%	1.003	0.268	0.108	0.15	12.86	14.00	1.300	0.350	22.2
Right tilted	802.11n 40M	54/5270	99.69%	1.003	0.358	0.138	0.14	12.86	14.00	1.300	0.467	22.2
Head Test Data of U-NII-2C												
Left cheek	802.11n 40M	102/5510	99.71%	1.003	0.134	0.049	0.08	15.73	16.50	1.194	0.160	22
Left tilted	802.11n 40M	102/5510	99.71%	1.003	0.168	0.061	-0.16	15.73	16.50	1.194	0.201	22
Right cheek	802.11n 40M	102/5510	99.71%	1.003	0.117	0.045	-0.05	15.73	16.50	1.194	0.140	22
Right tilted	802.11n 40M	102/5510	99.71%	1.003	0.166	0.063	-0.07	15.73	16.50	1.194	0.199	22
Head Test Data of U-NII-3												
Left cheek	802.11ax 80M	155/5775	98.67%	1.013	0.206	0.079	-0.04	16.31	17.50	1.315	0.275	22.1
Left tilted	802.11ax 80M	155/5775	98.67%	1.013	0.290	0.106	0.11	16.31	17.50	1.315	0.387	22.1
Right cheek	802.11ax 80M	155/5775	98.67%	1.013	0.232	0.090	-0.14	16.31	17.50	1.315	0.309	22.1
Right tilted	802.11ax 80M	155/5775	98.67%	1.013	0.325	0.123	-0.19	16.31	17.50	1.315	0.433	22.1
Head Test Data of U-NII-2A with Simultaneous transmission												
Left cheek	802.11n 40M	54/5270	99.69%	1.003	0.379	0.140	0.17	12.86	9.50	0.461	0.175	22.2
Left tilted	802.11n 40M	54/5270	99.69%	1.003	0.556	0.173	0.06	12.86	9.50	0.461	0.257	22.2
Right cheek	802.11n 40M	54/5270	99.69%	1.003	0.268	0.108	-0.15	12.86	9.50	0.461	0.124	22.2
Right tilted	802.11n 40M	54/5270	99.69%	1.003	0.358	0.138	0.03	12.86	9.50	0.461	0.166	22.2
Head Test Data of U-NII-2C												
Left cheek	802.11n 40M	102/5510	99.71%	1.003	0.134	0.049	0.19	15.73	12.00	0.424	0.057	22
Left tilted	802.11n 40M	102/5510	99.71%	1.003	0.168	0.061	-0.11	15.73	12.00	0.424	0.071	22
Right cheek	802.11n 40M	102/5510	99.71%	1.003	0.117	0.045	0.17	15.73	12.00	0.424	0.050	22
Right tilted	802.11n 40M	102/5510	99.71%	1.003	0.166	0.063	-0.04	15.73	12.00	0.424	0.071	22
Head Test Data of U-NII-3												
Left cheek	802.11ax 80M	155/5775	98.67%	1.013	0.206	0.079	-0.18	15.73	9.00	0.212	0.044	22.1
Left tilted	802.11ax 80M	155/5775	98.67%	1.013	0.290	0.106	0.13	15.73	9.00	0.212	0.062	22.1
Right cheek	802.11ax 80M	155/5775	98.67%	1.013	0.232	0.090	0.05	15.73	9.00	0.212	0.050	22.1
Right tilted	802.11ax 80M	155/5775	98.67%	1.013	0.325	0.123	-0.12	15.73	9.00	0.212	0.070	22.1
Body worn Test data of U-NII-2A (Separate 15mm)												
Front side	802.11n 40M	54/5270	99.69%	1.003	0.072	0.030	0.12	14.78	16.00	1.324	0.096	22.2
Back side	802.11n 40M	54/5270	99.69%	1.003	0.524	0.205	0.02	14.78	16.00	1.324	**0.696**	22.2
Body worn Test data of U-NII-2C (Separate 15mm)												

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Front side	802.11n 40M	102/5510	99.71%	1.003	0.078	0.016	0.15	15.33	16.00	1.167	0.091	22
Back side	802.11n 40M	102/5510	99.71%	1.003	0.238	0.055	0.19	15.33	16.00	1.167	0.279	22
Body worn Test data of U-NII-3 (Separate 15mm)												
Front side	802.11ax 80M	155/5775	98.67%	1.013	0.080	0.022	-0.08	16.78	18.00	1.324	0.107	22.1
Back side	802.11ax 80M	155/5775	98.67%	1.013	0.415	0.167	0.12	16.78	18.00	1.324	0.557	22.1
Hotspot Test data of U-NII-1 (Separate 10mm)												
Front side	802.11n 40M	46/5230	99.71%	1.003	0.088	0.036	-0.02	15.66	16.00	1.081	0.095	22.2
Back side	802.11n 40M	46/5230	99.71%	1.003	0.693	0.244	-0.01	15.66	16.00	1.081	**0.752**	22.2
Right side	802.11n 40M	46/5230	99.71%	1.003	0.327	0.133	0.14	15.66	16.00	1.081	0.355	22.2
Top side	802.11n 40M	46/5230	99.71%	1.003	0.573	0.221	-0.11	15.66	16.00	1.081	0.621	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)												
Front side	802.11ax 80M	155/5775	98.67%	1.013	0.087	0.032	0.10	16.78	18.00	1.324	0.117	22.1
Back side	802.11ax 80M	155/5775	98.67%	1.013	0.488	0.211	-0.18	16.78	18.00	1.324	0.655	22.1
Right side	802.11ax 80M	155/5775	98.67%	1.013	0.219	0.088	0.10	16.78	18.00	1.324	0.294	22.1
Top side	802.11ax 80M	155/5775	98.67%	1.013	0.311	0.119	-0.04	16.78	18.00	1.324	0.417	22.1
Hotspot Test data (Separate 10mm) with Simultaneous transmission												
Front side	802.11n 40M	46/5230	99.71%	1.003	0.088	0.036	-0.18	15.66	12.00	0.431	0.038	22.2
Back side	802.11n 40M	46/5230	99.71%	1.003	0.693	0.244	0.01	15.66	12.00	0.431	0.299	22.2
Right side	802.11n 40M	46/5230	99.71%	1.003	0.327	0.133	-0.13	15.66	12.00	0.431	0.141	22.2
Top side	802.11n 40M	46/5230	99.71%	1.003	0.573	0.221	-0.14	15.66	12.00	0.431	0.247	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)												
Front side	802.11ax 80M	155/5775	98.67%	1.013	0.087	0.032	0.05	16.78	9.50	0.187	0.016	22.1
Back side	802.11ax 80M	155/5775	98.67%	1.013	0.488	0.211	0.01	16.78	9.50	0.187	0.093	22.1
Right side	802.11ax 80M	155/5775	98.67%	1.013	0.219	0.088	-0.16	16.78	9.50	0.187	0.042	22.1
Top side	802.11ax 80M	155/5775	98.67%	1.013	0.311	0.119	-0.01	16.78	9.50	0.187	0.059	22.1
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 10-g (W/kg)**	**Liquid Temp.(℃)**
Product specific 10gSAR Test data of U-NII-2A (Separate 0mm)												
Front side	802.11n 40M	54/5270	99.69%	1.003	0.939	0.301	-0.01	14.78	16.00	1.324	0.400	22.2
Back side	802.11n 40M	54/5270	99.69%	1.003	3.930	1.070	0.10	14.78	16.00	1.324	1.421	22.2
Right side	802.11n 40M	54/5270	99.69%	1.003	2.060	0.614	0.13	14.78	16.00	1.324	0.816	22.2
Top side	802.11n 40M	54/5270	99.69%	1.003	4.670	1.240	-0.03	14.78	16.00	1.324	**1.647**	22.2
Product specific 10gSAR Test data of U-NII-2C (Separate 0mm)												
Front side	802.11n 40M	102/5510	99.71%	1.003	0.175	0.059	-0.01	15.33	16.00	1.167	0.069	22
Back side	802.11n 40M	102/5510	99.71%	1.003	1.090	0.315	-0.14	15.33	16.00	1.167	0.369	22
Right side	802.11n 40M	102/5510	99.71%	1.003	0.387	0.134	0.14	15.33	16.00	1.167	0.157	22
Top side	802.11n 40M	102/5510	99.71%	1.003	1.140	0.325	0.06	15.33	16.00	1.167	0.380	22

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8.2.20 SAR Result of BT

Bluetooth SAR Test Record												
Ant12 Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data												
Left cheek	DH5	39/2441	76.99%	1.299	0.174	0.084	-0.08	12.74	14.00	1.337	**0.302**	22.2
Left tilted	DH5	39/2441	76.99%	1.299	0.103	0.050	0.13	12.74	14.00	1.337	0.179	22.2
Right cheek	DH5	39/2441	76.99%	1.299	0.069	0.042	0.10	12.74	14.00	1.337	0.120	22.2
Right tilted	DH5	39/2441	76.99%	1.299	0.066	0.036	-0.18	12.74	14.00	1.337	0.115	22.2
Body worn Test data (Separate 15mm)												
Front side	DH5	39/2441	76.99%	1.299	0.013	0.006	-0.05	12.74	14.00	1.337	0.022	22.2
Back side	DH5	39/2441	76.99%	1.299	0.118	0.049	-0.05	12.74	14.00	1.337	**0.205**	22.2
Hotspot Test data (Separate 10mm)												
Front side	DH5	39/2441	76.99%	1.299	0.006	0.002	0.03	12.74	14.00	1.337	0.010	22.2
Back side	DH5	39/2441	76.99%	1.299	0.069	0.035	0.15	12.74	14.00	1.337	**0.120**	22.2
Right side	DH5	39/2441	76.99%	1.299	0.007	0.003	0.13	12.74	14.00	1.337	0.012	22.2
Top side	DH5	39/2441	76.99%	1.299	0.042	0.021	-0.17	12.74	14.00	1.337	0.073	22.2

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8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous SAR test evaluation

No.	Simultaneous Tx Combination	Head	Body	Hotspot	Product Specific 10-g (0mm)
1	WWAN + WLAN 2.4GHz	Yes	Yes	Yes	Yes
2	WWAN + WLAN 5GHz	Yes	Yes	Yes	Yes
3	WWAN + BT	Yes	Yes	Yes	Yes
4	WLAN 5GHz + BT	Yes	Yes	Yes	Yes
5	WWAN + WLAN 5GHz+ BT	Yes	Yes	Yes	Yes
6	WWAN + WLAN 2.4GHz + NFC	No	No	No	Yes
7	WWAN + WLAN 5GHz + NFC	No	No	No	Yes
8	WWAN + BT + NFC	No	No	No	Yes
9	WLAN 5GHz + BT + NFC	No	No	No	Yes
10	WWAN + WLAN 5GHz+ BT + NFC	No	No	No	Yes

Note:
1) The device does not support DTM function.
2) NFC is different from the working scenario of WWAN/WIFI(Head/Body-worn/Hotspot) and does not participate in the simultaneous transmission.
3) The NFC test data can be referred to NFC SAR test report (Report No.: SUCR241100047101).
4) For WiFi 5G,U-NII-2A and U-NII-2C band does not support hotspot function.

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8.3.2 Simultaneous Transmission SAR Summation Scenario

Head:

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant4	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B2	Left cheek	0.646	0.641	0.175	0.302	1.287	0.821	0.948	0.477	1.123
	Left tilted	0.415	0.431	0.257	0.179	0.846	0.672	0.594	0.436	0.851
	Right cheek	1.056	0.321	0.124	0.120	1.377	1.180	1.176	0.244	1.300
	Right tilted	0.518	0.273	0.166	0.115	0.791	0.684	0.633	0.281	0.799
WCDMA B4	Left cheek	0.766	0.641	0.175	0.302	1.407	0.941	1.068	0.477	1.243
	Left tilted	0.474	0.431	0.257	0.179	0.905	0.731	0.653	0.436	0.910
	Right cheek	0.995	0.321	0.124	0.120	1.316	1.119	1.115	0.244	1.239
	Right tilted	0.542	0.273	0.166	0.115	0.815	0.708	0.657	0.281	0.823
LTE B2	Left cheek	0.671	0.641	0.175	0.302	1.312	0.846	0.973	0.477	1.148
	Left tilted	0.775	0.431	0.257	0.179	1.206	1.032	0.954	0.436	1.211
	Right cheek	1.143	0.321	0.124	0.120	1.464	1.267	1.263	0.244	1.387
	Right tilted	0.760	0.273	0.166	0.115	1.033	0.926	0.875	0.281	1.041
LTE B7	Left cheek	0.545	0.641	0.175	0.302	1.186	0.720	0.847	0.477	1.022
	Left tilted	0.658	0.431	0.257	0.179	1.089	0.915	0.837	0.436	1.094
	Right cheek	1.036	0.321	0.124	0.120	1.357	1.160	1.156	0.244	1.280
	Right tilted	1.145	0.273	0.166	0.115	1.418	1.311	1.260	0.281	1.426
LTE B66	Left cheek	0.565	0.641	0.175	0.302	1.206	0.740	0.867	0.477	1.042
	Left tilted	0.555	0.431	0.257	0.179	0.986	0.812	0.734	0.436	0.991
	Right cheek	0.779	0.321	0.124	0.120	1.100	0.903	0.899	0.244	1.023
	Right tilted	0.568	0.273	0.166	0.115	0.841	0.734	0.683	0.281	0.849
LTE B41	Left cheek	0.578	0.641	0.175	0.302	1.219	0.753	0.880	0.477	1.055
	Left tilted	0.710	0.431	0.257	0.179	1.141	0.967	0.889	0.436	1.146
	Right cheek	1.086	0.321	0.124	0.120	1.407	1.210	1.206	0.244	1.330
	Right tilted	1.159	0.273	0.166	0.115	1.432	1.325	1.274	0.281	1.440
N2	Left cheek	0.529	0.641	0.175	0.302	1.170	0.704	0.831	0.477	1.006
	Left tilted	0.514	0.431	0.257	0.179	0.945	0.771	0.693	0.436	0.950
	Right cheek	0.952	0.321	0.124	0.120	1.273	1.076	1.072	0.244	1.196
	Right tilted	0.661	0.273	0.166	0.115	0.934	0.827	0.776	0.281	0.942
N7	Left cheek	0.358	0.641	0.175	0.302	0.999	0.533	0.660	0.477	0.835
	Left tilted	0.400	0.431	0.257	0.179	0.831	0.657	0.579	0.436	0.836
	Right cheek	0.721	0.321	0.124	0.120	1.042	0.845	0.841	0.244	0.965
	Right tilted	0.953	0.273	0.166	0.115	1.226	1.119	1.068	0.281	1.234
N41	Left cheek	0.349	0.641	0.175	0.302	0.990	0.524	0.651	0.477	0.826
	Left tilted	0.400	0.431	0.257	0.179	0.831	0.657	0.579	0.436	0.836
	Right cheek	0.630	0.321	0.124	0.120	0.951	0.754	0.750	0.244	0.874
	Right tilted	0.777	0.273	0.166	0.115	1.050	0.943	0.892	0.281	1.058
N66	Left cheek	0.686	0.641	0.175	0.302	1.327	0.861	0.988	0.477	1.163
	Left tilted	0.682	0.431	0.257	0.179	1.113	0.939	0.861	0.436	1.118
	Right cheek	0.936	0.321	0.124	0.120	1.257	1.060	1.056	0.244	1.180
	Right tilted	0.805	0.273	0.166	0.115	1.078	0.971	0.920	0.281	1.086

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Test position		SARmax (W/kg)				Summed SAR				
		Main Ant5	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM1900	Left cheek	0.061	0.641	0.175	0.302	0.702	0.236	0.363	0.477	0.538
	Left tilted	0.009	0.431	0.257	0.179	0.440	0.266	0.188	0.436	0.445
	Right cheek	0.019	0.321	0.124	0.120	0.340	0.143	0.139	0.244	0.263
	Right tilted	0.008	0.273	0.166	0.115	0.281	0.174	0.123	0.281	0.289
WCDMA B2	Left cheek	0.082	0.641	0.175	0.302	0.723	0.257	0.384	0.477	0.559
	Left tilted	0.066	0.431	0.257	0.179	0.497	0.323	0.245	0.436	0.502
	Right cheek	0.083	0.321	0.124	0.120	0.404	0.207	0.203	0.244	0.327
	Right tilted	0.073	0.273	0.166	0.115	0.346	0.239	0.188	0.281	0.354
WCDMA B4	Left cheek	0.139	0.641	0.175	0.302	0.780	0.314	0.441	0.477	0.616
	Left tilted	0.097	0.431	0.257	0.179	0.528	0.354	0.276	0.436	0.533
	Right cheek	0.137	0.321	0.124	0.120	0.458	0.261	0.257	0.244	0.381
	Right tilted	0.106	0.273	0.166	0.115	0.379	0.272	0.221	0.281	0.387
LTE B2	Left cheek	0.086	0.641	0.175	0.302	0.727	0.261	0.388	0.477	0.563
	Left tilted	0.059	0.431	0.257	0.179	0.490	0.316	0.238	0.436	0.495
	Right cheek	0.071	0.321	0.124	0.120	0.392	0.195	0.191	0.244	0.315
	Right tilted	0.085	0.273	0.166	0.115	0.358	0.251	0.200	0.281	0.366
LTE B7	Left cheek	0.111	0.641	0.175	0.302	0.752	0.286	0.413	0.477	0.588
	Left tilted	0.047	0.431	0.257	0.179	0.478	0.304	0.226	0.436	0.483
	Right cheek	0.378	0.321	0.124	0.120	0.699	0.502	0.498	0.244	0.622
	Right tilted	0.109	0.273	0.166	0.115	0.382	0.275	0.224	0.281	0.390
LTE B66	Left cheek	0.163	0.641	0.175	0.302	0.804	0.338	0.465	0.477	0.640
	Left tilted	0.102	0.431	0.257	0.179	0.533	0.359	0.281	0.436	0.538
	Right cheek	0.130	0.321	0.124	0.120	0.451	0.254	0.250	0.244	0.374
	Right tilted	0.097	0.273	0.166	0.115	0.370	0.263	0.212	0.281	0.378
LTE B41	Left cheek	0.063	0.641	0.175	0.302	0.704	0.238	0.365	0.477	0.540
	Left tilted	0.056	0.431	0.257	0.179	0.487	0.313	0.235	0.436	0.492
	Right cheek	0.101	0.321	0.124	0.120	0.422	0.225	0.221	0.244	0.345
	Right tilted	0.068	0.273	0.166	0.115	0.341	0.234	0.183	0.281	0.349
N2	Left cheek	0.100	0.641	0.175	0.302	0.741	0.275	0.402	0.477	0.577
	Left tilted	0.059	0.431	0.257	0.179	0.490	0.316	0.238	0.436	0.495
	Right cheek	0.074	0.321	0.124	0.120	0.395	0.198	0.194	0.244	0.318
	Right tilted	0.083	0.273	0.166	0.115	0.356	0.249	0.198	0.281	0.364
N7	Left cheek	0.105	0.641	0.175	0.302	0.746	0.280	0.407	0.477	0.582
	Left tilted	0.091	0.431	0.257	0.179	0.522	0.348	0.270	0.436	0.527
	Right cheek	0.145	0.321	0.124	0.120	0.466	0.269	0.265	0.244	0.389
	Right tilted	0.066	0.273	0.166	0.115	0.339	0.232	0.181	0.281	0.347
N66	Left cheek	0.131	0.641	0.175	0.302	0.772	0.306	0.433	0.477	0.608
	Left tilted	0.089	0.431	0.257	0.179	0.520	0.346	0.268	0.436	0.525
	Right cheek	0.116	0.321	0.124	0.120	0.437	0.240	0.236	0.244	0.360
	Right tilted	0.081	0.273	0.166	0.115	0.354	0.247	0.196	0.281	0.362

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Test position		SARmax (W/kg)				Summed SAR				
		Main Ant0	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B5	Left cheek	0.032	0.641	0.175	0.302	0.673	0.207	0.334	0.477	0.509
	Left tilted	0.020	0.431	0.257	0.179	0.451	0.277	0.199	0.436	0.456
	Right cheek	0.064	0.321	0.124	0.120	0.385	0.188	0.184	0.244	0.308
	Right tilted	0.032	0.273	0.166	0.115	0.305	0.198	0.147	0.281	0.313
LTE B7	Left cheek	0.111	0.641	0.175	0.302	0.752	0.286	0.413	0.477	0.588
	Left tilted	0.047	0.431	0.257	0.179	0.478	0.304	0.226	0.436	0.483
	Right cheek	0.378	0.321	0.124	0.120	0.699	0.502	0.498	0.244	0.622
	Right tilted	0.109	0.273	0.166	0.115	0.382	0.275	0.224	0.281	0.390
LTE B12	Left cheek	0.136	0.641	0.175	0.302	0.777	0.311	0.438	0.477	0.613
	Left tilted	0.086	0.431	0.257	0.179	0.517	0.343	0.265	0.436	0.522
	Right cheek	0.259	0.321	0.124	0.120	0.580	0.383	0.379	0.244	0.503
	Right tilted	0.099	0.273	0.166	0.115	0.372	0.265	0.214	0.281	0.380
LTE B13	Left cheek	0.113	0.641	0.175	0.302	0.754	0.288	0.415	0.477	0.590
	Left tilted	0.070	0.431	0.257	0.179	0.501	0.327	0.249	0.436	0.506
	Right cheek	0.141	0.321	0.124	0.120	0.462	0.265	0.261	0.244	0.385
	Right tilted	0.103	0.273	0.166	0.115	0.376	0.269	0.218	0.281	0.384
LTE B26	Left cheek	0.078	0.641	0.175	0.302	0.719	0.253	0.380	0.477	0.555
	Left tilted	0.015	0.431	0.257	0.179	0.446	0.272	0.194	0.436	0.451
	Right cheek	0.152	0.321	0.124	0.120	0.473	0.276	0.272	0.244	0.396
	Right tilted	0.073	0.273	0.166	0.115	0.346	0.239	0.188	0.281	0.354
LTE B66	Left cheek	0.005	0.641	0.175	0.302	0.646	0.180	0.307	0.477	0.482
	Left tilted	0.003	0.431	0.257	0.179	0.434	0.260	0.182	0.436	0.439
	Right cheek	0.098	0.321	0.124	0.120	0.419	0.222	0.218	0.244	0.342
	Right tilted	0.014	0.273	0.166	0.115	0.287	0.180	0.129	0.281	0.295
LTE B71	Left cheek	0.068	0.641	0.175	0.302	0.709	0.243	0.370	0.477	0.545
	Left tilted	0.014	0.431	0.257	0.179	0.445	0.271	0.193	0.436	0.450
	Right cheek	0.139	0.321	0.124	0.120	0.460	0.263	0.259	0.244	0.383
	Right tilted	0.060	0.273	0.166	0.115	0.333	0.226	0.175	0.281	0.341
LTE B41	Left cheek	0.100	0.641	0.175	0.302	0.741	0.275	0.402	0.477	0.577
	Left tilted	0.050	0.431	0.257	0.179	0.481	0.307	0.229	0.436	0.486
	Right cheek	0.218	0.321	0.124	0.120	0.539	0.342	0.338	0.244	0.462
	Right tilted	0.051	0.273	0.166	0.115	0.324	0.217	0.166	0.281	0.332
N7	Left cheek	0.089	0.641	0.175	0.302	0.730	0.264	0.391	0.477	0.566
	Left tilted	0.049	0.431	0.257	0.179	0.480	0.306	0.228	0.436	0.485
	Right cheek	0.431	0.321	0.124	0.120	0.752	0.555	0.551	0.244	0.675
	Right tilted	0.087	0.273	0.166	0.115	0.360	0.253	0.202	0.281	0.368
N26	Left cheek	0.127	0.641	0.175	0.302	0.768	0.302	0.429	0.477	0.604
	Left tilted	0.080	0.431	0.257	0.179	0.511	0.337	0.259	0.436	0.516
	Right cheek	0.229	0.321	0.124	0.120	0.550	0.353	0.349	0.244	0.473
	Right tilted	0.123	0.273	0.166	0.115	0.396	0.289	0.238	0.281	0.404
N41	Left cheek	0.483	0.641	0.175	0.302	1.124	0.658	0.785	0.477	0.960
	Left tilted	0.554	0.431	0.257	0.179	0.985	0.811	0.733	0.436	0.990
	Right cheek	0.910	0.321	0.124	0.120	1.231	1.034	1.030	0.244	1.154
	Right tilted	1.123	0.273	0.166	0.115	1.396	1.289	1.238	0.281	1.404
N71	Left cheek	0.034	0.641	0.175	0.302	0.675	0.209	0.336	0.477	0.511

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	Left tilted	0.004	0.431	0.257	0.179	0.435	0.261	0.183	0.436	0.440
	Right cheek	0.127	0.321	0.124	0.120	0.448	0.251	0.247	0.244	0.371
	Right tilted	0.033	0.273	0.166	0.115	0.306	0.199	0.148	0.281	0.314

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant1	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM850	Left cheek	0.294	0.641	0.175	0.302	0.935	0.469	0.596	0.477	0.771
	Left tilted	0.055	0.431	0.257	0.179	0.486	0.312	0.234	0.436	0.491
	Right cheek	0.087	0.321	0.124	0.120	0.408	0.211	0.207	0.244	0.331
	Right tilted	0.046	0.273	0.166	0.115	0.319	0.212	0.161	0.281	0.327
WCDMA B5	Left cheek	0.215	0.641	0.175	0.302	0.856	0.390	0.517	0.477	0.692
	Left tilted	0.141	0.431	0.257	0.179	0.572	0.398	0.320	0.436	0.577
	Right cheek	0.183	0.321	0.124	0.120	0.504	0.307	0.303	0.244	0.427
	Right tilted	0.101	0.273	0.166	0.115	0.374	0.267	0.216	0.281	0.382
LTE B12	Left cheek	0.154	0.641	0.175	0.302	0.795	0.329	0.456	0.477	0.631
	Left tilted	0.089	0.431	0.257	0.179	0.520	0.346	0.268	0.436	0.525
	Right cheek	0.141	0.321	0.124	0.120	0.462	0.265	0.261	0.244	0.385
	Right tilted	0.075	0.273	0.166	0.115	0.348	0.241	0.190	0.281	0.356
LTE B13	Left cheek	0.157	0.641	0.175	0.302	0.798	0.332	0.459	0.477	0.634
	Left tilted	0.075	0.431	0.257	0.179	0.506	0.332	0.254	0.436	0.511
	Right cheek	0.124	0.321	0.124	0.120	0.445	0.248	0.244	0.244	0.368
	Right tilted	0.074	0.273	0.166	0.115	0.347	0.240	0.189	0.281	0.355
LTE B26	Left cheek	0.221	0.641	0.175	0.302	0.862	0.396	0.523	0.477	0.698
	Left tilted	0.144	0.431	0.257	0.179	0.575	0.401	0.323	0.436	0.580
	Right cheek	0.172	0.321	0.124	0.120	0.493	0.296	0.292	0.244	0.416
	Right tilted	0.103	0.273	0.166	0.115	0.376	0.269	0.218	0.281	0.384
LTE B71	Left cheek	0.066	0.641	0.175	0.302	0.707	0.241	0.368	0.477	0.543
	Left tilted	0.010	0.431	0.257	0.179	0.441	0.267	0.189	0.436	0.446
	Right cheek	0.020	0.321	0.124	0.120	0.341	0.144	0.140	0.244	0.264
	Right tilted	0.011	0.273	0.166	0.115	0.284	0.177	0.126	0.281	0.292
N26	Left cheek	0.221	0.641	0.175	0.302	0.862	0.396	0.523	0.477	0.698
	Left tilted	0.144	0.431	0.257	0.179	0.575	0.401	0.323	0.436	0.580
	Right cheek	0.172	0.321	0.124	0.120	0.493	0.296	0.292	0.244	0.416
	Right tilted	0.103	0.273	0.166	0.115	0.376	0.269	0.218	0.281	0.384
N71	Left cheek	0.066	0.641	0.175	0.302	0.707	0.241	0.368	0.477	0.543
	Left tilted	0.010	0.431	0.257	0.179	0.441	0.267	0.189	0.436	0.446
	Right cheek	0.020	0.321	0.124	0.120	0.341	0.144	0.140	0.244	0.264
	Right tilted	0.011	0.273	0.166	0.115	0.284	0.177	0.126	0.281	0.292

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Body_Worn:

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant4	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B2	Front side	0.223	0.116	0.107	0.022	0.339	0.330	0.245	0.129	0.352
	Back side	0.289	0.214	0.696	0.205	0.503	0.985	0.494	0.901	1.190
WCDMA B4	Front side	0.178	0.116	0.107	0.022	0.294	0.285	0.200	0.129	0.307
	Back side	0.307	0.214	0.696	0.205	0.521	1.003	0.512	0.901	1.208
LTE B2	Front side	0.237	0.116	0.107	0.022	0.353	0.344	0.259	0.129	0.366
	Back side	0.297	0.214	0.696	0.205	0.511	0.993	0.502	0.901	1.198
LTE B7	Front side	0.109	0.116	0.107	0.022	0.225	0.216	0.131	0.129	0.238
	Back side	0.398	0.214	0.696	0.205	0.612	1.094	0.603	0.901	1.299
LTE B66	Front side	0.177	0.116	0.107	0.022	0.293	0.284	0.199	0.129	0.306
	Back side	0.292	0.214	0.696	0.205	0.506	0.988	0.497	0.901	1.193
LTE B41	Front side	0.068	0.116	0.107	0.022	0.184	0.175	0.090	0.129	0.197
	Back side	0.211	0.214	0.696	0.205	0.425	0.907	0.416	0.901	1.112
N2	Front side	0.204	0.116	0.107	0.022	0.320	0.311	0.226	0.129	0.333
	Back side	0.260	0.214	0.696	0.205	0.474	0.956	0.465	0.901	1.161
N7	Front side	0.060	0.116	0.107	0.022	0.176	0.167	0.082	0.129	0.189
	Back side	0.302	0.214	0.696	0.205	0.516	0.998	0.507	0.901	1.203
N41	Front side	0.035	0.116	0.107	0.022	0.151	0.142	0.057	0.129	0.164
	Back side	0.225	0.214	0.696	0.205	0.439	0.921	0.430	0.901	1.126
N66	Front side	0.162	0.116	0.107	0.022	0.278	0.269	0.184	0.129	0.291
	Back side	0.251	0.214	0.696	0.205	0.465	0.947	0.456	0.901	1.152

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant5	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM1900	Front side	0.118	0.116	0.107	0.022	0.234	0.225	0.140	0.129	0.247
	Back side	0.128	0.214	0.696	0.205	0.342	0.824	0.333	0.901	1.029
WCDMA B2	Front side	0.060	0.116	0.107	0.022	0.176	0.167	0.082	0.129	0.189
	Back side	0.092	0.214	0.696	0.205	0.306	0.788	0.297	0.901	0.993
WCDMA B4	Front side	0.087	0.116	0.107	0.022	0.203	0.194	0.109	0.129	0.216
	Back side	0.094	0.214	0.696	0.205	0.308	0.790	0.299	0.901	0.995
LTE B2	Front side	0.075	0.116	0.107	0.022	0.191	0.182	0.097	0.129	0.204
	Back side	0.111	0.214	0.696	0.205	0.325	0.807	0.316	0.901	1.012
LTE B7	Front side	0.078	0.116	0.107	0.022	0.194	0.185	0.100	0.129	0.207
	Back side	0.084	0.214	0.696	0.205	0.298	0.780	0.289	0.901	0.985
LTE B66	Front side	0.097	0.116	0.107	0.022	0.213	0.204	0.119	0.129	0.226
	Back side	0.110	0.214	0.696	0.205	0.324	0.806	0.315	0.901	1.011
LTE B41	Front side	0.137	0.116	0.107	0.022	0.253	0.244	0.159	0.129	0.266
	Back side	0.194	0.214	0.696	0.205	0.408	0.890	0.399	0.901	1.095
N2	Front side	0.049	0.116	0.107	0.022	0.165	0.156	0.071	0.129	0.178
	Back side	0.072	0.214	0.696	0.205	0.286	0.768	0.277	0.901	0.973
N7	Front side	0.128	0.116	0.107	0.022	0.244	0.235	0.150	0.129	0.257
	Back side	0.171	0.214	0.696	0.205	0.385	0.867	0.376	0.901	1.072
N66	Front side	0.171	0.116	0.107	0.022	0.287	0.278	0.193	0.129	0.300
	Back side	0.209	0.214	0.696	0.205	0.423	0.905	0.414	0.901	1.110

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Test position		SARmax (W/kg)				Summed SAR				
		Main Ant0	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B5	Front side	0.179	0.116	0.107	0.022	0.295	0.286	0.201	0.129	0.308
	Back side	0.227	0.214	0.696	0.205	0.441	0.923	0.432	0.901	1.128
LTE B7	Front side	0.013	0.116	0.107	0.022	0.129	0.120	0.035	0.129	0.142
	Back side	0.080	0.214	0.696	0.205	0.294	0.776	0.285	0.901	0.981
LTE B12	Front side	0.074	0.116	0.107	0.022	0.190	0.181	0.096	0.129	0.203
	Back side	0.172	0.214	0.696	0.205	0.386	0.868	0.377	0.901	1.073
LTE B13	Front side	0.014	0.116	0.107	0.022	0.130	0.121	0.036	0.129	0.143
	Back side	0.144	0.214	0.696	0.205	0.358	0.840	0.349	0.901	1.045
LTE B26	Front side	0.011	0.116	0.107	0.022	0.127	0.118	0.033	0.129	0.140
	Back side	0.078	0.214	0.696	0.205	0.292	0.774	0.283	0.901	0.979
LTE B66	Front side	0.017	0.116	0.107	0.022	0.133	0.124	0.039	0.129	0.146
	Back side	0.024	0.214	0.696	0.205	0.238	0.720	0.229	0.901	0.925
LTE B71	Front side	0.055	0.116	0.107	0.022	0.171	0.162	0.077	0.129	0.184
	Back side	0.105	0.214	0.696	0.205	0.319	0.801	0.310	0.901	1.006
LTE B41	Front side	0.016	0.116	0.107	0.022	0.132	0.123	0.038	0.129	0.145
	Back side	0.061	0.214	0.696	0.205	0.275	0.757	0.266	0.901	0.962
N7	Front side	0.019	0.116	0.107	0.022	0.135	0.126	0.041	0.129	0.148
	Back side	0.051	0.214	0.696	0.205	0.265	0.747	0.256	0.901	0.952
N26	Front side	0.044	0.116	0.107	0.022	0.160	0.151	0.066	0.129	0.173
	Back side	0.099	0.214	0.696	0.205	0.313	0.795	0.304	0.901	1.000
N41	Front side	0.095	0.116	0.107	0.022	0.211	0.202	0.117	0.129	0.224
	Back side	0.445	0.214	0.696	0.205	0.659	1.141	0.650	0.901	1.346
N71	Front side	0.024	0.116	0.107	0.022	0.140	0.131	0.046	0.129	0.153
	Back side	0.097	0.214	0.696	0.205	0.311	0.793	0.302	0.901	0.998

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant1	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM850	Front side	0.185	0.116	0.107	0.022	0.301	0.292	0.207	0.129	0.314
	Back side	0.279	0.214	0.696	0.205	0.493	0.975	0.484	0.901	1.180
WCDMA B5	Front side	0.179	0.116	0.107	0.022	0.295	0.286	0.201	0.129	0.308
	Back side	0.227	0.214	0.696	0.205	0.441	0.923	0.432	0.901	1.128
LTE B12	Front side	0.066	0.116	0.107	0.022	0.182	0.173	0.088	0.129	0.195
	Back side	0.149	0.214	0.696	0.205	0.363	0.845	0.354	0.901	1.050
LTE B13	Front side	0.146	0.116	0.107	0.022	0.262	0.253	0.168	0.129	0.275
	Back side	0.225	0.214	0.696	0.205	0.439	0.921	0.430	0.901	1.126
LTE B26	Front side	0.154	0.116	0.107	0.022	0.270	0.261	0.176	0.129	0.283
	Back side	0.187	0.214	0.696	0.205	0.401	0.883	0.392	0.901	1.088
LTE B71	Front side	0.077	0.116	0.107	0.022	0.193	0.184	0.099	0.129	0.206
	Back side	0.095	0.214	0.696	0.205	0.309	0.791	0.300	0.901	0.996
N26	Front side	0.195	0.116	0.107	0.022	0.311	0.302	0.217	0.129	0.324
	Back side	0.237	0.214	0.696	0.205	0.451	0.933	0.442	0.901	1.138
N71	Front side	0.054	0.116	0.107	0.022	0.170	0.161	0.076	0.129	0.183
	Back side	0.109	0.214	0.696	0.205	0.323	0.805	0.314	0.901	1.010

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Hotspot:

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant4	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B2	Front side	0.415	0.049	0.038	0.010	0.464	0.453	0.425	0.048	0.463
	Back side	0.732	0.146	0.299	0.120	0.878	1.031	0.852	0.419	1.151
	Right side	0.194	0.040	0.141	0.012	0.234	0.335	0.206	0.153	0.347
	Top side	0.534	0.056	0.247	0.073	0.590	0.781	0.607	0.320	0.854
WCDMA B4	Front side	0.369	0.049	0.038	0.010	0.418	0.407	0.379	0.048	0.417
	Back side	0.675	0.146	0.299	0.120	0.821	0.974	0.795	0.419	1.094
	Left side	0.230	0.040	0.141	0.012	0.270	0.371	0.242	0.153	0.383
	Top side	0.602	0.056	0.247	0.073	0.658	0.849	0.675	0.320	0.922
LTE B2	Front side	0.449	0.049	0.038	0.010	0.498	0.487	0.459	0.048	0.497
	Back side	0.640	0.146	0.299	0.120	0.786	0.939	0.760	0.419	1.059
	Left side	0.175	0.040	0.141	0.012	0.215	0.316	0.187	0.153	0.328
	Top side	0.442	0.056	0.247	0.073	0.498	0.689	0.515	0.320	0.762
LTE B7	Front side	0.214	0.049	0.038	0.010	0.263	0.252	0.224	0.048	0.262
	Back side	0.927	0.146	0.299	0.120	1.073	1.226	1.047	0.419	1.346
	Left side	0.115	0.040	0.141	0.012	0.155	0.256	0.127	0.153	0.268
	Top side	0.707	0.056	0.247	0.073	0.763	0.954	0.780	0.320	1.027
LTE B66	Front side	0.361	0.049	0.038	0.010	0.410	0.399	0.371	0.048	0.409
	Back side	0.687	0.146	0.299	0.120	0.833	0.986	0.807	0.419	1.106
	Left side	0.226	0.040	0.141	0.012	0.266	0.367	0.238	0.153	0.379
	Top side	0.420	0.056	0.247	0.073	0.476	0.667	0.493	0.320	0.740
LTE B41	Front side	0.067	0.049	0.038	0.010	0.116	0.105	0.077	0.048	0.115
	Back side	0.534	0.146	0.299	0.120	0.680	0.833	0.654	0.419	0.953
	Left side	0.053	0.040	0.141	0.012	0.093	0.194	0.065	0.153	0.206
	Top side	0.232	0.056	0.247	0.073	0.288	0.479	0.305	0.320	0.552
N2	Front side	0.367	0.049	0.038	0.010	0.416	0.405	0.377	0.048	0.415
	Back side	0.632	0.146	0.299	0.120	0.778	0.931	0.752	0.419	1.051
	Left side	0.168	0.040	0.141	0.012	0.208	0.309	0.180	0.153	0.321
	Top side	0.400	0.056	0.247	0.073	0.456	0.647	0.473	0.320	0.720
N7	Front side	0.148	0.049	0.038	0.010	0.197	0.186	0.158	0.048	0.196
	Back side	0.765	0.146	0.299	0.120	0.911	1.064	0.885	0.419	1.184
	Left side	0.082	0.040	0.141	0.012	0.122	0.223	0.094	0.153	0.235
	Top side	0.418	0.056	0.247	0.073	0.474	0.665	0.491	0.320	0.738
N66	Front side	0.363	0.049	0.038	0.010	0.412	0.401	0.373	0.048	0.411
	Back side	0.687	0.146	0.299	0.120	0.833	0.986	0.807	0.419	1.106
	Left side	0.215	0.040	0.141	0.012	0.255	0.356	0.227	0.153	0.368
	Top side	0.361	0.056	0.247	0.073	0.417	0.608	0.434	0.320	0.681
N41	Front side	0.083	0.049	0.038	0.010	0.132	0.121	0.093	0.048	0.131
	Back side	0.523	0.146	0.299	0.120	0.669	0.822	0.643	0.419	0.942
	Left side	0.041	0.040	0.141	0.012	0.081	0.182	0.053	0.153	0.194
	Top side	0.302	0.056	0.247	0.073	0.358	0.549	0.375	0.320	0.622

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Test position		SARmax (W/kg)				Summed SAR				
		Main Ant5	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM1900	Front side	0.266	0.049	0.038	0.010	0.315	0.304	0.276	0.048	0.314
	Back side	0.327	0.146	0.299	0.120	0.473	0.626	0.447	0.419	0.746
	Right side	0.016	0.040	0.141	0.012	0.056	0.157	0.028	0.153	0.169
	Bottom side	0.392	0.056	0.247	0.073	0.448	0.639	0.465	0.320	0.712
WCDMA B2	Front side	0.121	0.049	0.038	0.010	0.170	0.159	0.131	0.048	0.169
	Back side	0.171	0.146	0.299	0.120	0.317	0.470	0.291	0.419	0.590
	Right side	0.051	0.040	0.141	0.012	0.091	0.192	0.063	0.153	0.204
	Bottom side	0.278	0.056	0.247	0.073	0.334	0.525	0.351	0.320	0.598
WCDMA B4	Front side	0.142	0.049	0.038	0.010	0.191	0.180	0.152	0.048	0.190
	Back side	0.202	0.146	0.299	0.120	0.348	0.501	0.322	0.419	0.621
	Right side	0.059	0.040	0.141	0.012	0.099	0.200	0.071	0.153	0.212
	Bottom side	0.344	0.056	0.247	0.073	0.400	0.591	0.417	0.320	0.664
LTE B2	Front side	0.136	0.049	0.038	0.010	0.185	0.174	0.146	0.048	0.184
	Back side	0.195	0.146	0.299	0.120	0.341	0.494	0.315	0.419	0.614
	Right side	0.105	0.040	0.141	0.012	0.145	0.246	0.117	0.153	0.258
	Bottom side	0.354	0.056	0.247	0.073	0.410	0.601	0.427	0.320	0.674
LTE B7	Front side	0.084	0.049	0.038	0.010	0.133	0.122	0.094	0.048	0.132
	Back side	0.132	0.146	0.299	0.120	0.278	0.431	0.252	0.419	0.551
	Right side	0.057	0.040	0.141	0.012	0.097	0.198	0.069	0.153	0.210
	Bottom side	0.206	0.056	0.247	0.073	0.262	0.453	0.279	0.320	0.526
LTE B41	Front side	0.255	0.049	0.038	0.010	0.304	0.293	0.265	0.048	0.303
	Back side	0.342	0.146	0.299	0.120	0.488	0.641	0.462	0.419	0.761
	Right side	0.124	0.040	0.141	0.012	0.164	0.265	0.136	0.153	0.277
	Bottom side	0.529	0.056	0.247	0.073	0.585	0.776	0.602	0.320	0.849
LTE B66	Front side	0.237	0.049	0.038	0.010	0.286	0.275	0.247	0.048	0.285
	Back side	0.206	0.146	0.299	0.120	0.352	0.505	0.326	0.419	0.625
	Right side	0.082	0.040	0.141	0.012	0.122	0.223	0.094	0.153	0.235
	Bottom side	0.323	0.056	0.247	0.073	0.379	0.570	0.396	0.320	0.643
N2	Front side	0.094	0.049	0.038	0.010	0.143	0.132	0.104	0.048	0.142
	Back side	0.139	0.146	0.299	0.120	0.285	0.438	0.259	0.419	0.558
	Right side	0.040	0.040	0.141	0.012	0.080	0.181	0.052	0.153	0.193
	Bottom side	0.202	0.056	0.247	0.073	0.258	0.449	0.275	0.320	0.522
N7	Front side	0.196	0.049	0.038	0.010	0.245	0.234	0.206	0.048	0.244
	Back side	0.301	0.146	0.299	0.120	0.447	0.600	0.421	0.419	0.720
	Right side	0.102	0.040	0.141	0.012	0.142	0.243	0.114	0.153	0.255
	Bottom side	0.405	0.056	0.247	0.073	0.461	0.652	0.478	0.320	0.725
N66	Front side	0.309	0.049	0.038	0.010	0.358	0.347	0.319	0.048	0.357
	Back side	0.418	0.146	0.299	0.120	0.564	0.717	0.538	0.419	0.837
	Right side	0.130	0.040	0.141	0.012	0.170	0.271	0.142	0.153	0.283
	Bottom side	0.552	0.056	0.247	0.073	0.608	0.799	0.625	0.320	0.872

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Test position		SARmax (W/kg)				Summed SAR				
		Main Ant0	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
WCDMA B5	Front side	0.027	0.049	0.038	0.010	0.076	0.065	0.037	0.048	0.075
	Back side	0.078	0.146	0.299	0.120	0.224	0.377	0.198	0.419	0.497
	Left side	0.046	0.040	0.141	0.012	0.086	0.187	0.058	0.153	0.199
	Top side	0.006	0.056	0.247	0.073	0.062	0.253	0.079	0.320	0.326
LTE B7	Front side	0.065	0.049	0.038	0.010	0.114	0.103	0.075	0.048	0.113
	Back side	0.215	0.146	0.299	0.120	0.361	0.514	0.335	0.419	0.634
	Left side	0.191	0.040	0.141	0.012	0.231	0.332	0.203	0.153	0.344
	Top side	0.010	0.056	0.247	0.073	0.066	0.257	0.083	0.320	0.330
LTE B12	Front side	0.089	0.049	0.038	0.010	0.138	0.127	0.099	0.048	0.137
	Back side	0.306	0.146	0.299	0.120	0.452	0.605	0.426	0.419	0.725
	Left side	0.171	0.040	0.141	0.012	0.211	0.312	0.183	0.153	0.324
	Top side	0.007	0.056	0.247	0.073	0.063	0.254	0.080	0.320	0.327
LTE B13	Front side	0.062	0.049	0.038	0.010	0.111	0.100	0.072	0.048	0.110
	Back side	0.188	0.146	0.299	0.120	0.334	0.487	0.308	0.419	0.607
	Left side	0.075	0.040	0.141	0.012	0.115	0.216	0.087	0.153	0.228
	Top side	0.010	0.056	0.247	0.073	0.066	0.257	0.083	0.320	0.330
LTE B26	Front side	0.007	0.049	0.038	0.010	0.056	0.045	0.017	0.048	0.055
	Back side	0.153	0.146	0.299	0.120	0.299	0.452	0.273	0.419	0.572
	Left side	0.006	0.040	0.141	0.012	0.046	0.147	0.018	0.153	0.159
	Top side	0.010	0.056	0.247	0.073	0.066	0.257	0.083	0.320	0.330
LTE B66	Front side	0.041	0.049	0.038	0.010	0.090	0.079	0.051	0.048	0.089
	Back side	0.100	0.146	0.299	0.120	0.246	0.399	0.220	0.419	0.519
	Left side	0.028	0.040	0.141	0.012	0.068	0.169	0.040	0.153	0.181
	Top side	0.014	0.056	0.247	0.073	0.070	0.261	0.087	0.320	0.334
LTE B41	Front side	0.031	0.049	0.038	0.010	0.080	0.069	0.041	0.048	0.079
	Back side	0.170	0.146	0.299	0.120	0.316	0.469	0.290	0.419	0.589
	Left side	0.176	0.040	0.141	0.012	0.216	0.317	0.188	0.153	0.329
	Top side	0.051	0.056	0.247	0.073	0.107	0.298	0.124	0.320	0.371
LTE B71	Front side	0.070	0.049	0.038	0.010	0.119	0.108	0.080	0.048	0.118
	Back side	0.232	0.146	0.299	0.120	0.378	0.531	0.352	0.419	0.651
	Left side	0.181	0.040	0.141	0.012	0.221	0.322	0.193	0.153	0.334
	Top side	0.044	0.056	0.247	0.073	0.100	0.291	0.117	0.320	0.364
N7	Front side	0.048	0.049	0.038	0.010	0.097	0.086	0.058	0.048	0.096
	Back side	0.126	0.146	0.299	0.120	0.272	0.425	0.246	0.419	0.545
	Left side	0.124	0.040	0.141	0.012	0.164	0.265	0.136	0.153	0.277
	Top side	0.034	0.056	0.247	0.073	0.090	0.281	0.107	0.320	0.354
N26	Front side	0.066	0.049	0.038	0.010	0.115	0.104	0.076	0.048	0.114
	Back side	0.235	0.146	0.299	0.120	0.381	0.534	0.355	0.419	0.654
	Left side	0.094	0.040	0.141	0.012	0.134	0.235	0.106	0.153	0.247
	Top side	0.043	0.056	0.247	0.073	0.099	0.290	0.116	0.320	0.363
N41	Front side	0.157	0.049	0.038	0.010	0.206	0.195	0.167	0.048	0.205
	Back side	1.083	0.146	0.299	0.120	1.229	1.382	1.203	0.419	1.502
	Left side	0.091	0.040	0.141	0.012	0.131	0.232	0.103	0.153	0.244
	Top side	0.525	0.056	0.247	0.073	0.581	0.772	0.598	0.320	0.845
N71	Front side	0.049	0.049	0.038	0.010	0.098	0.087	0.059	0.048	0.097

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	Back side	0.177	0.146	0.299	0.120	0.323	0.476	0.297	0.419	0.596
	Left side	0.114	0.040	0.141	0.012	0.154	0.255	0.126	0.153	0.267
	Top side	0.040	0.056	0.247	0.073	0.096	0.287	0.113	0.320	0.360

Test position		SARmax (W/kg)				Summed SAR				
		Main Ant1	WiFi 2.4G Ant12(chain0)	WiFi 5G Ant12(chain0)	BT					
		1	2	3	4	1+2	1+3	1+4	3+4	1+3+4
GSM 850	Front side	0.357	0.049	0.038	0.010	0.406	0.395	0.367	0.048	0.405
	Back side	0.557	0.146	0.299	0.120	0.703	0.856	0.677	0.419	0.976
	Left side	0.392	0.040	0.141	0.012	0.432	0.533	0.404	0.153	0.545
	Bottom side	0.211	0.056	0.247	0.073	0.267	0.458	0.284	0.320	0.531
WCDMA B5	Front side	0.331	0.049	0.038	0.010	0.380	0.369	0.341	0.048	0.379
	Back side	0.396	0.146	0.299	0.120	0.542	0.695	0.516	0.419	0.815
	Left side	0.354	0.040	0.141	0.012	0.394	0.495	0.366	0.153	0.507
	Bottom side	0.189	0.056	0.247	0.073	0.245	0.436	0.262	0.320	0.509
LTE B12	Front side	0.186	0.049	0.038	0.010	0.235	0.224	0.196	0.048	0.234
	Back side	0.265	0.146	0.299	0.120	0.411	0.564	0.385	0.419	0.684
	Left side	0.210	0.040	0.141	0.012	0.250	0.351	0.222	0.153	0.363
	Bottom side	0.136	0.056	0.247	0.073	0.192	0.383	0.209	0.320	0.456
LTE B13	Front side	0.170	0.049	0.038	0.010	0.219	0.208	0.180	0.048	0.218
	Back side	0.298	0.146	0.299	0.120	0.444	0.597	0.418	0.419	0.717
	Left side	0.189	0.040	0.141	0.012	0.229	0.330	0.201	0.153	0.342
	Bottom side	0.111	0.056	0.247	0.073	0.167	0.358	0.184	0.320	0.431
LTE B26	Front side	0.236	0.049	0.038	0.010	0.285	0.274	0.246	0.048	0.284
	Back side	0.352	0.146	0.299	0.120	0.498	0.651	0.472	0.419	0.771
	Left side	0.263	0.040	0.141	0.012	0.303	0.404	0.275	0.153	0.416
	Bottom side	0.158	0.056	0.247	0.073	0.214	0.405	0.231	0.320	0.478
LTE B71	Front side	0.089	0.049	0.038	0.010	0.138	0.127	0.099	0.048	0.137
	Back side	0.107	0.146	0.299	0.120	0.253	0.406	0.227	0.419	0.526
	Left side	0.227	0.040	0.141	0.012	0.267	0.368	0.239	0.153	0.380
	Bottom side	0.041	0.056	0.247	0.073	0.097	0.288	0.114	0.320	0.361
N26	Front side	0.307	0.049	0.038	0.010	0.356	0.345	0.317	0.048	0.355
	Back side	0.461	0.146	0.299	0.120	0.607	0.760	0.581	0.419	0.880
	Left side	0.379	0.040	0.141	0.012	0.419	0.520	0.391	0.153	0.532
	Bottom side	0.208	0.056	0.247	0.073	0.264	0.455	0.281	0.320	0.528
N71	Front side	0.093	0.049	0.038	0.010	0.142	0.131	0.103	0.048	0.141
	Back side	0.122	0.146	0.299	0.120	0.268	0.421	0.242	0.419	0.541
	Left side	0.270	0.040	0.141	0.012	0.310	0.411	0.282	0.153	0.423
	Bottom side	0.059	0.056	0.247	0.073	0.115	0.306	0.132	0.320	0.379

0mm

Test position	SARmax (W/kg)		Summed SAR
	WiFi 5G Ant12(chain0)	NFC	
	1	2	1+2
Front side	0.400	0.004	0.404
Back side	1.421	0.038	1.459
Right side	0.816	0.000	0.816
Top side	1.647	0.000	1.647

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9 Equipment list

Test Platform	SPEAG DASY Professional					
Description	SAR Test System					
Software Reference	DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)					
Hardware Reference						
Equipment		Manufacturer	Model	Inventory No.	Calibration Date	Due date of calibration
☒	Test Phantom	SPEAG	SAM Twin	SZ-WSR-A-020	NCR	NCR
☒	Test Phantom	SPEAG	SAM Twin	SZ-WSR-A-022	NCR	NCR
☒	DAE	SPEAG	DAE4	SZ-WSR-M-081	2024/08/15	2025/08/14
☒	DAE	SPEAG	DAE4	SZ-WSR-M-029	2024/01/03	2025/01/02
☒	E-Field Probe	SPEAG	EX3DV4	SZ-WSR-M-082	2024/09/19	2025/09/18
☒	E-Field Probe	SPEAG	EX3DV4	SZ-WSR-M-069	2024/07/29	2025/07/28
☒	Validation Kits	SPEAG	D750V3	SZ-WSR-M-032	2022/06/06	2025/06/05
☒	Validation Kits	SPEAG	D835V2	SZ-WSR-M-033	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D1750V2	SZ-WSR-M-035	2022/06/17	2025/06/16
☒	Validation Kits	SPEAG	D1900V2	SZ-WSR-M-036	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D2450V2	SZ-WSR-M-039	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D2600V2	SZ-WSR-M-040	2022/06/14	2025/06/13
☒	Validation Kits	SPEAG	D5GHzV2	SZ-WSR-M-046	2022/11/01	2025/10/31
☒	Dielectric parameter probes	SPEAG	DAKS-3.5	SZ-WSR-M-053	2024/06/26	2025/06/25
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R140	SZ-WSR-M-054	2024/06/26	2025/06/25
☒	Radio Communication Analyzer	Anritsu	MT8820C	SZ-WSR-M-005	2024/01/30	2025/01/29
☒	Radio Communication Analyzer	Anritsu	MT8820C	SZ-WSR-M-018	2024/05/24	2025/05/23
☒	Radio Communication Analyzer	Anritsu	MT8820C	SZ-WSR-M-020	2024/08/19	2025/08/18
☒	RF Bi-Directional Coupler	Agilent	86205-60001	SZ-WSR-A-004	NCR	NCR
☒	Signal Generator	Agilent	N5171B	SZ-WSR-M-006	2024/01/30	2025/01/29
☒	Preamplifier	Mini-Circuits	ZHL-42W	SZ-WSR-A-001	NCR	NCR
☒	Preamplifier	Compliance Directions Systems Inc.	AMP28-3W	SZ-WSR-A-002	NCR	NCR
☒	Power Meter	Agilent	E4416A	SZ-WSR-M-007	2024/01/30	2025/01/29
☒	Power Sensor	Agilent	8481H	SZ-WSR-M-008	2024/01/30	2025/01/29
☒	Power Sensor	R&S	NRP-Z92	SZ-WSR-M-009	2024/01/30	2025/01/29
☒	Attenuator	SHX	TS2-3dB	SZ-WSR-A-012	NCR	NCR
☒	Speed reading thermometer	Zhengzhou Boyang Instrument	TP3001	SZ-WSR-M-014	2024/05/30	2025/05/29
☒	Temperature	MingGao	T809	SZ-WSR-M-015	2024/05/30	2025/05/29

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☒	Temperature	MingGao	T809	SZ-WSR-M-016	2024/05/30	2025/05/29
☒	Humidity and Temperature Indicator	CHIGAO	HTC-1	SZ-WSR-M-013	2024/05/28	2025/05/27
☒	Humidity and Temperature Indicator	CHIGAO	HTC-1	SZ-WSR-M-011	2024/05/28	2025/05/27

Note: All the equipment 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

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

Appendix E: Conducted RF Output Power

--- End of report ---

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