FCC SAR TEST REPORT

Application No.:	SUCR2411000437WM
Applicant:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Manufacturer:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Product Name:	Mobile Phone
Model No.(EUT):	RMX5056
Trade Mark:	realme
FCC ID:	2AUYFRMX5056
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2024-11-01
Date of Test:	2024-11-04 to 2024-11-30
Date of Issue:	2024-12-06
Test conclusion:	**PASS ***

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

Prepared by：Leon Liu/ Project Manager

Approved by：Nick HU/ Technical Manager

Revision Record			
Version	**Description**	**Date**	**Remark**
01	Original	2024/12/06	

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Product specific 10g SAR
GSM850	0.21	0.31	0.31	/
GSM1900	0.74	0.30	0.44	/
WCDMA Band II	**1.17**	**1.06**	1.18	/
WCDMA Band IV	0.63	0.71	1.07	/
WCDMA Band V	0.28	0.31	0.31	/
LTE Band 2	1.16	0.80	1.03	/
LTE Band 7	0.87	0.48	0.58	/
LTE Band 12/17	0.43	0.17	0.17	/
LTE Band 13	0.33	0.25	0.25	/
LTE Band 26/5	0.42	0.24	0.24	/
LTE Band 41/38	0.51	0.29	0.46	/
LTE Band 66/4	0.74	0.65	1.03	/
LTE Band 71	0.30	0.14	0.19	/
NR Band n2	1.10	0.99	**1.19**	/
NR Band n7	0.94	0.72	0.86	/
NR Band n26/5	0.65	0.27	0.27	/
NR Band n41/38	0.94	0.82	1.15	/
NR Band n66	1.00	0.76	0.82	/
NR Band n71	0.36	0.14	0.21	/
WI-FI (2.4GHz)	0.28	0.06	0.06	/
WI-FI (5GHz)	0.82	0.38	0.33	**2.93**
BT	0.33	<0.10	<0.10	/
NFC	/	/	/	0.01
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	1.50	1.51	1.58	2.93
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 Details of Client

Applicant:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Manufacturer:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

1.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test Engineer:	Leon Xu, Bert Xu

1.3 Test Facility

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

• **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327

1.4 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	Mobile Phone		
Model No.(EUT):	RMX5056		
Trade Mark:	realme		
Product Phase:	Production Unit		
Hardware Version:	11		
Software Version:	realme UI 6.0		
IMEI:	866323070019996/866323070019988 860157070018772/860157070018764		
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 **NFC:** ASK		
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)		
	1,tested with power level 0(GSM1900)		
	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
	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
	LTE Band 71	663 – 698	617 – 652

	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
	NR Band n71	663 – 698	617 – 652
	Bluetooth	2400 - 2483.5	2400 - 2483.5
	Wi-Fi 2.4G	2402 - 2462	2402 - 2462
	Wi-Fi 5G	5150 - 5250	5150 - 5250
		5250 - 5350	5250 - 5350
		5470 - 5725	5470 - 5725
		5725 - 5850	5725 - 5850
	NFC	13.56MHz	13.56MHz
RF Cable:	☒ Provided by the aplicant ☐ Provided by the laboratory		
Battery Information:	Model:	BLPB75	
	Normal Voltage:	3.92V	
	Rated capacity:	5860mAh	
	Manufacturer:	Dongguan NVT Technology Co., Ltd	

Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

1.4.1 DUT Antenna Locations (Back View)

The DUT Antenna Locations (Back View) can refer to Appendix D.

Note:
1) The test device is a smart phone. The overall diagonal dimension of this device is 174.8 mm. Per KDB 648474 D04, because the diagonal distance of this device is ≥160mm, so it is a phablet.

According to the distance between 5G NR/LTE/WCDMA/GSM&WIFI&BT antennas and the sides of the EUT we can draw the conclusion that:

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom
Ant 0	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	No	Yes
Ant 1	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	No	Yes	No
Ant 4	Hotspot/Product specific 10g SAR	Yes	Yes	No	Yes	No	Yes
Ant 5	Hotspot/Product specific 10g SAR	Yes	Yes	No	Yes	No	No
Ant 8	Hotspot/Product specific 10g SAR	Yes	Yes	No	Yes	Yes	No

Table 1： EUT Sides for SAR Testing

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

1.4.2 MediaTek Time-averaged SAR feature for RF Exposure compliance

The RF exposure limit is defined based on time-averaged RF exposure. The product implements MediaTek Time-averaged SAR (TA-SAR) 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 TA-SAR.

<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 TA-SAR 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

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 TA-SAR 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.
TA-SAR 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 (ECI: Exposure Condition Index).

P_{limt} for supported technologies and bands

Band	Mode	Antenna	P_{max} (burst)	P_{limit} (burst)			P_{max}(average)	P_{limit}(average)		
				ECI3(State3) (Body_Worn)	ECI5(State5) (Head)	ECI8(State8) (Hotspot)		ECI3(State3) (Body_Worn)	ECI5(State5) (Head)	ECI8(State8) (Hotspot)
GSM 850	GPRS 4TS	0	27.00	27.00	27.00	27.00	23.99	23.99	23.99	23.99
	GPRS 4TS	1	26.50	26.00	24.00	26.00	23.49	22.99	20.99	22.99
GSM 1900	GPRS 3TS	4	25.50	24.00	25.50	24.00	21.24	19.74	21.24	19.74
	GPRS 3TS	1	25.00	25.00	23.00	25.00	20.74	20.74	18.74	20.74
WCDMA_B2	RMC	4	24.00	20.50	24.00	20.50	24.00	20.50	24.00	20.50
	RMC	1	23.50	23.00	19.00	23.00	23.50	23.00	19.00	23.00
WCDMA_B4	RMC	4	24.00	20.50	24.00	20.50	24.00	20.50	24.00	20.50
	RMC	1	23.50	22.00	15.50	22.00	23.50	22.00	15.50	22.00
WCDMA_B5	RMC	0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
	RMC	1	23.50	22.00	21.00	22.00	23.50	22.00	21.00	22.00
LTE_B2	QPSK	4	23.50	20.00	23.50	20.00	23.50	20.00	23.50	20.00
	QPSK	1	23.00	23.00	19.00	23.00	23.00	23.00	19.00	23.00
LTE_B4	QPSK	4	23.50	21.00	23.50	21.00	23.50	21.00	23.50	21.00
	QPSK	1	23.00	20.50	16.00	20.50	23.00	20.50	16.00	20.50
	QPSK	5	23.00	22.50	23.00	22.50	23.00	22.50	23.00	22.50
LTE_B5	QPSK	0	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
	QPSK	1	23.00	22.50	21.50	22.50	23.00	22.50	21.50	22.50
LTE_B7	QPSK	4	23.20	18.70	23.20	18.70	23.20	18.70	23.20	18.70
	QPSK	1	22.70	17.70	13.20	17.70	22.70	17.70	13.20	17.70
	QPSK	5	21.20	17.70	18.70	17.70	21.20	17.70	18.70	17.70
LTE_B12	QPSK	0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
	QPSK	1	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
LTE_B13	QPSK	0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
	QPSK	1	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
LTE_B17	QPSK	0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
	QPSK	1	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
LTE_B26	QPSK	0	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
	QPSK	1	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
LTE_B66	QPSK	4	24.00	21.00	24.00	21.00	24.00	21.00	24.00	21.00
	QPSK	1	23.50	22.00	16.00	22.00	23.50	22.00	16.00	22.00
	QPSK	5	23.00	22.50	23.00	22.50	23.00	22.50	23.00	22.50
LTE_B71	QPSK	0	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
	QPSK	1	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
LTE_B38	QPSK	4	23.50	21.00	23.50	21.00	21.51	19.01	21.51	19.01
	QPSK	1	23.00	19.50	15.50	19.50	21.01	17.51	13.51	17.51
	QPSK	5	21.50	21.50	21.50	21.50	19.51	19.51	19.51	19.51
LTE_B41 PC3	QPSK	4	23.50	21.00	23.50	21.00	21.51	19.01	21.51	19.01
	QPSK	1	23.00	19.50	15.50	19.50	21.01	17.51	13.51	17.51
	QPSK	5	21.50	21.50	21.50	21.50	19.51	19.51	19.51	19.51
NR5G_N2	QPSK	4	23.00	19.50	23.00	19.50	23.00	19.50	23.00	19.50
	QPSK	1	22.50	22.50	19.00	22.50	22.50	22.50	19.00	22.50
NR5G_N5	QPSK	0	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
	QPSK	1	23.00	22.50	22.00	22.50	23.00	22.50	22.00	22.50
NR5G_N7	QPSK	4	23.00	19.00	23.00	19.00	23.00	19.00	23.00	19.00
	QPSK	1	22.50	18.50	13.00	18.50	22.50	18.50	13.00	18.50
	QPSK	5	21.00	17.50	19.50	17.50	21.00	17.50	19.50	17.50
NR5G_N26	QPSK	0	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
	QPSK	1	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
NR5G_N38	QPSK	4	23.50	19.00	23.50	19.00	23.50	19.00	23.50	19.00
	QPSK	1	23.00	17.50	13.50	17.50	23.00	17.50	13.50	17.50
	QPSK	5	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
NR5G_N41	QPSK	4	23.00	19.00	23.00	19.00	23.00	19.00	23.00	19.00
	QPSK	1	22.50	18.00	22.00	18.00	22.50	18.00	22.00	18.00
	QPSK	5	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
NR5G_N66	QPSK	4	24.00	20.50	24.00	20.50	24.00	20.50	24.00	20.50
	QPSK	1	23.50	22.00	17.00	22.00	23.50	22.00	17.00	22.00
	QPSK	5	23.00	22.50	23.00	22.50	23.00	22.50	23.00	22.50
NR5G_N71	QPSK	0	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
	QPSK	1	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50

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 TA-SAR.

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.

1.4.3 Power reduction specification

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

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

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

The detailed power reduction information can be referred to Appendix E.

1.5 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	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

1.6 RF exposure limits

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

Notes:

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

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

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

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

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

2 Laboratory Environment

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

Table 2： The Ambient Conditions

3 SAR Measurements System Configuration

3.1 The SAR Measurement System

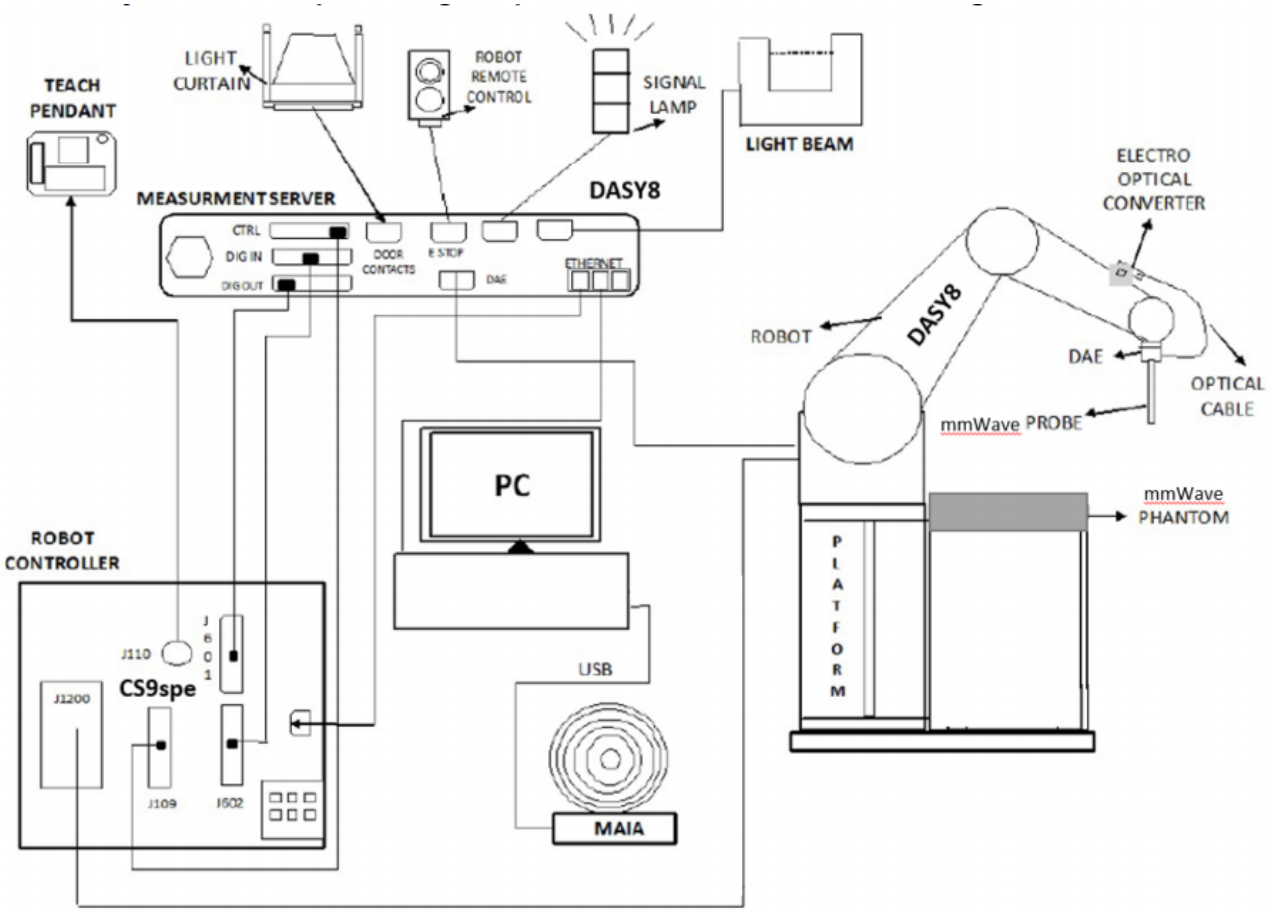
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

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

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

3.2 Isotropic E-field Probe EX3DV4

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

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

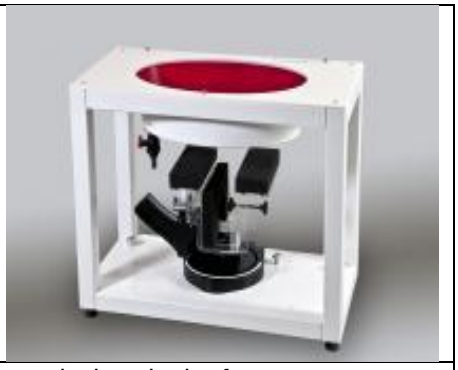
Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx.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

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

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

3.5 ELI Phantom

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



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

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

3.6 Device Holder for Transmitters

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

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

3.7 Measurement procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

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

Step 2: Area scan

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

Step 3: Zoom scan

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

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

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

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

Step 4: Power reference measurement (drift)

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

3.7.2 Data Storage

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

3.7.3 Data Evaluation by SEMCAD

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

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

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

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

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

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

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

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

E-field probes:

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

H-field probes:

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

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

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

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

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

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

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

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

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

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

4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

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

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

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

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

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

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

4.2 SAR measurement uncertainty

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

IEC- 62209-1528 sets out the general test methods to be followed when carrying out an RF exposure compliance assessment of wireless devices implementing device-based time-averaging methods for the management and/or mitigation of specific absorption rate (SAR) in the 4 MHz to 6 GHz frequency band. It does not cover requirements that are based on power density above 6 GHz or requirements to protect against nerve stimulation for the frequency range from 3 kHz to 10MHz.

Measurements and results are all in compliance with the standards listed. All measurements and results are recorded and maintained at the laboratory performing the tests and measurement uncertainties are taken into account when comparing measurements to pass/ fail criteria. The Expanded uncertainty (95% CONFIDENCE INTERVAL) is **23.34%**.

a	b	c	d	e = f(d,k)	g	i = C*g/e	K
Uncertainty Component	Section in P1528	Tol (%)	Prob.Dist.	Div.	Ci (1g)	1g ui (%)	Vi(Veff)
Measurement system							

Probe calibration	7.2.2.1	7.4	N	1	1	7.40	∞
Axial isotropy	7.2.2.2	1.2	R	$\sqrt{3}$	1	0.69	∞
hemispherical isotropy	7.2.2.2	3.2	R	$\sqrt{3}$	1	1.85	∞
Linearity	7.2.2.3	0.9	R	$\sqrt{3}$	1	0.52	∞
Probe modulation response	7.2.2.4	0	R	$\sqrt{3}$	1	0.00	∞
Detection limits	7.2.2.5	0.25	R	$\sqrt{3}$	1	0.14	∞
Boundary effect	7.2.2.6	1.0	R	$\sqrt{3}$	1	0.58	∞
Readout electronics	7.2.2.7	0.3	N	1	1	0.30	∞
Response time	7.2.2.8	0	R	$\sqrt{3}$	1	0.00	∞
Integration time	7.2.2.9	2.6	R	$\sqrt{3}$	1	1.50	∞
RF ambient conditions – noise	7.2.4.5	3	R	$\sqrt{3}$	1	1.73	∞
RF ambient conditions – reflections	7.2.4.5	3	R	$\sqrt{3}$	1	1.73	∞
Probe positioner mech. restrictions	7.2.3.1	1.5	R	$\sqrt{3}$	1	0.87	∞
Probe positioning with respect to phantom shell	7.2.3.3	2.9	R	$\sqrt{3}$	1	1.67	∞
Post-processing	7.2.5	1	R	$\sqrt{3}$	1	0.58	∞
Test sample related							
Device holder uncertainty	7.2.3.4.2	3.6	N	1	1	3.60	∞
Test sample positioning	7.2.3.4.3	3.7	N	1	1	3.70	9
Power scaling	L.3	5.0	R	$\sqrt{3}$	1	2.89	∞
Drift of output power (measured SAR drift)	7.2.2.10	5	R	$\sqrt{3}$	1	2.89	∞
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	7.2.3.2	4	R	$\sqrt{3}$	1	2.31	∞
Algorithm for correcting SAR for deviations in permittivity and conductivity	7.2.4.3	1.9	N	1	1	1.90	∞
Liquid conductivity (meas.)	7.2.4.3	5.78	N	1	0.78	4.51	4
Liquid permittivity (meas.)	7.2.4.3	0.62	N	1	0.23	0.14	5
Liquid permittivity –temperature uncertainty	7.2.4.4	0.2	R	$\sqrt{3}$	0.78	0.09	∞
Liquid conductivity –temperature uncertainty	7.2.4.4	5.37	R	$\sqrt{3}$	0.23	0.71	∞

Combined standard uncertainty	**RSS**	11.67	417
Expanded uncertainty (95% CONFIDENCE INTERVAL)	**K=2**	**23.34**	

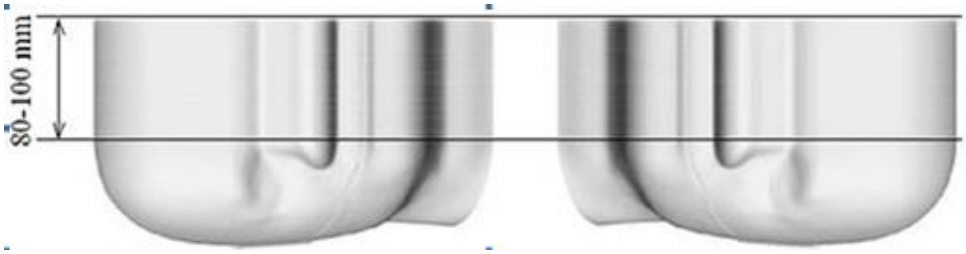
5 Description of Test Position

5.1 Head Exposure Condition

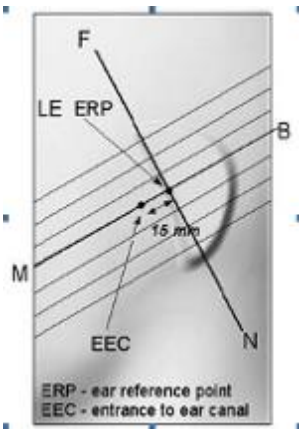
5.1.1 SAM Phantom Shape

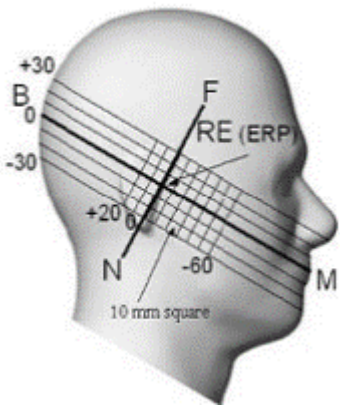
F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

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



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

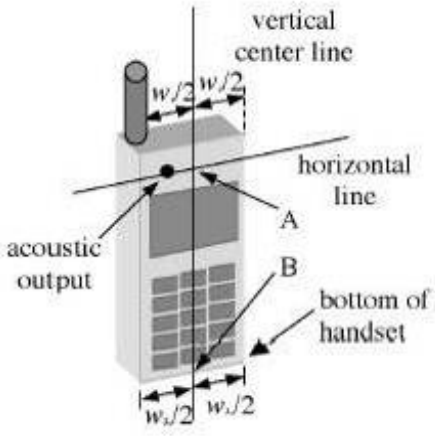




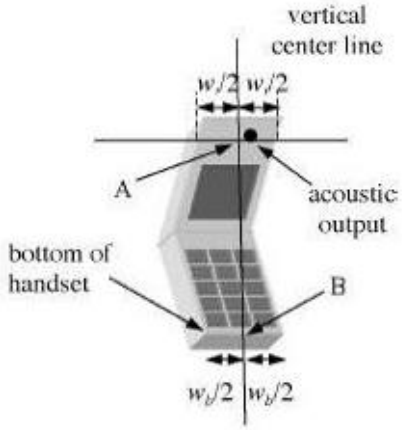
F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

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

5.1.2 EUT constructions



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



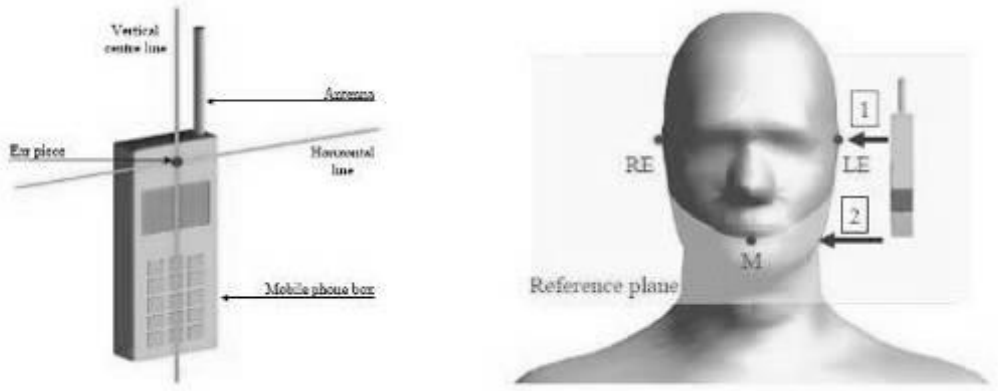
F-8. Handset vertical and horizontal reference lines-“clam-shell case”

5.1.3 Definition of the “cheek” position

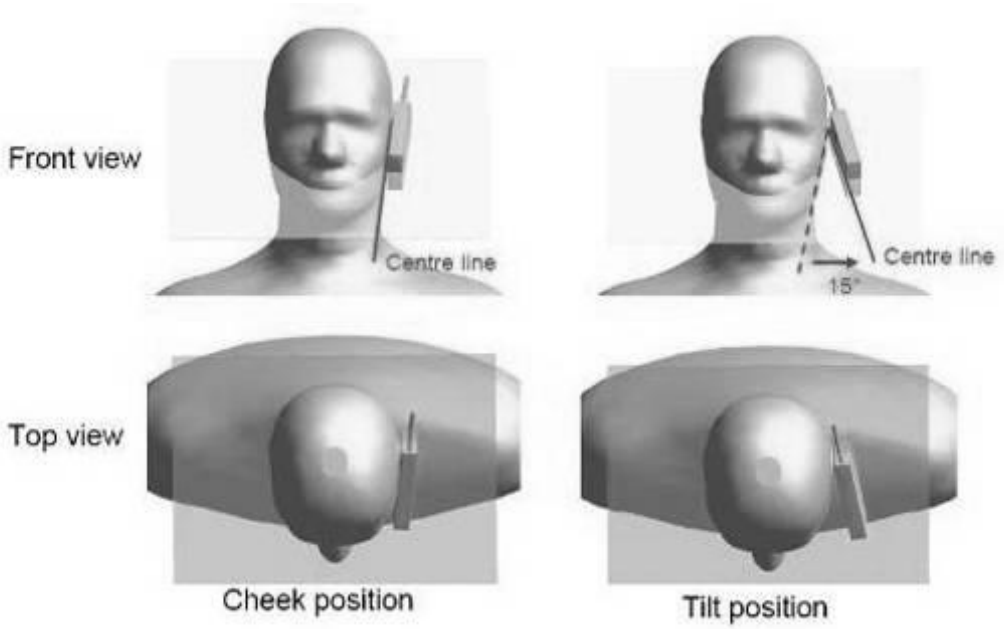
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the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

5.1.4 Definition of the "tilted" position

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



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



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

5.2 Body Exposure Condition

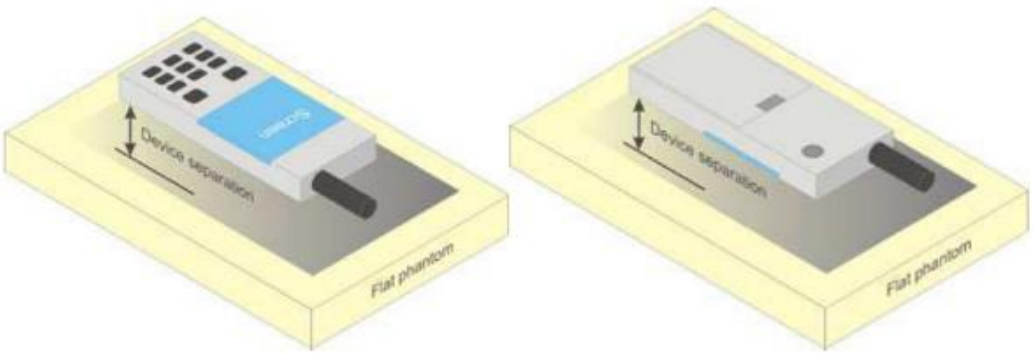
5.2.1 Body-worn accessory exposure conditions

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

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

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

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



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

5.2.2 Wireless Router exposure conditions

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

5.3 Extremity exposure conditions

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

6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1750-2000	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		
HSL13MHz is composed of the following ingredients： Water：50-90% Non-ionic detergents：5-50% Nacl：0-2% Preservative：0.03-0.1% HSL5GHz is composed of the following ingredients： Water：50-65% Mineral oil：10-30% Emulsifiers：8-25% Sodium salt：0-1.5%					

Table 3： Recipe of Tissue Simulate Liquid

6.1.2 Measurement for Tissue Simulate Liquid

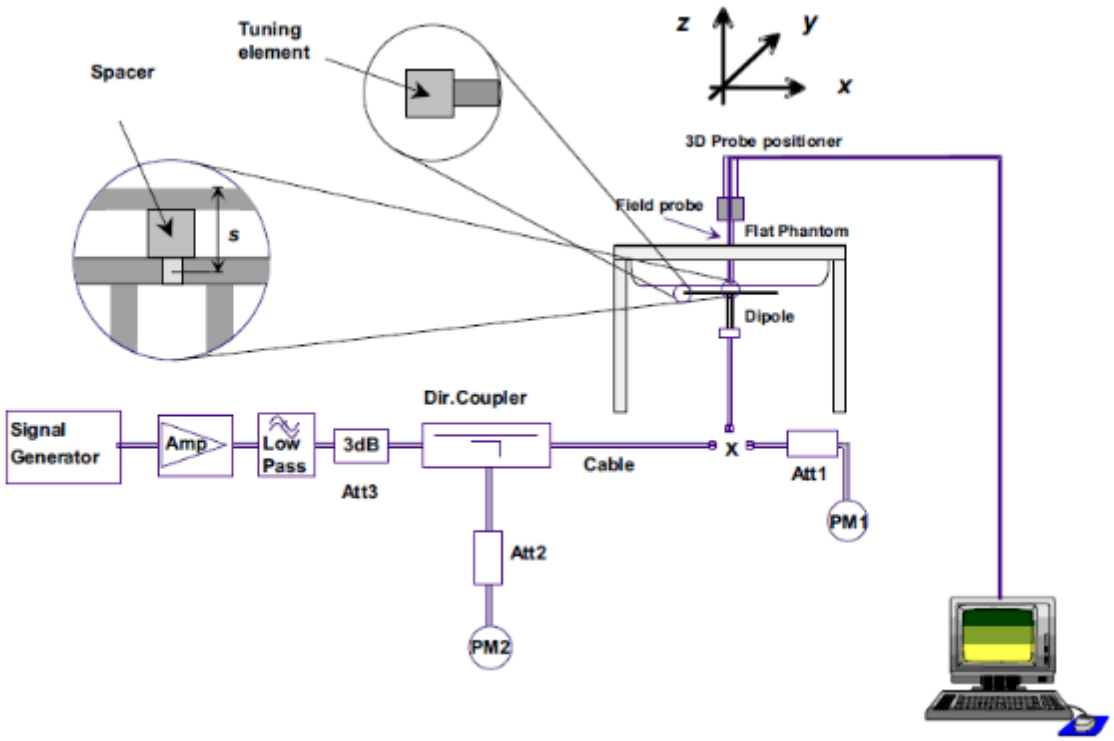
The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Deviation (Within ±5%)		Liquid Temp. (℃)	Test Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	ε_r	σ(S/m)		
13 Head	13	55.0	0.75	55.740	0.747	1.35%	-0.40%	22.5	2024/11/25
750 Head	750	41.9	0.89	41.339	0.903	-1.34%	1.46%	22.3	2024/11/10
750 Head	750	41.9	0.89	41.700	0.885	-0.48%	-0.56%	22.5	2024/11/09
835 Head	835	41.5	0.90	41.770	0.907	0.65%	0.78%	22.3	2024/11/04
835 Head	835	41.5	0.90	42.100	0.912	1.45%	1.33%	22.6	2024/11/05
1750 Head	1750	40.1	1.37	38.838	1.383	-3.15%	0.95%	22.4	2024/11/08
1750 Head	1750	40.1	1.37	38.600	1.330	-3.74%	-2.92%	22.5	2024/11/07
1950 Head	1950	40.0	1.40	40.265	1.356	0.66%	-3.14%	22.3	2024/11/06
1950 Head	1950	40.0	1.40	38.800	1.410	-3.00%	0.71%	22.5	2024/11/11
2450 Head	2450	39.2	1.8	39.921	1.887	1.84%	4.83%	22.4	2024/11/27
2600 Head	2600	39.0	1.96	38.517	2.012	-1.24%	2.65%	22.4	2024/11/12
2600 Head	2600	39.0	1.96	38.800	2.030	-0.51%	3.57%	22.6	2024/11/13
2600 Head	2600	39.0	1.96	38.600	2.020	-1.03%	3.06%	22.7	2024/11/15
5250 Head	5250	35.9	4.71	35.268	4.659	-1.76%	-1.08%	22.3	2024/11/28
5600 Head	5600	35.5	5.07	34.596	5.128	-2.55%	1.14%	22.2	2024/11/29
5750 Head	5750	35.4	5.22	34.225	5.310	-3.32%	1.72%	22.2	2024/11/30

Table 4： Measurement result of Tissue electric parameters.

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

F-13.

6.2.1 Justification for Extended SAR Dipole Calibrations

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

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

6.2.2 Summary System Check Result(s)

SAR System Validation Result(s)											
Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	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)		
CLA-13	Head	0.109	0.069	0.44	0.28	0.421	0.266	3.56%	3.76%	22.5	2024/11/25
D750V3	Head	2.21	1.44	8.84	5.76	8.4	5.52	5.24%	4.35%	22.3	2024/11/10
D750V3	Head	2.19	1.47	8.76	5.88	8.4	5.52	4.29%	6.52%	22.5	2024/11/09
D835V2	Head	2.53	1.62	10.12	6.48	9.6	6.16	5.42%	5.19%	22.3	2024/11/04
D835V2	Head	2.48	1.61	9.92	6.44	9.6	6.16	3.33%	4.55%	22.6	2024/11/05
D1750V2	Head	9.61	5.03	38.44	20.12	37	19.3	3.89%	4.25%	22.4	2024/11/08
D1750V2	Head	9.29	5.01	37.16	20.04	37	19.3	0.43%	3.83%	22.5	2024/11/07
D1950V3	Head	10.30	5.33	41.20	21.32	40.4	20.8	1.98%	2.50%	22.3	2024/11/06
D1950V3	Head	9.95	5.27	39.80	21.08	40.4	20.8	-1.49%	1.35%	22.5	2024/11/11
D2450V2	Head	13.30	6.26	53.20	25.04	52.7	24.6	0.95%	1.79%	22.4	2024/11/27
D2600V2	Head	14.80	6.64	59.20	26.56	57.3	25.4	3.32%	4.57%	22.4	2024/11/12
D2600V2	Head	13.70	6.52	54.80	26.08	57.3	25.4	-4.36%	2.68%	22.6	2024/11/13
D2600V2	Head	14.70	6.69	58.80	26.76	57.3	25.4	2.62%	5.35%	22.7	2024/11/15
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	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)	7.56	2.15	75.60	21.50	77.2	21.9	-2.07%	-1.83%	22.3	2024/11/28
	Head(5.6GHz)	7.92	2.25	79.20	22.50	81.1	22.8	-2.34%	-1.32%	22.2	2024/11/29
	Head(5.75GHz)	7.67	2.14	76.70	21.40	77.8	21.7	-1.41%	-1.38%	22.2	2024/11/30

Table 5： SAR System Check Result.

6.2.3 Detailed System Check Results

Please see the Appendix A

7 Test Configuration

7.1 3G SAR Test Reduction Procedure

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

7.2 Operation Configurations

7.2.1 GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using CMW500 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 5 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 5.

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

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

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

7.2.2 WCDMA Test Configuration

1）. Output Power Verification

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

2）. Head SAR

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

3）. Body SAR

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

4）. HSDPA / HSUPA / DC-HSDPA

According to KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

a) HSDPA

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

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

Note1: △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.

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

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

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

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

Table 7： HSDPA UE category

b) HSUPA

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

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

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

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

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

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

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

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

Table 8： Subtests for UMTS Release 6 HSUPA

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

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

Table 9： HSUPA UE category

c) DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.
The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0.
A summary of these settings are illustrated below:
Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

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

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13.
The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.
The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK.

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

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

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

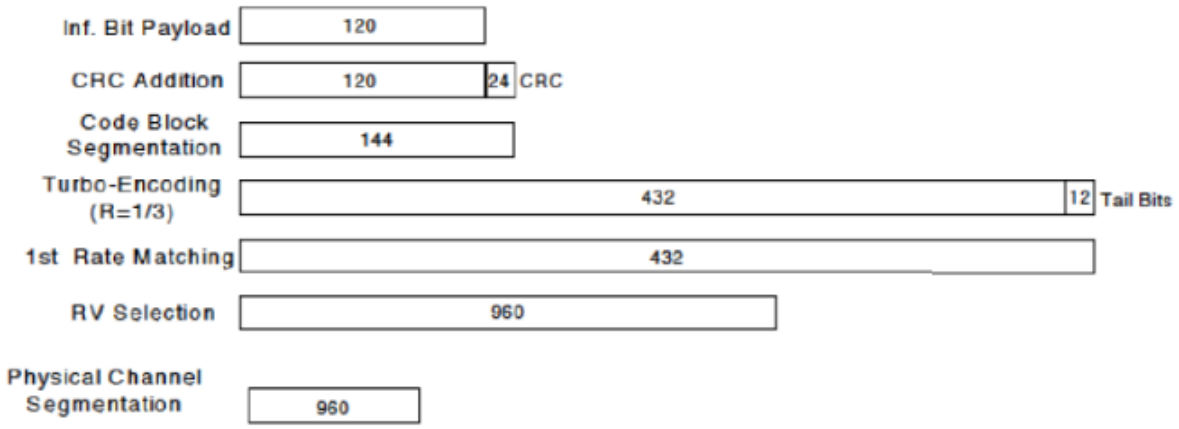


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

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

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

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

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

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

Note:

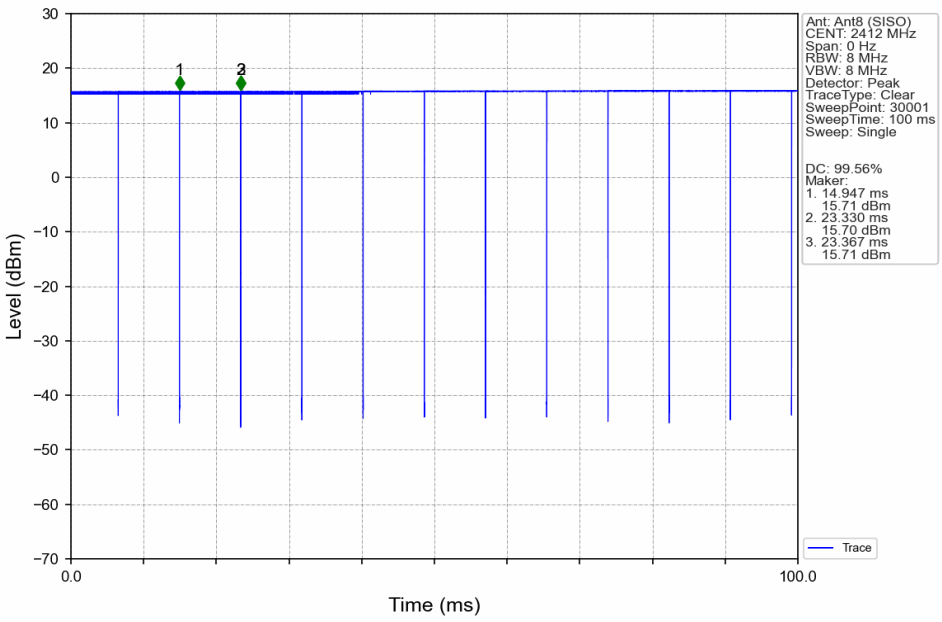
1. The Dual Carriers transmission only applies to HSDPA physical channels
2. The Dual Carriers belong to the same Node and are on adjacent carriers.
3. The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation
4. The Dual Carriers operate in the same frequency band.
5. The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

7.2.3 WiFi Test Configuration

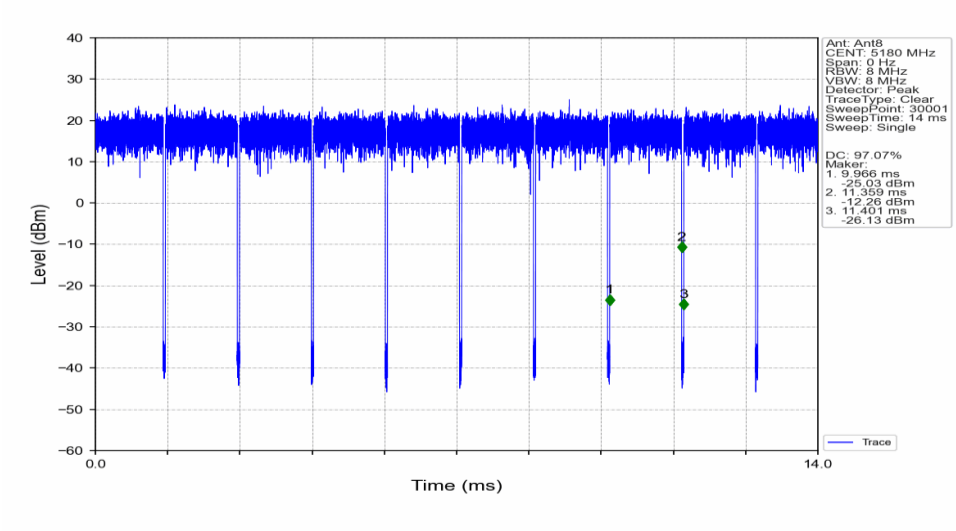
A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

7.2.4 Duty cycle

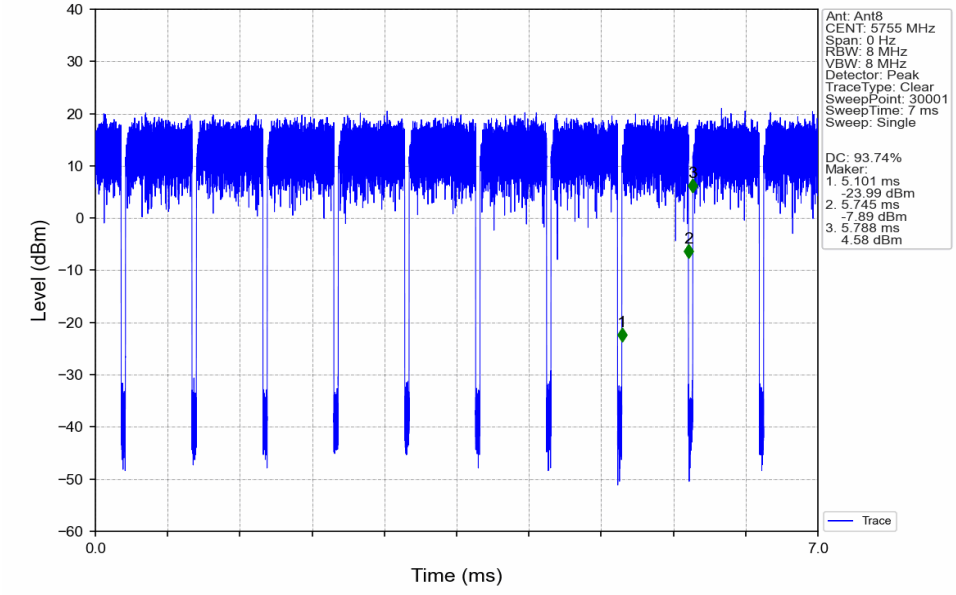
Wi-Fi 2.4GHz 802.11b:
Duty cycle= 99.56%



Wi-Fi 5GHz 802.11a:
Duty cycle=97.07%



Wi-Fi 5GHz 802.11n HT40:
Duty cycle=93.74%



7.2.4.1 Initial Test Position SAR Test Reduction Procedure

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

1）. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).

2）. When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.

3）. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

7.2.4.2 Initial Test Configuration Procedures

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

7.2.4.3 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”

7.2.4.4 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 OFDM SAR Test Exclusion Requirements**

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

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

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

- **SAR Test Requirements for OFDM configurations**

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

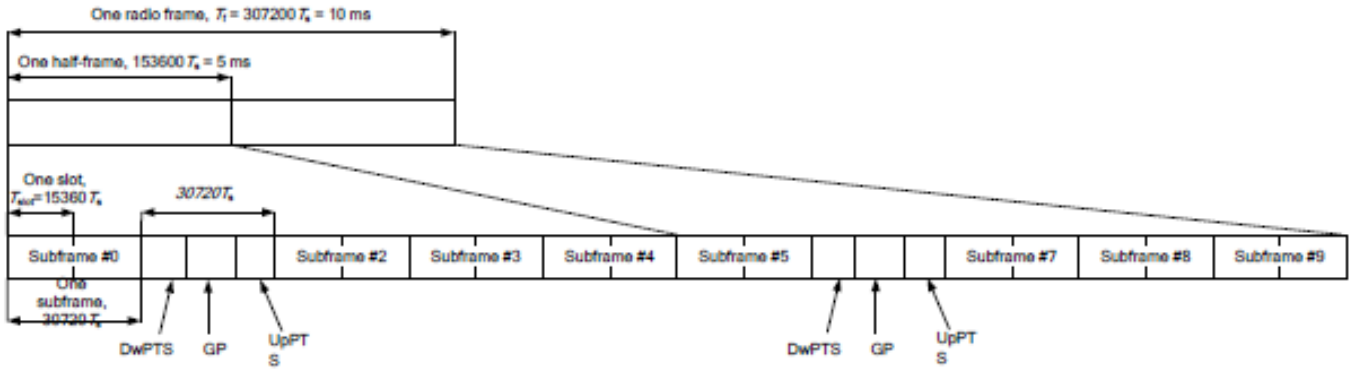
7.2.5 LTE Test Configuration

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 Anritsu MT8820C 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:



Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

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

Uplink-downlink configurations.

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

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

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

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 (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

C) A-MPR

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

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

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

4) Higher order modulations

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

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.

2CC Downlink Carrier Aggregation		3CC Downlink Carrier Aggregation	
CA_2C	CA_4A-4A	CA_2A-7C	CA_4C-7A
CA_4C	CA_26A-41A	CA_7A-7A-66A	CA_4A-4A-7A
CA_7C	CA_5A-38A	CA_7A-40A-40A	CA_2A-5A-66A
CA_38C	CA_2A-4A	CA_41D	CA_2A-5A-7A
CA_41C	CA_38A-66A	CA_5A-40C	
CA_66C	CA_41A-66A	CA_5A-66A-66A	
CA_41A-41A	CA_26A-38A	CA_5A-7A-7A	
CA_7A-7A	CA_2A-66A	CA_5A-7A-66A	
CA_2A-26A	CA_7A-26A	CA_41A-41A-41A	
CA_5A-41A	CA_2A-38A	CA_4A-7C	
CA_5A-66A		CA_5A-7C	
CA_7A-66A		CA_7A-66A-66A	
CA_2A-2A		CA_7C-66A	
CA_2A-5A		CA_26A-41C	
CA_2A-12A		CA_2A-4A-5A	
CA_2A-7A		CA_38C-66A	
CA_4A-5A		CA_4A-5A-7A	
CA_4A-7A		CA_41C-66A	
CA_5A-7A		CA_5A-41C	
CA_12A-66A		CA_2A-7A-7A	
CA_66A-66A		CA_5A-66C	
CA_66A-71A		CA_4A-4A-5A	

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.

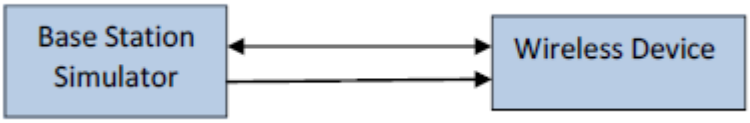
Intra-band contiguous CA operating bands：

E-UTRA CA Band	E-UTRA Band	Uplink (UL) operating band			Downlink (DL) operating band			Duplex Mode
		BS receive / UE transmit			BS transmit / UE receive			
		F_{UL_low} – F_{UL_high}			F_{DL_low} – F_{DL_high}			
CA_7C	7	2502.5 MHz	–	2567.5 MHz	2622.5MHz	–	2687.5 MHz	FDD
CA_38C	38	2572.5 MHz	–	2617.5 MHz	2572.5MHz	–	2617.5 MHz	TDD
CA_41C	41	2498.5 MHz	–	2687.5 MHz	2498.5 MHz	–	2687.5 MHz	TDD
CA_66C	66	1712.5 MHz	–	1777.5 MHz	2112.5MHz	–	2197.5 MHz	FDD

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

c) Inter-band carrier aggregation requirements for uplink.

1. For Inter-band uplink CA mode, MTK TA SAR in WWAN directly adds the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from another 4G(LTE). TA-SAR 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		LTE Band 4			LTE Band 5		LTE Band 7			LTE Band 26		LTE Band 66		
		Ant1	Ant4	Ant5	Ant0	Ant1	Ant1	Ant4	Ant5	Ant0	Ant1	Ant1	Ant4	Ant5
LTE Band 2	Ant1		√	√				√	√				√	√
	Ant4													
LTE Band 4	Ant1		√		√									
	Ant4					√	√							
	Ant5						√							
LTE Band 5	Ant0	√					√					√		
	Ant1		√					√					√	
LTE Band 7	Ant1		√	√	√					√				
	Ant4					√					√			

7.2.6 NR Band Test Configuration

2. NR Band n2/5/7/26/38/41/66/71 support SA mode and NR Band n2/5/7/38/41/66/71 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		LTE Band 2		LTE Band 4		LTE Band 5		LTE Band 7			LTE Band 12	
		Ant1	Ant4	Ant1	Ant4	Ant0	Ant1	Ant1	Ant4	Ant5	Ant0	Ant1
n2	Ant1											
	Ant4											
n5	Ant0								√	√		
	Ant1								√	√		
n7	Ant1					√						
	Ant4	√		√		√	√	√				
	Ant5	√		√				√				
n38	Ant1					√						
	Ant4	√		√		√	√					
	Ant5	√		√								
n41	Ant1											
	Ant4	√		√								
	Ant5	√		√								
n66	Ant1					√					√	
	Ant4	√				√	√	√			√	√
	Ant5	√						√				
n71	Ant0	√	√						√	√		
	Ant1		√						√	√		

Band/Antenna		LTE Band 26		LTE Band 38			LTE Band 41			LTE Band 66			LTE Band 71	
		Ant0	Ant1	Ant1	Ant4	Ant5	Ant1	Ant4	Ant5	Ant1	Ant4	Ant5	Ant0	Ant1
n2	Ant1												√	
	Ant4												√	√
n5	Ant0										√	√		
	Ant1										√	√		
n7	Ant1													
	Ant4									√				
	Ant5									√				
n38	Ant1													
	Ant4			√						√				
	Ant5			√						√				
n41	Ant1	√												
	Ant4	√	√				√			√				
	Ant5						√			√				
n66	Ant1													
	Ant4									√			√	√
	Ant5									√			√	√
n71	Ant0										√	√		
	Ant1										√	√		

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

Band			N2	n5	n7	n26	n38	n41	n66	n71
Modulation	DFT-s-OFDM	PI/2 BPSK	No	No	No	No	No	No	No	No
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Duty Cycle			100%	100%	100%	100%	100%	100%	100%	100%

Band	SCS	Bandwidth												
		5Mhz	10Mhz	15Mhz	20Mhz	25Mhz	30Mhz	40Mhz	50Mhz	60Mhz	70Mhz	80Mhz	90Mhz	100Mhz
N2	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N5	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N7	15KHZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A
N26	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N38	30KHZ	N/A	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
N41	30KHZ	N/A	Yes	Yes	Yes	N/A	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes
N66	15KHZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
n71	15KHZ	N/A	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for 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

5. MPR

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

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	PI/2 BPSK	≤ 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 n41,n78. 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 n41,n78 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 n41,n78.				

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

7. For 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.

8. For EN-DC SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report.

9. When the reported SAR for and EN DC configuration is greater than 1.2 W/kg, EN DC SAR is also required for other NR based test channels.

10. EN DC SAR is also required for standalone NR configurations greater than 1.2 W/kg when scaled to the EN DC power level.

8 Test Result

8.1 Measurement of RF conducted Power

The detailed conducted power table can refer to Appendix E.

Note:

1）. For GSM 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.

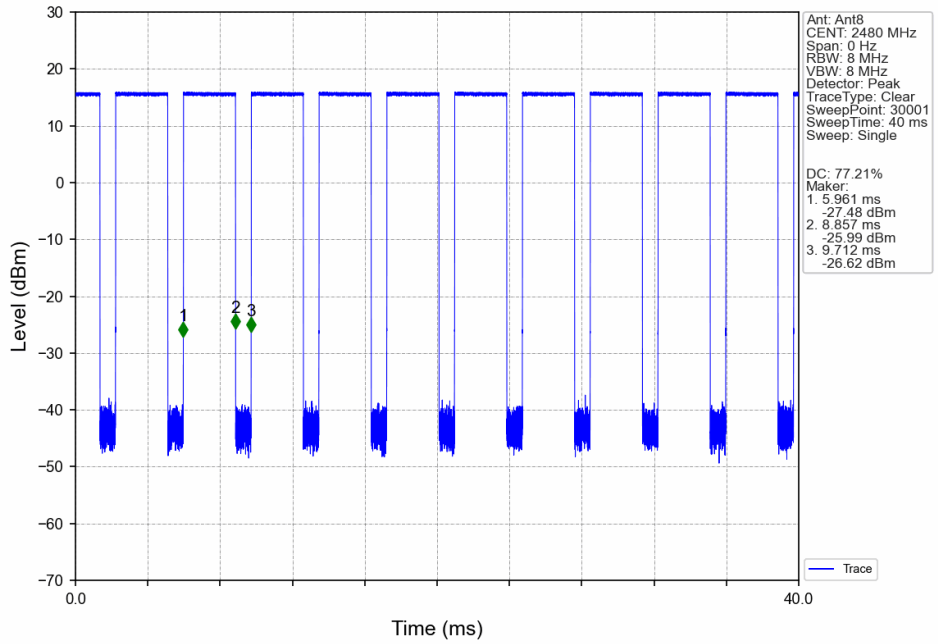
5）. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs.

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 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 DH5 Duty Cycle=77.21%



8.2 Measurement of SAR Data

Note:

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

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

- ≤ 0.8W/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.

3) Maximum bandwidth does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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.
3) 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.

NFC:

1) NFC SAR is measured for all edges and surfaces of the device.
2) NFC 13.56MHz antenna por is not available on the device to support conducted power measurement, therefore the measured results are referred to as reported SAR.
3) NFC SAR test tissue-simulating liquid parameter refer to IEC/IEEE 62209-1528 2020.

8.2.1 SAR Result of GSM850

GSM850 SAR Test Record										
Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 4TS	190/836.6	1:2.075	0.117	-0.02	27.16	28.50	1.361	0.159	22.3
Left tilted	GPRS 4TS	190/836.6	1:2.075	0.065	-0.01	27.16	28.50	1.361	0.088	22.3
Right cheek	GPRS 4TS	190/836.6	1:2.075	0.113	-0.14	27.16	28.50	1.361	0.154	22.3
Right tilted	GPRS 4TS	190/836.6	1:2.075	0.055	0.18	27.16	28.50	1.361	0.075	22.3
Body worn Test data(Separate 15mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.183	-0.02	27.16	28.50	1.361	0.249	22.3
Back side	GPRS 4TS	190/836.6	1:2.075	0.230	-0.08	27.16	28.50	1.361	**0.313**	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.183	-0.02	27.16	28.50	1.361	0.249	22.3
Back side	GPRS 4TS	190/836.6	1:2.075	0.230	-0.08	27.16	28.50	1.361	**0.313**	22.3
Left side	GPRS 4TS	190/836.6	1:2.075	0.112	-0.12	27.16	28.50	1.361	0.152	22.3
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.126	0.01	27.16	28.50	1.361	0.172	22.3
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 4TS	190/836.6	1:2.075	0.083	0.01	26.53	28.00	1.403	0.116	22.3
Left tilted	GPRS 4TS	190/836.6	1:2.075	0.045	0.00	26.53	28.00	1.403	0.063	22.3
Right cheek	GPRS 4TS	190/836.6	1:2.075	0.151	-0.06	26.53	28.00	1.403	**0.212**	22.3
Right tilted	GPRS 4TS	190/836.6	1:2.075	0.126	0.09	26.53	28.00	1.403	0.177	22.3
Body worn Test data(Separate 15mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.062	0.02	26.53	28.00	1.403	0.087	22.3
Back side	GPRS 4TS	190/836.6	1:2.075	0.106	-0.07	26.53	28.00	1.403	0.149	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.062	0.02	26.53	28.00	1.403	0.087	22.3
Back side	GPRS 4TS	190/836.6	1:2.075	0.106	-0.07	26.53	28.00	1.403	0.149	22.3
Left side	GPRS 4TS	190/836.6	1:2.075	0.053	-0.14	26.53	28.00	1.403	0.074	22.3
Top side	GPRS 4TS	190/836.6	1:2.075	0.061	0.01	26.53	28.00	1.403	0.086	22.3

Table 11： SAR of GSM850 for Head, Body and Hotspot.

8.2.2 SAR Result of GSM1900

GSM1900 SAR Test Record										
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 3TS	661/1880	1:2.77	0.350	-0.03	23.02	24.50	1.406	0.492	22.3
Left tilted	GPRS 3TS	661/1880	1:2.77	0.387	-0.05	23.02	24.50	1.406	0.544	22.3
Right cheek	GPRS 3TS	661/1880	1:2.77	0.528	0.07	23.02	24.50	1.406	**0.742**	22.3
Right tilted	GPRS 3TS	661/1880	1:2.77	0.426	-0.08	23.02	24.50	1.406	0.599	22.3
Body worn Test data(Separate 15mm)										
Front side	GPRS 3TS	661/1880	1:2.77	0.119	0.14	25.05	26.50	1.396	0.166	22.3
Back side	GPRS 3TS	661/1880	1:2.77	0.129	0.05	25.05	26.50	1.396	0.180	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 3TS	661/1880	1:2.77	0.119	0.14	25.05	26.50	1.396	0.166	22.3
Back side	GPRS 3TS	661/1880	1:2.77	0.129	0.05	25.05	26.50	1.396	0.180	22.3
Left side	GPRS 3TS	661/1880	1:2.77	0.056	0.16	25.05	26.50	1.396	0.078	22.3
Top side	GPRS 3TS	661/1880	1:2.77	0.312	0.09	25.05	26.50	1.396	**0.436**	22.3
Ant 4 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	GPRS 3TS	661/1880	1:2.77	0.049	0.01	25.68	27.00	1.355	0.066	22.3
Left tilted	GPRS 3TS	661/1880	1:2.77	0.000	0.19	25.68	27.00	1.355	0.000	22.3
Right cheek	GPRS 3TS	661/1880	1:2.77	0.059	-0.11	25.68	27.00	1.355	0.080	22.3
Right tilted	GPRS 3TS	661/1880	1:2.77	0.000	0.10	25.68	27.00	1.355	0.000	22.3
Body worn Test data(Separate 15mm)										
Front side	GPRS 3TS	661/1880	1:2.77	0.153	0.18	24.19	25.50	1.352	0.207	22.3
Back side	GPRS 3TS	661/1880	1:2.77	0.225	-0.08	24.19	25.50	1.352	**0.304**	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 3TS	661/1880	1:2.77	0.153	0.18	24.19	25.50	1.352	0.207	22.3
Back side	GPRS 3TS	661/1880	1:2.77	0.225	-0.08	24.19	25.50	1.352	0.304	22.3
Right side	GPRS 3TS	661/1880	1:2.77	0.077	0.10	24.19	25.50	1.352	0.104	22.3
Bottom side	GPRS 3TS	661/1880	1:2.77	0.313	0.14	24.19	25.50	1.352	0.423	22.3

Table 12： SAR of GSM1900 for Head, Body and Hotspot.

8.2.3 SAR Result of WCDMA Band II

WCDMA Band II SAR Test Record										
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	9400/1880	1:1	0.362	-0.12	18.90	20.00	1.288	0.466	22.3
Left tilted	RMC	9400/1880	1:1	0.422	0.08	18.90	20.00	1.288	0.544	22.3
Right cheek	RMC	9400/1880	1:1	0.730	0.08	18.90	20.00	1.288	0.940	22.3
Right cheek	RMC	9262/1852.4	1:1	0.894	-0.07	18.82	20.00	1.312	**1.173**	22.3
Right cheek	RMC	9538/1907.6	1:1	0.695	-0.02	18.81	20.00	1.315	0.914	22.3
Right tilted	RMC	9400/1880	1:1	0.559	0.14	18.90	20.00	1.288	0.720	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.438	-0.14	22.85	24.00	1.303	0.571	22.3
Back side	RMC	9400/1880	1:1	0.701	0.07	22.85	24.00	1.303	0.914	22.3
Back side	RMC	9262/1852.4	1:1	0.809	0.02	22.84	24.00	1.306	**1.057**	22.3
Back side	RMC	9538/1907.6	1:1	0.627	0.09	22.84	24.00	1.306	0.819	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.438	-0.14	22.85	24.00	1.303	0.571	22.3
Back side	RMC	9400/1880	1:1	0.701	0.07	22.85	24.00	1.303	0.914	22.3
Back side	RMC	9262/1852.4	1:1	0.809	0.02	22.84	24.00	1.306	1.057	22.3
Back side	RMC	9538/1907.6	1:1	0.627	0.09	22.84	24.00	1.306	0.819	22.3
Left side	RMC	9400/1880	1:1	0.248	-0.13	22.85	24.00	1.303	0.323	22.3
Top side	RMC	9400/1880	1:1	0.812	-0.18	22.85	24.00	1.303	1.058	22.3
Top side	RMC	9262/1852.4	1:1	0.901	0.14	22.84	24.00	1.306	**1.177**	22.3
Top side-repeated	RMC	9262/1852.4	1:1	0.896	0.01	22.84	24.00	1.306	1.170	22.3
Top side	RMC	9538/1907.6	1:1	0.642	-0.01	22.84	24.00	1.306	0.839	22.3
Ant 4 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	9400/1880	1:1	0.126	-0.17	24.16	25.00	1.213	0.153	22.3
Left tilted	RMC	9400/1880	1:1	0.091	-0.09	24.16	25.00	1.213	0.110	22.3
Right cheek	RMC	9400/1880	1:1	0.159	0.09	24.16	25.00	1.213	0.193	22.3
Right tilted	RMC	9400/1880	1:1	0.100	-0.12	24.16	25.00	1.213	0.121	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.298	-0.10	20.63	21.50	1.222	0.364	22.3
Back side	RMC	9400/1880	1:1	0.307	0.09	20.63	21.50	1.222	0.375	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.298	-0.10	20.63	21.50	1.222	0.364	22.3
Back side	RMC	9400/1880	1:1	0.307	0.09	20.63	21.50	1.222	0.375	22.3

Right side	RMC	9400/1880	1:1	0.108	0.04	20.63	21.50	1.222	0.132	22.3
Bottom side	RMC	9400/1880	1:1	0.663	-0.03	20.63	21.50	1.222	0.810	22.3
Bottom side	RMC	9262/1852.4	1:1	0.627	0.09	20.63	21.50	1.222	0.766	22.3
Bottom side	RMC	9538/1907.6	1:1	0.728	-0.01	20.63	21.50	1.222	0.889	22.3

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

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Top side	9262/1852.4	0.901	0.896	1.005580357	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						

8.2.4 SAR Result of WCDMA Band IV

WCDMA Band IV SAR Test Record										
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	1412/1732.4	1:1	0.285	0.02	15.84	16.50	1.164	0.332	22.4
Left tilted	RMC	1412/1732.4	1:1	0.323	0.00	15.84	16.50	1.164	0.376	22.4
Right cheek	RMC	1412/1732.4	1:1	0.538	-0.01	15.84	16.50	1.164	**0.626**	22.4
Right tilted	RMC	1412/1732.4	1:1	0.348	0.02	15.84	16.50	1.164	0.405	22.4
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.415	0.02	22.32	23.00	1.169	0.485	22.4
Back side	RMC	1412/1732.4	1:1	0.607	0.06	22.32	23.00	1.169	**0.710**	22.4
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.415	0.02	22.32	23.00	1.169	0.485	22.4
Back side	RMC	1412/1732.4	1:1	0.607	0.06	22.32	23.00	1.169	0.710	22.4
Left side	RMC	1412/1732.4	1:1	0.218	-0.17	22.32	23.00	1.169	0.255	22.4
Top side	RMC	1412/1732.4	1:1	0.699	0.03	22.32	23.00	1.169	0.817	22.4
Top side	RMC	1312/1712.4	1:1	0.749	-0.01	22.27	23.00	1.183	0.886	22.4
Top side	RMC	1513/1752.6	1:1	0.904	0.02	22.29	23.00	1.178	**1.065**	22.4
Top side-repeated	RMC	1513/1752.6	1:1	0.897	0.07	22.29	23.00	1.178	1.056	22.4
Ant 4 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	1412/1732.4	1:1	0.147	-0.18	24.33	25.00	1.167	0.172	22.4
Left tilted	RMC	1412/1732.4	1:1	0.076	0.07	24.33	25.00	1.167	0.089	22.4
Right cheek	RMC	1412/1732.4	1:1	0.151	0.04	24.33	25.00	1.167	0.176	22.4
Right tilted	RMC	1412/1732.4	1:1	0.072	-0.08	24.33	25.00	1.167	0.084	22.4
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.331	-0.10	20.77	21.50	1.183	0.392	22.4
Back side	RMC	1412/1732.4	1:1	0.356	-0.02	20.77	21.50	1.183	0.421	22.4
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.331	-0.10	20.77	21.50	1.183	0.392	22.4
Back side	RMC	1412/1732.4	1:1	0.356	-0.02	20.77	21.50	1.183	0.421	22.4
Right side	RMC	1412/1732.4	1:1	0.139	-0.06	20.77	21.50	1.183	0.164	22.4
Bottom side	RMC	1412/1732.4	1:1	0.705	-0.05	20.77	21.50	1.183	0.834	22.4
Bottom side	RMC	1312/1712.4	1:1	0.619	0.09	20.71	21.50	1.199	0.742	22.4
Bottom side	RMC	1513/1752.6	1:1	0.828	-0.08	20.68	21.50	1.208	1.000	22.4

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

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Top side	1513/1752.6	0.904	0.897	1.00780379	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						

8.2.5 SAR Result of WCDMA Band V

WCDMA Band V SAR Test Record										
Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	4182/836.4	1:1	0.126	0.14	23.96	25.00	1.271	0.160	22.3
Left tilted	RMC	4182/836.4	1:1	0.091	0.02	23.96	25.00	1.271	0.116	22.3
Right cheek	RMC	4182/836.4	1:1	0.159	-0.13	23.96	25.00	1.271	0.202	22.3
Right tilted	RMC	4182/836.4	1:1	0.100	-0.15	23.96	25.00	1.271	0.127	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.174	0.18	23.96	25.00	1.271	0.221	22.3
Back side	RMC	4182/836.4	1:1	0.240	0.05	23.96	25.00	1.271	**0.305**	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.174	0.18	23.96	25.00	1.271	0.221	22.3
Back side	RMC	4182/836.4	1:1	0.240	0.05	23.96	25.00	1.271	**0.305**	22.3
Left side	RMC	4182/836.4	1:1	0.139	-0.14	23.96	25.00	1.271	0.177	22.3
Bottom side	RMC	4182/836.4	1:1	0.153	-0.01	23.96	25.00	1.271	0.194	22.3
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data										
Left cheek	RMC	4182/836.4	1:1	0.146	-0.16	21.17	22.00	1.211	0.177	22.3
Left tilted	RMC	4182/836.4	1:1	0.130	-0.17	21.17	22.00	1.211	0.157	22.3
Right cheek	RMC	4182/836.4	1:1	0.232	-0.03	21.17	22.00	1.211	**0.281**	22.3
Right tilted	RMC	4182/836.4	1:1	0.220	0.14	21.17	22.00	1.211	0.266	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.080	0.01	22.64	23.50	1.219	0.098	22.3
Back side	RMC	4182/836.4	1:1	0.126	-0.03	22.64	23.50	1.219	0.154	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.080	0.01	22.64	23.50	1.219	0.098	22.3
Back side	RMC	4182/836.4	1:1	0.126	-0.03	22.64	23.50	1.219	0.154	22.3
Left side	RMC	4182/836.4	1:1	0.068	0.13	22.64	23.50	1.219	0.083	22.3
Top side	RMC	4182/836.4	1:1	0.083	0.13	22.64	23.50	1.219	0.101	22.3

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

8.2.6 SAR Result of LTE Band 2

LTE Band 2 SAR Test Record											
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	18900/1880	1:1	0.373	-0.10	19.12	20.00	1.225	0.457	22.3
Left tilted	20	QPSK 1_0	18900/1880	1:1	0.443	-0.01	19.12	20.00	1.225	0.543	22.3
Right cheek	20	QPSK 1_0	18900/1880	1:1	0.684	0.10	19.12	20.00	1.225	0.838	22.3
Right cheek	20	QPSK 1_0	18700/1860	1:1	0.940	-0.02	19.09	20.00	1.233	1.159	22.3
Right cheek	20	QPSK 1_0	19100/1900	1:1	0.747	0.04	19.02	20.00	1.253	0.936	22.3
Right tilted	20	QPSK 1_0	18900/1880	1:1	0.548	-0.01	19.12	20.00	1.225	0.671	22.3
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	18900/1880	1:1	0.330	0.11	19.01	20.00	1.256	0.414	22.3
Left tilted	20	QPSK 50_0	18900/1880	1:1	0.405	0.00	19.01	20.00	1.256	0.509	22.3
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.770	-0.14	19.01	20.00	1.256	0.967	22.3
Right cheek	20	QPSK 50_0	18700/1860	1:1	0.918	0.01	18.98	20.00	1.265	**1.161**	22.3
Right cheek	20	QPSK 50_0	19100/1900	1:1	0.757	-0.03	19.01	20.00	1.256	0.951	22.3
Right tilted	20	QPSK 50_0	18900/1880	1:1	0.514	0.05	19.01	20.00	1.256	0.646	22.3
Head Test Data(50%RB)											
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.762	-0.05	18.96	20.00	1.271	0.968	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.410	-0.09	22.93	24.00	1.279	0.525	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.622	-0.05	22.93	24.00	1.279	**0.796**	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.336	0.13	21.89	23.00	1.291	0.434	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.487	-0.09	21.89	23.00	1.291	0.629	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.410	-0.09	22.93	24.00	1.279	0.525	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.622	-0.05	22.93	24.00	1.279	0.796	22.3
Left side	20	QPSK 1_0	18900/1880	1:1	0.269	-0.01	22.93	24.00	1.279	0.344	22.3
Top side	20	QPSK 1_0	18900/1880	1:1	0.763	0.09	22.93	24.00	1.279	0.976	22.3
Top side	20	QPSK 1_0	18700/1860	1:1	0.783	0.04	22.80	24.00	1.318	**1.032**	22.3
Top side	20	QPSK 1_0	19100/1900	1:1	0.758	0.12	22.71	24.00	1.346	1.020	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.336	0.13	21.89	23.00	1.291	0.434	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.487	-0.09	21.89	23.00	1.291	0.629	22.3
Left side	20	QPSK 50_0	18900/1880	1:1	0.228	-0.09	21.89	23.00	1.291	0.294	22.3
Top side	20	QPSK 50_0	18900/1880	1:1	0.602	-0.07	21.89	23.00	1.291	0.777	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Top side	20	QPSK 100_0	18900/1880	1:1	0.615	-0.04	21.80	23.00	1.318	0.811	22.3

Ant 4 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	18900/1880	1:1	0.117	-0.17	23.56	24.50	1.242	0.145	22.3
Left tilted	20	QPSK 1_0	18900/1880	1:1	0.046	0.08	23.56	24.50	1.242	0.057	22.3
Right cheek	20	QPSK 1_0	18900/1880	1:1	0.120	0.18	23.56	24.50	1.242	0.149	22.3
Right tilted	20	QPSK 1_0	18900/1880	1:1	0.050	-0.17	23.56	24.50	1.242	0.062	22.3
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	18900/1880	1:1	0.121	0.15	22.52	23.50	1.253	0.152	22.3
Left tilted	20	QPSK 50_0	18900/1880	1:1	0.049	0.15	22.52	23.50	1.253	0.061	22.3
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.126	0.01	22.52	23.50	1.253	0.158	22.3
Right tilted	20	QPSK 50_0	18900/1880	1:1	0.055	-0.09	22.52	23.50	1.253	0.069	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.228	0.02	20.18	21.00	1.208	0.275	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.230	0.05	20.18	21.00	1.208	0.278	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.230	0.08	20.05	21.00	1.245	0.286	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.236	-0.15	20.05	21.00	1.245	0.294	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.228	0.02	20.18	21.00	1.208	0.275	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.230	0.05	20.18	21.00	1.208	0.278	22.3
Right side	20	QPSK 1_0	18900/1880	1:1	0.083	0.06	20.18	21.00	1.208	0.100	22.3
Bottom side	20	QPSK 1_0	18900/1880	1:1	0.488	-0.04	20.18	21.00	1.208	0.589	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.230	0.08	20.05	21.00	1.245	0.286	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.236	-0.15	20.05	21.00	1.245	0.294	22.3
Right side	20	QPSK 50_0	18900/1880	1:1	0.080	0.08	20.05	21.00	1.245	0.100	22.3
Bottom side	20	QPSK 50_0	18900/1880	1:1	0.401	-0.15	20.05	21.00	1.245	0.499	22.3

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

8.2.7 SAR Result of LTE Band 7

LTE Band 7 SAR Test Record											
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	21100/2535	1:1	0.298	-0.02	13.71	14.20	1.119	0.334	22.4
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.392	-0.15	13.71	14.20	1.119	0.439	22.4
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.685	-0.05	13.71	14.20	1.119	0.767	22.4
Right cheek	20	QPSK 1_0	20850/2510	1:1	0.710	0.04	13.55	14.20	1.161	0.825	22.4
Right cheek	20	QPSK 1_0	20850/2535	1:1	0.685	0.01	13.44	14.20	1.191	0.816	22.4
		QPSK 1_99	21408/2529.8								
Right cheek	20	QPSK 1_0	21350/2560	1:1	0.645	-0.01	13.56	14.20	1.159	0.747	22.4
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.621	-0.03	13.71	14.20	1.119	0.695	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.244	0.01	13.56	14.20	1.159	0.283	22.4
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.305	0.19	13.56	14.20	1.159	0.353	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.658	0.16	13.56	14.20	1.159	0.762	22.4
Right cheek	20	QPSK 50_0	20850/2510	1:1	0.691	-0.15	13.55	14.20	1.161	0.803	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.623	0.15	13.55	14.20	1.161	0.724	22.4
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.627	-0.01	13.56	14.20	1.159	0.727	22.4
Head Test Data(100%RB)											
Right cheek	20	QPSK 100_0	21100/2535	1:1	0.645	0.15	13.51	14.20	1.172	0.756	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.243	0.07	18.18	18.70	1.127	0.274	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.429	-0.05	18.18	18.70	1.127	**0.484**	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.407	0.03	18.06	18.70	1.159	0.472	22.4
		QPSK 1_99	20902/2573.2								
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.226	0.13	18.15	18.70	1.135	0.257	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.419	0.08	18.15	18.70	1.135	0.476	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.243	0.07	18.18	18.70	1.127	0.274	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.429	-0.05	18.18	18.70	1.127	0.484	22.4
Left side	20	QPSK 1_0	21100/2535	1:1	0.062	0.15	18.18	18.70	1.127	0.070	22.4
Top side	20	QPSK 1_0	21100/2535	1:1	0.512	-0.02	18.18	18.70	1.127	**0.577**	22.4
Top side	20	QPSK 1_0	21100/2535	1:1	0.492	0.09	18.06	18.70	1.159	0.570	22.4
		QPSK 1_99	20902/2573.2								
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.226	0.13	18.15	18.70	1.135	0.257	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.419	0.08	18.15	18.70	1.135	0.476	22.4

Left side	20	QPSK 50_0	21100/2535	1:1	0.061	0.11	18.15	18.70	1.135	0.069	22.4
Top side	20	QPSK 50_0	21100/2535	1:1	0.506	0.05	18.15	18.70	1.135	0.574	22.4
Ant 4 Test Record											
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	21100/2535	1:1	0.177	-0.15	22.97	24.20	1.327	0.235	22.4
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.114	0.15	22.97	24.20	1.327	0.151	22.4
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.263	-0.13	22.97	24.20	1.327	0.349	22.4
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.165	-0.08	22.97	24.20	1.327	0.219	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.182	0.12	21.94	23.20	1.337	0.243	22.4
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.125	-0.15	21.94	23.20	1.337	0.167	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.279	-0.06	21.94	23.20	1.337	0.373	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.265	0.04	21.85	23.20	1.365	0.362	22.4
		QPSK 50_49	20902/2573.2								
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.188	-0.06	21.94	23.20	1.337	0.251	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.139	0.01	18.42	19.70	1.343	0.187	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.156	0.04	18.42	19.70	1.343	0.209	22.4
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.141	0.03	18.41	19.70	1.346	0.190	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.157	-0.07	18.41	19.70	1.346	0.211	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.151	0.07	18.37	19.70	1.358	0.205	22.4
		QPSK 50_49	20902/2573.2								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.139	0.01	18.42	19.70	1.343	0.187	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.156	0.04	18.42	19.70	1.343	0.209	22.4
Right side	20	QPSK 1_0	21100/2535	1:1	0.153	0.07	18.42	19.70	1.343	0.205	22.4
Bottom side	20	QPSK 1_0	21100/2535	1:1	0.255	0.17	18.42	19.70	1.343	0.342	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.141	0.03	18.41	19.70	1.346	0.190	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.157	-0.07	18.41	19.70	1.346	0.211	22.4
Right side	20	QPSK 50_0	21100/2535	1:1	0.029	0.06	18.41	19.70	1.346	0.039	22.4
Bottom side	20	QPSK 50_0	21100/2535	1:1	0.270	0.16	18.41	19.70	1.346	0.363	22.4
Bottom side	20	QPSK 50_0	21100/2535	1:1	0.258	0.03	18.37	19.70	1.358	0.350	22.4
		QPSK 50_49	20902/2573.2								
Ant 5 Test Record											
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data(1RB)											

Left cheek	20	QPSK 1_0	21100/2535	1:1	0.342	-0.19	18.68	19.70	1.265	0.433	22.4
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.054	0.02	18.68	19.70	1.265	0.068	22.4
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.629	0.15	18.68	19.70	1.265	0.796	22.4
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.072	-0.03	18.68	19.70	1.265	0.091	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.466	0.10	18.62	19.70	1.282	0.598	22.4
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.058	-0.18	18.62	19.70	1.282	0.074	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.675	-0.08	18.62	19.70	1.282	**0.87**	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.645	0.13	18.55	19.70	1.303	0.841	22.4
		QPSK 50_49	20902/2573.2								
Right cheek	20	QPSK 50_0	20850/2510	1:1	0.554	-0.05	18.61	19.70	1.285	0.712	22.4
Right cheek	20	QPSK 50_0	21350/2560	1:1	0.532	-0.14	18.58	19.70	1.294	0.689	22.4
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.069	0.03	18.62	19.70	1.282	0.088	22.4
Head Test Data(100%RB)											
Right cheek	20	QPSK 100_0	21100/2535	1:1	0.539	-0.08	18.67	19.70	1.268	0.683	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.095	0.15	17.69	18.70	1.262	0.120	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.112	0.17	17.69	18.70	1.262	0.141	22.4
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.108	-0.15	17.68	18.70	1.265	0.137	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.114	0.15	17.68	18.70	1.265	0.144	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.114	0.15	17.68	18.70	1.265	0.144	22.4
		QPSK 50_49	20902/2573.2								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.095	0.15	17.69	18.70	1.262	0.120	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.112	0.17	17.69	18.70	1.262	0.141	22.4
Left side	20	QPSK 1_0	21100/2535	1:1	0.279	0.10	17.69	18.70	1.262	0.352	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.108	-0.15	17.68	18.70	1.265	0.137	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.114	0.15	17.68	18.70	1.265	0.144	22.4
Left side	20	QPSK 50_0	21100/2535	1:1	0.284	0.11	17.68	18.70	1.265	0.359	22.4
Left side	20	QPSK 50_0	21100/2535	1:1	0.269	-0.04	17.62	18.70	1.282	0.345	22.4
		QPSK 50_49	20902/2573.2								

Table 17：SAR of LTE Band 7 for Head, Body and Hotspot.

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	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23095/707.5	1:1	0.126	0.12	23.87	25.00	1.297	0.163	22.3
Left tilted	10	QPSK 1_0	23095/707.5	1:1	0.055	0.19	23.87	25.00	1.297	0.071	22.3
Right cheek	10	QPSK 1_0	23095/707.5	1:1	0.155	-0.12	23.87	25.00	1.297	0.201	22.3
Right tilted	10	QPSK 1_0	23095/707.5	1:1	0.063	-0.07	23.87	25.00	1.297	0.082	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23095/707.5	1:1	0.119	0.03	22.76	24.00	1.330	0.158	22.3
Left tilted	10	QPSK 25_0	23095/707.5	1:1	0.047	-0.17	22.76	24.00	1.330	0.063	22.3
Right cheek	10	QPSK 25_0	23095/707.5	1:1	0.162	-0.11	22.76	24.00	1.330	0.216	22.3
Right tilted	10	QPSK 25_0	23095/707.5	1:1	0.071	-0.03	22.76	24.00	1.330	0.094	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.104	-0.13	23.87	25.00	1.297	0.135	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.127	-0.02	23.87	25.00	1.297	**0.165**	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.084	-0.05	22.76	24.00	1.330	0.112	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.105	-0.07	22.76	24.00	1.330	0.140	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.104	-0.13	23.87	25.00	1.297	0.135	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.127	-0.02	23.87	25.00	1.297	**0.165**	22.3
Left side	10	QPSK 1_0	23095/707.5	1:1	0.125	0.19	23.87	25.00	1.297	0.162	22.3
Bottom side	10	QPSK 1_0	23095/707.5	1:1	0.060	0.11	23.87	25.00	1.297	0.078	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.084	-0.05	22.76	24.00	1.330	0.112	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.105	-0.07	22.76	24.00	1.330	0.140	22.3
Left side	10	QPSK 25_0	23095/707.5	1:1	0.099	-0.12	22.76	24.00	1.330	0.132	22.3
Bottom side	10	QPSK 25_0	23095/707.5	1:1	0.053	-0.19	22.76	24.00	1.330	0.071	22.3
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23095/707.5	1:1	0.162	0.02	23.70	24.50	1.202	0.195	22.3
Left tilted	10	QPSK 1_0	23095/707.5	1:1	0.148	0.10	23.70	24.50	1.202	0.178	22.3
Right cheek	10	QPSK 1_0	23095/707.5	1:1	0.356	-0.17	23.70	24.50	1.202	**0.428**	22.3
Right tilted	10	QPSK 1_0	23095/707.5	1:1	0.260	0.06	23.70	24.50	1.202	0.313	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23095/707.5	1:1	0.121	0.07	22.68	23.50	1.208	0.146	22.3

Left tilted	10	QPSK 25_0	23095/707.5	1:1	0.117	-0.13	22.68	23.50	1.208	0.141	22.3
Right cheek	10	QPSK 25_0	23095/707.5	1:1	0.283	0.18	22.68	23.50	1.208	0.342	22.3
Right tilted	10	QPSK 25_0	23095/707.5	1:1	0.210	-0.06	22.68	23.50	1.208	0.254	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.083	0.15	23.70	24.50	1.202	0.100	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.135	-0.04	23.70	24.50	1.202	0.162	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.070	0.12	22.68	23.50	1.208	0.085	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.114	0.02	22.68	23.50	1.208	0.138	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.083	0.15	23.70	24.50	1.202	0.100	22.3
Back side	10	QPSK 1_0	23095/707.5	1:1	0.135	-0.04	23.70	24.50	1.202	0.162	22.3
Left side	10	QPSK 1_0	23095/707.5	1:1	0.132	0.13	23.70	24.50	1.202	0.159	22.3
Top side	10	QPSK 1_0	23095/707.5	1:1	0.085	-0.16	23.70	24.50	1.202	0.102	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.070	0.12	22.68	23.50	1.208	0.085	22.3
Back side	10	QPSK 25_0	23095/707.5	1:1	0.114	0.02	22.68	23.50	1.208	0.138	22.3
Left side	10	QPSK 25_0	23095/707.5	1:1	0.120	-0.01	22.68	23.50	1.208	0.145	22.3
Top side	10	QPSK 25_0	23095/707.5	1:1	0.071	0.14	22.68	23.50	1.208	0.086	22.3

Table 18：SAR of LTE Band 12 for Head, Body and Hotspot is covering LTE Band 17.

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	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23230/782	1:1	0.137	-0.16	23.77	25.00	1.327	0.182	22.3
Left tilted	10	QPSK 1_0	23230/782	1:1	0.065	-0.07	23.77	25.00	1.327	0.086	22.3
Right cheek	10	QPSK 1_0	23230/782	1:1	0.184	-0.11	23.77	25.00	1.327	0.244	22.3
Right tilted	10	QPSK 1_0	23230/782	1:1	0.077	0.01	23.77	25.00	1.327	0.102	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23230/782	1:1	0.141	-0.06	22.60	24.00	1.380	0.195	22.3
Left tilted	10	QPSK 25_0	23230/782	1:1	0.067	0.11	22.60	24.00	1.380	0.092	22.3
Right cheek	10	QPSK 25_0	23230/782	1:1	0.190	0.16	22.60	24.00	1.380	0.262	22.3
Right tilted	10	QPSK 25_0	23230/782	1:1	0.084	0.14	22.60	24.00	1.380	0.116	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.128	-0.15	23.77	25.00	1.327	0.170	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.187	0.04	23.77	25.00	1.327	**0.248**	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.106	0.01	22.60	24.00	1.380	0.146	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.127	-0.18	22.60	24.00	1.380	0.175	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.128	-0.15	23.77	25.00	1.327	0.170	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.187	0.04	23.77	25.00	1.327	**0.248**	22.3
Left side	10	QPSK 1_0	23230/782	1:1	0.147	0.08	23.77	25.00	1.327	0.195	22.3
Bottom side	10	QPSK 1_0	23230/782	1:1	0.098	0.18	23.77	25.00	1.327	0.130	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.106	0.01	22.60	24.00	1.380	0.146	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.127	-0.18	22.60	24.00	1.380	0.175	22.3
Left side	10	QPSK 25_0	23230/782	1:1	0.115	0.14	22.60	24.00	1.380	0.159	22.3
Bottom side	10	QPSK 25_0	23230/782	1:1	0.080	-0.15	22.60	24.00	1.380	0.110	22.3
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	10	QPSK 1_0	23230/782	1:1	0.157	-0.08	23.54	24.50	1.247	0.196	22.3
Left tilted	10	QPSK 1_0	23230/782	1:1	0.145	-0.04	23.54	24.50	1.247	0.181	22.3
Right cheek	10	QPSK 1_0	23230/782	1:1	0.266	0.02	23.54	24.50	1.247	**0.332**	22.3
Right tilted	10	QPSK 1_0	23230/782	1:1	0.243	0.09	23.54	24.50	1.247	0.303	22.3
Head Test Data(50%RB)											
Left cheek	10	QPSK 25_0	23230/782	1:1	0.107	-0.16	22.58	23.50	1.236	0.132	22.3

Left tilted	10	QPSK 25_0	23230/782	1:1	0.106	0.05	22.58	23.50	1.236	0.131	22.3
Right cheek	10	QPSK 25_0	23230/782	1:1	0.237	0.09	22.58	23.50	1.236	0.293	22.3
Right tilted	10	QPSK 25_0	23230/782	1:1	0.180	-0.07	22.58	23.50	1.236	0.222	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.064	-0.13	23.54	24.50	1.247	0.080	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.105	0.15	23.54	24.50	1.247	0.131	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.052	-0.15	22.58	23.50	1.236	0.064	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.080	0.01	22.58	23.50	1.236	0.099	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.064	-0.13	23.54	24.50	1.247	0.080	22.3
Back side	10	QPSK 1_0	23230/782	1:1	0.105	0.15	23.54	24.50	1.247	0.131	22.3
Left side	10	QPSK 1_0	23230/782	1:1	0.090	0.06	23.54	24.50	1.247	0.112	22.3
Top side	10	QPSK 1_0	23230/782	1:1	0.068	0.19	23.54	24.50	1.247	0.085	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.052	-0.15	22.58	23.50	1.236	0.064	22.3
Back side	10	QPSK 25_0	23230/782	1:1	0.080	0.01	22.58	23.50	1.236	0.099	22.3
Left side	10	QPSK 25_0	23230/782	1:1	0.073	0.08	22.58	23.50	1.236	0.090	22.3
Top side	10	QPSK 25_0	23230/782	1:1	0.054	-0.04	22.58	23.50	1.236	0.067	22.3

Table 19：SAR of LTE Band 13 for Head, Body and Hotspot.

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	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	15	QPSK 1_0	26865/831.5	1:1	0.165	0.03	23.07	24.50	1.390	0.229	22.3
Left tilted	15	QPSK 1_0	26865/831.5	1:1	0.063	0.13	23.07	24.50	1.390	0.088	22.3
Right cheek	15	QPSK 1_0	26865/831.5	1:1	0.235	0.00	23.07	24.50	1.390	0.327	22.3
Right tilted	15	QPSK 1_0	26865/831.5	1:1	0.097	-0.07	23.07	24.50	1.390	0.135	22.3
Head Test Data(50%RB)											
Left cheek	15	QPSK 36_0	26865/831.5	1:1	0.159	0.09	21.99	23.50	1.416	0.225	22.3
Left tilted	15	QPSK 36_0	26865/831.5	1:1	0.054	0.17	21.99	23.50	1.416	0.076	22.3
Right cheek	15	QPSK 36_0	26865/831.5	1:1	0.201	0.03	21.99	23.50	1.416	0.285	22.3
Right tilted	15	QPSK 36_0	26865/831.5	1:1	0.093	-0.10	21.99	23.50	1.416	0.132	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.156	0.17	23.07	24.50	1.390	0.217	22.3
Back side	15	QPSK 1_0	26865/831.5	1:1	0.172	0.01	23.07	24.50	1.390	**0.239**	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.094	-0.09	21.99	23.50	1.416	0.133	22.3
Back side	15	QPSK 36_0	26865/831.5	1:1	0.119	-0.14	21.99	23.50	1.416	0.168	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.156	0.17	23.07	24.50	1.390	0.217	22.3
Back side	15	QPSK 1_0	26865/831.5	1:1	0.172	0.01	23.07	24.50	1.390	**0.239**	22.3
Left side	15	QPSK 1_0	26865/831.5	1:1	0.159	-0.02	23.07	24.50	1.390	0.221	22.3
Bottom side	15	QPSK 1_0	26865/831.5	1:1	0.091	-0.02	23.07	24.50	1.390	0.126	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.094	-0.09	21.99	23.50	1.416	0.133	22.3
Back side	15	QPSK 36_0	26865/831.5	1:1	0.119	-0.14	21.99	23.50	1.416	0.168	22.3
Left side	15	QPSK 36_0	26865/831.5	1:1	0.145	0.06	21.99	23.50	1.416	0.205	22.3
Bottom side	15	QPSK 36_0	26865/831.5	1:1	0.068	0.05	21.99	23.50	1.416	0.096	22.3
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	15	QPSK 1_0	26865/831.5	1:1	0.196	-0.06	23.38	24.00	1.153	0.226	22.3
Left tilted	15	QPSK 1_0	26865/831.5	1:1	0.177	0.03	23.38	24.00	1.153	0.204	22.3
Right cheek	15	QPSK 1_0	26865/831.5	1:1	0.365	0.07	23.38	24.00	1.153	**0.421**	22.3
Right tilted	15	QPSK 1_0	26865/831.5	1:1	0.292	-0.08	23.38	24.00	1.153	0.337	22.3
Head Test Data(50%RB)											
Left cheek	15	QPSK 36_0	26865/831.5	1:1	0.134	0.14	22.33	23.00	1.167	0.156	22.3

Left tilted	15	QPSK 36_0	26865/831.5	1:1	0.125	-0.17	22.33	23.00	1.167	0.146	22.3
Right cheek	15	QPSK 36_0	26865/831.5	1:1	0.276	-0.14	22.33	23.00	1.167	0.322	22.3
Right tilted	15	QPSK 36_0	26865/831.5	1:1	0.223	-0.06	22.33	23.00	1.167	0.260	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.092	-0.03	23.38	24.00	1.153	0.106	22.3
Back side	15	QPSK 1_0	26865/831.5	1:1	0.155	-0.07	23.38	24.00	1.153	0.179	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.073	0.01	22.33	23.00	1.167	0.085	22.3
Back side	15	QPSK 36_0	26865/831.5	1:1	0.117	-0.05	22.33	23.00	1.167	0.137	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.092	-0.03	23.38	24.00	1.153	0.106	22.3
Back side	15	QPSK 1_0	26865/831.5	1:1	0.155	-0.07	23.38	24.00	1.153	0.179	22.3
Left side	15	QPSK 1_0	26865/831.5	1:1	0.080	0.04	23.38	24.00	1.153	0.092	22.3
Top side	15	QPSK 1_0	26865/831.5	1:1	0.095	0.04	23.38	24.00	1.153	0.110	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.073	0.01	22.33	23.00	1.167	0.085	22.3
Back side	15	QPSK 36_0	26865/831.5	1:1	0.117	-0.05	22.33	23.00	1.167	0.137	22.3
Left side	15	QPSK 36_0	26865/831.5	1:1	0.068	0.08	22.33	23.00	1.167	0.079	22.3
Top side	15	QPSK 36_0	26865/831.5	1:1	0.074	0.12	22.33	23.00	1.167	0.086	22.3

Table 20：SAR of LTE Band 26 for Head, Body and Hotspot is covering LTE Band 5.

8.2.11 SAR Result of LTE Band 41

LTE Band 41 SAR Test Record											
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	39750/2506	1:1.58	0.224	0.11	16.39	16.50	1.026	0.230	22.4
Left tilted	20	QPSK 1_0	39750/2506	1:1.58	0.284	0.17	16.39	16.50	1.026	0.291	22.4
Right cheek	20	QPSK 1_0	39750/2506	1:1.58	0.499	0.05	16.39	16.50	1.026	**0.512**	22.4
Right cheek	20	QPSK 1_99	39750/2506	1:1.58	0.485	0.01	16.33	16.50	1.040	0.504	22.4
		QPSK 1_0	39948/2525.8								
Right tilted	20	QPSK 1_0	39750/2506	1:1.58	0.496	-0.07	16.39	16.50	1.026	0.509	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	39750/2506	1:1.58	0.176	-0.11	16.29	16.50	1.050	0.185	22.4
Left tilted	20	QPSK 50_0	39750/2506	1:1.58	0.242	0.04	16.29	16.50	1.050	0.254	22.4
Right cheek	20	QPSK 50_0	39750/2506	1:1.58	0.486	0.07	16.29	16.50	1.050	0.510	22.4
Right tilted	20	QPSK 50_0	39750/2506	1:1.58	0.448	0.04	16.29	16.50	1.050	0.470	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	39750/2506	1:1.58	0.143	0.18	20.30	20.50	1.047	0.150	22.4
Back side	20	QPSK 1_0	39750/2506	1:1.58	0.280	-0.06	20.30	20.50	1.047	**0.293**	22.4
Back side	20	QPSK 1_99	39750/2506	1:1.58	0.277	0.04	20.28	20.50	1.052	0.291	22.4
		QPSK 1_0	39948/2525.8								
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	39750/2506	1:1.58	0.133	-0.04	20.22	20.50	1.067	0.142	22.4
Back side	20	QPSK 50_0	39750/2506	1:1.58	0.272	0.04	20.22	20.50	1.067	0.290	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	39750/2506	1:1.58	0.143	0.18	20.30	20.50	1.047	0.150	22.4
Back side	20	QPSK 1_0	39750/2506	1:1.58	0.280	-0.06	20.30	20.50	1.047	0.293	22.4
Left side	20	QPSK 1_0	39750/2506	1:1.58	0.049	-0.05	20.30	20.50	1.047	0.051	22.4
Top side	20	QPSK 1_0	39750/2506	1:1.58	0.440	-0.03	20.30	20.50	1.047	**0.461**	22.4
Top side	20	QPSK 1_99	39750/2506	1:1.58	0.435	0.07	20.28	20.50	1.052	0.458	22.4
		QPSK 1_0	39948/2525.8								
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	39750/2506	1:1.58	0.133	-0.04	20.22	20.50	1.067	0.142	22.4
Back side	20	QPSK 50_0	39750/2506	1:1.58	0.272	0.04	20.22	20.50	1.067	0.290	22.4
Left side	20	QPSK 50_0	39750/2506	1:1.58	0.046	-0.07	20.22	20.50	1.067	0.049	22.4
Top side	20	QPSK 50_0	39750/2506	1:1.58	0.425	0.12	20.22	20.50	1.067	0.453	22.4
Ant 4 Test Record											

Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	40620/2593	1:1.58	0.112	0.09	23.36	24.50	1.300	0.146	22.4
Left tilted	20	QPSK 1_0	40620/2593	1:1.58	0.068	-0.05	23.36	24.50	1.300	0.088	22.4
Right cheek	20	QPSK 1_0	40620/2593	1:1.58	0.143	-0.17	23.36	24.50	1.300	0.186	22.4
Right cheek	20	QPSK 1_0	40620/2593	1:1.58	0.139	0.04	23.31	24.50	1.315	0.183	22.4
		QPSK 1_99	40422/2573.2								
Right tilted	20	QPSK 1_0	40620/2593	1:1.58	0.085	-0.19	23.36	24.50	1.300	0.111	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	40620/2593	1:1.58	0.089	0.17	22.33	23.50	1.309	0.117	22.4
Left tilted	20	QPSK 50_0	40620/2593	1:1.58	0.041	-0.19	22.33	23.50	1.309	0.054	22.4
Right cheek	20	QPSK 50_0	40620/2593	1:1.58	0.092	0.15	22.33	23.50	1.309	0.120	22.4
Right tilted	20	QPSK 50_0	40620/2593	1:1.58	0.053	-0.13	22.33	23.50	1.309	0.069	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.191	0.12	20.83	22.00	1.309	0.250	22.4
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.204	-0.06	20.83	22.00	1.309	0.267	22.4
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.190	0.11	20.79	22.00	1.321	0.251	22.4
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.206	0.12	20.79	22.00	1.321	0.272	22.4
Right cheek	20	QPSK 1_0	40620/2593	1:1.58	0.194	0.02	20.67	22.00	1.358	0.264	22.4
		QPSK 1_99	40422/2573.2								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.191	0.12	20.83	22.00	1.309	0.250	22.4
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.204	-0.06	20.83	22.00	1.309	0.267	22.4
Right side	20	QPSK 1_0	40620/2593	1:1.58	0.104	-0.19	20.83	22.00	1.309	0.136	22.4
Bottom side	20	QPSK 1_0	40620/2593	1:1.58	0.348	0.18	20.83	22.00	1.309	0.456	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.190	0.11	20.79	22.00	1.321	0.251	22.4
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.206	0.12	20.79	22.00	1.321	0.272	22.4
Right side	20	QPSK 50_0	40620/2593	1:1.58	0.095	-0.09	20.79	22.00	1.321	0.126	22.4
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.346	-0.08	20.79	22.00	1.321	0.457	22.4
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.334	0.07	20.67	22.00	1.358	0.454	22.4
		QPSK 50_49	40422/2573.2								
Ant 5 Test Record											
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**

Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	39750/2506	1:1.58	0.190	0.14	22.41	22.50	1.021	0.194	22.4
Left tilted	20	QPSK 1_0	39750/2506	1:1.58	0.022	0.08	22.41	22.50	1.021	0.022	22.4
Right cheek	20	QPSK 1_0	39750/2506	1:1.58	0.344	-0.13	22.41	22.50	1.021	0.351	22.4
Right cheek	20	QPSK 1_99	39750/2506	1:1.58	0.326	0.09	22.37	22.50	1.030	0.336	22.4
		QPSK 1_0	39948/2525.8								
Right tilted	20	QPSK 1_0	39750/2506	1:1.58	0.041	-0.06	22.41	22.50	1.021	0.042	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	39750/2506	1:1.58	0.155	0.18	21.36	21.50	1.033	0.160	22.4
Left tilted	20	QPSK 50_0	39750/2506	1:1.58	0.018	0.12	21.36	21.50	1.033	0.019	22.4
Right cheek	20	QPSK 50_0	39750/2506	1:1.58	0.226	0.07	21.36	21.50	1.033	0.233	22.4
Right tilted	20	QPSK 50_0	39750/2506	1:1.58	0.037	-0.09	21.36	21.50	1.033	0.038	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	39750/2506	1:1.58	0.103	0.17	22.41	22.50	1.021	0.105	22.4
Back side	20	QPSK 1_0	39750/2506	1:1.58	0.139	-0.10	22.41	22.50	1.021	0.142	22.4
Back side	20	QPSK 1_99	39750/2506	1:1.58	0.135	0.03	22.37	22.50	1.030	0.139	22.4
		QPSK 1_0	39948/2525.8								
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	39750/2506	1:1.58	0.095	0.05	21.36	21.50	1.033	0.098	22.4
Back side	20	QPSK 50_0	39750/2506	1:1.58	0.128	-0.18	21.36	21.50	1.033	0.132	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	39750/2506	1:1.58	0.103	0.17	22.41	22.50	1.021	0.105	22.4
Back side	20	QPSK 1_0	39750/2506	1:1.58	0.139	-0.10	22.41	22.50	1.021	0.142	22.4
Left side	20	QPSK 1_0	39750/2506	1:1.58	0.295	0.05	22.41	22.50	1.021	0.301	22.4
Left side-UL CA-41C	20	QPSK 1_99	39750/2506	1:1.58	0.284	0.09	22.37	22.50	1.030	0.293	22.4
		QPSK 1_0	39948/2525.8								
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	39750/2506	1:1.58	0.095	0.05	21.36	21.50	1.033	0.098	22.4
Back side	20	QPSK 50_0	39750/2506	1:1.58	0.128	-0.18	21.36	21.50	1.033	0.132	22.4
Left side	20	QPSK 50_0	39750/2506	1:1.58	0.274	0.04	21.36	21.50	1.033	0.283	22.4

Table 21：SAR of LTE Band 41 for Head, Body and Hotspot is covering LTE Band 38.

8.2.12 SAR Result of LTE Band 66

LTE Band 66 SAR Test Record											
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	132322/1745	1:1	0.335	0.18	15.88	17.00	1.294	0.434	22.4
Left tilted	20	QPSK 1_0	132322/1745	1:1	0.365	-0.09	15.88	17.00	1.294	0.472	22.4
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.559	0.12	15.88	17.00	1.294	0.723	22.4
Right tilted	20	QPSK 1_0	132322/1745	1:1	0.394	0.07	15.88	17.00	1.294	0.510	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	132322/1745	1:1	0.340	0.08	15.86	17.00	1.300	0.442	22.4
Left tilted	20	QPSK 50_0	132322/1745	1:1	0.378	-0.04	15.86	17.00	1.300	0.491	22.4
Right cheek	20	QPSK 50_0	132322/1745	1:1	0.571	-0.06	15.86	17.00	1.300	**0.742**	22.4
Right cheek	20	QPSK 50_0	132322/1745	1:1	0.544	0.02	15.78	17.00	1.324	0.720	22.4
		QPSK 50_49	132124/1725.2								
Right tilted	20	QPSK 50_0	132322/1745	1:1	0.393	-0.18	15.86	17.00	1.300	0.511	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.369	-0.16	21.99	23.00	1.262	0.466	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.517	0.03	21.99	23.00	1.262	**0.652**	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.511	0.07	21.98	23.00	1.265	0.646	22.4
		QPSK 1_99	132124/1725.2								
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.353	0.06	21.96	23.00	1.271	0.449	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.507	-0.15	21.96	23.00	1.271	0.644	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.369	-0.16	21.99	23.00	1.262	0.466	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.517	0.03	21.99	23.00	1.262	0.652	22.4
Left side	20	QPSK 1_0	132322/1745	1:1	0.228	0.18	21.99	23.00	1.262	0.288	22.4
Top side	20	QPSK 1_0	132322/1745	1:1	0.648	0.19	21.99	23.00	1.262	0.818	22.4
Top side	20	QPSK 1_0	132072/1720	1:1	0.534	-0.19	21.89	23.00	1.291	0.690	22.4
Top side	20	QPSK 1_0	132572/1770	1:1	0.755	0.19	21.77	23.00	1.327	1.002	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.353	0.06	21.96	23.00	1.271	0.449	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.507	-0.15	21.96	23.00	1.271	0.644	22.4
Left side	20	QPSK 50_0	132322/1745	1:1	0.218	0.18	21.96	23.00	1.271	0.277	22.4
Top side	20	QPSK 50_0	132322/1745	1:1	0.643	0.05	21.96	23.00	1.271	0.817	22.4
Top side	20	QPSK 50_0	132072/1720	1:1	0.531	-0.01	21.86	23.00	1.300	0.690	22.4
Top side	20	QPSK 50_0	132572/1770	1:1	0.765	0.02	21.69	23.00	1.352	**1.034**	22.4
Top side	20	QPSK 50_0	132572/1770	1:1	0.744	-0.02	21.60	23.00	1.380	1.027	22.4
		QPSK 50_49	132374/1750.2								

Hotspot Test data(Separate 10mm 50%RB)											
Top side	20	QPSK 100_0	132322/1745	1:1	0.683	0.18	21.89	23.00	1.291	0.882	22.4
Ant 4 Test Record											
Test position	**BW.**	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	132322/1745	1:1	0.139	0.06	24.35	25.00	1.161	0.161	22.4
Left tilted	20	QPSK 1_0	132322/1745	1:1	0.058	0.09	24.35	25.00	1.161	0.067	22.4
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.135	-0.13	24.35	25.00	1.161	0.157	22.4
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.130	0.09	24.24	25.00	1.191	0.155	22.4
		QPSK 1_99	132124/1725.2								
Right tilted	20	QPSK 1_0	132322/1745	1:1	0.054	0.05	24.35	25.00	1.161	0.063	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	132322/1745	1:1	0.130	0.13	23.29	24.00	1.178	0.153	22.4
Left tilted	20	QPSK 50_0	132322/1745	1:1	0.060	-0.16	23.29	24.00	1.178	0.071	22.4
Right cheek	20	QPSK 50_0	132322/1745	1:1	0.124	0.00	23.29	24.00	1.178	0.146	22.4
Right tilted	20	QPSK 50_0	132322/1745	1:1	0.067	-0.02	23.29	24.00	1.178	0.079	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.216	-0.19	21.38	22.00	1.153	0.249	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.344	0.10	21.38	22.00	1.153	0.397	22.4
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.286	0.09	21.35	22.00	1.161	0.332	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.367	0.15	21.35	22.00	1.161	0.426	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.362	0.02	21.34	22.00	1.164	0.421	22.4
		QPSK 50_49	132124/1725.2								
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.216	-0.19	21.38	22.00	1.153	0.249	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.344	0.10	21.38	22.00	1.153	0.397	22.4
Right side	20	QPSK 1_0	132322/1745	1:1	0.343	-0.11	21.38	22.00	1.153	0.396	22.4
Bottom side	20	QPSK 1_0	132322/1745	1:1	0.641	-0.02	21.38	22.00	1.153	0.739	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.286	0.09	21.35	22.00	1.161	0.332	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.367	0.15	21.35	22.00	1.161	0.426	22.4
Right side	20	QPSK 50_0	132322/1745	1:1	0.132	-0.18	21.35	22.00	1.161	0.153	22.4
Bottom side	20	QPSK 50_0	132322/1745	1:1	0.735	-0.08	21.35	22.00	1.161	0.854	22.4
Bottom side	20	QPSK 50_0	132322/1745	1:1	0.729	0.01	21.34	22.00	1.164	0.849	22.4
		QPSK 50_49	132124/1725.2								
Bottom side	20	QPSK 50_0	132072/1720	1:1	0.517	0.04	21.29	22.00	1.178	0.609	22.4
Bottom side	20	QPSK 50_0	132572/1770	1:1	0.714	-0.14	21.25	22.00	1.189	0.849	22.4
Hotspot Test data(Separate 10mm 50%RB)											
Bottom side	20	QPSK 100_0	132322/1745	1:1	0.705	0.02	21.29	22.00	1.178	0.830	22.4

Ant 5 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	132322/1745	1:1	0.215	0.08	23.29	24.00	1.178	0.253	22.4
Left tilted	20	QPSK 1_0	132322/1745	1:1	0.040	0.02	23.29	24.00	1.178	0.047	22.4
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.395	-0.06	23.29	24.00	1.178	0.465	22.4
Right cheek	20	QPSK 1_0	132322/1745	1:1	0.386	0.04	23.21	24.00	1.199	0.463	22.4
		QPSK 1_99	132124/1725.2								
Right tilted	20	QPSK 1_0	132322/1745	1:1	0.052	-0.15	23.29	24.00	1.178	0.061	22.4
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	132322/1745	1:1	0.226	0.02	22.33	23.00	1.167	0.264	22.4
Left tilted	20	QPSK 50_0	132322/1745	1:1	0.028	0.03	22.33	23.00	1.167	0.033	22.4
Right cheek	20	QPSK 50_0	132322/1745	1:1	0.284	-0.06	22.33	23.00	1.167	0.331	22.4
Right tilted	20	QPSK 50_0	132322/1745	1:1	0.043	0.16	22.33	23.00	1.167	0.050	22.4
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.096	-0.18	22.84	23.50	1.164	0.112	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.104	-0.04	22.84	23.50	1.164	0.121	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.099	0.07	22.78	23.50	1.180	0.117	22.4
		QPSK 1_99	132124/1725.2								
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.059	0.11	22.32	23.00	1.169	0.069	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.065	-0.10	22.32	23.00	1.169	0.076	22.4
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.096	-0.18	22.84	23.50	1.164	0.112	22.4
Back side	20	QPSK 1_0	132322/1745	1:1	0.104	-0.04	22.84	23.50	1.164	0.121	22.4
Left side	20	QPSK 1_0	132322/1745	1:1	0.253	-0.19	22.84	23.50	1.164	0.295	22.4
Left side	20	QPSK 1_0	132322/1745	1:1	0.247	0.08	22.78	23.50	1.180	0.292	22.4
		QPSK 1_99	132124/1725.2								
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.059	0.11	22.32	23.00	1.169	0.069	22.4
Back side	20	QPSK 50_0	132322/1745	1:1	0.065	-0.10	22.32	23.00	1.169	0.076	22.4
Left side	20	QPSK 50_0	132322/1745	1:1	0.153	0.07	22.32	23.00	1.169	0.179	22.4

Table 22： SAR of LTE Band 66 for Head, Body and Hotspot is covering LTE Band 4.

8.2.13 SAR Result of LTE Band 71

LTE Band 71 SAR Test Record											
Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	133322/683	1:1	0.124	0.15	23.59	24.50	1.233	0.153	22.3
Left tilted	20	QPSK 1_0	133322/683	1:1	0.023	-0.05	23.59	24.50	1.233	0.028	22.3
Right cheek	20	QPSK 1_0	133322/683	1:1	0.107	-0.05	23.59	24.50	1.233	0.132	22.3
Right tilted	20	QPSK 1_0	133322/683	1:1	0.038	-0.19	23.59	24.50	1.233	0.047	22.3
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	133322/683	1:1	0.117	-0.09	22.57	23.50	1.239	0.145	22.3
Left tilted	20	QPSK 50_0	133322/683	1:1	0.009	0.09	22.57	23.50	1.239	0.011	22.3
Right cheek	20	QPSK 50_0	133322/683	1:1	0.104	-0.12	22.57	23.50	1.239	0.129	22.3
Right tilted	20	QPSK 50_0	133322/683	1:1	0.032	-0.05	22.57	23.50	1.239	0.040	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	133322/683	1:1	0.106	-0.07	23.59	24.50	1.233	0.131	22.3
Back side	20	QPSK 1_0	133322/683	1:1	0.115	-0.06	23.59	24.50	1.233	**0.142**	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	133322/683	1:1	0.090	-0.03	22.57	23.50	1.239	0.111	22.3
Back side	20	QPSK 50_0	133322/683	1:1	0.102	-0.17	22.57	23.50	1.239	0.126	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	133322/683	1:1	0.106	-0.07	23.59	24.50	1.233	0.131	22.3
Back side	20	QPSK 1_0	133322/683	1:1	0.115	-0.06	23.59	24.50	1.233	0.142	22.3
Left side	20	QPSK 1_0	133322/683	1:1	0.152	-0.06	23.59	24.50	1.233	**0.187**	22.3
Bottom side	20	QPSK 1_0	133322/683	1:1	0.050	0.13	23.59	24.50	1.233	0.062	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	133322/683	1:1	0.090	-0.03	22.57	23.50	1.239	0.111	22.3
Back side	20	QPSK 50_0	133322/683	1:1	0.102	-0.17	22.57	23.50	1.239	0.126	22.3
Left side	20	QPSK 50_0	133322/683	1:1	0.141	0.05	22.57	23.50	1.239	0.175	22.3
Bottom side	20	QPSK 50_0	133322/683	1:1	0.040	0.19	22.57	23.50	1.239	0.050	22.3
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data(1RB)											
Left cheek	20	QPSK 1_0	133322/683	1:1	0.139	-0.17	23.36	24.00	1.159	0.161	22.3
Left tilted	20	QPSK 1_0	133322/683	1:1	0.144	0.16	23.36	24.00	1.159	0.167	22.3
Right cheek	20	QPSK 1_0	133322/683	1:1	0.256	0.13	23.36	24.00	1.159	**0.297**	22.3
Right tilted	20	QPSK 1_0	133322/683	1:1	0.237	-0.07	23.36	24.00	1.159	0.275	22.3
Head Test Data(50%RB)											
Left cheek	20	QPSK 50_0	133322/683	1:1	0.088	-0.11	22.27	23.00	1.183	0.104	22.3

Left tilted	20	QPSK 50_0	133322/683	1:1	0.094	-0.09	22.27	23.00	1.183	0.111	22.3
Right cheek	20	QPSK 50_0	133322/683	1:1	0.208	-0.04	22.27	23.00	1.183	0.246	22.3
Right tilted	20	QPSK 50_0	133322/683	1:1	0.176	0.06	22.27	23.00	1.183	0.208	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_0	133322/683	1:1	0.069	-0.12	23.36	24.00	1.159	0.080	22.3
Back side	20	QPSK 1_0	133322/683	1:1	0.096	0.03	23.36	24.00	1.159	0.111	22.3
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_0	133322/683	1:1	0.060	0.01	22.27	23.00	1.183	0.071	22.3
Back side	20	QPSK 50_0	133322/683	1:1	0.080	0.17	22.27	23.00	1.183	0.095	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	133322/683	1:1	0.069	-0.12	23.36	24.00	1.159	0.080	22.3
Back side	20	QPSK 1_0	133322/683	1:1	0.096	0.03	23.36	24.00	1.159	0.111	22.3
Left side	20	QPSK 1_0	133322/683	1:1	0.116	0.16	23.36	24.00	1.159	0.134	22.3
Top side	20	QPSK 1_0	133322/683	1:1	0.055	0.18	23.36	24.00	1.159	0.064	22.3
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	133322/683	1:1	0.060	0.01	22.27	23.00	1.183	0.071	22.3
Back side	20	QPSK 50_0	133322/683	1:1	0.080	0.17	22.27	23.00	1.183	0.095	22.3
Left side	20	QPSK 50_0	133322/683	1:1	0.112	-0.06	22.27	23.00	1.183	0.133	22.3
Top side	20	QPSK 50_0	133322/683	1:1	0.046	-0.06	22.27	23.00	1.183	0.054	22.3

Table 23：SAR of LTE Band 71 for Head, Body and Hotspot.

8.2.14 SAR Result of 5G NR n2

SA N2 SAR Test Record											
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	376000/1880	1:1	0.484	-0.14	19.01	20.00	1.256	0.608	22.5
Left tilted	20	QPSK 1_1	376000/1880	1:1	0.577	-0.06	19.01	20.00	1.256	0.725	22.5
Right cheek	20	QPSK 1_1	376000/1880	1:1	0.859	-0.03	19.01	20.00	1.256	1.079	22.5
Right cheek	20	QPSK 1_1	372000/1860	1:1	0.832	-0.12	18.97	20.00	1.268	1.055	22.5
Right cheek	20	QPSK 1_1	380000/1900	1:1	0.789	-0.17	18.93	20.00	1.279	1.009	22.5
Right tilted	20	QPSK 1_1	376000/1880	1:1	0.710	0.13	19.01	20.00	1.256	0.892	22.5
Right tilted	20	QPSK 1_1	372000/1860	1:1	0.659	0.03	18.97	20.00	1.268	0.835	22.5
Right tilted	20	QPSK 1_1	380000/1900	1:1	0.637	0.05	18.93	20.00	1.279	0.815	22.5
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	376000/1880	1:1	0.492	-0.06	19.00	20.00	1.259	0.619	22.5
Left tilted	20	QPSK 50_28	376000/1880	1:1	0.596	0.11	19.00	20.00	1.259	0.750	22.5
Right cheek	20	QPSK 50_28	376000/1880	1:1	0.877	-0.07	19.00	20.00	1.259	**1.104**	22.5
Right cheek	20	QPSK 50_28	372000/1860	1:1	0.852	0.06	18.88	20.00	1.294	1.103	22.5
Right cheek	20	QPSK 50_28	380000/1900	1:1	0.831	0.00	18.89	20.00	1.291	1.073	22.5
Right tilted	20	QPSK 50_28	376000/1880	1:1	0.665	-0.13	19.00	20.00	1.259	0.837	22.5
Right tilted	20	QPSK 50_28	372000/1860	1:1	0.637	-0.08	18.88	20.00	1.294	0.824	22.5
Right tilted	20	QPSK 50_28	380000/1900	1:1	0.602	-0.12	18.89	20.00	1.291	0.777	22.5
Head Test data(100%RB)											
Right cheek	20	QPSK 100_0	376000/1880	1:1	0.849	0.01	18.02	19.00	1.253	1.064	22.5
Right tilted	20	QPSK 100_0	376000/1880	1:1	0.644	0.12	18.02	19.00	1.253	0.807	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	376000/1880	1:1	0.487	-0.12	22.39	23.50	1.291	0.629	22.5
Back side	20	QPSK 1_1	376000/1880	1:1	0.738	-0.13	22.39	23.50	1.291	0.953	22.5
Back side	20	QPSK 1_1	372000/1860	1:1	0.716	-0.17	22.31	23.50	1.315	0.942	22.5
Back side	20	QPSK 1_1	380000/1900	1:1	0.703	-0.14	22.26	23.50	1.330	0.935	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_28	376000/1880	1:1	0.501	-0.16	22.34	23.50	1.306	0.654	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.754	0.10	22.34	23.50	1.306	**0.985**	22.5
Back side	20	QPSK 50_28	372000/1860	1:1	0.694	0.14	22.24	23.50	1.337	0.928	22.5
Back side	20	QPSK 50_28	380000/1900	1:1	0.682	0.01	22.32	23.50	1.312	0.895	22.5
Body worn Test data(Separate 15mm 50%RB)											
Back side	20	QPSK 100_0	376000/1880	1:1	0.704	0.09	21.32	22.50	1.312	0.924	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	376000/1880	1:1	0.487	-0.12	22.39	23.50	1.291	0.629	22.5
Back side	20	QPSK 1_1	376000/1880	1:1	0.738	-0.13	22.39	23.50	1.291	0.953	22.5

Back side	20	QPSK 1_1	376000/1880	1:1	0.716	-0.17	22.31	23.50	1.315	0.942	22.5
Back side	20	QPSK 1_1	376000/1880	1:1	0.703	-0.14	22.26	23.50	1.330	0.935	22.5
Left side	20	QPSK 1_1	376000/1880	1:1	0.296	-0.07	22.39	23.50	1.291	0.382	22.5
Top side	20	QPSK 1_1	376000/1880	1:1	0.894	-0.15	22.39	23.50	1.291	1.154	22.5
Top side	20	QPSK 1_1	372000/1860	1:1	0.867	0.02	22.31	23.50	1.315	1.140	22.5
Top side	20	QPSK 1_1	380000/1900	1:1	0.844	0.14	22.26	23.50	1.330	1.123	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	376000/1880	1:1	0.501	-0.16	22.34	23.50	1.306	0.654	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.754	0.10	22.24	23.50	1.337	1.008	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.694	0.14	22.32	23.50	1.312	0.911	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.682	0.01	22.34	23.50	1.306	0.891	22.5
Left side	20	QPSK 50_28	376000/1880	1:1	0.329	0.09	22.34	23.50	1.306	0.430	22.5
Top side	20	QPSK 50_28	376000/1880	1:1	0.913	0.06	22.34	23.50	1.306	**1.193**	22.5
Top side-repeated	20	QPSK 50_28	376000/1880	1:1	0.909	0.03	22.34	23.50	1.306	1.187	22.5
Top side	20	QPSK 50_28	372000/1860	1:1	0.892	-0.15	22.24	23.50	1.337	1.192	22.5
Top side	20	QPSK 50_28	380000/1900	1:1	0.861	-0.18	22.32	23.50	1.312	1.130	22.5
Hotspot Test data (Separate 10mm 100%RB)											
Back side	20	QPSK 100_0	376000/1880	1:1	0.704	0.09	21.32	22.50	1.312	0.924	22.5
Top side	20	QPSK 100_0	376000/1880	1:1	0.817	0.15	21.32	22.50	1.312	1.072	22.5
Ant4 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	376000/1880	1:1	0.112	0.11	23.39	24.00	1.151	0.129	22.5
Left tilted	20	QPSK 1_1	376000/1880	1:1	0.071	-0.13	23.39	24.00	1.151	0.082	22.5
Right cheek	20	QPSK 1_1	376000/1880	1:1	0.117	-0.08	23.39	24.00	1.151	0.135	22.5
Right tilted	20	QPSK 1_1	376000/1880	1:1	0.069	-0.01	23.39	24.00	1.151	0.079	22.5
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	376000/1880	1:1	0.133	-0.15	23.35	24.00	1.161	0.154	22.5
Left tilted	20	QPSK 50_28	376000/1880	1:1	0.094	0.06	23.35	24.00	1.161	0.109	22.5
Right cheek	20	QPSK 50_28	376000/1880	1:1	0.141	0.03	23.35	24.00	1.161	0.164	22.5
Right tilted	20	QPSK 50_28	376000/1880	1:1	0.080	-0.07	23.35	24.00	1.161	0.093	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	376000/1880	1:1	0.197	0.15	19.86	20.50	1.159	0.228	22.5
Back side	20	QPSK 1_1	376000/1880	1:1	0.224	0.14	19.86	20.50	1.159	0.260	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_28	376000/1880	1:1	0.231	0.12	19.80	20.50	1.175	0.271	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.259	0.11	19.80	20.50	1.175	0.304	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	376000/1880	1:1	0.197	0.15	19.86	20.50	1.159	0.228	22.5
Back side	20	QPSK 1_1	376000/1880	1:1	0.224	0.14	19.86	20.50	1.159	0.260	22.5

Right side	20	QPSK 1_1	376000/1880	1:1	0.091	-0.03	19.86	20.50	1.159	0.105	22.5
Bottom side	20	QPSK 1_1	376000/1880	1:1	0.485	0.00	19.86	20.50	1.159	0.562	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	376000/1880	1:1	0.231	0.12	19.80	20.50	1.175	0.271	22.5
Back side	20	QPSK 50_28	376000/1880	1:1	0.259	0.11	19.80	20.50	1.175	0.304	22.5
Right side	20	QPSK 50_28	376000/1880	1:1	0.125	0.16	19.80	20.50	1.175	0.147	22.5
Bottom side	20	QPSK 50_28	376000/1880	1:1	0.491	-0.05	19.80	20.50	1.175	0.577	22.5

Table 24：SAR of 5G NR n2 for Head, Body and Hotspot.

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Top side	376000/1880	0.965	0.957	1.008359457	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						

8.2.15 SAR Result of 5G NR n5

SA N5 SAR Test Record											
Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	167300/836.5	1:1	0.117	-0.14	23.55	24.50	1.245	0.146	22.6
Left tilted	20	QPSK 1_1	167300/836.5	1:1	0.068	0.07	23.55	24.50	1.245	0.085	22.6
Right cheek	20	QPSK 1_1	167300/836.5	1:1	0.106	0.11	23.55	24.50	1.245	0.132	22.6
Right tilted	20	QPSK 1_1	167300/836.5	1:1	0.063	0.01	23.55	24.50	1.245	0.078	22.6
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	167300/836.5	1:1	0.120	-0.08	23.51	24.50	1.256	**0.151**	22.6
Left tilted	20	QPSK 50_28	167300/836.5	1:1	0.064	0.03	23.51	24.50	1.256	0.080	22.6
Right cheek	20	QPSK 50_28	167300/836.5	1:1	0.117	0.06	23.51	24.50	1.256	0.147	22.6
Right tilted	20	QPSK 50_28	167300/836.5	1:1	0.059	0.08	23.51	24.50	1.256	0.074	22.6
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	167300/836.5	1:1	0.147	-0.04	23.55	24.50	1.245	0.183	22.6
Back side	20	QPSK 1_1	167300/836.5	1:1	0.210	0.09	23.55	24.50	1.245	0.261	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_28	167300/836.5	1:1	0.173	-0.12	23.51	24.50	1.256	0.217	22.6
Back side	20	QPSK 50_28	167300/836.5	1:1	0.247	-0.05	23.51	24.50	1.256	**0.310**	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	167300/836.5	1:1	0.147	0.06	23.55	24.50	1.245	0.183	22.6
Back side	20	QPSK 1_1	167300/836.5	1:1	0.210	0.17	23.55	24.50	1.245	0.261	22.6
Left side	20	QPSK 1_1	167300/836.5	1:1	0.140	0.01	23.55	24.50	1.245	0.174	22.6
Top side	20	QPSK 1_1	167300/836.5	1:1	0.123	0.19	23.55	24.50	1.245	0.153	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	167300/836.5	1:1	0.173	-0.16	23.51	24.50	1.256	0.217	22.6
Back side	20	QPSK 50_28	167300/836.5	1:1	0.247	-0.05	23.51	24.50	1.256	**0.310**	22.6
Left side	20	QPSK 50_28	167300/836.5	1:1	0.160	-0.15	23.51	24.50	1.256	0.201	22.6
Bottom side	20	QPSK 50_28	167300/836.5	1:1	0.143	-0.11	23.51	24.50	1.256	0.180	22.6

Table 25：SAR of 5G NR n5 for Head, Body and Hotspot.

8.2.16 SAR Result of 5G NR n7

SA N7 SAR Test Record											
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	50	QPSK 1_1	507000/2535	1:1	0.331	0.01	13.37	14.00	1.156	0.383	22.6
Left tilted	50	QPSK 1_1	507000/2535	1:1	0.424	-0.06	13.37	14.00	1.156	0.490	22.6
Right cheek	50	QPSK 1_1	507000/2535	1:1	0.718	0.09	13.37	14.00	1.156	0.830	22.6
Right tilted	50	QPSK 1_1	507000/2535	1:1	0.681	0.01	13.37	14.00	1.156	0.787	22.6
Head Test data(50%RB)											
Left cheek	50	QPSK 135_67	507000/2535	1:1	0.361	-0.11	13.33	14.00	1.167	0.421	22.6
Left tilted	50	QPSK 135_67	507000/2535	1:1	0.394	0.12	13.33	14.00	1.167	0.460	22.6
Right cheek	50	QPSK 135_67	507000/2535	1:1	0.806	-0.09	13.33	14.00	1.167	**0.940**	22.6
Right cheek-repeated	50	QPSK 135_67	507000/2535	1:1	0.803	0.07	13.33	14.00	1.167	0.937	22.6
Right tilted	50	QPSK 135_67	507000/2535	1:1	0.752	-0.09	13.33	14.00	1.167	0.877	22.6
Head Test data(100%RB)											
Right cheek	50	QPSK 270_0	507000/2535	1:1	0.706	0.04	12.29	13.00	1.178	0.831	22.6
Right tilted	50	QPSK 270_0	507000/2535	1:1	0.699	-0.11	12.29	13.00	1.178	0.823	22.6
Body worn Test data(Separate 15mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.386	-0.10	19.03	19.50	1.114	0.430	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.625	0.15	19.03	19.50	1.114	0.696	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.403	-0.10	18.98	19.50	1.127	0.454	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.640	-0.01	18.98	19.50	1.127	**0.721**	22.6
Body worn Test data(Separate 15mm 100%RB)											
Back side	50	QPSK 270_0	507000/2535	1:1	0.608	0.08	17.91	18.50	1.146	0.696	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.386	0.14	19.03	19.50	1.114	0.430	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.625	0.03	19.03	19.50	1.114	0.696	22.6
Left side	50	QPSK 1_1	507000/2535	1:1	0.103	0.08	19.03	19.50	1.114	0.115	22.6
Top side	50	QPSK 1_1	507000/2535	1:1	0.721	-0.09	19.03	19.50	1.114	0.803	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.403	-0.16	18.98	19.50	1.127	0.454	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.640	0.18	18.98	19.50	1.127	0.721	22.6
Left side	50	QPSK 135_67	507000/2535	1:1	0.146	0.08	18.98	19.50	1.127	0.165	22.6
Top side	50	QPSK 135_67	507000/2535	1:1	0.763	-0.10	18.98	19.50	1.127	**0.860**	22.6
Hotspot Test data (Separate 10mm 100%RB)											
Back side	50	QPSK 270_0	507000/2535	1:1	0.637	-0.01	17.91	18.50	1.146	0.730	22.6
Top side	50	QPSK 270_0	507000/2535	1:1	0.722	0.15	17.91	18.50	1.146	0.827	22.6
Ant4 Test Record											

Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	50	QPSK 1_1	507000/2535	1:1	0.078	-0.05	23.36	24.00	1.159	0.090	22.6
Left tilted	50	QPSK 1_1	507000/2535	1:1	0.088	0.04	23.36	24.00	1.159	0.102	22.6
Right cheek	50	QPSK 1_1	507000/2535	1:1	0.107	-0.11	23.36	24.00	1.159	0.124	22.6
Right tilted	50	QPSK 1_1	507000/2535	1:1	0.040	-0.08	23.36	24.00	1.159	0.046	22.6
Head Test data(50%RB)											
Left cheek	50	QPSK 135_67	507000/2535	1:1	0.094	0.01	23.28	24.00	1.180	0.111	22.6
Left tilted	50	QPSK 135_67	507000/2535	1:1	0.078	0.07	23.28	24.00	1.180	0.092	22.6
Right cheek	50	QPSK 135_67	507000/2535	1:1	0.118	-0.15	23.28	24.00	1.180	0.139	22.6
Right tilted	50	QPSK 135_67	507000/2535	1:1	0.055	0.05	23.28	24.00	1.180	0.065	22.6
Body worn Test data(Separate 15mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.158	0.18	19.25	20.00	1.189	0.188	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.193	-0.02	19.25	20.00	1.189	0.229	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.179	-0.01	19.16	20.00	1.213	0.217	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.205	-0.01	19.16	20.00	1.213	**0.249**	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.158	-0.16	19.25	20.00	1.189	0.188	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.193	-0.01	19.25	20.00	1.189	0.229	22.6
Right side	50	QPSK 1_1	507000/2535	1:1	0.043	-0.14	19.25	20.00	1.189	0.051	22.6
Bottom side	50	QPSK 1_1	507000/2535	1:1	0.313	-0.18	19.25	20.00	1.189	0.372	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.179	0.16	19.16	20.00	1.213	0.217	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.205	0.18	19.16	20.00	1.213	0.249	22.6
Right side	50	QPSK 135_67	507000/2535	1:1	0.091	-0.06	19.16	20.00	1.213	0.110	22.6
Bottom side	50	QPSK 135_67	507000/2535	1:1	0.351	0.03	19.16	20.00	1.213	0.426	22.6
Ant5 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	50	QPSK 1_1	507000/2535	1:1	0.092	-0.11	20.14	20.50	1.086	0.100	22.6
Left tilted	50	QPSK 1_1	507000/2535	1:1	0.000	0.17	20.14	20.50	1.086	0.000	22.6
Right cheek	50	QPSK 1_1	507000/2535	1:1	0.067	0.02	20.14	20.50	1.086	0.073	22.6
Right tilted	50	QPSK 1_1	507000/2535	1:1	0.000	0.15	20.14	20.50	1.086	0.000	22.6
Head Test data(50%RB)											
Left cheek	50	QPSK 135_67	507000/2535	1:1	0.088	0.18	19.98	20.50	1.127	0.099	22.6
Left tilted	50	QPSK 135_67	507000/2535	1:1	0.000	0.02	19.98	20.50	1.127	0.000	22.6
Right cheek	50	QPSK 135_67	507000/2535	1:1	0.056	-0.05	19.98	20.50	1.127	0.063	22.6
Right tilted	50	QPSK 135_67	507000/2535	1:1	0.000	0.18	19.98	20.50	1.127	0.000	22.6

Body worn Test data(Separate 15mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.108	-0.03	18.13	18.50	1.089	0.118	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.127	-0.05	18.13	18.50	1.089	0.138	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.123	0.02	17.99	18.50	1.125	0.138	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.142	-0.12	17.99	18.50	1.125	0.160	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	50	QPSK 1_1	507000/2535	1:1	0.108	-0.06	18.13	18.50	1.089	0.118	22.6
Back side	50	QPSK 1_1	507000/2535	1:1	0.127	0.03	18.13	18.50	1.089	0.138	22.6
Left side	50	QPSK 1_1	507000/2535	1:1	0.252	0.00	18.13	18.50	1.089	0.274	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	50	QPSK 135_67	507000/2535	1:1	0.123	-0.15	17.99	18.50	1.125	0.138	22.6
Back side	50	QPSK 135_67	507000/2535	1:1	0.142	0.03	17.99	18.50	1.125	0.160	22.6
Left side	50	QPSK 135_67	507000/2535	1:1	0.271	0.17	17.99	18.50	1.125	0.305	22.6

Table 26：SAR of 5G NR n7 for Head, Body and Hotspot.

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	507000/2535	0.884	0.871	1.014925373	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						
Test Position	**Channel/ Frequency (MHz)**	**Measured SAR (1g)**	**1st Repeated SAR (1g)**	**Ratio**	**2nd Repeated SAR (1g)**	**3rd Repeated SAR (1g)**
Bottom side	507000/2535	2.020	1.990	1.015075377	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 2.0 W/kg, the measurement was repeated once.						
2) A second repeated measurement was 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 ≥ 3.6 W/kg (~ 10% from the 10-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ⩾ 3.6 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 < 2.0 W/kg						

8.2.17 SAR Result of 5G NR n26

SA N26 SAR Test Record											
Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	166300/831.5	1:1	0.112	0.11	23.62	24.00	1.091	0.122	22.6
Left tilted	20	QPSK 1_1	166300/831.5	1:1	0.065	0.18	23.62	24.00	1.091	0.071	22.6
Right cheek	20	QPSK 1_1	166300/831.5	1:1	0.103	0.10	23.62	24.00	1.091	0.112	22.6
Right tilted	20	QPSK 1_1	166300/831.5	1:1	0.059	0.15	23.62	24.00	1.091	0.064	22.6
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	166300/831.5	1:1	0.124	0.04	23.58	24.00	1.102	0.137	22.6
Left tilted	20	QPSK 50_28	166300/831.5	1:1	0.074	0.12	23.58	24.00	1.102	0.082	22.6
Right cheek	20	QPSK 50_28	166300/831.5	1:1	0.104	-0.07	23.58	24.00	1.102	0.115	22.6
Right tilted	20	QPSK 50_28	166300/831.5	1:1	0.068	-0.11	23.58	24.00	1.102	0.075	22.6
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	166300/831.5	1:1	0.166	-0.15	23.62	24.00	1.091	0.181	22.6
Back side	20	QPSK 1_1	166300/831.5	1:1	0.218	-0.08	23.62	24.00	1.091	0.238	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_28	166300/831.5	1:1	0.191	0.18	23.58	24.00	1.102	0.210	22.6
Back side	20	QPSK 50_28	166300/831.5	1:1	0.246	-0.06	23.58	24.00	1.102	**0.271**	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	166300/831.5	1:1	0.166	-0.14	23.62	24.00	1.091	0.181	22.6
Back side	20	QPSK 1_1	166300/831.5	1:1	0.218	0.01	23.62	24.00	1.091	0.238	22.6
Left side	20	QPSK 1_1	166300/831.5	1:1	0.149	-0.08	23.62	24.00	1.091	0.163	22.6
Bottom side	20	QPSK 1_1	166300/831.5	1:1	0.128	0.07	23.62	24.00	1.091	0.140	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	166300/831.5	1:1	0.191	-0.03	23.58	24.00	1.102	0.210	22.6
Back side	20	QPSK 50_28	166300/831.5	1:1	0.246	-0.06	23.58	24.00	1.102	**0.271**	22.6
Left side	20	QPSK 50_28	166300/831.5	1:1	0.163	-0.01	23.58	24.00	1.102	0.180	22.6
Bottom side	20	QPSK 50_28	166300/831.5	1:1	0.140	0.19	23.58	24.00	1.102	0.154	22.6
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	166300/831.5	1:1	0.295	-0.10	23.15	23.50	1.084	0.320	22.6
Left tilted	20	QPSK 1_1	166300/831.5	1:1	0.261	-0.10	23.15	23.50	1.084	0.283	22.6
Right cheek	20	QPSK 1_1	166300/831.5	1:1	0.424	0.17	23.15	23.50	1.084	0.460	22.6
Right tilted	20	QPSK 1_1	166300/831.5	1:1	0.325	0.08	23.15	23.50	1.084	0.352	22.6
Head Test data(50%RB)											
Left cheek	20	QPSK 50_28	166300/831.5	1:1	0.353	0.04	23.10	23.50	1.096	0.387	22.6

Left tilted	20	QPSK 50_28	166300/831.5	1:1	0.322	0.17	23.10	23.50	1.096	0.353	22.6
Right cheek	20	QPSK 50_28	166300/831.5	1:1	0.596	-0.12	23.10	23.50	1.096	**0.654**	22.6
Right tilted	20	QPSK 50_28	166300/831.5	1:1	0.477	0.07	23.10	23.50	1.096	0.523	22.6
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	166300/831.5	1:1	0.091	-0.12	23.15	23.50	1.084	0.099	22.6
Back side	20	QPSK 1_1	166300/831.5	1:1	0.131	-0.12	23.15	23.50	1.084	0.142	22.6
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_28	166300/831.5	1:1	0.101	0.03	23.10	23.50	1.096	0.111	22.6
Back side	20	QPSK 50_28	166300/831.5	1:1	0.141	-0.19	23.10	23.50	1.096	0.155	22.6
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	166300/831.5	1:1	0.091	-0.01	23.15	23.50	1.084	0.099	22.6
Back side	20	QPSK 1_1	166300/831.5	1:1	0.131	0.14	23.15	23.50	1.084	0.142	22.6
Left side	20	QPSK 1_1	166300/831.5	1:1	0.084	0.00	23.15	23.50	1.084	0.091	22.6
Top side	20	QPSK 1_1	166300/831.5	1:1	0.085	-0.03	23.15	23.50	1.084	0.092	22.6
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	166300/831.5	1:1	0.101	0.19	23.10	23.50	1.096	0.111	22.6
Back side	20	QPSK 50_28	166300/831.5	1:1	0.141	0.03	23.10	23.50	1.096	0.155	22.6
Left side	20	QPSK 50_28	166300/831.5	1:1	0.093	-0.17	23.10	23.50	1.096	0.102	22.6
Top side	20	QPSK 50_28	166300/831.5	1:1	0.096	0.06	23.10	23.50	1.096	0.105	22.6

Table 27： SAR of 5G NR n26 for Head, Body and Hotspot.

8.2.18 SAR Result of 5G NR n38

SA N38 SAR Test Record											
Ant1 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	519000/2595	1:1	0.153	0.01	14.14	14.50	1.086	0.166	22.7
Left tilted	40	QPSK 1_1	519000/2595	1:1	0.172	-0.12	14.14	14.50	1.086	0.187	22.7
Right cheek	40	QPSK 1_1	519000/2595	1:1	0.342	-0.12	14.14	14.50	1.086	0.372	22.7
Right tilted	40	QPSK 1_1	519000/2595	1:1	0.378	0.02	14.14	14.50	1.086	0.411	22.7
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	519000/2595	1:1	0.138	-0.04	14.10	14.50	1.096	0.151	22.7
Left tilted	40	QPSK 108_54	519000/2595	1:1	0.170	0.04	14.10	14.50	1.096	0.186	22.7
Right cheek	40	QPSK 108_54	519000/2595	1:1	0.264	0.09	14.10	14.50	1.096	0.289	22.7
Right tilted	40	QPSK 108_54	519000/2595	1:1	0.360	0.11	14.10	14.50	1.096	0.395	22.7
Ant4 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	519000/2595	1:1	0.080	0.04	22.86	24.50	1.459	0.117	22.7
Left tilted	40	QPSK 1_1	519000/2595	1:1	0.083	0.05	22.86	24.50	1.459	0.121	22.7
Right cheek	40	QPSK 1_1	519000/2595	1:1	0.115	0.05	22.86	24.50	1.459	0.168	22.7
Right tilted	40	QPSK 1_1	519000/2595	1:1	0.087	0.09	22.86	24.50	1.459	0.127	22.7
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	519000/2595	1:1	0.063	0.10	22.81	24.50	1.476	0.093	22.7
Left tilted	40	QPSK 108_54	519000/2595	1:1	0.062	0.04	22.81	24.50	1.476	0.091	22.7
Right cheek	40	QPSK 108_54	519000/2595	1:1	0.087	0.19	22.81	24.50	1.476	0.128	22.7
Right tilted	40	QPSK 108_54	519000/2595	1:1	0.063	0.19	22.81	24.50	1.476	0.093	22.7
Ant5 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	519000/2595	1:1	0.325	0.18	20.87	22.50	1.455	0.473	22.7
Left tilted	40	QPSK 1_1	519000/2595	1:1	0.044	-0.14	20.87	22.50	1.455	0.064	22.7
Right cheek	40	QPSK 1_1	519000/2595	1:1	0.326	0.12	20.87	22.50	1.455	0.474	22.7
Right tilted	40	QPSK 1_1	519000/2595	1:1	0.057	0.05	20.87	22.50	1.455	0.083	22.7
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	519000/2595	1:1	0.548	-0.04	20.86	22.50	1.459	**0.799**	22.7
Left tilted	40	QPSK 108_54	519000/2595	1:1	0.072	0.01	20.86	22.50	1.459	0.105	22.7
Right cheek	40	QPSK 108_54	519000/2595	1:1	0.371	0.07	20.86	22.50	1.459	0.541	22.7
Right tilted	40	QPSK 108_54	519000/2595	1:1	0.047	-0.11	20.86	22.50	1.459	0.069	22.7

Body worn Test data(Separate 15mm 1RB)											
Front side	40	QPSK 1_1	519000/2595	1:1	0.111	0.16	20.87	22.50	1.455	0.162	22.7
Back side	40	QPSK 1_1	519000/2595	1:1	0.125	0.05	20.87	22.50	1.455	0.182	22.7
Body worn Test data(Separate 15mm 50%RB)											
Front side	40	QPSK 108_54	519000/2595	1:1	0.137	0.04	20.86	22.50	1.459	0.200	22.7
Back side	40	QPSK 108_54	519000/2595	1:1	0.166	-0.18	20.86	22.50	1.459	**0.242**	22.7
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	519000/2595	1:1	0.111	0.10	20.87	22.50	1.455	0.162	22.7
Back side	40	QPSK 1_1	519000/2595	1:1	0.125	-0.01	20.87	22.50	1.455	0.182	22.7
Left side	40	QPSK 1_1	519000/2595	1:1	0.292	-0.19	20.87	22.50	1.455	0.425	22.7
Hotspot Test data (Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	519000/2595	1:1	0.137	-0.11	20.86	22.50	1.459	0.200	22.7
Back side	40	QPSK 108_54	519000/2595	1:1	0.166	-0.18	20.86	22.50	1.459	0.242	22.7
Left side	40	QPSK 108_54	519000/2595	1:1	0.316	-0.08	20.86	22.50	1.459	**0.461**	22.7

Table 28：SAR of 5G NR n38 for Head, Body and Hotspot.

8.2.19 SAR Result of 5G NR n41

SA N41 SAR Test Record											
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	100	QPSK 1_1	518598/2592.99	1:1	0.216	-0.04	13.30	14.00	1.175	0.254	22.7
Left tilted	100	QPSK 1_1	518598/2592.99	1:1	0.260	-0.18	13.30	14.00	1.175	0.305	22.7
Right cheek	100	QPSK 1_1	518598/2592.99	1:1	0.520	0.12	13.30	14.00	1.175	0.611	22.7
Right tilted	100	QPSK 1_1	518598/2592.99	1:1	0.389	0.03	13.30	14.00	1.175	0.457	22.7
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	518598/2592.99	1:1	0.337	-0.01	13.22	14.00	1.197	0.403	22.7
Left tilted	100	QPSK 135_69	518598/2592.99	1:1	0.388	-0.19	13.22	14.00	1.197	0.464	22.7
Right cheek	100	QPSK 135_69	518598/2592.99	1:1	0.782	-0.13	13.22	14.00	1.197	**0.936**	22.7
Right tilted	100	QPSK 135_69	518598/2592.99	1:1	0.775	0.01	13.22	14.00	1.197	0.927	22.7
Head Test data(100%RB)											
Right cheek	100	QPSK 270_0	518598/2592.99	1:1	0.531	0.07	11.99	13.00	1.262	0.670	22.7
Body worn Test data(Separate 15mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.346	-0.16	18.22	19.00	1.197	0.414	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.646	-0.03	18.22	19.00	1.197	0.773	22.7
Body worn Test data(Separate 15mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.361	0.06	18.11	19.00	1.227	0.443	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.671	-0.04	18.11	19.00	1.227	**0.824**	22.7
Body worn Test data(Separate 15mm 100%RB)											
Back side	100	QPSK 270_0	518598/2592.99	1:1	0.547	0.12	17.25	18.00	1.189	0.650	22.7
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.346	-0.15	18.22	19.00	1.197	0.414	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.646	-0.15	18.22	19.00	1.197	0.773	22.7
Left side	100	QPSK 1_1	518598/2592.99	1:1	0.090	0.10	18.22	19.00	1.197	0.108	22.7
Top side	100	QPSK 1_1	518598/2592.99	1:1	0.903	-0.15	18.22	19.00	1.197	**1.081**	22.7
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.361	0.07	18.11	19.00	1.227	0.443	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.671	-0.04	18.11	19.00	1.227	0.824	22.7
Left side	100	QPSK 135_69	518598/2592.99	1:1	0.126	-0.17	18.11	19.00	1.227	0.155	22.7
Top side	100	QPSK 135_69	518598/2592.99	1:1	0.938	-0.05	18.11	19.00	1.227	**1.151**	22.7
Top side-repeated	100	QPSK 135_69	518598/2592.99	1:1	0.927	0.03	18.11	19.00	1.227	1.138	22.7
Hotspot Test data (Separate 10mm 50%RB)											
Back side	100	QPSK 270_0	518598/2592.99	1:1	0.547	-0.08	17.25	18.00	1.189	0.650	22.7
Top side	100	QPSK 270_0	518598/2592.99	1:1	0.879	-0.02	17.25	18.00	1.189	1.045	22.7
Ant4 Test Record											

Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	100	QPSK 1_1	518598/2592.99	1:1	0.073	-0.01	22.38	24.00	1.452	0.106	22.7
Left tilted	100	QPSK 1_1	518598/2592.99	1:1	0.089	-0.08	22.38	24.00	1.452	0.129	22.7
Right cheek	100	QPSK 1_1	518598/2592.99	1:1	0.126	-0.15	22.38	24.00	1.452	0.183	22.7
Right tilted	100	QPSK 1_1	518598/2592.99	1:1	0.092	-0.16	22.38	24.00	1.452	0.134	22.7
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	518598/2592.99	1:1	0.081	0.13	22.27	24.00	1.489	0.121	22.7
Left tilted	100	QPSK 135_69	518598/2592.99	1:1	0.093	-0.11	22.27	24.00	1.489	0.139	22.7
Right cheek	100	QPSK 135_69	518598/2592.99	1:1	0.138	0.05	22.27	24.00	1.489	0.206	22.7
Right tilted	100	QPSK 135_69	518598/2592.99	1:1	0.103	-0.04	22.27	24.00	1.489	0.153	22.7
Body worn Test data(Separate 15mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.170	0.02	18.31	20.00	1.476	0.251	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.227	0.18	18.31	20.00	1.476	0.335	22.7
Body worn Test data(Separate 15mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.191	-0.03	18.28	20.00	1.486	0.284	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.253	-0.04	18.28	20.00	1.486	0.376	22.7
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.170	0.14	18.31	20.00	1.476	0.251	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.227	0.05	18.31	20.00	1.476	0.335	22.7
Right side	100	QPSK 1_1	518598/2592.99	1:1	0.043	0.04	18.31	20.00	1.476	0.063	22.7
Bottom side	100	QPSK 1_1	518598/2592.99	1:1	0.319	0.05	18.31	20.00	1.476	0.471	22.7
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.191	0.14	18.28	20.00	1.486	0.284	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.253	0.10	18.28	20.00	1.486	0.376	22.7
Right side	100	QPSK 135_69	518598/2592.99	1:1	0.071	0.14	18.28	20.00	1.486	0.106	22.7
Bottom side	100	QPSK 135_69	518598/2592.99	1:1	0.338	0.15	18.28	20.00	1.486	0.502	22.7
Ant5 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	100	QPSK 1_1	518598/2592.99	1:1	0.069	0.02	20.38	22.00	1.452	0.100	22.7
Left tilted	100	QPSK 1_1	518598/2592.99	1:1	0.062	0.15	20.38	22.00	1.452	0.090	22.7
Right cheek	100	QPSK 1_1	518598/2592.99	1:1	0.096	-0.13	20.38	22.00	1.452	0.139	22.7
Right tilted	100	QPSK 1_1	518598/2592.99	1:1	0.038	0.02	20.38	22.00	1.452	0.055	22.7
Head Test data(50%RB)											
Left cheek	100	QPSK 135_69	518598/2592.99	1:1	0.089	-0.04	20.33	22.00	1.469	0.131	22.7
Left tilted	100	QPSK 135_69	518598/2592.99	1:1	0.077	0.07	20.33	22.00	1.469	0.113	22.7
Right cheek	100	QPSK 135_69	518598/2592.99	1:1	0.112	-0.08	20.33	22.00	1.469	0.165	22.7
Right tilted	100	QPSK 135_69	518598/2592.99	1:1	0.046	0.03	20.33	22.00	1.469	0.068	22.7

Body worn Test data(Separate 15mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.124	-0.01	20.38	22.00	1.452	0.180	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.145	0.12	20.38	22.00	1.452	0.211	22.7
Body worn Test data(Separate 15mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.137	-0.05	20.33	22.00	1.469	0.201	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.165	-0.12	20.33	22.00	1.469	0.242	22.7
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1	0.124	0.02	20.38	22.00	1.452	0.180	22.7
Back side	100	QPSK 1_1	518598/2592.99	1:1	0.145	0.08	20.38	22.00	1.452	0.211	22.7
Left side	100	QPSK 1_1	518598/2592.99	1:1	0.289	0.05	20.38	22.00	1.452	0.420	22.7
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1	0.137	-0.01	20.33	22.00	1.469	0.201	22.7
Back side	100	QPSK 135_69	518598/2592.99	1:1	0.165	0.14	20.33	22.00	1.469	0.242	22.7
Left side	100	QPSK 135_69	518598/2592.99	1:1	0.303	0.16	20.33	22.00	1.469	0.445	22.7

Table 29：SAR of 5G NR n41 for Head, Body and Hotspot.

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Top side	518598/2592.99	0.938	0.927	1.011866235	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						

8.2.20 SAR Result of 5G NR n66

SA N66 SAR Test Record											
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	349000/1745	1:1	0.405	0.18	16.97	18.00	1.268	0.513	22.5
Left tilted	40	QPSK 1_1	349000/1745	1:1	0.449	-0.07	16.97	18.00	1.268	0.569	22.5
Right cheek	40	QPSK 1_1	349000/1745	1:1	0.629	-0.10	16.97	18.00	1.268	0.797	22.5
Right tilted	40	QPSK 1_1	349000/1745	1:1	0.483	0.13	16.97	18.00	1.268	0.612	22.5
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	349000/1745	1:1	0.486	-0.07	16.92	18.00	1.282	0.623	22.5
Left tilted	40	QPSK 108_54	349000/1745	1:1	0.533	0.05	16.92	18.00	1.282	0.683	22.5
Right cheek	40	QPSK 108_54	349000/1745	1:1	0.777	-0.10	16.92	18.00	1.282	**0.996**	22.5
Right tilted	40	QPSK 108_54	349000/1745	1:1	0.606	0.04	16.92	18.00	1.282	0.777	22.5
Head Test data(100%RB)											
Right cheek	40	QPSK 216_0	349000/1745	1:1	0.634	-0.05	15.89	17.00	1.291	0.819	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.373	-0.12	21.94	23.00	1.276	0.476	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.576	-0.01	21.94	23.00	1.276	0.735	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.403	-0.06	21.89	23.00	1.291	0.520	22.5
Back side	40	QPSK 108_54	349000/1745	1:1	0.592	-0.01	21.89	23.00	1.291	**0.764**	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.373	-0.11	21.94	23.00	1.276	0.476	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.576	-0.12	21.94	23.00	1.276	0.735	22.5
Left side	40	QPSK 1_1	349000/1745	1:1	0.212	0.15	21.94	23.00	1.276	0.271	22.5
Top side	40	QPSK 1_1	349000/1745	1:1	0.622	0.08	21.94	23.00	1.276	0.794	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.403	0.19	21.89	23.00	1.291	0.520	22.5
Back side	40	QPSK 108_54	349000/1745	1:1	0.592	0.14	21.89	23.00	1.291	0.764	22.5
Left side	40	QPSK 108_54	349000/1745	1:1	0.246	-0.14	21.89	23.00	1.291	0.318	22.5
Top side	40	QPSK 108_54	349000/1745	1:1	0.635	0.02	21.89	23.00	1.291	**0.820**	22.5
Hotspot Test data (Separate 10mm 100%RB)											
Top side	40	QPSK 216_0	349000/1745	1:1	0.627	0.13	20.88	22.00	1.294	0.811	22.5
Ant4 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	349000/1745	1:1	0.104	0.19	24.23	25.00	1.194	0.124	22.5
Left tilted	40	QPSK 1_1	349000/1745	1:1	0.050	0.03	24.23	25.00	1.194	0.060	22.5

Right cheek	40	QPSK 1_1	349000/1745	1:1	0.107	0.03	24.23	25.00	1.194	0.128	22.5
Right tilted	40	QPSK 1_1	349000/1745	1:1	0.051	-0.16	24.23	25.00	1.194	0.061	22.5
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	349000/1745	1:1	0.113	-0.10	24.18	25.00	1.208	0.136	22.5
Left tilted	40	QPSK 108_54	349000/1745	1:1	0.062	0.00	24.18	25.00	1.208	0.075	22.5
Right cheek	40	QPSK 108_54	349000/1745	1:1	0.121	-0.04	24.18	25.00	1.208	0.146	22.5
Right tilted	40	QPSK 108_54	349000/1745	1:1	0.065	0.15	24.18	25.00	1.208	0.079	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.290	0.01	20.67	21.50	1.211	0.351	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.326	0.14	20.67	21.50	1.211	0.395	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.311	0.06	20.61	21.50	1.227	0.382	22.5
Back side	40	QPSK 108_54	349000/1745	1:1	0.349	0.11	20.61	21.50	1.227	0.428	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.290	-0.14	20.67	21.50	1.211	0.351	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.326	0.12	20.67	21.50	1.211	0.395	22.5
Right side	40	QPSK 1_1	349000/1745	1:1	0.109	0.18	20.67	21.50	1.211	0.132	22.5
Bottom side	40	QPSK 1_1	349000/1745	1:1	0.539	-0.16	20.67	21.50	1.211	0.653	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.311	0.09	20.61	21.50	1.227	0.382	22.5
Back side	40	QPSK 108_54	349000/1745	1:1	0.349	0.13	20.61	21.50	1.227	0.428	22.5
Right side	40	QPSK 108_54	349000/1745	1:1	0.131	0.09	20.61	21.50	1.227	0.161	22.5
Bottom side	40	QPSK 108_54	349000/1745	1:1	0.553	0.04	20.61	21.50	1.227	0.679	22.5
Ant5 Test Record											
Test position	**BW.**	**Modulation**	**Test ch./Freq.**	**Duty Cycle**	**SAR (W/kg) 1-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)											
Left cheek	40	QPSK 1_1	349000/1745	1:1	0.199	0.15	23.23	24.00	1.194	0.238	22.5
Left tilted	40	QPSK 1_1	349000/1745	1:1	0.003	-0.03	23.23	24.00	1.194	0.004	22.5
Right cheek	40	QPSK 1_1	349000/1745	1:1	0.338	0.16	23.23	24.00	1.194	0.404	22.5
Right tilted	40	QPSK 1_1	349000/1745	1:1	0.054	0.12	23.23	24.00	1.194	0.064	22.5
Head Test data(50%RB)											
Left cheek	40	QPSK 108_54	349000/1745	1:1	0.253	0.13	23.16	24.00	1.213	0.307	22.5
Left tilted	40	QPSK 108_54	349000/1745	1:1	0.043	0.00	23.16	24.00	1.213	0.052	22.5
Right cheek	40	QPSK 108_54	349000/1745	1:1	0.382	-0.15	23.16	24.00	1.213	0.464	22.5
Right tilted	40	QPSK 108_54	349000/1745	1:1	0.059	0.06	23.16	24.00	1.213	0.072	22.5
Body worn Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.101	-0.02	23.23	24.00	1.194	0.121	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.139	-0.10	23.23	24.00	1.194	0.166	22.5
Body worn Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.128	-0.05	23.16	24.00	1.213	0.155	22.5

Back side	40	QPSK 108_54	349000/1745	1:1	0.157	0.06	23.16	24.00	1.213	0.191	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.101	-0.18	23.23	24.00	1.194	0.121	22.5
Back side	40	QPSK 1_1	349000/1745	1:1	0.139	-0.01	23.23	24.00	1.194	0.166	22.5
Left side	40	QPSK 1_1	349000/1745	1:1	0.259	-0.16	23.23	24.00	1.194	0.309	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.128	-0.01	23.16	24.00	1.213	0.155	22.5
Back side	40	QPSK 108_54	349000/1745	1:1	0.157	0.09	23.16	24.00	1.213	0.191	22.5
Left side	40	QPSK 108_54	349000/1745	1:1	0.273	-0.18	23.16	24.00	1.213	0.331	22.5

Table 30：SAR of 5G NR n66 for Head, Body and Hotspot.

8.2.21 SAR Result of 5G NR n71

SA N71 SAR Test Record											
Ant0 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	136100/680.5	1:1	0.077	-0.06	23.44	24.00	1.138	0.088	22.5
Left tilted	20	QPSK 1_1	136100/680.5	1:1	0.000	0.08	23.44	24.00	1.138	0.000	22.5
Right cheek	20	QPSK 1_1	136100/680.5	1:1	0.063	-0.09	23.44	24.00	1.138	0.072	22.5
Right tilted	20	QPSK 1_1	136100/680.5	1:1	0.000	0.10	23.44	24.00	1.138	0.000	22.5
Head Test data(50%RB)											
Left cheek	20	QPSK 50_25	136100/680.5	1:1	0.092	0.03	23.39	24.00	1.151	0.106	22.5
Left tilted	20	QPSK 50_25	136100/680.5	1:1	0.000	0.11	23.39	24.00	1.151	0.000	22.5
Right cheek	20	QPSK 50_25	136100/680.5	1:1	0.074	-0.11	23.39	24.00	1.151	0.085	22.5
Right tilted	20	QPSK 50_25	136100/680.5	1:1	0.000	0.06	23.39	24.00	1.151	0.000	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	136100/680.5	1:1	0.087	0.07	23.44	24.00	1.138	0.099	22.5
Back side	20	QPSK 1_1	136100/680.5	1:1	0.101	0.11	23.44	24.00	1.138	0.115	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_25	136100/680.5	1:1	0.112	0.05	23.39	24.00	1.151	0.129	22.5
Back side	20	QPSK 50_25	136100/680.5	1:1	0.123	-0.01	23.39	24.00	1.151	**0.142**	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	136100/680.5	1:1	0.087	0.01	23.44	24.00	1.138	0.099	22.5
Back side	20	QPSK 1_1	136100/680.5	1:1	0.101	-0.07	23.44	24.00	1.138	0.115	22.5
Left side	20	QPSK 1_1	136100/680.5	1:1	0.163	-0.16	23.44	24.00	1.138	0.185	22.5
Bottom side	20	QPSK 1_1	136100/680.5	1:1	0.051	-0.13	23.44	24.00	1.138	0.058	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_25	136100/680.5	1:1	0.112	-0.18	23.39	24.00	1.151	0.129	22.5
Back side	20	QPSK 50_25	136100/680.5	1:1	0.123	0.13	23.39	24.00	1.151	0.142	22.5
Left side	20	QPSK 50_25	136100/680.5	1:1	0.183	0.01	23.39	24.00	1.151	**0.211**	22.5
Bottom side	20	QPSK 50_25	136100/680.5	1:1	0.074	-0.08	23.39	24.00	1.151	0.085	22.5
Ant1 Test Record											
Test position	BW.	Modulation	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-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)											
Left cheek	20	QPSK 1_1	136100/680.5	1:1	0.147	-0.06	22.91	23.50	1.146	0.168	22.5
Left tilted	20	QPSK 1_1	136100/680.5	1:1	0.130	0.17	22.91	23.50	1.146	0.149	22.5
Right cheek	20	QPSK 1_1	136100/680.5	1:1	0.296	-0.18	22.91	23.50	1.146	0.339	22.5
Right tilted	20	QPSK 1_1	136100/680.5	1:1	0.288	0.04	22.91	23.50	1.146	0.330	22.5
Head Test data(50%RB)											
Left cheek	20	QPSK 50_25	136100/680.5	1:1	0.157	-0.01	22.82	23.50	1.169	0.184	22.5

Left tilted	20	QPSK 50_25	136100/680.5	1:1	0.132	-0.04	22.82	23.50	1.169	0.154	22.5
Right cheek	20	QPSK 50_25	136100/680.5	1:1	0.305	-0.09	22.82	23.50	1.169	**0.357**	22.5
Right tilted	20	QPSK 50_25	136100/680.5	1:1	0.298	-0.04	22.82	23.50	1.169	0.349	22.5
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1_1	136100/680.5	1:1	0.049	0.14	22.91	23.50	1.146	0.056	22.5
Back side	20	QPSK 1_1	136100/680.5	1:1	0.079	0.02	22.91	23.50	1.146	0.090	22.5
Body worn Test data(Separate 15mm 50%RB)											
Front side	20	QPSK 50_25	136100/680.5	1:1	0.057	-0.06	22.82	23.50	1.169	0.067	22.5
Back side	20	QPSK 50_25	136100/680.5	1:1	0.086	-0.12	22.82	23.50	1.169	0.101	22.5
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	136100/680.5	1:1	0.049	-0.19	22.91	23.50	1.146	0.056	22.5
Back side	20	QPSK 1_1	136100/680.5	1:1	0.079	-0.13	22.91	23.50	1.146	0.090	22.5
Left side	20	QPSK 1_1	136100/680.5	1:1	0.139	-0.10	22.91	23.50	1.146	0.159	22.5
Top side	20	QPSK 1_1	136100/680.5	1:1	0.071	0.05	22.91	23.50	1.146	0.081	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_25	136100/680.5	1:1	0.057	-0.04	22.82	23.50	1.169	0.067	22.5
Back side	20	QPSK 50_25	136100/680.5	1:1	0.086	0.19	22.82	23.50	1.169	0.101	22.5
Left side	20	QPSK 50_25	136100/680.5	1:1	0.159	0.15	22.82	23.50	1.169	0.186	22.5
Top side	20	QPSK 50_25	136100/680.5	1:1	0.099	0.08	22.82	23.50	1.169	0.116	22.5

Table 31：SAR of 5G NR n71 for Head, Body and Hotspot.

8.2.22 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record											
Ant8 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data											
Left cheek	802.11b	11/2462	99.56%	1.004	0.243	0.07	12.48	13.00	1.127	**0.275**	22.4
Left tilted	802.11b	11/2462	99.56%	1.004	0.165	-0.03	12.48	13.00	1.127	0.187	22.4
Right cheek	802.11b	11/2462	99.56%	1.004	0.096	-0.07	12.48	13.00	1.127	0.109	22.4
Right tilted	802.11b	11/2462	99.56%	1.004	0.108	-0.05	12.48	13.00	1.127	0.122	22.4
Body worn Test data(Separate 10mm)											
Front side	802.11b	11/2462	99.56%	1.004	0.024	-0.10	12.48	13.00	1.127	0.027	22.4
Back side	802.11b	11/2462	99.56%	1.004	0.056	-0.09	12.48	13.00	1.127	**0.063**	22.4
Hotspot Test data (Separate 10mm)											
Front side	802.11b	11/2462	99.56%	1.004	0.024	0.05	12.48	13.00	1.127	0.027	22.4
Back side	802.11b	11/2462	99.56%	1.004	0.056	-0.04	12.48	13.00	1.127	**0.063**	22.4
Right side	802.11b	11/2462	99.56%	1.004	0.007	-0.01	12.48	13.00	1.127	0.008	22.4
Top side	802.11b	11/2462	99.56%	1.004	0.018	-0.01	12.48	13.00	1.127	0.020	22.4

Table 32：SAR of WIFI 2.4G for Head, Body and Hotspot.

Note: 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.

8.2.23 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record											
Ant8 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data of U-NII-2A											
Left cheek	802.11a	64/53220	97.07%	1.030	0.597	0.05	12.76	14.00	1.330	**0.818**	22.3
Left cheek	802.11a	52/5260	97.07%	1.030	0.568	0.01	12.66	14.00	1.361	0.797	22.3
Left tilted	802.11a	64/53220	97.07%	1.030	0.533	-0.14	12.76	14.00	1.330	0.731	22.3
Right cheek	802.11a	64/53220	97.07%	1.030	0.258	-0.16	12.76	14.00	1.330	0.354	22.3
Right tilted	802.11a	64/53220	97.07%	1.030	0.364	0.18	12.76	14.00	1.330	0.499	22.3
Head Test data of U-NII-2C											
Left cheek	802.11a	116/5580	97.07%	1.030	0.542	0.03	13.08	14.00	1.236	**0.690**	22.2
Left tilted	802.11a	116/5580	97.07%	1.030	0.520	0.15	13.08	14.00	1.236	0.662	22.2
Right cheek	802.11a	116/5580	97.07%	1.030	0.264	0.01	13.08	14.00	1.236	0.336	22.2
Right tilted	802.11a	116/5580	97.07%	1.030	0.356	-0.12	13.08	14.00	1.236	0.453	22.2
Head Test data of U-NII-3											
Left cheek	802.11n 40M	151/5755	93.74%	1.067	0.679	-0.02	15.07	15.50	1.104	**0.800**	22.2
Left tilted	802.11n 40M	151/5755	93.74%	1.067	0.652	0.09	15.07	15.50	1.104	0.768	22.2
Right cheek	802.11n 40M	151/5755	93.74%	1.067	0.352	-0.01	15.07	15.50	1.104	0.415	22.2
Right tilted	802.11n 40M	151/5755	93.74%	1.067	0.388	-0.18	15.07	15.50	1.104	0.457	22.2
Head Test data of U-NII-2A(WWAN+WIFI5G)											
Left cheek	802.11a	64/53220	97.07%	1.030	0.597	0.05	12.76	10.50	0.594	0.366	22.3
Left cheek	802.11a	52/5260	97.07%	1.030	0.568	0.01	12.66	10.50	0.608	0.356	22.3
Left tilted	802.11a	64/53220	97.07%	1.030	0.533	-0.14	12.76	10.50	0.594	0.326	22.3
Right cheek	802.11a	64/53220	97.07%	1.030	0.258	-0.16	12.76	10.50	0.594	0.158	22.3
Right tilted	802.11a	64/53220	97.07%	1.030	0.364	0.18	12.76	10.50	0.594	0.223	22.3
Head Test data of U-NII-2C(WWAN+WIFI5G)											
Left cheek	802.11a	116/5580	97.07%	1.030	0.542	0.03	13.08	10.50	0.552	0.308	22.2
Left tilted	802.11a	116/5580	97.07%	1.030	0.520	0.15	13.08	10.50	0.552	0.296	22.2
Right cheek	802.11a	116/5580	97.07%	1.030	0.264	0.01	13.08	10.50	0.552	0.150	22.2
Right tilted	802.11a	116/5580	97.07%	1.030	0.356	-0.12	13.08	10.50	0.552	0.202	22.2
Head Test data of U-NII-3(WWAN+WIFI5G)											
Left cheek	802.11n 40M	151/5755	93.74%	1.067	0.679	-0.02	15.07	12.00	0.493	0.357	22.2
Left tilted	802.11n 40M	151/5755	93.74%	1.067	0.652	0.09	15.07	12.00	0.493	0.343	22.2
Right cheek	802.11n 40M	151/5755	93.74%	1.067	0.352	-0.01	15.07	12.00	0.493	0.185	22.2
Right tilted	802.11n 40M	151/5755	93.74%	1.067	0.388	-0.18	15.07	12.00	0.493	0.204	22.2
Body worn Test data of U-NII-2A (Separate 15mm)											
Front side	802.11a	52/5260	97.07%	1.030	0.215	0.17	16.77	18.00	1.327	0.294	22.3
Back side	802.11a	52/5260	97.07%	1.030	0.239	0.09	16.77	18.00	1.327	**0.327**	22.3

Body worn Test data of U-NII-2C(Separate 15mm)											
Front side	802.11a	116/5580	97.07%	1.030	0.275	-0.08	17.25	18.00	1.189	0.337	22.2
Back side	802.11a	116/5580	97.07%	1.030	0.306	0.04	17.25	18.00	1.189	**0.375**	22.2
Body worn Test data of U-NII-3(Separate 15mm)											
Front side	802.11n 40M	151/5755	93.74%	1.067	0.300	-0.03	17.10	17.50	1.096	0.351	22.2
Back side	802.11n 40M	151/5755	93.74%	1.067	0.312	0.02	17.10	17.50	1.096	**0.365**	22.2
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11a	36/5180	97.07%	1.030	0.124	-0.02	11.69	13.00	1.352	0.173	22.3
Back side	802.11a	36/5180	97.07%	1.030	0.146	-0.07	11.69	13.00	1.352	0.203	22.3
Right side	802.11a	36/5180	97.07%	1.030	0.167	-0.04	11.69	13.00	1.352	0.233	22.3
Top side	802.11a	36/5180	97.07%	1.030	0.174	-0.06	11.69	13.00	1.352	**0.242**	22.3
Hotspot Test data of U-NII-3 (Separate 10mm)											
Front side	802.11n 40M	151/5755	93.74%	1.067	0.136	0.01	12.56	13.00	1.107	0.161	22.2
Back side	802.11n 40M	151/5755	93.74%	1.067	0.164	-0.06	12.56	13.00	1.107	0.194	22.2
Right side	802.11n 40M	151/5755	93.74%	1.067	0.253	-0.02	12.56	13.00	1.107	0.299	22.2
Top side	802.11n 40M	151/5755	93.74%	1.067	0.275	0.01	12.56	13.00	1.107	**0.325**	22.2
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 10-g (W/kg)**	**Liquid Temp.(℃)**
Product specific 10gSAR Test data of U-NII-2A(Separate 0mm)											
Front side	802.11a	64/53220	97.07%	1.030	0.993	0.07	16.77	18.00	1.327	1.358	22.3
Back side	802.11a	64/53220	97.07%	1.030	0.859	-0.05	16.77	18.00	1.327	1.175	22.3
Right side	802.11a	64/53220	97.07%	1.030	1.180	0.14	16.77	18.00	1.327	1.614	22.3
Top side	802.11a	64/53220	97.07%	1.030	2.140	0.06	16.77	18.00	1.327	**2.926**	22.3
Top side	802.11a	52/5260	97.07%	1.030	2.030	-0.01	16.77	18.00	1.327	2.776	22.3
Product specific 10gSAR Test data of U-NII-2C(Separate 0mm)											
Front side	802.11a	116/5580	97.07%	1.030	1.310	0.16	17.25	18.00	1.189	1.604	22.2
Back side	802.11a	116/5580	97.07%	1.030	1.130	-0.17	17.25	18.00	1.189	1.384	22.2
Right side	802.11a	116/5580	97.07%	1.030	1.590	0.19	17.25	18.00	1.189	1.947	22.2
Top side	802.11a	116/5580	97.07%	1.030	2.390	-0.06	17.25	18.00	1.189	**2.926**	22.2
Top side	802.11a	120/5600	97.07%	1.030	2.120	0.09	17.13	18.00	1.222	2.668	22.2

Table 33：SAR of WIFI 5G for Head, Body and Hotspot.

Note:

1) As the 802.11a highest reported SAR is smaller than 1.2 W/kg , and the tune-up of the other 802.11 modes are not higher than 802.11a,therefore the adjusted SAR is ≤ 1.2 W/kg for other 802.11 modes, SAR test for the other 802.11 modes are not required. For Product specific 10gSAR the highest reported SAR is smaller than 3.0 W/kg, SAR test for the other 802.11 modes are also not required.

8.2.24 SAR Result of BT

Bluetooth SAR Test Record											
Ant8 Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test data											
Left cheek	DH5	78/2480	77.21%	1.295	0.237	-0.01	15.67	16.00	1.079	**0.331**	22.4
Left tilted	DH5	78/2480	77.21%	1.295	0.134	-0.12	15.67	16.00	1.079	0.187	22.4
Right cheek	DH5	78/2480	77.21%	1.295	0.085	0.18	15.67	16.00	1.079	0.119	22.4
Right tilted	DH5	78/2480	77.21%	1.295	0.107	-0.13	15.67	16.00	1.079	0.150	22.4
Body worn Test data(Separate 10mm)											
Front side	DH5	78/2480	77.21%	1.302	0.021	-0.07	15.67	16.00	1.079	0.030	22.4
Back side	DH5	78/2480	77.21%	1.302	0.056	-0.03	15.67	16.00	1.079	**0.079**	22.4
Hotspot Test data (Separate 10mm)											
Front side	DH5	78/2480	77.21%	1.302	0.021	-0.07	15.67	16.00	1.079	0.030	22.4
Back side	DH5	78/2480	77.21%	1.302	0.056	-0.03	15.67	16.00	1.079	**0.079**	22.4
Right side	DH5	78/2480	77.21%	1.302	0.051	0.12	15.67	16.00	1.079	0.072	22.4
Top side	DH5	78/2480	77.21%	1.302	0.044	0.04	15.67	16.00	1.079	0.062	22.4

Table 34：SAR of BT for Head, Body and Hotspot.

8.2.25 SAR Result of NFC

NFC SAR Test Record									
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 10-g	Power drift (dB)	Scaled factor	Scaled SAR 10-g (W/kg)	Liquid Temp.(℃)
NFC Test data (Separate 0mm)									
Front side	NFC	13.56MHz	100.00%	1.000	0.001	0.01	1.000	0.001	22.5
Back side	NFC	13.56MHz	100.00%	1.000	0.007	0.09	1.000	0.007	22.5
Left side	NFC	13.56MHz	100.00%	1.000	0.000	0.00	1.000	0.000	22.5
Right side	NFC	13.56MHz	100.00%	1.000	0.000	0.00	1.000	0.000	22.5
Top side	NFC	13.56MHz	100.00%	1.000	0.000	0.00	1.000	0.000	22.5
Bottom side	NFC	13.56MHz	100.00%	1.000	0.000	0.00	1.000	0.000	22.5

Table 35：SAR of NFC.

8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous SAR SAR test evaluation

•Simultaneous Transmission Possibilities

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) For Wi-Fi 5G, U-NII-1 (5150–5250 MHz) and U-NII-3 (5725-5850 MHz) bands does support hotspot 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) Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required it wireless router 1g SAR(Scaled to the maximum output power ,including tolerance) ＜ 1.2 W/Kg. Therefore, no further analysis beyond tables included in this section was required to determine that possible Simultaneous transmission scenarios would not exceed the SAR limit.

8.3.2 Simultaneous Transmission SAR Summation Scenario

Head:

Test position		SARmax (W/kg)				Summed SAR	
		WWAN	WIFI2.4G	WIFI5G	BT		
		1	2	3	4	1+2	1+3+4
GSM850	Left cheek	0.159	0.275	0.366	0.331	0.434	0.856
	Left tilted	0.088	0.187	0.000	0.187	0.275	0.275
	Right cheek	0.212	0.109	0.185	0.119	0.321	0.516
	Right tilted	0.177	0.122	0.000	0.150	0.299	0.327
GSM1900	Left cheek	0.492	0.275	0.366	0.331	0.767	1.189
	Left tilted	0.544	0.187	0.000	0.187	0.731	0.731
	Right cheek	0.742	0.109	0.185	0.119	0.851	1.046
	Right tilted	0.599	0.122	0.000	0.150	0.721	0.749
WCDMA II	Left cheek	0.466	0.275	0.366	0.331	0.741	1.163
	Left tilted	0.544	0.187	0.000	0.187	0.731	0.731
	Right cheek	1.173	0.109	0.185	0.119	1.282	1.477
	Right tilted	0.720	0.122	0.000	0.150	0.842	0.870
WCDMA IV	Left cheek	0.332	0.275	0.366	0.331	0.607	1.029
	Left tilted	0.376	0.187	0.000	0.187	0.563	0.563
	Right cheek	0.626	0.109	0.185	0.119	0.735	0.930
	Right tilted	0.405	0.122	0.000	0.150	0.527	0.555
WCDMA V	Left cheek	0.177	0.275	0.366	0.331	0.452	0.874
	Left tilted	0.157	0.187	0.000	0.187	0.344	0.344
	Right cheek	0.281	0.109	0.185	0.119	0.390	0.585
	Right tilted	0.266	0.122	0.000	0.150	0.388	0.416
LTE B2	Left cheek	0.457	0.275	0.366	0.331	0.732	1.154
	Left tilted	0.543	0.187	0.000	0.187	0.730	0.730
	Right cheek	1.161	0.109	0.185	0.119	1.270	1.465
	Right tilted	0.671	0.122	0.000	0.150	0.793	0.821
LTE B4	Left cheek	0.442	0.275	0.366	0.331	0.717	1.139
	Left tilted	0.491	0.187	0.000	0.187	0.678	0.678
	Right cheek	0.742	0.109	0.185	0.119	0.851	1.046
	Right tilted	0.511	0.122	0.000	0.150	0.633	0.661
LTE B5	Left cheek	0.229	0.275	0.366	0.331	0.504	0.926
	Left tilted	0.204	0.187	0.000	0.187	0.391	0.391
	Right cheek	0.421	0.109	0.185	0.119	0.530	0.725
	Right tilted	0.337	0.122	0.000	0.150	0.459	0.487
LTE B7	Left cheek	0.598	0.275	0.366	0.331	0.873	1.295
	Left tilted	0.439	0.187	0.000	0.187	0.626	0.626
	Right cheek	0.866	0.109	0.185	0.119	0.975	1.170
	Right tilted	0.727	0.122	0.000	0.150	0.849	0.877
LTE B12	Left cheek	0.195	0.275	0.366	0.331	0.470	0.892

	Left tilted	0.178	0.187	0.000	0.187	0.365	0.365
	Right cheek	0.428	0.109	0.185	0.119	0.537	0.732
	Right tilted	0.313	0.122	0.000	0.150	0.435	0.463
LTE B13	Left cheek	0.196	0.275	0.366	0.331	0.471	0.893
	Left tilted	0.181	0.187	0.000	0.187	0.368	0.368
	Right cheek	0.332	0.109	0.185	0.119	0.441	0.636
	Right tilted	0.303	0.122	0.000	0.150	0.425	0.453
LTE B17	Left cheek	0.195	0.275	0.366	0.331	0.470	0.892
	Left tilted	0.178	0.187	0.000	0.187	0.365	0.365
	Right cheek	0.428	0.109	0.185	0.119	0.537	0.732
	Right tilted	0.313	0.122	0.000	0.150	0.435	0.463
LTE B26	Left cheek	0.229	0.275	0.366	0.331	0.504	0.926
	Left tilted	0.204	0.187	0.000	0.187	0.391	0.391
	Right cheek	0.421	0.109	0.185	0.119	0.530	0.725
	Right tilted	0.337	0.122	0.000	0.150	0.459	0.487
LTE B38	Left cheek	0.230	0.275	0.366	0.331	0.505	0.927
	Left tilted	0.291	0.187	0.000	0.187	0.478	0.478
	Right cheek	0.512	0.109	0.185	0.119	0.621	0.816
	Right tilted	0.509	0.122	0.000	0.150	0.631	0.659
LTE B41	Left cheek	0.230	0.275	0.366	0.331	0.505	0.927
	Left tilted	0.291	0.187	0.000	0.187	0.478	0.478
	Right cheek	0.512	0.109	0.185	0.119	0.621	0.816
	Right tilted	0.509	0.122	0.000	0.150	0.631	0.659
LTE B66	Left cheek	0.442	0.275	0.366	0.331	0.717	1.139
	Left tilted	0.491	0.187	0.000	0.187	0.678	0.678
	Right cheek	0.742	0.109	0.185	0.119	0.851	1.046
	Right tilted	0.511	0.122	0.000	0.150	0.633	0.661
LTE B71	Left cheek	0.161	0.275	0.366	0.331	0.436	0.858
	Left tilted	0.167	0.187	0.000	0.187	0.354	0.354
	Right cheek	0.297	0.109	0.185	0.119	0.406	0.601
	Right tilted	0.275	0.122	0.000	0.150	0.397	0.425
N2	Left cheek	0.619	0.275	0.366	0.331	0.894	1.316
	Left tilted	0.750	0.187	0.000	0.187	0.937	0.937
	Right cheek	1.104	0.109	0.185	0.119	1.213	1.408
	Right tilted	0.892	0.122	0.000	0.150	1.014	1.042
N5	Left cheek	0.387	0.275	0.366	0.331	0.662	1.084
	Left tilted	0.353	0.187	0.000	0.187	0.540	0.540
	Right cheek	0.654	0.109	0.185	0.119	0.763	0.958
	Right tilted	0.523	0.122	0.000	0.150	0.645	0.673
N7	Left cheek	0.421	0.275	0.366	0.331	0.696	1.118
	Left tilted	0.490	0.187	0.000	0.187	0.677	0.677
	Right cheek	0.940	0.109	0.185	0.119	1.049	1.244

	Right tilted	0.877	0.122	0.000	0.150	0.999	1.027
N26	Left cheek	0.387	0.275	0.366	0.331	0.662	1.084
	Left tilted	0.353	0.187	0.000	0.187	0.540	0.540
	Right cheek	0.654	0.109	0.185	0.119	0.763	0.958
	Right tilted	0.523	0.122	0.000	0.150	0.645	0.673
N38	Left cheek	0.799	0.275	0.366	0.331	1.074	1.496
	Left tilted	0.187	0.187	0.000	0.187	0.374	0.374
	Right cheek	0.541	0.109	0.185	0.119	0.650	0.845
	Right tilted	0.411	0.122	0.000	0.150	0.533	0.561
N41	Left cheek	0.403	0.275	0.366	0.331	0.678	1.100
	Left tilted	0.464	0.187	0.000	0.187	0.651	0.651
	Right cheek	0.936	0.109	0.185	0.119	1.045	1.240
	Right tilted	0.927	0.122	0.000	0.150	1.049	1.077
N66	Left cheek	0.623	0.275	0.366	0.331	0.898	1.320
	Left tilted	0.683	0.187	0.000	0.187	0.870	0.870
	Right cheek	0.996	0.109	0.185	0.119	1.105	1.300
	Right tilted	0.777	0.122	0.000	0.150	0.899	0.927
N71	Left cheek	0.184	0.275	0.366	0.331	0.459	0.881
	Left tilted	0.154	0.187	0.000	0.187	0.341	0.341
	Right cheek	0.357	0.109	0.185	0.119	0.466	0.661
	Right tilted	0.349	0.122	0.000	0.150	0.471	0.499

Simultaneous Transmission SAR Summation Scenario for WLAN Body:
Body-worn:

Test position		SARmax (W/kg)				Summed SAR	
		WWAN	WIFI2.4G	WIFI5G	BT		
		1	2	3	4	1+2	1+3+4
GSM850	Front side	0.249	0.027	0.351	0.030	0.276	0.630
	Back side	0.313	0.063	0.375	0.079	0.376	0.767
GSM1900	Front side	0.207	0.027	0.351	0.030	0.234	0.588
	Back side	0.304	0.063	0.375	0.079	0.367	0.758
WCDMA II	Front side	0.571	0.027	0.351	0.030	0.598	0.952
	Back side	1.057	0.063	0.375	0.079	1.120	1.511
WCDMA IV	Front side	0.485	0.027	0.351	0.030	0.512	0.866
	Back side	0.710	0.063	0.375	0.079	0.773	1.164
WCDMA V	Front side	0.221	0.027	0.351	0.030	0.248	0.602
	Back side	0.305	0.063	0.375	0.079	0.368	0.759
LTE B2	Front side	0.525	0.027	0.351	0.030	0.552	0.906
	Back side	0.796	0.063	0.375	0.079	0.859	1.250
LTE B4	Front side	0.466	0.027	0.351	0.030	0.493	0.847
	Back side	0.652	0.063	0.375	0.079	0.715	1.106
LTE B5	Front side	0.217	0.027	0.351	0.030	0.244	0.598
	Back side	0.239	0.063	0.375	0.079	0.302	0.693
LTE B7	Front side	0.274	0.027	0.351	0.030	0.301	0.655
	Back side	0.484	0.063	0.375	0.079	0.547	0.938
LTE B12	Front side	0.135	0.027	0.351	0.030	0.162	0.516
	Back side	0.165	0.063	0.375	0.079	0.228	0.619
LTE B13	Front side	0.170	0.027	0.351	0.030	0.197	0.551
	Back side	0.248	0.063	0.375	0.079	0.311	0.702
LTE B17	Front side	0.135	0.027	0.351	0.030	0.162	0.516
	Back side	0.165	0.063	0.375	0.079	0.228	0.619
LTE B26	Front side	0.217	0.027	0.351	0.030	0.244	0.598
	Back side	0.239	0.063	0.375	0.079	0.302	0.693
LTE B38	Front side	0.251	0.027	0.351	0.030	0.278	0.632
	Back side	0.293	0.063	0.375	0.079	0.356	0.747
LTE B41	Front side	0.251	0.027	0.351	0.030	0.278	0.632
	Back side	0.293	0.063	0.375	0.079	0.356	0.747
LTE B66	Front side	0.466	0.027	0.351	0.030	0.493	0.847
	Back side	0.652	0.063	0.375	0.079	0.715	1.106
LTE B71	Front side	0.131	0.027	0.351	0.030	0.158	0.512
	Back side	0.142	0.063	0.375	0.079	0.205	0.596
N2	Front side	0.654	0.027	0.351	0.030	0.681	1.035
	Back side	1.008	0.063	0.375	0.079	1.071	1.462
N5	Front side	0.217	0.027	0.351	0.030	0.244	0.598

	Back side	0.310	0.063	0.375	0.079	0.373	0.764
N7	Front side	0.454	0.027	0.351	0.030	0.481	0.835
	Back side	0.730	0.063	0.375	0.079	0.793	1.184
N26	Front side	0.210	0.027	0.351	0.030	0.237	0.591
	Back side	0.271	0.063	0.375	0.079	0.334	0.725
N38	Front side	0.443	0.027	0.351	0.030	0.470	0.824
	Back side	0.824	0.063	0.375	0.079	0.887	1.278
N41	Front side	0.443	0.027	0.351	0.030	0.470	0.824
	Back side	0.824	0.063	0.375	0.079	0.887	1.278
N66	Front side	0.520	0.027	0.351	0.030	0.547	0.901
	Back side	0.764	0.063	0.375	0.079	0.827	1.218
N71	Front side	0.129	0.027	0.351	0.030	0.156	0.510
	Back side	0.142	0.063	0.375	0.079	0.205	0.596

Hotspot:

Test position		SARmax (W/kg)				Summed SAR	
		WWAN	WIFI2.4G	WIFI5G	BT		
		1	2	3	4	1+2	1+3+4
GSM850	Front side	0.249	0.027	0.173	0.030	0.276	0.452
	Back side	0.313	0.063	0.203	0.079	0.376	0.595
	Left side	0.152	0.000	0.000	0.000	0.152	0.152
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.086	0.020	0.325	0.062	0.106	0.473
	Bottom side	0.172	0.000	0.000	0.000	0.172	0.172
GSM1900	Front side	0.207	0.027	0.173	0.030	0.234	0.410
	Back side	0.304	0.063	0.203	0.079	0.367	0.586
	Left side	0.078	0.000	0.000	0.000	0.078	0.078
	Right side	0.104	0.008	0.299	0.072	0.112	0.475
	Top side	0.436	0.020	0.325	0.062	0.456	0.823
	Bottom side	0.423	0.000	0.000	0.000	0.423	0.423
WCDMA II	Front side	0.571	0.027	0.173	0.030	0.598	0.774
	Back side	1.057	0.063	0.203	0.079	1.120	1.339
	Left side	0.323	0.000	0.000	0.000	0.323	0.323
	Right side	0.132	0.008	0.299	0.072	0.140	0.503
	Top side	1.177	0.020	0.325	0.062	1.197	1.564
	Bottom side	0.889	0.000	0.000	0.000	0.889	0.889
WCDMA IV	Front side	0.485	0.027	0.173	0.030	0.512	0.688
	Back side	0.710	0.063	0.203	0.079	0.773	0.992
	Left side	0.255	0.000	0.000	0.000	0.255	0.255
	Right side	0.164	0.008	0.299	0.072	0.172	0.535
	Top side	1.065	0.020	0.325	0.062	1.085	1.452
	Bottom side	1.000	0.000	0.000	0.000	1.000	1.000
WCDMA V	Front side	0.221	0.027	0.173	0.030	0.248	0.424
	Back side	0.305	0.063	0.203	0.079	0.368	0.587
	Left side	0.177	0.000	0.000	0.000	0.177	0.177
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.101	0.020	0.325	0.062	0.121	0.488
	Bottom side	0.194	0.000	0.000	0.000	0.194	0.194
LTE B2	Front side	0.525	0.027	0.173	0.030	0.552	0.728
	Back side	0.796	0.063	0.203	0.079	0.859	1.078
	Left side	0.344	0.000	0.000	0.000	0.344	0.344
	Right side	0.100	0.008	0.299	0.072	0.108	0.471
	Top side	1.032	0.020	0.325	0.062	1.052	1.419
	Bottom side	0.589	0.000	0.000	0.000	0.589	0.589
LTE B4	Front side	0.466	0.027	0.173	0.030	0.493	0.669
	Back side	0.652	0.063	0.203	0.079	0.715	0.934

	Left side	0.295	0.000	0.000	0.000	0.295	0.295
	Right side	0.396	0.008	0.299	0.072	0.404	0.767
	Top side	1.034	0.020	0.325	0.062	1.054	1.421
	Bottom side	0.854	0.000	0.000	0.000	0.854	0.854
LTE B5	Front side	0.217	0.027	0.173	0.030	0.244	0.420
	Back side	0.239	0.063	0.203	0.079	0.302	0.521
	Left side	0.221	0.000	0.000	0.000	0.221	0.221
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.110	0.020	0.325	0.062	0.130	0.497
	Bottom side	0.126	0.000	0.000	0.000	0.126	0.126
LTE B7	Front side	0.274	0.027	0.173	0.030	0.301	0.477
	Back side	0.484	0.063	0.203	0.079	0.547	0.766
	Left side	0.359	0.000	0.000	0.000	0.359	0.359
	Right side	0.205	0.008	0.299	0.072	0.213	0.576
	Top side	0.577	0.020	0.325	0.062	0.597	0.964
	Bottom side	0.363	0.000	0.000	0.000	0.363	0.363
LTE B12	Front side	0.135	0.027	0.173	0.030	0.162	0.338
	Back side	0.165	0.063	0.203	0.079	0.228	0.447
	Left side	0.162	0.000	0.000	0.000	0.162	0.162
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.102	0.020	0.325	0.062	0.122	0.489
	Bottom side	0.078	0.000	0.000	0.000	0.078	0.078
LTE B13	Front side	0.170	0.027	0.173	0.030	0.197	0.373
	Back side	0.248	0.063	0.203	0.079	0.311	0.530
	Left side	0.195	0.000	0.000	0.000	0.195	0.195
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.085	0.020	0.325	0.062	0.105	0.472
	Bottom side	0.130	0.000	0.000	0.000	0.130	0.130
LTE B17	Front side	0.135	0.027	0.173	0.030	0.162	0.338
	Back side	0.165	0.063	0.203	0.079	0.228	0.447
	Left side	0.162	0.000	0.000	0.000	0.162	0.162
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.102	0.020	0.325	0.062	0.122	0.489
	Bottom side	0.078	0.000	0.000	0.000	0.078	0.078
LTE B26	Front side	0.217	0.027	0.173	0.030	0.244	0.420
	Back side	0.239	0.063	0.203	0.079	0.302	0.521
	Left side	0.221	0.000	0.000	0.000	0.221	0.221
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.110	0.020	0.325	0.062	0.130	0.497
	Bottom side	0.126	0.000	0.000	0.000	0.126	0.126
LTE B38	Front side	0.251	0.027	0.173	0.030	0.278	0.454
	Back side	0.293	0.063	0.203	0.079	0.356	0.575

	Left side	0.301	0.000	0.000	0.000	0.301	0.301
	Right side	0.136	0.008	0.299	0.072	0.144	0.507
	Top side	0.461	0.020	0.325	0.062	0.481	0.848
	Bottom side	0.457	0.000	0.000	0.000	0.457	0.457
LTE B41	Front side	0.251	0.027	0.173	0.030	0.278	0.454
	Back side	0.293	0.063	0.203	0.079	0.356	0.575
	Left side	0.301	0.000	0.000	0.000	0.301	0.301
	Right side	0.136	0.008	0.299	0.072	0.144	0.507
	Top side	0.461	0.020	0.325	0.062	0.481	0.848
	Bottom side	0.457	0.000	0.000	0.000	0.457	0.457
LTE B66	Front side	0.466	0.027	0.173	0.030	0.493	0.669
	Back side	0.652	0.063	0.203	0.079	0.715	0.934
	Left side	0.295	0.000	0.000	0.000	0.295	0.295
	Right side	0.396	0.008	0.299	0.072	0.404	0.767
	Top side	1.034	0.020	0.325	0.062	1.054	1.421
	Bottom side	0.854	0.000	0.000	0.000	0.854	0.854
LTE B71	Front side	0.131	0.027	0.173	0.030	0.158	0.334
	Back side	0.142	0.063	0.203	0.079	0.205	0.424
	Left side	0.187	0.000	0.000	0.000	0.187	0.187
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.064	0.020	0.325	0.062	0.084	0.451
	Bottom side	0.062	0.000	0.000	0.000	0.062	0.062
N2	Front side	0.654	0.027	0.173	0.030	0.681	0.857
	Back side	1.008	0.063	0.203	0.079	1.071	1.290
	Left side	0.430	0.000	0.000	0.000	0.430	0.430
	Right side	0.147	0.008	0.299	0.072	0.155	0.518
	Top side	1.193	0.020	0.325	0.062	1.213	1.580
	Bottom side	0.577	0.000	0.000	0.000	0.577	0.577
N5	Front side	0.217	0.027	0.173	0.030	0.244	0.420
	Back side	0.310	0.063	0.203	0.079	0.373	0.592
	Left side	0.201	0.000	0.000	0.000	0.201	0.201
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.153	0.020	0.325	0.062	0.173	0.540
	Bottom side	0.180	0.000	0.000	0.000	0.180	0.180
N7	Front side	0.454	0.027	0.173	0.030	0.481	0.657
	Back side	0.730	0.063	0.203	0.079	0.793	1.012
	Left side	0.305	0.000	0.000	0.000	0.305	0.305
	Right side	0.110	0.008	0.299	0.072	0.118	0.481
	Top side	0.860	0.020	0.325	0.062	0.880	1.247
	Bottom side	0.426	0.000	0.000	0.000	0.426	0.426
N26	Front side	0.210	0.027	0.173	0.030	0.237	0.413
	Back side	0.271	0.063	0.203	0.079	0.334	0.553

	Left side	0.180	0.000	0.000	0.000	0.180	0.180
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.105	0.020	0.325	0.062	0.125	0.492
	Bottom side	0.154	0.000	0.000	0.000	0.154	0.154
N38	Front side	0.443	0.027	0.173	0.030	0.470	0.646
	Back side	0.824	0.063	0.203	0.079	0.887	1.106
	Left side	0.461	0.000	0.000	0.000	0.461	0.461
	Right side	0.106	0.008	0.299	0.072	0.114	0.477
	Top side	1.151	0.020	0.325	0.062	1.171	1.538
	Bottom side	0.502	0.000	0.000	0.000	0.502	0.502
N41	Front side	0.443	0.027	0.173	0.030	0.470	0.646
	Back side	0.824	0.063	0.203	0.079	0.887	1.106
	Left side	0.445	0.000	0.000	0.000	0.445	0.445
	Right side	0.106	0.008	0.299	0.072	0.114	0.477
	Top side	1.151	0.020	0.325	0.062	1.171	1.538
	Bottom side	0.502	0.000	0.000	0.000	0.502	0.502
N66	Front side	0.520	0.027	0.173	0.030	0.547	0.723
	Back side	0.764	0.063	0.203	0.079	0.827	1.046
	Left side	0.331	0.000	0.000	0.000	0.331	0.331
	Right side	0.161	0.008	0.299	0.072	0.169	0.532
	Top side	0.820	0.020	0.325	0.062	0.840	1.207
	Bottom side	0.679	0.000	0.000	0.000	0.679	0.679
N71	Front side	0.129	0.027	0.173	0.030	0.156	0.332
	Back side	0.142	0.063	0.203	0.079	0.205	0.424
	Left side	0.211	0.000	0.000	0.000	0.211	0.211
	Right side	0.000	0.008	0.299	0.072	0.008	0.371
	Top side	0.116	0.020	0.325	0.062	0.136	0.503
	Bottom side	0.085	0.000	0.000	0.000	0.085	0.085

9 Equipment list

Test Platform		SPEAG DASY5 Professional				
Description		SAR Test System (Frequency range 300MHz-6GHz)				
Software Reference		DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)				
Hardware Reference						
Equipment		Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Twin Phantom	SPEAG	SAM 1	1769	NCR	NCR
☒	DAE	SPEAG	DAE4	1245	2024/6/5	2025/6/4
☒	Twin Phantom	SPEAG	SAM 3	1143	NCR	NCR
☒	DAE	SPEAG	DAE4	1245	2024/6/5	2025/6/4
☒	E-Field Probe	SPEAG	EX3DV4	3982	2024/4/29	2025/4/28
☒	Validation Kits	SPEAG	D750V3	1214	2022/2/7	2025/2/6
☒	Validation Kits	SPEAG	D835V2	4d161	2023/8/25	2026/8/24
☒	Validation Kits	SPEAG	D1750V2	1038	2021/12/16	2024/12/15
☒	Validation Kits	SPEAG	D1950V3	1218	2023/5/4	2026/5/3
☒	Validation Kits	SPEAG	D2300V2	1072	2022/6/16	2025/6/15
☒	Validation Kits	SPEAG	D2450V2	922	2023/8/28	2026/8/27
☒	Validation Kits	SPEAG	D2600V2	1187	2022/2/3	2025/2/2
☒	Validation Kits	SPEAG	D5GHzV2	1174	2023/8/23	2026/8/22
☒	DAK-3.5 probe	SPEAG	DAK-3.5	1102	N/A	N/A
☒	Universal Radio Communication Tester	R&S	CMW500	111637	2024/9/10	2025/9/9
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	R&S	SMB100A	182393	2024/2/4	2025/2/3
☒	Preamplifier	Qiji	YX28980933	202104001	NCR	NCR
☒	Power Sensor	Keysight	U2002H	121251	2024/9/10	2025/9/9
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	LKM	DTM3000	SUW201-19-02	2024/9/18	2025/9/17
☒	Humidity and Temperature Indicator	MingGao	MingGao	NA	2024/9/18	2025/9/17

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

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

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