FCC SAR TEST REPORT

Application No.:	SUCR2409000327MO
Applicant:	TP-Link Systems Inc.
Manufacturer:	TP-Link Systems Inc.
Product Name:	5G Mobile Wi-Fi
Model No.(EUT):	M8550
FCC ID:	2BH7FM8550
Standards:	FCC 47CFR §2.1093
Date of Receipt:	**2024-07-08**
Date of Test:	2024-07-09 to 2025-05-07
Date of Issue:	2025-05-08
Test conclusion:	**PASS ***

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

Leon Liu

Prepared by: Leon Liu/ Project Manager

Nick Hu

Approved by: Nick HU/ Technical Manager (Title)

REVISION HISTORY

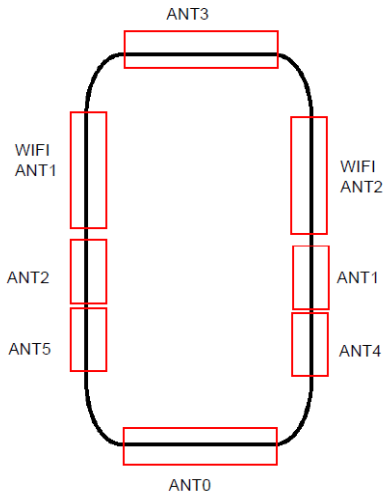
Report Number	Revision	Description	Issue Date
SUCR240900032706	01	Original	2024-09-02
SUCR240900032706	02	Turn off the frequency band below 6105 MHz and conduct supplementary testing on the relevant channels.	2025-03-25
SUCR240900032706	03	Add relevant tests for UNII-6 and 8 bands.	2025-05-08

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)
	Hotspot
LTE Band 7	0.883
LTE Band 12	0.412
LTE Band 13	0.715
LTE Band 14	0.561
LTE Band 25(2)	0.519
LTE Band 26(5)	0.700
LTE Band 30	0.937
LTE Band 41	1.333
LTE Band 48	0.545
LTE Band 66(4)	0.432
LTE Band 71	0.774
NR Band n5	0.651
NR Band n12	0.545
NR Band n14	0.704
NR Band n25	0.621
NR Band n30	0.897
NR Band n41	1.132
NR Band n48	0.541
NR Band n66	0.601
NR Band n71	0.745
NR Band n77-3500	0.859
NR Band n77-3900	0.799
WI-FI (2.4GHz)	<0.10
WI-FI (5GHz)	0.225
WI-FI (6GHz)	0.154
SAR Limited(W/kg)	1.6
Maximum Simultaneous Transmission SAR (W/kg)	
Scenario	Hotspot
Sum SAR	1.592
SPLSR	/
SPLSR Limited	0.04

Note:
1) According to TCB workshop October,2014 RF Exposure Procedures Update (Overlapping Bands): SAR for LTE Band 5 (Frequency range:824 - 849 MHz)/ LTE Band 17 (Frequency range:704-716 MHz)/LTE Band 38 (Frequency range:2570 - 2620 MHz)/ n78 (Frequency range:3300 - 3800 MHz is respectively covered by LTE Band 26 (Frequency range:814 - 849 MHz)/ LTE Band 12 (Frequency range:699-716 MHz)/LTE Band41 (Frequency range:2496 - 2690 MHz)/ n78 (Frequency range:3300 - 3800 MHz) due to similar frequency range, same maximum tune up limit and same channel bandwidth.
2) For LTE band 4/5/12/13/26 and n7/n41/n66/n77 that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. 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.

1 DUT Antenna Locations (Back View)



Note:
1) Ant 0 is sensor CS0.
Ant 3 is sensor CS3.
Ant 5 is sensor CS2.

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	Yes	Yes	Yes	No	No	Yes
Ant 1	Hotspot	Yes	Yes	No	Yes	No	Yes
Ant 2	Hotspot	Yes	Yes	Yes	No	Yes	No
Ant 3	Hotspot	Yes	Yes	No	Yes	Yes	No
Ant 4	Hotspot	Yes	Yes	No	Yes	Yes	No
Ant 5	Hotspot	Yes	Yes	No	Yes	Yes	No

Table 1：EUT Sides for SAR Testing

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

2 General Information

2.1 Details of Client

Applicant:	TP-Link Systems Inc.
Address:	10 Mauchly, Irvine, CA 92618
Manufacturer:	TP-Link Systems Inc.
Address:	10 Mauchly, Irvine, CA 92618

2.2 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:	Koller Chen

2.3 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

2.4 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	5G Mobile Wi-Fi		
Model No.(EUT):	M8550		
FCC ID:	2BH7FM8550		
Trade Mark:	tp-link		
Product Phase:	Identical Prototype		
IMEI:	1# 352921970001420		
Hardware Version:	V1.0		
Software Version:	M8550(US)1.0		
Device Operating Configurations :			
Modulation Mode:	**LTE:** QPSK,16QAM,64QAM,256QAM; **5G NR:** DFT-s-OFDM (PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM), CP-OFDM (QPSK, 16QAM, 64QAM, 256QAM) **WIFI:** DSSS, OFDM, OFDMA;		
Device Class:	B		
Power Class	3, tested with power control Max Power(LTE Band)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	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 14	788~798	758~768
	LTE Band 25	1850~1915	1930~1995
	LTE Band 26	814~849	859~894
	LTE Band 30	2305~2315	2350~2360
	LTE Band 41	2496 - 2690	2496 - 2690
	LTE Band 48	3550~3700	3550~3700
	LTE Band 66	1710~1780	2110~2200
	LTE Band 71	663~698	617~652
	NR Band n2	1850~1910	1930~1990
	NR Band n5	824~849	869~894
	NR Band n12	699~716	729~746
	NR Band n14	788~798	758~768
	NR Band n25	1850~1915	1930~1995
	NR Band n30	2305~2315	2350~2360
	NR Band n41	2496~ 2690	2496~269
	NR Band n48	3550~3700	3550~3700

	NR Band n66	1710~1780	2110~2200
	NR Band n71	663~698	617~652
	NR Band n77	3450~3550	3450~3550
		3700~3980	3700~3980
	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
	Wi-Fi 6E	6105~6425	6105~6425
		6425~6525	6425~6525
		6525~6875	6525~6875
		6875~7105	6875~7105
RF Cable:	☒ Provided by the aplicant ☐ Provided by the laboratory		
1# Battery Information:	Model:	TBL-86A4700	
	Normal Voltage:	3.8V	
	Typical capacity:	4680mAh	
	Manufacturer:	SUNWODA	

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.

Remark:
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.

2.4.1 LTE CA additional specification

The device supports downlink and intra-band contiguous uplink 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 Section 8 of this report per 3GPP TS 36.521-1 V14.4.0. 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.

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 BS receive / UE transmit F_{UL_low} – F_{UL_high}			Downlink (DL) operating band BS transmit / UE receive F_{DL_low} – F_{DL_high}			Duplex Mode
CA_2C	2	1852.5 MHz	–	1907.5 MHz	1930 MHz	–	1990 MHz	FDD
CA_7C	7	2502.5 MHz	–	2567.5 MHz	2620 MHz	–	2690 MHz	FDD
CA_66C	66	1712.5 MHz	–	1777.5 MHz	2110 MHz	–	2200 MHz	FDD
CA_41C	41	2498.5 MHz	–	2687.5 MHz	2496 MHz	–	2690 MHz	TDD
CA_48C	48	3552.5 MHz	–	3697.5 MHz	3550 MHz	–	3700 MHz	TDD

1. For Inter-band uplink LTE CA 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 LTE CA SAR from standalone SAR test results of each LTE component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each Inter-band uplink LTE CA component band as the inter-band Uplink LTE CA SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report. Since the maximum output power of the LTE Inter-band uplink band is ≤ the LTE Band, the SAR data of the LTE Band is used instead of the SAR data of the LTE Inter-band uplink band.

2CC Downlink Carrier Aggregation	DL 4x4 MIMO	3CC Downlink Carrier Aggregation	DL 4x4 MIMO	4CC Downlink Carrier Aggregation	DL 4x4 MIMO	5CC Downlink Carrier Aggregation	DL 4x4 MIMO
CA_2A-12A	2A-12A	CA_2A-5A-13A	2A	CA_2A-2A-12A-12A	2A-2A	CA_2A-12A-30A-66A-66A	2A-12A-30A-66A
CA_2A-13A	2A-13A	CA_2A-12A-12A	2A	CA_2A-2A-12A-30A	2A-2A-12A-30A	CA_2A-12B-66A-66A	2A-12B-66A
CA_2A-14A	2A-14A	CA_2A-12A-30A	2A-12A-30A	CA_2A-2A-12A-66A	2A-2A-12A-66A	CA_2A-13A-48A-48A-66A	2A-13A-48A-66A
CA_2A-2A	2A-2A	CA_2A-12A-66A	2A-12A-66A	CA_2A-2A-12B	2A-2A-12B	CA_2A-13A-48A-48C	2A-13A-48A-48C
CA_2A-30A	2A-30A	CA_2A-12B	2A-12B	CA_2A-2A-13A-66A	2A-2A-13A-66A	CA_2A-13A-48C-66A	2A-13A-48C-66A
CA_2A-48A	2A-48A	CA_2A-13A-48A	2A-13A-48A	CA_2A-2A-14A-30A	2A-2A-14A-30A	CA_2A-13A-48D	2A-13A, 48D
CA_2A-4A	2A-4A	CA_2A-13A-66A	2A-13A-66A	CA_2A-2A-14A-66A	2A-2A-14A-66A	CA_2A-13A-66A-66B	2A-13A-66A-66B
CA_2A-5A	2A-5A	CA_2A-14A-30A	2A-14A-30A	CA_2A-2A-30A-66A	2A-2A-30A-66A	CA_2A-13A-66A-66C	2A-13A-66A-66C
CA_2A-66A	2A-66A	CA_2A-14A-66A	2A-14A-66A	CA_2A-2A-4A-12A	2A-2A-4A-12A	CA_2A-13A-66D	2A-13A, 66D
CA_2A-71A	2A-71A	CA_2A-2A-12A	2A-2A-12A	CA_2A-2A-4A-4A	2A-2A-4A-4A	CA_2A-14A-30A-66A-66A	2A-14A-30A-66A
CA_2A-7A	2A-7A	CA_2A-2A-13A	2A-2A-13A	CA_2A-2A-4A-5A	2A-2A-4A-5A	CA_2A-14A-66A-66A-66A	2A-14A-66A
CA_2C	2C	CA_2A-2A-14A	2A-2A-14A	CA_2A-2A-4A-71A	2A-2A-4A-71A	CA_2A-2A-12A-30A-66A	2A-12A-30A-66A
CA_2A-26A	2A-26A	CA_2A-2A-30A	2A-2A-30A	CA_2A-2A-5A-12A	2A-2A	CA_2A-2A-12A-66A-66A	2A-12A-66A
CA_4A-12A	4A-12A	CA_2A-2A-4A	2A-2A-4A	CA_2A-2A-5A-30A	2A-2A-5A-30A	CA_2A-2A-12B-66A	2A-12B-66A
CA_4A-13A	4A-13A	CA_2A-2A-5A	2A-2A-5A	CA_2A-2A-5A-66A	2A-2A-5A-66A	CA_2A-2A-13A-66A-66A	2A-13A-66A
CA_4A-30A	4A-30A	CA_2A-2A-66A	2A-2A-66A	CA_2A-2A-5B	2A-2A-5B	CA_2A-2A-13A-66B	2A-13A-66B
CA_4A-48A	4A-48A	CA_2A-2A-71A	2A-2A-71A	CA_2A-2A-66A-66A	2A-2A-66A-66A	CA_2A-2A-14A-30A-66A	2A-14A-30A-66A
CA_4A-4A	4A-4A	CA_2A-2A-7A	2A-2A-7A	CA_2A-2A-66A-71A	2A-2A-66A-71A	CA_2A-2A-14A-66A-66A	2A-14A-66A
CA_4A-5A	4A-5A	CA_2A-30A-66A	2A-30A-66A	CA_2A-2A-66B	2A-2A-66B	CA_2A-2A-5A-12A-66A	2A-2A-66A
CA_4A-71A	4A-71A	CA_2A-48A-48A	2A-48A-48A	CA_2A-2A-66C	2A-2A-66C	CA_2A-2A-5A-30A-66A	2A-5A-30A-66A
CA_4A-7A	4A-7A	CA_2A-48A-66A	2A-48A-66A	CA_2A-2A-7A-12A	2A-2A-7A-12A	CA_2A-2A-5A-66A-66A	2A-5A-66A
CA_5A-12A	-	CA_2A-48C	2A-48C	CA_2A-2A-7A-66A	2A-2A-7A-66A	CA_2A-2A-5A-66B	2A-5A-66B
CA_5A-13A	-	CA_2A-4A-12A	2A-4A-12A	CA_2A-4A-12A-12A	2A-4A	CA_2A-2A-5A-66C	2A-5A-66C
CA_5A-25A	5A-25A	CA_2A-4A-13A	2A-4A-13A	CA_2A-4A-12A-30A	2A-4A-12A-30A	CA_2A-2A-5B-66A	2A-5B-66A
CA_5A-30A	5A-30A	CA_2A-4A-30A	2A-4A-30A	CA_2A-4A-12B	2A-4A-12B	CA_2A-2A-66A-66B	2A-66A-66B
CA_5A-41A	5A-41A	CA_2A-4A-4A	2A-4A-4A	CA_2A-4A-4A-12A	2A-4A-4A-12A	CA_2A-2A-66A-66C	2A-66A-66C
CA_5A-48A	5A-48A	CA_2A-4A-5A	2A-4A-5A	CA_2A-4A-4A-5A	2A-4A-4A-5A	CA_2A-2A-7A-12A-66A	2A-7A-12A-66A
CA_5A-5A	5A-5A	CA_2A-4A-71A	2A-4A-71A	CA_2A-4A-5A-12A	2A-4A	CA_2A-48A-48C-66A	2A-48A-48C-66A
CA_5A-66A	5A-66A	CA_2A-4A-7A	2A-4A-7A	CA_2A-4A-5A-30A	2A-4A-5A-30A	CA_2A-48A-48D	2A-48A, 48D
CA_5A-7A	5A-7A	CA_2A-5A-12A	2A	CA_2A-4A-5B	2A-4A-5B	CA_2A-48C-48C	2A-48C
CA_5B	5B	CA_2A-5A-30A	2A-5A-30A	CA_2A-4A-7A-12A	2A-4A-7A-12A	CA_2A-48D-66A	2A-66A, 48D
CA_7A-12A	7A-12A	CA_2A-5A-48A	2A-5A-48A	CA_2A-4A-7A-7A	2A-4A-7A-7A	CA_2A-48E	2A
CA_7A-13A	7A-13A	CA_2A-5A-66A	2A-5A-66A	CA_2A-4A-7C	2A-4A-7C	CA_2A-4A-5B-30A	2A-4A-5B-30A
CA_7A-26A	7A-26A	CA_2A-5A-7A	2A-5A-7A	CA_2A-5A-12A-66A	2A-66A	CA_2A-5A-30A-66A-66A	2A-5A-30A-66A
CA_7A-66A	7A-66A	CA_2A-5B	2A-5B	CA_2A-5A-12B	2A	CA_2A-5A-48C-66A	2A-5A-48C-66A
CA_7A-7A	7A-7A	CA_2A-66A-66A	2A-66A-66A	CA_2A-5A-30A-66A	2A-5A-30A-66A	CA_2A-5A-48D	2A-5A, 48D
CA_7B	7B	CA_2A-66A-71A	2A-66A-71A	CA_2A-5A-48A-66A	2A-5A-48A-66A	CA_2A-5B-30A-66A	2A-5B-30A-66A
CA_7C	7C	CA_2A-66B	2A-66B	CA_2A-5A-48C	2A-5A-48C	CA_2A-5B-66A-66A	2A-5B-66A
CA_7A-25A	7A-25A	CA_2A-66C	2A-66C	CA_2A-5A-66A-66A	2A-5A-66A-66A	CA_2A-5B-66B	2A-5B, 2A-66B
CA_12A-12A	-	CA_2A-7A-12A	2A-7A-12A	CA_2A-5A-66B	2A-5A-66B	CA_2A-5B-66C	2A-5B, 2A-66C
CA_12A-25A	12A-25A	CA_2A-7A-13A	2A-7A-13A	CA_2A-5A-66C	2A-5A-66C	CA_2A-7A-12B-66A	2A-7A-12B-66A
CA_12A-30A	12A-30A	CA_2A-7A-66A	2A-7A-66A	CA_2A-5A-7A-7A	2A-5A-7A-7A	CA_2A-7A-7A-66A-66A	2A-7A-66A
CA_12A-66A	12A-66A	CA_2A-7A-7A	2A-7A-7A	CA_2A-5A-7C	2A-5A-7C	CA_2A-7C-66A-66A	2A-7C-66A
CA_12B	12B	CA_2A-7C	2A-7C	CA_2A-5B-30A	2A-5B-30A	CA_2C-5B-30A	2C-30A, 5B-30A
CA_12A-48A	12A-48A	CA_2C-12A	2C-12A	CA_2A-5B-66A	2A-5B-66A	CA_2A-7C-13A-66A	2A-7C-13A-66A
CA_13A-48A	13A-48A	CA_2C-30A	2C-30A	CA_2A-12A-30A-66A	2A-12A-30A-66A	CA_2A-13A-48A-66A-66A	2A-13A-48A-66A
CA_13A-66A	13A-66A	CA_2C-5A	2C-5A	CA_2A-12A-66A-66A	2A-12A-66A-66A	CA_2A-5A-48A-66A-66A	2A-5A-48A-66A
CA_14A-30A	14A-30A	CA_2C-66A	2C-66A	CA_2A-12A-66C	2A-12A-66C	CA_2A-2A-7A-66A-66A	2A-7A-66A
CA_14A-66A	14A-66A	CA_2A-7A-26A	2A-7A-26A	CA_2A-12B-66A	2A-12B-66A	CA_2A-5A-7A-66A-66A	2A-5A-7A-66A
CA_25A-25A	25A-25A	CA_2A-26A-66A	2A-26A-66A	CA_2A-13A-48A-48A	2A-13A-48A-48A	CA_2A-5A-7A-7A-66A	2A-5A-7A-66A
CA_25A-26A	25A-26A	CA_4A-5A-13A	4A	CA_2A-13A-48A-66A	2A-13A-48A-66A	CA_2A-7A-12A-66A-66A	2A-7A-12A-66A
CA_25A-41A	25A-41A	CA_4A-12A-12A	4A	CA_2A-13A-48C	2A-13A-48C	CA_2A-7A-7A-13A-66A	2A-7A-13A-66A
CA_25A-66A	25A-66A	CA_4A-12A-30A	4A-12A-30A	CA_2A-13A-66A-66A	2A-13A-66A-66A	CA_2A-2A-7A-7A-13A	2A-7A-13A

CA_26A-41A	26A-41A	CA_4A-12B	4A-12B	CA_2A-13A-66B	2A-13A-66B	CA_2A-2A-7C-13A	2A-7C-13A
CA_30A-66A	30A-66A	CA_4A-48C	4A-48C	CA_2A-13A-66C	2A-13A-66C	CA_2A-5A-7C-66A	2A-5A-7C-66A
CA_41A-41A	41A-41A	CA_4A-4A-12A	4A-4A-12A	CA_2A-14A-30A-66A	2A-14A-30A-66A	CA_2A-2A-5A-7A-66A	2A-5A-7A-66A
CA_41A-48A	41A-48A	CA_4A-4A-13A	4A-4A-13A	CA_2A-14A-66A-66A	2A-14A-66A-66A	CA_4A-48E	4A
CA_41C	41C	CA_4A-4A-30A	4A-4A-30A	CA_2A-30A-66A-66A	2A-30A-66A-66A	CA_4A-4A-5B-30A	4A-5B-30A
CA_48A-48A	48A-48A	CA_4A-4A-5A	4A-4A-5A	CA_2A-48A-48A-66A	2A-48A-48A-66A	CA_5A-48D-66A	5A-66A, 48D
CA_48A-66A	48A-66A	CA_4A-4A-71A	4A-4A-71A	CA_2A-48A-48C	2A-48A-48C	CA_5A-7C-66A-66A	5A-7C-66A
CA_48A-71A	48A-71A	CA_4A-4A-7A	4A-4A-7A	CA_2A-48A-66A-66A	2A-48A-66A-66A	CA_5B-30A-66A-66A	5B-30A-66A
CA_48B	48B	CA_4A-5A-12A	4A	CA_2A-48C-66A	2A-48C-66A	CA_5B-66A-66B	5B-66A, 66A-66B
CA_48C	48C	CA_4A-5A-30A	4A-5A-30A	CA_2A-48D	2A-48D	CA_5B-66A-66C	5B-66A, 66A-66C
CA_66A-66A	66A-66A	CA_4A-5B	4A-5B	CA_2A-66A-66A-66A	2A-66A-66A-66A	CA_7A-7A-25A-25A-66A	7A-25A-66A
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CA_66B	66B	CA_4A-7A-7A	4A-7A-7A	CA_2A-66A-66B	2A-66A-66B	CA_13A-48A-48C-66A	13A-48A-48C-66A
CA_66C	66C	CA_4A-7C	4A-7C	CA_2A-66A-66C	2A-66A-66C	CA_13A-48A-48D	13A-48A, 48D
		CA_5A-12A-66A	66A	CA_2A-66C-71A	2A-66C-71A	CA_13A-48C-48C	13A-48C
		CA_5A-12B	-	CA_2A-66D	2A-66D	CA_13A-48D-66A	13A-66A, 48D
		CA_5A-30A-66A	5A-30A-66A	CA_2A-7A-12A-66A	2A-7A-12A-66A	CA_13A-48E	13A
		CA_5A-48A-66A	5A-48A-66A	CA_2A-7A-12B	2A-7A-12B	CA_25A-25A-26A-41C	25A-26A-41C
		CA_5A-48C	5A-48C	CA_2A-7A-66A-66A	2A-7A-66A-66A	CA_25A-25A-41D	25A-25A, 41D
		CA_5A-5A-66A	5A-5A-66A	CA_2A-7A-7A-13A	2A-7A-7A-13A	CA_25A-41E	25A
		CA_5A-66A-66A	5A-66A-66A	CA_2A-7A-7A-66A	2A-7A-7A-66A	CA_41C-41D	41C, 41D
		CA_5A-66B	5A-66B	CA_2A-7C-13A	2A-7C-13A	CA_48A-48C-66B	48A-48C, 48A-66B
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		CA_5A-7A-7A	5A-7A-7A	CA_2C-5A-30A	2C-5A-30A	CA_48A-48E	48A
		CA_5A-7C	5A-7C	CA_2C-66A-66A	2C-66A-66A	CA_48C-48C-66A	48C-66A
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		CA_7C-66A	7C-66A	CA_4A-4A-12A-30A	4A-4A-12A-30A		
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		CA_7A-26A-66A	7A-26A-66A	CA_4A-4A-5A-12A	4A-4A		
		CA_7A-25A-25A	7A-25A-25A	CA_4A-4A-5A-30A	4A-4A-5A-30A		
		CA_7A-25A-66A	7A-25A-66A	CA_4A-4A-5B	4A-4A-5B		
		CA_7A-7A-25A	7A-7A-25A	CA_4A-5A-12B	4A-5A		
		CA_7C-25A	7C-25A	CA_4A-5B-30A	4A-5B-30A		
		CA_12A-30A-66A	12A-30A-66A	CA_5A-30A-66A-66A	5A-30A-66A-66A		
		CA_12A-66A-66A	12A-66A-66A	CA_5A-48C-66A	5A-48C-66A		
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		CA_12B-66A	12B-66A	CA_5A-5A-66A-66A	5A-5A-66A-66A		
		CA_12A-48C	12A-48C	CA_5A-5A-66B	5A-5A-66B		
		CA_13A-48A-48A	13A-48A-48A	CA_5A-5A-66C	5A-5A-66C		
		CA_13A-48A-66A	13A-48A-66A	CA_5A-66A-66B	5A-66A-66B		
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		CA_25A-25A-41A	25A-25A-41A	CA_5A-12A-48C	48C		
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		CA_30A-66A-66A	30A-66A-66A	CA_7A-7A-25A-25A	7A-7A-25A-25A		

		CA_41A-41A-41A	41A-41A-41A	CA_7A-7A-25A-66A	7A-7A-25A-66A		
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		CA_41A-48C	41A-48C	CA_7C-25A-66A	7C-25A-66A		
		CA_41D	41D	CA_7C-13A-66A	7C-13A-66A		
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		CA_48A-66A-66A	48A-66A-66A	CA_7C-66A-66A	7C-66A-66A		
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		CA_48C-66A	48C-66A	CA_12A-48D	12A-48D		
		CA_48C-71A	48C-71A	CA_13A-48A-66A-66A	13A-48A-66A-66A		
		CA_48D	48D	CA_13A-48A-48A-66A	13A-48A-48A-66A		
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		CA_66A-66B	66A-66B	CA_13A-48A-66C	13A-48A-66C		
		CA_66A-66C	66A-66C	CA_13A-48C-66A	13A-48C-66A		
		CA_66C-71A	66C-71A	CA_13A-48D	13A-48D		
		CA_66D	66D	CA_13A-66A-66B	13A-66A-66B		
				CA_13A-66A-66C	13A-66A-66C		
				CA_13A-66D	13A-66D		
				CA_14A-30A-66A-66A	14A-30A-66A-66A		
				CA_14A-66A-66A-66A	14A-66A-66A-66A		
				CA_25A-25A-26A-41A	25A-25A-26A-41A		
				CA_25A-25A-41C	25A-25A-41C		
				CA_25A-26A-41C	25A-26A-41C		
				CA_25A-41D	25A-41D		
				CA_41A-41A-41C	41A-41A, 41A-41C		
				CA_41A-41D	41A-41D		
				CA_41C-41C	41C-41C		
				CA_41A-48D	41A-48D		
				CA_41E	41E		
				CA_48A-48A-66A-66A	48A-48A-66A-66A		
				CA_48A-48A-66B	48A-48A-66B		
				CA_48A-48A-66C	48A-48A-66C		
				CA_48A-48C-66A	48A-48C-66A		
				CA_48A-48D	48A-48D		
				CA_48C-48C	48C-48C		
				CA_48C-66A-66A	48C-66A-66A		
				CA_48C-66B	48C-66B		
				CA_48C-66C	48C-66C		
				CA_48D-66A	48D-66A		
				CA_48E	48E		

2.4.2 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) The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance (Refer to section 5.4 for detailed proximity Sensor information and validation data per KDB 616217).

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

2.5 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 D01	General RF Exposure Guidance v06
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
KDB 616217 D04	SAR for laptop and tablets v01r02

2.6 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.)

3 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

4 SAR Measurements System Configuration

4.1 The SAR Measurement System

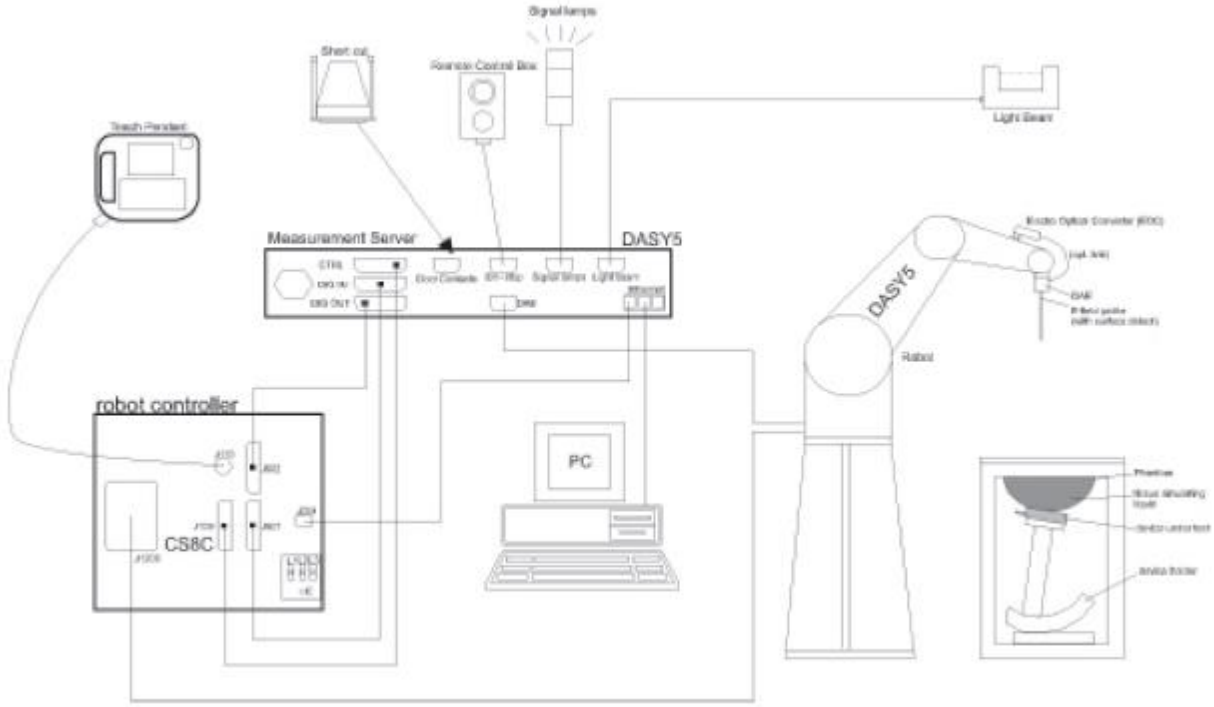
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the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

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

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

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

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



F-1. SAR Measurement System Configuration

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

4.2 Isotropic E-field Probe EX3DV4

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

4.3 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

4.4 SAM Twin Phantom

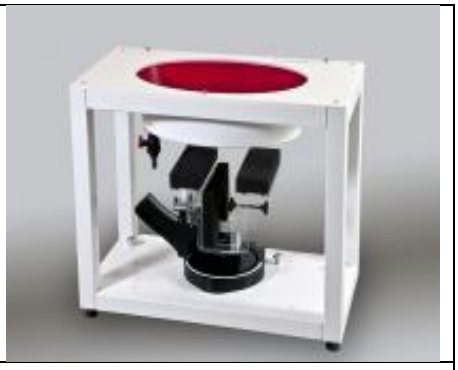
Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx.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

4.5 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



The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4 MHz to 10 GHz. ELI is fully compatible with the IEC/IEEE 62209-1528 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 of SPEAG's dosimetric probes and dipoles.

ELI V5.0 and higher has the same shell geometry and is manufactured from the same material as ELI V4.0 but has a reinforced top structure.

4.6 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.

4.7 Measurement procedure

4.7.1 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 %

4.7.2 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.

4.7.3 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

5 SAR measurement variability and uncertainty

5.1 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.

5.2 SAR measurement uncertainty

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

5.3 Measurement Uncertainty SAR Measurement outside of 100 MHz to 6 GHz

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 **21.02%**.

a	b	c	d	e = f(d,k)	g	i = C*g/e	K
Uncertainty Component	Section in IEEE Std 1528-2013	Tol (%)	Prob . Dist.	Div.	Ci (10g)	10g ui (%)	Vi (Veff)
Probe calibration	7.2.1	6.65	N	1	1	6.65	∞
Axial isotropy	7.2.1.2	0.5	R	$\sqrt{3}$	$(1-\mathrm{Cp})^{1/2}$	0.20	∞
hemispherical isotropy	7.2.1.2	2.6	R	$\sqrt{3}$	$\sqrt{\mathrm{Cp}}$	1.06	∞
Boundary effect	7.2.1.5	1.0	R	$\sqrt{3}$	1	0.58	∞

Linearity	7.2.1.3	0.6	R	$\sqrt{3}$	1	0.35	∞
System detection limit	7.2.1.4	0.25	R	$\sqrt{3}$	1	0.14	∞
Readout electronics	7.2.1.6	0.3	N	1	1	0.30	∞
Response time	7.2.1.7	0	R	$\sqrt{3}$	1	0.00	∞
Integration time	7.2.1.8	2.6	R	$\sqrt{3}$	1	1.50	∞
RF ambient Condition - Noise	7.2.3.6	3	R	$\sqrt{3}$	1	1.73	∞
RF ambient Condition - reflections	7.2.3.6	3	R	$\sqrt{3}$	1	1.73	∞
Probe positioning- mechanical tolerance	7.2.2.1	1.5	R	$\sqrt{3}$	1	0.87	∞
Probe positioning- with respect to phantom	7.2.2.3	2.9	R	$\sqrt{3}$	1	1.67	∞
Max. SAR evaluation	7.2.4	1	R	$\sqrt{3}$	1	0.58	∞
Test sample positioning	7.2.2.4	4.0	N	1	1	4.0	9
Device holder uncertainty	7.2.2.4.2	3.6	N	1	1	3.60	∞
Output power variation - SAR drift measurement	7.2.3.5	5	R	$\sqrt{3}$	1	2.89	∞
Phantom uncertainty (shape and thickness tolerances)	7.2.2.2	4	R	$\sqrt{3}$	1	2.31	∞
Liquid conductivity - deviation from target values	7.2.3.3	5	R	$\sqrt{3}$	0.43	1.24	∞
Liquid conductivity - measurement uncertainty	7.2.3.3	5.78	N	1	0.43	2.49	5
Liquid permittivity - deviation from target values	7.2.3.4	5	R	$\sqrt{3}$	0.49	1.41	∞
Liquid permittivity - measurement uncertainty	7.2.3.4	0.62	N	1	0.49	0.30	5
Combined standard uncertainty				RSS		10.51	334
Expanded uncertainty (95% CONFIDENCE INTERVAL)				k=2		**21.02**	

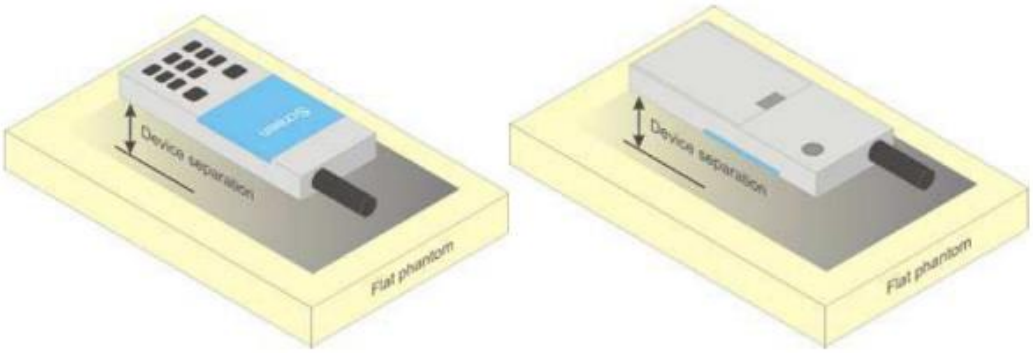
Table 1: Measurement Uncertainty

6 Description of Test Position

6.1 Body Exposure Condition

6.1.1 Wireless Router exposure conditions

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.

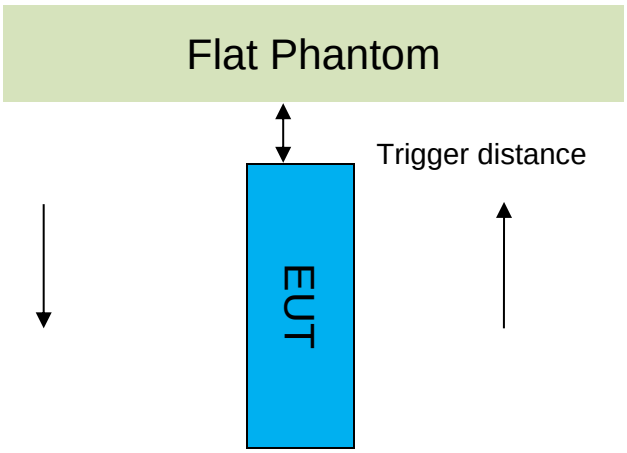


F-3. **Test positions for body devices.**

6.2 Proximity Sensor Triggering Test

Proximity sensor triggering distances：

The Proximity sensor triggering was applied to WWAN antenna. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

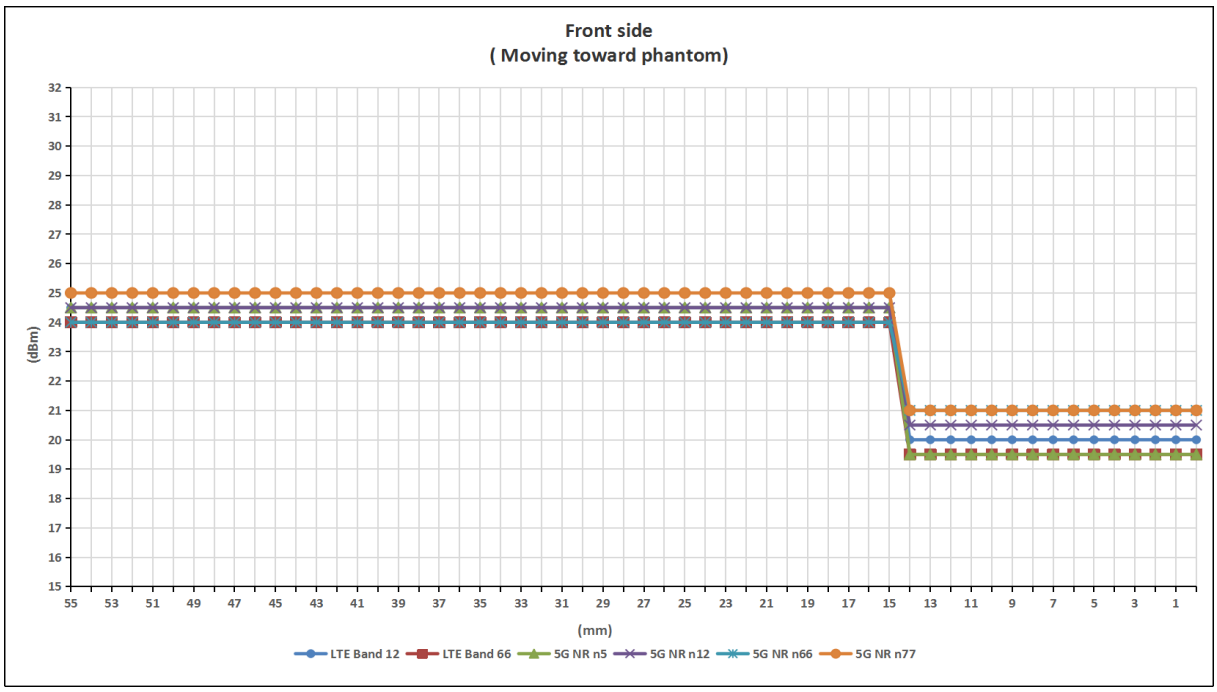


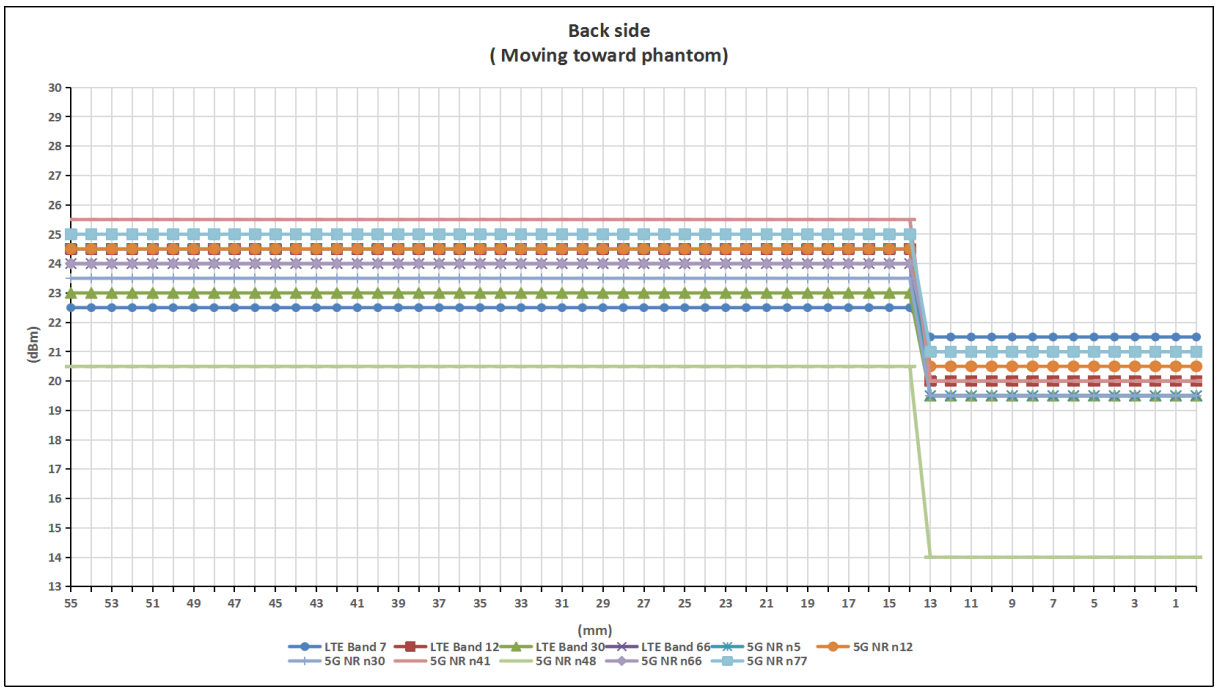
Proximity Sensor Triggering Distance(mm)				
Ant0/1/2/3/4/5				
Position	Front Side	Back Side	Right Side	Top Side
Minimum	15	14	16	21
Required SAR Test	14	13	15	20

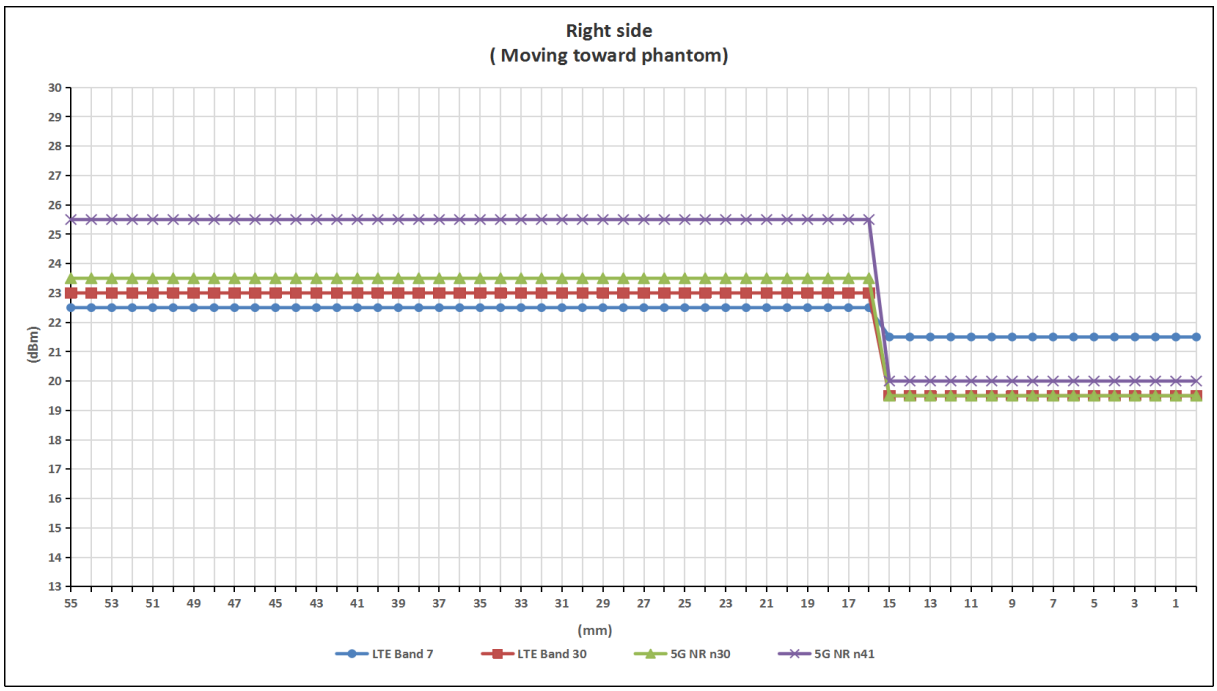
Note:

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

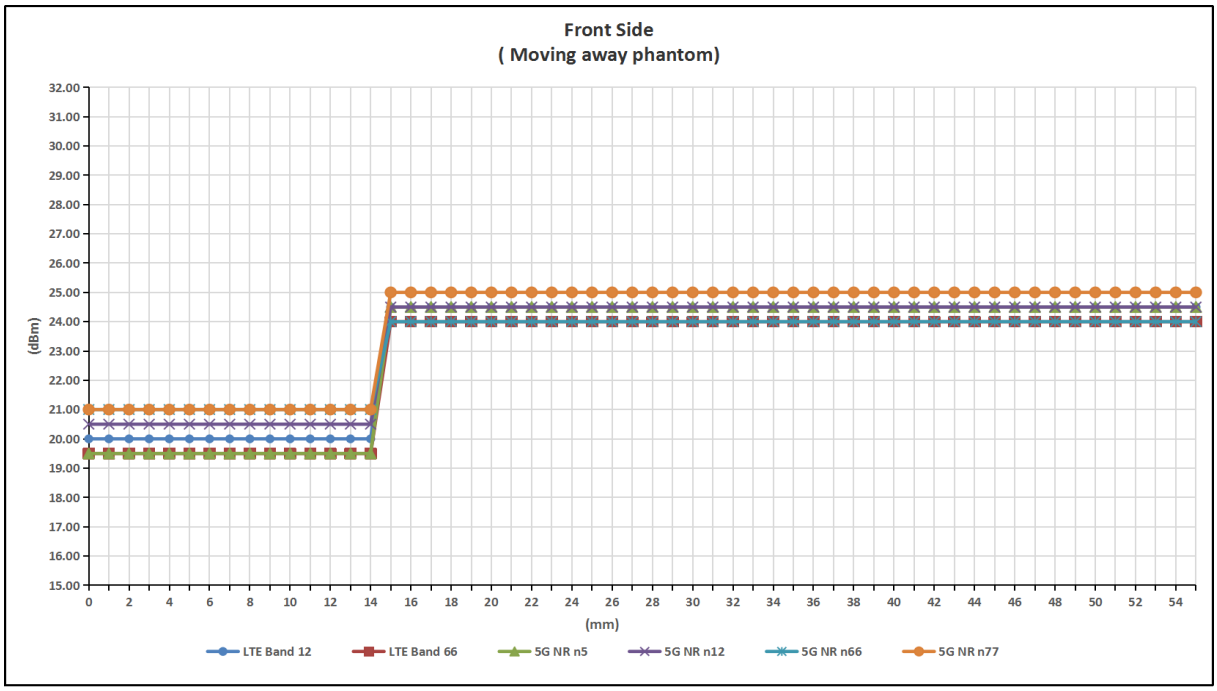
- Ant 0/1/2/3/4/5 DUT Moving Toward(Trigger)the Phantom

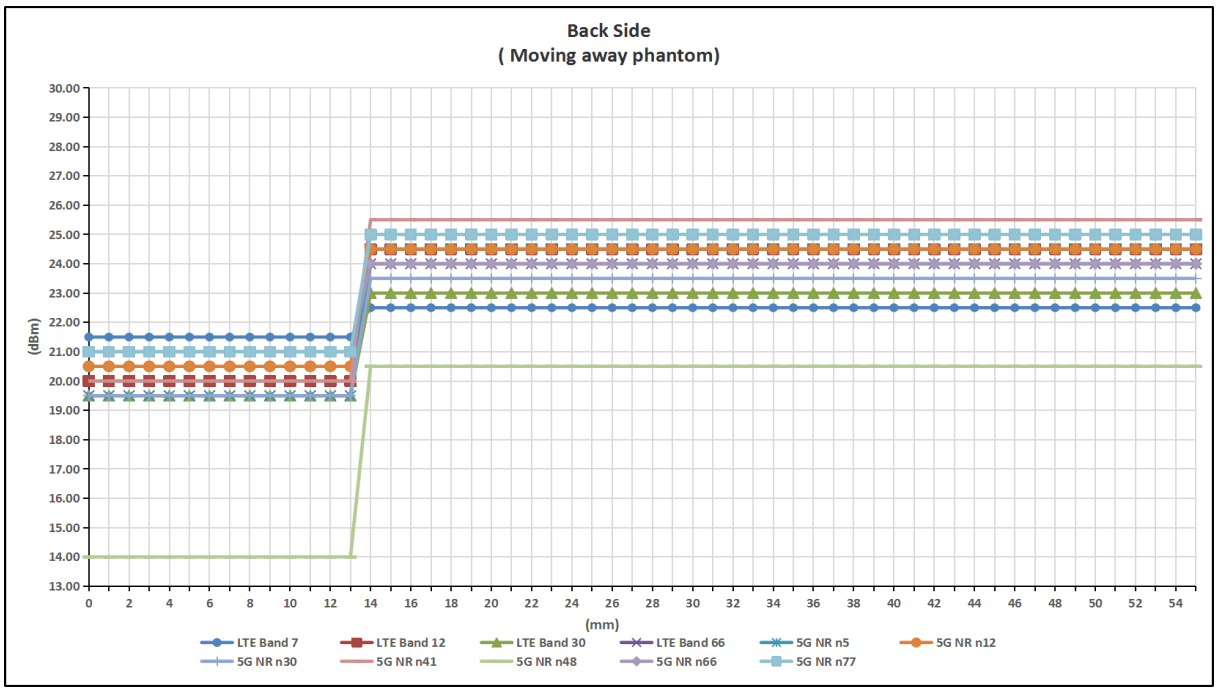


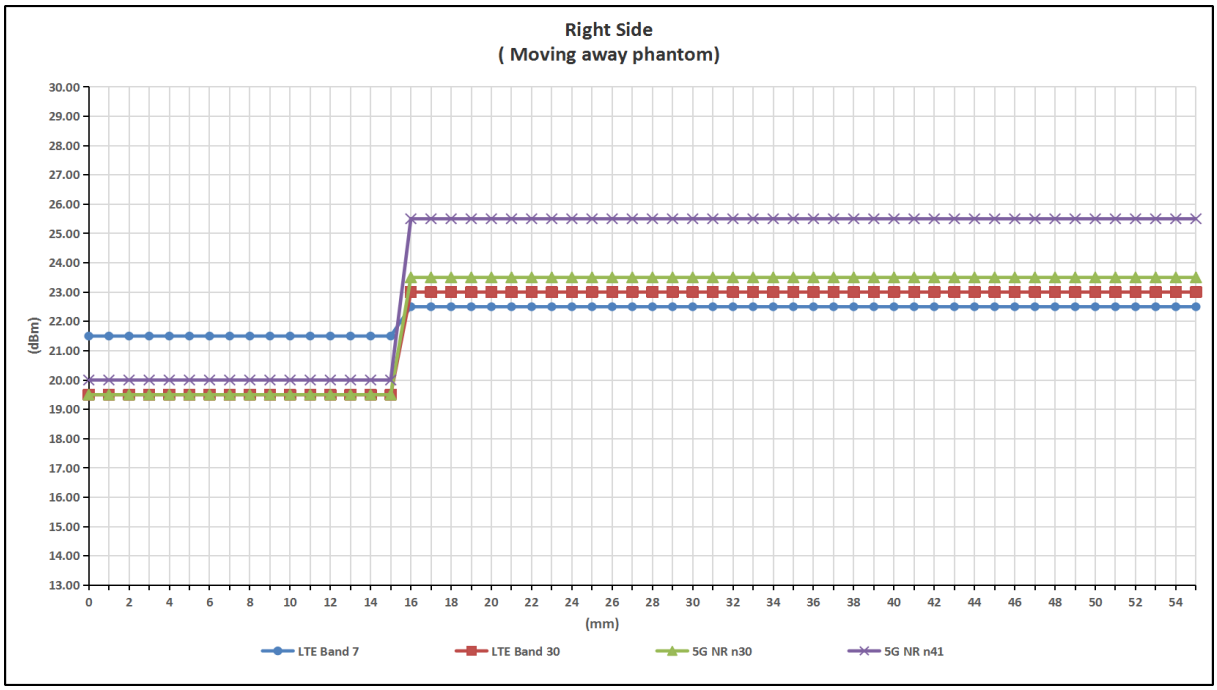


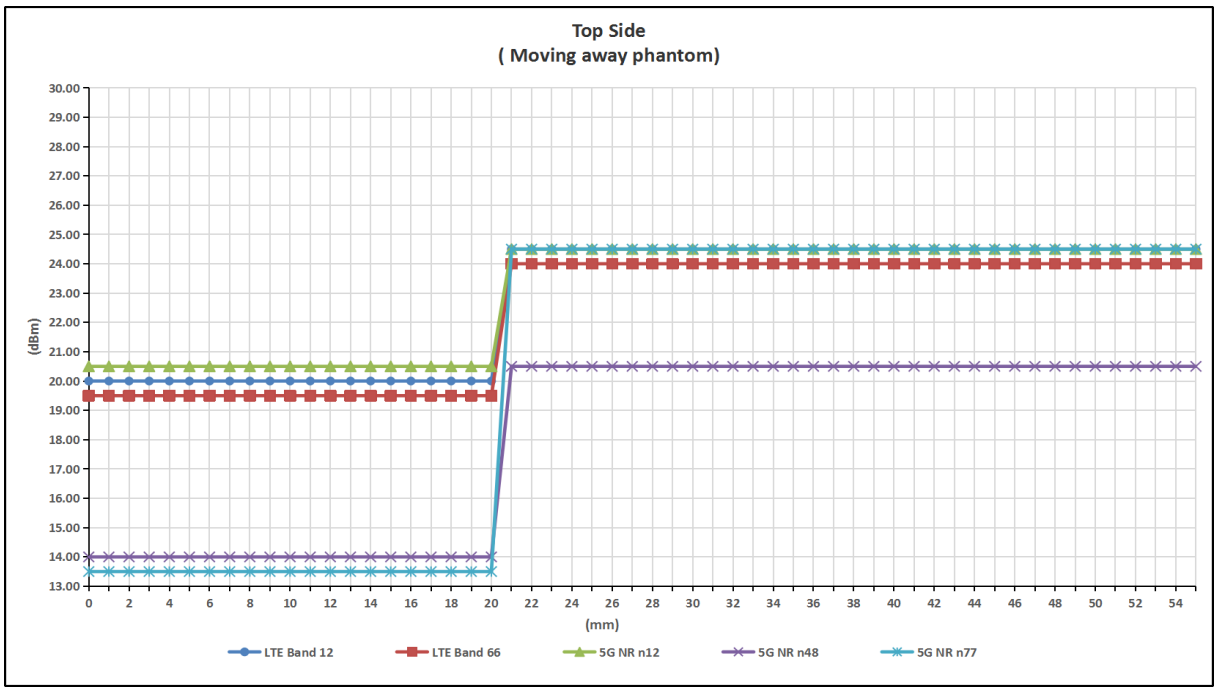


- Ant 0/1/2/3/4/5 DUT Moving Away(Release) from the Phantom









Proximity sensor coverage

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

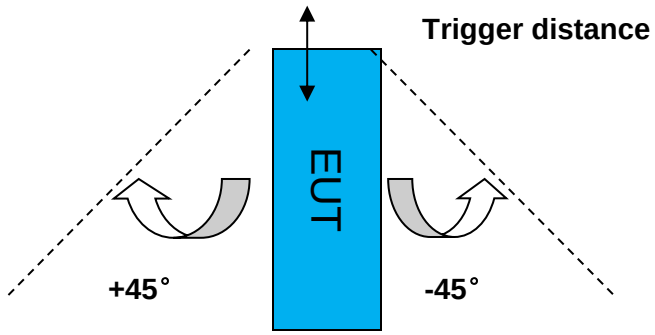
The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

Device tilt angle influences to proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.

Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.

Flat Phantom



Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Top Side												
Band (MHz)	Minimum trigger distance Per KDB616217§6.2	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status									
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
Ant0/1/2/3/4/5	Top side:21mm	Top side:21mm	on	on	on	on	on	on	on	on	on	on	on

7 SAR System Verification Procedure

7.1 Tissue Simulate Liquid

7.1.1 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

7.1.2 Measurement for Tissue Simulate Liquid

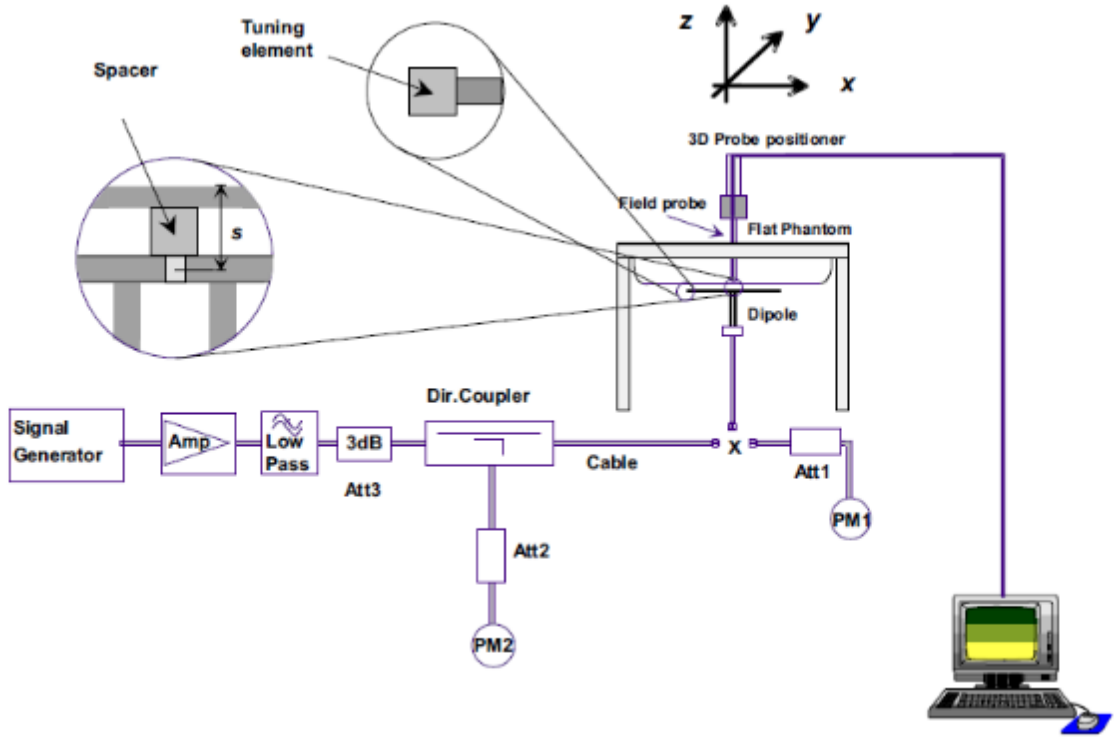
The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

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)		
750 Head	750	41.9	0.89	42.789	0.885	22.8	2024/7/9	750 Head	750
750 Head	750	41.9	0.89	42.687	0.889	22.8	2024/7/10	750 Head	750
835 Head	835	41.5	0.90	42.911	0.895	22.8	2024/7/11	835 Head	835
1750 Head	1750	40.1	1.37	40.120	1.341	22.7	2024/7/12	1750 Head	1750
1950 Head	1900	40.0	1.40	38.718	1.465	22.6	2024/7/15	1950 Head	1900
2300 Head	2300	39.5	1.67	39.664	1.693	22.9	2024/7/16	2300 Head	2300
2450 Head	2450	39.2	1.80	40.136	1.784	22.8	2024/7/17	2450 Head	2450
2600 Head	2600	39.0	1.96	37.735	1.969	23.1	2024/7/18	2600 Head	2600
2600 Head	2600	39.0	1.96	38.242	2.031	23.1	2024/7/19	2600 Head	2600
3500 Head	3500	37.9	2.91	39.040	2.957	22.9	2024/7/22	3500 Head	3500
3700 Head	3700	37.7	3.12	37.385	3.262	22.9	2024/7/23	3700 Head	3700
3900 Head	3900	37.5	3.32	36.981	3.454	22.9	2024/7/24	3900 Head	3900
5250 Head	5250	35.9	4.71	36.536	4.857	22.7	2024/7/25	5250 Head	5250
5600 Head	5600	35.5	5.07	35.668	5.249	22.7	2024/7/25	5600 Head	5600
5750 Head	5750	35.4	5.22	35.487	5.446	22.7	2024/7/27	5750 Head	5750
6500 Head	6500	34.5	6.07	33.700	6.180	22.7	2024/7/26	6500 Head	6500

Table 4：Measurement result of Tissue electric parameters.

7.2 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-1. the microwave circuit arrangement used for SAR system check

7.2.1 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.

7.2.2 Summary System Check Result(s)

SAR System Validation Result(s)											
Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.13	1.37	8.52	5.48	8.40	5.52	1.43%	-0.72%	22.8	2024/7/9
D750V3	Head	2.21	1.44	8.84	5.76	8.40	5.52	5.24%	4.35%	22.8	2024/7/10
D835V2	Head	2.23	1.49	8.92	5.96	9.60	6.16	-7.08%	-3.25%	22.8	2024/7/11
D1750V2	Head	9.36	5.14	37.44	20.56	37.00	19.30	1.19%	6.53%	22.7	2024/7/12
D1950V3	Head	10.20	5.39	40.80	21.56	40.40	20.80	0.99%	3.65%	22.6	2024/7/15
D2300V2	Head	12.8	5.68	51.20	22.72	49.50	24.00	3.43%	-5.33%	22.9	2024/7/16
D2450V2	Head	13.60	6.57	54.40	26.28	52.70	24.60	3.23%	6.83%	22.8	2024/7/17
D2600V2	Head	14.40	6.65	57.60	26.60	57.30	25.40	0.52%	4.72%	23.1	2024/7/18
D2600V2	Head	14.20	6.58	56.80	26.32	57.30	25.40	-0.87%	3.62%	23.1	2024/7/19
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D3500V2	Head(3.5GHz)	6.39	2.51	63.90	25.10	65.90	24.70	-3.03%	1.62%	22.9	2024/7/22
D3700V2	Head(3.7GHz)	6.44	2.48	64.40	24.80	67.60	24.40	-4.73%	1.64%	22.9	2024/7/23
D3900V2	Head(3.9GHz)	6.72	2.42	67.20	24.20	70.20	24.20	-4.27%	0.00%	22.9	2024/7/24
D5GHzV2	Head(5.25GHz)	7.56	2.12	75.60	21.20	77.20	21.90	-2.07%	-3.20%	22.7	2024/7/25
	Head(5.6GHz)	7.88	2.18	78.80	21.80	81.10	22.80	-2.84%	-4.39%	22.7	2024/7/25
	Head(5.75GHz)	7.84	2.17	78.40	21.70	77.80	21.70	0.77%	0.00%	22.7	2024/7/27
D6500V2	Head(6.5GHz)	31.00	5.65	310.00	56.50	291.00	53.90	6.53%	4.82%	22.9	2024/7/26

Table 5：SAR System Check Result.

7.2.3 Detailed System Check Results

Please see the Appendix A

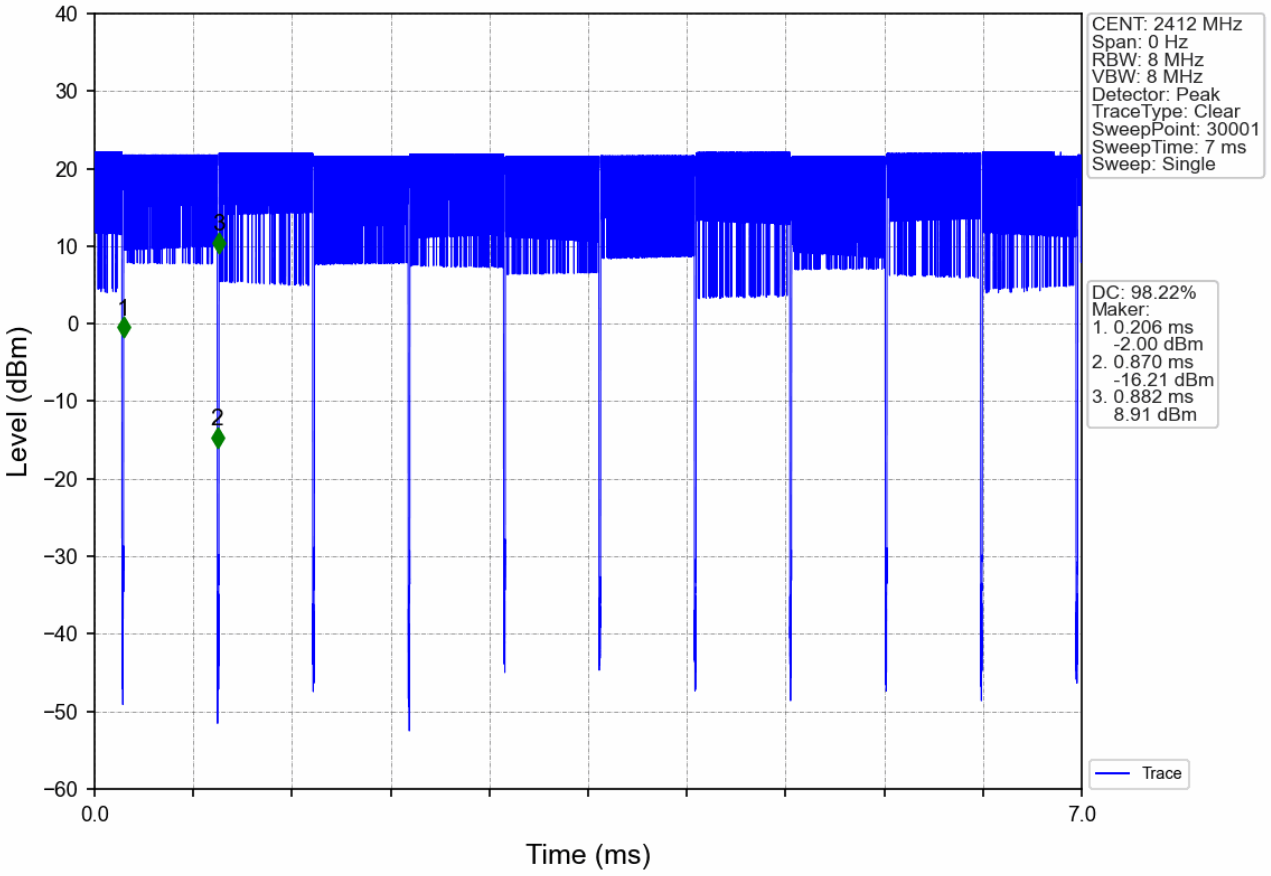
8 Test Configuration

8.1 WiFi Test Configuration

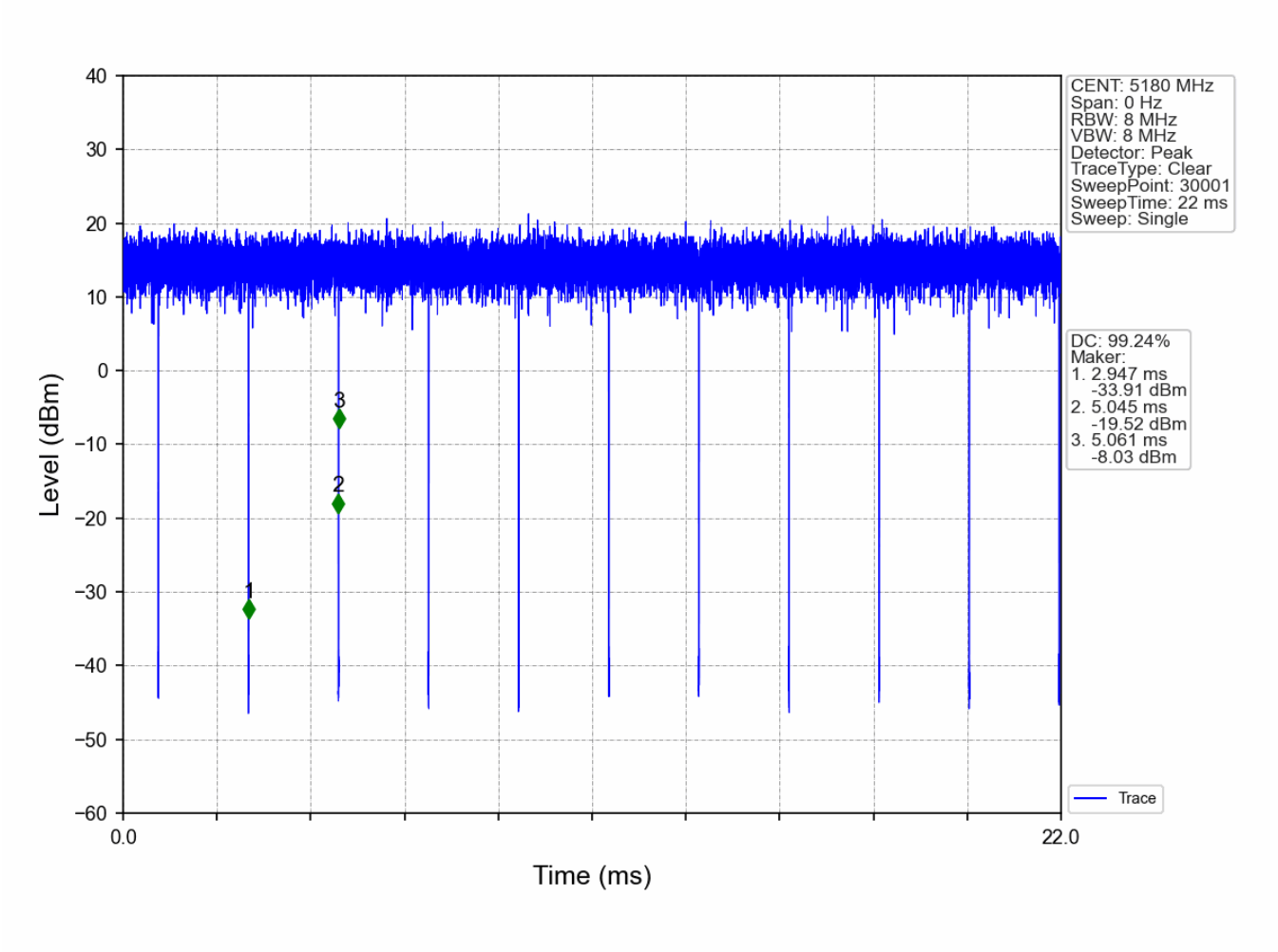
A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

8.1.1.1 Duty cycle

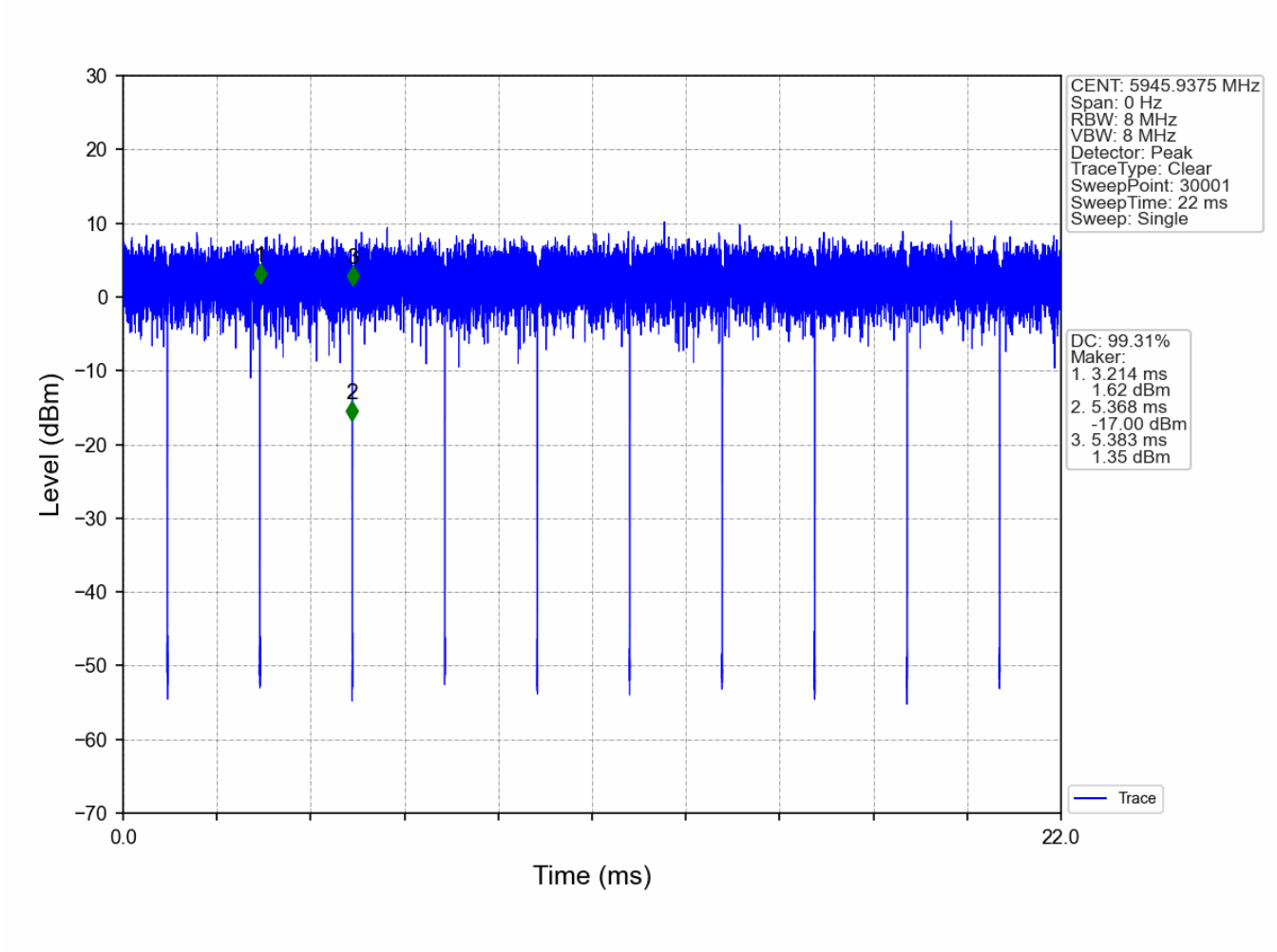
Wi-Fi 2.4GHz 802.11b:
Duty cycle=98.22%



Wi-Fi 5GHz 802.11a:
Duty cycle=99.24%



Wi-Fi 6GHz 802.11ax:
Duty cycle=99.31%



8.1.1.2 Initial Test Position SAR Test Reduction Procedure

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

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

8.1.1.3 Initial Test Configuration Procedures

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

8.1.1.4 Subsequent Test Configuration Procedures

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

1）. When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.

2）. When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

3）. The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.

a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.

b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

4）. SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:

a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)

b) replace “initial test configuration” with “all tested higher output power configurations”

8.1.1.5 2.4 GHz WiFi SAR Procedures

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

- **802.11b DSSS SAR Test Requirements**

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

1）. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2）. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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

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

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

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

- **SAR Test Requirements for OFDM configurations**

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

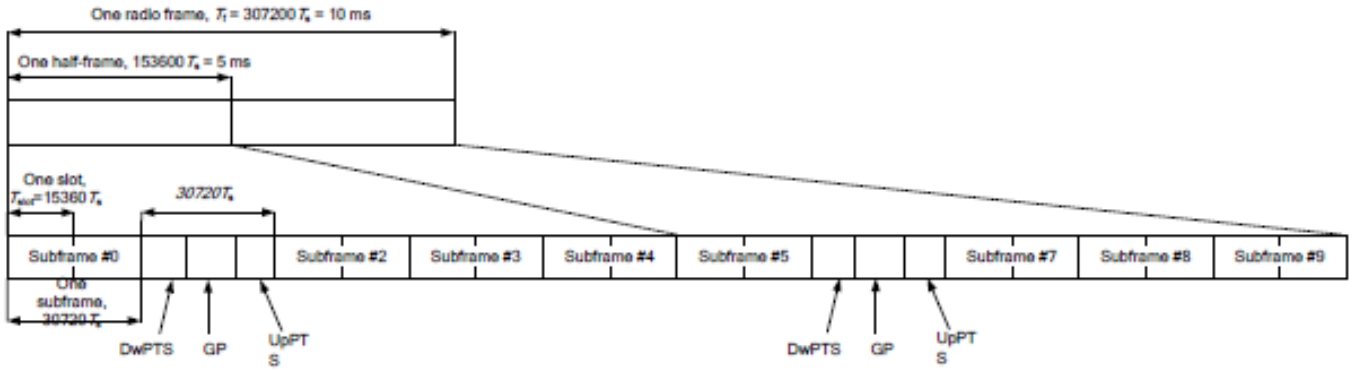
8.1.2 LTE Test Configuration

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.

8.1.3 NR Band Test Configuration

1. NR Band n2/n5/n12/n14/n25/n30/n41/n48/n66/n71/n77 support SA mode and 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		n2	n5	n12	n14	n25	n30	n41	n48	n66	n71	n77
		Ant.0/3	Ant.0/3	Ant.0	Ant.0	Ant.0/3	Ant.3	Ant.0/1/2/3	Ant.1/2/4/5	Ant.0/3	Ant.0	Ant.1/2/4/5
LTE Band 2	Ant.0/3		√	√	√		√	√	√	√	√	√
LTE Band 4	Ant.0/3	√						√				
LTE Band 5	Ant.0	√		√		√	√	√	√	√	√	√
LTE Band 7	Ant.3	√	√	√		√				√	√	√
LTE Band 12	Ant.0	√	√			√	√	√		√		√
LTE Band 13	Ant.0	√	√			√			√	√		√
LTE Band 14	Ant.0	√					√			√		√
LTE Band 25	Ant.0/3							√				√
LTE Band 26	Ant.0/3					√		√				
LTE Band 30	Ant.3	√	√	√	√					√		√
LTE Band 41	Ant.3											√
LTE Band 48	Ant.0/3		√	√		√				√	√	
LTE Band 66	Ant.0/3	√	√	√	√	√	√	√	√		√	√
LTE Band 71	Ant.0	√				√		√		√		√

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

Band			n2	n5	n12	n14	n25	n30	n41 PC2	n48	n66	n71	n77 PC2
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Duty Cycle			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%

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
N12	15KHZ	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N13	15KHZ	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N14	15KHZ	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N25	15KHZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
N30	15KHZ	Yes	Yes	N/A	N/A	N/A	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes
N41 PC2	30KHZ	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N48	30KHZ	N/A	Yes	N/A	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
N66	15KHZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
N71	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n77 PC2	30KHZ	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest SCS and largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller SCS/bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device

4. MPR

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

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	PI/2 BPSK	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		
NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n77. 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 n77 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 n77.				

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

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

1) For 5G NR NSA mode with the same UL EN_DC combination but different DL EN_DC combinations, eg: EN-DC configuration: UL DC_2A_n5 (UL two bands) .

a) The UL EN-DC configuration, including the Tx antenna configuration, RF path, the channel bandwidth and other operating parameters are the same.

b) The maximum output power, including tolerance, for the UL EN-DC configuration with DL two or more bands must be ≤ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.

7. For EN-DC 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.

8. 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.

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

9 Test Result

9.1 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.

9.2 Measurement of SAR Data

Note:

1) 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.

9.2.1 SAR Result of LTE Band 7

LTE Band 7 SAR Test Record											
Ant 3 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	20	QPSK 1_0	21100/2535	1:1	0.360	0.19	21.31	22.50	1.315	0.473	23.1
Back side-13mm	20	QPSK 1_0	21100/2535	1:1	0.462	0.04	21.31	22.50	1.315	0.608	23.1
Right side-15mm	20	QPSK 1_0	21100/2535	1:1	0.568	0.09	21.31	22.50	1.315	0.747	23.1
Top side-10mm	20	QPSK 1_0	21100/2535	1:1	0.125	-0.01	21.31	22.50	1.315	0.164	23.1
Bottom side-10mm	20	QPSK 1_0	21100/2535	1:1	0.050	-0.07	21.31	22.50	1.315	0.066	23.1
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	20	QPSK 50_0	21100/2535	1:1	0.274	-0.14	20.19	21.50	1.352	0.370	23.1
Back side-13mm	20	QPSK 50_0	21100/2535	1:1	0.428	-0.06	20.19	21.50	1.352	0.579	23.1
Right side-15mm	20	QPSK 50_0	21100/2535	1:1	0.512	-0.19	20.19	21.50	1.352	0.692	23.1
Top side-10mm	20	QPSK 50_0	21100/2535	1:1	0.106	-0.13	20.19	21.50	1.352	0.143	23.1
Bottom side-10mm	20	QPSK 50_0	21100/2535	1:1	0.040	0.03	20.19	21.50	1.352	0.054	23.1
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	20	QPSK 1_0	21100/2535	1:1	0.474	0.02	20.69	21.50	1.205	0.571	23.1
Right side	20	QPSK 1_0	21100/2535	1:1	0.733	-0.07	20.69	21.50	1.205	0.883	23.1
Right side-CA_7C	20	QPSK 1_0	21100+21298/2535+2554.8	1:1	0.684	-0.01	20.46	21.50	1.271	0.869	23.1
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	20	QPSK 50_0	21100/2535	1:1	0.385	0.03	20.57	21.50	1.239	0.477	23.1
Right side	20	QPSK 50_0	21100/2535	1:1	0.574	0.01	20.57	21.50	1.239	0.711	23.1

Table 6： SAR of LTE Band 7 for Body(Variant).

9.2.2 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	10	QPSK 1_0	23095/707.5	1:1	0.255	0.05	23.11	24.50	1.377	0.351	22.8
Back side-13mm	10	QPSK 1_0	23095/707.5	1:1	0.299	-0.12	23.11	24.50	1.377	0.412	22.8

Left side-10mm	10	QPSK 1_0	23095/707.5	1:1	0.064	-0.10	23.11	24.50	1.377	0.088	22.8
Top side-20mm	10	QPSK 1_0	23095/707.5	1:1	0.184	-0.12	23.11	24.50	1.377	0.253	22.8
Bottom side-10mm	10	QPSK 1_0	23095/707.5	1:1	0.286	0.02	23.11	24.50	1.377	0.394	22.8
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	10	QPSK 25_0	23095/707.5	1:1	0.273	0.06	21.87	23.50	1.455	0.397	22.8
Back side-13mm	10	QPSK 25_0	23095/707.5	1:1	0.271	0.00	21.87	23.50	1.455	0.394	22.8
Left side-10mm	10	QPSK 25_0	23095/707.5	1:1	0.075	-0.07	21.87	23.50	1.455	0.109	22.8
Top side-20mm	10	QPSK 25_0	23095/707.5	1:1	0.169	-0.14	21.87	23.50	1.455	0.246	22.8
Bottom side-10mm	10	QPSK 25_0	23095/707.5	1:1	0.255	-0.04	21.87	23.50	1.455	0.371	22.8
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.334	0.03	20.71	21.50	1.199	0.401	22.8
Back side	10	QPSK 1_0	23095/707.5	1:1	0.343	-0.18	20.71	21.50	1.199	0.411	22.8
Top side	10	QPSK 1_0	23095/707.5	1:1	0.248	0.01	20.71	21.50	1.199	0.297	22.8
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.265	0.11	20.51	21.50	1.256	0.333	22.8
Back side	10	QPSK 25_0	23095/707.5	1:1	0.277	0.13	20.51	21.50	1.256	0.348	22.8
Top side	10	QPSK 25_0	23095/707.5	1:1	0.191	0.02	20.51	21.50	1.256	0.240	22.8

Table 7： SAR of LTE Band 12 for Body(Variant).

9.2.3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23230/782	1:1	0.525	-0.14	23.16	24.50	1.361	0.715	22.8
Back side	10	QPSK 1_0	23230/782	1:1	0.516	0.19	23.16	24.50	1.361	0.703	22.8
Left side	10	QPSK 1_0	23230/782	1:1	0.074	0.05	23.16	24.50	1.361	0.101	22.8
Top side	10	QPSK 1_0	23230/782	1:1	0.377	0.04	23.16	24.50	1.361	0.513	22.8
Bottom side	10	QPSK 1_0	23230/782	1:1	0.322	-0.01	23.16	24.50	1.361	0.438	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23230/782	1:1	0.400	-0.04	21.92	23.50	1.439	0.576	22.8
Back side	10	QPSK 25_0	23230/782	1:1	0.391	-0.11	21.92	23.50	1.439	0.563	22.8
Left side	10	QPSK 25_0	23230/782	1:1	0.075	0.15	21.92	23.50	1.439	0.108	22.8
Top side	10	QPSK 25_0	23230/782	1:1	0.288	0.05	21.92	23.50	1.439	0.414	22.8
Bottom side	10	QPSK 25_0	23230/782	1:1	0.241	-0.07	21.92	23.50	1.439	0.347	22.8

Table 8：SAR of LTE Band 13 for Body(Variant).

9.2.4 SAR Result of LTE Band 14

LTE Band 14 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23330/793	1:1	0.419	-0.12	23.23	24.50	1.340	0.561	22.8
Back side	10	QPSK 1_0	23330/793	1:1	0.397	0.15	23.23	24.50	1.340	0.532	22.8
Left side	10	QPSK 1_0	23330/793	1:1	0.062	-0.07	23.23	24.50	1.340	0.083	22.8
Top side	10	QPSK 1_0	23330/793	1:1	0.344	-0.18	23.23	24.50	1.340	0.461	22.8
Bottom side	10	QPSK 1_0	23330/793	1:1	0.241	-0.05	23.23	24.50	1.340	0.323	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23330/793	1:1	0.332	0.11	21.81	23.50	1.476	0.490	22.8
Back side	10	QPSK 25_0	23330/793	1:1	0.310	0.14	21.81	23.50	1.476	0.457	22.8
Left side	10	QPSK 25_0	23330/793	1:1	0.051	0.16	21.81	23.50	1.476	0.075	22.8
Top side	10	QPSK 25_0	23330/793	1:1	0.280	-0.04	21.81	23.50	1.476	0.413	22.8
Bottom side	10	QPSK 25_0	23330/793	1:1	0.188	-0.11	21.81	23.50	1.476	0.277	22.8

Table 9： SAR of LTE Band 14 for Body(Variant).

9.2.5 SAR Result of LTE Band 25

LTE Band 25 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	26365/1882.5	1:1	0.309	0.02	22.68	24.00	1.355	0.419	22.6
Back side	20	QPSK 1_0	26365/1882.5	1:1	0.383	-0.04	22.68	24.00	1.355	0.519	22.6
Back side-CA_2C	20	QPSK 1_0	18900+19098/1880+1899.8	1:1	0.352	-0.03	22.44	24.00	1.432	0.504	22.6
Left side	20	QPSK 1_0	26365/1882.5	1:1	0.214	0.02	22.68	24.00	1.355	0.290	22.6
Top side	20	QPSK 1_0	26365/1882.5	1:1	0.330	0.14	22.68	24.00	1.355	0.447	22.6
Bottom side	20	QPSK 1_0	26365/1882.5	1:1	0.087	0.01	22.68	24.00	1.355	0.118	22.6
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	26365/1882.5	1:1	0.287	-0.19	21.77	23.00	1.327	0.381	22.6
Back side	20	QPSK 50_0	26365/1882.5	1:1	0.321	-0.08	21.77	23.00	1.327	0.426	22.6
Left side	20	QPSK 50_0	26365/1882.5	1:1	0.171	0.13	21.77	23.00	1.327	0.227	22.6
Top side	20	QPSK 50_0	26365/1882.5	1:1	0.262	0.17	21.77	23.00	1.327	0.348	22.6
Bottom side	20	QPSK 50_0	26365/1882.5	1:1	0.083	0.04	21.77	23.00	1.327	0.110	22.6
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	26365/1882.5	1:1	0.065	0.03	22.62	24.00	1.374	0.089	22.6
Back side	20	QPSK 1_0	26365/1882.5	1:1	0.096	-0.01	22.62	24.00	1.374	0.132	22.6
Right side	20	QPSK 1_0	26365/1882.5	1:1	0.142	0.10	22.62	24.00	1.374	0.195	22.6
Top side	20	QPSK 1_0	26365/1882.5	1:1	0.025	0.11	22.62	24.00	1.374	0.034	22.6
Bottom side	20	QPSK 1_0	26365/1882.5	1:1	0.000	0.03	22.62	24.00	1.374	0.000	22.6
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	26365/1882.5	1:1	0.058	0.10	21.87	23.00	1.297	0.075	22.6
Back side	20	QPSK 50_0	26365/1882.5	1:1	0.093	0.18	21.87	23.00	1.297	0.121	22.6
Right side	20	QPSK 50_0	26365/1882.5	1:1	0.137	-0.19	21.87	23.00	1.297	0.178	22.6
Top side	20	QPSK 50_0	26365/1882.5	1:1	0.020	0.17	21.87	23.00	1.297	0.026	22.6
Bottom side	20	QPSK 50_0	26365/1882.5	1:1	0.000	-0.17	21.87	23.00	1.297	0.000	22.6

Table 10： SAR of LTE Band 25 for Body(Variant).

9.2.6 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.471	0.03	23.24	24.50	1.337	0.630	22.8
Back side	15	QPSK 1_0	26865/831.5	1:1	0.524	-0.14	23.24	24.50	1.337	0.700	22.8
Left side	15	QPSK 1_0	26865/831.5	1:1	0.057	-0.02	23.24	24.50	1.337	0.076	22.8
Top side	15	QPSK 1_0	26865/831.5	1:1	0.323	0.01	23.24	24.50	1.337	0.432	22.8
Bottom side	15	QPSK 1_0	26865/831.5	1:1	0.331	0.14	23.24	24.50	1.337	0.442	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.364	0.07	21.74	23.50	1.500	0.546	22.8
Back side	15	QPSK 36_0	26865/831.5	1:1	0.408	-0.17	21.74	23.50	1.500	0.612	22.8
Left side	15	QPSK 36_0	26865/831.5	1:1	0.043	0.05	21.74	23.50	1.500	0.064	22.8
Top side	15	QPSK 36_0	26865/831.5	1:1	0.242	-0.06	21.74	23.50	1.500	0.363	22.8
Bottom side	15	QPSK 36_0	26865/831.5	1:1	0.262	-0.11	21.74	23.50	1.500	0.393	22.8
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_0	26865/831.5	1:1	0.072	0.05	23.12	24.50	1.374	0.099	22.8
Back side	15	QPSK 1_0	26865/831.5	1:1	0.095	0.03	23.12	24.50	1.374	0.130	22.8
Right side	15	QPSK 1_0	26865/831.5	1:1	0.000	0.00	23.12	24.50	1.374	0.000	22.8
Top side	15	QPSK 1_0	26865/831.5	1:1	0.044	-0.03	23.12	24.50	1.374	0.060	22.8
Bottom side	15	QPSK 1_0	26865/831.5	1:1	0.000	0.00	23.12	24.50	1.374	0.000	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_0	26865/831.5	1:1	0.057	0.08	21.91	23.50	1.442	0.082	22.8
Back side	15	QPSK 36_0	26865/831.5	1:1	0.088	-0.04	21.91	23.50	1.442	0.127	22.8
Right side	15	QPSK 36_0	26865/831.5	1:1	0.000	0.00	21.91	23.50	1.442	0.000	22.8
Top side	15	QPSK 36_0	26865/831.5	1:1	0.030	-0.15	21.91	23.50	1.442	0.043	22.8
Bottom side	15	QPSK 36_0	26865/831.5	1:1	0.000	0.00	21.91	23.50	1.442	0.000	22.8

Table 11： SAR of LTE Band 26 for Body(Variant).

9.2.7 SAR Result of LTE Band 30

LTE Band 30 SAR Test Record											
Ant 3 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	10	QPSK 1_0	27710/2310	1:1	0.354	-0.03	21.43	23.00	1.435	0.508	22.9
Back side-13mm	10	QPSK 1_0	27710/2310	1:1	0.528	-0.01	21.43	23.00	1.435	0.758	22.9
Right side-15mm	10	QPSK 1_0	27710/2310	1:1	0.505	0.07	21.43	23.00	1.435	0.725	22.9
Top side-10mm	10	QPSK 1_0	27710/2310	1:1	0.085	-0.16	21.43	23.00	1.435	0.122	22.9
Bottom side-10mm	10	QPSK 1_0	27710/2310	1:1	0.052	-0.11	21.43	23.00	1.435	0.075	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	10	QPSK 25_0	27710/2310	1:1	0.302	-0.03	20.19	22.00	1.517	0.458	22.9
Back side-13mm	10	QPSK 25_0	27710/2310	1:1	0.429	-0.15	20.19	22.00	1.517	0.651	22.9
Right side-15mm	10	QPSK 25_0	27710/2310	1:1	0.465	0.05	20.19	22.00	1.517	0.705	22.9
Top side-10mm	10	QPSK 25_0	27710/2310	1:1	0.065	-0.13	20.19	22.00	1.517	0.099	22.9
Bottom side-10mm	10	QPSK 25_0	27710/2310	1:1	0.048	0.03	20.19	22.00	1.517	0.073	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	10	QPSK 1_0	27710/2310	1:1	0.546	0.03	20.13	21.00	1.222	0.667	22.9
Right side	10	QPSK 1_0	27710/2310	1:1	0.767	-0.16	20.13	21.00	1.222	0.937	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	10	QPSK 25_0	27710/2310	1:1	0.448	0.02	20.06	21.00	1.242	0.556	22.9
Right side	10	QPSK 25_0	27710/2310	1:1	0.608	0.01	20.06	21.00	1.242	0.755	22.9
Hotspot (Sensor on) Test data(Separate 10mm 100%RB)											
Right side	10	QPSK 50_0	27710/2310	1:1	0.600	-0.01	19.74	21.00	1.337	0.802	22.9

Table 12： SAR of LTE Band 30 for Body(Variant).

9.2.8 SAR Result of LTE Band 41 PC3

LTE Band 41 SAR Test Record											
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.244	0.11	22.21	23.50	1.346	0.328	23.1
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.410	0.02	22.21	23.50	1.346	0.552	23.1
Right side	20	QPSK 1_0	40620/2593	1:1.58	0.725	-0.01	22.21	23.50	1.346	0.976	23.1
Right side-CA_41C	20	QPSK 1_0	40620+40818/2593+2612.8	1:1.58	0.711	0.02	22.15	23.50	1.365	0.970	23.1
Right side	20	QPSK 1_0	39750/2506	1:1.58	0.313	0.06	22.18	23.50	1.355	0.424	23.1
Right side	20	QPSK 1_0	40185/2549.5	1:1.58	0.425	-0.18	22.19	23.50	1.352	0.575	23.1
Right side	20	QPSK 1_0	41055/2636.5	1:1.58	0.427	0.12	22.12	23.50	1.374	0.587	23.1
Right side	20	QPSK 1_0	41490/2680	1:1.58	0.397	-0.13	22.11	23.50	1.377	0.547	23.1
Top side	20	QPSK 1_0	40620/2593	1:1.58	0.095	0.06	22.21	23.50	1.346	0.128	23.1
Bottom side	20	QPSK 1_0	40620/2593	1:1.58	0.036	-0.02	22.21	23.50	1.346	0.048	23.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.199	-0.15	21.39	22.50	1.291	0.257	23.1
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.347	0.12	21.39	22.50	1.291	0.448	23.1
Right side	20	QPSK 50_0	40620/2593	1:1.58	0.574	0.01	21.39	22.50	1.291	0.741	23.1
Top side	20	QPSK 50_0	40620/2593	1:1.58	0.074	-0.12	21.39	22.50	1.291	0.096	23.1
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.026	-0.10	21.39	22.50	1.291	0.034	23.1
Hotspot Test data(Separate 10mm 100%RB)											
Right side	20	QPSK 100_0	40620/2593	1:1.58	0.568	0.01	21.24	22.50	1.337	0.759	23.1

Table 13： SAR of LTE Band 41 PC3 for Body(Variant).

9.2.9 SAR Result of LTE Band 41 PC2

LTE Band 41 SAR Test Record											
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	40620/2593	1:1.58	0.253	0.09	23.79	25.50	1.483	0.375	23.1
Back side	20	QPSK 1_0	40620/2593	1:1.58	0.398	0.14	23.79	25.50	1.483	0.590	23.1
Right side	20	QPSK 1_0	40620/2593	1:1.58	0.639	-0.17	23.79	25.50	1.483	0.947	23.1
Right side	20	QPSK 1_0	39750/2506	1:1.58	0.716	0.11	23.71	25.50	1.510	1.081	23.1
Right side	20	QPSK 1_0	40185/2549.5	1:1.58	0.693	0.04	23.74	25.50	1.500	1.039	23.1
Right side	20	QPSK 1_0	41055/2636.5	1:1.58	0.787	0.00	23.61	25.50	1.545	1.216	23.1
Right side	20	QPSK 1_0	41490/2680	1:1.58	0.885	-0.14	23.72	25.50	1.507	1.333	23.1
Right side - Repeat SAR	20	QPSK 1_0	41490/2680	1:1.58	0.864		23.72	25.50	1.507	1.302	23.1
Right side-CA_41C	20	QPSK 1_0	41490+41292/2680+2660.2	1:1.58	0.819	-0.01	23.53	25.50	1.574	1.289	23.1
Top side	20	QPSK 1_0	40620/2593	1:1.58	0.088	0.09	23.79	25.50	1.483	0.130	23.1
Bottom side	20	QPSK 1_0	40620/2593	1:1.58	0.035	0.03	23.79	25.50	1.483	0.052	23.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	40620/2593	1:1.58	0.208	-0.06	22.97	24.50	1.422	0.296	23.1
Back side	20	QPSK 50_0	40620/2593	1:1.58	0.347	-0.01	22.97	24.50	1.422	0.494	23.1
Right side	20	QPSK 50_0	40620/2593	1:1.58	0.559	0.16	22.97	24.50	1.422	0.795	23.1
Top side	20	QPSK 50_0	40620/2593	1:1.58	0.076	-0.09	22.97	24.50	1.422	0.108	23.1
Bottom side	20	QPSK 50_0	40620/2593	1:1.58	0.028	-0.05	22.97	24.50	1.422	0.040	23.1
Hotspot Test data(Separate 10mm 100%RB)											
Right side	20	QPSK 100_0	40620/2593	1:1.58	0.516	0.04	22.64	24.50	1.535	0.792	23.1

Table 14： SAR of LTE Band 41 PC2 for Body(Variant).

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Back side	41490/2680	0.885	0.885	1.024305556	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

9.2.10 SAR Result of LTE Band 48

LTE Band 48 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	55830/3609	1:1.58	0.107	0.02	20.90	22.00	1.288	0.138	22.9
Front side-CA_48C	20	QPSK 1_0	55830+56028/3609+3628.8	1:1.58	0.094	0.19	20.79	22.00	1.321	0.124	22.9
Back side	20	QPSK 1_0	55830/3609	1:1.58	0.082	-0.02	20.90	22.00	1.288	0.106	22.9
Left side	20	QPSK 1_0	55830/3609	1:1.58	0.025	-0.17	20.90	22.00	1.288	0.032	22.9
Top side	20	QPSK 1_0	55830/3609	1:1.58	0.099	0.09	20.90	22.00	1.288	0.128	22.9
Bottom side	20	QPSK 1_0	55830/3609	1:1.58	0.026	-0.17	20.90	22.00	1.288	0.033	22.9
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	55830/3609	1:1.58	0.077	-0.19	19.87	21.00	1.297	0.100	22.9
Back side	20	QPSK 50_0	55830/3609	1:1.58	0.059	-0.14	19.87	21.00	1.297	0.077	22.9
Left side	20	QPSK 50_0	55830/3609	1:1.58	0.019	0.17	19.87	21.00	1.297	0.025	22.9
Top side	20	QPSK 50_0	55830/3609	1:1.58	0.072	-0.03	19.87	21.00	1.297	0.093	22.9
Bottom side	20	QPSK 50_0	55830/3609	1:1.58	0.023	-0.13	19.87	21.00	1.297	0.030	22.9
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	55830/3609	1:1.58	0.391	-0.01	21.03	22.00	1.250	0.489	22.9
Back side	20	QPSK 1_0	55830/3609	1:1.58	0.255	0.02	21.03	22.00	1.250	0.319	22.9
Left side	20	QPSK 1_0	55830/3609	1:1.58	0.436	-0.07	21.03	22.00	1.250	0.545	22.9
Top side	20	QPSK 1_0	55830/3609	1:1.58	0.241	0.03	21.03	22.00	1.250	0.301	22.9
Bottom side	20	QPSK 1_0	55830/3609	1:1.58	0.179	0.05	21.03	22.00	1.250	0.224	22.9
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	55830/3609	1:1.58	0.312	-0.04	19.92	21.00	1.282	0.400	22.9

Back side	20	QPSK 50_0	55830/3609	1:1.58	0.207	-0.11	19.92	21.00	1.282	0.265	22.9
Left side	20	QPSK 50_0	55830/3609	1:1.58	0.341	-0.17	19.92	21.00	1.282	0.437	22.9
Top side	20	QPSK 50_0	55830/3609	1:1.58	0.199	-0.01	19.92	21.00	1.282	0.255	22.9
Bottom side	20	QPSK 50_0	55830/3609	1:1.58	0.145	0.08	19.92	21.00	1.282	0.186	22.9

Table 15： SAR of LTE Band 48 for Body(Variant).

9.2.11 SAR Result of LTE Band 66

LTE Band 66 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	20	QPSK 1_0	132322/1745	1:1	0.286	-0.17	22.45	24.00	1.429	0.409	22.7
Back side-13mm	20	QPSK 1_0	132322/1745	1:1	0.259	0.07	22.45	24.00	1.429	0.370	22.7
Left side-10mm	20	QPSK 1_0	132322/1745	1:1	0.231	-0.12	22.45	24.00	1.429	0.330	22.7
Top side-20mm	20	QPSK 1_0	132322/1745	1:1	0.249	-0.13	22.45	24.00	1.429	0.356	22.7
Bottom side-10mm	20	QPSK 1_0	132322/1745	1:1	0.149	0.16	22.45	24.00	1.429	0.213	22.7
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	20	QPSK 50_0	132322/1745	1:1	0.235	0.08	21.23	23.00	1.503	0.353	22.7
Back side-13mm	20	QPSK 50_0	132322/1745	1:1	0.274	0.10	21.23	23.00	1.503	0.412	22.7
Left side-10mm	20	QPSK 50_0	132322/1745	1:1	0.187	0.02	21.23	23.00	1.503	0.281	22.7
Top side-20mm	20	QPSK 50_0	132322/1745	1:1	0.173	0.07	21.23	23.00	1.503	0.260	22.7
Bottom side-10mm	20	QPSK 50_0	132322/1745	1:1	0.125	0.07	21.23	23.00	1.503	0.188	22.7
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.336	-0.10	19.91	21.00	1.285	0.432	22.7
Front side-CA_66C	20	QPSK 1_0	132072+132270/1745+1764.8	1:1	0.311	0.02	19.65	21.00	1.365	0.424	22.7
Back side	20	QPSK 1_0	132322/1745	1:1	0.293	0.02	19.91	21.00	1.285	0.377	22.7
Top side	20	QPSK 1_0	132322/1745	1:1	0.294	0.01	19.91	21.00	1.285	0.378	22.7
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.254	-0.01	19.69	21.00	1.352	0.343	22.7
Back side	20	QPSK 50_0	132322/1745	1:1	0.226	0.04	19.69	21.00	1.352	0.306	22.7
Top side	20	QPSK 50_0	132322/1745	1:1	0.215	0.09	19.69	21.00	1.352	0.291	22.7
Ant 3 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	132322/1745	1:1	0.113	0.03	22.31	24.00	1.476	0.167	22.7
Back side	20	QPSK 1_0	132322/1745	1:1	0.142	-0.08	22.31	24.00	1.476	0.210	22.7
Right side	20	QPSK 1_0	132322/1745	1:1	0.230	-0.13	22.31	24.00	1.476	0.339	22.7
Top side	20	QPSK 1_0	132322/1745	1:1	0.063	0.14	22.31	24.00	1.476	0.093	22.7

Bottom side	20	QPSK 1_0	132322/1745	1:1	0.014	-0.16	22.31	24.00	1.476	0.021	22.7
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	132322/1745	1:1	0.112	0.01	21.14	23.00	1.535	0.172	22.7
Back side	20	QPSK 50_0	132322/1745	1:1	0.140	0.03	21.14	23.00	1.535	0.215	22.7
Right side	20	QPSK 50_0	132322/1745	1:1	0.244	-0.04	21.14	23.00	1.535	0.374	22.7
Top side	20	QPSK 50_0	132322/1745	1:1	0.068	0.02	21.14	23.00	1.535	0.104	22.7
Bottom side	20	QPSK 50_0	132322/1745	1:1	0.000	0.00	21.14	23.00	1.535	0.000	22.7

Table 16： SAR of LTE Band 66 for Body(Variant).

9.2.12 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_0	133322/683	1:1	0.537	0.01	23.24	24.50	1.337	0.718	22.8
Back side	20	QPSK 1_0	133322/683	1:1	0.579	0.15	23.24	24.50	1.337	0.774	22.8
Left side	20	QPSK 1_0	133322/683	1:1	0.105	0.02	23.24	24.50	1.337	0.140	22.8
Top side	20	QPSK 1_0	133322/683	1:1	0.285	-0.01	23.24	24.50	1.337	0.381	22.8
Bottom side	20	QPSK 1_0	133322/683	1:1	0.193	0.05	23.24	24.50	1.337	0.258	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	133322/683	1:1	0.456	0.13	21.83	23.50	1.469	0.670	22.8
Back side	20	QPSK 50_0	133322/683	1:1	0.486	0.02	21.83	23.50	1.469	0.714	22.8
Left side	20	QPSK 50_0	133322/683	1:1	0.122	0.08	21.83	23.50	1.469	0.179	22.8
Top side	20	QPSK 50_0	133322/683	1:1	0.237	-0.05	21.83	23.50	1.469	0.348	22.8
Bottom side	20	QPSK 50_0	133322/683	1:1	0.168	0.07	21.83	23.50	1.469	0.247	22.8

Table 17： SAR of LTE Band 71 for Body(Variant).

9.2.13 SAR Result of 5G NR n5

SA N5 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	167300/836.5	1:1	0.458	0.01	23.38	24.50	1.294	0.593	22.8
Back side	20	QPSK 1_1	167300/836.5	1:1	0.503	-0.06	23.38	24.50	1.294	0.651	22.8
Left side	20	QPSK 1_1	167300/836.5	1:1	0.053	0.03	23.38	24.50	1.294	0.069	22.8
Top side	20	QPSK 1_1	167300/836.5	1:1	0.307	0.11	23.38	24.50	1.294	0.397	22.8
Bottom side	20	QPSK 1_1	167300/836.5	1:1	0.320	-0.05	23.38	24.50	1.294	0.414	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	167300/836.5	1:1	0.446	0.08	23.31	24.50	1.315	0.587	22.8
Back side	20	QPSK 50_28	167300/836.5	1:1	0.490	0.08	23.31	24.50	1.315	0.644	22.8
Left side	20	QPSK 50_28	167300/836.5	1:1	0.047	-0.08	23.31	24.50	1.315	0.062	22.8
Top side	20	QPSK 50_28	167300/836.5	1:1	0.302	0.06	23.31	24.50	1.315	0.397	22.8
Bottom side	20	QPSK 50_28	167300/836.5	1:1	0.309	0.19	23.31	24.50	1.315	0.406	22.8
Ant 3 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	20	QPSK 1_1	167300/836.5	1:1	0.249	0.04	23.13	24.50	1.371	0.341	22.8
Back side-13mm	20	QPSK 1_1	167300/836.5	1:1	0.316	-0.12	23.13	24.50	1.371	0.433	22.8
Right side-10mm	20	QPSK 1_1	167300/836.5	1:1	0.086	0.01	23.13	24.50	1.371	0.118	22.8
Top side-10mm	20	QPSK 1_1	167300/836.5	1:1	0.202	0.01	23.13	24.50	1.371	0.277	22.8
Bottom side-10mm	20	QPSK 1_1	167300/836.5	1:1	0.182	0.01	23.13	24.50	1.371	0.250	22.8
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	20	QPSK 50_28	167300/836.5	1:1	0.274	-0.09	23.11	24.50	1.377	0.377	22.8
Back side-13mm	20	QPSK 50_28	167300/836.5	1:1	0.349	0.07	23.11	24.50	1.377	0.481	22.8
Right side-10mm	20	QPSK 50_28	167300/836.5	1:1	0.106	0.14	23.11	24.50	1.377	0.146	22.8
Top side-10mm	20	QPSK 50_28	167300/836.5	1:1	0.200	-0.17	23.11	24.50	1.377	0.275	22.8
Bottom side-10mm	20	QPSK 50_28	167300/836.5	1:1	0.186	-0.07	23.11	24.50	1.377	0.256	22.8
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	167300/836.5	1:1	0.207	0.03	20.25	21.50	1.334	0.276	22.8
Back side	20	QPSK 1_1	167300/836.5	1:1	0.274	0.09	20.25	21.50	1.334	0.365	22.8

Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	167300/836.5	1:1	0.263	-0.05	20.18	21.50	1.355	0.356	22.8
Back side	20	QPSK 50_28	167300/836.5	1:1	0.323	0.02	20.18	21.50	1.355	0.438	22.8

Table 18： SAR of 5G NR n5 for Body(Variant).

9.2.14 SAR Result of 5G NR n12

SA N12 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	15	QPSK 1_1	141500/707.5	1:1	0.362	-0.03	23.21	24.50	1.346	0.487	22.8
Back side-13mm	15	QPSK 1_1	141500/707.5	1:1	0.365	-0.19	23.21	24.50	1.346	0.491	22.8
Left side-10mm	15	QPSK 1_1	141500/707.5	1:1	0.089	0.18	23.21	24.50	1.346	0.120	22.8
Top side-20mm	15	QPSK 1_1	141500/707.5	1:1	0.232	0.09	23.21	24.50	1.346	0.312	22.8
Bottom side-10mm	15	QPSK 1_1	141500/707.5	1:1	0.267	0.09	23.21	24.50	1.346	0.359	22.8
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	15	QPSK 36_22	141500/707.5	1:1	0.393	0.00	23.13	24.50	1.371	0.539	22.8
Back side-13mm	15	QPSK 36_22	141500/707.5	1:1	0.396	-0.10	23.13	24.50	1.371	0.543	22.8
Left side-10mm	15	QPSK 36_22	141500/707.5	1:1	0.077	0.08	23.13	24.50	1.371	0.106	22.8
Top side-20mm	15	QPSK 36_22	141500/707.5	1:1	0.266	-0.06	23.13	24.50	1.371	0.365	22.8
Bottom side-10mm	15	QPSK 36_22	141500/707.5	1:1	0.352	-0.11	23.13	24.50	1.371	0.483	22.8
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	15	QPSK 1_1	141500/707.5	1:1	0.407	0.03	21.22	22.00	1.197	0.487	22.8
Back side	15	QPSK 1_1	141500/707.5	1:1	0.421	0.05	21.22	22.00	1.197	0.504	22.8
Top side	15	QPSK 1_1	141500/707.5	1:1	0.285	-0.01	21.22	22.00	1.197	0.341	22.8
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	15	QPSK 36_22	141500/707.5	1:1	0.440	0.02	21.18	22.00	1.208	0.531	22.8
Back side	15	QPSK 36_22	141500/707.5	1:1	0.451	-0.17	21.18	22.00	1.208	0.545	22.8
Top side	15	QPSK 36_22	141500/707.5	1:1	0.337	0.09	21.18	22.00	1.208	0.407	22.8

Table 19： SAR of 5G NR n12 for Body(Variant).

9.2.15 SAR Result of 5G NR n14

SA N14 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1_1	158600/793	1:1	0.499	0.04	23.09	24.50	1.384	0.690	22.8
Back side	10	QPSK 1_1	158600/793	1:1	0.485	0.05	23.09	24.50	1.384	0.671	22.8
Left side	10	QPSK 1_1	158600/793	1:1	0.074	0.09	23.09	24.50	1.384	0.102	22.8
Top side	10	QPSK 1_1	158600/793	1:1	0.435	-0.04	23.09	24.50	1.384	0.602	22.8
Bottom side	10	QPSK 1_1	158600/793	1:1	0.287	0.12	23.09	24.50	1.384	0.397	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	10	QPSK 25_14	158600/793	1:1	0.502	-0.12	23.03	24.50	1.403	0.704	22.8
Back side	10	QPSK 25_14	158600/793	1:1	0.477	0.11	23.03	24.50	1.403	0.669	22.8
Left side	10	QPSK 25_14	158600/793	1:1	0.113	0.19	23.03	24.50	1.403	0.159	22.8
Top side	10	QPSK 25_14	158600/793	1:1	0.445	-0.12	23.03	24.50	1.403	0.624	22.8
Bottom side	10	QPSK 25_14	158600/793	1:1	0.267	-0.16	23.03	24.50	1.403	0.375	22.8

Table 20： SAR of 5G NR n14 for Body.

9.2.16 SAR Result of 5G NR n25

SA N25 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	376500/1882.5	1:1	0.467	-0.03	22.76	24.00	1.330	0.621	22.6
Back side	40	QPSK 1_1	376500/1882.5	1:1	0.376	-0.04	22.76	24.00	1.330	0.500	22.6
Left side	40	QPSK 1_1	376500/1882.5	1:1	0.199	0.00	22.76	24.00	1.330	0.265	22.6
Top side	40	QPSK 1_1	376500/1882.5	1:1	0.318	0.12	22.76	24.00	1.330	0.423	22.6
Bottom side	40	QPSK 1_1	376500/1882.5	1:1	0.095	0.16	22.76	24.00	1.330	0.126	22.6
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	376500/1882.5	1:1	0.459	0.12	22.71	24.00	1.346	0.618	22.6
Back side	40	QPSK 108_54	376500/1882.5	1:1	0.375	0.05	22.71	24.00	1.346	0.505	22.6
Left side	40	QPSK 108_54	376500/1882.5	1:1	0.216	-0.02	22.71	24.00	1.346	0.291	22.6
Top side	40	QPSK 108_54	376500/1882.5	1:1	0.331	-0.15	22.71	24.00	1.346	0.445	22.6
Bottom side	40	QPSK 108_54	376500/1882.5	1:1	0.096	-0.12	22.71	24.00	1.346	0.129	22.6
Ant 3 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	376500/1882.5	1:1	0.158	-0.15	22.78	24.00	1.324	0.209	22.6
Back side	40	QPSK 1_1	376500/1882.5	1:1	0.214	0.10	22.78	24.00	1.324	0.283	22.6
Right side	40	QPSK 1_1	376500/1882.5	1:1	0.302	0.08	22.78	24.00	1.324	0.400	22.6
Top side	40	QPSK 1_1	376500/1882.5	1:1	0.086	-0.03	22.78	24.00	1.324	0.114	22.6
Bottom side	40	QPSK 1_1	376500/1882.5	1:1	0.027	-0.12	22.78	24.00	1.324	0.036	22.6
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	376500/1882.5	1:1	0.125	-0.10	22.68	24.00	1.355	0.169	22.6
Back side	40	QPSK 108_54	376500/1882.5	1:1	0.206	0.04	22.68	24.00	1.355	0.279	22.6
Right side	40	QPSK 108_54	376500/1882.5	1:1	0.292	0.19	22.68	24.00	1.355	0.396	22.6
Top side	40	QPSK 108_54	376500/1882.5	1:1	0.069	0.04	22.68	24.00	1.355	0.094	22.6
Bottom side	40	QPSK 108_54	376500/1882.5	1:1	0.000	0.00	22.68	24.00	1.355	0.000	22.6

Table 21： SAR of 5G NR n25 for Body(Variant).

9.2.17 SAR Result of 5G NR n30

SA N30 SAR Test Record											
Ant 3 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	10	QPSK 1_1	462000/2310	1:1	0.397	-0.09	21.78	23.50	1.486	0.590	22.9
Back side-13mm	10	QPSK 1_1	462000/2310	1:1	0.482	-0.17	21.78	23.50	1.486	0.716	22.9
Right side-15mm	10	QPSK 1_1	462000/2310	1:1	0.562	0.02	21.78	23.50	1.486	0.835	22.9
Top side-10mm	10	QPSK 1_1	462000/2310	1:1	0.091	0.12	21.78	23.50	1.486	0.135	22.9
Bottom side-10mm	10	QPSK 1_1	462000/2310	1:1	0.047	-0.07	21.78	23.50	1.486	0.070	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	10	QPSK 25_14	462000/2310	1:1	0.391	-0.13	21.73	23.50	1.503	0.588	22.9
Back side-13mm	10	QPSK 25_14	462000/2310	1:1	0.495	-0.04	21.73	23.50	1.503	0.744	22.9
Right side-15mm	10	QPSK 25_14	462000/2310	1:1	0.584	0.04	21.73	23.50	1.503	0.878	22.9
Top side-10mm	10	QPSK 25_14	462000/2310	1:1	0.088	-0.10	21.73	23.50	1.503	0.132	22.9
Bottom side-10mm	10	QPSK 25_14	462000/2310	1:1	0.038	-0.01	21.73	23.50	1.503	0.057	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	10	QPSK 1_1	462000/2310	1:1	0.511	0.02	19.28	20.50	1.324	0.677	22.9
Right side	10	QPSK 1_1	462000/2310	1:1	0.670	-0.01	19.28	20.50	1.324	0.887	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	10	QPSK 25_14	462000/2310	1:1	0.508	0.03	19.25	20.50	1.334	0.677	22.9
Right side	10	QPSK 25_14	462000/2310	1:1	0.673	0.10	19.25	20.50	1.334	0.897	22.9

Table 22： SAR of 5G NR n30 for Body(Variant).

9.2.18 SAR Result of 5G NR n41

SA N41 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1.58	0.258	-0.07	24.67	26.50	1.524	0.393	23.1
Back side	100	QPSK 1_1	518598/2592.99	1:1.58	0.299	-0.10	24.67	26.50	1.524	0.456	23.1
Left side	100	QPSK 1_1	518598/2592.99	1:1.58	0.677	0.07	24.67	26.50	1.524	1.032	23.1
Top side	100	QPSK 1_1	518598/2592.99	1:1.58	0.213	0.05	24.67	26.50	1.524	0.325	23.1
Bottom side	100	QPSK 1_1	518598/2592.99	1:1.58	0.043	0.09	24.67	26.50	1.524	0.066	23.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1.58	0.288	0.13	24.60	26.50	1.549	0.446	23.1
Back side	100	QPSK 135_69	518598/2592.99	1:1.58	0.352	-0.07	24.60	26.50	1.549	0.545	23.1
Left side	100	QPSK 135_69	518598/2592.99	1:1.58	0.731	-0.06	24.60	26.50	1.549	1.132	23.1
Top side	100	QPSK 135_69	518598/2592.99	1:1.58	0.277	0.02	24.60	26.50	1.549	0.429	23.1
Bottom side	100	QPSK 135_69	518598/2592.99	1:1.58	0.065	-0.13	24.60	26.50	1.549	0.101	23.1
Hotspot Test data(Separate 10mm 100%RB)											
Left side	100	QPSK 270_0	518598/2592.99	1:1.58	0.632	0.01	23.58	25.50	1.556	0.983	23.1
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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1.58	0.248	-0.02	22.99	24.00	1.262	0.313	23.1
Back side	100	QPSK 1_1	518598/2592.99	1:1.58	0.209	0.11	22.99	24.00	1.262	0.264	23.1
Left side	100	QPSK 1_1	518598/2592.99	1:1.58	0.020	0.09	22.99	24.00	1.262	0.025	23.1
Top side	100	QPSK 1_1	518598/2592.99	1:1.58	0.488	-0.16	22.99	24.00	1.262	0.616	23.1
Bottom side	100	QPSK 1_1	518598/2592.99	1:1.58	0.014	0.08	22.99	24.00	1.262	0.018	23.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1.58	0.277	0.05	22.88	24.00	1.294	0.358	23.1
Back side	100	QPSK 135_69	518598/2592.99	1:1.58	0.235	0.00	22.88	24.00	1.294	0.304	23.1
Left side	100	QPSK 135_69	518598/2592.99	1:1.58	0.032	-0.16	22.88	24.00	1.294	0.041	23.1
Top side	100	QPSK 135_69	518598/2592.99	1:1.58	0.515	-0.04	22.88	24.00	1.294	0.667	23.1
Bottom side	100	QPSK 135_69	518598/2592.99	1:1.58	0.024	-0.14	22.88	24.00	1.294	0.031	23.1
Ant 2 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.(℃)

Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	518598/2592.99	1:1.58	0.477	0.02	24.93	26.00	1.279	0.610	23.1
Back side	100	QPSK 1_1	518598/2592.99	1:1.58	0.524	-0.08	24.93	26.00	1.279	0.670	23.1
Left side	100	QPSK 1_1	518598/2592.99	1:1.58	0.171	-0.14	24.93	26.00	1.279	0.219	23.1
Top side	100	QPSK 1_1	518598/2592.99	1:1.58	0.071	0.17	24.93	26.00	1.279	0.091	23.1
Bottom side	100	QPSK 1_1	518598/2592.99	1:1.58	0.361	0.00	24.93	26.00	1.279	0.462	23.1
Hotspot Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	518598/2592.99	1:1.58	0.351	-0.03	24.92	26.00	1.282	0.450	23.1
Back side	100	QPSK 135_69	518598/2592.99	1:1.58	0.359	-0.17	24.92	26.00	1.282	0.460	23.1
Left side	100	QPSK 135_69	518598/2592.99	1:1.58	0.060	-0.18	24.92	26.00	1.282	0.077	23.1
Top side	100	QPSK 135_69	518598/2592.99	1:1.58	0.043	-0.01	24.92	26.00	1.282	0.055	23.1
Bottom side	100	QPSK 135_69	518598/2592.99	1:1.58	0.293	-0.12	24.92	26.00	1.282	0.376	23.1
Ant 3 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	100	QPSK 1_1	518598/2592.99	1:1.58	0.351	-0.02	24.43	25.50	1.279	0.449	23.1
Back side-13mm	100	QPSK 1_1	518598/2592.99	1:1.58	0.474	-0.07	24.43	25.50	1.279	0.606	23.1
Right side-15mm	100	QPSK 1_1	518598/2592.99	1:1.58	0.702	0.19	24.43	25.50	1.279	0.898	23.1
Top side-10mm	100	QPSK 1_1	518598/2592.99	1:1.58	0.051	0.19	24.43	25.50	1.279	0.065	23.1
Bottom side-10mm	100	QPSK 1_1	518598/2592.99	1:1.58	0.046	0.11	24.43	25.50	1.279	0.059	23.1
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	100	QPSK 135_69	518598/2592.99	1:1.58	0.386	0.14	24.42	25.50	1.282	0.495	23.1
Back side-13mm	100	QPSK 135_69	518598/2592.99	1:1.58	0.482	-0.05	24.42	25.50	1.282	0.618	23.1
Right side-15mm	100	QPSK 135_69	518598/2592.99	1:1.58	0.611	-0.15	24.42	25.50	1.282	0.784	23.1
Top side-10mm	100	QPSK 135_69	518598/2592.99	1:1.58	0.064	0.12	24.42	25.50	1.282	0.082	23.1
Bottom side-10mm	100	QPSK 135_69	518598/2592.99	1:1.58	0.046	-0.14	24.42	25.50	1.282	0.059	23.1
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	100	QPSK 1_1	518598/2592.99	1:1.58	0.368	0.03	20.94	22.00	1.276	0.470	23.1
Right side	100	QPSK 1_1	518598/2592.99	1:1.58	0.728	-0.16	20.94	22.00	1.276	0.929	23.1
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	100	QPSK 135_69	518598/2592.99	1:1.58	0.348	0.02	20.89	22.00	1.291	0.449	23.1
Right side	100	QPSK 135_69	518598/2592.99	1:1.58	0.629	0.01	20.89	22.00	1.291	0.812	23.1
Hotspot (Sensor on) Test data(Separate 10mm 100%RB)											
Right side	100	QPSK 270_0	518598/2592.99	1:1.58	0.348	0.09	20.65	22.00	1.365	0.475	23.1

Table 23： SAR of 5G NR n41 for Body(Variant).

9.2.19 SAR Result of 5G NR n48

SA N48 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	40	QPSK 1_1	641666/3624.99	1:1.58	0.156	0.02	19.28	20.50	1.324	0.207	22.9
Back side-13mm	40	QPSK 1_1	641666/3624.99	1:1.58	0.296	-0.11	19.28	20.50	1.324	0.392	22.9
Left side-10mm	40	QPSK 1_1	641666/3624.99	1:1.58	0.033	0.16	19.28	20.50	1.324	0.044	22.9
Top side-20mm	40	QPSK 1_1	641666/3624.99	1:1.58	0.407	-0.06	19.28	20.50	1.324	0.539	22.9
Bottom side-10mm	40	QPSK 1_1	641666/3624.99	1:1.58	0.032	0.03	19.28	20.50	1.324	0.042	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	40	QPSK 108_54	641666/3624.99	1:1.58	0.136	-0.01	19.26	20.50	1.330	0.181	22.9
Back side-13mm	40	QPSK 108_54	641666/3624.99	1:1.58	0.242	-0.18	19.26	20.50	1.330	0.322	22.9
Left side-10mm	40	QPSK 108_54	641666/3624.99	1:1.58	0.018	0.15	19.26	20.50	1.330	0.024	22.9
Top side-20mm	40	QPSK 108_54	641666/3624.99	1:1.58	0.311	0.03	19.26	20.50	1.330	0.414	22.9
Bottom side-10mm	40	QPSK 108_54	641666/3624.99	1:1.58	0.018	0.15	19.26	20.50	1.330	0.024	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	40	QPSK 1_1	641666/3624.99	1:1.58	0.200	0.02	14.68	15.50	1.208	0.242	22.9
Top side	40	QPSK 1_1	641666/3624.99	1:1.58	0.448	0.07	14.68	15.50	1.208	0.541	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	40	QPSK 108_54	641666/3624.99	1:1.58	0.148	0.01	14.64	15.50	1.219	0.180	22.9
Top side	40	QPSK 108_54	641666/3624.99	1:1.58	0.340	-0.11	14.64	15.50	1.219	0.414	22.9
Ant 2 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	641666/3624.99	1:1.58	0.309	-0.01	16.61	17.50	1.227	0.379	22.9
Back side	40	QPSK 1_1	641666/3624.99	1:1.58	0.240	-0.08	16.61	17.50	1.227	0.295	22.9
Left side	40	QPSK 1_1	641666/3624.99	1:1.58	0.104	-0.04	16.61	17.50	1.227	0.128	22.9
Top side	40	QPSK 1_1	641666/3624.99	1:1.58	0.341	0.13	16.61	17.50	1.227	0.419	22.9
Bottom side	40	QPSK 1_1	641666/3624.99	1:1.58	0.378	-0.05	16.61	17.50	1.227	0.464	22.9
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	641666/3624.99	1:1.58	0.249	0.00	16.51	17.50	1.256	0.313	22.9
Back side	40	QPSK 108_54	641666/3624.99	1:1.58	0.185	0.07	16.51	17.50	1.256	0.232	22.9
Left side	40	QPSK 108_54	641666/3624.99	1:1.58	0.080	0.16	16.51	17.50	1.256	0.100	22.9

Top side	40	QPSK 108_54	641666/3624.99	1:1.58	0.237	-0.05	16.51	17.50	1.256	0.298	22.9
Bottom side	40	QPSK 108_54	641666/3624.99	1:1.58	0.266	-0.03	16.51	17.50	1.256	0.334	22.9
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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	641666/3624.99	1:1.58	0.251	0.03	21.04	22.00	1.247	0.313	22.9
Back side	40	QPSK 1_1	641666/3624.99	1:1.58	0.211	0.15	21.04	22.00	1.247	0.263	22.9
Left side	40	QPSK 1_1	641666/3624.99	1:1.58	0.041	0.00	21.04	22.00	1.247	0.051	22.9
Top side	40	QPSK 1_1	641666/3624.99	1:1.58	0.267	-0.12	21.04	22.00	1.247	0.333	22.9
Bottom side	40	QPSK 1_1	641666/3624.99	1:1.58	0.068	-0.17	21.04	22.00	1.247	0.085	22.9
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	641666/3624.99	1:1.58	0.220	-0.13	20.91	22.00	1.285	0.283	22.9
Back side	40	QPSK 108_54	641666/3624.99	1:1.58	0.158	0.12	20.91	22.00	1.285	0.203	22.9
Left side	40	QPSK 108_54	641666/3624.99	1:1.58	0.034	0.08	20.91	22.00	1.285	0.044	22.9
Top side	40	QPSK 108_54	641666/3624.99	1:1.58	0.210	-0.13	20.91	22.00	1.285	0.270	22.9
Bottom side	40	QPSK 108_54	641666/3624.99	1:1.58	0.047	-0.11	20.91	22.00	1.285	0.060	22.9
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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	641666/3624.99	1:1.58	0.293	0.09	20.78	22.00	1.324	0.388	22.9
Back side	40	QPSK 1_1	641666/3624.99	1:1.58	0.232	-0.14	20.78	22.00	1.324	0.307	22.9
Left side	40	QPSK 1_1	641666/3624.99	1:1.58	0.014	0.17	20.78	22.00	1.324	0.019	22.9
Top side	40	QPSK 1_1	641666/3624.99	1:1.58	0.225	0.13	20.78	22.00	1.324	0.298	22.9
Bottom side	40	QPSK 1_1	641666/3624.99	1:1.58	0.038	0.15	20.78	22.00	1.324	0.050	22.9
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	641666/3624.99	1:1.58	0.269	0.08	20.76	22.00	1.330	0.358	22.9
Back side	40	QPSK 108_54	641666/3624.99	1:1.58	0.208	0.10	20.76	22.00	1.330	0.277	22.9
Left side	40	QPSK 108_54	641666/3624.99	1:1.58	0.011	0.18	20.76	22.00	1.330	0.015	22.9
Top side	40	QPSK 108_54	641666/3624.99	1:1.58	0.214	0.02	20.76	22.00	1.330	0.285	22.9
Bottom side	40	QPSK 108_54	641666/3624.99	1:1.58	0.032	0.05	20.76	22.00	1.330	0.043	22.9

Table 24： SAR of 5G NR n48 for Body(Variant).

9.2.20 SAR Result of 5G NR n66

SA N66 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	40	QPSK 1_1	349000/1745	1:1	0.410	0.05	22.35	24.00	1.462	0.599	22.7
Back side-13mm	40	QPSK 1_1	349000/1745	1:1	0.382	0.02	22.35	24.00	1.462	0.559	22.7
Left side-10mm	40	QPSK 1_1	349000/1745	1:1	0.226	-0.02	22.35	24.00	1.462	0.330	22.7
Top side-10mm	40	QPSK 1_1	349000/1745	1:1	0.405	-0.09	22.35	24.00	1.462	0.592	22.7
Bottom side-10mm	40	QPSK 1_1	349000/1745	1:1	0.079	0.09	22.35	24.00	1.462	0.116	22.7
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	40	QPSK 108_54	349000/1745	1:1	0.374	0.01	22.31	24.00	1.476	0.552	22.7
Back side-13mm	40	QPSK 108_54	349000/1745	1:1	0.374	0.13	22.31	24.00	1.476	0.552	22.7
Left side-10mm	40	QPSK 108_54	349000/1745	1:1	0.195	0.14	22.31	24.00	1.476	0.288	22.7
Top side-10mm	40	QPSK 108_54	349000/1745	1:1	0.394	0.13	22.31	24.00	1.476	0.581	22.7
Bottom side-10mm	40	QPSK 108_54	349000/1745	1:1	0.054	0.05	22.31	24.00	1.476	0.080	22.7
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.455	-0.04	21.79	23.00	1.321	0.601	22.7
Back side	40	QPSK 1_1	349000/1745	1:1	0.389	0.01	21.79	23.00	1.321	0.514	22.7
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.415	-0.01	21.69	23.00	1.352	0.561	22.7
Back side	40	QPSK 108_54	349000/1745	1:1	0.371	0.11	21.69	23.00	1.352	0.502	22.7
Ant 3 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	40	QPSK 1_1	349000/1745	1:1	0.113	-0.06	22.53	24.00	1.403	0.159	22.7
Back side	40	QPSK 1_1	349000/1745	1:1	0.158	-0.10	22.53	24.00	1.403	0.222	22.7
Right side	40	QPSK 1_1	349000/1745	1:1	0.225	0.16	22.53	24.00	1.403	0.316	22.7
Top side	40	QPSK 1_1	349000/1745	1:1	0.074	-0.07	22.53	24.00	1.403	0.104	22.7
Bottom side	40	QPSK 1_1	349000/1745	1:1	0.000	0.00	22.53	24.00	1.403	0.000	22.7
Hotspot Test data(Separate 10mm 50%RB)											
Front side	40	QPSK 108_54	349000/1745	1:1	0.116	-0.04	22.51	24.00	1.409	0.163	22.7
Back side	40	QPSK 108_54	349000/1745	1:1	0.160	0.19	22.51	24.00	1.409	0.225	22.7

Right side	40	QPSK 108_54	349000/1745	1:1	0.246	-0.06	22.51	24.00	1.409	0.347	22.7
Top side	40	QPSK 108_54	349000/1745	1:1	0.061	0.04	22.51	24.00	1.409	0.086	22.7
Bottom side	40	QPSK 108_54	349000/1745	1:1	0.000	0.00	22.51	24.00	1.409	0.000	22.7

Table 25： SAR of 5G NR n66 for Body(Variant).

9.2.21 SAR Result of 5G NR n71

SA N71 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1_1	136100/680.5	1:1	0.502	0.03	23.42	24.50	1.282	0.644	22.8
Back side	20	QPSK 1_1	136100/680.5	1:1	0.569	-0.02	23.42	24.50	1.282	0.730	22.8
Left side	20	QPSK 1_1	136100/680.5	1:1	0.187	-0.14	23.42	24.50	1.282	0.240	22.8
Top side	20	QPSK 1_1	136100/680.5	1:1	0.265	-0.04	23.42	24.50	1.282	0.340	22.8
Bottom side	20	QPSK 1_1	136100/680.5	1:1	0.169	-0.14	23.42	24.50	1.282	0.217	22.8
Hotspot Test data(Separate 10mm 50%RB)											
Front side	20	QPSK 50_28	136100/680.5	1:1	0.525	0.06	23.36	24.50	1.300	0.683	22.8
Back side	20	QPSK 50_28	136100/680.5	1:1	0.573	-0.08	23.36	24.50	1.300	0.745	22.8
Left side	20	QPSK 50_28	136100/680.5	1:1	0.192	-0.07	23.36	24.50	1.300	0.250	22.8
Top side	20	QPSK 50_28	136100/680.5	1:1	0.278	0.01	23.36	24.50	1.300	0.361	22.8
Bottom side	20	QPSK 50_28	136100/680.5	1:1	0.190	-0.18	23.36	24.50	1.300	0.247	22.8

Table 26： SAR of 5G NR n71 for Body(Variant).

9.2.22 SAR Result of 5G NR n77(3450~3550)

SA N77 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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	100	QPSK 1_1	633334/3500	1:1	0.169	0.19	23.25	24.50	1.334	0.225	22.9
Back side-13mm	100	QPSK 1_1	633334/3500	1:1	0.334	-0.13	23.25	24.50	1.334	0.445	22.9
Left side-10mm	100	QPSK 1_1	633334/3500	1:1	0.138	0.03	23.25	24.50	1.334	0.184	22.9
Top side-20mm	100	QPSK 1_1	633334/3500	1:1	0.569	0.19	23.25	24.50	1.334	0.759	22.9
Bottom side-10mm	100	QPSK 1_1	633334/3500	1:1	0.000	0.00	23.25	24.50	1.334	0.000	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	100	QPSK 135_69	633334/3500	1:1	0.206	0.00	23.24	24.50	1.337	0.275	22.9
Back side-13mm	100	QPSK 135_69	633334/3500	1:1	0.369	-0.19	23.24	24.50	1.337	0.493	22.9
Left side-10mm	100	QPSK 135_69	633334/3500	1:1	0.162	-0.11	23.24	24.50	1.337	0.217	22.9
Top side-20mm	100	QPSK 135_69	633334/3500	1:1	0.622	-0.16	23.24	24.50	1.337	0.831	22.9
Bottom side-10mm	100	QPSK 135_69	633334/3500	1:1	0.000	0.00	23.24	24.50	1.337	0.000	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	100	QPSK 1_1	633334/3500	1:1	0.311	0.02	17.28	18.00	1.180	0.367	22.9
Top side	100	QPSK 1_1	633334/3500	1:1	0.603	0.01	17.28	18.00	1.180	0.712	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	100	QPSK 135_69	633334/3500	1:1	0.413	0.11	17.24	18.00	1.191	0.492	22.9
Top side	100	QPSK 135_69	633334/3500	1:1	0.721	-0.14	17.24	18.00	1.191	0.859	22.9
Ant2 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.(℃)**
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	633334/3500	1:1	0.090	0.08	19.52	20.50	1.253	0.113	22.9
Back side	100	QPSK 1_1	633334/3500	1:1	0.145	0.05	19.52	20.50	1.253	0.182	22.9
Left side	100	QPSK 1_1	633334/3500	1:1	0.058	-0.10	19.52	20.50	1.253	0.073	22.9
Top side	100	QPSK 1_1	633334/3500	1:1	0.020	-0.17	19.52	20.50	1.253	0.025	22.9
Bottom side	100	QPSK 1_1	633334/3500	1:1	0.503	-0.02	19.52	20.50	1.253	0.630	22.9
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	633334/3500	1:1	0.078	-0.07	19.48	20.50	1.265	0.099	22.9
Back side	100	QPSK 135_69	633334/3500	1:1	0.128	-0.13	19.48	20.50	1.265	0.162	22.9
Left side	100	QPSK 135_69	633334/3500	1:1	0.046	0.13	19.48	20.50	1.265	0.058	22.9
Top side	100	QPSK 135_69	633334/3500	1:1	0.011	-0.09	19.48	20.50	1.265	0.014	22.9
Bottom side	100	QPSK 135_69	633334/3500	1:1	0.363	-0.17	19.48	20.50	1.265	0.459	22.9
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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	633334/3500	1:1	0.588	-0.06	24.53	25.50	1.250	0.735	22.9
Back side	100	QPSK 1_1	633334/3500	1:1	0.308	-0.17	24.53	25.50	1.250	0.385	22.9
Left side	100	QPSK 1_1	633334/3500	1:1	0.291	-0.18	24.53	25.50	1.250	0.364	22.9
Top side	100	QPSK 1_1	633334/3500	1:1	0.125	-0.07	24.53	25.50	1.250	0.156	22.9
Bottom side	100	QPSK 1_1	633334/3500	1:1	0.221	-0.18	24.53	25.50	1.250	0.276	22.9
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	633334/3500	1:1	0.335	-0.07	24.53	25.50	1.250	0.419	22.9
Back side	100	QPSK 135_69	633334/3500	1:1	0.183	0.11	24.53	25.50	1.250	0.229	22.9
Left side	100	QPSK 135_69	633334/3500	1:1	0.171	-0.19	24.53	25.50	1.250	0.214	22.9
Top side	100	QPSK 135_69	633334/3500	1:1	0.082	0.00	24.53	25.50	1.250	0.103	22.9
Bottom side	100	QPSK 135_69	633334/3500	1:1	0.138	-0.01	24.53	25.50	1.250	0.173	22.9
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.(℃)**
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	100	QPSK 1_1	633334/3500	1:1	0.561	0.07	24.28	25.00	1.180	0.662	22.9
Back side-13mm	100	QPSK 1_1	633334/3500	1:1	0.382	0.06	24.28	25.00	1.180	0.451	22.9
Left side-10mm	100	QPSK 1_1	633334/3500	1:1	0.042	-0.17	24.28	25.00	1.180	0.050	22.9
Top side-20mm	100	QPSK 1_1	633334/3500	1:1	0.336	-0.02	24.28	25.00	1.180	0.397	22.9
Bottom side-10mm	100	QPSK 1_1	633334/3500	1:1	0.082	0.06	24.28	25.00	1.180	0.097	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	100	QPSK 135_69	633334/3500	1:1	0.474	0.19	24.10	25.00	1.230	0.583	22.9
Back side-13mm	100	QPSK 135_69	633334/3500	1:1	0.325	0.10	24.10	25.00	1.230	0.400	22.9
Left side-10mm	100	QPSK 135_69	633334/3500	1:1	0.034	-0.06	24.10	25.00	1.230	0.042	22.9
Top side-20mm	100	QPSK 135_69	633334/3500	1:1	0.247	-0.04	24.10	25.00	1.230	0.304	22.9
Bottom side-10mm	100	QPSK 135_69	633334/3500	1:1	0.075	0.01	24.10	25.00	1.230	0.092	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	633334/3500	1:1	0.530	-0.07	22.18	23.00	1.208	0.640	22.9
Back side	100	QPSK 1_1	633334/3500	1:1	0.432	0.03	22.18	23.00	1.208	0.522	22.9
Top side	100	QPSK 1_1	633334/3500	1:1	0.388	0.11	22.18	23.00	1.208	0.469	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	633334/3500	1:1	0.395	0.05	22.12	23.00	1.225	0.484	22.9
Back side	100	QPSK 135_69	633334/3500	1:1	0.335	0.12	22.12	23.00	1.225	0.410	22.9
Top side	100	QPSK 135_69	633334/3500	1:1	0.292	-0.04	22.12	23.00	1.225	0.358	22.9

Table 27： SAR of 5G NR n77(3450~3550) for Body(Variant).

9.2.23SAR Result of 5G NR n77(3700~3980)

SA N77 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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-10mm	100	QPSK 1_1	656000/3840	1:1	0.194	0.13	23.08	24.00	1.236	0.240	22.9
Back side-13mm	100	QPSK 1_1	656000/3840	1:1	0.274	0.02	23.08	24.00	1.236	0.339	22.9
Left side-10mm	100	QPSK 1_1	656000/3840	1:1	0.015	-0.15	23.08	24.00	1.236	0.019	22.9
Top side-20mm	100	QPSK 1_1	656000/3840	1:1	0.532	0.11	23.08	24.00	1.236	0.658	22.9
Bottom side-10mm	100	QPSK 1_1	656000/3840	1:1	0.013	-0.12	23.08	24.00	1.236	0.016	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-10mm	100	QPSK 135_69	656000/3840	1:1	0.199	0.07	22.97	24.00	1.268	0.252	22.9
Back side-13mm	100	QPSK 135_69	656000/3840	1:1	0.308	-0.13	22.97	24.00	1.268	0.390	22.9
Left side-10mm	100	QPSK 135_69	656000/3840	1:1	0.015	-0.08	22.97	24.00	1.268	0.019	22.9
Top side-20mm	100	QPSK 135_69	656000/3840	1:1	0.614	-0.09	22.97	24.00	1.268	0.778	22.9
Bottom side-10mm	100	QPSK 135_69	656000/3840	1:1	0.015	-0.16	22.97	24.00	1.268	0.019	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Back side	100	QPSK 1_1	656000/3840	1:1	0.241	0.01	16.57	17.00	1.104	0.266	22.9
Top side	100	QPSK 1_1	656000/3840	1:1	0.548	0.12	16.57	17.00	1.104	0.605	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Back side	100	QPSK 135_69	656000/3840	1:1	0.274	0.03	16.53	17.00	1.114	0.305	22.9
Top side	100	QPSK 135_69	656000/3840	1:1	0.717	-0.06	16.53	17.00	1.114	0.799	22.9
Ant2 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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	656000/3840	1:1	0.288	0.01	19.48	20.50	1.265	0.364	22.9
Back side	100	QPSK 1_1	656000/3840	1:1	0.349	-0.01	19.48	20.50	1.265	0.441	22.9
Left side	100	QPSK 1_1	656000/3840	1:1	0.158	-0.10	19.48	20.50	1.265	0.200	22.9
Top side	100	QPSK 1_1	656000/3840	1:1	0.046	-0.16	19.48	20.50	1.265	0.058	22.9
Bottom side	100	QPSK 1_1	656000/3840	1:1	0.547	-0.15	19.48	20.50	1.265	0.692	22.9
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	656000/3840	1:1	0.294	-0.17	19.38	20.50	1.294	0.380	22.9
Back side	100	QPSK 135_69	656000/3840	1:1	0.407	0.08	19.38	20.50	1.294	0.527	22.9
Left side	100	QPSK 135_69	656000/3840	1:1	0.169	-0.14	19.38	20.50	1.294	0.219	22.9
Top side	100	QPSK 135_69	656000/3840	1:1	0.051	0.03	19.38	20.50	1.294	0.066	22.9
Bottom side	100	QPSK 135_69	656000/3840	1:1	0.626	-0.04	19.38	20.50	1.294	0.810	22.9
Hotspot Test data (Separate 10mm 100%RB)											
Bottom side	100	QPSK 270_0	656000/3840	1:1	0.439	0.05	18.35	19.50	1.303	0.572	22.9

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.(℃)
Hotspot Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	656000/3840	1:1	0.416	-0.07	24.24	25.50	1.337	0.556	22.9
Back side	100	QPSK 1_1	656000/3840	1:1	0.317	-0.04	24.24	25.50	1.337	0.424	22.9
Left side	100	QPSK 1_1	656000/3840	1:1	0.296	-0.15	24.24	25.50	1.337	0.396	22.9
Top side	100	QPSK 1_1	656000/3840	1:1	0.191	0.03	24.24	25.50	1.337	0.255	22.9
Bottom side	100	QPSK 1_1	656000/3840	1:1	0.160	-0.07	24.24	25.50	1.337	0.214	22.9
Hotspot Test data (Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	656000/3840	1:1	0.412	-0.08	24.21	25.50	1.346	0.554	22.9
Back side	100	QPSK 135_69	656000/3840	1:1	0.312	0.16	24.21	25.50	1.346	0.420	22.9
Left side	100	QPSK 135_69	656000/3840	1:1	0.287	0.01	24.21	25.50	1.346	0.386	22.9
Top side	100	QPSK 135_69	656000/3840	1:1	0.179	-0.03	24.21	25.50	1.346	0.241	22.9
Bottom side	100	QPSK 135_69	656000/3840	1:1	0.153	-0.02	24.21	25.50	1.346	0.206	22.9
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.(℃)
Hotspot (Sensor off) Test data(1RB)											
Front side-14mm	100	QPSK 1_1	656000/3840	1:1	0.557	-0.08	24.25	25.00	1.189	0.662	22.9
Back side-13mm	100	QPSK 1_1	656000/3840	1:1	0.284	-0.02	24.25	25.00	1.189	0.338	22.9
Left side-10mm	100	QPSK 1_1	656000/3840	1:1	0.107	-0.10	24.25	25.00	1.189	0.127	22.9
Top side-20mm	100	QPSK 1_1	656000/3840	1:1	0.316	-0.12	24.25	25.00	1.189	0.376	22.9
Bottom side-10mm	100	QPSK 1_1	656000/3840	1:1	0.203	0.09	24.25	25.00	1.189	0.241	22.9
Hotspot (Sensor off) Test data(50%RB)											
Front side-14mm	100	QPSK 135_69	656000/3840	1:1	0.469	0.02	24.12	25.00	1.225	0.574	22.9
Back side-13mm	100	QPSK 135_69	656000/3840	1:1	0.238	-0.11	24.12	25.00	1.225	0.291	22.9
Left side-10mm	100	QPSK 135_69	656000/3840	1:1	0.131	0.16	24.12	25.00	1.225	0.160	22.9
Top side-20mm	100	QPSK 135_69	656000/3840	1:1	0.284	-0.08	24.12	25.00	1.225	0.348	22.9
Bottom side-10mm	100	QPSK 135_69	656000/3840	1:1	0.207	0.18	24.12	25.00	1.225	0.253	22.9
Hotspot (Sensor on) Test data(Separate 10mm 1RB)											
Front side	100	QPSK 1_1	656000/3840	1:1	0.539	0.02	22.25	23.00	1.189	0.641	22.9
Back side	100	QPSK 1_1	656000/3840	1:1	0.283	0.11	22.25	23.00	1.189	0.336	22.9
Top side	100	QPSK 1_1	656000/3840	1:1	0.460	0.03	22.25	23.00	1.189	0.547	22.9
Hotspot (Sensor on) Test data(Separate 10mm 50%RB)											
Front side	100	QPSK 135_69	656000/3840	1:1	0.427	-0.01	22.11	23.00	1.227	0.524	22.9
Back side	100	QPSK 135_69	656000/3840	1:1	0.274	0.14	22.11	23.00	1.227	0.336	22.9
Top side	100	QPSK 135_69	656000/3840	1:1	0.504	0.05	22.11	23.00	1.227	0.619	22.9

Table 28： SAR of 5G NR n77(3700~3980) for Body(Variant).

9.2.24 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record											
Test Record MIMO											
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.(℃)
Hotspot Test data (Separate 10mm)											
Front side	802.11b	1/2412	98.22%	1.018	0.021	-0.14	13.26	14.50	1.330	0.028	22.8
Back side	802.11b	1/2412	98.22%	1.018	0.034	0.13	13.26	14.50	1.330	0.046	22.8
Left side	802.11b	1/2412	98.22%	1.018	0.000	0.00	13.26	14.50	1.330	0.000	22.8
Right side	802.11b	1/2412	98.22%	1.018	0.000	0.00	13.26	14.50	1.330	0.000	22.8
Top side	802.11b	1/2412	98.22%	1.018	0.000	0.00	13.26	14.50	1.330	0.000	22.8
Bottom side	802.11b	1/2412	98.22%	1.018	0.028	0.05	13.26	14.50	1.330	0.038	22.8

Table 29： SAR of WIFI 2.4G for Body(Variant).

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.

9.2.25 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record											
Test Record MIMO											
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.(℃)
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11a	40/5200	99.24%	1.008	0.089	0.02	10.19	11.00	1.205	0.108	22.7
Back side	802.11a	40/5200	99.24%	1.008	0.062	0.09	10.19	11.00	1.205	0.075	22.7
Left side	802.11a	40/5200	99.24%	1.008	0.048	-0.14	10.19	11.00	1.205	0.058	22.7
Right side	802.11a	40/5200	99.24%	1.008	0.048	-0.09	10.19	11.00	1.205	0.058	22.7
Top side	802.11a	40/5200	99.24%	1.008	0.185	-0.19	10.19	11.00	1.205	0.225	22.7
Bottom side	802.11a	40/5200	99.24%	1.008	0.160	0.05	10.19	11.00	1.205	0.194	22.7
Hotspot Test data of U-NII-3(Separate 10mm)											
Front side	802.11a	157/5785	99.24%	1.008	0.082	-0.09	10.32	11.00	1.169	0.097	22.7
Back side	802.11a	157/5785	99.24%	1.008	0.086	-0.02	10.32	11.00	1.169	0.101	22.7
Left side	802.11a	157/5785	99.24%	1.008	0.092	-0.08	10.32	11.00	1.169	0.108	22.7
Right side	802.11a	157/5785	99.24%	1.008	0.077	0.07	10.32	11.00	1.169	0.091	22.7
Top side	802.11a	157/5785	99.24%	1.008	0.154	0.01	10.32	11.00	1.169	0.181	22.7
Bottom side	802.11a	157/5785	99.24%	1.008	0.122	0.19	10.32	11.00	1.169	0.144	22.7

Table 30： SAR of WIFI 5G for Body(Variant).

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.

9.2.26 SAR Result of WIFI 6E

Wi-Fi 6E SAR Test Record											
Test Record MIMO											
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.(℃)
Hotspot Test data(Separate 10mm)											
Front side	802.11ax 160M	47/6185	99.31%	1.007	0.062	0.11	9.76	10.00	1.057	0.066	22.9
Back side	802.11ax 160M	47/6185	99.31%	1.007	0.071	0.03	9.76	10.00	1.057	0.076	22.9
Left side	802.11ax 160M	47/6185	99.31%	1.007	0.073	0.05	9.76	10.00	1.057	0.078	22.9
Right side	802.11ax 160M	47/6185	99.31%	1.007	0.055	-0.01	9.76	10.00	1.057	0.059	22.9
Top side	802.11ax 160M	47/6185	99.31%	1.007	0.123	0.02	9.76	10.00	1.057	0.131	22.9
Bottom side	802.11ax 160M	47/6185	99.31%	1.007	0.145	-0.15	9.76	10.00	1.057	0.154	22.9
Bottom side	802.11ax 160M	79/6345	99.31%	1.007	0.136	-0.13	9.50	10.00	1.122	0.154	22.9
Bottom side	802.11ax 160M	111/6505	99.31%	1.007	0.113	0.09	9.37	10.00	1.156	0.132	22.9
Bottom side	802.11ax 160M	143/6665	99.31%	1.007	0.133	0.01	9.60	10.00	1.096	0.147	22.9
Bottom side	802.11ax 160M	207/6985	99.31%	1.007	0.073	0.02	9.17	10.00	1.211	0.089	22.9

Table 31： SAR of WIFI 6E for Body(Variant).

9.3 Multiple Transmitter Evaluation

9.3.1 Simultaneous SAR SAR test evaluation

- **Simultaneous Transmission Possibilities**

NO	Simultaneous Tx Combination	Hotspot
1	WWAN + WIFI2.4G+WIFI5G	Y
2	WWAN + WIFI2.4G+WIFI6E	Y

Note:

1) The device support DTM function.
2) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.
3) 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.

9.3.2 Simultaneous Transmission SAR Summation Scenario

Simultaneous Transmission SAR Summation Scenario for WLAN Body:

Hotspot:

Test position		SARmax (W/kg)				Summed SAR	
		Main	WiFi 2.4G MIMO	WiFi 5G MIMO	WiFi 6E		
		1	2	3	4	1+2+3	1+2+4
LTE B7	Front side	0.473	0.028	0.108	0.066	0.609	0.567
	Back side	0.608	0.046	0.101	0.076	0.755	0.730
	Left side	0.000	0.000	0.108	0.078	0.108	0.078
	Right side	0.883	0.000	0.091	0.059	0.974	0.942
	Top side	0.164	0.000	0.225	0.131	0.389	0.295
	Bottom side	0.066	0.038	0.194	0.154	0.298	0.258
LTE B12	Front side	0.401	0.028	0.108	0.066	0.537	0.495
	Back side	0.412	0.046	0.101	0.076	0.559	0.534
	Left side	0.109	0.000	0.108	0.078	0.217	0.187
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.297	0.000	0.225	0.131	0.522	0.428
	Bottom side	0.394	0.038	0.194	0.154	0.626	0.586
LTE B13	Front side	0.698	0.028	0.108	0.066	0.834	0.792
	Back side	0.687	0.046	0.101	0.076	0.834	0.809
	Left side	0.108	0.000	0.108	0.078	0.216	0.186
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.502	0.000	0.225	0.131	0.727	0.633
	Bottom side	0.428	0.038	0.194	0.154	0.660	0.620
LTE B14	Front side	0.561	0.028	0.108	0.066	0.697	0.655
	Back side	0.532	0.046	0.101	0.076	0.679	0.654
	Left side	0.083	0.000	0.108	0.078	0.191	0.161
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.461	0.000	0.225	0.131	0.686	0.592
	Bottom side	0.323	0.038	0.194	0.154	0.555	0.515
LTE B25	Front side	0.419	0.028	0.108	0.066	0.555	0.513
	Back side	0.519	0.046	0.101	0.076	0.666	0.641
	Left side	0.290	0.000	0.108	0.078	0.398	0.368
	Right side	0.195	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.000	0.225	0.131	0.672	0.578
	Bottom side	0.118	0.038	0.194	0.154	0.350	0.310
LTE B26	Front side	0.630	0.028	0.108	0.066	0.766	0.724
	Back side	0.700	0.046	0.101	0.076	0.847	0.822
	Left side	0.076	0.000	0.108	0.078	0.184	0.154
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.432	0.000	0.225	0.131	0.657	0.563
	Bottom side	0.442	0.038	0.194	0.154	0.674	0.634
LTE B30	Front side	0.508	0.028	0.108	0.066	0.644	0.602
	Back side	0.758	0.046	0.101	0.076	0.905	0.880
	Left side	0.000	0.000	0.108	0.078	0.108	0.078
	Right side	0.937	0.000	0.091	0.059	1.028	0.996
	Top side	0.122	0.000	0.225	0.131	0.347	0.253
	Bottom side	0.075	0.038	0.194	0.154	0.307	0.267
LTE B41	Front side	0.375	0.028	0.108	0.066	0.511	0.469

	Back side	0.590	0.046	0.101	0.076	0.737	0.712
	Left side	0.000	0.000	0.108	0.078	0.108	0.078
	Right side	1.333	0.000	0.091	0.059	1.424	1.392
	Top side	0.130	0.000	0.225	0.131	0.355	0.261
	Bottom side	0.052	0.038	0.194	0.154	0.284	0.244
LTE B48	Front side	0.489	0.028	0.108	0.066	0.625	0.583
	Back side	0.319	0.046	0.101	0.076	0.466	0.441
	Left side	0.545	0.000	0.108	0.078	0.653	0.623
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.301	0.000	0.225	0.131	0.526	0.432
	Bottom side	0.224	0.038	0.194	0.154	0.456	0.416
LTE B66	Front side	0.432	0.028	0.108	0.066	0.568	0.526
	Back side	0.412	0.046	0.101	0.076	0.559	0.534
	Left side	0.330	0.000	0.108	0.078	0.438	0.408
	Right side	0.374	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.000	0.225	0.131	0.603	0.509
	Bottom side	0.000	0.038	0.194	0.154	0.232	0.192
LTE B71	Front side	0.718	0.028	0.108	0.066	0.854	0.812
	Back side	0.774	0.046	0.101	0.076	0.921	0.896
	Left side	0.179	0.000	0.108	0.078	0.287	0.257
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.381	0.000	0.225	0.131	0.606	0.512
	Bottom side	0.258	0.038	0.194	0.154	0.490	0.450
NR n5	Front side	0.593	0.028	0.108	0.066	0.729	0.687
	Back side	0.651	0.046	0.101	0.076	0.798	0.773
	Left side	0.069	0.000	0.108	0.078	0.177	0.147
	Right side	0.146	0.000	0.091	0.059	0.237	0.205
	Top side	0.397	0.000	0.225	0.131	0.622	0.528
	Bottom side	0.414	0.038	0.194	0.154	0.646	0.606
NR n12	Front side	0.539	0.028	0.108	0.066	0.675	0.633
	Back side	0.545	0.046	0.101	0.076	0.692	0.667
	Left side	0.120	0.000	0.108	0.078	0.228	0.198
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.407	0.000	0.225	0.131	0.632	0.538
	Bottom side	0.000	0.038	0.194	0.154	0.232	0.192
NR n14	Front side	0.704	0.028	0.108	0.066	0.840	0.798
	Back side	0.671	0.046	0.101	0.076	0.818	0.793
	Left side	0.159	0.000	0.108	0.078	0.267	0.237
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.624	0.000	0.225	0.131	0.849	0.755
	Bottom side	0.397	0.038	0.194	0.154	0.629	0.589
NR n25	Front side	0.621	0.028	0.108	0.066	0.757	0.715
	Back side	0.505	0.046	0.101	0.076	0.652	0.627
	Left side	0.291	0.000	0.108	0.078	0.399	0.369
	Right side	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.445	0.000	0.225	0.131	0.670	0.576
	Bottom side	0.129	0.038	0.194	0.154	0.361	0.321
NR n30	Front side	0.590	0.028	0.108	0.066	0.726	0.684
	Back side	0.744	0.046	0.101	0.076	0.891	0.866
	Left side	0.000	0.000	0.108	0.078	0.108	0.078
	Right side	0.897	0.000	0.091	0.059	0.988	0.956

	Top side	0.135	0.000	0.225	0.131	0.360	0.266
	Bottom side	0.070	0.038	0.194	0.154	0.302	0.262
NR n41	Front side	0.610	0.028	0.108	0.066	0.746	0.704
	Back side	0.670	0.046	0.101	0.076	0.817	0.792
	Left side	1.132	0.000	0.108	0.078	1.240	1.210
	Right side	0.929	0.000	0.091	0.059	1.020	0.988
	Top side	0.667	0.000	0.225	0.131	0.892	0.798
	Bottom side	0.462	0.038	0.194	0.154	0.694	0.654
NR n48	Front side	0.388	0.028	0.108	0.066	0.524	0.482
	Back side	0.392	0.046	0.101	0.076	0.539	0.514
	Left side	0.128	0.000	0.108	0.078	0.236	0.206
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.541	0.000	0.225	0.131	0.766	0.672
	Bottom side	0.464	0.038	0.194	0.154	0.696	0.656
NR n66	Front side	0.601	0.028	0.108	0.066	0.737	0.695
	Back side	0.559	0.046	0.101	0.076	0.706	0.681
	Left side	0.330	0.000	0.108	0.078	0.438	0.408
	Right side	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.592	0.000	0.225	0.131	0.817	0.723
	Bottom side	0.000	0.038	0.194	0.154	0.232	0.192
NR n71	Front side	0.683	0.028	0.108	0.066	0.819	0.777
	Back side	0.745	0.046	0.101	0.076	0.892	0.867
	Left side	0.250	0.000	0.108	0.078	0.358	0.328
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.361	0.000	0.225	0.131	0.586	0.492
	Bottom side	0.247	0.038	0.194	0.154	0.479	0.439
NR n77	Front side	0.735	0.028	0.108	0.066	0.871	0.829
	Back side	0.527	0.046	0.101	0.076	0.674	0.649
	Left side	0.396	0.000	0.108	0.078	0.504	0.474
	Right side	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.859	0.000	0.225	0.131	1.084	0.990
	Bottom side	0.000	0.038	0.194	0.154	0.232	0.192

ENDC		SARmax (W/kg)					Summed SAR	
		LTE Band	NR Band	WiFi 2.4G MIMO	WiFi 5G MIMO	WiFi 6E		
		1	2	3	4	5	1+2+3+4	1+2+3+5
DC_14A_n2A	Front side	0.561	0.621	0.028	0.108	0.066	1.318	1.276
	Back side	0.532	0.505	0.046	0.101	0.076	1.184	1.159
	Left side	0.083	0.291	0.000	0.108	0.078	0.482	0.452
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.461	0.445	0.000	0.225	0.131	1.131	1.037
	Bottom side	0.323	0.129	0.038	0.194	0.154	0.684	0.644
DC_30A_n2A	Front side	0.508	0.621	0.028	0.108	0.066	1.265	1.223
	Back side	0.758	0.505	0.046	0.101	0.076	1.410	1.385
	Left side	0.000	0.291	0.000	0.108	0.078	0.399	0.369
	Right side	0.937	0.400	0.000	0.091	0.059	1.428	1.396
	Top side	0.122	0.445	0.000	0.225	0.131	0.792	0.698
	Bottom side	0.075	0.129	0.038	0.194	0.154	0.436	0.396
DC_13A_n5A	Front side	0.698	0.593	0.028	0.108	0.066	1.427	1.385
	Back side	0.687	0.651	0.046	0.101	0.076	1.485	1.460
	Left side	0.108	0.069	0.000	0.108	0.078	0.285	0.255
	Right side	0.000	0.146	0.000	0.091	0.059	0.237	0.205
	Top side	0.502	0.397	0.000	0.225	0.131	1.124	1.030
	Bottom side	0.428	0.414	0.038	0.194	0.154	1.074	1.034
DC_2A_n5A	Front side	0.419	0.593	0.028	0.108	0.066	1.148	1.106
	Back side	0.519	0.651	0.046	0.101	0.076	1.317	1.292
	Left side	0.290	0.069	0.000	0.108	0.078	0.467	0.437
	Right side	0.195	0.146	0.000	0.091	0.059	0.432	0.400
	Top side	0.447	0.397	0.000	0.225	0.131	1.069	0.975
	Bottom side	0.118	0.414	0.038	0.194	0.154	0.764	0.724
DC_12A_n5A	Front side	0.401	0.593	0.028	0.108	0.066	1.130	1.088
	Back side	0.412	0.651	0.046	0.101	0.076	1.210	1.185
	Left side	0.109	0.069	0.000	0.108	0.078	0.286	0.256
	Right side	0.000	0.146	0.000	0.091	0.059	0.237	0.205
	Top side	0.297	0.397	0.000	0.225	0.131	0.919	0.825
	Bottom side	0.394	0.414	0.038	0.194	0.154	1.040	1.000
DC_30A_n5A	Front side	0.508	0.593	0.028	0.108	0.066	1.237	1.195
	Back side	0.758	0.651	0.046	0.101	0.076	1.556	1.531
	Left side	0.000	0.069	0.000	0.108	0.078	0.177	0.147
	Right side	0.937	0.146	0.000	0.091	0.059	1.174	1.142
	Top side	0.122	0.397	0.000	0.225	0.131	0.744	0.650
	Bottom side	0.075	0.414	0.038	0.194	0.154	0.721	0.681
DC_66A_n5A	Front side	0.432	0.593	0.028	0.108	0.066	1.161	1.119
	Back side	0.412	0.651	0.046	0.101	0.076	1.210	1.185
	Left side	0.330	0.069	0.000	0.108	0.078	0.507	0.477
	Right side	0.374	0.146	0.000	0.091	0.059	0.611	0.579
	Top side	0.378	0.397	0.000	0.225	0.131	1.000	0.906
	Bottom side	0.000	0.414	0.038	0.194	0.154	0.646	0.606
DC_7A_n5A	Front side	0.473	0.593	0.028	0.108	0.066	1.202	1.160
	Back side	0.608	0.651	0.046	0.101	0.076	1.406	1.381
	Left side	0.000	0.069	0.000	0.108	0.078	0.177	0.147
	Right side	0.883	0.146	0.000	0.091	0.059	1.120	1.088
	Top side	0.164	0.397	0.000	0.225	0.131	0.786	0.692

	Bottom side	0.066	0.414	0.038	0.194	0.154	0.712	0.672
DC_48A_n5A	Front side	0.489	0.593	0.028	0.108	0.066	1.218	1.176
	Back side	0.319	0.651	0.046	0.101	0.076	1.117	1.092
	Left side	0.545	0.069	0.000	0.108	0.078	0.722	0.692
	Right side	0.000	0.146	0.000	0.091	0.059	0.237	0.205
	Top side	0.301	0.397	0.000	0.225	0.131	0.923	0.829
	Bottom side	0.224	0.414	0.038	0.194	0.154	0.870	0.830
DC_2A_n12A	Front side	0.419	0.539	0.028	0.108	0.066	1.094	1.052
	Back side	0.519	0.545	0.046	0.101	0.076	1.211	1.186
	Left side	0.290	0.120	0.000	0.108	0.078	0.518	0.488
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.407	0.000	0.225	0.131	1.079	0.985
	Bottom side	0.118	0.000	0.038	0.194	0.154	0.350	0.310
DC_30A_n12A	Front side	0.508	0.539	0.028	0.108	0.066	1.183	1.141
	Back side	0.758	0.545	0.046	0.101	0.076	1.450	1.425
	Left side	0.000	0.120	0.000	0.108	0.078	0.228	0.198
	Right side	0.937	0.000	0.000	0.091	0.059	1.028	0.996
	Top side	0.122	0.407	0.000	0.225	0.131	0.754	0.660
	Bottom side	0.075	0.000	0.038	0.194	0.154	0.307	0.267
DC_66A_n12A	Front side	0.432	0.539	0.028	0.108	0.066	1.107	1.065
	Back side	0.412	0.545	0.046	0.101	0.076	1.104	1.079
	Left side	0.330	0.120	0.000	0.108	0.078	0.558	0.528
	Right side	0.374	0.000	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.407	0.000	0.225	0.131	1.010	0.916
	Bottom side	0.000	0.000	0.038	0.194	0.154	0.232	0.192
DC_7A_n12A	Front side	0.473	0.539	0.028	0.108	0.066	1.148	1.106
	Back side	0.608	0.545	0.046	0.101	0.076	1.300	1.275
	Left side	0.000	0.120	0.000	0.108	0.078	0.228	0.198
	Right side	0.883	0.000	0.000	0.091	0.059	0.974	0.942
	Top side	0.164	0.407	0.000	0.225	0.131	0.796	0.702
	Bottom side	0.066	0.000	0.038	0.194	0.154	0.298	0.258
DC_5A_n12A	Front side	0.630	0.539	0.028	0.108	0.066	1.305	1.263
	Back side	0.700	0.545	0.046	0.101	0.076	1.392	1.367
	Left side	0.076	0.120	0.000	0.108	0.078	0.304	0.274
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.432	0.407	0.000	0.225	0.131	1.064	0.970
	Bottom side	0.442	0.000	0.038	0.194	0.154	0.674	0.634
DC_48A_n12A	Front side	0.489	0.539	0.028	0.108	0.066	1.164	1.122
	Back side	0.319	0.545	0.046	0.101	0.076	1.011	0.986
	Left side	0.545	0.120	0.000	0.108	0.078	0.773	0.743
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.301	0.407	0.000	0.225	0.131	0.933	0.839
	Bottom side	0.224	0.000	0.038	0.194	0.154	0.456	0.416
DC_2A_n14A	Front side	0.419	0.704	0.028	0.108	0.066	1.259	1.217
	Back side	0.519	0.671	0.046	0.101	0.076	1.337	1.312
	Left side	0.290	0.159	0.000	0.108	0.078	0.557	0.527
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.624	0.000	0.225	0.131	1.296	1.202
	Bottom side	0.118	0.397	0.038	0.194	0.154	0.747	0.707
DC_30A_n14A	Front side	0.508	0.704	0.028	0.108	0.066	1.348	1.306
	Back side	0.758	0.671	0.046	0.101	0.076	1.576	1.551

	Left side	0.000	0.159	0.000	0.108	0.078	0.267	0.237
	Right side	0.937	0.000	0.000	0.091	0.059	1.028	0.996
	Top side	0.122	0.624	0.000	0.225	0.131	0.971	0.877
	Bottom side	0.075	0.397	0.038	0.194	0.154	0.704	0.664
DC_66A_n14A	Front side	0.432	0.704	0.028	0.108	0.066	1.272	1.230
	Back side	0.412	0.671	0.046	0.101	0.076	1.230	1.205
	Left side	0.330	0.159	0.000	0.108	0.078	0.597	0.567
	Right side	0.374	0.000	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.624	0.000	0.225	0.131	1.227	1.133
	Bottom side	0.000	0.397	0.038	0.194	0.154	0.629	0.589
DC_66A_n25A	Front side	0.432	0.621	0.028	0.108	0.066	1.189	1.147
	Back side	0.412	0.505	0.046	0.101	0.076	1.064	1.039
	Left side	0.330	0.291	0.000	0.108	0.078	0.729	0.699
	Right side	0.374	0.400	0.000	0.091	0.059	0.865	0.833
	Top side	0.378	0.445	0.000	0.225	0.131	1.048	0.954
	Bottom side	0.000	0.129	0.038	0.194	0.154	0.361	0.321
DC_66A_n2A	Front side	0.432	0.621	0.028	0.108	0.066	1.189	1.147
	Back side	0.412	0.505	0.046	0.101	0.076	1.064	1.039
	Left side	0.330	0.291	0.000	0.108	0.078	0.729	0.699
	Right side	0.374	0.400	0.000	0.091	0.059	0.865	0.833
	Top side	0.378	0.445	0.000	0.225	0.131	1.048	0.954
	Bottom side	0.000	0.129	0.038	0.194	0.154	0.361	0.321
DC_4A_n2A	Front side	0.432	0.621	0.028	0.108	0.066	1.189	1.147
	Back side	0.412	0.505	0.046	0.101	0.076	1.064	1.039
	Left side	0.330	0.291	0.000	0.108	0.078	0.729	0.699
	Right side	0.374	0.400	0.000	0.091	0.059	0.865	0.833
	Top side	0.378	0.445	0.000	0.225	0.131	1.048	0.954
	Bottom side	0.000	0.129	0.038	0.194	0.154	0.361	0.321
DC_12A_n25A	Front side	0.401	0.621	0.028	0.108	0.066	1.158	1.116
	Back side	0.412	0.505	0.046	0.101	0.076	1.064	1.039
	Left side	0.109	0.291	0.000	0.108	0.078	0.508	0.478
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.297	0.445	0.000	0.225	0.131	0.967	0.873
	Bottom side	0.394	0.129	0.038	0.194	0.154	0.755	0.715
DC_12A_n2A	Front side	0.401	0.621	0.028	0.108	0.066	1.158	1.116
	Back side	0.412	0.505	0.046	0.101	0.076	1.064	1.039
	Left side	0.109	0.291	0.000	0.108	0.078	0.508	0.478
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.297	0.445	0.000	0.225	0.131	0.967	0.873
	Bottom side	0.394	0.129	0.038	0.194	0.154	0.755	0.715
DC_48A_n25A	Front side	0.489	0.621	0.028	0.108	0.066	1.246	1.204
	Back side	0.319	0.505	0.046	0.101	0.076	0.971	0.946
	Left side	0.545	0.291	0.000	0.108	0.078	0.944	0.914
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.301	0.445	0.000	0.225	0.131	0.971	0.877
	Bottom side	0.224	0.129	0.038	0.194	0.154	0.585	0.545
DC_7A_n25A	Front side	0.473	0.621	0.028	0.108	0.066	1.230	1.188
	Back side	0.608	0.505	0.046	0.101	0.076	1.260	1.235
	Left side	0.000	0.291	0.000	0.108	0.078	0.399	0.369
	Right side	0.883	0.400	0.000	0.091	0.059	1.374	1.342
	Top side	0.164	0.445	0.000	0.225	0.131	0.834	0.740

	Bottom side	0.066	0.129	0.038	0.194	0.154	0.427	0.387
DC_7A_n2A	Front side	0.473	0.621	0.028	0.108	0.066	1.230	1.188
	Back side	0.608	0.505	0.046	0.101	0.076	1.260	1.235
	Left side	0.000	0.291	0.000	0.108	0.078	0.399	0.369
	Right side	0.883	0.400	0.000	0.091	0.059	1.374	1.342
	Top side	0.164	0.445	0.000	0.225	0.131	0.834	0.740
	Bottom side	0.066	0.129	0.038	0.194	0.154	0.427	0.387
DC_71A_n25A	Front side	0.718	0.621	0.028	0.108	0.066	1.475	1.433
	Back side	0.774	0.505	0.046	0.101	0.076	1.426	1.401
	Left side	0.179	0.291	0.000	0.108	0.078	0.578	0.548
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.381	0.445	0.000	0.225	0.131	1.051	0.957
	Bottom side	0.258	0.129	0.038	0.194	0.154	0.619	0.579
DC_71A_n2A	Front side	0.718	0.621	0.028	0.108	0.066	1.475	1.433
	Back side	0.774	0.505	0.046	0.101	0.076	1.426	1.401
	Left side	0.179	0.291	0.000	0.108	0.078	0.578	0.548
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.381	0.445	0.000	0.225	0.131	1.051	0.957
	Bottom side	0.258	0.129	0.038	0.194	0.154	0.619	0.579
DC_5A_n25A	Front side	0.630	0.621	0.028	0.108	0.066	1.387	1.345
	Back side	0.700	0.505	0.046	0.101	0.076	1.352	1.327
	Left side	0.076	0.291	0.000	0.108	0.078	0.475	0.445
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.432	0.445	0.000	0.225	0.131	1.102	1.008
	Bottom side	0.442	0.129	0.038	0.194	0.154	0.803	0.763
DC_5A_n2A	Front side	0.630	0.621	0.028	0.108	0.066	1.387	1.345
	Back side	0.700	0.505	0.046	0.101	0.076	1.352	1.327
	Left side	0.076	0.291	0.000	0.108	0.078	0.475	0.445
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.432	0.445	0.000	0.225	0.131	1.102	1.008
	Bottom side	0.442	0.129	0.038	0.194	0.154	0.803	0.763
DC_26A_n25A	Front side	0.630	0.621	0.028	0.108	0.066	1.387	1.345
	Back side	0.700	0.505	0.046	0.101	0.076	1.352	1.327
	Left side	0.076	0.291	0.000	0.108	0.078	0.475	0.445
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.432	0.445	0.000	0.225	0.131	1.102	1.008
	Bottom side	0.442	0.129	0.038	0.194	0.154	0.803	0.763
DC_13A_n25A	Front side	0.698	0.621	0.028	0.108	0.066	1.455	1.413
	Back side	0.687	0.505	0.046	0.101	0.076	1.339	1.314
	Left side	0.108	0.291	0.000	0.108	0.078	0.507	0.477
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.502	0.445	0.000	0.225	0.131	1.172	1.078
	Bottom side	0.428	0.129	0.038	0.194	0.154	0.789	0.749
DC_13A_n2A	Front side	0.698	0.621	0.028	0.108	0.066	1.455	1.413
	Back side	0.687	0.505	0.046	0.101	0.076	1.339	1.314
	Left side	0.108	0.291	0.000	0.108	0.078	0.507	0.477
	Right side	0.000	0.400	0.000	0.091	0.059	0.491	0.459
	Top side	0.502	0.445	0.000	0.225	0.131	1.172	1.078
	Bottom side	0.428	0.129	0.038	0.194	0.154	0.789	0.749
DC_2A_n30A	Front side	0.419	0.590	0.028	0.108	0.066	1.145	1.103
	Back side	0.519	0.744	0.046	0.101	0.076	1.410	1.385

	Left side	0.290	0.000	0.000	0.108	0.078	0.398	0.368
	Right side	0.195	0.897	0.000	0.091	0.059	1.183	1.151
	Top side	0.447	0.135	0.000	0.225	0.131	0.807	0.713
	Bottom side	0.118	0.070	0.038	0.194	0.154	0.420	0.380
DC_5A_n30A	Front side	0.630	0.590	0.028	0.108	0.066	1.356	1.314
	Back side	0.700	0.744	0.046	0.101	0.076	1.591	1.566
	Left side	0.076	0.000	0.000	0.108	0.078	0.184	0.154
	Right side	0.000	0.897	0.000	0.091	0.059	0.988	0.956
	Top side	0.432	0.135	0.000	0.225	0.131	0.792	0.698
	Bottom side	0.442	0.070	0.038	0.194	0.154	0.744	0.704
DC_12A_n30A	Front side	0.401	0.590	0.028	0.108	0.066	1.127	1.085
	Back side	0.412	0.744	0.046	0.101	0.076	1.303	1.278
	Left side	0.109	0.000	0.000	0.108	0.078	0.217	0.187
	Right side	0.000	0.897	0.000	0.091	0.059	0.988	0.956
	Top side	0.297	0.135	0.000	0.225	0.131	0.657	0.563
	Bottom side	0.394	0.070	0.038	0.194	0.154	0.696	0.656
DC_14A_n30A	Front side	0.561	0.590	0.028	0.108	0.066	1.287	1.245
	Back side	0.532	0.744	0.046	0.101	0.076	1.423	1.398
	Left side	0.083	0.000	0.000	0.108	0.078	0.191	0.161
	Right side	0.000	0.897	0.000	0.091	0.059	0.988	0.956
	Top side	0.461	0.135	0.000	0.225	0.131	0.821	0.727
	Bottom side	0.323	0.070	0.038	0.194	0.154	0.625	0.585
DC_66A_n30A	Front side	0.432	0.590	0.028	0.108	0.066	1.158	1.116
	Back side	0.412	0.744	0.046	0.101	0.076	1.303	1.278
	Left side	0.330	0.000	0.000	0.108	0.078	0.438	0.408
	Right side	0.374	0.897	0.000	0.091	0.059	1.362	1.330
	Top side	0.378	0.135	0.000	0.225	0.131	0.738	0.644
	Bottom side	0.000	0.070	0.038	0.194	0.154	0.302	0.262
DC_2A_n41A	Front side	0.419	0.610	0.028	0.108	0.066	1.165	1.123
	Back side	0.519	0.670	0.046	0.101	0.076	1.336	1.311
	Left side	0.290	1.132	0.000	0.108	0.078	1.530	1.500
	Right side	0.195	0.929	0.000	0.091	0.059	1.215	1.183
	Top side	0.447	0.667	0.000	0.225	0.131	1.339	1.245
	Bottom side	0.118	0.462	0.038	0.194	0.154	0.812	0.772
DC_66A_n41A	Front side	0.432	0.610	0.028	0.108	0.066	1.178	1.136
	Back side	0.412	0.670	0.046	0.101	0.076	1.229	1.204
	Left side	0.330	1.132	0.000	0.108	0.078	1.570	1.540
	Right side	0.374	0.929	0.000	0.091	0.059	1.394	1.362
	Top side	0.378	0.667	0.000	0.225	0.131	1.270	1.176
	Bottom side	0.000	0.462	0.038	0.194	0.154	0.694	0.654
DC_25A_n41A	Front side	0.419	0.610	0.028	0.108	0.066	1.165	1.123
	Back side	0.519	0.670	0.046	0.101	0.076	1.336	1.311
	Left side	0.290	1.132	0.000	0.108	0.078	1.530	1.500
	Right side	0.195	0.929	0.000	0.091	0.059	1.215	1.183
	Top side	0.447	0.667	0.000	0.225	0.131	1.339	1.245
	Bottom side	0.118	0.462	0.038	0.194	0.154	0.812	0.772
DC_26A_n41A	Front side	0.630	0.610	0.028	0.108	0.066	1.376	1.334
	Back side	0.700	0.670	0.046	0.101	0.076	1.517	1.492
	Left side	0.076	1.132	0.000	0.108	0.078	1.316	1.286
	Right side	0.000	0.929	0.000	0.091	0.059	1.020	0.988
	Top side	0.432	0.667	0.000	0.225	0.131	1.324	1.230

	Bottom side	0.442	0.462	0.038	0.194	0.154	1.136	1.096
DC_5A_n41A	Front side	0.630	0.610	0.028	0.108	0.066	1.376	1.334
	Back side	0.700	0.670	0.046	0.101	0.076	1.517	1.492
	Left side	0.076	1.132	0.000	0.108	0.078	1.316	1.286
	Right side	0.000	0.929	0.000	0.091	0.059	1.020	0.988
	Top side	0.432	0.667	0.000	0.225	0.131	1.324	1.230
	Bottom side	0.442	0.462	0.038	0.194	0.154	1.136	1.096
DC_4A_n41A	Front side	0.432	0.610	0.028	0.108	0.066	1.178	1.136
	Back side	0.412	0.670	0.046	0.101	0.076	1.229	1.204
	Left side	0.330	1.132	0.000	0.108	0.078	1.570	1.540
	Right side	0.374	0.929	0.000	0.091	0.059	1.394	1.362
	Top side	0.378	0.667	0.000	0.225	0.131	1.270	1.176
	Bottom side	0.000	0.462	0.038	0.194	0.154	0.694	0.654
DC_12A_n41A	Front side	0.401	0.610	0.028	0.108	0.066	1.147	1.105
	Back side	0.412	0.670	0.046	0.101	0.076	1.229	1.204
	Left side	0.109	1.132	0.000	0.108	0.078	1.349	1.319
	Right side	0.000	0.929	0.000	0.091	0.059	1.020	0.988
	Top side	0.297	0.667	0.000	0.225	0.131	1.189	1.095
	Bottom side	0.394	0.462	0.038	0.194	0.154	1.088	1.048
DC_71A_n41A	Front side	0.718	0.610	0.028	0.108	0.066	1.464	1.422
	Back side	0.774	0.670	0.046	0.101	0.076	1.591	1.566
	Left side	0.179	1.132	0.000	0.108	0.078	1.419	1.389
	Right side	0.000	0.929	0.000	0.091	0.059	1.020	0.988
	Top side	0.381	0.667	0.000	0.225	0.131	1.273	1.179
	Bottom side	0.258	0.462	0.038	0.194	0.154	0.952	0.912
DC_2A_n48A	Front side	0.419	0.388	0.028	0.108	0.066	0.943	0.901
	Back side	0.519	0.392	0.046	0.101	0.076	1.058	1.033
	Left side	0.290	0.128	0.000	0.108	0.078	0.526	0.496
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.541	0.000	0.225	0.131	1.213	1.119
	Bottom side	0.118	0.464	0.038	0.194	0.154	0.814	0.774
DC_5A_n48A	Front side	0.630	0.388	0.028	0.108	0.066	1.154	1.112
	Back side	0.700	0.392	0.046	0.101	0.076	1.239	1.214
	Left side	0.076	0.128	0.000	0.108	0.078	0.312	0.282
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.432	0.541	0.000	0.225	0.131	1.198	1.104
	Bottom side	0.442	0.464	0.038	0.194	0.154	1.138	1.098
DC_13A_n48A	Front side	0.698	0.388	0.028	0.108	0.066	1.222	1.180
	Back side	0.687	0.392	0.046	0.101	0.076	1.226	1.201
	Left side	0.108	0.128	0.000	0.108	0.078	0.344	0.314
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.502	0.541	0.000	0.225	0.131	1.268	1.174
	Bottom side	0.428	0.464	0.038	0.194	0.154	1.124	1.084
DC_66A_n48A	Front side	0.432	0.388	0.028	0.108	0.066	0.956	0.914
	Back side	0.412	0.392	0.046	0.101	0.076	0.951	0.926
	Left side	0.330	0.128	0.000	0.108	0.078	0.566	0.536
	Right side	0.374	0.000	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.541	0.000	0.225	0.131	1.144	1.050
	Bottom side	0.000	0.464	0.038	0.194	0.154	0.696	0.656
DC_13A_n66A	Front side	0.698	0.601	0.028	0.108	0.066	1.435	1.393
	Back side	0.687	0.559	0.046	0.101	0.076	1.393	1.368

	Left side	0.108	0.330	0.000	0.108	0.078	0.546	0.516
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.502	0.592	0.000	0.225	0.131	1.319	1.225
	Bottom side	0.428	0.000	0.038	0.194	0.154	0.660	0.620
DC_2A_n66A	Front side	0.419	0.601	0.028	0.108	0.066	1.156	1.114
	Back side	0.519	0.559	0.046	0.101	0.076	1.225	1.200
	Left side	0.290	0.330	0.000	0.108	0.078	0.728	0.698
	Right side	0.195	0.347	0.000	0.091	0.059	0.633	0.601
	Top side	0.447	0.592	0.000	0.225	0.131	1.264	1.170
	Bottom side	0.118	0.000	0.038	0.194	0.154	0.350	0.310
DC_5A_n66A	Front side	0.630	0.601	0.028	0.108	0.066	1.367	1.325
	Back side	0.700	0.559	0.046	0.101	0.076	1.406	1.381
	Left side	0.076	0.330	0.000	0.108	0.078	0.514	0.484
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.432	0.592	0.000	0.225	0.131	1.249	1.155
	Bottom side	0.442	0.000	0.038	0.194	0.154	0.674	0.634
DC_12A_n66A	Front side	0.401	0.601	0.028	0.108	0.066	1.138	1.096
	Back side	0.412	0.559	0.046	0.101	0.076	1.118	1.093
	Left side	0.109	0.330	0.000	0.108	0.078	0.547	0.517
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.297	0.592	0.000	0.225	0.131	1.114	1.020
	Bottom side	0.394	0.000	0.038	0.194	0.154	0.626	0.586
DC_14A_n66A	Front side	0.561	0.601	0.028	0.108	0.066	1.298	1.256
	Back side	0.532	0.559	0.046	0.101	0.076	1.238	1.213
	Left side	0.083	0.330	0.000	0.108	0.078	0.521	0.491
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.461	0.592	0.000	0.225	0.131	1.278	1.184
	Bottom side	0.323	0.000	0.038	0.194	0.154	0.555	0.515
DC_30A_n66A	Front side	0.508	0.601	0.028	0.108	0.066	1.245	1.203
	Back side	0.758	0.559	0.046	0.101	0.076	1.464	1.439
	Left side	0.000	0.330	0.000	0.108	0.078	0.438	0.408
	Right side	0.937	0.347	0.000	0.091	0.059	1.375	1.343
	Top side	0.122	0.592	0.000	0.225	0.131	0.939	0.845
	Bottom side	0.075	0.000	0.038	0.194	0.154	0.307	0.267
DC_71A_n66A	Front side	0.718	0.601	0.028	0.108	0.066	1.455	1.413
	Back side	0.774	0.559	0.046	0.101	0.076	1.480	1.455
	Left side	0.179	0.330	0.000	0.108	0.078	0.617	0.587
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.381	0.592	0.000	0.225	0.131	1.198	1.104
	Bottom side	0.258	0.000	0.038	0.194	0.154	0.490	0.450
DC_48A_n66A	Front side	0.489	0.601	0.028	0.108	0.066	1.226	1.184
	Back side	0.319	0.559	0.046	0.101	0.076	1.025	1.000
	Left side	0.545	0.330	0.000	0.108	0.078	0.983	0.953
	Right side	0.000	0.347	0.000	0.091	0.059	0.438	0.406
	Top side	0.301	0.592	0.000	0.225	0.131	1.118	1.024
	Bottom side	0.224	0.000	0.038	0.194	0.154	0.456	0.416
DC_7A_n66A	Front side	0.473	0.601	0.028	0.108	0.066	1.210	1.168
	Back side	0.608	0.559	0.046	0.101	0.076	1.314	1.289
	Left side	0.000	0.330	0.000	0.108	0.078	0.438	0.408
	Right side	0.883	0.347	0.000	0.091	0.059	1.321	1.289
	Top side	0.164	0.592	0.000	0.225	0.131	0.981	0.887

	Bottom side	0.066	0.000	0.038	0.194	0.154	0.298	0.258
DC_2A_n71A	Front side	0.419	0.683	0.028	0.108	0.066	1.238	1.196
	Back side	0.519	0.745	0.046	0.101	0.076	1.411	1.386
	Left side	0.290	0.250	0.000	0.108	0.078	0.648	0.618
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.361	0.000	0.225	0.131	1.033	0.939
	Bottom side	0.118	0.247	0.038	0.194	0.154	0.597	0.557
DC_66A_n71A	Front side	0.432	0.683	0.028	0.108	0.066	1.251	1.209
	Back side	0.412	0.745	0.046	0.101	0.076	1.304	1.279
	Left side	0.330	0.250	0.000	0.108	0.078	0.688	0.658
	Right side	0.374	0.000	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.361	0.000	0.225	0.131	0.964	0.870
	Bottom side	0.000	0.247	0.038	0.194	0.154	0.479	0.439
DC_5A_n71A	Front side	0.630	0.683	0.028	0.108	0.066	1.449	1.407
	Back side	0.700	0.745	0.046	0.101	0.076	1.592	1.567
	Left side	0.076	0.250	0.000	0.108	0.078	0.434	0.404
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.432	0.361	0.000	0.225	0.131	1.018	0.924
	Bottom side	0.442	0.247	0.038	0.194	0.154	0.921	0.881
DC_7A_n71A	Front side	0.473	0.683	0.028	0.108	0.066	1.292	1.250
	Back side	0.608	0.745	0.046	0.101	0.076	1.500	1.475
	Left side	0.000	0.250	0.000	0.108	0.078	0.358	0.328
	Right side	0.883	0.000	0.000	0.091	0.059	0.974	0.942
	Top side	0.164	0.361	0.000	0.225	0.131	0.750	0.656
	Bottom side	0.066	0.247	0.038	0.194	0.154	0.545	0.505
DC_48A_n71A	Front side	0.489	0.683	0.028	0.108	0.066	1.308	1.266
	Back side	0.319	0.745	0.046	0.101	0.076	1.211	1.186
	Left side	0.545	0.250	0.000	0.108	0.078	0.903	0.873
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.301	0.361	0.000	0.225	0.131	0.887	0.793
	Bottom side	0.224	0.247	0.038	0.194	0.154	0.703	0.663
DC_41A_n77A	Front side	0.375	0.735	0.028	0.108	0.066	1.246	1.204
	Back side	0.590	0.527	0.046	0.101	0.076	1.264	1.239
	Left side	0.000	0.396	0.000	0.108	0.078	0.504	0.474
	Right side	1.333	0.000	0.000	0.091	0.059	1.424	1.392
	Top side	0.130	0.859	0.000	0.225	0.131	1.214	1.120
	Bottom side	0.052	0.000	0.038	0.194	0.154	0.284	0.244
DC_7A_n77A	Front side	0.473	0.735	0.028	0.108	0.066	1.344	1.302
	Back side	0.608	0.527	0.046	0.101	0.076	1.282	1.257
	Left side	0.000	0.396	0.000	0.108	0.078	0.504	0.474
	Right side	0.883	0.000	0.000	0.091	0.059	0.974	0.942
	Top side	0.164	0.859	0.000	0.225	0.131	1.248	1.154
	Bottom side	0.066	0.000	0.038	0.194	0.154	0.298	0.258
DC_2A_n77A	Front side	0.419	0.735	0.028	0.108	0.066	1.290	1.248
	Back side	0.519	0.527	0.046	0.101	0.076	1.193	1.168
	Left side	0.290	0.396	0.000	0.108	0.078	0.794	0.764
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.859	0.000	0.225	0.131	1.531	1.437
	Bottom side	0.118	0.000	0.038	0.194	0.154	0.350	0.310
DC_5A_n77A	Front side	0.630	0.735	0.028	0.108	0.066	1.501	1.459
	Back side	0.700	0.527	0.046	0.101	0.076	1.374	1.349

	Left side	0.076	0.396	0.000	0.108	0.078	0.580	0.550
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.432	0.859	0.000	0.225	0.131	1.516	1.422
	Bottom side	0.442	0.000	0.038	0.194	0.154	0.674	0.634
DC_13A_n77A	Front side	0.698	0.735	0.028	0.108	0.066	1.569	1.527
	Back side	0.687	0.527	0.046	0.101	0.076	1.361	1.336
	Left side	0.108	0.396	0.000	0.108	0.078	0.612	0.582
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.502	0.859	0.000	0.225	0.131	1.586	1.492
	Bottom side	0.428	0.000	0.038	0.194	0.154	0.660	0.620
DC_66A_n77A	Front side	0.432	0.735	0.028	0.108	0.066	1.303	1.261
	Back side	0.412	0.527	0.046	0.101	0.076	1.086	1.061
	Left side	0.330	0.396	0.000	0.108	0.078	0.834	0.804
	Right side	0.374	0.000	0.000	0.091	0.059	0.465	0.433
	Top side	0.378	0.859	0.000	0.225	0.131	1.462	1.368
	Bottom side	0.000	0.000	0.038	0.194	0.154	0.232	0.192
DC_12A_n77A	Front side	0.401	0.735	0.028	0.108	0.066	1.272	1.230
	Back side	0.412	0.527	0.046	0.101	0.076	1.086	1.061
	Left side	0.109	0.396	0.000	0.108	0.078	0.613	0.583
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.297	0.859	0.000	0.225	0.131	1.381	1.287
	Bottom side	0.394	0.000	0.038	0.194	0.154	0.626	0.586
DC_14A_n77A	Front side	0.561	0.735	0.028	0.108	0.066	1.432	1.390
	Back side	0.532	0.527	0.046	0.101	0.076	1.206	1.181
	Left side	0.083	0.396	0.000	0.108	0.078	0.587	0.557
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.461	0.859	0.000	0.225	0.131	1.545	1.451
	Bottom side	0.323	0.000	0.038	0.194	0.154	0.555	0.515
DC_30A_n77A	Front side	0.508	0.735	0.028	0.108	0.066	1.379	1.337
	Back side	0.758	0.527	0.046	0.101	0.076	1.432	1.407
	Left side	0.000	0.396	0.000	0.108	0.078	0.504	0.474
	Right side	0.937	0.000	0.000	0.091	0.059	1.028	0.996
	Top side	0.122	0.859	0.000	0.225	0.131	1.206	1.112
	Bottom side	0.075	0.000	0.038	0.194	0.154	0.307	0.267
DC_25A_n77A	Front side	0.419	0.735	0.028	0.108	0.066	1.290	1.248
	Back side	0.519	0.527	0.046	0.101	0.076	1.193	1.168
	Left side	0.290	0.396	0.000	0.108	0.078	0.794	0.764
	Right side	0.195	0.000	0.000	0.091	0.059	0.286	0.254
	Top side	0.447	0.859	0.000	0.225	0.131	1.531	1.437
	Bottom side	0.118	0.000	0.038	0.194	0.154	0.350	0.310
DC_71A_n77A	Front side	0.718	0.735	0.028	0.108	0.066	1.589	1.547
	Back side	0.774	0.527	0.046	0.101	0.076	1.448	1.423
	Left side	0.179	0.396	0.000	0.108	0.078	0.683	0.653
	Right side	0.000	0.000	0.000	0.091	0.059	0.091	0.059
	Top side	0.381	0.859	0.000	0.225	0.131	1.465	1.371
	Bottom side	0.258	0.000	0.038	0.194	0.154	0.490	0.450

10 Equipment list

Test Platform		SPEAG DASY5 Professional				
Description		SAR Test System (Frequency range 4MHz-7.25GHz)				
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	SAM8	1824	NCR	NCR
☒	Twin Phantom	SPEAG	SAM8	2031	NCR	NCR
☒	DAE	SPEAG	DAE4	1327	2023-11-17	2024-11-16
☒	DAE	SPEAG	SPEAG	1740	2025-02-17	2026-02-16
☒	E-Field Probe	SPEAG	EX3DV4	7735	2025-01-29	2026-01-28
☒	E-Field Probe	SPEAG	EX3DV4	3982	2024-04-29	2025-04-28
☒	Validation Kits	SPEAG	D750V3	1214	2022-02-07	2025-02-06
☒	Validation Kits	SPEAG	D835V2	4d161	2023-08-25	2026-08-24
☒	Validation Kits	SPEAG	D1750V2	1038	2021-12-16	2024-12-15
☒	Validation Kits	SPEAG	D1950V3	1218	2023-05-04	2026-05-03
☒	Validation Kits	SPEAG	D2300V2	1124	2022-02-03	2025-02-02
☒	Validation Kits	SPEAG	D2450V2	922	2023-08-28	2026-08-27
☒	Validation Kits	SPEAG	D2600V2	1187	2022-02-03	2025-02-02
☒	Validation Kits	SPEAG	D3500V2	1133	2022-02-08	2025-02-07
☒	Validation Kits	SPEAG	D3700V2	1108	2022-02-07	2025-02-06
☒	Validation Kits	SPEAG	D3900V2	1083	2022-02-08	2025-02-07
☒	Validation Kits	SPEAG	D5GHzV2	1174	2023-08-23	2026-08-22
☒	Validation Kits	SPEAG	D6.5GHzV2	1102	2023-09-11	2026-09-10
☒	Agilent Network Analyzer	Agilent	E5071C	103535	2024-02-04	2025-02-03
☒	Universal Radio Communication Tester	R&S	CMW500	111637	2023-09-13	2024-09-12
☒	Universal Radio Communication Tester	R&S	CMW500	111637	2024-09-12	2025-09-11
☒	DAKS-3.5 probes	SPEAG	DAKS-3.5	1122	NA	NA
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	R&S	SMB100A	182393	2024-02-05	2025-02-04
☒	Preamplifier	Qiji	YX28980933	202104001	NCR	NCR
☒	Power Sensor	Keysight	U2002H	121251	2023-09-13	2024-09-12
					2024-09-12	2025-09-11
☒	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	NA	2023-09-14	2024-09-13
☒	Speed reading thermometer	LKM	DTM3000	NA	2024-09-13	20254-09-12
☒	Humidity and Temperature Indicator	Anymetre	Anymetre 1964	NA	2024-02-18	2025-02-17

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

11 Calibration certificate

Please see the Appendix C

12 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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