

TEST REPORT

FCC SAR Part 1 Test for SM-A276B/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-SR-2604-FC007

DATE OF ISSUE
April 27, 2026

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FCC ID

A3LSMA276B

Applicant

SAMSUNG Electronics Co., Ltd
129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677, Korea

Product Name

Mobile Phone

Model Name

SM-A276B/DS

Additional Model Name

SM-A276B

Date of Test

Mar. 18, 2026 ~ Apr. 15, 2026

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing Lab
(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si,
Gyeonggi-do, Republic of Korea)

Rule Part(s)

CFR § 2.1093

Test Results

PASS (1g SAR Limit: 1.6 W/kg, 10g SAR Limit: 4.0 W/kg)
Refer to the clause 3.2 Attestation of test result

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	Apr. 27, 2026	Initial Release

Notice

Content

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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1. Test Regulations

The tests documented in this report were performed in accordance with FCC CFR § 2.1093, IEEE 1528-2013, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- FCC KDB Publication 941225 D01 3G SAR Procedures v03r01
- FCC KDB Publication 941225 D06 Hot Spot SAR v02r01
- FCC KDB Publication 941225 D05 SAR for LTE Devices v02r05
- FCC KDB Publication 941225 D05A LTE Rel.10 KDB Inquiry sheet v01r02
- FCC KDB Publication 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB Publication 447498 D01 General RF Exposure Guidance v06
- FCC KDB Publication 648474 D04 Handset SAR v01r03
- FCC KDB Publication 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- FCC KDB Publication 865664 D02 SAR Reporting v01r02
- FCC KDB Publication 690783 D01 SAR Listings on Grants v01r03
- FCC KDB Publication 971168 D01 Power Meas License Digital Systems v03r01

In Addition to the above, the following information was used.

- October 2013 TCB Workshop Notes (GPRS testing criteria)
- October 2014 TCB Workshop Notes (Overlapping LTE Bands)
- April 2015 TCB Workshop Notes (Overlapping LTE Bands Test exclusion)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- November 2017 TCBC Workshop Notes (LTE Carrier Aggregation)
- April 2018 TCBC Workshop Notes (LTE UL CA, DL CA SAR Test Exclusion)
- April 2022 TCBC Workshop Notes (Sum-Peak Location Separation Ratio)
- October 2024 TCBC Workshop Notes (CA-DL Test Reduction)
- April 2025 TCBC Workshop Note (Portable device Interim guidance)

2. Test Location

2.1 Test Laboratory

Company Name	HCT Co., Ltd.
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Telephone	031-645-6300
Fax.	031-645-6401

2.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Korea	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

3. Information of the EUT

3.1 General Information of the EUT

Model Name	SM-A276B/DS
Additional Model Name	SM-A276B
Equipment Type	Mobile Phone
FCC ID	A3LSMA276B
Application Type	Certification
Applicant	SAMSUNG Electronics Co., Ltd.

3.2 Attestation of test result of device under test

The Highest Reported SAR						
Band	Tx. Frequency	Equipment Class	Reported SAR (W/kg)			
			1 g Head	1 g Body Worn	1 g Hotspot	10 g Extremity
GSM/GPRS/EDGE 850	824.2 MHz ~ 848.8 MHz	PCE	0.22	0.81	0.81	N/A
GSM/GPRS/EDGE 1900	1 850.2 MHz ~ 1 909.8 MHz	PCE	0.13	0.56	0.56	N/A
UMTS Band 2	1 852.4 MHz ~ 1 907.6 MHz	PCE	0.10	0.62	0.62	N/A
UMTS Band 4	1 712.4 MHz ~ 1 752.6 MHz	PCE	0.15	0.49	0.57	N/A
UMTS Band 5	826.4 MHz ~ 846.6 MHz	PCE	0.22	0.93	0.93	N/A
LTE FDD Band 2 (PCS)	1 850.7 MHz ~ 1 909.3 MHz	PCE	0.19	0.46	0.46	N/A
LTE FDD Band 4 (AWS)	1 710.7 MHz ~ 1 754.3 MHz	PCE	N/A	N/A	N/A	N/A
LTE FDD Band 5 (Cell)	824.7 MHz ~ 848.3 MHz	PCE	0.24	0.89	0.89	N/A
LTE FDD Band 12	699.7 MHz ~ 715.3 MHz	PCE	0.26	0.79	0.79	N/A
LTE FDD Band 13	779.5 MHz ~ 784.5 MHz	PCE	0.23	0.77	0.77	N/A
LTE FDD Band 17	706.5 MHz ~ 713.5 MHz	PCE	N/A	N/A	N/A	N/A
LTE FDD Band 26 (Cell)	814.7 MHz ~ 848.3 MHz	PCE	0.22	0.75	0.75	N/A
LTE TDD Band 41	2 498.5 MHz ~ 2 687.5 MHz	PCE	0.42	0.86	0.86	N/A
LTE FDD Band 66 (AWS)	1 710.7 MHz ~ 1 779.3 MHz	PCE	0.64	0.79	0.79	N/A
NR FDD Band n5	826.5 MHz ~ 846.5 MHz	PCE	0.26	0.97	0.97	N/A
NR TDD Band n41	2 506.02 MHz ~ 2 679.99 MHz	PCE	0.51	0.65	0.65	N/A
NR FDD Band n66	1 712.5 MHz ~ 1 777.5 MHz	PCE	0.59	0.77	0.77	N/A
NR TDD Band n77	3 445.01 MHz ~ 3 544.98 MHz 3 705 MHz ~ 3 975 MHz	PCE	0.48	0.86	0.86	N/A
2.4 GHz WLAN	2 412 MHz ~ 2 472 MHz	DTS	0.22	0.22	0.34	N/A
U-NII-1	5 180 MHz ~ 5 240 MHz	NII	0.25	0.47	0.69	0.82
U-NII-2A	5 260 MHz ~ 5 320 MHz					
U-NII-2C	5 500 MHz ~ 5 720 MHz					
U-NII-3	5 745 MHz ~ 5 825 MHz					
Bluetooth	2 402 MHz ~ 2 480 MHz	DSS/DTS	0.21	0.19	0.19	N/A
NFC	13.56 MHz	DXX	N/A	N/A	N/A	<0.10
Simultaneous SAR per KDB 690783 D01v01r03			1.44	1.44	1.44	0.84
Date(s) of Tests:		Mar. 18, 2026 ~ Apr. 15, 2026				

Summary table of SAR measurement results		
SAR test Configuration	The Highest SAR (W/kg)	Distance (mm)
Head SAR	0.64	
Body-worn accessory	0.97	5
Product specific (wireless router)	0.97	5,10
Extremity	0.82	0
Simultaneous transmission analysis	1.44	

4. Device Under Test Description

4.1 DUT specification

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
GSM850	Voice / Data	824.2 MHz ~ 848.8 MHz
GSM1900	Voice / Data	1 850.2 MHz ~ 1 909.8 MHz
UMTS Band 2	Voice / Data	1 852.4 MHz ~ 1 907.6 MHz
UMTS Band 4	Voice / Data	1 712.4 MHz ~ 1 752.6 MHz
UMTS Band 5	Voice / Data	826.4 MHz ~ 846.6 MHz
LTE FDD Band 2 (PCS)	Voice / Data	1 850.7 MHz ~ 1 909.3 MHz
LTE FDD Band 4 (AWS)	Voice / Data	1 710.7 MHz ~ 1 754.3 MHz
LTE FDD Band 5 (Cell)	Voice / Data	824.7 MHz ~ 848.3 MHz
LTE FDD Band 12	Voice / Data	699.7 MHz ~ 715.3 MHz
LTE FDD Band 13	Voice / Data	779.5 MHz ~ 784.5 MHz
LTE FDD Band 17	Voice / Data	706.5 MHz ~ 713.5 MHz
LTE FDD Band 26	Voice / Data	814.7 MHz ~ 848.3 MHz
LTE TDD Band 41	Voice / Data	2 498.5 MHz ~ 2 687.5 MHz
LTE FDD Band 66 (AWS)	Voice / Data	1 710.7 MHz ~ 1 779.3 MHz
NR FDD Band n5	Voice / Data	826.5 MHz ~ 846.5 MHz
NR TDD Band n41	Voice / Data	2 501.01 MHz ~ 2 685 MHz
NR FDD Band n66	Voice / Data	1 712.5 MHz ~ 1 777.5 MHz
NR TDD Band n77	Voice / Data	3 705 MHz ~ 3 975 MHz
NR TDD Band n77 DoD	Voice / Data	3 445.01 MHz ~ 3 544.98 MHz
U-NII-1	Voice / Data	5 180 MHz ~ 5 240 MHz
U-NII-2A	Voice / Data	5 260 MHz ~ 5 320 MHz
U-NII-2C	Voice / Data	5 500 MHz ~ 5 720 MHz
U-NII-3	Voice / Data	5 745 MHz ~ 5 825 MHz
2.4 GHz WLAN	Voice / Data	2 412 MHz ~ 2 462 MHz
Bluetooth / LE	Data	2 402 MHz ~ 2 480 MHz
NFC	Data	13.56 MHz
Device Description		
Device Serial Numbers	Mode	Serial Number
	NFC	ZC90933M
	GSM850, GSM1900, UMTS Band 2,4,5, LTE Band 2,4,5,12,13,17,26,66 NR Band n5,n66	ZC90931M, ZC90933M, ZC90848M, ZC90856M, ZC90544M, ZC90529M, ZC90937M, ZC90843M, ZD23241M, ZD23244M
	LTE Band 41 NR Band n41, n77, n77 DoD NR Band n41 SRS1, SRS2, SRS3 NR Band n77 SRS1, SRS2, SRS3 NR Band n77 DoD SRS1, SRS2, SRS3	
	WLAN 2.4G, 5G, BT	
		ZC90904M, ZC90905M ZCV0326M, ZD80878M
	The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.	

4.2 Time-Averaging Algorithm for RF Exposure Compliance

4.2.1 Time-Averaging Algorithm

This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time.

But WLAN/BT/NFC does not support Qualcomm Smart Transmit feature. This technologies defines ER(External Radio).

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio), for each characterized technology and band. The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio), for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} . Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI).

Note that the device uncertainty for sub-6 GHz WWAN is 1.0 dB for this EUT.

*Note all P_{limit} EFS and maximum tune up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD, GFSK, OFDM modulation schemes (e.g. GSM and LTE TDD).

*Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum Tune up output power + 1 dB device design uncertainty. The maximum time-averaged output power (dBm) for any 2G/3G/4G/5G Sub6 WWAN technology, band, and DSI = minimum of " P_{limit} EFS" and "Maximum tune up output power P_{max} " + 1 dB device uncertainty.

SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06. The purpose of this report (SAR Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

Measurement Condition: All conducted power and SAR measurements in this report (SAR Part 1 test) were performed by setting Reserve_power_margin (Smart Transmit EFS entry) to 0 dB

Adjusted SAR: if EFS $P_{limit} \leq$ NV setting P_{max} , then SAR exposure should be scaled to (EFS P_{limit} + device uncertainty), else SAR exposure should be scaled to maximum{EFS P_{limit} , NV setting P_{max} + device uncertainty}.

Plimit values in green indicate Plimit ≤ Pmax				Plimit values in grey indicate Plimit > Pmax		
Plimit corresponding to 1 W/kg (1g) 2.5W/kg(10g) SAR_Design_target						Pmax
SAR Exposure Position			Non-Head Bodyworn Hotspot	Head (RCV ON)	Phablet	Maximum Tune-up Output Power [dBm]
Averaging volume			1g	1g	10g	
separation Distance			5,10 mm	0 mm	0 mm	
Mode	Antenna	Antenna Group	DSI=0	DSI=1	DSI=0	
GSM/GPRS/EDGE 850	A	AG0	22.8	29.0	22.8	25.1
GSM/GPRS/EDGE1900	A	AG0	19.3	28.8	19.3	22.6
UMTS Band 2	A	AG0	20.5	21.5	20.5	23.5
UMTS Band 4	A	AG0	20.0	29.0	20.0	23.0
UMTS Band 5	A	AG0	23.5	23.5	23.5	24.5
LTE Band 2	A	AG0	18.0	28.1	18.0	23.5
LTE Band 5	A	AG0	24.0	27.7	24.0	24.5
LTE Band 12/17	A	AG0	26.7	27.3	26.7	24.0
LTE Band 13	A	AG0	26.0	27.7	26.0	24.0
LTE Band 26	A	AG0	25.9	27.2	25.9	24.0
LTE Band 41	A	AG0	17.0	25.6	17.0	23.5
LTE Band 41	C	AG1	11.5	17.0	11.5	23.0
LTE Band 4/66	A	AG0	20.0	29.8	20.0	24.0
LTE Band 4/66	F	AG1	20.0	18.0	20.0	24.0
NR Band n5	A	AG0	24.0	26.6	24.0	24.5
NR Band n41	A	AG0	17.0	27.0	17.0	23.5
NR Band n41 SRS1	E	AG1	17.0	17.0	17.0	20.0
NR Band n41 SRS2	C	AG1	10.0	17.0	10.0	21.0
NR Band n41 SRS3	K	AG1	17.0	17.0	17.0	19.0
NR Band n66	A	AG0	20.0	29.2	20.0	24.0
NR Band n66	F	AG1	20.0	18.0	20.0	24.0
NR Band n77 / n77 DoD(PC3)	G	AG1	14.0	16.0	14.0	23.5
NR Band n77 / n77 DoD SRS1 (PC3)	D	AG1	14.0	14.0	14.0	20.5
NR Band n77 / n77 DoD SRS2 (PC3)	I	AG1	14.0	16.0	14.0	21.5
NR Band n77 / n77 DoD SRS3 (PC3)	H	AG1	14.0	16.0	14.0	18.5
NR Band n77 / n77 DoD (PC2)	G	AG1	14.0	16.0	14.0	23.5
NR Band n77 / n77 DoD SRS1 (PC2)	D	AG1	14.0	14.0	14.0	20.5
NR Band n77 / n77 DoD SRS2 (PC2)	I	AG1	14.0	16.0	14.0	21.5
NR Band n77 / n77 DoD SRS3 (PC2)	H	AG1	14.0	16.0	14.0	18.5

Table 4-4 SAR Characterization

Note:

1. Compared with the P_{limit} (tune-up output power) declared in each DSI by the manufacturer and the P_{limit} (calculation) calculated by the SAR measurement of each DSI, the lower power were applied to the EFS as the P_{limit} at each DSI configurations.
2. When $P_{max} < P_{limit}$, the DUT will operate at a power level up to P_{max} .
3. All P_{limit} EFS and maximum tune-up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of GMSK, TDD, or OFDM modulation schemes (e.g. GSM, LTE TDD).
4. Maximum tune-up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum tune-up output power + 1dB device desing uncertainty.

4.2.2 Part. 0 Plimit Characterization

This section shows SAR characterization of WWAN radios. Characterization is achieved by determining P_{limit} for WWAN radios that correspond to the exposure SAR_{design_target} after accounting for all device design related uncertainty.

4.2.2.1 Nomenclature for SAR Characterization

Table 4.2.2.1 Definitions for TAS algorithm

Technology	Term	Description
WWAN (2G/3G/4G/5G)	P_{limit}	Power level that corresponds to the exposure design target (SAR_{design_target}) after accounting for all device design related uncertainties
	P_{max}	Maximum tune-up output power
	SAR_{design_target}	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	SAR_{Char}	Table containing P_{limit} for all technologies and bands

4.2.2.2 SAR Characterization

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

Table 4.2.2.2 Definitions of uncertainty and desing target

SAR_{design_target}			
$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-Total\ Uncertainty}{10}}$			
1g SAR (W/kg)		10g SAR (W/kg)	
$Total\ Uncertainty$	1.0 dB	$Total\ Uncertainty$	1.0 dB
$SAR_{regulatory_limit}$	1.6 W/kg	$SAR_{regulatory_limit}$	4.0 W/kg
SAR_{design_target}	1.0 W/kg	SAR_{design_target}	2.5 W/kg

4.2.2.3 DSI and Corresponding Exposure Scenarios

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the wireless device, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

Table 4.2.2.3 DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head (DSI = 1)	Device positioned next to head	Head SAR per KDB Publication 648474 D04
Bodyworn Phablet Hotspot (DSI = 0)	Device is held with hand Device being used with a body-worn accessory Device transmits in hotspot mode near body	Phablet SAR per KDB Publication 648474 D04 Body-worn SAR per KDB Publication 648474 D04 Hotspot SAR per KDB Publication 941225 D06

Table 4.2.2.4 P_{limit} Determination

Device State Index (DSI)	P_{limit} Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among: 1. Phablet SAR measured at 0 mm 2. Bodyworn SAR at 5mm 3. P_{limit} is calculated based on 1g Hotspot SAR at 5mm(Rear, Front), 10 mm(Left, Right, Top, Bottom)
1	P_{limit} is calculated based on 1g Head SAR

4.3 Power Reduction for SAR

This device utilizes power reduction mechanisms for WLAN modes for SAR compliance under some conditions when the device is being used in close proximity to the user's hand. FCC KDB Publication 616217 D04v01r02 Sec.6 was used as a guideline for selection SAR test distances for device when being used in phablet use conditions.

This device uses an independent fixed level power reduction mechanism for WLAN modes during held-to-ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR Positions described in IEEE1528-2013. Detailed descriptions of the power reduction mechanism are included in the operational description.

The reduced powers for the power reduction mechanisms were conformed via conducted power measurements at the RF Port.

4.3.1 Nominal and Maximum Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

4.3.1.1 2G/3G/4G/5G Nominal Output Power

A. GSM Modes

GSM/GPRS/EDGE 850_Antenna A									
Power Level	Voice (dBm)	Data - Burst Average GMSK (dBm)				Data - Burst Average 8-PSK (dBm)			
	1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Pmax, RCV(DSI=1)	33.0	33.0	31.0	29.5	28.0	27.0	25.0	23.0	21.5
Free(DSI = 0) Body	32.0	32.0	29.0	27.0	25.0	26.0	24.0	22.0	20.5

Tolerance: -1.5 dB ~ +1.0 dB

GSM/GPRS/EDGE 1900_Antenna A									
Power Level	Voice (dBm)	Data - Burst Average GMSK (dBm)				Data - Burst Average 8-PSK (dBm)			
	1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Pmax, RCV(DSI=1)	30.0	30.0	28.5	27.0	25.0	26.0	24.0	22.0	20.5
Free(DSI = 0) Body	29.0	29.0	26.5	24.5	23.0	26.0	24.0	22.0	20.5

Tolerance: -1.5 dB ~ +1.0 dB

B. UMTS Modes

UMTS Band 2 (1900 MHz)_Antenna A				
Power Level	Modulated Average Output Power (dBm)			
	3GPP UMTS Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	23.5	22.5	22.5	22.5
FREE(DSI = 0) Body	20.5	19.5	19.5	19.5
RCV(DSI = 1) Head	21.5	20.5	20.5	20.5

Tolerance: -1.5 dB ~ +1.0 dB

UMTS Band 4 (1700 MHz)_Antenna A				
Power Level	Modulated Average Output Power (dBm)			
	3GPP UMTS Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax, RCV(DSI=1)	23.0	22.0	22.0	22.0
FREE(DSI = 0) Body	20.0	19.0	19.0	19.0

Tolerance: -1.5 dB ~ +1.0 dB

UMTS Band 5 (835 MHz)_Antenna A				
Power Level	Modulated Average Output Power (dBm)			
	3GPP UMTS Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	24.5	23.5	23.5	23.5
FREE(DSI = 0) Body	23.5	22.5	22.5	22.5
RCV(DSI = 1) Head	23.5	22.5	22.5	22.5

Tolerance: -1.5 dB ~ +1.0 dB

C. LTE Modes

Mode / Band	Antenna	Modulated Average Output Power (dBm)		
		Pmax	Body (DSI = 0)	Head (DSI = 1)
LTE B2	M1(A)	23.5	18.0	23.5
LTE B4	M1(A)	23.5	20.0	23.5
LTE B4 [Tx hopping]	S2-2(F)	23.5	20.0	18.0
LTE B5	M1(A)	24.5	24.0	24.5
LTE B12	M1(A)	24.0	24.0	24.0
LTE B13	M1(A)	24.0	24.0	24.0
LTE B17	M1(A)	24.0	24.0	24.0
LTE B26	M1(A)	24.0	24.0	24.0
LTE B66	M1(A)	24.0	20.0	24.0
LTE B66 [Tx hopping]	S2-2(F)	24.0	20.0	18.0
LTE B41	M1(A)	23.5	19.0	23.5
LTE B41 [Tx hopping]	M3(C)	23.0	13.0	19.0

Tolerance: -1.5 dB ~ +1.0 dB

D. 5G NR SUB 6

Mode / Band	Antenna	Modulated Average Output Power (dBm)		
		Pmax	Body (DSI = 0)	Head(DSI = 1)
NR n5	M1(A)	24.5	24.0	24.5
NR n66	M1(A)	24.0	20.0	24.0
NR n66 [Tx hopping]	S2-2(F)	24.0	20.0	18.0
NR n41	M1(A)	23.5	17.0	23.5
NR n41 SRS1	S1(E)	20.0	17.0	17.0
NR n41 SRS2	M3(C)	21.0	11.0	18.0
NR n41 SRS3	S4-1(K)	19.0	17.0	17.0
NR n77_ SRS0 (PC2)	S3(G)	26.5 (Duty 22.9%)	23.5 (Duty 100%)	14.0
NR n77_ SRS0 (PC3) (DUTY 100%)	S3(G)	23.5	14.0	16.0
NR n77_ SRS1 (PC2) (DUTY 100%)	M2-1(D)	20.5	10.0	10.0
NR n77_ SRS1 (PC3) (DUTY 100%)	M2-1(D)	20.5	10.0	10.0
NR n77 SRS2 (PC2) (DUTY 100%)	S5(I)	21.5	12.0	14.0
NR n77 SRS2 (PC3) (DUTY 100%)	S5(I)	21.5	12.0	14.0
NR n77 SRS3 (PC2) (DUTY 100%)	S4-2(H)	18.5	9.0	11.0
NR n77 SRS3 (PC3) (DUTY 100%)	S4-2(H)	18.5	9.0	11.0

Tolerance: -1.5 dB ~ +1.0 dB

4.3.1.2 Maximum 2.4 GHz, 5 GHz WIFI output power

A. Maximum Power

Mode	Band	SISO(ANT 1)				
		a	b	g	n	ac
2.4GHz	2.45GHz		18 Ch12: 8 Ch13: 2	17 Ch12: 8 Ch13: 2	17 Ch12: 8 Ch13: 2	17 Ch12: 8 Ch13: 2
5GHZ (20MHz)	UNII 1	16			16	16
	UNII 2A	16			16	16
	UNII 2C	16			16	16
	UNII 3	16			16	16
5GHZ (40MHz)	UNII 1				15 Ch38:12	15 Ch38:12
	UNII 2A				15 Ch62:12	15 Ch62:12
	UNII 2C				15 Ch102:13	15 Ch103:13
	UNII 3				15	15
5GHZ (80MHz)	UNII 1					9.5
	UNII 2A					10
	UNII 2C					14 Ch106:12
	UNII 3					14

(Upper tolerance: target +1.0dB)

B. Reduced Power – Body SAR(Grip on)

Mode	Band	SISO(ANT 1)				
		a	b	g	n	ac
2.4GHz	2.45GHz		15 Ch12: 8 Ch13: 2	15 Ch12: 8 Ch13: 2	15 Ch12: 8 Ch13: 2	15 Ch12: 8 Ch13: 2
5GHZ (20MHz)	UNII 1	11			11	11
	UNII 2A	11			11	11
	UNII 2C	11			11	11
	UNII 3	11			11	11
5GHZ (40MHz)	UNII 1				11	11
	UNII 2A				11	11
	UNII 2C				11	11
	UNII 3				11	11
5GHZ (80MHz)	UNII 1					9.5
	UNII 2A					10
	UNII 2C					11
	UNII 3					11

(Upper tolerance: target +1.0dB)

C. Reduced Power – Head SAR(RCV On)

Mode	Band	SISO(ANT 1)				
		a	b	g	n	ac
2.4GHz	2.45GHz		12 Ch12: 8 Ch13: 2	12 Ch12: 8 Ch13: 2	12 Ch12: 8 Ch13: 2	12 Ch12: 8 Ch13: 2
5GHZ (20MHz)	UNII 1	11			11	11
	UNII 2A	11			11	11
	UNII 2C	11			11	11
	UNII 3	11			11	11
5GHZ (40MHz)	UNII 1				11	11
	UNII 2A				11	11
	UNII 2C				11	11
	UNII 3				11	11
5GHZ (80MHz)	UNII 1					9.5
	UNII 2A					10
	UNII 2C					11
	UNII 3					11

(Upper tolerance: target +1.0dB)

4.3.1.3 Bluetooth Maximum Conducted Output Power in Conducted Mode

a. Maximum (= Pmax), Body, Head

MODE	DATA RATE	PL9
		ANT1
BDR(in dBm)	1Mbps	13
EDR(in dBm)	2Mbps	10
	3Mbps	10
LE	1M	8
	2M	8
	125K	8
	500k	8

(Upper tolerance: target +1.0dB)

4.4 LTE Information

	Item.	Description
Frequency Range	LTE FDD Band 2 (PCS)	1 850.7 MHz ~ 1 909.3 MHz
	LTE FDD Band 4 (AWS)	1 710.7 MHz ~ 1 754.3 MHz
	LTE FDD Band 5 (Cell)	824.7 MHz ~ 848.3 MHz
	LTE FDD Band 12	699.7 MHz ~ 715.3 MHz
	LTE FDD Band 13	779.5 MHz ~ 784.5 MHz
	LTE FDD Band 17	706.5 MHz ~ 713.5 MHz
	LTE FDD Band 26	814.7 MHz ~ 848.3 MHz
	LTE TDD Band 41	2 498.5 MHz ~ 2 687.5 MHz
	LTE FDD Band 66 (AWS)	1 710.7 MHz ~ 1 779.3 MHz
Channel Bandwidths	LTE FDD Band 2 (PCS)	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE FDD Band 4 (AWS)	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE FDD Band 5 (Cell)	1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE FDD Band 12	1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE FDD Band 13	5 MHz, 10 MHz
	LTE FDD Band 17	5 MHz, 10 MHz
	LTE FDD Band 26	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz
	LTE TDD Band 41	5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE FDD Band 66 (AWS)	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz

Ch. No.& Freq.(MHz)		Low / Low-Mid	Mid	Mid-High / High
LTE FDD Band 2 (PCS)	1.4 MHz	1 850.7 (18607)	1 880.0 (18900)	1 909.3 (19193)
	3 MHz	1 851.5 (18615)	1 880.0 (18900)	1 908.5 (19185)
	5 MHz	1 852.5 (18625)	1 880.0 (18900)	1 907.5 (19175)
	10 MHz	1 855.0 (18650)	1 880.0 (18900)	1 905.0 (19150)
	15 MHz	1 857.5 (18675)	1 880.0 (18900)	1 902.5 (19125)
	20 MHz	1 860.0 (18700)	1 880.0 (18900)	1 900.0 (19100)
LTE FDD Band 4 (AWS)	1.4 MHz	1 710.7 (19957)	1 732.5 (20175)	1 754.3 (20393)
	3 MHz	1 711.5 (19965)	1 732.5 (20175)	1 753.5 (20385)
	5 MHz	1 712.5 (19975)	1 732.5 (20175)	1 752.5 (20375)
	10 MHz	1 715.0 (20000)	1 732.5 (20175)	1 750.0 (20350)
	15 MHz	1 717.5 (20025)	1 732.5 (20175)	1 747.5 (20325)
	20 MHz		1 732.5 (20175)	
LTE FDD Band 5 (Cell)	1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)
	3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)
	5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)
	10 MHz		836.5 (20525)	
LTE FDD Band 12	1.4 MHz	699.7 (23017)	707.5 (23095)	715.3 (23173)
	3 MHz	700.5 (23025)	707.5 (23095)	714.5 (23165)
	5 MHz	701.5 (23035)	707.5 (23095)	713.5 (23155)
	10 MHz		707.5 (23095)	
LTE FDD Band 13	5 MHz		782 (23230)	
	10 MHz		782 (23230)	
LTE FDD Band 17	5 MHz		710 (23790)	
	10 MHz		710 (23790)	
LTE FDD Band 26 (Cell)	1.4 MHz	814.7 (26697)	831.5 (26865)	848.3 (27033)
	3 MHz	815.5 (26705)	831.5 (26865)	847.5 (27025)
	5 MHz	816.5 (26715)	831.5 (26865)	846.5 (27015)
	10 MHz	819.0 (26740)	831.5 (26865)	844.0 (26990)
	15 MHz		831.5 (26865)	

Ch. No.& Freq.(MHz)		Low / Low-Mid		Mid		Mid-High / High	
LTE FDD Band 66 (AWS)	1.4 MHz	1 710.7 (131979)		1 745 (132322)		1 779.3 (132665)	
	3 MHz	1 711.5 (131987)		1 745 (132322)		1 778.5 (132657)	
	5 MHz	1 712.5 (131997)		1 745 (132322)		1 777.5 (132647)	
	10 MHz	1 715.0 (132022)		1 745 (132322)		1 775.0 (132622)	
	15 MHz	1 717.5 (132047)		1 745 (132322)		1 772.5 (132597)	
	20 MHz	1 720.0 (132072)		1 745 (132322)		1 770.0 (132572)	
LTE TDD Band 41	5 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	10 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	15 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	20 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
UE Category			LTE Rel. 16, DL: Category 16, UL: Category 18				
Modulations Supported in UL			QPSK, 16QAM, 64QAM, 256 QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3			Yes				
A-MPR disabled for SAR Testing.			Yes				
LTE Carrier Aggregation			This device supports Inter-Band & Intra-Band DL-link Carrier aggregations and Inter-Band UL-link Carrier aggregations. Detailed information in Technical Description document.				
LTE Release information			It supports only DL carrier aggregation. All other uplink communications are identical to the release 8 specifications. The following LTE Rel.16 Features are not supported: Relay, Hetnet, Enhanced eICl, MDH, cross-carrier Scheduling, Enhanced SC-FDMA,UL-CA.				

4.5 5G NR SUB 6 Information

Item.		Description
Frequency Range	NR FDD Band n5	826.5 MHz ~ 846.5 MHz
	NR TDD Band n41	2 501.01 MHz ~ 2 685 MHz
	NR FDD Band n66	1 712.5 MHz ~ 1 777.5 MHz
	NR TDD Band n77	3 705 MHz ~ 3 975 MHz
	NR TDD Band n77 DoD	3 445.01 MHz ~ 3 544.98 MHz
Channel Bandwidths	NR FDD Band n5	5 MHz, 10 MHz, 15 MHz, 20 MHz
	NR TDD Band n41	10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz
	NR FDD Band n66	5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz
	NR TDD Band n77	10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz
	NR TDD Band n77 DoD	10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz

Ch. No.& Freq.(MHz)		Low / Low-Mid		Mid		Mid-High / High	
NR FDD Band n5 (Cell)	5 MHz	826.5 (165300)		836.5(167300)		846.5 (169300)	
	10 MHz			836.5(167300)			
	15 MHz			836.5(167300)			
	20 MHz			836.5(167300)			
NR TDD Band n41	10 MHz	2 501.01(500202)	2 547(509400)	2 592.99(518598)	2 639.01(527802)	2 685(537000)	
	15 MHz	2 503.5(500700)	2 548.26(509652)	2 592.99(518598)	2 637.75(527550)	2 682.51(536502)	
	20 MHz	2 506.02(501204)	2 549.49(509898)	2 592.99(518598)	2 636.49(527298)	2 679.99(535998)	
	30 MHz	2 511(502200)	2 552.01(510402)	2 592.99(518598)	2 634(526800)	2 674.98(534996)	
	40 MHz	2 516.01(503202)	2 567.34(513468)		2 618.67(523734)	2 670(534000)	
	50 MHz	2 521.02(504204)		2 592.99(518598)		2 664.99(532998)	
	60 MHz	2 526(505200)		2 592.99(518598)		2 659.98(531996)	
	70 MHz	2 531.01(506202)				2 655(531000)	
	80 MHz	2 536.02(507204)				2 649.99(529998)	
	90 MHz	2 541(508200)				2 644.98(528996)	
	100 MHz			2 592.99(518598)			
NR FDD Band n66	5 MHz	1 712.5(342500)		1 745(349000)		1 777.5(355500)	
	10 MHz	1 715(343000)		1 745(349000)		1 775(355000)	
	15 MHz	1 717.5(343500)		1 745(349000)		1 772.5(354500)	
	20 MHz	1 720(344000)		1 745(349000)		1 770(354000)	
	25 MHz	1 722.5(344500)		1 745(349000)		1 767.5(353500)	
	30 MHz			1 745(349000)			
	40 MHz	1 730(346000)		1 745(349000)		1 760(352000)	
NR TDD Band n77	10 MHz	3 705(647000)	3 759(650600)	3 813(654200)	3 867(657800)	3 921(661400)	3 975(665000)
	15 MHz	3 707.52(647168)	3 760.5(650700)	3 813.51(654234)	3 866.49(657766)	3 919.5(661300)	3 972.48(664832)
	20 MHz	3 710.01 (647334)	3 762 (650800)	3 813.99(654266)	3 866.01 (657734)	3 918 (661200)	3 969.99 (664666)
	30 MHz	3 715.02 (647668)	3 765 (651000)	3 815.01(654334)	3 864.99 (657666)	3 915 (661000)	3 964.98 (664332)
	40 MHz	3 720 (648000)	3 768 (651200)	3 816 (654400)	3 864 (657600)	3 912 (660800)	3 960 (664000)
	50 MHz	3 725.01 (648334)	3 782.49 (652166)	3 840 (656000)		3 897.51 (659834)	3 954.99 (663666)
	60 MHz	3 730.02 (648668)	3 803.34(653556)			3 876.66(658444)	3 949.98 (663332)
	70 MHz	3 735 (649000)	3 804.99 (654336)			3 875.01 (658334)	3 945(663000)
	80 MHz	3 740.01 (649334)		3 840 (656000)			3 939.99 (662666)
	90 MHz	3 745.02 (649668)		3 840 (656000)		3 934.98 (662332)	
	100 MHz	3 750 (650000)		3 840 (656000)		3 930 (662000)	
NR TDD Band n77 (DoD)	10 MHz	3 455.01(630334)		3 500.01(633334)		3 544.98(636332)	
	15 MHz	3 457.5(630500)		3 500.01(633334)		3 542.49(636166)	
	20 MHz	3 460.02 (630668)		3 500.01 (633334)		3 540 (636000)	
	30 MHz	3 465 (631000)		3 500.01 (633334)		3 534.99 (635666)	
	40 MHz	3 470.01 (631334)				3 529.98 (635332)	
	50 MHz	3 475.02 (631668)				3 525 (635000)	
	60 MHz			3 500.01 (633334)			
	70 MHz			3 500.01 (633334)			
	80 MHz			3 500.01 (633334)			
	90 MHz			3 500.01 (633334)			
	100 MHz			3 500.01 (633334)			

Item.	Description
NR FDD Band n5/n66 SCS	15 kHz
NR TDD Band n41/n77 SCS	30 kHz
3GPP Rel.	Rel.16
A-MPR disabled for SAR Testing.	Yes
5G NR UL/DL FR1	CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM DFT-s-OFDM: $\pi/2$ -BPSK(UL Only), QPSK, 16QAM, 64QAM, 256QAM
Non-Standalone & Standalone are supported. 5G NR FR1 Bands are supported to NSA and SA Connectivity. More detailed specifications of the 5G NR bands are contained in the Technical description document.	
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations
LTE Anchor Bands for NR Band	See the Technical description document

4.6 DUT Antenna Locations

The overall dimensions of this device are > 9 X 5 cm. A diagram showing device antenna can be found in SAR_setup_photos. Since the diagonal dimension of this device is > 160 mm and < 200 mm, it is considered a “phablet”.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering. Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth Tethering SAR were evaluated for BT BR tethering applications.

Antenna	Rear	Front	Left	Right	Bottom	Top
MAIN1 [Ant A]	Yes	Yes	Yes	Yes	Yes	No
MAIN3 [Ant C]	Yes	Yes	Yes	No	No	No
Sub2-1 [Ant D]	Yes	Yes	Yes	No	No	Yes
Sub1 [Ant E]	Yes	Yes	No	Yes	No	Yes
Sub2-2 [Ant F]	Yes	Yes	Yes	No	No	Yes
Sub3 [Ant G]	Yes	Yes	Yes	No	No	Yes
Sub4-2 [Ant H]	Yes	Yes	No	Yes	No	Yes
Sub5 [Ant I]	Yes	Yes	No	No	No	Yes
Sub2-3 [Ant J]	Yes	Yes	Yes	No	No	Yes
Sub4-1 [Ant K]	Yes	Yes	No	Yes	No	No
NFC	Yes	Yes	Yes	No	No	Yes

Particular EUT edges were not required to be evaluated for Bluetooth Tethering and Hotspot SAR if the edges were > 25 mm from the transmitting antenna according to FCC KDB 941225 D06v02r01 on page 2. The distance between the transmit antennas and the edges of the device are included in the filing.

- Note: All test configurations are based on front view position.

4.7 Near Field Communications (NFC) Antenna

This EUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in SAR_Setup_photos.

4.8 SAR Summation Scenario

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown below paths and are mode in same rectangle to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB 447498 D01v06.

Scenario
WWAN + 2.4 GHz Wi-Fi Ant.1
WWAN + 5 GHz Wi-Fi Ant.1
WWAN + Bluetooth Ant.1

Note:

1. UMTS +WLAN scenario also represents the UMTS Voice/DATA + WLAN hotspot scenario.
2. VoIP is supported in GPRS/EDGE
3. The highest reported SAR for each exposure condition is used for SAR summation purpose.
4. Wi-Fi Hotspot is supported for 2.4 GHz/ UNII-1, UNII-3 of 5 GHz WLAN.
5. Pre-installed VOIP applications are considered
6. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held to ear or Body worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI Direct beyond that listed in the above table.
7. This device supports VoLTE/VoWiFi.
8. LTE + 5G NR FR1 Scenarios are supported NSA and SA Connectivity.
9. NFC was evaluated for phablet based on expected usage conditions.

4.9 SAR Test Considerations

4.9.1 WiFi

Since wireless router operations are not allowed by the chipset firmware using U-NII-2A and U-NII-2C WiFi Hotspot SAR test and combinations are considered only 2.4 GHz and UNII-1,U-NII-3 for SAR with respected to wireless router configurations according to FCC KDB 941225 D06v02r01.

Since U-NII-1 and U-NII-2A Bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g SAR and is less than 3.0 W/kg for 10g SAR, SAR is not required for U-NII-1 Band according to FCC KDB 248227D01v02r02.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported for U-NII-2A & U-NII-2C WLAN phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz WIFI, 2.4 GHz Bluetooth, and UNII-1,U-NII-3 WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

4.9.2 Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US Bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower Bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest Bandwidth; and the reported LTE SAR for the highest Bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r05.

Per FCC KDB 648474 D04v01r03, this device is considered a “Phablet” since the diagonal dimension is greater than 160 mm and less than 200 mm. Therefore, extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR >1.2 W/kg. When hotspot mode applies, 10g SAR required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1g SAR > 1.2 W/kg.

This Device supports 64QAM and 256QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM and 256QAM uplink configurations were measured per section 5.1 of FCC KDB 941225 D05v02r05. SAR was not required for 64QAM or 256QAM since the highest maximum output power for 64QAM and 256QAM is ≤ 0.5 dB higher than the same configuration in QPSK and the reported SAR for QPSK configuration is ≤ 1.45 W/Kg, per section 5.2.4 for FCC KDB 941225 D05v02r05.

This device supports LTE capabilities with overlapping transmission frequency ranges. When the supported frequency range of LTE Band falls completely within an LTE Band with a larger transmission frequency range, both LTE Bands have the same target power or the Band with the larger transmission frequency range has a higher target power and both LTE Bands share the same transmission path and signal characteristics, SAR was only tested for the Band with the larger transmission frequency range.

LTE capabilities with overlapping transmission frequency ranges were applied to LTE Band 5 (824.7 MHz ~ 848.3 MHz) is covered by LTE Band 26 (814.7 MHz ~ 848.3 MHz), LTE Band 4 (1 710.7 MHz ~ 1 754.3 MHz) is covered by LTE Band 66 (1 710.7 MHz ~ 1 779.3 MHz) of this model each both LTE bands have the same target powers.

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB publication 941225 D05A v01r02, SAR for LTE DL CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

Per FCC Guidance, C-Band for NR n77 (3705 –3975 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for the NR n77 DoD (3455.01 –3544.98 MHz).

This device supports NSA(Non-standalone) and SA (Standalone) connectivity for 5G NR FR1 Bands, more detailed specifications of the Bands are contained in the technical description document.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

Per FCC KDB 941225 D01v03r01, 12.2 kbps RMC is the primary mode and HSPA (HSUPA/HSDPA with RMC) is the secondary mode.

Per FCC KDB 941225 D01v03r01, The SAR test exclusion is applied to the secondary mode by the following equation.

$$\text{Adjusted SAR} = \text{Highest Reported SAR} \times \frac{\text{Secondary Max tune - up (mW)}}{\text{Primary Max tune tune - up(mW)}} \leq 1.2 \text{ W/kg.}$$

Based on the highest Reported SAR, the secondary mode is not required.

5. Introduction

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields,” NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

$$SAR = \frac{d}{dt} \left(\frac{dU}{dm} \right)$$

Figure 1. SAR Mathematical Equation

SAR is expressed in units of Watts per Kilogram (W/kg)

Where:

- = conductivity of the tissue-simulant material (S/m)
- = mass density of the tissue-simulant material (kg/m³)
- = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

6. Description of Test Equipment

6.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid& Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Figure.2).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC with Windows XP or Windows 7 or Window 10 or Window 11 is working with SAR Measurement system DASY4 & DASY5 & DASY6 & DASY8 A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

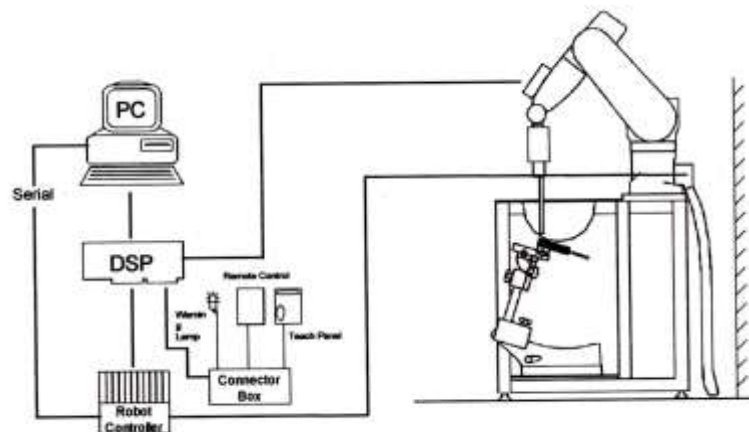


Figure 2. HCT SAR Lab. Test Measurement Set-up

The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

7. SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013.

The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 table 4-1 & IEEE 1528-2013.

Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.

Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)

- a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. 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.
 - b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
 - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

			$\leq 3 \text{ GHz}$	$> 3 \text{ GHz}$
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			$5 \pm 1 \text{ mm}$	$\cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location			$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan Spatial resolution: $\Delta X_{\text{Area}}, \Delta y_{\text{Area}}$			$\leq 2 \text{ GHz: } \leq 15 \text{ mm}$ $2\text{-}3 \text{ GHz: } \leq 12 \text{ mm}$	$3\text{-}4 \text{ GHz: } \leq 12 \text{ mm}$ $4\text{-}6 \text{ GHz: } \leq 10 \text{ mm}$
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan Spatial resolution: $\Delta X_{\text{zoom}}, \Delta y_{\text{zoom}}$			$\leq 2 \text{ GHz: } \leq 8 \text{ mm}$ $2\text{-}3 \text{ GHz: } \leq 5 \text{ mm}^*$	$3\text{-}4 \text{ GHz: } \leq 5 \text{ mm}^*$ $4\text{-}6 \text{ GHz: } \leq 4 \text{ mm}^*$
Maximum zoom scan Spatial resolution normal to phantom surface	uniform grid: $\Delta z_{\text{zoom}}(n)$		$\leq 5 \text{ mm}$	$3\text{-}4 \text{ GHz: } \leq 4 \text{ mm}$ $4\text{-}5 \text{ GHz: } \leq 3 \text{ mm}$ $5\text{-}6 \text{ GHz: } \leq 2 \text{ mm}$
	graded grid	$\Delta z_{\text{zoom}}(1)$: between 1 st two Points closest to phantom surface	$\leq 4 \text{ mm}$	$3\text{-}4 \text{ GHz: } \leq 3 \text{ mm}$ $4\text{-}5 \text{ GHz: } \leq 2.5 \text{ mm}$ $5\text{-}6 \text{ GHz: } \leq 2 \text{ mm}$
		$\Delta z_{\text{zoom}}(n>1)$: between subsequent Points	$\leq 1.5 \cdot \Delta z_{\text{zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		$\geq 30 \text{ mm}$	$3\text{-}4 \text{ GHz: } \geq 28 \text{ mm}$ $4\text{-}5 \text{ GHz: } \geq 25 \text{ mm}$ $5\text{-}6 \text{ GHz: } \geq 22 \text{ mm}$
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB447498 is $\leq 1.4 \text{ W/kg}$, $\leq 8 \text{ mm}$, $\leq 7 \text{ mm}$ and $\leq 5 \text{ mm}$ zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

8. Description of Test Position

8.1 EAR REFERENCE POINT

Figure 8-2 shows the front, back and side views of the SAM phantom. The center-of-mouth reference point is labeled “M”, the left ear reference point (ERP) is marked “LE”, and the right ERP is marked “RE.” Each ERP is on the B-M (back-mouth) line located 15 mm behind the entrance-to-ear-canal (EEC) point, as shown in Figure 6-1. The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (See Figure 5-1), Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.

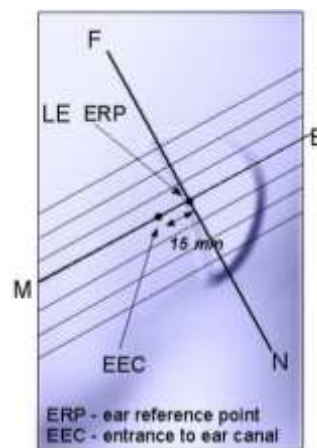


Figure 8-1
Close-up side view of ERP

8.2 Handset Reference Points

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The device under test was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (see Figure 8-3). The acoustic output was then located at the same level as the center of the ear reference point. The device under test was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



Figure 8-2
Front, back and side views of SAM Twin Phantom

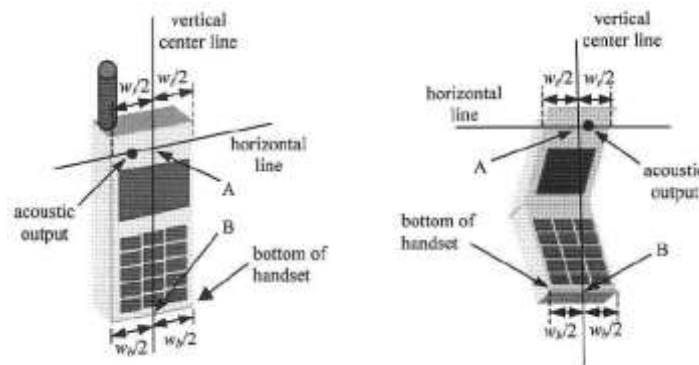


Figure 8-3. Handset vertical and horizontal reference lines

8.3 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameter; relative permittivity $\epsilon=3$ and loss tangent $\sigma=0.02$.

8.4 Position for Touch

Figure 8.4. shows touch or cheek position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

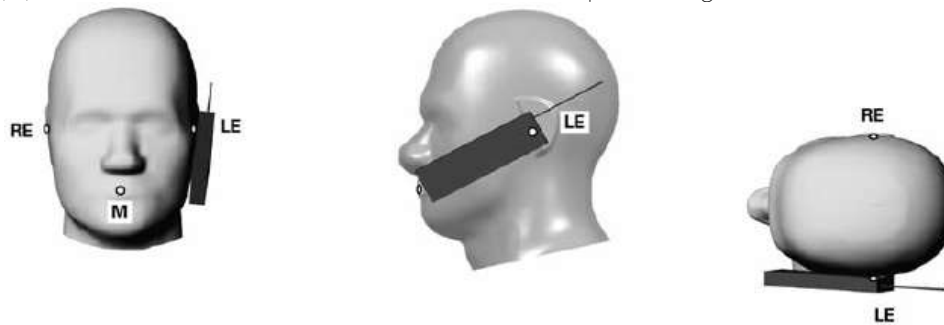


Figure 8.4 Cheek position of the wireless device

8.5 Definition of the “tilted” position

Figure 8.5. shows tilted position. Place the device in the Touch position. Then while maintaining the orientation of the device, retract the device parallel to the reference plane far enough away from the phantom to enable a rotation of the device by 15°.



Figure 8.5. Tilt 15° position of the wireless device

8.6 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-dips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 8.6). Per FCC KDB Publication 648474 D04v01r03 Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in Body-worn accessories. The Body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for Body-worn accessory SAR compliance, without a headset connected to it. When the reported SAR for a body- worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency Band should be repeated for that body- worn accessory with a headset attached to the handset.



Figure 8.6
Sample Body-Worn Diagram

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

8.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets ($L \times W \geq 9\text{cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 5 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. Since the hotspot SAR results may overlap with the Body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some Body-worn accessory SAR tests.

In the closed configuration, only a simple display/interaction of notifications occurs and overall dimensions are $< 9 \times 5 \text{ cm}$. Therefore Per 941225 D06v02r01, when the device is closed, test separation for hotspot mode is 5 mm.

When the user enables the personal wireless router functions for the handset actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The Portable Hotspot feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

8.8 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions: i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1-g body and 10-g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear. The phablets procedures outlined in KDB Publication 648474 D04 v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worm accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna ≤ 25 mm from that surface or edge, in direct contact with the phantom, for 10-g SAR. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g SAR is required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1-g SAR > 1.2 W/kg.

8.9 Bluetooth tethering Configurations

Per May 2017 TCBC Workshop Document, When Bluetooth tethering applies, simultaneous transmission SAR needs consideration.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering. Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth tethering SAR were evaluated for BT BDR tethering applications.

8.10 Additional Test Positions due to Proximity Conditions

This device uses a sensor to reduce output powers in extremity (hand-held) and near body use conditions.

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power. However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level.

FCC KDB 616217 D04 v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional exposure conditions. The smallest separation distance determined by the sensor triggering and sensor coverage for each applicable edge, minus 1 mm, was used as the test separation distance for SAR testing. Sensor triggering distance summary data is included in below table.

Wireless technologies	Position	§ 6.2 Triggering Distance	§ 6.3 Coverage	§ 6.4 Tilt Angle	Worst case distance for Phablet SAR
WLAN 2.4GHz / 5GHz	Rear	8	N/A	N/A	7
	Top	10	N/A	N/A	9

9. RF Exposure Limits

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg)	CONTROLLED ENVIRONMENT Occupational (W/kg)
SPATIAL PEAK SAR * (Partial Body)	1.6	8.0
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.4
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.0	20.0

NOTES:

* The Spatial Peak value of the SAR averaged over any 1 g 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 g 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. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

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). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

10. FCC SAR General Measurement Procedures

Power Measurements for licensed transmitters are performed using a base simulator under digital average power.

10.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as Reported SAR. The highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

10.2 3G SAR Test Reduction Procedure

10.2.1 GSM, GPRS and EDGE

The following procedures may be considered for each frequency Band to determine SAR test reduction for devices operating in GSM/GPRS/EDGE modes to demonstrate RF exposure compliance. GSM voice mode transmits with 1 time-slot. GPRS and EDGE may transmit up to 4 time slots in the 8 time-slot frame according to the multi-slot class implemented in a device.

10.2.2 SAR Test Reduction

In FCC KDB 941225 D01v03r01, certain transmission modes within a frequency Band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

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

10.2.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB 941225 D01v03r01-3G SAR Measurement Procedures.

The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluation SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this was configured with the base station simulator. The SAR measurement Software calculates a reference point at the start and end of the test to Touch for power drifts. If conducted Power deviations of more than 5 % occurred, the tests were repeated.

10.3 SAR Measurement Conditions for UMTS

10.3.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc.) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

10.3.2 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

10.3.3 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

10.3.4 SAR Measurements with Rel. 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

10.3.5 DC-HSDPA

SAR is required for Rel.8 DC-HSDPA when SAR is required for Rel.5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in table C.8.1.12 of 3GPP TS34.121-1 to determine SAR test reduction. Primary and secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. Was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK) was conformed to be used during DC-HSDPA measurements.



10.4 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

10.4.1 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.

10.4.2 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.

10.4.3 A-MPR

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

10.4.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

- a. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest Bandwidth
 - i. The required channel and offset combination with the highest maximum output power is required for SAR.
 - ii. When the reported SAR is ≤ 0.8 W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.

- b. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest Bandwidth following the same procedures outlined in Sec 4.2.1.
- c. Per Sec. 4.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is $< 0.8 \text{ W/kg}$.
- d. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower Bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is $< 1.45 \text{ W/Kg}$.

10.4.5 Downlink Carrier Aggregation

Conducted power measurements with LTE Carrier aggregation (CA) downlink only active are made in accordance to KDB publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, additional conducted output Powers are measured with downlink carrier aggregation active for the configuration with highest measured maximum conducted power with the downlink carrier aggregation inactive measured among the channel Bandwidth, modulation and RB combinations in each frequency Band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25dB higher than the average output power with downlink only carrier aggregation inactive.

10.4.6 LTE(TDD) Considerations

According to KDB 941225 D05v02r05, 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 6. LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame configurations.

Table 4. 2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x no of S + no of U

Table 4. 2-2: Uplink-downlink configuration

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 no of S + no of U

Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle = $(5120 \times (1/(15000 \times 2048))) \times 2 + 0.006)/0.01 = 63.33 \%$

Where

$T_s = 1/(15000 \times 2048)$ seconds

10.4.7 The Call Box Setup for LTE(TDD)

When you Want to Test for LTE TDD, Please Change Frame Structure TDD and TDD Uplink Downlink Configuration 0 and Special Subframe Configuration 6.

2018/01/08 11:00 Idle(Regist) Phone-2 Phone-1
<Fundamental Measurement> Output Main Continuous W-CDMA LTE

Parameter Fundamental UE Report

Reference Signal not found UE Power : -21.5 dBm

Power Measurement (Meas. Count : 11/ 20)

	Avg.	Max.	Min.	Limit
TX Power	*****	*****	*****	dBm 20.3 to 25.7 dBm
Channel Power	*****	*****	*****	dBm

Modulation Analysis View (Meas. Count : 1/ 1)

Common Parameter

Test Parameter TX1 - Max. Power(QPSK/1 RB)

Call Processing On Scenario Normal

Frequency

Frame Structure TDD

Channel Bandwidth FDD Hz

UL Channel & Frequency TDD 20 CH = 2593.000000 MHz

DL Channel & Frequency 40620 CH = 2593.000000 MHz

Operation Band 41

Frequency Separation (0)MHz

Level

Input Level 30.0 dBm

Parameter

Common

Physical Channel

Call Processing

TX Measurement Setup

RX Measurement Setup

Fundamental Measurement

1 2 3 4

2018/01/08 11:01 Idle(Regist) Phone-2 Phone-1
<Fundamental Measurement> Output Main Continuous W-CDMA LTE

Parameter Fundamental UE Report

Reference Signal not found UE Power : -21.5 dBm

Power Measurement (Meas. Count : 11/ 20)

	Avg.	Max.	Min.	Limit
TX Power	*****	*****	*****	dBm 20.3 to 25.7 dBm
Channel Power	*****	*****	*****	dBm

Modulation Analysis View (Meas. Count : 1/ 1)

MCS Index (-) 5 (QPSK) (5) (2216) - -

MCS Index (5) 5 (QPSK) (5) (1864) 4 -

MCS Index (0) 5 (QPSK) (5) (2216) - 2

MCS Index (1,6) N/A (-----) (--) (-----) - 2

CFI 3

TDD subframe 0 1 2 3 4 5 6 7 8 9

Uplink Downlink Configuration 0 : (5ms) D S U U U D S U U U

Special Subframe Configuration 6

Physical Channel Parameter

PSS Power	0.0 dB
SSS Power	0.0 dB
PBCH Power	0.0 dB
PCFICH Power	0.0 dB
PHICH Power	0.0 dB

Parameter

Common

Physical Channel

Call Processing

TX Measurement Setup

RX Measurement Setup

Fundamental Measurement

1 2 3 4

10.5 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

10.5.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR system to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92-96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

10.5.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A Bands, when the same maximum output power is specified for both Bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR. When different maximum output powers are specified for the Bands, SAR measurement for the U-NII Band with the lower maximum output power is not required unless the highest reported SAR for the U-NII Band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two Bands, is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR.

10.5.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 GHz – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 GHz – 5.65 GHz in U-NII-2C Band must be disabled with acceptable mechanisms and documented in the equipment certification.

Unless Band gap channels are permanently disabled, SAR must be considered for these channels.

10.5.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10g SAR or all test positions are measured.

10.5.5 2.4 GHz SAR test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the 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 is that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that position 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 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz Band, the Initial Test Configuration Procedures should be followed.

10.5.6 OFDM Transmission Mode and SAR Test Channel Selection

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

10.5.7 Initial Test Configuration Procedure

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

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

10.5.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency Band and aggregated Band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg for 1g SAR and ≤ 3.0 W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

11. Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

Licensed Bands

Test Description	Test Procedure Used
Conducted Output Power	- KDB 971168 D01 v03r01 – Section 5.2.4 - ANSI C63.26-2015 – Section 5.2.1 & 5.2.4.2

Test Overview

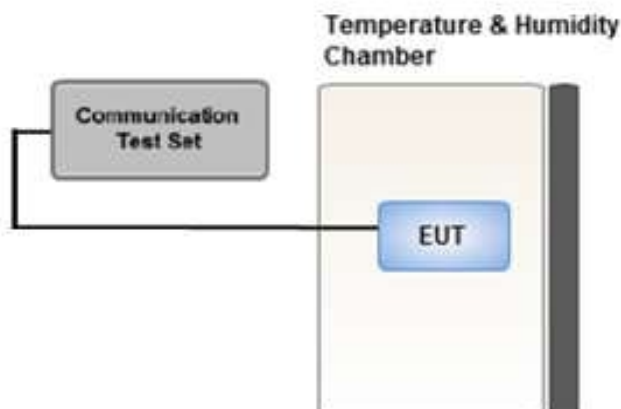
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base station emulator, communications test set, call box, or similar instrumentation that is capable of establishing a communications link with the EUT to enable control over variable parameters (e.g., output power, OBW, etc.).

In some cases, these instruments also include basic digital spectrum analyzer and/or power meter capabilities that can be utilized to measure the RF output power if the specified detectors and requirements can be realized and the measurement functions have been calibrated.

Test Procedure

1. The RF port of the EUT was connected to the Communication Tester via an RF cable.
2. Conducted average power was measured using a calibrated Radio Communication Tester.

Test setup



11.1.1 GSM 850 Maximum Conducted Output Power

GSM 850 – Antenna A

Measured P_{max} , RCV(DSI=1),

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		34.00	34.00	32.00	30.50	29.00	28.00	26.00	24.00	22.50
Nominal		33.00	33.00	31.00	29.50	28.00	27.00	25.00	23.00	21.50
GSM 850	128	32.96	32.92	30.76	28.80	26.93	27.16	24.35	22.28	21.51
	190	33.00	33.00	30.69	29.02	27.27	26.81	24.52	22.56	21.39
	251	32.90	32.93	30.85	28.81	26.93	26.95	24.40	22.31	21.78

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		24.81	24.81	25.82	26.08	25.83	18.81	19.82	19.58	19.33
Nominal		23.81	23.81	24.82	25.08	24.83	17.81	18.82	18.58	18.33
GSM 850	128	23.77	23.73	24.58	24.38	23.76	17.97	18.17	17.86	18.34
	190	23.81	23.81	24.51	24.60	24.10	17.62	18.34	18.14	18.22
	251	23.71	23.74	24.67	24.39	23.76	17.76	18.22	17.89	18.61

GSM Conducted output powers (Frame-Average)

Measured FREE(DSI=0)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		33.00	33.00	30.00	28.00	26.00	27.00	25.00	23.00	21.50
Nominal		32.00	32.00	29.00	27.00	25.00	26.00	24.00	22.00	20.50
GSM 850	128	32.35	32.35	28.52	27.13	25.48	26.89	24.89	22.33	21.40
	190	32.39	32.38	28.59	27.38	25.59	26.26	24.31	22.36	21.36
	251	32.19	32.18	28.65	27.22	25.41	26.95	24.35	22.30	21.42

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		23.81	23.81	23.82	23.58	22.83	17.81	18.82	18.58	18.33
Nominal		22.81	22.81	22.82	22.58	21.83	16.81	17.82	17.58	17.33
GSM 850	128	23.16	23.16	22.34	22.71	22.31	17.70	18.71	17.91	18.23
	190	23.20	23.19	22.41	22.96	22.42	17.07	18.13	17.94	18.19
	251	23.00	22.99	22.47	22.80	22.24	17.76	18.17	17.88	18.25

GSM Conducted output powers (Frame-Average)

GSM 1900_Antenna A

Measured P_{max} , RCV(DSI=1),

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		31.00	31.00	29.50	28.00	26.00	27.00	25.00	23.00	21.50
Nominal		30.00	30.00	28.50	27.00	25.00	26.00	24.00	22.00	20.50
GSM 850	128	30.62	30.59	28.48	26.76	24.30	25.73	23.96	21.63	20.62
	190	30.95	30.95	28.96	27.40	25.22	26.34	24.47	22.24	20.85
	251	30.82	30.83	28.74	26.89	24.88	25.90	24.20	21.80	20.68

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		21.81	21.81	23.32	23.58	22.83	17.81	18.82	18.58	18.33
Nominal		20.81	20.81	22.32	22.58	21.83	16.81	17.82	17.58	17.33
GSM 850	128	21.43	21.40	22.30	22.34	21.13	16.54	17.78	17.21	17.45
	190	21.76	21.76	22.78	22.98	22.05	17.15	18.29	17.82	17.68
	251	21.63	21.64	22.56	22.47	21.71	16.71	18.02	17.38	17.51

GSM Conducted output powers (Frame-Average)

Measured FREE(DSI=0)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		30.00	30.00	27.50	25.50	24.00	27.00	25.00	23.00	21.50
Nominal		29.00	29.00	26.50	24.50	23.00	26.00	24.00	22.00	20.50
GSM 1900	512	29.31	29.37	25.91	23.95	22.47	25.95	24.20	21.90	21.02
	661	29.36	29.39	26.38	24.30	22.85	26.20	24.46	22.51	21.40
	810	29.08	29.16	25.92	23.97	22.78	25.93	24.10	21.69	20.55

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		20.81	20.81	21.32	21.08	20.83	17.81	18.82	18.58	18.33
Nominal		19.81	19.81	20.32	20.08	19.83	16.81	17.82	17.58	17.33
GSM 1900	512	20.12	20.18	19.73	19.53	19.30	16.76	18.02	17.48	17.85
	661	20.17	20.20	20.20	19.88	19.68	17.01	18.28	18.09	18.23
	810	19.89	19.97	19.74	19.55	19.61	16.74	17.92	17.27	17.38

GSM Conducted output powers (Frame-Average)

Note:

Time slot average factor is as follows:

1 Tx slot = 9.19 dB, Frame-Average output power = Burst-Average output power – 9.19 dB

2 Tx slot = 6.18 dB, Frame-Average output power = Burst-Average output power – 6.18 dB

3 Tx slot = 4.42 dB, Frame-Average output power = Burst-Average output power – 4.42 dB

4 Tx slot = 3.17 dB, Frame-Average output power = Burst-Average output power – 3.17 dB



11.2 UMTS Maximum Output Power

HSPA+

This DUT is only capable of QPSK HSPA+ in uplink. Therefore, the RF conducted power is not measured according to 941225 D01v03r01 3G SAR.

11.2.1 UMTS Band 5 Conducted Output Power

UMTS Band 5 Conducted Output Power – Antenna A

Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 5 [dBm]			3GPP MPR
		Subtest	UL4132 DL4357	UL4183 DL4408	UL4233 DL4458	
99	UMTS	12.2 kbps RMC	24.59	24.46	24.44	-
99		12.2 kbps AMR	24.57	24.45	24.49	-
5	HSDPA	Subtest 1	23.57	23.45	23.46	0
5		Subtest 2	23.49	23.45	23.48	0
5		Subtest 3	22.96	22.93	22.90	0.5
5		Subtest 4	22.93	22.98	22.89	0.5
6	HSUPA	Subtest 1	23.58	23.46	23.50	0
6		Subtest 2	21.45	21.47	21.42	2
6		Subtest 3	22.44	22.46	22.41	1
6		Subtest 4	21.42	21.45	21.45	2
6		Subtest 5	23.46	23.48	23.45	0
8	DC-HSDPA	Subtest1	23.69	23.61	23.61	0
8		Subtest2	23.59	23.57	23.62	0
8		Subtest3	23.00	23.12	22.98	0.5
8		Subtest4	23.00	23.09	22.95	0.5

Measured DSI = 0,1

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 5 [dBm]			3GPP MPR
		Subtest	UL4132 DL4357	UL4183 DL4408	UL4233 DL4458	
99	UMTS	12.2 kbps RMC	23.48	23.36	23.34	-
99		12.2 kbps AMR	23.47	23.36	23.36	-
5	HSDPA	Subtest 1	22.47	22.35	22.36	0
5		Subtest 2	22.39	22.34	22.30	0
5		Subtest 3	21.94	21.86	21.87	0.5
5		Subtest 4	21.90	21.84	21.84	0.5
6	HSUPA	Subtest 1	22.45	22.34	22.39	0
6		Subtest 2	20.39	20.35	20.34	2
6		Subtest 3	21.35	21.36	21.39	1
6		Subtest 4	20.36	20.33	20.37	2
6		Subtest 5	22.35	22.35	22.40	0
8	DC-HSDPA	Subtest1	22.42	22.33	22.32	0
8		Subtest2	22.37	22.33	22.28	0
8		Subtest3	21.88	21.76	21.84	0.5
8		Subtest4	21.86	21.83	21.79	0.5

UMTS Average Conducted output powers

11.2.2 UMTS Band 4 Maximum Conducted Output Power

UMTS Band 4 Maximum Conducted Output Power – Antenna A

Measured P_{max} , DSI = 1

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL1312 DL1537	UL1412 DL1637	UL1513 DL1738	
99	UMTS	12.2 kbps RMC	23.60	23.48	23.43	-
99		12.2 kbps AMR	23.63	23.49	23.46	-
5	HSDPA	Subtest 1	22.75	22.60	22.56	0
5		Subtest 2	22.71	22.60	22.59	0
5		Subtest 3	22.16	22.10	22.09	0.5
5		Subtest 4	22.15	22.10	22.07	0.5
6	HSUPA	Subtest 1	22.78	22.62	22.60	0
6		Subtest 2	20.65	20.62	20.62	2
6		Subtest 3	21.65	21.65	21.63	1
6		Subtest 4	20.60	20.62	20.59	2
6		Subtest 5	22.63	22.62	22.66	0
8	DC-HSDPA	Subtest1	22.74	22.60	22.46	0
8		Subtest2	22.62	22.55	22.57	0
8		Subtest3	22.09	22.05	22.05	0.5
8		Subtest4	22.07	22.09	22.03	0.5

Measured DSI = 0

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL1312 DL1537	UL1412 DL1637	UL1513 DL1738	
99	UMTS	12.2 kbps RMC	20.65	20.51	20.47	-
99		12.2 kbps AMR	20.63	20.51	20.46	-
5	HSDPA	Subtest 1	19.78	19.62	19.60	0
5		Subtest 2	19.66	19.61	19.59	0
5		Subtest 3	19.17	19.11	19.08	0.5
5		Subtest 4	19.13	19.10	19.08	0.5
6	HSUPA	Subtest 1	19.78	19.65	19.59	0
6		Subtest 2	17.70	17.63	17.60	2
6		Subtest 3	18.71	18.65	18.64	1
6		Subtest 4	17.69	17.65	17.61	2
6		Subtest 5	19.63	19.62	19.60	0
8	DC-HSDPA	Subtest1	19.78	19.57	19.52	0
8		Subtest2	19.66	19.53	19.58	0
8		Subtest3	19.09	19.05	19.05	0.5
8		Subtest4	19.13	19.02	19.00	0.5

UMTS Average Conducted output powers

11.2.3 UMTS Band 2 Maximum Conducted Output Power

UMTS Band 2 Maximum Conducted Output Power – Antenna A

Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	24.20	24.22	24.21	-
99		12.2 kbps AMR	24.23	24.25	24.24	-
5	HSDPA	Subtest 1	23.31	23.35	23.34	0
5		Subtest 2	23.30	23.36	23.35	0
5		Subtest 3	22.86	22.84	22.86	0.5
5		Subtest 4	22.81	22.88	22.85	0.5
6	HSUPA	Subtest 1	23.31	23.36	23.37	0
6		Subtest 2	21.36	21.38	21.35	2
6		Subtest 3	22.34	22.35	22.35	1
6		Subtest 4	21.32	21.34	21.31	2
6		Subtest 5	23.32	23.37	23.35	0
8	DC-HSDPA	Subtest1	23.24	23.30	23.32	0
8		Subtest2	23.23	23.31	23.30	0
8		Subtest3	22.76	22.77	22.85	0.5
8		Subtest4	22.75	22.85	22.78	0.5

UMTS Average Conducted output powers

Measured DSI = 0

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	21.26	21.28	21.28	-
99		12.2 kbps AMR	21.24	21.29	21.27	-
5	HSDPA	Subtest 1	20.32	20.38	20.37	0
5		Subtest 2	20.35	20.40	20.41	0
5		Subtest 3	19.03	19.12	19.10	0.5
5		Subtest 4	19.85	19.89	19.86	0.5
6	HSUPA	Subtest 1	20.35	20.40	20.43	0
6		Subtest 2	18.35	18.36	18.40	2
6		Subtest 3	19.36	19.38	19.41	1
6		Subtest 4	18.35	18.42	18.42	2
6		Subtest 5	20.37	20.39	20.40	0
8	DC-HSDPA	Subtest1	20.28	20.31	20.34	0
8		Subtest2	20.28	20.36	20.35	0
8		Subtest3	18.99	19.09	19.07	0.5
8		Subtest4	19.85	19.80	19.85	0.5

UMTS Average Conducted output powers

Measured DSI = 1

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	22.30	22.32	22.29	-
99		12.2 kbps AMR	22.29	22.30	22.32	-
5	HSDPA	Subtest 1	21.28	21.31	21.32	0
5		Subtest 2	21.33	21.32	21.35	0
5		Subtest 3	20.81	20.84	20.84	0.5
5		Subtest 4	20.80	20.83	20.86	0.5
6	HSUPA	Subtest 1	21.29	21.34	21.36	0
6		Subtest 2	19.34	19.34	19.33	2
6		Subtest 3	20.32	20.31	20.35	1
6		Subtest 4	19.25	19.29	19.30	2
6		Subtest 5	21.28	21.28	21.32	0
8	DC-HSDPA	Subtest1	21.25	21.27	21.26	0
8		Subtest2	21.32	21.26	21.30	0
8		Subtest3	20.80	20.82	20.84	0.5
8		Subtest4	20.79	20.80	20.80	0.5

UMTS Average Conducted output powers

HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. Was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK)was conformed to be used during DC-HSDPA measurements.



11.3 LTE Maximum Output Power

Only the Conducted Power measurement results of the maximum bandwidth, which is the SAR test condition of LTE Bands according to FCC KDB 941225 D05v02r05, are included, and the measurement results of other bandwidths are listed in Appendix J.

LTE B4/B5/B12/B13/B17/B26 at Max Bandwidth does not support three non-overlapping channels. Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel Bandwidth configuration, the mid channel of the group of overlapping channels should be selected for testing.

11.3.1 LTE Maximum Conducted Output Power

LTE Band 2 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

LTE FDD Band 2_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	17.56	17.09	17.04	0	0
		1	49	17.47	17.18	16.97	0	0
		1	99	17.70	16.99	17.01	0	0
		50	0	17.64	17.01	16.98	0 - 1	0
		50	25	17.53	17.08	16.91	0 - 1	0
		50	49	17.52	17.03	16.93	0 - 1	0
	16QAM	100	0	17.58	17.49	17.43	0 - 1	0
		1	0	17.56	17.73	17.61	0 - 1	0
		1	49	17.88	17.92	17.61	0 - 1	0
		1	99	17.56	17.84	17.20	0 - 1	0
		50	0	17.49	17.56	16.94	0 - 2	0
		50	25	17.57	17.26	16.92	0 - 2	0
	64QAM	50	49	17.46	17.49	16.85	0 - 2	0
		100	0	17.54	17.57	17.31	0 - 2	0
		1	0	17.25	17.65	16.97	0 - 2	0
		1	49	17.58	17.73	17.26	0 - 2	0
		1	99	17.44	17.68	16.92	0 - 2	0
		50	0	17.55	17.52	17.40	0 - 3	0
	256QAM	50	25	17.57	17.75	17.47	0 - 3	0
		50	49	17.06	17.65	17.59	0 - 3	0
		100	0	17.48	17.78	17.45	0 - 3	0
		1	0	17.21	17.59	17.55	0 - 5	0
		1	49	17.57	17.65	17.60	0 - 5	0
		1	99	17.80	18.00	17.91	0 - 5	0
		50	0	17.48	17.63	17.48	0 - 5	0
		50	25	17.70	17.75	17.38	0 - 5	0
		50	49	17.64	17.64	17.41	0 - 5	0
		100	0	17.64	17.66	17.46	0 - 5	0

LTE FDD Band 2 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 2_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	22.73	22.89	22.68	0	0
		1	49	22.88	22.80	22.85	0	0
		1	99	22.82	22.76	22.76	0	0
		50	0	21.85	21.86	21.67	0 - 1	1
		50	25	21.84	21.79	21.72	0 - 1	1
		50	49	21.81	21.83	21.78	0 - 1	1
		100	0	21.89	21.84	21.77	0 - 1	1
	16QAM	1	0	21.98	22.21	21.87	0 - 1	1
		1	49	22.40	21.97	22.03	0 - 1	1
		1	99	22.04	22.01	21.95	0 - 1	1
		50	0	20.82	20.74	20.71	0 - 2	2
		50	25	20.80	20.86	20.74	0 - 2	2
		50	49	20.85	20.82	20.86	0 - 2	2
		100	0	20.79	20.81	20.67	0 - 2	2
	64QAM	1	0	20.99	20.82	21.02	0 - 2	2
		1	49	20.81	20.97	20.81	0 - 2	2
		1	99	21.06	20.90	20.98	0 - 2	2
		50	0	19.85	19.67	19.69	0 - 3	3
		50	25	19.80	19.81	19.70	0 - 3	3
		50	49	19.78	19.74	19.79	0 - 3	3
		100	0	19.83	19.78	19.79	0 - 3	3
	256QAM	1	0	17.64	17.73	17.91	0 - 5	5
		1	49	17.95	17.84	17.80	0 - 5	5
		1	99	17.88	17.67	17.84	0 - 5	5
		50	0	17.88	17.75	17.74	0 - 5	5
		50	25	17.83	17.81	17.75	0 - 5	5
		50	49	17.83	17.79	17.82	0 - 5	5
		100	0	17.87	17.81	17.73	0 - 5	5

LTE FDD Band 4 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

LTE FDD Band 4_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		19.56		0	0
		1	49		19.74		0	0
		1	99		19.73		0	0
		50	0		19.53		0 - 1	0
		50	25		19.62		0 - 1	0
		50	49		19.62		0 - 1	0
		100	0		19.64		0 - 1	0
	16QAM	1	0		19.77		0 - 1	0
		1	49		19.73		0 - 1	0
		1	99		19.97		0 - 1	0
		50	0		19.62		0 - 2	0
		50	25		19.63		0 - 2	0
		50	49		19.66		0 - 2	0
		100	0		19.60		0 - 2	0
	64QAM	1	0		19.49		0 - 2	0
		1	49		19.81		0 - 2	0
		1	99		19.88		0 - 2	0
		50	0		19.51		0 - 3	0
		50	25		19.71		0 - 3	0
		50	49		19.75		0 - 3	0
		100	0		19.74		0 - 3	0
	256QAM	1	0		17.81		0 - 5	1.5
		1	49		17.87		0 - 5	1.5
		1	99		17.92		0 - 5	1.5
		50	0		17.70		0 - 5	1.5
		50	25		17.79		0 - 5	1.5
		50	49		17.81		0 - 5	1.5
		100	0		17.84		0 - 5	1.5

LTE FDD Band 4 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 4_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		22.64		0	0
		1	49		22.52		0	0
		1	99		22.65		0	0
		50	0		21.62		0 - 1	1
		50	25		21.69		0 - 1	1
		50	49		21.66		0 - 1	1
		100	0		21.62		0 - 1	1
	16QAM	1	0		22.03		0 - 1	1
		1	49		21.69		0 - 1	1
		1	99		21.80		0 - 1	1
		50	0		20.55		0 - 2	2
		50	25		20.69		0 - 2	2
		50	49		20.71		0 - 2	2
		100	0		20.62		0 - 2	2
	64QAM	1	0		20.98		0 - 2	2
		1	49		20.66		0 - 2	2
		1	99		20.81		0 - 2	2
		50	0		19.48		0 - 3	3
		50	25		19.67		0 - 3	3
		50	49		19.69		0 - 3	3
		100	0		19.66		0 - 3	3
	256QAM	1	0		17.89		0 - 5	5
		1	49		17.72		0 - 5	5
		1	99		17.67		0 - 5	5
		50	0		17.54		0 - 5	5
		50	25		17.66		0 - 5	5
		50	49		17.65		0 - 5	5
		100	0		17.70		0 - 5	5

LTE FDD Band 4 Conducted Power_Free(DSI=0) _ANT.F[SUB2]

LTE FDD Band 4_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		19.08		0	0
		1	49		19.07		0	0
		1	99		19.06		0	0
		50	0		19.10		0 - 1	0
		50	25		19.06		0 - 1	0
		50	49		19.09		0 - 1	0
		100	0		19.12		0 - 1	0
	16QAM	1	0		19.12		0 - 1	0
		1	49		19.15		0 - 1	0
		1	99		19.32		0 - 1	0
		50	0		19.05		0 - 2	0
		50	25		19.03		0 - 2	0
		50	49		19.08		0 - 2	0
		100	0		19.09		0 - 2	0
	64QAM	1	0		19.54		0 - 2	0
		1	49		19.18		0 - 2	0
		1	99		19.30		0 - 2	0
		50	0		19.03		0 - 3	0
		50	25		19.15		0 - 3	0
		50	49		19.18		0 - 3	0
		100	0		19.04		0 - 3	0
	256QAM	1	0		17.54		0 - 5	1.5
		1	49		17.69		0 - 5	1.5
		1	99		17.83		0 - 5	1.5
		50	0		17.66		0 - 5	1.5
		50	25		17.67		0 - 5	1.5
		50	49		17.72		0 - 5	1.5
		100	0		17.70		0 - 5	1.5

LTE FDD Band 4 Conducted Power_RCV(DSI=1) _ANT.F[SUB2]

LTE FDD Band 4_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		17.91		0	0
		1	49		18.03		0	0
		1	99		18.11		0	0
		50	0		17.98		0 - 1	0
		50	25		17.97		0 - 1	0
		50	49		18.11		0 - 1	0
		100	0		17.98		0 - 1	0
	16QAM	1	0		17.78		0 - 1	0
		1	49		17.95		0 - 1	0
		1	99		18.15		0 - 1	0
		50	0		17.85		0 - 2	0
		50	25		17.94		0 - 2	0
		50	49		18.03		0 - 2	0
		100	0		17.87		0 - 2	0
	64QAM	1	0		18.29		0 - 2	0
		1	49		18.02		0 - 2	0
		1	99		18.16		0 - 2	0
		50	0		17.85		0 - 3	0
		50	25		17.89		0 - 3	0
		50	49		18.02		0 - 3	0
		100	0		17.86		0 - 3	0
	256QAM	1	0		17.86		0 - 5	0
		1	49		18.10		0 - 5	0
		1	99		18.12		0 - 5	0
		50	0		17.90		0 - 5	0
		50	25		17.96		0 - 5	0
		50	49		18.01		0 - 5	0
		100	0		17.94		0 - 5	0

LTE FDD Band 4 Conducted Power_Pmax_ANT.F[SUB2]

LTE FDD Band 4_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		22.85		0	0
		1	49		23.10		0	0
		1	99		23.05		0	0
		50	0		21.91		0 - 1	1
		50	25		21.92		0 - 1	1
		50	49		22.04		0 - 1	1
		100	0		21.89		0 - 1	1
	16QAM	1	0		21.99		0 - 1	1
		1	49		22.15		0 - 1	1
		1	99		22.09		0 - 1	1
		50	0		20.90		0 - 2	2
		50	25		20.90		0 - 2	2
		50	49		21.01		0 - 2	2
		100	0		20.93		0 - 2	2
	64QAM	1	0		20.90		0 - 2	2
		1	49		21.02		0 - 2	2
		1	99		21.07		0 - 2	2
		50	0		19.87		0 - 3	3
		50	25		19.93		0 - 3	3
		50	49		20.06		0 - 3	3
		100	0		19.93		0 - 3	3
	256QAM	1	0		17.99		0 - 5	5
		1	49		18.03		0 - 5	5
		1	99		18.17		0 - 5	5
		50	0		17.85		0 - 5	5
		50	25		17.91		0 - 5	5
		50	49		17.99		0 - 5	5
		100	0		17.90		0 - 5	5

LTE FDD Band 5 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

LTE FDD Band 5_10 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20525 Ch. 836.5 MHz			
10 MHz	QPSK	1	0		24.20		0	0
		1	24		23.77		0	0
		1	49		23.74		0	0
		25	0		23.30		0 - 1	0.5
		25	12		23.35		0 - 1	0.5
		25	24		23.60		0 - 1	0.5
		50	0		23.56		0 - 1	0.5
	16QAM	1	0		23.10		0 - 1	0.5
		1	24		22.98		0 - 1	0.5
		1	49		23.13		0 - 1	0.5
		25	0		21.90		0 - 2	1.5
		25	12		21.96		0 - 2	1.5
		25	24		21.94		0 - 2	1.5
		50	0		21.95		0 - 2	1.5
	64QAM	1	0		22.24		0 - 2	1.5
		1	24		22.09		0 - 2	1.5
		1	49		22.01		0 - 2	1.5
		25	0		20.91		0 - 3	2.5
		25	12		20.97		0 - 3	2.5
		25	24		20.87		0 - 3	2.5
		50	0		20.97		0 - 3	2.5
	256QAM	1	0		18.81		0 - 5	4.5
		1	24		18.93		0 - 5	4.5
		1	49		18.98		0 - 5	4.5
		25	0		18.91		0 - 5	4.5
		25	12		18.98		0 - 5	4.5
		25	24		18.95		0 - 5	4.5
		50	0		18.95		0 - 5	4.5

LTE FDD Band 5 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 5_10 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20525 Ch. 836.5 MHz			
10 MHz	QPSK	1	0		24.54		0	0
		1	24		24.33		0	0
		1	49		24.25		0	0
		25	0		23.32		0 - 1	1
		25	12		23.49		0 - 1	1
		25	24		23.30		0 - 1	1
		50	0		23.39		0 - 1	1
	16QAM	1	0		23.33		0 - 1	1
		1	24		23.23		0 - 1	1
		1	49		23.27		0 - 1	1
		25	0		22.07		0 - 2	2
		25	12		22.13		0 - 2	2
		25	24		22.06		0 - 2	2
		50	0		22.13		0 - 2	2
	64QAM	1	0		22.18		0 - 2	2
		1	24		22.12		0 - 2	2
		1	49		22.21		0 - 2	2
		25	0		20.98		0 - 3	3
		25	12		21.16		0 - 3	3
		25	24		21.09		0 - 3	3
		50	0		21.10		0 - 3	3
	256QAM	1	0		19.20		0 - 5	5
		1	24		19.29		0 - 5	5
		1	49		19.08		0 - 5	5
		25	0		19.08		0 - 5	5
		25	12		19.15		0 - 5	5
		25	24		19.11		0 - 5	5
		50	0		19.12		0 - 5	5

LTE FDD Band 12 Conducted Power_Pmax, Free(DSI=0), RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 12_10 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					23095 Ch. 707.5 MHz			
10 MHz	QPSK	1	0		23.29		0	0
		1	24		23.21		0	0
		1	49		23.14		0	0
		25	0		22.31		0 - 1	1
		25	12		22.30		0 - 1	1
		25	24		22.23		0 - 1	1
		50	0		22.32		0 - 1	1
	16QAM	1	0		22.52		0 - 1	1
		1	24		22.40		0 - 1	1
		1	49		22.29		0 - 1	1
		25	0		21.36		0 - 2	2
		25	12		21.34		0 - 2	2
		25	24		21.18		0 - 2	2
		50	0		21.25		0 - 2	2
	64QAM	1	0		21.56		0 - 2	2
		1	24		21.42		0 - 2	2
		1	49		21.19		0 - 2	2
		25	0		20.29		0 - 3	3
		25	12		20.27		0 - 3	3
		25	24		20.22		0 - 3	3
		50	0		20.22		0 - 3	3
	256QAM	1	0		18.31		0 - 5	5
		1	24		18.47		0 - 5	5
		1	49		18.25		0 - 5	5
		25	0		18.32		0 - 5	5
		25	12		18.27		0 - 5	5
		25	24		18.24		0 - 5	5
		50	0		18.28		0 - 5	5

LTE FDD Band 13 Conducted Power_ Pmax, Free(DSI=0), RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 13_10 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR Allowed Per 3GPP [dB]	MPR [dB]
					23230 Ch. 782 MHz		
10 MHz	QPSK	1	0		24.10		0
		1	24		23.97		0
		1	49		23.98		0
		25	0		23.13		0 - 1
		25	12		23.01		0 - 1
		25	24		23.04		0 - 1
		50	0		23.15		0 - 1
	16QAM	1	0		23.18		0 - 1
		1	24		23.19		0 - 1
		1	49		23.35		0 - 1
		25	0		22.03		0 - 2
		25	12		22.11		0 - 2
		25	24		21.97		0 - 2
		50	0		22.07		0 - 2
	64QAM	1	0		22.16		0 - 2
		1	24		22.13		0 - 2
		1	49		22.15		0 - 2
		25	0		20.99		0 - 3
		25	12		21.04		0 - 3
		25	24		21.01		0 - 3
		50	0		21.04		0 - 3
	256QAM	1	0		19.03		0 - 5
		1	24		19.14		0 - 5
		1	49		19.07		0 - 5
		25	0		18.91		0 - 5
		25	12		19.00		0 - 5
		25	24		18.88		0 - 5
		50	0		18.99		0 - 5

LTE FDD Band 17 Conducted Power_ Pmax, Free(DSI=0), RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 17_10 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					23790 Ch. 710 MHz			
10 MHz	QPSK	1	0		23.37		0	0
		1	24		23.29		0	0
		1	49		23.18		0	0
		25	0		22.31		0 - 1	1
		25	12		22.26		0 - 1	1
		25	24		22.23		0 - 1	1
		50	0		22.29		0 - 1	1
	16QAM	1	0		22.67		0 - 1	1
		1	24		22.42		0 - 1	1
		1	49		22.37		0 - 1	1
		25	0		21.35		0 - 2	2
		25	12		21.31		0 - 2	2
		25	24		21.29		0 - 2	2
		50	0		21.31		0 - 2	2
	64QAM	1	0		21.52		0 - 2	2
		1	24		21.43		0 - 2	2
		1	49		21.29		0 - 2	2
		25	0		20.34		0 - 3	3
		25	12		20.34		0 - 3	3
		25	24		20.25		0 - 3	3
		50	0		20.25		0 - 3	3
	256QAM	1	0		18.43		0 - 5	5
		1	24		18.38		0 - 5	5
		1	49		18.34		0 - 5	5
		25	0		18.38		0 - 5	5
		25	12		18.35		0 - 5	5
		25	24		18.26		0 - 5	5
		50	0		18.34		0 - 5	5

LTE FDD Band 26 Conducted Power_ Pmax, Free(DSI=0), RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 26_15 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					26865 Ch. 831.5 MHz			
15 MHz	QPSK	1	0		23.93		0	0
		1	36		23.52		0	0
		1	74		23.60		0	0
		36	0		22.55		0 - 1	1
		36	18		22.51		0 - 1	1
		36	39		22.63		0 - 1	1
		75	0		22.66		0 - 1	1
	16QAM	1	0		22.73		0 - 1	1
		1	36		22.85		0 - 1	1
		1	74		22.59		0 - 1	1
		36	0		21.59		0 - 2	2
		36	18		21.51		0 - 2	2
		36	39		21.58		0 - 2	2
		75	0		21.58		0 - 2	2
	64QAM	1	0		21.60		0 - 2	2
		1	36		21.57		0 - 2	2
		1	74		21.61		0 - 2	2
		36	0		20.57		0 - 3	3
		36	18		20.57		0 - 3	3
		36	39		20.59		0 - 3	3
		75	0		20.61		0 - 3	3
	256QAM	1	0		18.73		0 - 5	5
		1	36		18.71		0 - 5	5
		1	74		18.86		0 - 5	5
		36	0		18.58		0 - 5	5
		36	18		18.54		0 - 5	5
		36	39		18.57		0 - 5	5
		75	0		18.66		0 - 5	5

LTE TDD Band 41 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

LTE TDD Band 41_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680 MHz		
20 MHz	QPSK	1	0	18.95	19.33	19.35	18.97	19.27	0	0
		1	49	18.94	19.32	19.27	18.87	19.16	0	0
		1	99	18.91	19.29	19.16	18.83	19.16	0	0
		50	0	19.05	19.30	19.31	18.93	19.17	0 - 1	0
		50	25	19.03	19.29	19.26	18.87	19.10	0 - 1	0
		50	49	18.92	19.28	19.20	18.90	19.16	0 - 1	0
		100	0	18.98	19.22	19.27	18.87	19.02	0 - 1	0
	16QAM	1	0	18.84	19.06	19.19	18.99	19.07	0 - 1	0
		1	49	18.71	19.14	19.34	19.03	19.00	0 - 1	0
		1	99	18.72	19.16	19.04	18.87	19.00	0 - 1	0
		50	0	19.03	19.18	19.30	18.88	19.03	0 - 2	0
		50	25	18.98	19.30	19.24	18.82	19.06	0 - 2	0
		50	49	18.94	19.26	19.19	18.89	19.16	0 - 2	0
		100	0	18.96	19.20	19.23	18.86	19.10	0 - 2	0
	64QAM	1	0	19.07	19.20	19.48	19.08	19.25	0 - 2	0
		1	49	18.96	19.44	19.40	19.05	19.22	0 - 2	0
		1	99	18.97	19.20	19.24	18.96	19.31	0 - 2	0
		50	0	18.97	19.22	19.31	18.88	19.06	0 - 3	0
		50	25	18.95	19.31	19.25	18.84	19.05	0 - 3	0
		50	49	18.96	19.26	19.21	18.88	19.10	0 - 3	0
		100	0	18.92	19.19	19.28	18.87	19.05	0 - 3	0
	256QAM	1	0	18.18	18.28	18.57	17.99	18.26	0 - 5	0.5
		1	49	18.08	18.40	18.42	18.09	18.00	0 - 5	0.5
		1	99	18.09	18.60	18.38	18.03	18.15	0 - 5	0.5
		50	0	18.27	18.50	18.58	18.17	18.34	0 - 5	0.5
		50	25	18.28	18.57	18.58	18.13	18.19	0 - 5	0.5
		50	49	18.22	18.54	18.48	18.19	18.09	0 - 5	0.5
		100	0	18.22	18.51	18.54	18.14	18.33	0 - 5	0.5

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

LTE TDD Band 41 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

LTE TDD Band 41_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680 MHz		
20 MHz	QPSK	1	0	23.38	23.40	23.65	23.19	23.25	0	0
		1	49	23.25	23.52	23.53	23.09	22.92	0	0
		1	99	23.16	23.46	23.52	23.07	23.12	0	0
		50	0	22.21	22.45	22.57	22.07	22.23	0 - 1	1
		50	25	22.19	22.56	22.50	22.07	21.92	0 - 1	1
		50	49	22.16	22.52	22.44	22.08	21.88	0 - 1	1
		100	0	22.17	22.45	22.44	22.05	22.04	0 - 1	1
	16QAM	1	0	22.02	22.34	22.48	21.96	22.17	0 - 1	1
		1	49	21.96	22.29	22.48	21.89	21.80	0 - 1	1
		1	99	21.86	22.37	22.28	22.01	22.00	0 - 1	1
		50	0	21.20	21.40	21.51	21.07	21.20	0 - 2	2
		50	25	21.19	21.53	21.46	21.02	20.90	0 - 2	2
		50	49	21.17	21.52	21.41	21.08	20.87	0 - 2	2
		100	0	21.17	21.43	21.46	21.03	21.05	0 - 2	2
	64QAM	1	0	21.31	21.49	21.65	21.14	21.37	0 - 2	2
		1	49	21.24	21.46	21.67	21.13	20.91	0 - 2	2
		1	99	21.21	21.55	21.63	21.22	21.14	0 - 2	2
		50	0	20.21	20.43	20.52	20.04	20.23	0 - 3	3
		50	25	20.18	20.53	20.47	19.99	19.92	0 - 3	3
		50	49	20.16	20.52	20.42	20.09	19.88	0 - 3	3
		100	0	20.17	20.45	20.46	20.02	20.09	0 - 3	3
	256QAM	1	0	18.15	18.30	18.43	18.05	18.23	0 - 5	5
		1	49	18.07	18.37	18.42	18.03	17.77	0 - 5	5
		1	99	18.21	18.52	18.23	17.98	18.05	0 - 5	5
		50	0	18.21	18.45	18.55	18.07	18.27	0 - 5	5
		50	25	18.22	18.56	18.56	18.08	17.96	0 - 5	5
		50	49	18.18	18.58	18.47	18.09	17.88	0 - 5	5
		100	0	18.18	18.42	18.48	18.07	18.14	0 - 5	5

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

LTE TDD Band 41 Conducted Power_Free(DSI=0) _ANT.C[MAIN3]

L LTE TDD Band 41_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680 MHz		
20 MHz	QPSK	1	0	12.42	12.90	13.49	13.19	12.83	0	0
		1	49	12.58	13.02	13.42	12.95	12.71	0	0
		1	99	12.52	12.87	13.43	12.89	12.81	0	0
		50	0	12.61	13.05	13.45	13.20	12.90	0 - 1	0
		50	25	12.66	13.04	13.52	13.15	12.93	0 - 1	0
		50	49	12.75	13.09	13.49	12.95	12.84	0 - 1	0
		100	0	12.69	13.09	13.47	13.08	12.84	0 - 1	0
	16QAM	1	0	12.40	12.96	13.47	13.38	12.81	0 - 1	0
		1	49	12.56	13.30	13.57	12.98	13.17	0 - 1	0
		1	99	12.59	12.95	13.46	12.91	12.87	0 - 1	0
		50	0	12.58	13.04	13.46	13.16	12.83	0 - 2	0
		50	25	12.69	13.03	13.50	13.15	12.87	0 - 2	0
		50	49	12.70	13.11	13.51	12.93	12.84	0 - 2	0
		100	0	12.66	13.11	13.48	13.06	12.88	0 - 2	0
	64QAM	1	0	12.43	13.02	13.52	13.37	12.99	0 - 2	0
		1	49	12.59	12.95	13.64	13.12	12.88	0 - 2	0
		1	99	12.64	13.01	13.48	13.05	12.91	0 - 2	0
		50	0	12.63	13.02	13.51	13.17	12.92	0 - 3	0
		50	25	12.70	13.10	13.47	13.12	12.94	0 - 3	0
		50	49	12.66	13.06	13.55	13.01	12.88	0 - 3	0
		100	0	12.61	13.07	13.52	13.13	12.95	0 - 3	0
	256QAM	1	0	12.48	13.03	13.42	13.22	12.86	0 - 5	0
		1	49	12.56	12.99	13.45	13.03	12.94	0 - 5	0
		1	99	12.70	13.08	13.40	12.91	12.91	0 - 5	0
		50	0	12.64	13.05	13.59	13.18	12.91	0 - 5	0
		50	25	12.73	13.13	13.52	13.14	12.91	0 - 5	0
		50	49	12.71	13.05	13.53	12.98	12.90	0 - 5	0
		100	0	12.70	13.06	13.47	13.09	12.96	0 - 5	0

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

LTE TDD Band 41 Conducted Power_RCV(DSI=1) _ANT.C[MAIN3]

LTE TDD Band 41_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593 MHz	41055 Ch. 2636 MHz	41490 Ch. 2680 MHz		
20 MHz	QPSK	1	0	18.19	18.47	18.33	18.36	18.52	0	0
		1	49	18.21	18.50	18.19	18.25	18.51	0	0
		1	99	18.19	18.46	18.18	18.29	18.54	0	0
		50	0	18.25	18.59	18.42	18.43	18.60	0 - 1	0
		50	25	18.35	18.63	18.37	18.47	18.60	0 - 1	0
		50	49	18.32	18.66	18.27	18.47	18.80	0 - 1	0
		100	0	18.34	18.60	18.37	18.40	18.57	0 - 1	0
	16QAM	1	0	18.25	18.53	18.40	18.45	18.61	0 - 1	0
		1	49	18.37	18.64	18.45	18.33	18.50	0 - 1	0
		1	99	18.18	18.51	18.24	18.43	18.64	0 - 1	0
		50	0	18.31	18.61	18.42	18.42	18.61	0 - 2	0
		50	25	18.35	18.59	18.40	18.47	18.60	0 - 2	0
		50	49	18.32	18.68	18.27	18.42	18.66	0 - 2	0
		100	0	18.33	18.62	18.37	18.45	18.57	0 - 2	0
	64QAM	1	0	18.21	18.52	18.50	18.39	18.70	0 - 2	0
		1	49	18.26	18.67	18.43	18.36	18.70	0 - 2	0
		1	99	18.15	18.61	18.32	18.35	18.61	0 - 2	0
		50	0	18.24	18.60	18.43	18.41	18.61	0 - 3	0
		50	25	18.29	18.61	18.37	18.44	18.58	0 - 3	0
		50	49	18.30	18.69	18.24	18.43	18.65	0 - 3	0
		100	0	18.33	18.61	18.39	18.48	18.58	0 - 3	0
	256QAM	1	0	17.40	17.80	17.59	17.60	17.76	0 - 5	1
		1	49	17.50	17.85	17.62	17.69	17.81	0 - 5	1
		1	99	17.51	17.84	17.49	17.56	17.87	0 - 5	1
		50	0	17.55	17.88	17.69	17.71	17.89	0 - 5	1
		50	25	17.63	17.91	17.67	17.74	17.87	0 - 5	1
		50	49	17.63	17.96	17.58	17.75	17.97	0 - 5	1
		100	0	17.63	17.88	17.66	17.75	17.88	0 - 5	1

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

LTE TDD Band 41 Conducted Power_Pmax_ANT.C[MAIN3]

LTE TDD Band 41_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680 MHz		
20 MHz	QPSK	1	0	22.51	22.58	22.67	22.68	22.77	0	0
		1	49	22.97	22.71	22.71	22.90	22.79	0	0
		1	99	22.94	22.77	22.66	22.48	22.55	0	0
		50	0	22.04	21.77	21.58	21.94	21.62	0 - 1	1
		50	25	21.65	21.85	21.60	21.76	21.79	0 - 1	1
		50	49	21.58	21.87	21.44	21.85	21.60	0 - 1	1
		100	0	22.07	21.86	21.77	21.67	21.58	0 - 1	1
	16QAM	1	0	21.94	21.85	21.51	21.84	21.79	0 - 1	1
		1	49	21.96	22.06	21.53	21.72	21.59	0 - 1	1
		1	99	21.94	21.86	21.55	21.61	21.63	0 - 1	1
		50	0	21.07	20.80	20.75	20.35	20.77	0 - 2	2
		50	25	21.09	20.92	20.69	20.61	20.53	0 - 2	2
		50	49	20.88	20.92	20.72	20.52	20.42	0 - 2	2
		100	0	21.22	20.91	20.65	20.46	20.72	0 - 2	2
	64QAM	1	0	20.99	20.79	20.83	20.74	20.77	0 - 2	2
		1	49	21.13	20.88	20.88	20.80	20.52	0 - 2	2
		1	99	20.78	21.01	20.77	20.99	20.49	0 - 2	2
		50	0	19.95	19.75	19.66	19.86	19.62	0 - 3	3
		50	25	20.00	19.97	19.52	19.97	19.64	0 - 3	3
		50	49	20.46	19.94	19.70	19.76	19.52	0 - 3	3
		100	0	20.02	19.87	19.61	19.81	19.76	0 - 3	3
	256QAM	1	0	18.04	17.62	17.65	17.67	17.77	0 - 5	5
		1	49	18.04	17.88	17.73	17.97	17.58	0 - 5	5
		1	99	17.90	17.97	17.56	17.75	17.60	0 - 5	5
		50	0	17.95	17.81	17.70	17.75	17.61	0 - 5	5
		50	25	17.90	17.92	17.74	17.68	17.56	0 - 5	5
		50	49	17.90	17.96	17.82	17.58	17.39	0 - 5	5
		100	0	18.16	17.88	17.77	17.73	17.59	0 - 5	5

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

LTE FDD Band 66 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

LTE FDD Band 66_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	20.00	19.82	19.96	0	0
		1	49	20.10	20.07	20.07	0	0
		1	99	20.08	20.05	20.04	0	0
		50	0	19.94	19.96	19.94	0 - 1	0
		50	25	20.09	20.04	20.00	0 - 1	0
		50	49	20.12	20.06	20.02	0 - 1	0
		100	0	20.04	20.07	20.08	0 - 1	0
	16QAM	1	0	20.24	20.22	20.11	0 - 1	0
		1	49	20.45	20.46	20.13	0 - 1	0
		1	99	20.22	20.20	20.14	0 - 1	0
		50	0	19.89	19.96	19.91	0 - 2	0
		50	25	20.05	20.09	20.11	0 - 2	0
		50	49	20.08	20.05	20.09	0 - 2	0
		100	0	20.08	20.02	19.95	0 - 2	0
	64QAM	1	0	20.00	20.09	20.25	0 - 2	0
		1	49	20.11	19.97	20.14	0 - 2	0
		1	99	20.19	20.38	20.25	0 - 2	0
		50	0	19.89	19.98	19.93	0 - 3	0
		50	25	20.03	20.00	20.09	0 - 3	0
		50	49	20.06	20.12	20.02	0 - 3	0
		100	0	20.02	20.03	20.14	0 - 3	0
	256QAM	1	0	18.63	18.71	18.60	0 - 5	1
		1	49	18.58	18.64	18.59	0 - 5	1
		1	99	18.79	18.72	18.80	0 - 5	1
		50	0	18.47	18.47	18.58	0 - 5	1
		50	25	18.66	18.63	18.62	0 - 5	1
		50	49	18.51	18.60	18.70	0 - 5	1
		100	0	18.61	18.57	18.63	0 - 5	1

LTE FDD Band 66 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

LTE FDD Band 66_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	23.35	23.43	23.14	0	0
		1	49	23.37	23.30	23.31	0	0
		1	99	23.42	23.41	23.27	0	0
		50	0	22.22	22.40	22.23	0 - 1	1
		50	25	22.34	22.33	22.29	0 - 1	1
		50	49	22.26	22.34	22.39	0 - 1	1
		100	0	22.29	22.31	22.28	0 - 1	1
	16QAM	1	0	22.54	22.87	22.21	0 - 1	1
		1	49	22.50	22.46	22.34	0 - 1	1
		1	99	22.55	22.47	22.50	0 - 1	1
		50	0	21.23	21.17	21.27	0 - 2	2
		50	25	21.30	21.33	21.22	0 - 2	2
		50	49	21.29	21.30	21.23	0 - 2	2
		100	0	21.32	21.27	21.42	0 - 2	2
	64QAM	1	0	21.63	21.54	21.11	0 - 2	2
		1	49	21.85	21.41	21.38	0 - 2	2
		1	99	21.36	21.49	21.29	0 - 2	2
		50	0	20.19	20.18	20.20	0 - 3	3
		50	25	20.28	20.27	20.38	0 - 3	3
		50	49	20.33	20.33	20.40	0 - 3	3
		100	0	20.35	20.31	20.37	0 - 3	3
	256QAM	1	0	18.31	18.33	18.36	0 - 5	5
		1	49	18.49	18.22	18.17	0 - 5	5
		1	99	18.36	18.44	18.43	0 - 5	5
		50	0	18.26	18.21	18.27	0 - 5	5
		50	25	18.29	18.32	18.31	0 - 5	5
		50	49	18.42	18.38	18.33	0 - 5	5
		100	0	18.30	18.28	18.36	0 - 5	5

LTE FDD Band 66 Conducted Power_Free(DSI=0) _ANT.F[SUB2]

LTE FDD Band 66_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	19.09	19.22	19.05	0	0
		1	49	18.96	19.20	19.04	0	0
		1	99	19.11	19.05	18.97	0	0
		50	0	19.07	19.15	18.98	0 - 1	0
		50	25	19.13	19.05	19.02	0 - 1	0
		50	49	19.14	19.00	18.94	0 - 1	0
		100	0	19.12	18.99	19.13	0 - 1	0
	16QAM	1	0	18.98	19.28	19.01	0 - 1	0
		1	49	19.13	19.17	19.23	0 - 1	0
		1	99	19.44	19.09	19.09	0 - 1	0
		50	0	18.96	19.04	18.97	0 - 2	0
		50	25	19.06	19.02	18.98	0 - 2	0
		50	49	19.10	18.95	18.92	0 - 2	0
		100	0	19.07	19.04	18.98	0 - 2	0
	64QAM	1	0	18.99	19.26	19.03	0 - 2	0
		1	49	19.09	19.20	18.93	0 - 2	0
		1	99	19.22	19.25	19.10	0 - 2	0
		50	0	18.94	19.08	19.02	0 - 3	0
		50	25	19.04	19.05	19.03	0 - 3	0
		50	49	19.17	19.01	18.90	0 - 3	0
		100	0	19.11	19.02	18.93	0 - 3	0
	256QAM	1	0	18.01	18.27	17.98	0 - 5	1
		1	49	18.14	18.25	18.11	0 - 5	1
		1	99	18.42	18.16	18.25	0 - 5	1
		50	0	18.12	18.10	18.07	0 - 5	1
		50	25	18.24	18.13	18.12	0 - 5	1
		50	49	18.24	18.09	18.08	0 - 5	1
		100	0	18.18	18.12	18.02	0 - 5	1

LTE FDD Band 66 Conducted Power_RCV(DSI=1) _ANT.F[SUB2]

LTE FDD Band 66_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	17.63	18.14	17.72	0	0
		1	49	17.79	17.97	17.71	0	0
		1	99	18.00	17.92	17.73	0	0
		50	0	17.91	18.13	17.90	0 - 1	0
		50	25	18.00	17.99	17.83	0 - 1	0
		50	49	18.04	17.93	17.85	0 - 1	0
		100	0	18.02	18.00	17.85	0 - 1	0
	16QAM	1	0	18.05	17.95	17.79	0 - 1	0
		1	49	18.03	18.18	17.67	0 - 1	0
		1	99	17.90	18.30	17.95	0 - 1	0
		50	0	17.70	17.94	17.68	0 - 2	0
		50	25	17.93	17.95	17.77	0 - 2	0
		50	49	17.94	17.92	17.76	0 - 2	0
		100	0	17.91	17.93	17.82	0 - 2	0
	64QAM	1	0	18.27	17.93	17.92	0 - 2	0
		1	49	17.92	17.94	17.62	0 - 2	0
		1	99	17.98	17.99	17.85	0 - 2	0
		50	0	17.70	17.92	17.72	0 - 3	0
		50	25	17.92	17.92	17.82	0 - 3	0
		50	49	17.87	17.81	17.67	0 - 3	0
		100	0	17.89	17.87	17.74	0 - 3	0
	256QAM	1	0	17.73	17.99	17.83	0 - 5	0
		1	49	17.79	18.04	17.76	0 - 5	0
		1	99	18.06	17.98	17.92	0 - 5	0
		50	0	17.71	17.90	17.68	0 - 5	0
		50	25	17.89	17.87	17.81	0 - 5	0
		50	49	17.90	17.88	17.59	0 - 5	0
		100	0	17.86	17.96	17.84	0 - 5	0

LTE FDD Band 66 Conducted Power_Pmax_ANT.F[SUB2]

LTE FDD Band 66_20 MHz Bandwidth Conducted Power

Bandwidth	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	23.17	23.36	23.29	0	0
		1	49	23.29	23.24	23.09	0	0
		1	99	23.21	23.30	23.03	0	0
		50	0	22.12	22.18	22.04	0 - 1	1
		50	25	22.26	22.25	22.09	0 - 1	1
		50	49	22.32	22.22	22.05	0 - 1	1
		100	0	22.27	22.22	22.05	0 - 1	1
	16QAM	1	0	22.31	22.34	22.40	0 - 1	1
		1	49	22.45	22.55	22.20	0 - 1	1
		1	99	22.20	22.29	22.21	0 - 1	1
		50	0	21.14	21.16	21.05	0 - 2	2
		50	25	21.28	21.19	21.01	0 - 2	2
		50	49	21.34	21.19	21.11	0 - 2	2
		100	0	21.30	21.26	21.06	0 - 2	2
	64QAM	1	0	21.24	21.39	21.25	0 - 2	2
		1	49	21.34	21.32	21.12	0 - 2	2
		1	99	21.43	21.32	21.36	0 - 2	2
		50	0	20.11	20.10	20.05	0 - 3	3
		50	25	20.25	20.14	20.13	0 - 3	3
		50	49	20.20	20.21	20.19	0 - 3	3
		100	0	20.27	20.21	20.08	0 - 3	3
	256QAM	1	0	18.20	18.23	18.24	0 - 5	5
		1	49	18.40	18.19	18.09	0 - 5	5
		1	99	18.49	18.14	18.08	0 - 5	5
		50	0	18.13	18.24	18.02	0 - 5	5
		50	25	18.24	18.19	18.09	0 - 5	5
		50	49	18.30	18.19	18.26	0 - 5	5
		100	0	18.25	18.16	18.09	0 - 5	5

11.4 NR Maximum Output Power

Only the Conducted Power measurement results of the maximum bandwidth, which is the SAR test condition of NR Bands according to FCC KDB 941225 D05v02r05, are included, and the measurement results of other bandwidths are listed in Appendix K.

11.4.1 NR Maximum Conducted Power

NR FDD Band n5 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

NR FDD Band n5_20 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR [dB]
							167300 Ch. 836.5 MHz		
20 MHz	15	DFT-s	pi/2 BPSK	1	1		24.37		0
				1	53		24.36		0
				1	104		24.32		0
				50	0		24.31		0
				50	28		24.43		0
				50	56		24.38		0
				100	0		24.44		0
			QPSK	1	1		24.36		0
				1	53		24.45		0
				1	104		24.31		0
				50	0		23.90		0.5
				50	28		24.54		0
				50	56		23.93		0.5
				100	0		23.85		0.5
			16QAM	1	1		23.87		0.5
			64QAM	1	1		22.55		2
			256QAM	1	1		19.84		4
		CP	QPSK	1	1		23.52		1

NR FDD Band n5 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

NR FDD Band n5_20 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							167300 Ch. 836.5 MHz	
20 MHz	15	DFT-s	pi/2 BPSK	1	1		24.52	0
				1	53		24.65	0
				1	104		24.53	0
				50	0		24.07	0.5
				50	28		24.74	0
				50	56		24.14	0.5
				100	0		24.10	0.5
			QPSK	1	1		24.66	0
				1	53		24.60	0
				1	104		24.59	0
				50	0		23.56	1
				50	28		24.62	0
				50	56		23.67	1
				100	0		23.67	1
			16QAM	1	1		23.54	1
			64QAM	1	1		22.18	2.5
			256QAM	1	1		19.56	4.5
		CP	QPSK	1	1		23.21	1.5

NR TDD Band n41 Conducted Power_ Free(DSI=0) _ANT.A[MAIN1]

NR TDD Band n41_100 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]				MPR [dB]
								518598 2592.99 MHz		
100 MHz	30	DFT-s	pi/2 BPSK	1	1			17.46		0
				1	137			17.05		0
				1	271			16.43		0
				135	0			17.45		0
				135	69			17.17		0
				135	138			16.76		0
				270	0			17.13		0
			QPSK	1	1			17.40		0
				1	137			17.04		0
				1	271			16.39		0
				135	0			17.45		0
				135	69			17.13		0
				135	138			16.74		0
				270	0			17.15		0
			16QAM	1	1			17.22		0
			64QAM	1	1			17.16		0
			256QAM	1	1			17.36		0
		CP	QPSK	1	1			17.45		0

NR TDD Band n41 Conducted Power_ Pmax, RCV(DSI=1) _ANT.A[MAIN1]

NR TDD Band n41_100 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]				MPR [dB]
								518598 2592.99 MHz		
100 MHz	30	DFT-s	pi/2 BPSK	1	1			23.56		0
				1	137			23.20		0
				1	271			22.60		0
				135	0			23.12		0.5
				135	69			23.29		0
				135	138			22.44		0.5
				270	0			22.78		0.5
			QPSK	1	1			23.56		0
				1	137			23.19		0
				1	271			22.55		0
				135	0			22.64		1
				135	69			23.32		0
				135	138			21.95		1
				270	0			22.33		1
			16QAM	1	1			22.46		1
			64QAM	1	1			21.01		2.5
			256QAM	1	1			18.67		4.5
		CP	QPSK	1	1			22.21		1.5

NR FDD Band n66 Conducted Power_Free(DSI=0) _ANT.A[MAIN1]

NR FDD Band n66_40 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR [dB]
							349000 Ch. 1745 MHz		
40 MHz	15	DFT-s	pi/2 BPSK	1	1		20.36		0
				1	108		20.46		0
				1	214		20.43		0
				108	0		20.50		0
				108	54		20.48		0
				108	108		20.63		0
				216	0		20.51		0
			QPSK	1	1		20.37		0
				1	108		20.51		0
				1	214		20.45		0
				108	0		20.53		0
				108	54		20.60		0
				108	108		20.58		0
				216	0		20.52		0
			16QAM	1	1		20.34		0
			64QAM	1	1		20.56		0
			256QAM	1	1		18.90		0.5
		CP	QPSK	1	1		20.48		0

NR FDD Band n66 Conducted Power_Pmax, RCV(DSI=1) _ANT.A[MAIN1]

NR FDD Band n66_40 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR [dB]
							349000 Ch. 1745 MHz		
40 MHz	15	DFT-s	pi/2 BPSK	1	1		23.94		0
				1	108		24.04		0
				1	214		24.06		0
				108	0		23.54		0.5
				108	54		24.12		0
				108	108		23.64		0.5
				216	0		23.60		0.5
			QPSK	1	1		23.93		0
				1	108		24.14		0
				1	214		24.02		0
				108	0		23.02		1
				108	54		24.13		0
				108	108		23.11		1
				216	0		23.12		1
			16QAM	1	1		22.93		1
			64QAM	1	1		21.69		2.5
			256QAM	1	1		18.92		4.5
		CP	QPSK	1	1		22.52		1.5

NR FDD Band n66 Conducted Power_Free(DSI=0) _ANT.F[SUB2]

NR FDD Band n66_40 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR [dB]
							349000 Ch. 1745 MHz		
40 MHz	15	DFT-s	pi/2 BPSK	1	1		19.58		0
				1	108		20.00		0
				1	214		20.35		0
				108	0		19.89		0
				108	54		20.09		0
				108	108		20.33		0
				216	0		20.05		0
			QPSK	1	1		19.55		0
				1	108		20.10		0
				1	214		20.32		0
				108	0		19.83		0
				108	54		20.10		0
				108	108		20.35		0
				216	0		20.09		0
			16QAM	1	1		19.62		0
			64QAM	1	1		19.71		0
			256QAM	1	1		18.64		0.5
		CP	QPSK	1	1		19.71		0

NR FDD Band n66 Conducted Power_RCV(DSI=1) _ANT.F[SUB2]

NR FDD Band n66_40 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]			MPR [dB]
							349000 Ch. 1745 MHz		
40 MHz	15	DFT-s	pi/2 BPSK	1	1		17.86		0
				1	108		17.98		0
				1	214		18.00		0
				108	0		17.91		0
				108	54		18.00		0
				108	108		18.05		0
				216	0		18.02		0
			QPSK	1	1		17.94		0
				1	108		17.90		0
				1	214		18.10		0
				108	0		17.94		0
				108	54		17.96		0
				108	108		18.04		0
				216	0		17.97		0
			16QAM	1	1		17.97		0
			64QAM	1	1		18.04		0
			256QAM	1	1		17.43		0
		CP	QPSK	1	1		18.20		0

NR FDD Band n66 Conducted Power_Pmax_ANT.F[SUB2]

NR FDD Band n66_40 MHz Bandwidth Conducted Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							349000 Ch. 1745 MHz	
40 MHz	15	DFT-s	pi/2 BPSK	1	1		23.71	0
				1	108		24.36	0
				1	214		24.58	0
				108	0		23.57	0.5
				108	54		24.23	0
				108	108		23.97	0.5
				216	0		23.67	0.5
			QPSK	1	1		23.76	0
				1	108		24.26	0
				1	214		24.63	0
				108	0		23.02	1
				108	54		24.26	0
				108	108		23.49	1
				216	0		23.21	1
			16QAM	1	1		22.69	1
			64QAM	1	1		21.32	2.5
			256QAM	1	1		18.74	4.5
		CP	QPSK	1	1		22.25	1.5

NR TDD Band n77 Conducted Power (Power Class 2,3)_Free(DSI=0) _ANT.G[SUB3]

NR TDD Band n77_100 MHz Bandwidth Conducted Power-Power Class 2,3

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR [dB]	
						650000 Ch. 3750 MHz				662000 Ch. 3930 MHz		
100 MHz	30	DFT-S	pi/2 BPSK	1	1	13.98				13.74		0
				1	137	14.11				13.87		0
				1	271	14.02				13.93		0
				135	0	14.01				13.81		0
				135	69	14.04				13.90		0
				135	138	13.98				13.89		0
				270	0	14.03				13.83		0
			QPSK	1	1	13.97				13.68		0
				1	137	14.11				13.98		0
				1	271	13.91				13.86		0
				135	0	14.00				13.82		0
				135	69	14.05				13.90		0
				135	138	13.98				13.89		0
				270	0	14.04				13.87		0
			16QAM	1	1	14.05				13.62		0
			64QAM	1	1	13.94				13.74		0
			256QAM	1	1	13.52				13.28		0
		CP	QPSK	1	1	14.06				13.83		0

NR TDD Band n77 Conducted Power (Power Class 2,3)_RCV(DSI=1) _ANT.G[SUB3]

NR TDD Band n77_100 MHz Bandwidth Conducted Power-Power Class 2,3

NR TDD Band n77_100 MHz Bandwidth Conducted Power Power Class 2,3												
Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]						MPR [dB]
						650000 Ch. 3750 MHz				662000 Ch. 3930 MHz		
100 MHz	30	DFT-s	pi/2 BPSK	1	1	16.40				15.76		0
				1	137	16.48				16.19		0
				1	271	16.73				16.43		0
				135	0	16.50				15.96		0
				135	69	16.51				16.15		0
				135	138	16.56				16.32		0
				270	0	16.53				16.11		0
			QPSK	1	1	16.77				15.71		0
				1	137	16.49				16.15		0
				1	271	16.73				16.45		0
				135	0	16.76				15.96		0
				135	69	16.55				16.15		0
				135	138	16.62				16.31		0
				270	0	16.52				16.16		0
			16QAM	1	1	16.56				15.90		0
			64QAM	1	1	16.35				15.67		0
			256QAM	1	1	15.99				15.27		0
		CP	QPSK	1	1	16.75				15.83		0

NR TDD Band n77 Conducted Power (Power Class 2)_Pmax _ANT.G[SUB3]
(Duty 22.9%)

NR TDD Band n77_100 MHz Bandwidth Conducted Power-Power Class 2

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR [dB]
						650000 Ch. 3750 MHz				662000 Ch. 3930 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1	25.72				25.55	0
				1	137	25.77				25.67	0
				1	271	25.76				25.94	0
				135	0	25.26				25.07	0.5
				135	69	25.76				25.66	0
				135	138	25.25				25.32	0.5
			QPSK	270	0	25.25				25.16	0.5
				1	1	25.70				25.53	0
				1	137	25.76				25.64	0
				1	271	25.72				25.86	0
				135	0	24.76				24.58	1
				135	69	25.77				25.67	0
				135	138	24.77				24.82	1
				270	0	24.78				24.65	1
			16QAM	1	1	24.65				24.51	1
			64QAM	1	1	23.32				23.05	2.5
			256QAM	1	1	21.01				20.96	4.5
		CP	QPSK	1	1	24.29				24.02	1.5

NR TDD Band n77 Conducted Power (Power Class 3)_Pmax _ANT.G[SUB3]
(Duty 100%)

NR TDD Band n77_100 MHz Bandwidth Conducted Power-Power Class 3

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]					MPR [dB]
						650000 Ch. 3750 MHz				662000 Ch. 3930 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1	22.85				22.55	0
				1	137	23.02				22.80	0
				1	271	22.95				23.05	0
				135	0	22.44				22.22	0.5
				135	69	22.96				22.86	0
				135	138	22.45				22.50	0.5
			QPSK	270	0	22.47				22.31	0.5
				1	1	22.85				22.60	0
				1	137	22.96				22.83	0
				1	271	23.01				22.96	0
				135	0	21.94				21.75	1
				135	69	22.95				22.84	0
				135	138	21.96				22.00	1
				270	0	21.95				21.85	1
			16QAM	1	1	21.61				21.35	1
			64QAM	1	1	20.39				20.13	2.5
			256QAM	1	1	17.89				17.90	4.5
		CP	QPSK	1	1	21.50				21.23	1.5

NR TDD Band n77 DoD Conducted Power (Power Class 2,3)_Free(DSI=0) _ANT.G[SUB3]

NR TDD Band n77 DoD_100 MHz Bandwidth Conducted Power-Power Class 2,3

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							633334 Ch. 3500.01 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1		14.60	0
				1	137		14.52	0
				1	271		14.33	0
				135	0		14.66	0
				135	69		14.50	0
				135	138		14.40	0
				270	0		14.46	0
			QPSK	1	1		14.66	0
				1	137		14.43	0
				1	271		14.27	0
				135	0		14.52	0
				135	69		14.56	0
				135	138		14.43	0
				270	0		14.48	0
			16QAM	1	1		14.48	0
			64QAM	1	1		14.44	0
			256QAM	1	1		14.16	0
		CP	QPSK	1	1		14.46	0

NR TDD Band n77 DoD Conducted Power (Power Class 2,3)_RCV(DSI=1) _ANT.G[SUB3]

NR TDD Band n77 DoD_100 MHz Bandwidth Conducted Power-Power Class 2,3

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							633334 Ch. 3500.01 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1		16.56	0
				1	137		16.26	0
				1	271		16.21	0
				135	0		16.50	0
				135	69		16.30	0
				135	138		16.22	0
				270	0		16.33	0
			QPSK	1	1		16.68	0
				1	137		16.26	0
				1	271		16.18	0
				135	0		16.53	0
				135	69		16.30	0
				135	138		16.20	0
				270	0		16.29	0
			16QAM	1	1		16.76	0
			64QAM	1	1		16.52	0
			256QAM	1	1		16.17	0
		CP	QPSK	1	1		16.71	0

NR TDD Band n77 DoD Conducted Power (Power Class 2)_Pmax_ANT.G[SUB3]
(Duty 22.9%)

NR TDD Band n77 DoD_100 MHz Bandwidth Conducted Power-Power Class 2

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							633334 Ch. 3500.01 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1		25.78	0
				1	137		26.22	0
				1	271		26.39	0
				135	0		25.56	0.5
				135	69		26.31	0
				135	138		25.90	0.5
				270	0		25.72	0.5
			QPSK	1	1		25.82	0
				1	137		26.24	0
				1	271		26.41	0
				135	0		25.06	1
				135	69		26.33	0
				135	138		25.41	1
				270	0		25.21	1
			16QAM	1	1		24.57	1
			64QAM	1	1		23.34	2.5
			256QAM	1	1		21.03	4.5
		CP	QPSK	1	1		24.45	1.5

NR TDD Band n77 DoD Conducted Power (Power Class 3)_Pmax_ANT.G[SUB3]
(Duty 100%)

NR TDD Band n77 DoD_100 MHz Bandwidth Conducted Power-Power Class 3

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power [dBm]		MPR [dB]
							633334 Ch. 3500.01 MHz	
100 MHz	30	DFT-s	pi/2 BPSK	1	1		22.81	0
				1	137		23.31	0
				1	271		23.48	0
				135	0		22.57	0.5
				135	69		23.29	0
				135	138		22.88	0.5
				270	0		22.72	0.5
			QPSK	1	1		22.84	0
				1	137		23.28	0
				1	271		23.45	0
				135	0		22.08	1
				135	69		23.31	0
				135	138		22.41	1
				270	0		22.23	1
			16QAM	1	1		21.58	1
			64QAM	1	1		20.39	2.5
			256QAM	1	1		18.05	4.5
		CP	QPSK	1	1		21.45	1.5

11.4.2 NR Band SRS Conducted Power

[NR TDD Band n41 SRS Conducted Power]

NR TDD Band n41_ 100 MHz Bandwidth Conducted Power_ Ant.E / Sub1, SRS#1

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				518598	
				2592.99 MHz	
Measured Pmax	100 MHz	30	CW	20.22	0
DSI = 0,1	100 MHz	30	CW	17.26	0

NR TDD Band n41_ 100 MHz Bandwidth Conducted Power_ Ant.C / Main3, SRS#2

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				518598	
				2592.99 MHz	
Measured Pmax	100 MHz	30	CW	21.18	0
DSI = 0	100 MHz	30	CW	11.89	0
DSI = 1	100 MHz	30	CW	18.83	0

NR TDD Band n41_ 100 MHz Bandwidth Conducted Power_ Ant.K / Sub4-1, SRS#3

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				518598	
				2592.99 MHz	
Measured Pmax	100 MHz	30	CW	19.21	0
DSI = 0,1	100 MHz	30	CW	16.23	0

[NR TDD Band n77 SRS Conducted Power]

NR TDD Band n77_100 MHz Bandwidth Conducted Power_Ant.D / Sub2-1, SRS#1

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]		MPR [dB]
				650000	662000	
				3750 MHz	3930 MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	19.31	19.30	0
DSI = 0,1	100 MHz	30	CW	9.52	10.05	0

NR TDD Band n77_100 MHz Bandwidth Conducted Power_Ant.I / Sub5, SRS#2

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]		MPR [dB]
				650000	662000	
				3750 MHz	3930 MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	22.29	22.20	0
DSI = 0	100 MHz	30	CW	12.84	12.73	0
DSI = 1	100 MHz	30	CW	14.72	14.65	0

NR TDD Band n77_100 MHz Bandwidth Conducted Power_Ant.H / Sub4-2, SRS#3

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]		MPR [dB]
				650000	662000	
				3750 MHz	3930 MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	19.48	18.90	0
DSI = 0	100 MHz	30	CW	9.92	9.15	0
DSI = 1	100 MHz	30	CW	11.86	11.14	0

[NR TDD Band n77 DoD SRS Conducted Power]

NR TDD Band n77 DoD_ 100 MHz Bandwidth Conducted Power_Ant.D / Sub2-1, SRS#1

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				633334	
				3500.01MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	20.27	0
DSI = 0,1	100 MHz	30	CW	10.72	0

NR TDD Band n77 DoD_ 100 MHz Bandwidth Conducted Power_Ant.I / Sub5, SRS#2

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				633334	
				3500.01MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	20.78	0
DSI = 0	100 MHz	30	CW	11.65	0
DSI = 1	100 MHz	30	CW	13.12	0

NR TDD Band n77 DoD_ 100 MHz Bandwidth Conducted Power_Ant.H / Sub4-2, SRS#3

	Bandwidth	SCS(kHz)	Modulation	Max. Average Power [dBm]	MPR [dB]
				633334	
				3500.01MHz	
Measured Pmax (PC2/PC3)	100 MHz	30	CW	17.76	0
DSI = 0	100 MHz	30	CW	8.24	0
DSI = 1	100 MHz	30	CW	10.23	0

11.5 WIFI Conducted Power measurement method

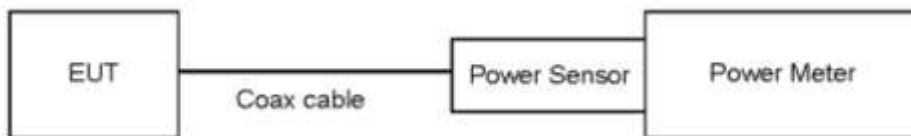
Un-Licensed Bands (DTS Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 558074 v05 – Section 8.3.2.3 - ANSI 63.10-2013 – Section 11.9.2.3

Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test setup



Un-Licensed Bands (NII Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 789033 D02 v02r01 – Section E.3.a

Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test setup



11.5.1 IEEE 802.11 (2.4 GHz) Maximum and Reduced Conducted Power

Mode	Frequency [MHz]	Channel	Pmax
			IEEE 802.11 (2.4 GHz) Average Conducted Power [dBm]
			WIFI 1
802.11b	2 412	1	17.75
	2 437	6	17.79
	2 462	11	17.76

Mode	Frequency [MHz]	Channel	Grip ON (Body)
			IEEE 802.11 (2.4 GHz) Average Conducted Power [dBm]
			WIFI 1
802.11b	2 412	1	15.48
	2 437	6	15.72
	2 462	11	15.38

Mode	Frequency [MHz]	Channel	RCV ON (Head)
			IEEE 802.11 (2.4 GHz) Average Conducted Power [dBm]
			WIFI 1
802.11b	2 412	1	12.48
	2 437	6	12.86
	2 462	11	12.41

11.5.2 IEEE 802.11 (5 GHz) Maximum and Reduced Conducted Power

Mode	Frequency [MHz]	Channel	Pmax
			IEEE 802.11 (5 GHz) Average Conducted Power [dBm]
			Ant.1
802.11a	5 180	36	15.55
	5 200	40	16.23
	5 240	48	15.58
	5 260	52	15.85
	5 300	60	16.08
	5 320	64	16.02
	5 500	100	16.21
	5 600	120	16.09
	5 720	144	15.83
	5 745	149	16.43
	5 785	157	16.25
	5 825	165	16.32

Mode	Frequency [MHz]	Channel	Head& Body (RCV, Grip)
			IEEE 802.11 (5 GHz) Average Conducted Power [dBm]
			Ant.1
802.11n40	5 270	54	11.99
	5 310	62	11.52

Mode	Frequency [MHz]	Channel	Head& Body (RCV, Grip)
			IEEE 802.11 (5 GHz) Average Conducted Power [dBm]
			Ant.1
802.11ac80	5 530	106	11.59
	5 610	122	11.56
	5 690	138	11.68
	5 775	155	11.96

Note:

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission mode with the same maximum output power specification, powers were measured for the largest channel Bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel Bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-Band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-Band channels, due to an even number of channels, both channels were measured.

Test Configuration

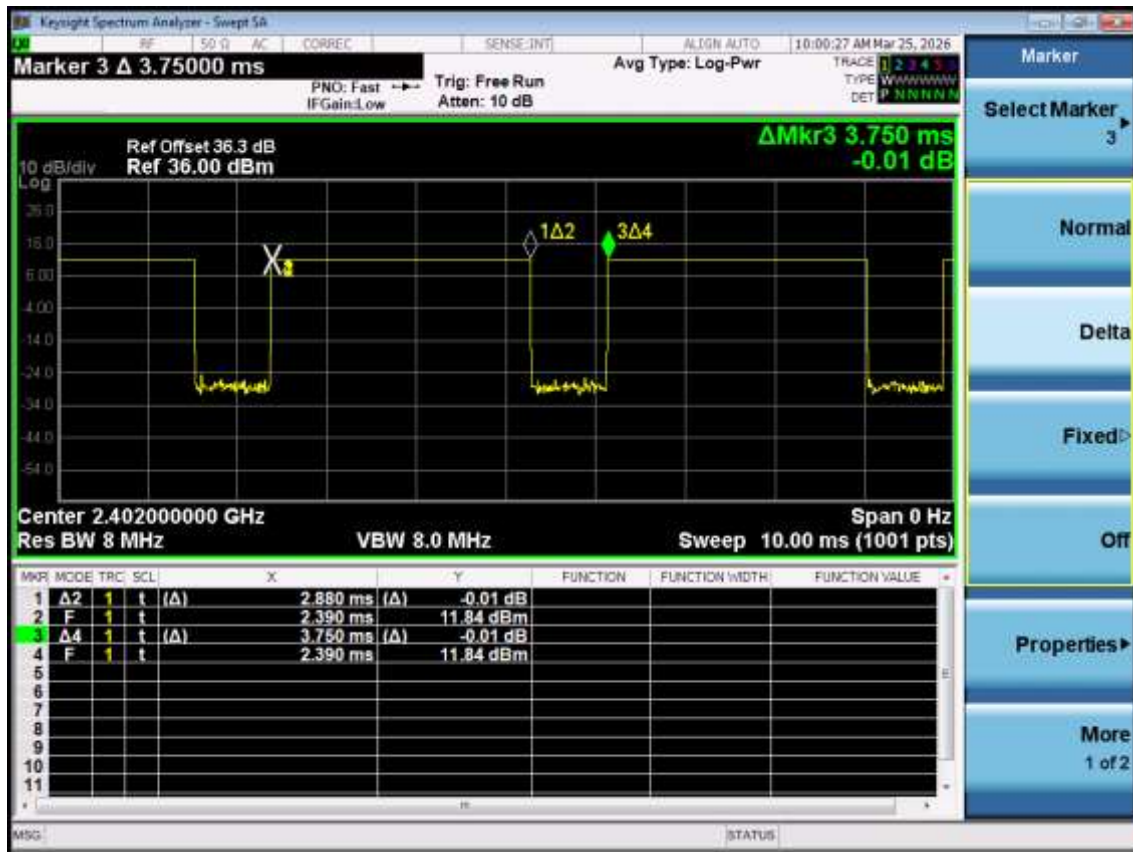
11.6 Bluetooth Maximum Conducted Power

11.6.1 Bluetooth Maximum Conducted Power (Pmax / Body/Head)

Bluetooth SISO Burst Averaged-conducted power

Mode	Channel	Max. Average Conducted Power [dBm]
		Ant.1
DH5	0	12.44
	39	12.98
	78	12.73

Bluetooth DH 5 Mode



Duty Cycle

$$= (\text{BT-On time} / \text{BT-Full time}) = (2.880 / 3.750) = 0.768 \text{ (DH5)}$$

BT DH5 Maximum Duty Factor:

The theoretical maximum duty cycle defined by chipset manufacturer is 78.0 % In the ideal theory Duty Cycle, the test error tolerance [1%] of the test equipment was considered and applied to the measurement results. Duty cycle of DH5 measured by DUT was 76.8%, and the duty cycle was compensated by applying test error tolerance 1%. For more information on BT, please refer to the technical description document.

12. System Verification

12.1 Tissue Verification

The head simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity.

◆ GSM/UMTS/LTE/WLAN/NFC/NR Band

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
03/27/2026	20.4	13H	12	0.735	54.900	0.750	55.000	-1.95	-0.11
			13	0.736	53.900	0.750	55.000	-1.92	-1.99
			14	0.749	54.200	0.750	55.000	-0.11	-1.49
03/18/2026	21.0	750H	705	0.873	43.100	0.889	42.174	-1.80	+2.21
			710	0.874	43.000	0.890	42.148	-1.80	+2.13
			750	0.891	43.000	0.893	41.940	-0.18	+2.60
03/19/2026	20.7	750H	750	0.886	43.100	0.893	41.940	-0.82	+2.73
			785	0.905	42.900	0.896	41.758	+1.05	+2.81
04/10/2026	21.1	835H	820	0.932	42.800	0.899	41.577	+3.66	+3.01
			835	0.936	42.700	0.900	41.500	+4.05	+2.89
			850	0.937	42.400	0.916	41.500	+2.31	+2.06
04/01/2026	19.7	835H	820	0.930	42.500	0.899	41.577	+3.46	+2.32
			835	0.931	42.500	0.900	41.500	+3.49	+2.46
			850	0.937	42.400	0.916	41.500	+2.31	+2.09
04/02/2026	20.2	835H	820	0.930	42.600	0.899	41.577	+3.49	+2.43
			835	0.937	42.600	0.900	41.500	+4.09	+2.73
			850	0.939	42.300	0.916	41.500	+2.49	+1.90
04/03/2026	20.8	835H	820	0.928	42.700	0.899	41.577	+3.26	+2.80
			835	0.931	42.700	0.900	41.500	+3.41	+2.95
			850	0.934	42.500	0.916	41.500	+1.92	+2.41
03/20/2026	20.8	835H	820	0.925	42.600	0.899	41.577	+2.91	+2.52
			835	0.934	42.500	0.900	41.500	+3.77	+2.40
			850	0.939	42.500	0.916	41.500	+2.51	+2.30
04/08/2026	21.2	1800H	1710	1.310	40.200	1.348	40.144	-2.93	+0.12
			1750	1.330	40.000	1.371	40.080	-2.81	-0.23
			1800	1.380	40.100	1.400	40.000	-1.68	+0.22
04/07/2026	21.1	1800H	1710	1.310	40.000	1.348	40.144	-2.99	-0.26
			1750	1.330	39.900	1.371	40.080	-3.01	-0.56
			1800	1.380	40.000	1.400	40.000	-1.48	+0.04
04/14/2026	21.2	1800H	1710	1.310	40.100	1.348	40.144	-2.88	-0.17
			1750	1.340	40.000	1.371	40.080	-2.29	-0.25
			1800	1.380	40.000	1.400	40.000	-1.54	-0.08

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
04/06/2026	21.1	1 800H	1 710	1.320	39.900	1.348	40.144	-2.25	-0.66
			1 750	1.330	40.200	1.371	40.080	-2.82	+0.38
			1 800	1.370	39.900	1.400	40.000	-1.93	-0.21
04/06/2026	20.8	1 800H	1 710	1.320	39.700	1.348	40.144	-1.99	-1.19
			1 750	1.320	39.700	1.371	40.080	-3.77	-0.92
			1 800	1.360	39.700	1.400	40.000	-3.07	-0.86
04/09/2026	21.0	1 900H	1 850	1.410	39.900	1.400	40.000	+0.55	-0.35
			1 900	1.450	39.800	1.400	40.000	+3.31	-0.52
			1 910	1.440	39.600	1.400	40.000	+3.04	-1.12
03/27/2026	20.4	1 900H	1 850	1.410	39.800	1.400	40.000	+0.55	-0.39
			1 900	1.450	39.700	1.400	40.000	+3.26	-0.63
			1 910	1.440	39.600	1.400	40.000	+3.18	-0.98
03/18/2026	20.6	1 900H	1 850	1.410	39.900	1.400	40.000	+1.05	-0.32
			1 900	1.430	39.800	1.400	40.000	+2.48	-0.51
			1 910	1.450	39.800	1.400	40.000	+3.54	-0.59
04/15/2026	20.6	2 450H	2 400	1.790	39.300	1.756	39.290	+2.16	-0.07
			2 450	1.830	39.300	1.800	39.200	+1.57	+0.38
			2 500	1.880	39.400	1.855	39.140	+1.13	+0.77
04/01/2026	22.0	2 450H	2 400	1.790	39.000	1.756	39.290	+2.21	-0.81
			2 450	1.820	39.300	1.800	39.200	+1.38	+0.14
			2 500	1.870	39.200	1.855	39.140	+1.05	+0.07
03/24/2026	20.7	2 600H	2 500	1.880	39.300	1.855	39.140	+1.09	+0.53
			2 600	2.000	39.000	1.964	39.010	+1.86	-0.10
			2 690	2.100	38.300	2.062	38.894	+2.05	-1.55
04/03/2026	21.1	2 600H	2 500	1.880	39.200	1.855	39.140	+1.54	+0.07
			2 600	2.000	39.100	1.964	39.010	+1.77	+0.14
			2 690	2.100	38.200	2.062	38.894	+2.04	-1.91
03/26/2026	20.7	2 600H	2 500	1.880	39.300	1.855	39.140	+1.11	+0.47
			2 600	2.000	39.200	1.964	39.010	+1.97	+0.57
			2 690	2.120	38.400	2.062	38.894	+2.81	-1.15
04/02/2026	21.8	2 600H	2 500	1.880	39.500	1.855	39.140	+1.41	+0.88
			2 600	2.010	39.000	1.964	39.010	+2.09	+0.08
			2 690	2.120	38.300	2.062	38.894	+2.94	-1.65
04/01/2026	22.2	3 500H-3 970H	3 400	2.860	38.400	2.810	38.040	+1.88	+0.95
			3 500	2.960	38.500	2.913	37.930	+1.64	+1.55
			3 550	2.990	38.400	2.964	37.870	+0.78	+1.38
			3 700	3.140	37.900	3.118	37.700	+0.75	+0.64
			3 750	3.200	38.000	3.169	37.640	+0.91	+0.93
			3 800	3.240	37.900	3.220	37.590	+0.77	+0.89
			3 900	3.350	37.700	3.233	37.470	+3.66	+0.69
04/15/2026	21.5	3 500H-3 970H	3 970	3.420	37.600	3.394	37.390	+0.86	+0.45
			3 400	2.840	38.700	2.810	38.040	+1.17	+1.63
			3 500	2.970	38.400	2.913	37.930	+1.79	+1.28
			3 550	3.010	38.400	2.964	37.870	+1.41	+1.34
			3 700	3.140	38.100	3.118	37.700	+0.80	+1.13
			3 750	3.190	38.200	3.169	37.640	+0.72	+1.42
			3 800	3.220	38.100	3.220	37.590	+0.14	+1.26
			3 900	3.350	37.700	3.233	37.470	+3.76	+0.64
			3 970	3.400	37.600	3.394	37.390	+0.27	+0.52

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
04/15/2026	21.4	5 180H-5 240H	5 180	4.670	35.500	4.635	36.010	+ 0.77	- 1.55
			5 250	4.770	35.200	4.706	35.930	+ 1.31	- 2.05
04/09/2026	21.9	5 180H-5 320H	5 180	4.660	35.300	4.635	36.010	+ 0.54	- 1.97
			5 250	4.790	35.200	4.706	35.930	+ 1.71	- 1.95
			5 280	4.810	34.900	4.737	35.894	+ 1.62	- 2.73
			5 320	4.850	34.900	4.778	35.846	+ 1.43	- 2.77
04/10/2026	21.5	5 500H-5 600H	5 500	5.040	34.800	4.963	35.640	+ 1.56	- 2.29
			5 600	5.140	34.700	5.065	35.530	+ 1.49	- 2.36
			5 750	5.340	34.700	5.219	35.360	+ 2.31	- 1.92
04/13/2026	21.1	5 750H-5 825H	5 750	5.350	34.600	5.219	35.360	+ 2.57	- 2.20
			5 800	5.290	34.400	5.270	35.300	+ 0.47	- 2.58
			5 825	5.220	34.500	5.296	35.270	- 1.36	- 2.12

12.2 System Verification

◆ GSM/UMTS/LTE/WLAN/NFC / NR Band

Input Power: 50 mW

Freq. [MHz]	Date of Tests	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR _{1g} (SPEAG) [W/kg]	50 mW Measured SAR _{1g} [W/kg]	1 W Normalized SAR _{1g} [W/kg]	Deviation [%]	Limit [%]
750	03/18/2026	7732	1014	Head	21.1	21.0	8.80	0.446	8.92	+1.36	± 10
750	03/19/2026	7732	1014	Head	20.8	20.7	8.80	0.426	8.52	-3.19	± 10
835	04/10/2026	7732	4d165	Head	21.2	21.1	9.32	0.484	9.68	+3.86	± 10
835	04/01/2026	7732	4d165	Head	19.9	19.7	9.32	0.480	9.60	+3.00	± 10
835	04/02/2026	7732	4d165	Head	20.3	20.2	9.32	0.479	9.58	+2.79	± 10
835	04/03/2026	7732	4d165	Head	20.9	20.8	9.32	0.481	9.62	+3.22	± 10
835	03/20/2026	7732	4d165	Head	21.0	20.8	9.32	0.479	9.58	+2.79	± 10
1 800	04/08/2026	3903	2d007	Head	21.3	21.2	38.00	1.90	38.00	+0.00	± 10
1 800	04/07/2026	3903	2d007	Head	21.2	21.1	38.00	1.90	38.00	+0.00	± 10
1 800	04/14/2026	3903	2d007	Head	21.3	21.2	38.00	1.90	38.00	+0.00	± 10
1 800	04/06/2026	3903	2d007	Head	21.3	21.1	38.00	1.88	37.60	-1.05	± 10
1 800	04/06/2026	7732	2d007	Head	20.9	20.8	38.00	1.86	37.20	-2.11	± 10
1 900	04/09/2026	7732	5d032	Head	21.1	21.0	39.70	2.00	40.00	+0.76	± 10
1 900	03/27/2026	3903	5d032	Head	20.5	20.4	39.70	2.11	42.20	+6.30	± 10
1 900	03/18/2026	3903	5d032	Head	20.8	20.6	39.70	2.12	42.40	+6.80	± 10
2 450	04/15/2026	7732	743	Head	20.7	20.6	51.00	2.59	51.80	+1.57	± 10
2 450	04/01/2026	3903	743	Head	22.3	22.0	51.00	2.46	49.20	-3.53	± 10
2 600	03/24/2026	3903	1043	Head	20.9	20.7	56.90	2.69	53.80	-5.45	± 10
2 600	04/03/2026	3903	1043	Head	21.3	21.1	56.90	2.95	59.00	+3.69	± 10
2 600	03/26/2026	3903	1043	Head	20.8	20.7	56.90	2.70	54.00	-5.10	± 10
2 600	04/02/2026	3903	1043	Head	21.9	21.8	56.90	2.68	53.60	-5.80	± 10
3 500	04/01/2026	3903	1132	Head	22.3	22.2	65.20	3.15	63.00	-3.37	± 10
3 500	04/15/2026	7681	1132	Head	21.6	21.5	65.20	3.53	70.60	+8.28	± 10
3 500	04/01/2026	3903	1132	Head	22.3	22.2	67.70	3.19	63.80	-5.76	± 10
3 700	04/15/2026	7681	1066	Head	21.6	21.5	67.70	3.54	70.80	+4.58	± 10
3 500	04/01/2026	3903	1132	Head	22.3	22.2	70.30	3.32	66.40	-5.55	± 10
3 900	04/15/2026	7681	1019	Head	21.6	21.5	70.30	3.65	73.00	+3.84	± 10
5 250	04/15/2026	3903	1253	Head	21.6	21.4	79.20	3.97	79.40	+0.25	± 10
5 250	04/09/2026	3903	1253	Head	22.1	21.9	79.20	3.93	78.60	-0.76	± 10
5 600	04/10/2026	3903	1253	Head	21.7	21.5	81.50	4.12	82.40	+1.10	± 10
5 750	04/13/2026	3903	1253	Head	21.2	21.1	80.60	4.28	85.60	+6.20	± 10

System Verification Results – Extremity SAR

Input Power: 50 mW

Freq. [MHz]	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR _{10g} (SPEAG) [W/kg]	50 mW Measured SAR _{10g} [W/kg]	1 W Normalized SAR _{10g} [W/kg]	Deviation [%]	Limit [%]
13	03/27/2026	3076	1016	Head	20.5	20.4	0.333	0.018	0.360	+8.11	± 10
5 250	04/09/2026	3903	1253	Head	22.1	21.9	22.6	1.14	22.80	+0.88	± 10
5 600	04/10/2026	3903	1253	Head	21.7	21.5	23.4	1.18	23.60	+0.85	± 10

12.3 SAR Test System Verification Procedure

SAR measurement was prior to assessment; the system is verified to the $\pm 10\%$ of the specifications at each frequency Band by using the system verification kit. (Graphic Plots Attached)

- Cabling the system, using the verification kit equipment.
- Dipole antenna was placed below the flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.

Note;

SAR Verification was performed according to the FCC KDB 865664 D01v01r04.

13. SAR Test Data Summary

13.1 SAR Measurement Results

13.1.1 GSM850 SAR Measurement Results

GSM850 Head SAR																						
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tuner-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	TX	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	GSM850	836.6	190	0933M	AG0	A	30.5	29.02	Left Cheek	0	GPRS	3	1:2.77	-0.11	0.141	0.198	0.388	0.243	33.1	32.6	29.0	-
Head	GSM850	836.6	190	0933M	AG0	A	30.5	29.02	Left Tilt	0	GPRS	3	1:2.77	0.01	0.085	0.120	0.234	0.146	35.3			-
Head	GSM850	836.6	190	0933M	AG0	A	30.5	29.02	Right Cheek	0	GPRS	3	1:2.77	0.08	0.158	0.222	0.435	0.272	32.6			A1
Head	GSM850	836.6	190	0933M	AG0	A	30.5	29.02	Right Tilt	0	GPRS	3	1:2.77	0.02	0.081	0.114	0.223	0.139	35.5			-

GSM850 Bodyworn/Hotspot SAR																						
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	TX	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	GSM850	836.6	190	0843M	AG0	A	30.0	28.59	Rear	5	GPRS	2	1:4.15	-0.05	0.586	0.811	0.916	0.573	24.7	24.7	22.8	A2
Bodyworn/Hotspot	GSM850	824.2	128	0843M	AG0	A	30.0	28.52	Rear	5	GPRS	2	1:4.15	0.02	0.485	0.682	0.771	0.482	25.5			-
Bodyworn/Hotspot	GSM850	848.8	251	0843M	AG0	A	30.0	28.65	Rear	5	GPRS	2	1:4.15	0.00	0.498	0.680	0.768	0.480	25.5			-
Bodyworn/Hotspot	GSM850	836.6	190	0843M	AG0	A	30.0	28.59	Front	5	GPRS	2	1:4.15	-0.02	0.368	0.509	0.576	0.360	26.8			-
Hotspot	GSM850	836.6	190	0843M	AG0	A	30.0	28.59	Left	10	GPRS	2	1:4.15	-0.06	0.095	0.131	0.149	0.093	32.6			-
Hotspot	GSM850	836.6	190	0843M	AG0	A	30.0	28.59	Right	10	GPRS	2	1:4.15	-0.02	0.152	0.210	0.238	0.149	30.6			-
Hotspot	GSM850	836.6	190	0843M	AG0	A	30.0	28.59	Bottom	10	GPRS	2	1:4.15	-0.04	0.142	0.197	0.222	0.139	30.9			-

13.1.2 GSM1900 SAR Measurement Results

GSM1900 Head SAR																						
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	TX	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	GSM1900	1880	661	0931M	AG0	A	28.0	27.40	Left Cheek	0	GPRS	3	1:2.77	-0.08	0.100	0.115	0.382	0.239	33.0	32.4	28.8	-
Head	GSM1900	1880	661	0931M	AG0	A	28.0	27.40	Left Tilt	0	GPRS	3	1:2.77	-0.14	0.093	0.107	0.355	0.222	33.3			-
Head	GSM1900	1880	661	0931M	AG0	A	28.0	27.40	Right Cheek	0	GPRS	3	1:2.77	-0.17	0.114	0.131	0.435	0.272	32.4			A3
Head	GSM1900	1880	661	0931M	AG0	A	28.0	27.40	Right Tilt	0	GPRS	3	1:2.77	-0.01	0.065	0.075	0.248	0.155	34.8			-

GSM1900 Bodyworn/Hotspot SAR																						
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	TX	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	GSM1900	1880	661	0843M	AG0	A	27.5	26.38	Rear	5	GPRS	2	1:4.15	0.04	0.433	0.560	0.633	0.396	23.8	23.8	19.3	A4
Bodyworn/Hotspot	GSM1900	1880	661	0843M	AG0	A	27.5	26.38	Front	5	GPRS	2	1:4.15	0.03	0.216	0.280	0.316	0.197	26.9			-
Hotspot	GSM1900	1880	661	0843M	AG0	A	27.5	26.38	Left	10	GPRS	2	1:4.15	0.11	0.071	0.092	0.104	0.065	31.7			-
Hotspot	GSM1900	1880	661	0843M	AG0	A	27.5	26.38	Right	10	GPRS	2	1:4.15	-0.10	0.038	0.049	0.056	0.035	34.4			-
Hotspot	GSM1900	1880	661	0843M	AG0	A	27.5	26.38	Bottom	10	GPRS	2	1:4.15	0.00	0.214	0.277	0.313	0.196	26.9			-

13.1.3 UMTS BAND 5 SAR Measurement Results

UMTS Band 5 Head SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Head	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Left Cheek	0	RMC	1:1	-0.19	0.135	0.176	0.198	0.124	32.1
Head	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Left Tilt	0	RMC	1:1	-0.04	0.091	0.118	0.134	0.084	33.8
Head	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Right Cheek	0	RMC	1:1	-0.04	0.172	0.224	0.253	0.158	31.0
Head	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Right Tilt	0	RMC	1:1	-0.03	0.090	0.117	0.132	0.083	33.8

UMTS Band 5 Bodyworn/Hotspot SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Bodyworn/Hotspot	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Rear	5	RMC	1:1	-0.04	0.693	0.901	1.018	0.636	25.0
Bodyworn/Hotspot	UMTS 5	826.40	4132	0856M	AG0	A	24.5	23.48	Rear	5	RMC	1:1	-0.12	0.691	0.874	0.988	0.617	25.1
Bodyworn/Hotspot	UMTS 5	846.60	4233	0856M	AG0	A	24.5	23.34	Rear	5	RMC	1:1	-0.04	0.713	0.931	1.052	0.658	24.8
Bodyworn/Hotspot	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Front	5	RMC	1:1	-0.01	0.339	0.441	0.498	0.311	28.1
Hotspot	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Left	10	RMC	1:1	-0.09	0.129	0.168	0.190	0.118	32.3
Hotspot	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Right	10	RMC	1:1	-0.03	0.196	0.255	0.288	0.180	30.4
Hotspot	UMTS 5	836.60	4183	0856M	AG0	A	24.5	23.36	Bottom	10	RMC	1:1	0.00	0.193	0.251	0.284	0.177	30.5

13.1.4 UMTS BAND 4 SAR Measurement Results

UMTS Band 4 Head SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Head	UMTS 4	1732.60	1413	0848M	AG0	A	24.0	23.48	Left Cheek	0	RMC	1:1	0.01	0.136	0.153	0.485	0.303	32.1
Head	UMTS 4	1732.60	1413	0848M	AG0	A	24.0	23.48	Left Tilt	0	RMC	1:1	0.01	0.120	0.135	0.428	0.267	32.7
Head	UMTS 4	1732.60	1413	0848M	AG0	A	24.0	23.48	Right Cheek	0	RMC	1:1	0.03	0.121	0.136	0.431	0.269	32.5
Head	UMTS 4	1732.60	1413	0848M	AG0	A	24.0	23.48	Right Tilt	0	RMC	1:1	-0.02	0.100	0.113	0.356	0.223	33.5

UMTS Band 4 Bodyworn/Hotspot SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Bodyworn/Hotspot	UMTS 4	1732.60	1413	0848M	AG0	A	21.0	20.51	Rear	5	RMC	1:1	-0.12	0.439	0.491	0.555	0.347	24.1
Bodyworn/Hotspot	UMTS 4	1732.60	1413	0848M	AG0	A	21.0	20.51	Front	5	RMC	1:1	-0.03	0.362	0.405	0.458	0.286	24.9
Hotspot	UMTS 4	1732.60	1413	0848M	AG0	A	21.0	20.51	Left	10	RMC	1:1	0.00	0.108	0.121	0.137	0.085	30.2
Hotspot	UMTS 4	1732.60	1413	0848M	AG0	A	21.0	20.51	Right	10	RMC	1:1	0.03	0.039	0.044	0.049	0.031	34.6
Hotspot	UMTS 4	1732.60	1413	0848M	AG0	A	21.0	20.51	Bottom	10	RMC	1:1	0.00	0.506	0.566	0.640	0.400	23.5

13.1.5 UMTS BAND 2 SAR Measurement Results

UMTS Band 2 Head SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Head	UMTS 2	1880.00	9400	0848M	AG0	A	22.5	22.32	Left Cheek	0	RMC	1:1	-0.15	0.089	0.093	0.105	0.065	32.8
Head	UMTS 2	1880.00	9400	0848M	AG0	A	22.5	22.32	Left Tilt	0	RMC	1:1	-0.05	0.069	0.072	0.081	0.051	33.9
Head	UMTS 2	1880.00	9400	0848M	AG0	A	22.5	22.32	Right Cheek	0	RMC	1:1	0.05	0.092	0.096	0.108	0.068	32.7
Head	UMTS 2	1880.00	9400	0848M	AG0	A	22.5	22.32	Right Tilt	0	RMC	1:1	0.13	0.053	0.055	0.062	0.039	35.1

UMTS Band 2 Bodyworn/Hotspot SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)
Bodyworn/Hotspot	UMTS 2	1880.00	9400	0848M	AG0	A	21.5	21.28	Rear	5	RMC	1:1	0.06	0.586	0.616	0.697	0.435	23.6
Bodyworn/Hotspot	UMTS 2	1880.00	9400	0848M	AG0	A	21.5	21.28	Front	5	RMC	1:1	-0.03	0.298	0.313	0.354	0.221	26.5
Hotspot	UMTS 2	1880.00	9400	0848M	AG0	A	21.5	21.28	Left	10	RMC	1:1	0.00	0.095	0.100	0.113	0.071	31.5
Hotspot	UMTS 2	1880.00	9400	0848M	AG0	A	21.5	21.28	Right	10	RMC	1:1	0.01	0.057	0.060	0.068	0.042	33.7
Hotspot	UMTS 2	1880.00	9400	0848M	AG0	A	21.5	21.28	Bottom	10	RMC	1:1	0.03	0.293	0.308	0.348	0.218	26.6

13.1.6 LTE FDD BAND 12 SAR Measurement Results

LTE FDD Band 12 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	DFS Plimit (dBm)	Plot No.
Head	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Left Cheek	0	QPSK	10	1	0	0	1:1	-0.02	0.150	0.222	0.378	0.236	31.5	30.9	27.3	-
Head	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Left Cheek	0	QPSK	10	25	0	1	1:1	-0.09	0.115	0.170	0.363	0.227	31.7			-
Head	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Left Tilt	0	QPSK	10	1	0	0	1:1	0.02	0.084	0.125	0.212	0.132	34.0			-
Head	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Left Tilt	0	QPSK	10	25	0	1	1:1	-0.07	0.063	0.093	0.199	0.124	34.3			-
Head	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Right Cheek	0	QPSK	10	1	0	0	1:1	-0.02	0.173	0.257	0.436	0.272	30.9			A11
Head	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Right Cheek	0	QPSK	10	25	0	1	1:1	0.05	0.129	0.190	0.407	0.254	31.2			-
Head	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Right Tilt	0	QPSK	10	1	0	0	1:1	-0.17	0.086	0.128	0.217	0.135	33.9			-
Head	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Right Tilt	0	QPSK	10	25	0	1	1:1	-0.05	0.070	0.103	0.221	0.138	33.9			-

LTE FDD Band 12 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	DFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Rear	5	QPSK	10	1	0	0	1:1	-0.01	0.532	0.789	1.167	0.635	26.0	26.0	26.7	A12
Bodyworn/Hotspot	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Rear	5	QPSK	10	25	0	1	1:1	0.01	0.411	0.607	1.130	0.615	26.2			-
Bodyworn/Hotspot	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Front	5	QPSK	10	1	0	0	1:1	-0.01	0.250	0.371	0.548	0.298	29.3			-
Bodyworn/Hotspot	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Front	5	QPSK	10	25	0	1	1:1	0.01	0.193	0.285	0.530	0.289	29.5			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Left	10	QPSK	10	1	0	0	1:1	-0.01	0.114	0.169	0.250	0.136	32.7			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Left	10	QPSK	10	25	0	1	1:1	0.02	0.086	0.127	0.236	0.129	33.0			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Right	10	QPSK	10	1	0	0	1:1	0.02	0.250	0.371	0.548	0.298	29.3			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Right	10	QPSK	10	25	0	1	1:1	0.00	0.186	0.275	0.511	0.278	29.6			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	25.0	23.29	Bottom	10	QPSK	10	1	0	0	1:1	0.04	0.165	0.245	0.362	0.197	31.1			-
Hotspot	LTE 12	707.5	23095	0933M	AG0	A	24.0	22.31	Bottom	10	QPSK	10	25	0	1	1:1	0.00	0.131	0.193	0.360	0.196	31.1			-

13.1.7 LTE FDD BAND 13 SAR Measurement Results

LTE FDD Band 13 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	DFS Plimit (dBm)	Plot No.
Head	LTE 13	782	23230	0848M	AG0	A	25.00	24.10	Left Cheek	0	QPSK	10	1	0	0	1:1	0.16	0.175	0.215	0.401	0.250	31.7	31.3	27.7	-
Head	LTE 13	782	23230	0848M	AG0	A	24.00	23.13	Left Cheek	0	QPSK	10	25	0	1	1:1	0.16	0.138	0.169	0.395	0.247	31.7			-
Head	LTE 13	782	23230	0848M	AG0	A	25.00	24.10	Left Tilt	0	QPSK	10	1	0	0	1:1	-0.08	0.105	0.129	0.240	0.150	33.9			-
Head	LTE 13	782	23230	0848M	AG0	A	24.00	23.13	Left Tilt	0	QPSK	10	25	0	1	1:1	0.07	0.086	0.105	0.246	0.154	33.8			-
Head	LTE 13	782	23230	0848M	AG0	A	25.00	24.10	Right Cheek	0	QPSK	10	1	0	0	1:1	0.18	0.189	0.232	0.433	0.271	31.3			A13
Head	LTE 13	782	23230	0848M	AG0	A	24.00	23.13	Right Cheek	0	QPSK	10	25	0	1	1:1	0.01	0.147	0.180	0.421	0.263	31.5			-
Head	LTE 13	782	23230	0848M	AG0	A	25.00	24.10	Right Tilt	0	QPSK	10	1	0	0	1:1	0.03	0.098	0.121	0.224	0.140	34.2			-
Head	LTE 13	782	23230	0848M	AG0	A	24.00	23.13	Right Tilt	0	QPSK	10	25	0	1	1:1	-0.04	0.081	0.099	0.232	0.145	34.0			-

LTE FDD Band 13 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	DFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 13	782	23230	0848M	AG0	A	25.0	24.10	Rear	5	QPSK	5	1	0	0	1:1	0.02	0.625	0.769	0.968	0.527	26.1	25.3	26.0	A14
Bodyworn/Hotspot	LTE 13	782	23230	0848M	AG0	A	24.0	23.13	Rear	5	QPSK	5	25	0	1	1:1	0.00	0.606	0.741	1.174	0.639	25.3			-
Bodyworn/Hotspot	LTE 13	782	23230	0848M	AG0	A	25.0	24.10	Front	5	QPSK	5	1	0	0	1:1	0.00	0.355	0.437	0.550	0.299	28.6			-
Bodyworn/Hotspot	LTE 13	782	23230	0848M	AG0	A	24.0	23.13	Front	5	QPSK	5	25	0	1	1:1	0.03	0.292	0.357	0.566	0.308	28.5			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	25.0	24.10	Left	10	QPSK	5	1	0	0	1:1	-0.02	0.151	0.186	0.234	0.127	32.3			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	24.0	23.13	Left	10	QPSK	5	25	0	1	1:1	-0.06	0.126	0.154	0.244	0.133	32.1			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	25.0	24.10	Right	10	QPSK	5	1	0	0	1:1	-0.02	0.232	0.285	0.359	0.195	30.4			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	24.0	23.13	Right	10	QPSK	5	25	0	1	1:1	0.00	0.196	0.240	0.380	0.207	30.2			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	25.0	24.10	Bottom	10	QPSK	5	1	0	0	1:1	-0.01	0.186	0.229	0.288	0.157	31.4			-
Hotspot	LTE 13	782	23230	0848M	AG0	A	24.0	23.13	Bottom	10	QPSK	5	25	0	1	1:1	0.02	0.154	0.188	0.298	0.162	31.3			-

13.1.8 LTE FDD BAND 5 SAR Measurement Results

LTE FDD Band 5 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	LTE 5	836.5	20525	0931M	AG0	A	25.5	24.54	Left Cheek	0	QPSK	10	1	0	0	1:1	0.19	0.128	0.160	0.265	0.155	33.5	31.4	27.7	-
Head	LTE 5	836.5	20525	0931M	AG0	A	24.5	23.49	Left Cheek	0	QPSK	10	25	12	1	1:1	0.14	0.108	0.136	0.285	0.166	33.2			-
Head	LTE 5	836.5	20525	0931M	AG0	A	25.5	24.54	Left Tilt	0	QPSK	10	1	0	0	1:1	0.18	0.077	0.096	0.159	0.093	35.7			-
Head	LTE 5	836.5	20525	0931M	AG0	A	24.5	23.49	Left Tilt	0	QPSK	10	25	12	1	1:1	0.05	0.062	0.078	0.163	0.095	35.6			-
Head	LTE 5	836.5	20525	0931M	AG0	A	25.5	24.54	Right Cheek	0	QPSK	10	1	0	0	1:1	0.19	0.194	0.242	0.402	0.234	31.7			-
Head	LTE 5	836.5	20525	0931M	AG0	A	24.5	23.49	Right Cheek	0	QPSK	10	25	12	1	1:1	0.10	0.163	0.206	0.430	0.251	31.4			-
Head	LTE 5	836.5	20525	0931M	AG0	A	25.5	24.54	Right Tilt	0	QPSK	10	1	0	0	1:1	0.19	0.073	0.091	0.151	0.088	35.9			-
Head	LTE 5	836.5	20525	0931M	AG0	A	24.5	23.49	Right Tilt	0	QPSK	10	25	12	1	1:1	0.03	0.081	0.102	0.214	0.125	34.4			-

LTE FDD Band 5 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 5	836.5	20525	0856M	AG0	A	25.0	24.20	Rear	5	QPSK	10	1	0	0	1:1	-0.01	0.740	0.889	1.005	0.628	25.5	25.1	24.0	A16
Bodyworn/Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.60	Rear	5	QPSK	10	25	24	0.5	1:1	-0.02	0.698	0.859	0.970	0.606	25.2			-
Bodyworn/Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.56	Rear	5	QPSK	10	50	0	0.5	1:1	-0.03	0.695	0.863	0.975	0.610	25.1			-
Bodyworn/Hotspot	LTE 5	836.5	20525	0856M	AG0	A	25.0	24.20	Front	5	QPSK	10	1	0	0	1:1	0.00	0.308	0.370	0.418	0.261	29.3			-
Bodyworn/Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.60	Front	5	QPSK	10	25	24	0.5	1:1	-0.03	0.313	0.385	0.435	0.272	28.6			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	25.0	24.20	Left	10	QPSK	10	1	0	0	1:1	-0.03	0.134	0.161	0.182	0.114	32.9			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.60	Left	10	QPSK	10	25	24	0.5	1:1	-0.03	0.115	0.141	0.160	0.100	33.0			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	25.0	24.20	Right	10	QPSK	10	1	0	0	1:1	0.03	0.180	0.216	0.244	0.153	31.6			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.60	Right	10	QPSK	10	25	24	0.5	1:1	0.00	0.166	0.204	0.231	0.144	31.4			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	25.0	24.20	Bottom	10	QPSK	10	1	0	0	1:1	-0.01	0.226	0.272	0.307	0.192	30.7			-
Hotspot	LTE 5	836.5	20525	0856M	AG0	A	24.5	23.60	Bottom	10	QPSK	10	25	24	0.5	1:1	0.03	0.226	0.278	0.314	0.196	30.1			-

13.1.9 LTE FDD BAND 26 SAR Measurement Results

LTE FDD Band 26 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	LTE 26	831.5	26865	0933M	AG0	A	25.0	23.93	Left Cheek	0	QPSK	15	1	0	0	1:1	-0.05	0.133	0.170	0.282	0.176	32.7	30.8	27.2	-
Head	LTE 26	831.5	26865	0933M	AG0	A	24.0	22.63	Left Cheek	0	QPSK	15	36	39	1	1:1	-0.04	0.120	0.165	0.344	0.215	31.8			-
Head	LTE 26	831.5	26865	0933M	AG0	A	25.0	23.93	Left Tilt	0	QPSK	15	1	0	0	1:1	0.03	0.078	0.100	0.166	0.104	35.0			-
Head	LTE 26	831.5	26865	0933M	AG0	A	24.0	22.63	Left Tilt	0	QPSK	15	36	39	1	1:1	-0.02	0.073	0.100	0.209	0.131	34.0			-
Head	LTE 26	831.5	26865	0933M	AG0	A	25.0	23.93	Right Cheek	0	QPSK	15	1	0	0	1:1	0.05	0.171	0.219	0.363	0.227	31.6			A17
Head	LTE 26	831.5	26865	0933M	AG0	A	24.0	22.63	Right Cheek	0	QPSK	15	36	39	1	1:1	0.01	0.153	0.210	0.438	0.274	30.8			-
Head	LTE 26	831.5	26865	0933M	AG0	A	25.0	23.93	Right Tilt	0	QPSK	15	1	0	0	1:1	0.11	0.081	0.104	0.172	0.107	34.8			-
Head	LTE 26	831.5	26865	0933M	AG0	A	24.0	22.63	Right Tilt	0	QPSK	15	36	39	1	1:1	-0.03	0.074	0.101	0.212	0.132	33.9			-

LTE FDD Band 26 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 26	831.5	26865	0856M	AG0	A	25.0	23.93	Rear	5	QPSK	15	1	0	0	1:1	-0.03	0.531	0.679	0.835	0.480	26.7	25.3	25.9	-
Bodyworn/Hotspot	LTE 26	831.5	26865	0856M	AG0	A	24.0	22.63	Rear	5	QPSK	15	36	39	1	1:1	-0.01	0.547	0.750	1.162	0.530	25.3			A18
Bodyworn/Hotspot	LTE 26	831.5	26865	0856M	AG0	A	25.0	23.93	Front	5	QPSK	15	1	0	0	1:1	-0.01	0.391	0.500	0.615	0.353	28.0			-
Bodyworn/Hotspot	LTE 26	831.5	26865	0856M	AG0	A	24.0	22.63	Front	5	QPSK	15	36	39	1	1:1	-0.02	0.334	0.458	0.709	0.323	27.4			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	25.0	23.93	Left	10	QPSK	15	1	0	0	1:1	-0.02	0.071	0.091	0.112	0.064	35.4			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	24.0	22.63	Left	10	QPSK	15	36	39	1	1:1	0.04	0.070	0.096	0.149	0.068	34.2			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	25.0	23.93	Right	10	QPSK	15	1	0	0	1:1	-0.04	0.096	0.123	0.151	0.087	34.1			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	24.0	22.63	Right	10	QPSK	15	36	39	1	1:1	-0.02	0.094	0.129	0.200	0.091	32.9			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	25.0	23.93	Bottom	10	QPSK	15	1	0	0	1:1	0.01	0.176	0.225	0.277	0.159	31.5			-
Hotspot	LTE 26	831.5	26865	0856M	AG0	A	24.0	22.63	Bottom	10	QPSK	15	36	39	1	1:1	0.00	0.192	0.263	0.408	0.186	29.8			-

13.1.10 LTE FDD BAND 66 SAR Measurement Results

LTE FDD Band 66 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	LTE 66	1 745	132322	0848M	AG0	A	25.0	23.43	Left Cheek	0	QPSK	20	1	0	0	1:1	0.03	0.177	0.254	0.767	0.479	31.0	30.9	29.8	-
Head	LTE 66	1 745	132322	0848M	AG0	A	24.0	22.40	Left Cheek	0	QPSK	20	50	0	1	1:1	-0.02	0.140	0.202	0.769	0.481	30.9			-
Head	LTE 66	1 745	132322	0848M	AG0	A	25.0	23.43	Left Tilt	0	QPSK	20	1	0	0	1:1	0.05	0.118	0.169	0.511	0.320	32.7			-
Head	LTE 66	1 745	132322	0848M	AG0	A	24.0	22.40	Left Tilt	0	QPSK	20	50	0	1	1:1	-0.01	0.114	0.165	0.626	0.391	31.8			-
Head	LTE 66	1 745	132322	0848M	AG0	A	25.0	23.43	Right Cheek	0	QPSK	20	1	0	0	1:1	0.00	0.096	0.138	0.416	0.260	33.6			-
Head	LTE 66	1 745	132322	0848M	AG0	A	24.0	22.40	Right Cheek	0	QPSK	20	50	0	1	1:1	-0.02	0.077	0.111	0.423	0.264	33.5			-
Head	LTE 66	1 745	132322	0848M	AG0	A	25.0	23.43	Right Tilt	0	QPSK	20	1	0	0	1:1	0.00	0.087	0.125	0.377	0.236	34.0			-
Head	LTE 66	1 745	132322	0848M	AG0	A	24.0	22.40	Right Tilt	0	QPSK	20	50	0	1	1:1	0.06	0.065	0.094	0.357	0.223	34.3			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.14	Left Cheek	0	QPSK	20	1	0	0	1:1	0.09	0.225	0.274	0.310	0.194	24.6	20.9	18.0	-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.13	Left Cheek	0	QPSK	20	50	0	0	1:1	0.01	0.219	0.268	0.302	0.189	24.7			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.14	Left Tilt	0	QPSK	20	1	0	0	1:1	0.02	0.193	0.235	0.266	0.166	25.3			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.13	Left Tilt	0	QPSK	20	50	0	0	1:1	-0.05	0.185	0.226	0.255	0.160	25.5			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.14	Right Cheek	0	QPSK	20	1	0	0	1:1	-0.01	0.524	0.639	0.722	0.451	20.9			A19
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.13	Right Cheek	0	QPSK	20	50	0	0	1:1	0.01	0.513	0.627	0.708	0.443	21.0			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.14	Right Tilt	0	QPSK	20	1	0	0	1:1	0.02	0.281	0.343	0.387	0.242	23.7			-
Head	LTE 66	1 745	132322	0848M	AG1	F	19.0	18.13	Right Tilt	0	QPSK	20	50	0	0	1:1	0.03	0.274	0.335	0.378	0.236	23.8			-

LTE FDD Band 66 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.10	Rear	5	QPSK	20	1	49	0	1:1	-0.01	0.631	0.776	0.877	0.548	22.1	22.0	20.0	-
Bodyworn/Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.12	Rear	5	QPSK	20	50	49	0	1:1	0.05	0.645	0.790	0.893	0.558	22.0			A20
Bodyworn/Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.10	Front	5	QPSK	20	1	49	0	1:1	-0.02	0.326	0.401	0.453	0.283	25.0			-
Bodyworn/Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.12	Front	5	QPSK	20	50	49	0	1:1	-0.01	0.331	0.405	0.458	0.286	24.9			-
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.10	Left	10	QPSK	20	1	49	0	1:1	0.00	0.095	0.117	0.132	0.083	30.3			-
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.12	Left	10	QPSK	20	50	49	0	1:1	0.00	0.091	0.111	0.126	0.079	30.5			-
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.10	Right	10	QPSK	20	1	49	0	1:1	0.00	0.037	0.046	0.051	0.032	34.4			-
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.12	Right	10	QPSK	20	50	49	0	1:1	0.00	0.036	0.044	0.050	0.031	34.6			-
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.10	Bottom	10	QPSK	20	1	49	0	1:1	0.01	0.290	0.357	0.403	0.252	25.5	-		
Hotspot	LTE 66	1 720	132072	0848M	AG0	A	21.0	20.12	Bottom	10	QPSK	20	50	49	0	1:1	0.03	0.290	0.355	0.401	0.251	25.5	-		
Bodyworn/Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.22	Rear	5	QPSK	20	1	0	0	1:1	0.01	0.376	0.567	0.640	0.400	23.5	23.5	20.0	-
Bodyworn/Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.15	Rear	5	QPSK	20	50	0	0	1:1	-0.07	0.368	0.563	0.637	0.398	23.5			-
Bodyworn/Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.22	Front	5	QPSK	20	1	0	0	1:1	-0.05	0.279	0.420	0.475	0.297	24.8			-
Bodyworn/Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.15	Front	5	QPSK	20	50	0	0	1:1	0.02	0.274	0.419	0.474	0.296	24.8			-
Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.22	Left	10	QPSK	20	1	0	0	1:1	-0.03	0.117	0.176	0.199	0.125	28.5			-
Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.15	Left	10	QPSK	20	50	0	0	1:1	0.01	0.115	0.176	0.199	0.124	28.5			-
Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.22	Top	10	QPSK	20	1	0	0	1:1	0.00	0.080	0.121	0.136	0.085	30.2			-
Hotspot	LTE 66	1 745	132322	0848M	AG1	F	21.0	19.15	Top	10	QPSK	20	50	0	0	1:1	0.03	0.081	0.124	0.140	0.088	30.1			-

13.1.11 LTE FDD BAND 2 SAR Measurement Results

LTE FDD Band 2 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	LTE 2	1880	18900	0848M	AG0	A	24.5	22.89	Left Cheek	0	QPSK	20	1	0	0	1:1	0.01	0.109	0.158	0.362	0.226	32.5	31.7	28.1	-
Head	LTE 2	1880	18900	0848M	AG0	A	23.5	21.86	Left Cheek	0	QPSK	20	50	0	1	1:1	0.04	0.090	0.131	0.379	0.237	32.3			-
Head	LTE 2	1880	18900	0848M	AG0	A	24.5	22.89	Left Tilt	0	QPSK	20	1	0	0	1:1	0.06	0.103	0.149	0.342	0.214	32.8			-
Head	LTE 2	1880	18900	0848M	AG0	A	23.5	21.86	Left Tilt	0	QPSK	20	50	0	1	1:1	0.09	0.079	0.115	0.332	0.208	32.9			-
Head	LTE 2	1880	18900	0848M	AG0	A	24.5	22.89	Right Cheek	0	QPSK	20	1	0	0	1:1	-0.01	0.129	0.187	0.428	0.268	31.8			A21
Head	LTE 2	1880	18900	0848M	AG0	A	23.5	21.86	Right Cheek	0	QPSK	20	50	0	1	1:1	-0.03	0.103	0.150	0.433	0.271	31.7			-
Head	LTE 2	1880	18900	0848M	AG0	A	24.5	22.89	Right Tilt	0	QPSK	20	1	0	0	1:1	0.08	0.082	0.119	0.272	0.170	33.8			-
Head	LTE 2	1880	18900	0848M	AG0	A	23.5	21.86	Right Tilt	0	QPSK	20	50	0	1	1:1	-0.02	0.064	0.093	0.269	0.168	33.8			-

LTE FDD Band 2 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.70	Rear	5	QPSK	20	1	99	0	1:1	-0.02	0.285	0.384	0.434	0.272	23.2	22.4	18.0	-
Bodyworn/Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.64	Rear	5	QPSK	20	50	0	0	1:1	0.01	0.335	0.458	0.518	0.324	22.4			A22
Bodyworn/Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.70	Front	5	QPSK	20	1	99	0	1:1	0.00	0.162	0.219	0.247	0.154	25.6			-
Bodyworn/Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.64	Front	5	QPSK	20	50	0	0	1:1	0.01	0.190	0.260	0.294	0.184	24.9			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.70	Left	10	QPSK	20	1	99	0	1:1	-0.07	0.049	0.066	0.075	0.047	30.8			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.64	Left	10	QPSK	20	50	0	0	1:1	-0.08	0.052	0.071	0.080	0.050	30.5			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.70	Right	10	QPSK	20	1	99	0	1:1	0.10	0.010	0.013	0.015	0.010	37.7			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.64	Right	10	QPSK	20	50	0	0	1:1	0.10	0.010	0.014	0.015	0.010	37.6			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.70	Bottom	10	QPSK	20	1	99	0	1:1	-0.02	0.181	0.244	0.276	0.172	25.1			-
Hotspot	LTE 2	1860	18700	0848M	AG0	A	19.0	17.64	Bottom	10	QPSK	20	50	0	0	1:1	-0.01	0.185	0.253	0.286	0.179	25.0			-

13.1.12 LTE TDD BAND 41 SAR Measurement Results

LTE TDD Band 41 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB Offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	LTE 41	2593.00	40620	0848M	AG0	A	24.5	23.65	Left Cheek	0	QPSK	20	1	0	0	1:1.58	0.06	0.277	0.337	0.685	0.428	27.2	27.1	25.6	-
Head	LTE 41	2593.00	40620	0848M	AG0	A	23.5	22.57	Left Cheek	0	QPSK	20	50	0	1	1:1.58	-0.10	0.223	0.276	0.708	0.442	27.1			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	24.5	23.65	Left Tilt	0	QPSK	20	1	0	0	1:1.58	0.00	0.082	0.100	0.203	0.127	32.5			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	23.5	22.57	Left Tilt	0	QPSK	20	50	0	1	1:1.58	0.18	0.065	0.081	0.206	0.129	32.5			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	24.5	23.65	Right Cheek	0	QPSK	20	1	0	0	1:1.58	-0.06	0.167	0.203	0.413	0.258	29.4			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	23.5	22.57	Right Cheek	0	QPSK	20	50	0	1	1:1.58	-0.08	0.137	0.170	0.435	0.272	29.2			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	24.5	23.65	Right Tilt	0	QPSK	20	1	0	0	1:1.58	0.04	0.139	0.169	0.344	0.215	30.2			-
Head	LTE 41	2593.00	40620	0848M	AG0	A	23.5	22.57	Right Tilt	0	QPSK	20	50	0	1	1:1.58	0.01	0.113	0.140	0.359	0.224	30.1			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.54	Left Cheek	0	QPSK	20	1	99	0	1:1.58	0.04	0.081	0.113	0.128	0.080	27.5	21.8	17.0	-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.80	Left Cheek	0	QPSK	20	50	49	1	1:1.58	-0.10	0.085	0.112	0.127	0.079	27.5			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.54	Left Tilt	0	QPSK	20	1	99	0	1:1.58	0.16	0.055	0.077	0.087	0.054	29.2			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.80	Left Tilt	0	QPSK	20	50	49	1	1:1.58	0.03	0.066	0.087	0.098	0.061	28.6			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.54	Right Cheek	0	QPSK	20	1	99	0	1:1.58	0.14	0.302	0.423	0.478	0.299	21.8			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.80	Right Cheek	0	QPSK	20	50	49	1	1:1.58	0.03	0.308	0.406	0.459	0.287	21.9			A23
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.54	Right Tilt	0	QPSK	20	1	99	0	1:1.58	0.05	0.109	0.153	0.172	0.108	26.2			-
Head	LTE 41	2680.00	41490	0937M	AG1	C	20.0	18.80	Right Tilt	0	QPSK	20	50	49	1	1:1.58	-0.04	0.115	0.152	0.171	0.107	26.2			-

LTE TDD Band 41 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB Offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.35	Rear	5	QPSK	20	1	0	0	1:1.58	0.00	0.320	0.372	0.420	0.262	22.3	22.2	17.0	-
Bodyworn/Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.31	Rear	5	QPSK	20	50	0	0	1:1.58	-0.19	0.325	0.381	0.430	0.269	22.2			-
Bodyworn/Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.35	Front	5	QPSK	20	1	0	0	1:1.58	-0.04	0.226	0.262	0.296	0.185	23.8			-
Bodyworn/Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.31	Front	5	QPSK	20	50	0	0	1:1.58	-0.03	0.231	0.271	0.306	0.191	23.7			-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.35	Left	10	QPSK	20	1	0	0	1:1.58	-0.06	0.102	0.118	0.134	0.084	27.3			-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.31	Left	10	QPSK	20	50	0	0	1:1.58	-0.01	0.104	0.122	0.138	0.086	27.2			-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.35	Right	10	QPSK	20	1	0	0	1:1.58	-0.14	0.026	0.030	0.034	0.021	33.2			-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.31	Right	10	QPSK	20	50	0	0	1:1.58	-0.13	0.027	0.032	0.036	0.022	33.0			-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.35	Bottom	10	QPSK	20	1	0	0	1:1.58	0.01	0.122	0.142	0.160	0.100	26.5	12.7	11.5	-
Hotspot	LTE 41	2593.00	40620	0848M	AG0	A	20.0	19.31	Bottom	10	QPSK	20	50	0	0	1:1.58	-0.02	0.124	0.145	0.164	0.103	26.4			-
Bodyworn/Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.49	Rear	5	QPSK	20	1	0	0	1:1.58	-0.02	0.702	0.790	0.892	0.558	13.0			-
Bodyworn/Hotspot	LTE 41	2506.00	39750	23241M	AG1	C	14.0	12.58	Rear	5	QPSK	20	1	49	0	1:1.58	-0.01	0.400	0.555	0.627	0.392	14.6			-
Bodyworn/Hotspot	LTE 41	2549.50	40185	23241M	AG1	C	14.0	13.02	Rear	5	QPSK	20	1	49	0	1:1.58	0.12	0.589	0.738	0.834	0.521	13.3			-
Bodyworn/Hotspot	LTE 41	2636.50	41055	23241M	AG1	C	14.0	13.19	Rear	5	QPSK	20	1	0	0	1:1.58	0.03	0.654	0.788	0.891	0.557	13.0			-
Bodyworn/Hotspot	LTE 41	2680.00	41490	23241M	AG1	C	14.0	12.83	Rear	5	QPSK	20	1	0	0	1:1.58	0.12	0.566	0.741	0.837	0.523	13.3			-
Bodyworn/Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.52	Rear	5	QPSK	20	50	25	0	1:1.58	-0.04	0.748	0.836	0.944	0.590	12.8			-
Bodyworn/Hotspot	LTE 41	2506.00	39750	23241M	AG1	C	14.0	12.75	Rear	5	QPSK	20	50	49	0	1:1.58	-0.05	0.450	0.600	0.678	0.424	14.2	-		
Bodyworn/Hotspot	LTE 41	2549.50	40185	23241M	AG1	C	14.0	13.09	Rear	5	QPSK	20	50	49	0	1:1.58	-0.03	0.625	0.771	0.871	0.544	13.1	-		
Bodyworn/Hotspot	LTE 41	2636.50	41055	23241M	AG1	C	14.0	13.15	Rear	5	QPSK	20	50	25	0	1:1.58	0.00	0.684	0.832	0.940	0.587	12.8	-		
Bodyworn/Hotspot	LTE 41	2680.00	41490	23241M	AG1	C	14.0	12.93	Rear	5	QPSK	20	50	25	0	1:1.58	0.10	0.556	0.711	0.804	0.502	13.5	-		
Bodyworn/Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.47	Rear	5	QPSK	20	100	0	0	1:1.58	-0.01	0.758	0.857	0.968	0.605	12.7	A24		
Bodyworn/Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.49	Front	5	QPSK	20	1	0	0	1:1.58	0.13	0.067	0.075	0.085	0.053	23.2	-		
Bodyworn/Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.52	Front	5	QPSK	20	50	25	0	1:1.58	-0.06	0.068	0.076	0.086	0.054	23.2	-		
Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.49	Left	10	QPSK	20	1	0	0	1:1.58	-0.18	0.116	0.131	0.147	0.092	20.9	-		
Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.52	Left	10	QPSK	20	50	25	0	1:1.58	-0.02	0.117	0.131	0.148	0.092	20.9	-		
Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.49	Top	10	QPSK	20	1	0	0	1:1.58	-0.19	0.006	0.007	0.008	0.005	33.7	-		
Hotspot	LTE 41	2593.00	40620	23241M	AG1	C	14.0	13.52	Top	10	QPSK	20	50	25	0	1:1.58	-0.08	0.006	0.007	0.008	0.005	33.8	-		

13.1.13 NR FDD BAND n5 SAR Measurement Results

NR FDD Band n5 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Pl. No.
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.66	Left Cheek	0	DFT-s OFDM QPSK	20	1	1	0	1:1	-0.04	0.135	0.164	0.211	0.132	33.4	31.4	26.6	-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.62	Left Cheek	0	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.03	0.196	0.240	0.309	0.193	31.7			-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.66	Left Tilt	0	DFT-s OFDM QPSK	20	1	1	0	1:1	0.01	0.107	0.130	0.167	0.104	34.4			-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.62	Left Tilt	0	DFT-s OFDM QPSK	20	50	28	0	1:1	0.01	0.114	0.140	0.180	0.112	34.1			-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.66	Right Cheek	0	DFT-s OFDM QPSK	20	1	1	0	1:1	-0.15	0.186	0.226	0.291	0.182	32.0			-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.62	Right Cheek	0	DFT-s OFDM QPSK	20	50	28	0	1:1	0.02	0.211	0.258	0.333	0.208	31.4			A25
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.66	Right Tilt	0	DFT-s OFDM QPSK	20	1	1	0	1:1	-0.04	0.107	0.130	0.167	0.104	34.4			-
Head	NR n5	836.50	167300	0933M	AG0	A	25.5	24.62	Right Tilt	0	DFT-s OFDM QPSK	20	50	28	0	1:1	0.00	0.121	0.148	0.191	0.119	33.8			-
Head	NR n5	836.50	167300	0933M	AG0	A	24.0	23.21	Right Cheek	0	CP OFDM QPSK	20	1	1	1.5	1:1	-0.04	0.135	0.162	0.295	0.184	31.9	-		

NR FDD Band n5 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.45	Rear	5	DFT-s OFDM QPSK	20	1	53	0	1:1	0.01	0.811	0.920	1.040	0.650	25.4	25.1	24.0	-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Rear	5	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.02	0.821	0.913	1.032	0.645	25.4			-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	24.5	23.85	Rear	5	DFT-s OFDM QPSK	20	100	0	0.5	1:1	-0.02	0.734	0.852	0.963	0.602	25.2			-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.45	Front	5	DFT-s OFDM QPSK	20	1	53	0	1:1	0.11	0.352	0.400	0.451	0.282	29.0			-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Front	5	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.02	0.358	0.398	0.450	0.281	29.0			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.45	Left	10	DFT-s OFDM QPSK	20	1	53	0	1:1	0.03	0.052	0.059	0.067	0.042	37.3			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Left	10	DFT-s OFDM QPSK	20	50	28	0	1:1	0.01	0.052	0.058	0.065	0.041	37.4			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.45	Right	10	DFT-s OFDM QPSK	20	1	53	0	1:1	-0.03	0.129	0.146	0.165	0.103	33.3			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Right	10	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.02	0.132	0.147	0.166	0.104	33.3			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.45	Bottom	10	DFT-s OFDM QPSK	20	1	53	0	1:1	0.06	0.283	0.321	0.363	0.227	29.9			-
Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Bottom	10	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.07	0.289	0.321	0.363	0.227	29.9			-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	24.0	23.52	Rear	5	CP OFDM QPSK	20	1	1	1	1:1	-0.01	0.656	0.733	0.828	0.518	25.4			-
Bodyworn/Hotspot	NR n5	836.50	167300	0856M	AG0	A	25.0	24.54	Rear	5	DFT-s OFDM QPSK	20	50	28	0	1:1	-0.01	0.874	0.972	1.098	0.686	25.1			A26

13.1.14 NR FDD BAND n66 SAR Measurement Results

NR FDD Band n66 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.14	Left Cheek	0	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.02	0.167	0.204	0.535	0.335	31.9	31.7	29.2	-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.13	Left Cheek	0	DFT-s OFDM QPSK	40	108	54	0	1:1	-0.01	0.175	0.214	0.562	0.352	31.7			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.14	Left Tilt	0	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.08	0.150	0.183	0.481	0.301	32.4			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.13	Left Tilt	0	DFT-s OFDM QPSK	40	108	54	0	1:1	0.01	0.150	0.183	0.482	0.301	32.4			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.14	Right Cheek	0	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.05	0.133	0.162	0.426	0.266	32.9			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.13	Right Cheek	0	DFT-s OFDM QPSK	40	108	54	0	1:1	0.02	0.137	0.167	0.440	0.275	32.8			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.14	Right Tilt	0	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.10	0.093	0.113	0.298	0.186	34.5			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	25.0	24.13	Right Tilt	0	DFT-s OFDM QPSK	40	108	54	0	1:1	0.09	0.102	0.125	0.328	0.205	34.0			-
Head	NR n66	1 745.00	349000	0848M	AG0	A	23.5	22.52	Left Cheek	0	CP OFDM QPSK	40	1	1	1.5	1:1	0.12	0.119	0.149	0.554	0.346	31.8	-		
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.10	Left Cheek	0	DFT-s OFDM QPSK	40	1	214	0	1:1	-0.09	0.196	0.241	0.272	0.170	25.2	-		
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.04	Left Cheek	0	DFT-s OFDM QPSK	40	108	108	0	1:1	-0.01	0.192	0.239	0.271	0.169	25.2	-		
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.10	Left Tilt	0	DFT-s OFDM QPSK	40	1	214	0	1:1	-0.04	0.165	0.203	0.229	0.143	25.9	-		
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.04	Left Tilt	0	DFT-s OFDM QPSK	40	108	108	0	1:1	0.06	0.158	0.197	0.223	0.139	26.1	-		
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.10	Right Cheek	0	DFT-s OFDM QPSK	40	1	214	0	1:1	0.04	0.479	0.589	0.666	0.416	21.3	21.3	18.0	A27
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.04	Right Cheek	0	DFT-s OFDM QPSK	40	108	108	0	1:1	-0.02	0.472	0.589	0.665	0.416	21.3			-
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.10	Right Tilt	0	DFT-s OFDM QPSK	40	1	214	0	1:1	0.02	0.235	0.289	0.327	0.204	24.4			-
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.04	Right Tilt	0	DFT-s OFDM QPSK	40	108	108	0	1:1	0.07	0.231	0.288	0.326	0.203	24.4			-
Head	NR n66	1 745.00	349000	0931M	AG1	F	19.0	18.20	Right Cheek	0	CP OFDM QPSK	40	1	1	0	1:1	0.00	0.459	0.552	0.623	0.390	21.6			-

NR FDD Band n66 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.51	Rear	5	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.01	0.680	0.761	0.860	0.537	22.2	22.2	20.0	-
Bodyworn/Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.60	Rear	5	DFT-s OFDM QPSK	40	108	54	0	1:1	-0.01	0.699	0.766	0.866	0.541	22.2			A28
Bodyworn/Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.51	Front	5	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.03	0.387	0.433	0.489	0.306	24.6			-
Bodyworn/Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.60	Front	5	DFT-s OFDM QPSK	40	108	54	0	1:1	-0.19	0.413	0.453	0.511	0.320	24.4			-
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.51	Left	10	DFT-s OFDM QPSK	40	1	108	0	1:1	0.01	0.171	0.191	0.216	0.135	28.2			-
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.60	Left	10	DFT-s OFDM QPSK	40	108	54	0	1:1	0.02	0.170	0.186	0.211	0.132	28.3			-
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.51	Right	10	DFT-s OFDM QPSK	40	1	108	0	1:1	0.04	0.034	0.038	0.043	0.027	35.2			-
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.60	Right	10	DFT-s OFDM QPSK	40	108	54	0	1:1	0.01	0.035	0.038	0.043	0.027	35.2			-
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.51	Bottom	10	DFT-s OFDM QPSK	40	1	108	0	1:1	-0.05	0.345	0.386	0.436	0.273	25.1	-		
Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.60	Bottom	10	DFT-s OFDM QPSK	40	108	54	0	1:1	-0.01	0.423	0.464	0.524	0.327	24.3	-		
Bodyworn/Hotspot	NR n66	1 745.00	349000	0848M	AG0	A	21.0	20.48	Rear	5	CP OFDM QPSK	40	1	1	0	1:1	0.01	0.673	0.758	0.857	0.536	22.2	-		
Bodyworn/Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.32	Rear	5	DFT-s OFDM QPSK	40	1	214	0	1:1	0.09	0.366	0.428	0.483	0.302	24.7	-		
Bodyworn/Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.35	Rear	5	DFT-s OFDM QPSK	40	108	108	0	1:1	-0.06	0.390	0.453	0.512	0.320	24.4	-		
Bodyworn/Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.32	Front	5	DFT-s OFDM QPSK	40	1	214	0	1:1	-0.08	0.461	0.539	0.609	0.381	23.7	-		
Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.35	Front	5	DFT-s OFDM QPSK	40	108	108	0	1:1	0.01	0.476	0.553	0.624	0.390	23.6	-		
Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.32	Left	10	DFT-s OFDM QPSK	40	1	214	0	1:1	0.06	0.129	0.151	0.170	0.107	29.2	-		
Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.35	Left	10	DFT-s OFDM QPSK	40	108	108	0	1:1	-0.05	0.129	0.150	0.169	0.106	29.2	-		
Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.32	Top	10	DFT-s OFDM QPSK	40	1	214	0	1:1	0.00	0.165	0.193	0.218	0.136	28.1	-		
Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	20.35	Top	10	DFT-s OFDM QPSK	40	108	108	0	1:1	-0.05	0.140	0.163	0.184	0.115	28.9	-		
Bodyworn/Hotspot	NR n66	1 745.00	349000	0931M	AG1	F	21.0	19.71	Front	5	CP OFDM QPSK	40	1	1	0	1:1	-0.01	0.377	0.507	0.573	0.358	23.9	-		

13.1.15 NR TDD BAND n41 SAR Measurement Results

NR TDD Band n41 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.56	Left Cheek	0	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.06	0.342	0.425	0.755	0.472	28.2	28.1	27.0	-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.32	Left Cheek	0	DFT-s OFDM QPSK	100	135	69	0	1:1	0.00	0.334	0.438	0.779	0.487	28.1			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.56	Left Tilt	0	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.04	0.141	0.175	0.311	0.195	32.1			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.32	Left Tilt	0	DFT-s OFDM QPSK	100	135	69	0	1:1	-0.04	0.119	0.156	0.278	0.173	32.6			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.56	Right Cheek	0	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.17	0.188	0.233	0.415	0.259	30.8			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.32	Right Cheek	0	DFT-s OFDM QPSK	100	135	69	0	1:1	-0.02	0.158	0.207	0.369	0.230	31.3			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.56	Right Tilt	0	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.07	0.122	0.152	0.269	0.168	32.7			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	24.5	23.32	Right Tilt	0	DFT-s OFDM QPSK	100	135	69	0	1:1	0.04	0.139	0.182	0.324	0.203	31.9			-
Head	NR n41	2 592.995	18598	0848M	AG0	A	23.0	22.21	Left Cheek	0	CP OFDM QPSK	100	1	1	1.5	1:1	-0.04	0.230	0.276	0.693	0.433	28.6	21.0	17.0	-
Head	NR n41	2 592.995	18598	0848M	AG1	E	18.0	17.26	Left Cheek	0	CW	100			0	1:1	-0.07	0.318	0.377	0.426	0.266	22.2			-
Head	NR n41	2 592.995	18598	0848M	AG1	E	18.0	17.26	Left Tilt	0	CW	100			0	1:1	-0.05	0.427	0.506	0.572	0.358	21.0			-
Head	NR n41	2 592.995	18598	0848M	AG1	E	18.0	17.26	Right Cheek	0	CW	100			0	1:1	-0.05	0.124	0.147	0.166	0.104	26.3			-
Head	NR n41	2 592.995	18598	0848M	AG1	E	18.0	17.26	Right Tilt	0	CW	100			0	1:1	0.03	0.157	0.186	0.210	0.132	25.3	-		
Head	NR n41	2 592.995	18598	0937M	AG1	C	19.0	18.83	Left Cheek	0	CW	100			0	1:1	0.00	0.135	0.140	0.159	0.099	27.5	21.9	17.0	-
Head	NR n41	2 592.995	18598	0937M	AG1	C	19.0	18.83	Left Tilt	0	CW	100			0	1:1	-0.05	0.120	0.125	0.141	0.088	28.0			-
Head	NR n41	2 592.995	18598	0937M	AG1	C	19.0	18.83	Right Cheek	0	CW	100			0	1:1	0.12	0.491	0.511	0.577	0.361	21.9			A29
Head	NR n41	2 592.995	18598	0937M	AG1	C	19.0	18.83	Right Tilt	0	CW	100			0	1:1	0.03	0.225	0.234	0.264	0.165	25.3			-
Head	NR n41	2 592.995	18598	0848M	AG1	K	18.0	16.23	Left Cheek	0	CW	100			0	1:1	-0.11	0.265	0.398	0.450	0.281	22.0	22.0	17.0	-
Head	NR n41	2 592.995	18598	0848M	AG1	K	18.0	16.23	Left Tilt	0	CW	100			0	1:1	0.02	0.071	0.107	0.121	0.075	27.7			-
Head	NR n41	2 592.995	18598	0848M	AG1	K	18.0	16.23	Right Cheek	0	CW	100			0	1:1	0.09	0.155	0.233	0.263	0.165	24.3			-
Head	NR n41	2 592.995	18598	0848M	AG1	K	18.0	16.23	Right Tilt	0	CW	100			0	1:1	0.03	0.034	0.051	0.058	0.036	30.9			-

NR TDD Band n41 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB Offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.40	Rear	5	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.12	0.224	0.257	0.291	0.182	23.9	22.3	17.0	-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Rear	5	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.03	0.330	0.375	0.423	0.265	22.3			-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.40	Front	5	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.03	0.140	0.161	0.182	0.114	25.9			-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Front	5	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.02	0.211	0.239	0.271	0.169	24.2			-
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.40	Left	10	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.06	0.073	0.084	0.095	0.059	28.8			-
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Left	10	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.07	0.078	0.089	0.100	0.063	28.5			-
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.40	Right	10	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.11	0.020	0.023	0.026	0.016	34.4			-
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Right	10	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.05	0.019	0.022	0.024	0.015	34.7			-
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.40	Bottom	10	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.01	0.132	0.152	0.171	0.107	26.2	-		
Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Bottom	10	DFT-s OFDM QPSK	100	135	0	0	1:1	0.08	0.143	0.162	0.183	0.115	25.9	-		
Bodyworn/Hotspot	NR n41	2 592.995	18598	0848M	AG0	A	18.0	17.45	Rear	5	CP OFDM QPSK	100	1	1	0	1:1	0.00	0.326	0.370	0.418	0.261	22.3	22.4	17.0	-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0937M	AG1	E	18.0	17.26	Rear	5	CW	100			0	1:1	0.10	0.309	0.366	0.414	0.259	22.4			-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0937M	AG1	E	18.0	17.26	Front	5	CW	100			0	1:1	0.13	0.076	0.090	0.102	0.064	28.5			-
Hotspot	NR n41	2 592.995	18598	0937M	AG1	E	18.0	17.26	Right	10	CW	100			0	1:1	-0.13	0.006	0.007	0.008	0.005	39.5			-
Hotspot	NR n41	2 592.995	18598	0937M	AG1	E	18.0	17.26	Top	10	CW	100			0	1:1	-0.02	0.068	0.081	0.091	0.057	28.9			-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0843M	AG1	C	12.0	11.89	Rear	5	CW	100			0	1:1	-0.04	0.631	0.647	0.732	0.457	13.9			-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0843M	AG1	C	12.0	11.89	Front	5	CW	100			0	1:1	-0.09	0.063	0.065	0.073	0.046	23.9			-
Hotspot	NR n41	2 592.995	18598	0843M	AG1	C	12.0	11.89	Left	10	CW	100			0	1:1	-0.02	0.097	0.100	0.112	0.070	22.0			-
Hotspot	NR n41	2 592.995	18598	0843M	AG1	C	12.0	11.89	Top	10	CW	100			0	1:1	-0.16	0.004	0.004	0.005	0.003	35.9	-		
Bodyworn/Hotspot	NR n41	2 592.995	18598	0843M	AG1	K	18.0	16.23	Rear	5	CW	100			0	1:1	-0.02	0.266	0.400	0.452	0.282	22.0	22.0	17.0	-
Bodyworn/Hotspot	NR n41	2 592.995	18598	0843M	AG1	K	18.0	16.23	Front	5	CW	100			0	1:1	-0.06	0.056	0.084	0.095	0.059	28.7			-
Hotspot	NR n41	2 592.995	18598	0843M	AG1	K	18.0	16.23	Right	10	CW	100			0	1:1	-0.08	0.053	0.080	0.090	0.056	29.0			-
Hotspot	NR n41	2 592.995	18598	0843M	AG1	K	18.0	16.23	Top	10	CW	100			0	1:1	0.03	0.004	0.006	0.007	0.004	40.2			-

13.1.16 NR TDD BAND n77 SAR Measurement Results

NR TDD Band n77 Head SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB Offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.77	Left Cheek	0	DFT-s OFDM QPSK	100	1	1	0	1:1	0.10	0.071	0.075	0.085	0.053	28.3	21.5	16.0	-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.76	Left Cheek	0	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.06	0.056	0.059	0.067	0.042	29.3			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.77	Left Tilt	0	DFT-s OFDM QPSK	100	1	1	0	1:1	0.01	0.048	0.051	0.057	0.036	30.0			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.76	Left Tilt	0	DFT-s OFDM QPSK	100	135	0	0	1:1	0.03	0.061	0.064	0.073	0.046	28.9			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.77	Right Cheek	0	DFT-s OFDM QPSK	100	1	1	0	1:1	0.19	0.243	0.256	0.289	0.181	22.9			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.76	Right Cheek	0	DFT-s OFDM QPSK	100	135	0	0	1:1	-0.08	0.245	0.259	0.293	0.183	22.9			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.77	Right Tilt	0	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.07	0.136	0.143	0.162	0.101	25.4			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.76	Right Tilt	0	DFT-s OFDM QPSK	100	135	0	0	1:1	0.10	0.149	0.157	0.178	0.111	25.0			-
Head	NR n77DoD	3500.01	633334	0937M	AG1	G	17.0	16.68	Right Cheek	0	DFT-s OFDM QPSK	100	1	1	0	1:1	0.12	0.331	0.356	0.402	0.252	21.5			-
Head	NR n77	3750.00	650000	0937M	AG1	G	17.0	16.75	Right Cheek	0	CP OFDM QPSK	100	1	1	0	1:1	0.02	0.238	0.252	0.285	0.178	23.0			-
Head	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Left Cheek	0	CW	100			0	1:1	-0.05	0.352	0.438	0.495	0.310	14.6	14.2	14.0	-
Head	NR n77	3750.00	650000	3244M	AG1	D	11.0	9.52	Left Cheek	0	CW	100			0	1:1	0.09	0.077	0.108	0.122	0.076	20.7			-
Head	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Left Tilt	0	CW	100			0	1:1	0.02	0.386	0.481	0.543	0.339	14.2			A31
Head	NR n77	3750.00	650000	3244M	AG1	D	11.0	9.52	Left Tilt	0	CW	100			0	1:1	0.02	0.086	0.121	0.137	0.085	20.2			-
Head	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Right Cheek	0	CW	100			0	1:1	-0.11	0.216	0.269	0.304	0.190	16.7			-
Head	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Right Tilt	0	CW	100			0	1:1	0.00	0.274	0.341	0.385	0.241	15.7			-
Head	NR n77DoD	3500.01	633334	3244M	AG1	D	11.0	10.72	Left Tilt	0	CW	100			0	1:1	0.18	0.071	0.076	0.086	0.054	22.2			-
Head	NR n77	3750.00	650000	3244M	AG1	I	15.0	14.72	Left Cheek	0	CW	100			0	1:1	0.12	0.059	0.063	0.071	0.044	27.0			-
Head	NR n77	3750.00	650000	3244M	AG1	I	15.0	14.72	Left Tilt	0	CW	100			0	1:1	0.19	0.081	0.086	0.098	0.061	25.6			-
Head	NR n77	3750.00	650000	3244M	AG1	I	15.0	14.72	Right Cheek	0	CW	100			0	1:1	0.06	0.081	0.086	0.098	0.061	25.6	21.8	16.0	-
Head	NR n77	3750.00	650000	3244M	AG1	I	15.0	14.72	Right Tilt	0	CW	100			0	1:1	0.06	0.111	0.118	0.134	0.084	24.3			-
Head	NR n77DoD	3500.01	633334	3244M	AG1	I	15.0	13.12	Right Tilt	0	CW	100			0	1:1	0.04	0.134	0.207	0.233	0.146	21.8			-
Head	NR n77	3750.00	650000	3244M	AG1	H	12.0	11.86	Left Cheek	0	CW	100			0	1:1	-0.14	0.027	0.028	0.032	0.020	27.5			-
Head	NR n77	3750.00	650000	3244M	AG1	H	12.0	11.86	Left Tilt	0	CW	100			0	1:1	0.00	0.002	0.002	0.002	0.001	38.8	22.1	16.0	-
Head	NR n77	3750.00	650000	3244M	AG1	H	12.0	11.86	Right Cheek	0	CW	100			0	1:1	-0.09	0.000	0.000	0.000	0.000	-			-
Head	NR n77	3750.00	650000	3244M	AG1	H	12.0	11.86	Right Tilt	0	CW	100			0	1:1	0.17	0.000	0.000	0.000	0.000	-			-
Head	NR n77DoD	3500.01	633334	3244M	AG1	H	12.0	10.23	Left Cheek	0	CW	100			0	1:1	0.12	0.065	0.098	0.110	0.069	22.1			-

NR TDD Band n77 Bodyworn/Hotspot SAR																									
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	RB Size	RB Offset	MPR (dB)	Duty Cycle	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Adjusted 1g SAR (W/kg)	Exposure Ratio	Part0 Plimit (dBm)	Overall Plimit (dBm)	EFS Plimit (dBm)	Plot No.
Bodyworn/Hotspot	NR n77	3750.00	550000	0937M	AG1	G	15.0	14.11	Rear	5	DFT-s OFDM QPSK	100	1	137	0	1:1	0.00	0.604	0.741	0.837	0.523	16.3	16.3	14.0	-
Bodyworn/Hotspot	NR n77	3930.00	662000	0937M	AG1	G	15.0	13.98	Rear	5	DFT-s OFDM QPSK	100	1	137	0	1:1	0.05	0.508	0.643	0.726	0.454	16.9			-
Bodyworn/Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.05	Rear	5	DFT-s OFDM QPSK	100	135	69	0	1:1	-0.03	0.441	0.549	0.620	0.388	17.6			-
Bodyworn/Hotspot	NR n77	3930.00	662000	0937M	AG1	G	15.0	13.90	Rear	5	DFT-s OFDM QPSK	100	135	69	0	1:1	-0.01	0.502	0.647	0.731	0.457	16.9			-
Bodyworn/Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.11	Front	5	DFT-s OFDM QPSK	100	1	137	0	1:1	-0.08	0.070	0.086	0.097	0.061	25.7			-
Bodyworn/Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.05	Front	5	DFT-s OFDM QPSK	100	135	69	0	1:1	0.04	0.067	0.083	0.094	0.059	25.8			-
Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.11	Left	10	DFT-s OFDM QPSK	100	1	137	0	1:1	-0.04	0.120	0.147	0.166	0.104	23.3			-
Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.05	Left	10	DFT-s OFDM QPSK	100	135	69	0	1:1	-0.11	0.097	0.121	0.136	0.085	24.2			-
Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.11	Top	10	DFT-s OFDM QPSK	100	1	137	0	1:1	-0.08	0.033	0.040	0.046	0.029	28.9			-
Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.05	Top	10	DFT-s OFDM QPSK	100	135	69	0	1:1	0.08	0.026	0.032	0.037	0.023	29.9			-
Bodyworn/Hotspot	NR n77DoD	3500.01	633334	0937M	AG1	G	15.0	14.66	Rear	5	DFT-s OFDM QPSK	100	1	1	0	1:1	-0.02	0.657	0.710	0.803	0.502	16.5	11.7	14.0	-
Bodyworn/Hotspot	NR n77	3750.00	650000	0937M	AG1	G	15.0	14.06	Rear	5	CP OFDM QPSK	100	1	1	0	1:1	-0.02	0.456	0.566	0.640	0.400	17.5			-
Bodyworn/Hotspot	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Rear	5	CW	100			0	1:1	0.02	0.690	0.859	0.971	0.607	11.7			A32
Bodyworn/Hotspot	NR n77	3750.00	650000	3244M	AG1	D	11.0	9.52	Rear	5	CW	100			0	1:1	-0.07	0.176	0.247	0.280	0.175	17.1			-
Bodyworn/Hotspot	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Front	5	CW	100			0	1:1	0.11	0.184	0.229	0.259	0.162	17.4			-
Hotspot	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Right	10	CW	100			0	1:1	-0.09	0.055	0.068	0.077	0.048	22.6			-
Hotspot	NR n77	3930.00	662000	3244M	AG1	D	11.0	10.05	Top	10	CW	100			0	1:1	0.05	0.253	0.315	0.356	0.222	16.0			-
Bodyworn/Hotspot	NR n77DoD	3500.01	633334	3244M	AG1	D	11.0	10.72	Rear	5	CW	100			0	1:1	0.09	0.119	0.127	0.143	0.090	20.0			-
Bodyworn/Hotspot	NR n77	3750.00	650000	3244M	AG1	I	13.0	12.84	Rear	5	CW	100			0	1:1	0.02	0.319	0.331	0.374	0.240	17.8			-
Bodyworn/Hotspot	NR n77	3750.00	650000	3244M	AG1	I	13.0	12.84	Front	5	CW	100			0	1:1	0.02	0.007	0.007	0.008	0.005	34.4	13.6	14.0	-
Hotspot	NR n77	3750.00	650000	3244M	AG1	I	13.0	12.84	Left	10	CW	100			0	1:1	0.09	0.006	0.006	0.007	0.005	35.1			-
Hotspot	NR n77	3750.00	650000	3244M	AG1	I	13.0	12.84	Top	10	CW	100			0	1:1	-0.02	0.029	0.030	0.034	0.022	28.2			-
Bodyworn/Hotspot	NR n77DoD	3500.01	633334	3244M	AG1	I	13.0	11.65	Rear	5	CW	100			0	1:1	0.06	0.632	0.863	0.975	0.609	13.6			-
Bodyworn/Hotspot	NR n77	3750.00	650000	3244M	AG1	H	10.0	9.92	Rear	5	CW	100			0	1:1	0.06	0.084	0.086	0.097	0.061	20.7	-		
Bodyworn/Hotspot	NR n77	3750.00	650000	3244M	AG1	H	10.0	9.92	Front	5	CW	100			0	1:1	0.01	0.000	0.000	0.000	0.000	-	-	-	
Hotspot	NR n77	3750.00	650000	3244M	AG1	H	10.0	9.92	Right	10	CW	100			0	1:1	0.08	0.009	0.009	0.010	0.007	30.4	14.8	14.0	-
Hotspot	NR n77	3750.00	650000	3244M	AG1	H	10.0	9.92	Top	10	CW	100			0	1:1	0.09	0.000	0.000	0.000	0.000	-			-
Bodyworn/Hotspot	NR n77DoD	3500.01	633334	3244M	AG1	H	10.0	8.24	Rear	5	CW	100			0	1:1	-0.01	0.220	0.330	0.373	0.234	14.8	-	-	

13.1.17 WLAN 2.4 GHz SAR Measurement Results

WLAN 2.4 GHz Head SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	Data Rate	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Head	2.4 GHz	2 437.00	6	3241M	ER	J	13.0	12.86	Left Cheek	0	802.11b	20	1Mbps	98.8	0.05	0.098	0.102	-
Head	2.4 GHz	2 437.00	6	3241M	ER	J	13.0	12.86	Left Tilt	0	802.11b	20	1Mbps	98.8	-0.01	0.082	0.086	-
Head	2.4 GHz	2 437.00	6	3241M	ER	J	13.0	12.86	Right Cheek	0	802.11b	20	1Mbps	98.8	0.02	0.213	0.223	A33
Head	2.4 GHz	2 437.00	6	3241M	ER	J	13.0	12.86	Right Tilt	0	802.11b	20	1Mbps	98.8	0.17	0.204	0.213	-

WLAN 2.4 GHz Bodyworn/Hotspot SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	Data Rate	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Bodyworn	2.4 GHz	2437.00	6	3241M	ER	J	16.0	15.72	Rear	5	802.11b	20	1Mbps	98.8	-0.01	0.200	0.216	-
Hotspot	2.4 GHz	2437.00	6	3241M	ER	J	19.0	17.79	Rear	10	802.11b	20	1Mbps	98.8	-0.11	0.075	0.100	-
Bodyworn/Hotspot	2.4 GHz	2437.00	6	3241M	ER	J	19.0	17.79	Front	5	802.11b	20	1Mbps	98.8	-0.19	0.075	0.100	-
Hotspot	2.4 GHz	2437.00	6	3241M	ER	J	19.0	17.79	Left	10	802.11b	20	1Mbps	98.8	-0.19	0.046	0.062	-
Hotspot	2.4 GHz	2437.00	6	3241M	ER	J	19.0	17.79	Top	10	802.11b	20	1Mbps	98.8	-0.01	0.255	0.341	A34

13.1.18 WLAN 5 GHz SAR Measurement Results

WLAN 5 GHz Head SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	Data Rate	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Head	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Left Cheek	0	802.11n	40	MCS0	95.0	-0.11	0.158	0.167	-
Head	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Left Tilt	0	802.11n	40	MCS0	95.0	0.17	0.199	0.210	-
Head	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Right Cheek	0	802.11n	40	MCS0	95.0	0.04	0.176	0.186	-
Head	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Right Tilt	0	802.11n	40	MCS0	95.0	-0.10	0.223	0.235	A35
Head	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Left Cheek	0	802.11ac	80	MCS0	90.4	-0.01	0.105	0.125	-
Head	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Left Tilt	0	802.11ac	80	MCS0	90.4	-0.13	0.158	0.188	-
Head	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Right Cheek	0	802.11ac	80	MCS0	90.4	0.14	0.141	0.168	-
Head	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Right Tilt	0	802.11ac	80	MCS0	90.4	0.12	0.187	0.223	-
Head	UNII3	5 775.00	155	0905M	ER	J	12.0	11.96	Left Cheek	0	802.11ac	80	MCS0	90.4	-0.12	0.138	0.154	-
Head	UNII3	5 775.00	155	0905M	ER	J	12.0	11.96	Left Tilt	0	802.11ac	80	MCS0	90.4	-0.02	0.169	0.189	-
Head	UNII3	5 775.00	155	0905M	ER	J	12.0	11.96	Right Cheek	0	802.11ac	80	MCS0	90.4	-0.15	0.149	0.166	-
Head	UNII3	5 775.00	155	0905M	ER	J	12.0	11.96	Right Tilt	0	802.11ac	80	MCS0	90.4	0.14	0.222	0.248	-

WLAN 5 GHz Bodyworn/Hotspot SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	Data Rate	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Hotspot	UNII1	5 200.00	40	3241M	ER	J	17.0	16.23	Rear	10	802.11a	20	6Mbps	97.3	-0.02	0.418	0.513	-
Hotspot	UNII1	5 200.00	40	3241M	ER	J	17.0	16.23	Front	5	802.11a	20	6Mbps	97.3	-0.08	0.292	0.358	-
Hotspot	UNII1	5 200.00	40	3241M	ER	J	17.0	16.23	Left	10	802.11a	20	6Mbps	97.3	-0.16	0.125	0.153	-
Hotspot	UNII1	5 200.00	40	3241M	ER	J	17.0	16.23	Top	10	802.11a	20	6Mbps	97.3	-0.09	0.562	0.690	A36
Bodyworn	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Rear	5	802.11n	40	MCS0	95.0	-0.12	0.377	0.398	-
Bodyworn	UNII2A	5 300.00	60	0905M	ER	J	17.0	16.08	Front	5	802.11a	20	6Mbps	97.3	-0.05	0.372	0.473	-
Bodyworn	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Rear	5	802.11ac	80	MCS0	90.4	-0.06	0.261	0.311	-
Bodyworn	UNII2C	5 500.00	100	0905M	ER	J	17.0	16.21	Front	5	802.11a	20	6Mbps	97.3	-0.07	0.349	0.430	-
Bodyworn	UNII3	5 775.00	155	0905M	ER	J	12.0	11.96	Rear	5	802.11ac	80	MCS0	90.4	-0.19	0.303	0.338	-
Hotspot	UNII3	5 745.00	149	0905M	ER	J	17.0	16.43	Rear	10	802.11a	20	6Mbps	97.3	-0.17	0.473	0.554	-
Bodyworn/Hotspot	UNII3	5 745.00	149	0905M	ER	J	17.0	16.43	Front	5	802.11a	20	6Mbps	97.3	-0.05	0.329	0.385	-
Hotspot	UNII3	5 745.00	149	0905M	ER	J	17.0	16.43	Left	10	802.11a	20	6Mbps	97.3	-0.19	0.145	0.170	-
Hotspot	UNII3	5 745.00	149	0904M	ER	J	17.0	16.43	Top	10	802.11a	20	6Mbps	97.3	0.03	0.514	0.602	-

WLAN 5 GHz Phablet SAR																		
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	BW (MHz)	Data Rate	Duty Cycle (%)	Power Drift (dB)	Meas. 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Plot No.
Phablet	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Rear	0	802.11n	40	MCS0	95.0	-0.01	0.260	0.274	-
Phablet	UNII2A	5 300.00	60	0905M	ER	J	17.0	16.08	Rear	7	802.11a	20	6Mbps	97.3	0.02	0.425	0.540	-
Phablet	UNII2A	5 300.00	60	0905M	ER	J	17.0	16.08	Front	0	802.11a	20	6Mbps	97.3	0.02	0.487	0.619	-
Phablet	UNII2A	5 300.00	60	0905M	ER	J	17.0	16.08	Left	0	802.11a	20	6Mbps	97.3	0.03	0.291	0.370	-
Phablet	UNII2A	5 270.00	54	3241M	ER	J	12.0	11.99	Top	0	802.11n	40	MCS0	95.0	0.00	0.312	0.329	-
Phablet	UNII2A	5 300.00	60	0905M	ER	J	17.0	16.08	Top	9	802.11a	20	6Mbps	97.3	-0.05	0.404	0.513	-
Phablet	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Rear	0	802.11ac	80	MCS0	90.4	0.01	0.235	0.280	-
Phablet	UNII2C	5 500.00	100	0905M	ER	J	17.0	16.21	Rear	7	802.11a	20	6Mbps	97.3	0.04	0.666	0.821	A37
Phablet	UNII2C	5 500.00	100	0905M	ER	J	17.0	16.21	Front	0	802.11a	20	6Mbps	97.3	0.03	0.639	0.787	-
Phablet	UNII2C	5 500.00	100	0905M	ER	J	17.0	16.21	Left	0	802.11a	20	6Mbps	97.3	0.01	0.544	0.670	-
Phablet	UNII2C	5 690.00	138	0905M	ER	J	12.0	11.68	Top	0	802.11ac	80	MCS0	90.4	-0.01	0.525	0.625	-
Phablet	UNII2C	5 500.00	100	0905M	ER	J	17.0	16.21	Top	9	802.11a	20	6Mbps	97.3	-0.02	0.569	0.701	-

13.1.19 BLUETOOTH SAR Measurement Results

Bluetooth Head SAR																
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Head	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Left Cheek	0	DH5	76.8	-0.02	0.071	0.091	-
Head	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Left Tilt	0	DH5	76.8	0.07	0.062	0.080	-
Head	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Right Cheek	0	DH5	76.8	0.00	0.144	0.185	-
Head	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Right Tilt	0	DH5	76.8	0.10	0.164	0.211	A38

Bluetooth Bodyworn/Hotspot SAR																
Exposure Condition	Band	Freq. (MHz)	Ch.	S/N	AG	Ant.	Tune-Up Limit (dBm)	Meas. Power (dBm)	Test Position	Dist. (mm)	Modulation	Duty Cycle (%)	Power Drift (dB)	Meas. 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Plot No.
Bodyworn/Hotspot	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Rear	5	DH5	76.8	-0.01	0.148	0.190	A39
Bodyworn/Hotspot	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Front	5	DH5	76.8	-0.04	0.079	0.102	-
Hotspot	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Left	10	DH5	76.8	-0.14	0.007	0.009	-
Hotspot	Bluetooth	2 441.00	39	0904M	ER	J	14.0	12.98	Top	10	DH5	76.8	-0.08	0.047	0.060	-

13.1.20 NFC SAR Measurement Results

NFC Phablet SAR												
Exposure Condition	Band	Freq. (MHz)	S/N	AG	Ant.	Test Position	Dist. (mm)	Signal Type	Power Drift (dB)	Meas. 10gSAR (W/kg)	Exposure Ratio	Plot No.
Phablet	NFC	13.56	0933M	ER	NFC	Rear	0	A	0.02	0.020	0.005	A40
Phablet	NFC	13.56	0933M	ER	NFC	Rear	0	B	-0.03	0.019	0.005	-
Phablet	NFC	13.56	0933M	ER	NFC	Rear	0	F	-0.16	0.020	0.005	-
Phablet	NFC	13.56	0933M	ER	NFC	Front	0	A	0.00	0.000	0.000	-
Phablet	NFC	13.56	0933M	ER	NFC	Left	0	A	0.00	0.000	0.000	-
Phablet	NFC	13.56	0933M	ER	NFC	Top	0	A	0.00	0.000	0.000	-

13.2 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Procedure.
2. Batteries are fully charged at the beginning of the SAR measurements. A standard battery was used for all SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 5 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB 648474 D04v01r03, SAR was evaluated without a headset connected to the device. Since the standalone reported SAR was 1.2 W/kg, no additional SAR evaluation using a headset cable were required.
8. The 1g SAR test for Body worn and Hotspot in WWAN mode and WLAN/BT mode of this DUT is performed at 5 mm separation distance, so 10g Phablet SAR is not required per FCC KDB 941225 D07 UMPC Mini Tablet v01r02.
9. Per FCC KDB 865664 D01v01r04, variability SAR measurement were performed when the measured SAR results for a frequency Band were greater than or equal to 0.8 W/kg for 1g SAR and >2 for 10g SAR Please see Section 15 for variability analysis.

GSM/GPRS Test Notes:

1. This EUT'S GSM and GPRS device class is B.
2. This device supports GPRS VOIP in the head and the body-worn configurations therefore GPRS was additionally evaluated for head and body-worn compliance.
3. Justification for reduced test configurations per KDB 941225 D01v03r01: The source-based time-averaged output power was evaluated for all multi-slot operations. The multi-slot configuration with the highest frame averaged output power including tolerance was evaluated for SAR.
4. Per FCC KDB 447498 D04v01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is 1/2 dB, instead of the middle channel, the highest output power channel must be used.

UMTS Notes:

1. The 12.2 kbps RMC mode is the primary mode per KDB 941225 D01v03r01.
2. UMTS SAR was tested under RMC 12.2 kbps with HSPA inactive per KDB publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
3. Per FCC KDB 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the channel highest output power channel was used.

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Consideration for LTE Devices in FCC KDB 941225 D05v02r05.
2. According to FCC KDB 941225 D05v02r05:
When the reported SAR is 0.8 W/kg, testing of the 100% RB allocation and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the 1RB, 50%RB and 100%RB allocation with highest output power for that channel. Only one channel, and as reported SAR values for 1RB allocation and 50%RB allocation were less than 1.45W/Kg only the highest power RB offset for each allocation was required.
3. 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 target MPR is indicated alongside the SAR results.
4. When Power reduction is applied, MPR is 0 for some modes.
5. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator.
6. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) LTE TDD Band 41 SAR measured at the highest output power channel for each test configuration is 0.6 W/kg then testing at the other channels is not required for such test configurations.
7. TDD LTE (Power Class 3) was tested using UL-DL configuration 0 with 6 UL sub frames and 2S sub frames using extended cyclic prefix only and special sub frame configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Sec. 4, the duty factor using extended cyclic prefix is 0.633(cf=1.58).
8. Per KDB 941225 D05Av01r02, SAR for LTE Carrier Aggregation operations was not needed because the maximum average output power in LTE CA mode was not > 0.25 dB higher than the maximum output power when downlink CA was not activated.
9. SAR test reduction is applied using the following criteria:
Start with the largest channel Bandwidth and measure SAR for QPSK with 1 RB, and 50 % RB allocation, using the RB offset and required test channel combination with the highest maximum output power among 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 for other Channels is performed at the highest output power level for 1RB, and 50 % RB configuration for that channel. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are >0.8 W/kg, testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation <1.45 W/kg. Testing for 16-QAM modulation is not required because the reported SAR for QPSK is <1.45 W/kg and its output power is not more than 0.5 dB higher than that a QPSK. Testing for the other channel Bandwidths is not required because the reported SAR for the highest channel Bandwidth is <1.45 W/kg and its output power is not more than 0.5 dB higher than that of the highest channel Bandwidth.

NR Notes:

1. NR This device supports SA and NSA mode for NR implementation. In EN-DC Mode, NR operate with the LTE Bands shown in the NR FR1 checklist acting as anchor Bands.
2. Due to Limitations of the SAR measurement equipment, SAR testing for NR TDD Bands was performed separately using test mode (FTM) software.
3. More detailed specifications of the NR Bands are contained in the technical description document.
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. For NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power was evaluated for SAR tests.
6. SRS was tested with CW signal per Qualcomm guidance in 80-w2112-4.

WLAN Notes:

1. For held-to-ear and hotspot operations, the initial test position procedures were applied. For initial test position, the highest extrapolated peak SAR will be used. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR results is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10 g SAR or all test position are measured.
2. Per KDB 2482227 D01v02r02 justification for test configurations of 2.4 GHz WiFi Single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement.
3. Per KDB 2482227 D01v02r02 justification for test configurations of 5 GHz WiFi Single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission mode was not investigated since the highest reported SAR for initial test configuration adjusted by the ration of maximum output powers is less than 1.2 W/kg for 1 g SAR and less than 3.0 W/kg for 10 g SAR.
4. When the maximum reported 1g averaged SAR is ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rated, channel Bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated WLAN test reports.

Bluetooth Notes:

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests mode type. In the technical documentation, the maximum duty factor of the declared BT was applied to the SAR results. Please see sec.11 for the time-domain plot and calculation for duty factor of the device.
2. Head and Bluetooth tethering SAR were evaluated for BT BDR tethering applications.

14. Simultaneous SAR Analysis

14.1 Simultaneous Transmission Procedure

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D04v01 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific physical test configuration is ≤ 1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

Per FCC KDB Publication 941225 D06v02r01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR.

This device is enabled with Qualcomm® Smart Transmit Gen2 with pre-defined antenna groups (AG0 and AG1). Simultaneous transmission analysis is performed per antenna groups. Below analysis demonstrates the mutually exclusive operation of AG0 and AG1, and the compliance between each antenna group with non-Smart Transmit Radios. For this model, WWAN Radios are managed under Smart Transmit. Non-Smart Transmit Radios include WLAN, BT, NFC.

When operating in the same antenna group, the compliance under dynamic transmission condition, including all supported simultaneous transmission scenarios, should be assessed demonstrated in the Part 2 Report during algorithm validation. Therefore, no further simultaneous analysis is needed within an antenna group.

When all WWAN Radios are managed under Smart Transmit, TER for WWAN is covered in Part 2 testing. Only external radios outside of WWAN(WLAN, BT, NFC)require TER analysis with WWAN during simultaneous transmissions.

14.2 Antenna grouping evaluation

The 2nd generation of Smart Transmit (GEN2) operates based on pre-defined sub6 antenna groups (AG). Sub6 Tx antennas in the device are grouped based on spatial variation of RF exposure distributions, where the RF exposure of one AG is mutually exclusive from other AG. This is accomplished by demonstrating below conditions for all exposure positions under each DSI for a given exposure category.

- a) Sum of SAR of one antenna from each of the sub6 AGs and the RF exposure from radios outside Smart Transmit is less than regulatory limits. This condition must be demonstrated for all antenna combinations of sub6 AGs.
- or
- b) Every antenna from each sub6 AG meets SPLSR criteria (Section 4.3.2(c) in FCC KDB 447498 D01) with every antenna from another sub6 AG. These criteria must be demonstrated for all antenna combinations for each pair of AGs

This device supports two AGs: Table 14.2. The conditions are verified through the following criteria:

- i) Sum of SAR: Demonstrate that the sum of **max.norm.exp.AG0** and **max.norm.exp.AG1** and the reported normalized SAR values from radios outside Smart Transmit (denoted as reported.norm.exp.ER) should be less than the regulatory limit for each supported DSI following the below procedure:
 - 1. For a given Obtain the worst-case adjusted SAR for each antenna group, i.e., maximum

reported SAR at EFS P_{limit} + uncertainty (or max of $\{P_{max} + \text{uncertainty}, \text{EFS } P_{limit}\}$, when $\text{EFS } P_{limit} > P_{max}$) out of all supported technologies, frequency bands and antennas in AG0 and AG1, then normalized to the regulatory limit to get the maximum normalized SAR for each antenna group (max.norm.exp.AG0 and max.norm.exp.AG1)

2. For external radios outside of Smart Transmit : Obtain the worst-case RF exposure for each external radio normalized to regulatory limit to get the normalized SAR for each external radio

3. Demonstrate that the sum of these RF exposures meets:

$$\{\text{max.norm.exp.AG0} + \text{max.norm.exp.AG1} + \text{normalized NFC SAR}\} \leq 1.$$

SPLSR or composite exposure distribution criteria: when TER sum of an antenna pair is over the limit for a DSI/exposure position, SPLSR or composite exposure distribution can be done to demonstrate simultaneous transmission compliance.

1. SPLSR analysis for sub6 antenna pairs: For each antenna, obtain the highest adjusted SAR at EFS P_{limit} + uncertainty (or max of $\{P_{max} + \text{uncertainty}, \text{EFS } P_{limit}\}$ when $\text{EFS } P_{limit} > P_{max}$) out of all supported technologies for each frequency band. Using these values, demonstrate for a given DSI that every antenna from one AG meets SPLSR criteria with every antenna in another AG for all frequency bands. This criterion must be demonstrated for all antenna pair combinations irrespective of supported simultaneous transmission scenarios as given below for each DSI. As it can be seen, these include all combinations of antenna groups, antennas, and frequency bands.

-If SPLSR criteria evaluation and analysis is needed to determine compliance for a certain DSI configuration, SPLSR is performed by taking the highest reported SAR for each of the supported technologies and bands per antenna, along with the peak SAR locations. Per Qualcomm guidance, only Y-axis coordinates are recorded in the analysis for calculation simplicity (assumes all 0mm of separation on the x-axis). Peak locations are documented in the Highest Report SAR and Hotspot Location Section below for each DSI configuration. For bottom AG0, Y_{max} coordinates represents the worst-case hotspot location that is closest to the top AG1. Similarly, for top AG1, Y_{min} coordinate represents the worst-case hotspot location that is closest to the bottom AG0

The following formula is used to calculate the SPLSR between AG0 and AG1 for each exposure configuration:

$$\text{SPLSR} = \frac{(\text{Max SAR AG0} + \text{Max SAR AG1})^{1.5}}{|Y_{max} - Y_{min}|}$$

2. Composite exposure distributions for SAR antenna pairs, or SAR- antenna pairs: determine the composite exposure distributions for each antenna, normalized each composite distribution with the regulatory limit, then overlay/align these distributions in Speag relative to the device, and then sum them up in space to determine the aggregate distribution. Demonstrate the maximum normalized exposure out of all points in space on the aggregate distribution ≤ 1
3. For a given exposure condition, the composite exposure distribution for an antenna is determined by aligning the exposure distributions in space relative to the device and taking the maximum value of each point in space out of all supported radio configurations from all supported technologies/bands.
4. To determine composite SAR distribution for an antenna on a given DSI/exposure position:
5. Perform “Fast Volume Scan” in the mid channel using SPEAG DASY to obtain 1g/10g SAR distribution for each technology/band supported on the antenna.

Export the 1gSAR or 10gSAR distribution from the “Fast Volume Scan” and divide it by the maximum value in the distribution to obtain normalized 1gSAR or 10gSAR distribution for each technology/band.

6. Scale this normalized 1gSAR or 10gSAR distribution with the “adjusted SAR” value obtained from maximum reported SAR at EFS $P_{\text{limit}} + \text{uncertainty}$ (or max of $\{P_{\text{max}} + \text{uncertainty}, \text{EFS } P_{\text{limit}}\}$ when $\text{EFS } P_{\text{limit}} > P_{\text{max}}$) out of all supported technologies/bands for that antenna.
Determine composite SAR exposure distribution for the antenna given by maximum exposure distribution out of all supported technologies/bands at each point in space.
7. Determine normalized composite SAR distribution by dividing step 4) result with the regulatory limit.

Table. 14.1 Device specific characteristic

DSI No.	Antenna Groups	Antenna Group list							
DSI = 0,1	AG0	Ant. A							
	AG1	Ant. C	Ant. D	Ant. E	Ant. F	Ant. G	Ant. H	Ant. I	Ant. K
ER		NFC Ant.	WLAN Ant.	BT Ant.					
ER = External Radio/antennas supported outside of Smart Transmit									
<i>Multi_Tx_factor</i>		1.13							

14.3 Head SAR Simultaneous Transmission Analysis

The Maximum measurement result for AG0		
Position	Ant A	Max.AG0
Left Cheek	0.779	0.779
Left Tilt	0.626	0.626
Right Cheek	0.440	0.440
Right Tilt	0.377	0.377

The Maximum measurement result for AG1									
Position	Ant.C	Ant.D	Ant.E	Ant.F	Ant.G	Ant.H	Ant.I	Ant.K	Max.AG1
Left Cheek	0.159	0.495	0.426	0.310	0.085	0.110	0.071	0.450	0.495
Left Tilt	0.141	0.543	0.572	0.266	0.073	0.005	0.098	0.121	0.572
Right Cheek	0.577	0.304	0.166	0.722	0.402	0.000	0.098	0.263	0.722
Right Tilt	0.264	0.385	0.210	0.387	0.178	0.000	0.233	0.058	0.387

The Maximum measurement result for WLAN/BT			
Position	DTS Ant. J	UNII Ant. J	Bluetooth
Left Cheek	0.102	0.167	0.091
Left Tilt	0.086	0.210	0.080
Right Cheek	0.223	0.186	0.185
Right Tilt	0.213	0.248	0.211

Simultaneous Transmission analysis for Head SAR			
Position	AG0+AG1+WLAN2.4GHz	AG0+AG1+ WLAN5GHz	AG0+AG1 +Bluetooth
Left Cheek	1.377	1.441	1.365
Left Tilt	1.284	1.408	1.278
Right Cheek	1.384	1.347	1.347
Right Tilt	0.977	1.012	0.975

14.4 Bodyworn SAR Simultaneous Transmission Analysis

The Maximum measurement result for AG0		
Position	Ant A	Max.AG0
Rear	1.174	1.174
Front	0.709	0.709

The Maximum measurement result for AG1									
Position	Ant.C	Ant.D	Ant.E	Ant.F	Ant.G	Ant.H	Ant.I	Ant.K	Max.AG1
Rear	0.968	0.971	0.414	0.640	0.837	0.373	0.975	0.452	0.975
Front	0.086	0.259	0.102	0.624	0.097	0.000	0.008	0.095	0.624

The Maximum measurement result for WLAN/BT			
Position	DTS Ant. J	UNII Ant. J	Bluetooth
Rear	0.216	0.398	0.190
Front	0.100	0.473	0.102

Simultaneous Transmission analysis for Bodyworn SAR			
Position	AG0+AG1+WLAN2.4GHz	AG0+AG1+ WLAN5GHz	AG0+AG1+Bluetooth
Rear	See the section 14.7.1	See the section 14.7.1	See the section 14.7.1
Front	1.433	See the section 14.7.1	1.435

14.5 Hotspot SAR Simultaneous Transmission Analysis

The Maximum measurement result for AG0		
Position	Ant A	Max.AG0
Rear	1.174	1.174
Front	0.709	0.709
Left	0.250	0.250
Right	0.548	0.548
Top	-	-
Bottom	0.640	0.640

The Maximum measurement result for AG1									
Position	Ant.C	Ant.D	Ant.E	Ant.F	Ant.G	Ant.H	Ant.I	Ant.K	Max.AG1
Rear	0.968	0.971	0.414	0.640	0.837	0.373	0.975	0.452	0.975
Front	0.086	0.259	0.102	0.624	0.097	0.000	0.008	0.095	0.624
Left	0.148	-	-	0.199	0.166	-	0.007	-	0.199
Right	-	0.077	0.008	-	-	0.010	-	0.090	0.090
Top	0.008	0.356	0.091	0.218	0.046	0.000	0.035	0.007	0.356
Bottom	-	-	-	-	-	-	-	-	-

The Maximum measurement result for WLAN/BT			
Position	DTS Ant. J	UNII Ant. J	Bluetooth
Rear	0.100	0.554	0.190
Front	0.100	0.385	0.102
Left	0.062	0.170	0.009
Right	-	-	-
Top	0.341	0.690	0.060
Bottom	-	-	-

Simultaneous Transmission analysis for Hotspot SAR			
Position	AG0+AG1+WLAN2.4GHz	AG0+AG1+ WLAN5GHz	AG0+AG1+Bluetooth
Rear	See the section 14.7.2	See the section 14.7.2	See the section 14.7.2
Front	1.433	See the section 14.7.2	1.435
Left	0.511	0.619	0.458
Right	0.638	0.638	0.638
Top	0.697	1.046	0.416
Bottom	0.640	0.640	0.640

14.6 Phablet SAR Simultaneous Transmission Analysis

The Maximum measurement result for NFC		
Position	NFC	Max. NFC
Rear	0.020	0.020
Front	0.000	0.000
Left	0.000	0.000
Right	-	-
Top	0.000	0.000
Bottom	-	-

The Maximum measurement result for UNII			
Position	UNII 2A	UNII 2C	Max. UNII
Rear	0.540	0.821	0.821
Front	0.619	0.787	0.787
Left	0.370	0.670	0.670
Right	-	-	-
Top	0.513	0.701	0.701
Bottom	-	-	-

Simultaneous Transmission analysis for Phablet SAR	
Position	NFC + UNII
Rear	0.841
Front	0.787
Left	0.670
Right	-
Top	0.701
Bottom	-

14.7 SAR to Peak Location Separation Ratio (SPLSR)

FCC KDB 447498 D01v06 General RF Exposure Guidance introduces a new formula for calculating the SAR a Peak Location Separation Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR_i = (SAR_1 + SAR_2)^{1.5} / R_i$$

Where:

SAR₁ is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

R_i is the separation distance between the pair of simultaneous transmitting antennas, When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(X_1 - X_2)^2 + (Y_1 - Y_2)^2 + (Z_1 - Z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum 1-g of SAR > 1.6 W/kg and with the sum 10-g of SAR > 4 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / R_i \leq 0.04 \text{ for 1g SAR and } (SAR_1 + SAR_2)^{1.5} / R_i \leq 0.1 \text{ for 10g SAR}$$

14.6 Sum-Peak Location Separation Ratio

Per May 2022 TCB Workshop, this Procedure can only be applied when simultaneous transmission SAR is > 1.6 W/kg, it does not meet SPLSR criteria, and antenna pair is co-located

Test Procedure:

1. Instead of doing a small volume scan over a co-located antenna pair, sum the SAR value of the co-located pair and use that value in SPLSR calculation.
2. This calculation use the minimum distance between the spatially antenna and the closest antenna of the co-located antenna pair to be conservative
3. Sum-Peak Location Separation Ratio

14.7.1 BodyWorn SPLSR Evaluation

Ant Group 0 (Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
GSM 850	A	0.0	84.2	-207.0	0.916
GSM 1900	A	-47.8	80.1	-207.0	0.633
UMTS Band 2	A	-45.3	79.8	-207.0	0.697
UMTS Band 4	A	-36.8	76.6	-207.0	0.555
UMTS Band 5	A	-4.5	78.7	-207.0	1.052
LTE Band 2	A	-5.8	80.1	-207.0	0.518
LTE Band 5	A	-6.2	84.9	-207.0	1.005
LTE Band 12	A	1.0	85.7	-207.0	1.167
LTE Band 13	A	-0.7	82.9	-207.0	1.174
LTE Band 26	A	3.0	85.2	-207.0	1.162
LTE Band 41	A	-42.0	74.5	-207.0	0.430
LTE Band 66	A	-48.6	83.1	-207.0	0.893
NR Band n5	A	3.5	85.2	-207.0	1.098
NR Band n41	A	-44.0	80.5	-207.0	0.423
NR Band n66	A	-41.3	77.6	-206.4	0.866

Ant Group 1 (Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
LTE Band 41	C	-62.7	-43.8	-207.0	0.968
LTE Band 66	F	-50.6	-72.1	-207.0	0.640
NR Band n41 SRS1	E	4.5	-79.0	-207.0	0.414
NR Band n41 SRS2	C	-62.7	-42.8	-207.0	0.732
NR Band n41 SRS3	K	7.5	-42.0	-207.0	0.452
NR Band n66	F	-52.4	-68.9	-207.0	0.512
NR Band n77	G	-52.6	-58.2	-207.0	0.837
NR Band n77 SRS1	D	-14.0	-81.5	-207.0	0.971
NR Band n77 SRS2	I	-44.8	-77.0	-207.0	0.975
NR Band n77 SRS3	H	14.3	-50.1	-207.0	0.373

WLAN/BT(Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
WLAN 2.4GHz Ant1	J	-53.5	-66.5	-207.0	0.216
WLAN 5GHz Ant1	J	-39.1	-77.0	-207.0	0.398
Bluetooth	J	-50.5	-64.0	-207.0	0.190

Ant Group 0 (Front)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
GSM 850	A	-34.5	86.7	-207.0	0.576
GSM 1900	A	-2.5	78.6	-207.0	0.316
UMTS Band 2	A	-1.1	77.6	-207.0	0.354
UMTS Band 4	A	-0.6	79.3	-207.0	0.458
UMTS Band 5	A	-24.1	93.4	-207.0	0.498
LTE Band 2	A	-0.9	78.1	-207.0	0.294
LTE Band 5	A	-34.5	90.0	-207.0	0.435
LTE Band 12	A	-29.7	90.9	-207.0	0.548
LTE Band 13	A	-34.6	93.9	-207.0	0.566
LTE Band 26	A	-33.3	91.1	-207.0	0.709
LTE Band 41	A	-3.5	76.5	-207.0	0.306
LTE Band 66	A	-3.8	72.3	-207.0	0.458
NR Band n5	A	-34.6	88.9	-207.0	0.450
NR Band n41	A	-4.5	81.0	-207.0	0.271
NR Band n66	A	0.9	66.8	-206.6	0.511

Ant Group 1 (Front)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
LTE Band 41	C	15.0	-47.0	-207.0	0.086
LTE Band 66	F	6.3	-54.4	-207.0	0.475
NR Band n41 SRS1	E	-50.0	-84.5	-207.0	0.102
NR Band n41 SRS2	C	18.5	-46.5	-207.0	0.073
NR Band n41 SRS3	K	-55.5	-33.5	-207.0	0.095
NR Band n66	F	3.3	-64.6	-207.0	0.624
NR Band n77	G	21.5	-68.5	-207.0	0.097
NR Band n77 SRS1	D	-40.5	-87.0	-207.0	0.259
NR Band n77 SRS2	I	8.7	-74.5	-207.0	0.008
NR Band n77 SRS3	H	-	-	-	0.000

WLAN/BT(Front)

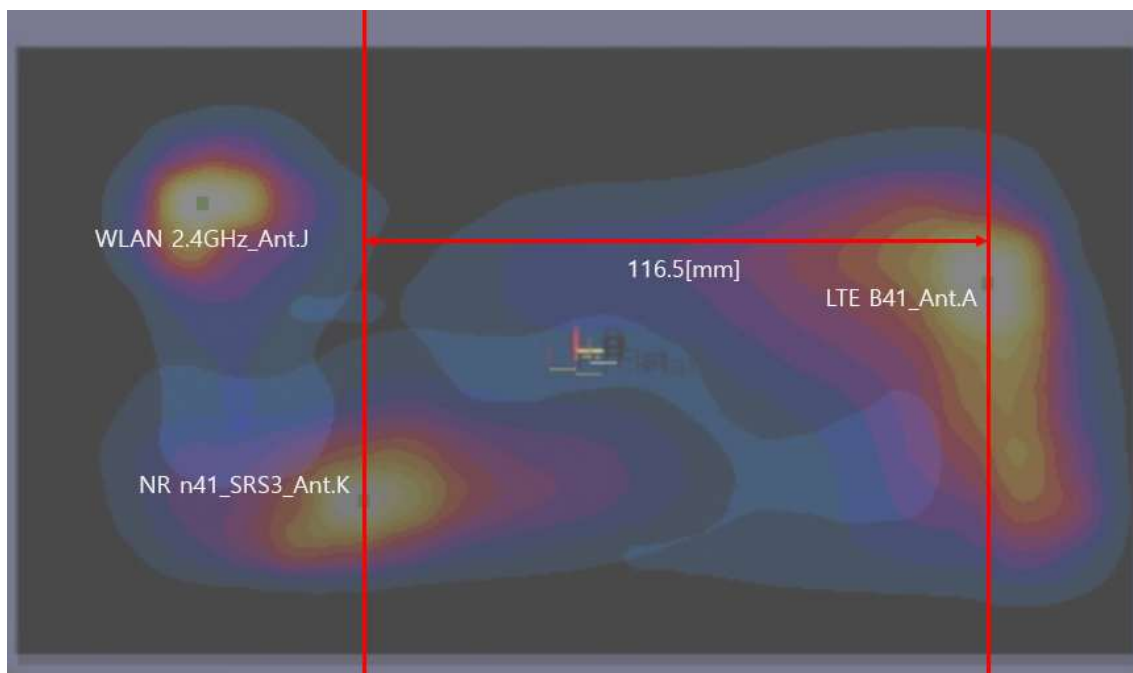
Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
WLAN 2.4GHz Ant1	J	-13.5	-72.5	-207.0	0.100
WLAN 5GHz Ant1	J	4.8	-61.8	-207.0	0.473
Bluetooth	J	3.0	-75.0	-207.0	0.102

14.7.1.1 Group analysis SPLSR AG0 + AG1 + WLAN 2.4 GHz (Rear Bodyworn)

	AG0	AG1	WLAN 2.4 GHz
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-66.5
Max SAR(W/kg)		0.975	0.216
AG0, (AG1, WLAN2.4 GHz) Distance(mm)		116.5	
(AG1+WLAN 2.4 GHz) SAR(W/kg)		1.191	
(AG0+AG1+WLAN 2.4 GHz) SAR(W/kg)		2.365	
AG0, AG1+WLAN 2.4GHz (SPLSR)		0.031	

SPLSR Plot for AG0 + AG1 + WLAN 2.4 GHz

AG0 + AG1 + WLAN 2.4 GHz

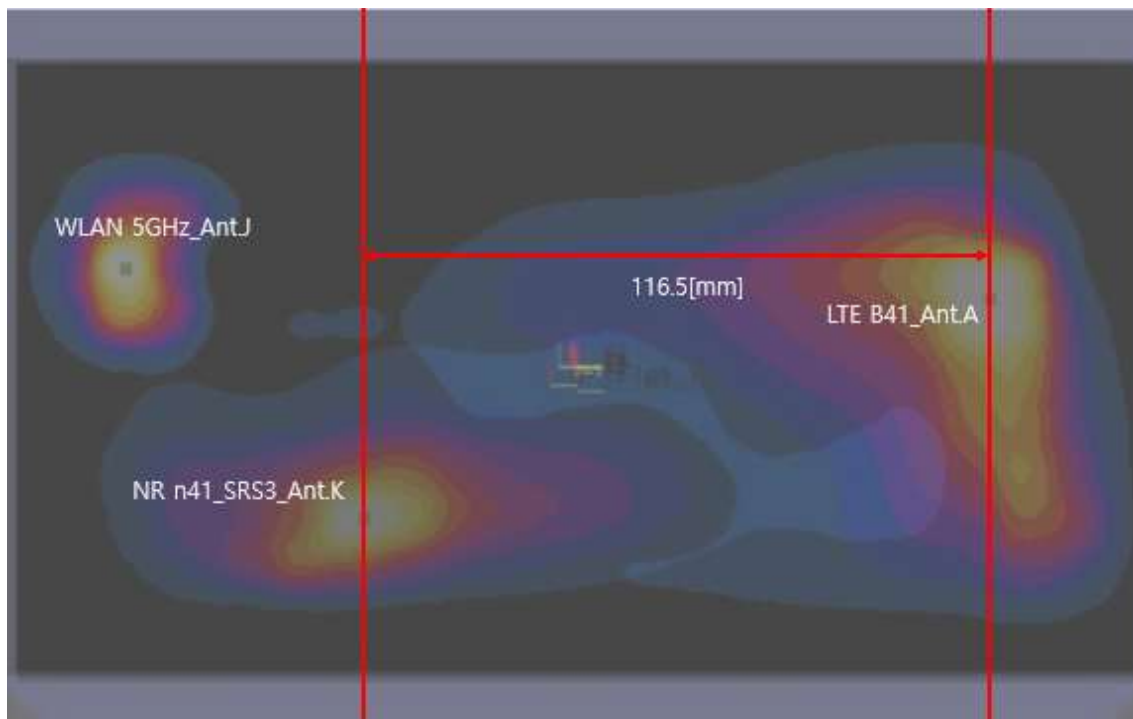


14.7.1.2 Group analysis SPLSR AG0 + AG1 + WLAN 5 GHz (Rear Bodyworn)

	AG0	AG1	WLAN 5 GHz
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-77.0
Max SAR(W/kg)		0.975	0.398
AG0, (AG1, WLAN5 GHz) Distance(mm)		116.5	
(AG1+WLAN 5 GHz) SAR(W/kg)		1.373	
(AG0+AG1+WLAN 5 GHz) SAR(W/kg)		2.547	
AG0, AG1+ WLAN 5 GHz (SPLSR)		0.035	

SPLSR Plot for AG0 + AG1 + WLAN 5 GHz

AG0 + AG1 + WLAN 5 GHz

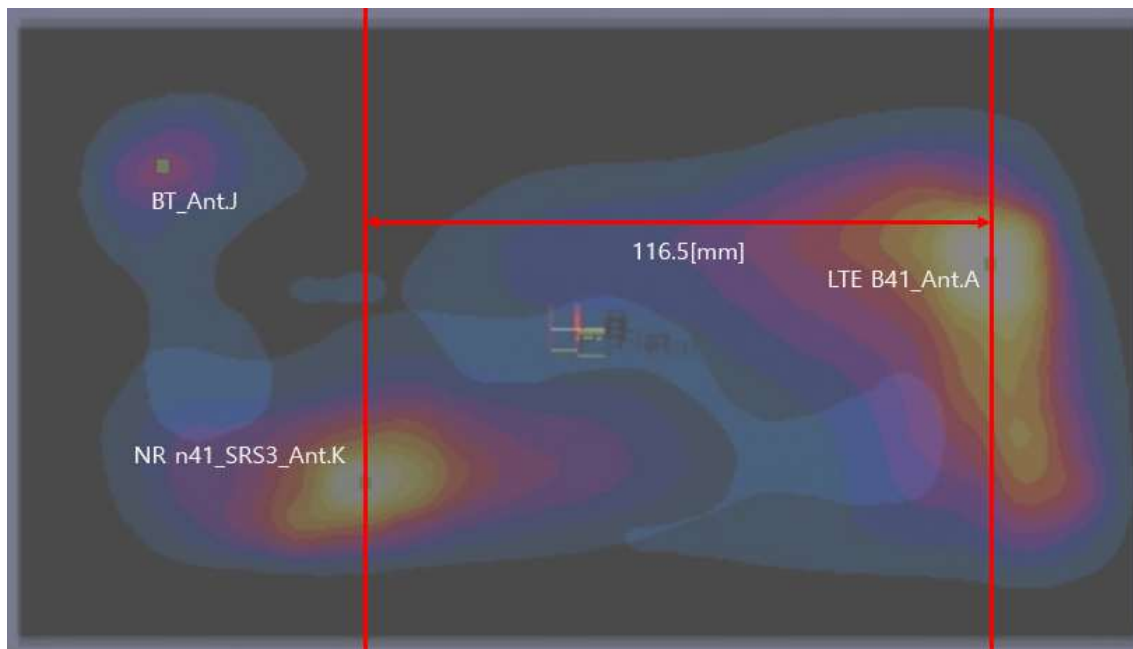


14.7.1.3 Group analysis SPLSR AG0 + AG1 +Bluetooth (Rear Bodyworn)

	AG0	AG1	Bluetooth
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-64.0
Max SAR(W/kg)		0.975	0.190
AG0, (AG1, Bluetooth) Distance(mm)		116.5	
(AG1+Bluetooth) SAR(W/kg)		1.165	
(AG0+AG1+Bluetooth) SAR(W/kg)		2.339	
AG0, AG1+ Bluetooth (SPLSR)		0.031	

SPLSR Plot for AG0 + AG1 + Bluetooth

AG0 + AG1 + Bluetooth

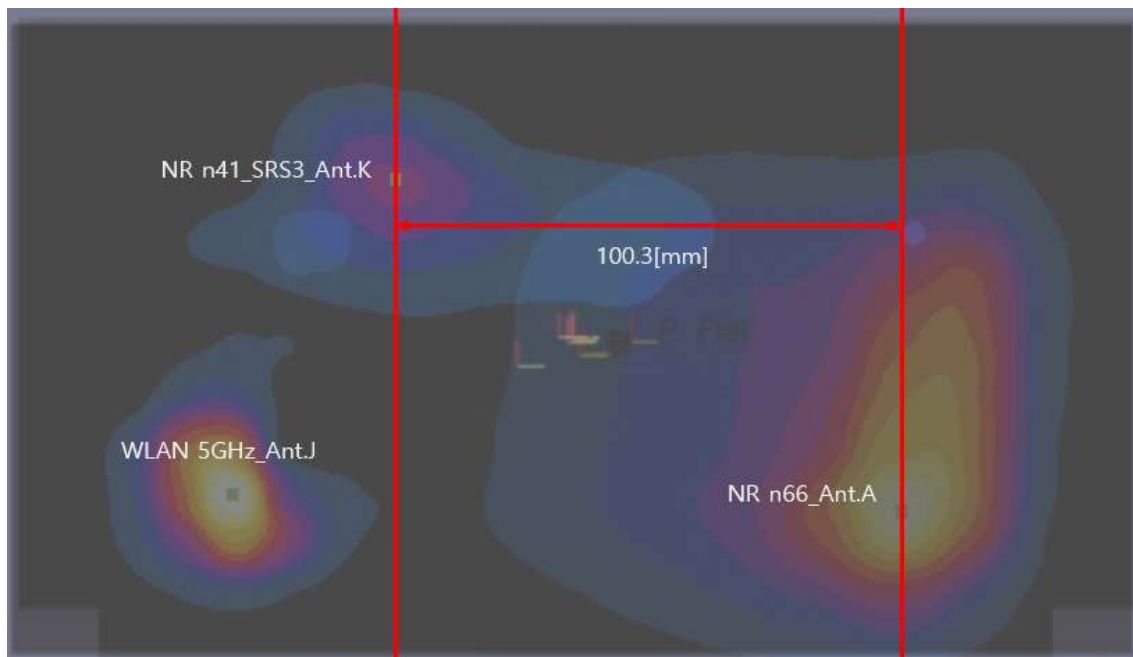


14.7.1.4 Group analysis SPLSR AG0 + AG1 + WLAN 5 GHz (Front Bodyworn)

	AG0	AG1	WLAN 5 GHz
Min Y-axis(mm)	66.8		
Max SAR(W/kg)	0.709		
Max Y-axis(mm)		-33.5	-61.8
Max SAR(W/kg)		0.624	0.473
AG0, (AG1, WLAN5 GHz) Distance(mm)		100.3	
(AG1+WLAN 5 GHz) SAR(W/kg)		1.097	
(AG0+AG1+WLAN 5 GHz) SAR(W/kg)		1.806	
AG0, AG1+ WLAN 5 GHz (SPLSR)		0.024	

SPLSR Plot for AG0 + AG1 + WLAN 5 GHz

AG0 + AG1 + WLAN 5 GHz



14.7.2 Hotspot SPLSR Evaluation

Ant Group 0 (Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
GSM 850	A	0.0	84.2	-207.0	0.916
GSM 1900	A	-47.8	80.1	-207.0	0.633
UMTS Band 2	A	-45.3	79.8	-207.0	0.697
UMTS Band 4	A	-36.8	76.6	-207.0	0.555
UMTS Band 5	A	-4.5	78.7	-207.0	1.052
LTE Band 2	A	-5.8	80.1	-207.0	0.518
LTE Band 5	A	-6.2	84.9	-207.0	1.005
LTE Band 12	A	1.0	85.7	-207.0	1.167
LTE Band 13	A	-0.7	82.9	-207.0	1.174
LTE Band 26	A	3.0	85.2	-207.0	1.162
LTE Band 41	A	-42.0	74.5	-207.0	0.430
LTE Band 66	A	-48.6	83.1	-207.0	0.893
NR Band n5	A	3.5	85.2	-207.0	1.098
NR Band n41	A	-44.0	80.5	-207.0	0.423
NR Band n66	A	-41.3	77.6	-206.4	0.866

Ant Group 1 (Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
LTE Band 41	C	-62.7	-43.8	-207.0	0.968
LTE Band 66	F	-50.6	-72.1	-207.0	0.640
NR Band n41 SRS1	E	4.5	-79.0	-207.0	0.414
NR Band n41 SRS2	C	-62.7	-42.8	-207.0	0.732
NR Band n41 SRS3	K	7.5	-42.0	-207.0	0.452
NR Band n66	F	-52.4	-68.9	-207.0	0.512
NR Band n77	G	-52.6	-58.2	-207.0	0.837
NR Band n77 SRS1	D	-14.0	-81.5	-207.0	0.971
NR Band n77 SRS2	I	-44.8	-77.0	-207.0	0.975
NR Band n77 SRS3	H	14.3	-50.1	-207.0	0.373

WLAN/BT(Rear)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
WLAN 2.4GHz Ant1	J	-58.0	-64.5	-207.0	0.100
WLAN 5GHz Ant1	J	-41.1	-70.5	-207.0	0.554
Bluetooth	J	-50.5	-64.0	-207.0	0.190

Ant Group 0 (Front)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
GSM 850	A	-34.5	86.7	-207.0	0.576
GSM 1900	A	-2.5	78.6	-207.0	0.316
UMTS Band 2	A	-1.1	77.6	-207.0	0.354
UMTS Band 4	A	-0.6	79.3	-207.0	0.458
UMTS Band 5	A	-24.1	93.4	-207.0	0.498
LTE Band 2	A	-0.9	78.1	-207.0	0.294
LTE Band 5	A	-34.5	90.0	-207.0	0.435
LTE Band 12	A	-29.7	90.9	-207.0	0.548
LTE Band 13	A	-34.6	93.9	-207.0	0.566
LTE Band 26	A	-33.3	91.1	-207.0	0.709
LTE Band 41	A	-3.5	76.5	-207.0	0.306
LTE Band 66	A	-3.8	72.3	-207.0	0.458
NR Band n5	A	-34.6	88.9	-207.0	0.450
NR Band n41	A	-4.5	81.0	-207.0	0.271
NR Band n66	A	0.9	66.8	-206.6	0.511

Ant Group 1 (Front)

Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Adjusted SAR [W/kg]
LTE Band 41	C	15.0	-47.0	-207.0	0.086
LTE Band 66	F	6.3	-54.4	-207.0	0.475
NR Band n41 SRS1	E	-50.0	-84.5	-207.0	0.102
NR Band n41 SRS2	C	18.5	-46.5	-207.0	0.073
NR Band n41 SRS3	K	-55.5	-33.5	-207.0	0.095
NR Band n66	F	3.3	-64.6	-207.0	0.624
NR Band n77	G	21.5	-68.5	-207.0	0.097
NR Band n77 SRS1	D	-40.5	-87.0	-207.0	0.259
NR Band n77 SRS2	I	8.7	-74.5	-207.0	0.008
NR Band n77 SRS3	H	-	-	-	0.000

WLAN/BT(Front)

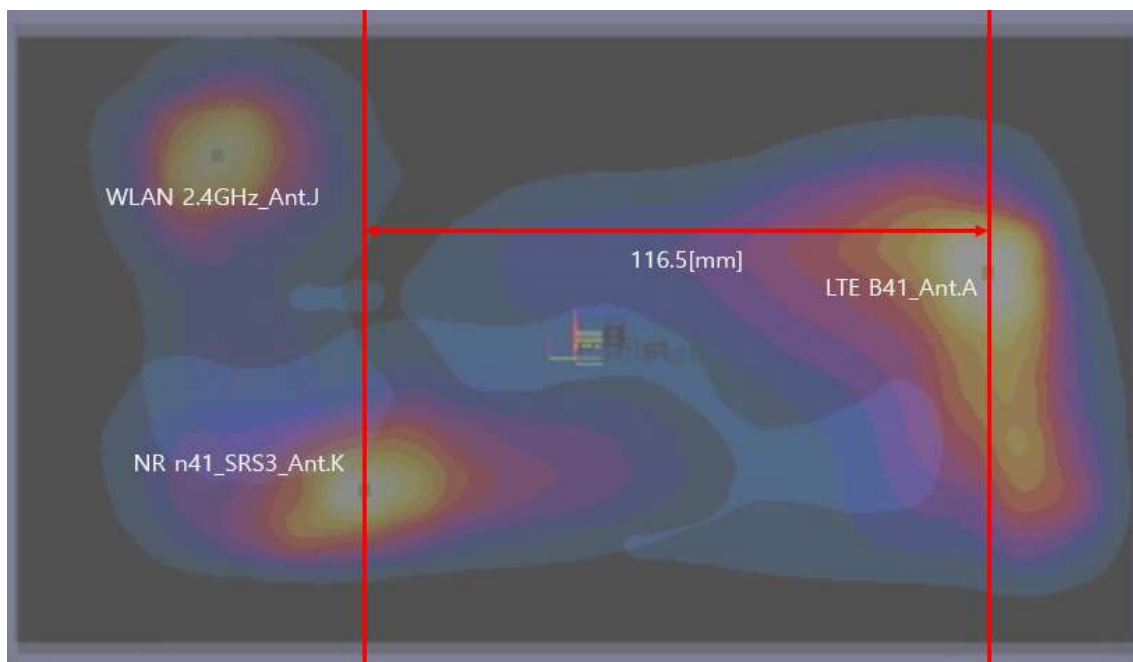
Mode/Band	Antenna	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
WLAN 2.4GHz Ant1	J	-13.5	-72.5	-207.0	0.100
WLAN 5GHz Ant1	J	0.8	-76.3	-207.0	0.385
Bluetooth	J	6.0	-73.0	-207.0	0.102

14.7.2.1 Group analysis SPLSR AG0 + AG1 + WLAN 2.4 GHz (Rear Hotspot)

	AG0	AG1	WLAN 2.4 GHz
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-64.5
Max SAR(W/kg)		0.975	0.100
AG0, (AG1, WLAN2.4 GHz) Distance(mm)		116.5	
(AG1+WLAN 2.4 GHz) SAR(W/kg)		1.075	
(AG0+AG1+WLAN 2.4 GHz) SAR(W/kg)		2.249	
AG0, AG1+WLAN 2.4 GHz (SPLSR)		0.029	

SPLSR Plot for AG0 + AG1 + WLAN 2.4 GHz

AG0 + AG1 + WLAN 2.4 GHz

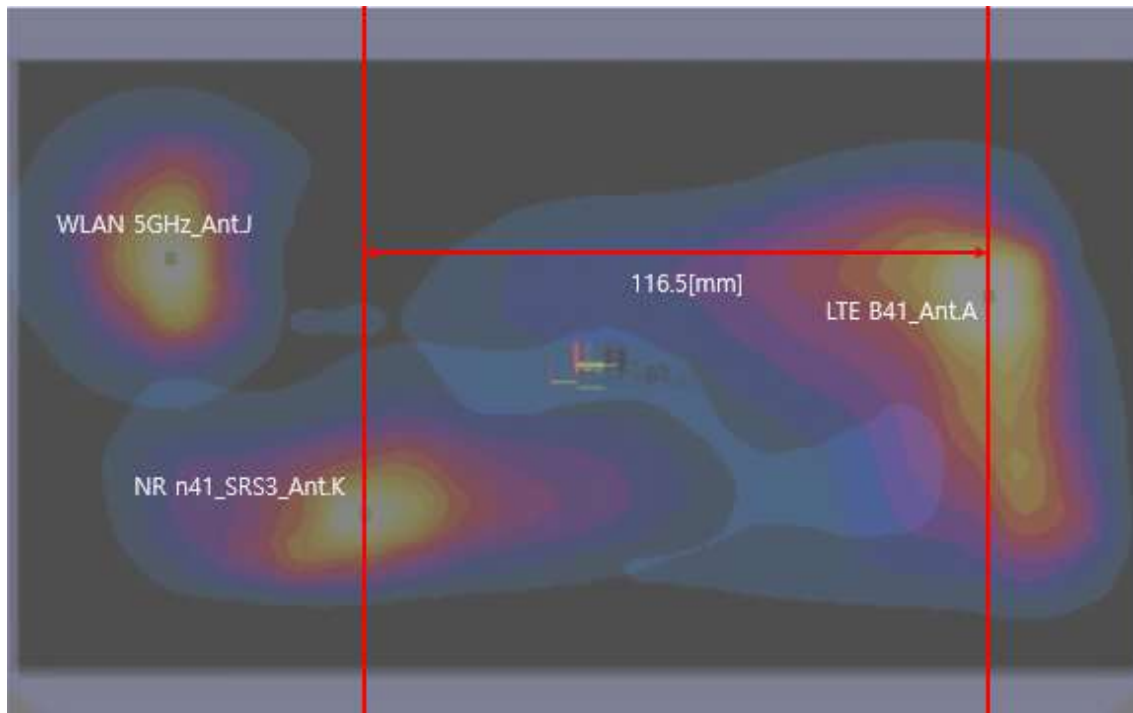


14.7.2.2 Group analysis SPLSR AG0 + AG1 + WLAN 5 GHz (Rear Hotspot)

	AG0	AG1	WLAN 5 GHz
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-70.5
Max SAR(W/kg)		0.975	0.554
AG0, (AG1, WLAN5 GHz) Distance(mm)		116.5	
(AG1+WLAN 5 GHz) SAR(W/kg)		1.529	
(AG0+AG1+WLAN 5 GHz) SAR(W/kg)		2.703	
AG0, AG1+ WLAN 5 GHz (SPLSR)		0.038	

SPLSR Plot for AG0 + AG1 + WLAN 5 GHz

AG0 + AG1 + WLAN 5 GHz

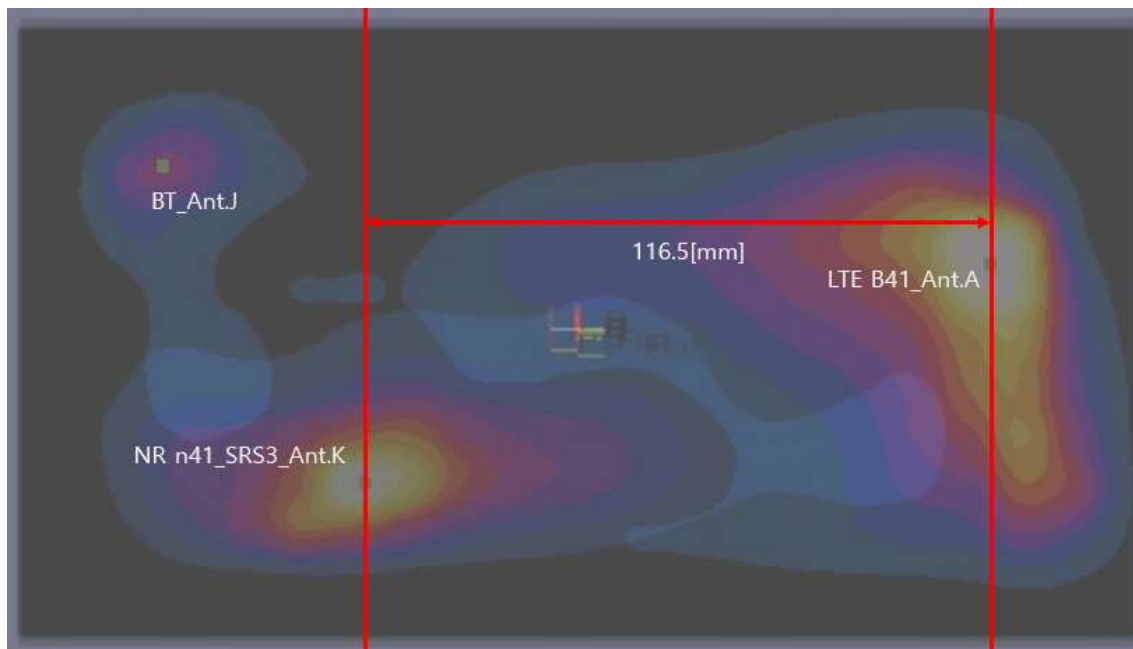


14.7.2.3 Group analysis SPLSR AG0 + AG1 + Bluetooth (Rear Hotspot)

	AG0	AG1	Bluetooth
Min Y-axis(mm)	74.5		
Max SAR(W/kg)	1.174		
Max Y-axis(mm)		-42.0	-64.0
Max SAR(W/kg)		0.975	0.190
AG0, (AG1, Bluetooth) Distance(mm)		116.5	
(AG1+Bluetooth) SAR(W/kg)		1.165	
(AG0+AG1+Bluetooth) SAR(W/kg)		2.339	
AG0, AG1+ Bluetooth (SPLSR)		0.031	

SPLSR Plot for AG0 + AG1 + Bluetooth

AG0 + AG1 + Bluetooth

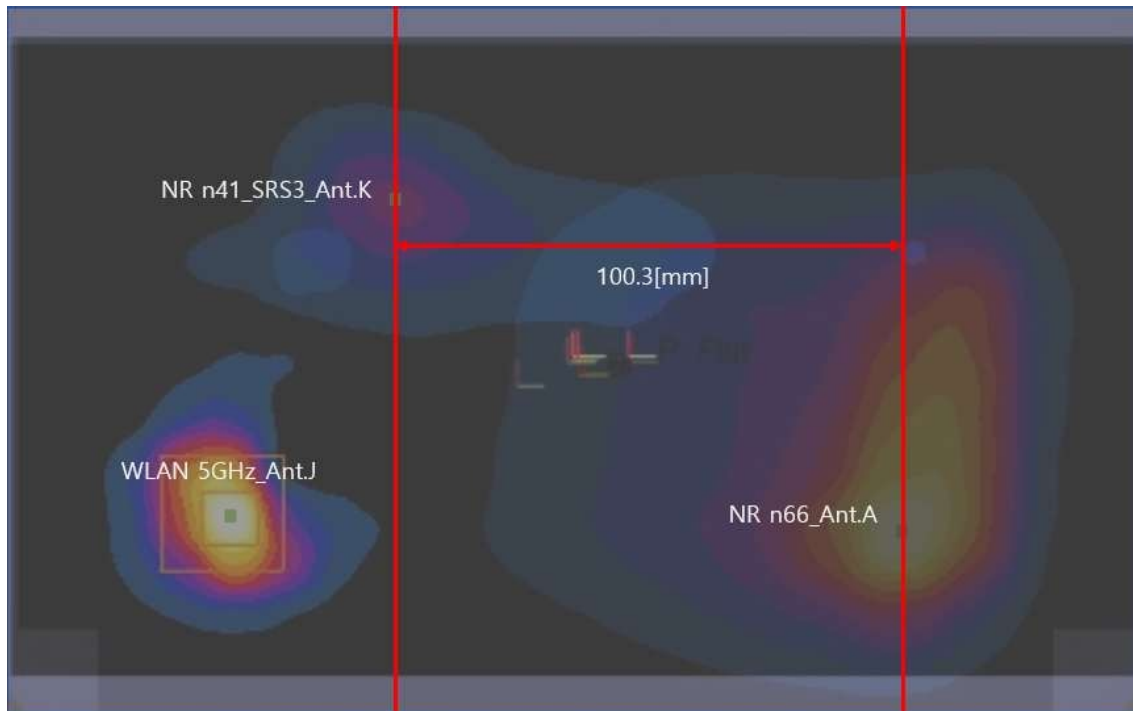


14.7.2.4 Group analysis SPLSR AG0 + AG1 + WLAN 5 GHz (Front Hotspot)

	AG0	AG1	WLAN 5 GHz
Min Y-axis(mm)	66.8		
Max SAR(W/kg)	0.709		
Max Y-axis(mm)		-33.5	-76.3
Max SAR(W/kg)		0.624	0.385
AG0, (AG1, WLAN5 GHz) Distance(mm)		100.3	
(AG1+WLAN 5 GHz) SAR(W/kg)		1.009	
(AG0+AG1+WLAN 5 GHz) SAR(W/kg)		1.718	
AG0, AG1+ WLAN 5 GHz (SPLSR)		0.022	

SPLSR Plot for AG0 + AG1 + WLAN 5 GHz

AG0 + AG1 + WLAN 5 GHz



15. SAR Measurement Variability and Uncertainty

In accordance with KDB procedure 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz, SAR 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.

SAR Measurement variability was assessed using the following procedures for each frequency Band:

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg for 1g SAR or < 2.0 W/kg for 10g SAR; steps 2) through 4) do not apply.
- 2) When the original highest measured 1g SAR is ≥ 0.80 W/kg or 10g SAR ≥ 2.0 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 for 1g SAR or ≥ 3.625 W/kg for 10g SAR (~ 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 for 1g SAR or ≥ 3.75 W/kg for 10g SAR and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Body SAR measurement variability Results

Frequency		Mode,Band/Configuration	Position	Measured SAR (W/kg)	Repeated SAR (W/kg)	SAR Ratio
MHz	Channel					
836.5	167300	NR n5/DFT-s QPSK 50RB 28offset	Rear	0.821	0.874	1.06

16. Measurement Uncertainty

The measured SAR was <1.5 W/Kg for 1g SAR and <3.75 W/Kg, for 10g SAR for all frequency Bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE1528-2013 was not required.

Measurement Uncertainty of 4MHz to 300MHz

Measurement Uncertainty for DUT SAR test									
According to IEC/IEEE 62209-1528 DASY6 (4 MHz - 6 GHz range)									
a	b	c	d	e	f	g	h = c x f / e	i = c x g / e	k
Source of uncertainty	Simbol	Uncertainty ± %	Probability distribution	Div.	ci	ci	Standard Uncertainty	Standard Uncertainty	vi or veff
Description					(1 g)	(10 g)	± % (1 g)	± % (10 g)	
Measurement system Errors									
Probe calibration	CF	13.10	N	2.00	1.00	1.00	6.55	6.55	∞
Probe Calibration Drift	CFdrift	1.70	N	1.00	1.00	1.00	1.00	1.00	∞
Probe Linearity	LIN	4.70	R	1.73	1.00	1.00	2.71	2.71	∞
Broadband Signal	BBS	2.80	R	1.73	1.00	1.00	1.62	1.62	∞
Probe Isotropy	ISO	7.60	R	1.73	1.00	1.00	4.39	4.39	∞
Data Acquisition	DAE	1.20	N	1.00	1.00	1.00	1.20	1.20	∞
RF Ambient	AMB	1.80	N	1.00	1.00	1.00	1.80	1.80	∞
Probe Positioning	Δsys	0.005 mm	N	1.00	0.29	0.29	0.20	0.20	∞
Data Processing	DAT	2.30	N	1.00	1.00	1.00	2.30	2.30	∞
Phantom and Device Errors									
Conductivity (meas.)DAK	LIQ(σ)	3.26	N	1.00	0.78	0.71	2.54	2.31	66
Conductivity (temp.)BB	LIQ(Tσ)	1.55	R	1.73	0.78	0.71	0.70	0.64	18
Phantom Permittivity	EPS	14.00	R	1.73	0.25	0.25	2.02	2.02	∞
Distance DUT - TSL	DIS	2.00	N	1.00	2.00	2.00	4.00	4.00	∞
Test Sample Positioning	Dxyx	2.73/2.40	N	1.00	1.00	1.00	2.73	2.40	20
Device Holder	H	5.58/5.22	N	1.00	1.00	1.00	5.58	5.22	20
DUT Modulation	MOD	2.40	R	1.73	1.00	1.00	1.39	1.39	∞
DUT drift	RFdrift	2.50	N	1.00	1.00	1.00	2.50	2.50	∞
Correction to the SAR results									
Deviation to Target	C(ε, σ)	1.90	N	1.00	1.00	0.84	1.90	1.60	∞
SAR scaling	C(R)	0.00	R	1.73	1.00	1.00	0.00	0.00	∞
Combined standard uncertainty	u(ΔSAR)		RSS				12.67	12.36	
Expanded uncertainty (95% confidence interval)	U		k = 2				25.34	24.72	

17. SAR Test Equipment List

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	N/A	N/A	N/A
SPEAG	ELI Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F17/59CHA1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F17/59CHA1/A/01	N/A	N/A	N/A
Staubli	D21142606B	10963	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331915309	12/18/2025	Annual	12/18/2026
Staubli	CS8Cspeag-TX90	F17/59RAA1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F17/59RAA1/A/01	N/A	N/A	N/A
Staubli	D21142606B	11578	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331922309	12/18/2025	Annual	12/18/2026
Staubli	CS8Cspeag-TX90	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F08/5AJ0A1/A/01	N/A	N/A	N/A
Staubli	D21143300	S-0008	N/A	N/A	N/A
TESTO	175-H1/Thermometer	40331949309	12/26/2025	Annual	12/26/2026
SPEAG	DAE4	1225	09/25/2025	Annual	09/25/2026
SPEAG	DAE4	780	06/04/2025	Annual	06/04/2026
SPEAG	DAE4	1254	05/21/2025	Annual	05/21/2026
SPEAG	E-Field Probe EX3DV4	3903	07/23/2025	Annual	07/23/2026
SPEAG	E-Field Probe EX3DV4	7732	06/25/2025	Annual	06/25/2026
SPEAG	E-Field Probe ES3DV3	3076	07/22/2025	Annual	07/22/2026
SPEAG	E-Field Probe EX3DV4	7681	11/21/2025	Annual	11/21/2026
SPEAG	CLA13	1016	11/13/2025	Annual	11/13/2026
SPEAG	Dipole D750V3	1014	05/20/2025	Annual	05/20/2026
SPEAG	Dipole D835V2	4d165	04/14/2025	Annual	04/14/2026
SPEAG	Dipole D1800V2	2d007	03/12/2026	Annual	03/12/2027
SPEAG	Dipole D1900V2	5d032	01/28/2026	Annual	01/28/2027
SPEAG	Dipole D2450V2	743	02/19/2026	Annual	02/19/2027
SPEAG	Dipole D2600V2	1043	05/22/2025	Annual	05/22/2026
SPEAG	Dipole D3500V2.	1132	01/28/2026	Annual	01/28/2027
SPEAG	Dipole D3700V2	1066	09/15/2025	Annual	09/15/2026
SPEAG	Dipole D3900V2	1019	05/21/2025	Annual	05/21/2026
SPEAG	Dipole D5GHzV2	1253	09/26/2025	Annual	09/26/2026
Agilent	Power Meter / E4419B	MY41291386	09/13/2025	Annual	09/13/2026
Agilent	Power Meter / E4419B	MY40330223	09/15/2025	Annual	09/15/2026
Agilent	Power Meter / N1911A	MY45101406	05/19/2025	Annual	05/19/2026
Agilent	Power Sensor / 8481A	SG1091286	09/09/2025	Annual	09/09/2026
Agilent	Power Sensor / 8481A	MY41090873	01/06/2026	Annual	01/06/2027
Keysight	Power Sensor / N1921A	MY55220026	08/07/2025	Annual	08/07/2026
SPEAG	DAK-3.5	1377	09/08/2025	Annual	09/08/2026
SPEAG	DAKS-12	1048	06/10/2025	Annual	06/10/2026
R&S	VECTOR NETWORK ANALYZER / ZNB 20	102279	07/07/2025	Annual	07/07/2026
R&S	VECTOR NETWORK ANALYZER / ZNB 8	103719	03/31/2026	Annual	03/31/2027
Agilent	SIGNAL GENERATOR / E8267D	MY50350097	02/26/2026	Annual	02/26/2027
Agilent	SIGNAL GENERATOR / E4421B	MY41000790	10/21/2025	Annual	10/21/2026
Agilent	SIGNAL GENERATOR / E4433B	US40052109	01/08/2026	Annual	01/08/2027
MICRO LAB	LP Filter / LA-15N	10453	09/15/2025	Annual	09/15/2026
MICRO LAB	LP Filter / LA-30N	-	09/15/2025	Annual	09/15/2026
MICRO LAB	LP Filter / LA-60N	32011	09/15/2025	Annual	09/15/2026
Agilent	Attenuator (3dB) / 8693B	MY39260298	08/18/2025	Annual	08/18/2026
RF COREA	Attenuator (30dB)	A-0830	06/24/2025	Annual	06/24/2026
NARDA	Directional Coupler / 4226-10	7083	01/16/2026	Annual	01/16/2027
Agilent	Directional Bridge / 86205A	3140A04581	04/18/2025	Annual	04/18/2026
Agilent	Directional Bridge / 86205A	3140A04581	04/07/2026	Annual	04/07/2027
R&S	Wireless Communication Test Set / CMW500	139333	12/02/2025	Annual	12/02/2026
Anritsu	Radio Communication Tester / MT8820C	6201041449	12/17/2025	Annual	12/17/2026

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
Anritsu	Radio Communication Tester / MT8820C	6201144485	07/14/2025	Annual	07/14/2026
Anritsu	Radio Communication Tester / MT8821C	6201664725	01/06/2026	Annual	01/06/2027
Anritsu	Radio Communication Tester / MT8821C	6201664727	12/02/2025	Annual	12/02/2026
Anritsu	Radio Communication Test Station / MT8000A	6262148305	12/18/2025	Annual	12/18/2026
Anritsu	Radio Communication Test Station / MT8000A	6261987928	01/07/2026	Annual	01/07/2027
Agilent	WIRELESS COMMUNICATION / E5515C	MY50260992	05/20/2025	Annual	05/20/2026
Agilent	WIRELESS COMMUNICATION / E5515C	GB42230619	05/20/2025	Annual	05/20/2026
KEYSIGHT	Signal Analyzer/ N9020A	MY54500650	07/15/2025	Annual	07/15/2026
Agilent	Power Divider / 11636B	58698	01/09/2026	Annual	01/09/2027
ROHDE&SCHWARZ	Bluetooth Tester / CBT	100272	01/06/2026	Annual	01/06/2027
EMPOWER	RF Power Amplifier / 2135DEFAAXLXX	1084	05/20/2025	Annual	05/20/2026
EMPOWER	RF Power Amplifier / 2001-BBS3Q7EBK	1041D/C0508	05/20/2025	Annual	05/20/2026
EMPOWER	RF Power Amplifier / BBS5K8CAJ	1011	09/15/2025	Annual	09/15/2026

Note: All measurements were performed within the valid calibration period of the specific equipment.

* The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity (dielectric constant) of the brain/body-equivalent material.

18. Conclusion

The SAR and RF Exposure measurement indicates that the EUT complies with the RF radiation exposure limits of the ANSI/ IEEE C95.1 - 2005.

These measurements were taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions.

19. References

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- [5] IEEE Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice or Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices
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End.

Appendix A. DUT Ant. Information & SETUP PHOTO

Please refer to test DUT Ant. Information & setup photo file no. as follows:

Report No.
HCT-SR-2604-FC007-P