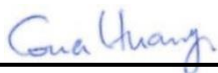


FCC SAR TEST REPORT

FCC ID : UZ7TC58B1
Equipment : Touch Computer
Brand Name : Zebra
Model Name : TC58B1
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Mar. 01, 2022 and testing was started from Mar. 11, 2022 and completed on May 21, 2022. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA222201A	01	Initial issue of report	Jun. 15, 2022
FA222201A	01	Update Section 1	Jul. 14, 2022



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Zebra Technologies Corporation, Touch Computer, TC58B1**, are as follows.

Equipment Class	Frequency Band		Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)	Highest Simultaneous Transmission 10g SAR (W/kg)
			Head (Separation 0mm)	Body-worn (Separation 15mm)	Hotspot (Separation 10mm)	Product Specific (Separation 0mm)		
			1g SAR (W/kg)			10g SAR (W/kg)		
Licensed	GSM	GSM850	0.21	0.29	0.46		1.59	3.23
		GSM1900	0.16	0.48	0.86			
	WCDMA	WCDMA II	0.20	0.36	0.53			
		WCDMA IV	0.07	0.53	0.69			
		WCDMA V	0.28	0.34	0.40			
	LTE	LTE Band 2	0.20	0.30	0.53			
		LTE Band 5	0.44	0.43	0.51			
		LTE Band 7	0.37	0.97	0.89			
		LTE Band 17	0.48	0.49	0.53			
		LTE Band 38/41	0.14	0.32	0.50			
		LTE Band 42	0.63	0.34	0.53			
		LTE Band 4/66	0.08	0.63	0.79			
		LTE Band 71	0.32	0.38	0.47			
	NR	FR1 n2	0.16	0.33	0.53			
		FR1 n5	0.30	0.41	0.46			
		FR1 n7	0.37	0.82	0.86			
		FR1 n38/n41	0.47	0.46	0.54	1.98		
		FR1 n66	0.07	0.53	0.69			
		FR1 n71	0.28	0.31	0.39			
		FR1 n77/n78	0.48	0.60	0.78			
DTS	WLAN	2.4GHz WLAN	0.42	0.39	1.04		1.59	
NII		5GHz WLAN	0.78	0.49	1.02	2.47	1.59	3.23
6CD		6GHz WLAN	0.16	0.10		0.67	1.58	2.36
DSS	2.4GHz Band	Bluetooth	0.08	0.10	0.21		1.59	
Equipment Class	Frequency Band	Head APD (W/m ²)	Body-worn APD (W/m ²)	Product Specific APD (W/m ²)	Reported PD (W/m ²)			
6CD	6GHz WLAN	0.87	0.65	14.6	7.50			
Date of Testing:		2022/3/11 ~ 2022/5/21						

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093), Human Exposure to RF Radiation Limits (1.0 mW/cm²=10 W/m²) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

Reviewed by: Jason Wang
Report Producer: Daisy Peng



2. Equipment Under Test (EUT) Information

2.1 General Information

Product Feature & Specification	
Equipment Name	Touch Computer
Brand Name	Zebra
Model Name	TC58B1
FCC ID	UZ7TC58B1
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3550 MHz ~ 3600 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3450MHz ~ 3550MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450MHz ~ 3550MHz, 3700 MHz ~ 3800 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz RFID : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE RFID: ASK
HW Version	EV3
SW Version	athena_A11_userdebug_GMS_RelKey_2022-02-22-2145_product_SE
FW Version	FUSION_QA_4_1.0.0.015_R
MFD	26FEB22
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark:	
1. This device implements open loop antenna tuning techniques for several WWAN (cellular) operating modes. Specifically, this technique is employed in the LTE modes. The detail descriptions of the antenna tuner are included in the operational description. 2. The device implements the power management detection for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision are provided in the operational description. 3. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications 4. There are three kinds of samples as below. RF exposure is selected sample 1 to evaluate and sample 2 and 3 spot check worst case found sample 1. 5. The device support DBS mode (Dual band simultaneous) for WLAN operation, when the DBS mode is active the device will limit different maximum	



- power for Sim-Tx SAR compliance, Details about the power management decision are provided in the operational description.
6. This device has RFID operations, the RFID antenna is integrated into the device for this model, therefore, all SAR test were performed with the device which already incorporates the RFID antenna..
 7. According to FCC KDB publication 447498 D01v06, transmitters are consider to be operating simultaneously when there is overlapping transmission, with the exception of transmission during network hand-offs with maximum hand-off duration less than 30 seconds.

Sample list	
Sample1	Lowell + Premium config
Sample2	SE4720 + Base config
Sample3	Lowell + Base config

Specification of Accessories				
Adapter	Brand Name	Zebra	Model	SAWA-65-20005A
			Part Number	PWR-WUA5V12W0US
Battery 1X	Brand Name	Zebra	Model	BT-000442
			Part Number	BT-000442-0020
Battery 1.5X	Brand Name	Zebra	Model	BT-000442
			Part Number	BT-000442-0820
USB TYPE A to TYPE C cable	Brand Name	Zebra	Part Number	CBL-TC5X-USBC2A-01
USB TYPE C to 3.5mm audio connector	Brand Name	Zebra	Part Number	ADP-USBC-35MM1-01
3.5mm Earphone	Brand Name	Zebra	Part Number	HDST-35MM-PTVP-01
USB TYPE C Earphone	Brand Name	Zebra	Part Number	HPST-USBC-PTT1-01
Headset Jumper	Brand Name	Zebra	Part Number	CBL-TC51-HDST35-01
Trigger Handle	Brand Name	Zebra	Part Number	TRG-NGTC5-ELEC-01
Soft Holster	Brand Name	Zebra	Part Number	SG-NGTC5TC7-HLSTR-01
TC53/TC58 RUGGED BOOT	Brand Name	Zebra	Part Number	SG-NGTC5EXO1-01

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)



4. Maximum Tune-up Limit

General Note:

1. PC2 as Power class2, PC3 as Power class3 in this report.
2. For each cellular band, the device has several WWAN antennas, the antenna selection is based on the connection quality condition.
3. The device implements the power management detection for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) by DSI(Device State Index) and the smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision are provided in the operational description.
4. The following table shows maximum output power configurations for various exposure conditions (Device State Index) with tune-up tolerance accounted. For Smart transmit enabled bands, the values associate with Plimit plus the total uncertainty, or Pmax plus total uncertainty when the derived Plimit is higher than Pmax. In some frequency bands, for some power indexes which associate with the same power level, conducted power measurement for those only need to perform at once.
5. Ant 3 and Ant 5 are used as SRS dedicated antennas, i.e., the antenna(s) are used for receive and Sound Reference Signal transmission (SRS) only (not traffic transmission).

Band	Config	Antenna	Duty cycle	Pmax Maximum Power DSI 0	Head Maximum Power DSI2	Hotspot Maximum Power DSI3	Body-worn /Extremity Maximum Power DSI1
GSM850 GPRS 4TX	TX0	4	50.00%	30.50	30.50	30.50	30.50
GSM1900 GPRS 4TX	TX0	4	50.00%	27.50	27.50	26.00	27.50
WCDMA B2	TX0	2	100.00%	25.20	25.20	23.50	25.20
WCDMA B4	TX0	2	100.00%	25.20	25.20	25.20	25.20
WCDMA B5	TX0	4	100.00%	25.20	25.20	25.20	25.20
LTE B2	TX0	2	100.00%	25.20	25.20	24.30	25.20
LTE B5	TX0	4	100.00%	25.20	25.20	25.20	25.20
LTE B7	TX0	12	100.00%	24.00	24.00	24.00	23.30
LTE B7	TX1	6	100.00%	24.00	24.00	22.30	24.00
LTE B17	TX0	0	100.00%	24.70	24.70	24.10	24.70
LTE B38 PC3	TX1	6	63.30%	24.50	24.50	24.50	24.50
LTE B41 PC3	TX1	6	63.30%	25.00	25.00	25.00	25.00
LTE B41 PC2	TX1	6	43.30%	27.00	27.00	27.00	27.00
LTE B42	TX0	12	63.30%	25.00	22.80	21.10	20.50
LTE B42	TX1	11	63.30%	25.00	25.00	22.30	23.60
LTE B66/4	TX1	2	100.00%	25.20	25.20	24.20	25.20
LTE B71	TX0	0	100.00%	24.70	24.70	24.70	24.70
FR1 n2	TX0	2	100.00%	25.20	25.20	24.40	25.20
FR1 n5	TX1	4	100.00%	25.20	25.20	25.20	25.20
FR1 n7	TX0	12	100.00%	24.00	24.00	24.00	24.00
FR1 n7	TX1	6	100.00%	24.00	24.00	23.20	24.00
FR1 n38 PC3	TX1	6	100.00%	24.50	24.50	21.90	24.50
FR1 n41 PC3	TX1	6	100.00%	25.00	25.00	21.90	25.00
FR1 n41 PC2	TX1	6	100.00%	27.00	27.00	21.90	26.20
FR1 n41 PC3 SRS	TX1	12	100.00%	25.00	24.50	24.50	25.00
FR1 n41 PC2 SRS	TX1	12	100.00%	27.00	24.50	24.50	25.90
FR1 n41 PC3 SRS	TX1	1	100.00%	25.00	21.40	24.40	25.00
FR1 n41 PC2 SRS	TX1	1	100.00%	27.00	21.40	24.40	27.00
FR1 n41 PC3 SRS	TX1	7	100.00%	25.00	23.10	24.50	25.00
FR1 n41 PC2 SRS	TX1	7	100.00%	27.00	23.10	24.50	27.00
FR1 n66	TX1	2	100.00%	25.20	25.20	24.70	25.20
FR1 n71	TX0	0	100.00%	24.70	24.70	24.70	24.70
FR1 n77/78 PC3	TX0	12	100.00%	25.00	19.20	18.80	22.00
FR1 n77/78 PC2	TX0	12	100.00%	26.50	19.20	18.80	22.00
FR1 n77/78 PC3	TX1	11	100.00%	25.00	16.00	18.90	22.50
FR1 n77/78 PC2	TX1	11	100.00%	26.50	16.00	18.90	22.50
FR1 n77/78 SRS	TX1	5	100.00%	25.00	15.90	16.80	16.80
FR1 n77/78 SRS	TX1	3	100.00%	23.00	19.80	19.50	22.20



4.1 Smart Transmit feature for RF Exposure compliance

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target or PD_design_target, below the predefined time-averaged power limit (i.e., input.power.limit for 5G mmW NR), for each characterized technology and band (refer to RF exposure part0 report)

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

<Terminologies in this report>

P _{limit}	The time-averaged RF power which corresponds to SAR_design_target.
P _{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory power density limit to account for all device design related uncertainties.
SAR char	P _{limit} for all the technologies/bands for all applicable DSI

<SAR Characterization>

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

<SAR design target and uncertainty>

The detail SAR design target relate to each exposure conditions pls refer to operation description

Band	Config	Antenna	Duty cycle	Device Uncertainty (dB)	Head DSI2	Hotspot DSI3	Body-worn /Extremity DSI1
GSM850 GPRS 4TX	TX0	4	50.00%	1.00	0.675	0.635	0.950
GSM1900 GPRS 4TX	TX0	4	50.00%	1.00	0.675	0.700	0.635
WCDMA B2	TX0	2	100.00%	1.00	0.675	0.635	0.635
WCDMA B4	TX0	2	100.00%	1.00	0.675	0.635	0.635
WCDMA B5	TX0	4	100.00%	1.00	0.675	0.635	0.635
LTE B2	TX0	2	100.00%	1.00	0.675	0.430	0.635
LTE B5	TX0	4	100.00%	1.00	0.675	0.635	0.675
LTE B7	TX0	12	100.00%	1.00	0.675	0.950	0.770
LTE B7	TX1	6	100.00%	1.00	0.675	0.430	0.770
LTE B17	TX0	0	100.00%	1.00	0.675	0.430	0.635
LTE B38 PC3	TX1	6	63.30%	1.00	0.675	0.950	0.950
LTE B41 PC3	TX1	6	63.30%	1.00	0.675	0.950	0.950
LTE B41 PC2	TX1	6	43.30%	1.00	0.675	0.950	0.950
LTE B42	TX0	12	63.30%	1.00	0.380	0.430	0.950
LTE B42	TX1	11	63.30%	1.00	0.500	0.430	0.950
LTE B66/4	TX1	2	100.00%	1.00	0.675	0.635	0.635
LTE B71	TX0	0	100.00%	1.00	0.675	0.635	0.635
FR1 n2	TX0	2	100.00%	1.00	0.675	0.430	0.635
FR1 n5	TX1	4	100.00%	1.00	0.675	0.635	0.635
FR1 n7	TX0	12	100.00%	1.00	0.675	0.950	0.950
FR1 n7	TX1	6	100.00%	1.00	0.675	0.430	0.635
FR1 n38 PC3	TX1	6	100.00%	1.00	0.675	0.430	0.675
FR1 n41 PC3	TX1	6	100.00%	1.00	0.675	0.430	0.675
FR1 n41 PC2	TX1	6	100.00%	1.00	0.675	0.430	0.675
FR1 n41 PC3	TX1	12	100.00%	1.00	0.675	0.430	0.675
FR1 n41 PC2	TX1	12	100.00%	1.00	0.675	0.430	0.675
FR1 n41 PC3	TX1	1	100.00%	1.00	0.675	0.635	0.675
FR1 n41 PC2	TX1	1	100.00%	1.00	0.675	0.635	0.675
FR1 n41 PC3	TX1	7	100.00%	1.00	0.675	0.635	0.675
FR1 n41 PC2	TX1	7	100.00%	1.00	0.675	0.635	0.675
FR1 n66	TX1	2	100.00%	1.00	0.675	0.635	0.635
FR1 n71	TX0	0	100.00%	1.00	0.675	0.635	0.635
FR1 n77/78 PC3	TX0	12	100.00%	1.00	0.380	0.430	0.480
FR1 n77/78 PC2	TX0	12	100.00%	1.00	0.380	0.430	0.480
FR1 n77/78 PC3	TX1	11	100.00%	1.00	0.380	0.340	0.480
FR1 n77/78 PC2	TX1	11	100.00%	1.00	0.380	0.340	0.480
FR1 n77/78 SRS	TX1	5	100.00%	1.00	0.380	0.635	0.380
FR1 n77/78 SRS	TX1	3	100.00%	1.00	0.380	0.380	0.380

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

*P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to P_{max} + 1dB uncertainty.

**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed LTE output power is the P_{limit} + 1dB device uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.

Ant 3 and Ant 5 dedicated is used for SRS only, different from Tx antennas, then the SAR measurement at P_{limit} for SRS dedicated antenna(s) can be performed using FTM mode with CW modulation with 100% duty cycle(as SRS operates at very low duty cycle in online mode).

Band	Config	Antenna	Duty cycle	Head P _{limit} DS12	Hotspot P _{limit} DS13	Body-worn /Extremity P _{limit} DS11	P _{max} *
GSM850 GPRS 4TX**	TX0	4	50.00%	30.40	27.70	28.20	26.50
GSM1900 GPRS 4TX**	TX0	4	50.00%	30.50	22.00	25.70	23.50
WCDMA B2	TX0	2	100.00%	29.50	22.50	25.70	24.20
WCDMA B4	TX0	2	100.00%	34.80	24.80	25.90	24.20
WCDMA B5	TX0	4	100.00%	26.10	25.70	28.40	24.20
LTE B2	TX0	2	100.00%	30.40	23.30	25.80	24.20
LTE B5	TX0	4	100.00%	27.00	25.60	27.10	24.20
LTE B7	TX0	12	100.00%	26.60	24.20	22.30	23.00
LTE B7	TX1	6	100.00%	29.30	21.30	24.60	23.00
LTE B17	TX0	0	100.00%	26.20	23.10	25.80	23.70
LTE B38 PC3**	TX1	6	63.30%	29.80	25.80	27.70	21.50
LTE B41 PC3**	TX1	6	63.30%	29.80	25.80	27.70	22.00
LTE B41 PC2**	TX1	6	43.30%	29.80	25.80	27.70	22.40
LTE B42	TX0	12	63.30%	18.10	17.50	19.80	22.00
LTE B42	TX1	11	63.30%	19.30	20.60	29.30	22.00
LTE B66/4	TX1	2	100.00%	34.10	23.20	24.80	24.20
LTE B71	TX0	0	100.00%	27.90	24.70	25.80	23.70
FR1 n2	TX0	2	100.00%	31.40	23.40	28.00	24.20
FR1 n5	TX1	4	100.00%	28.20	26.60	27.00	24.20
FR1 n7	TX0	12	100.00%	26.70	24.40	24.60	23.00
FR1 n7	TX1	6	100.00%	28.20	22.20	23.90	23.00
FR1 n38 PC3	TX1	6	100.00%	29.90	20.90	25.20	23.50
FR1 n41 PC3	TX1	6	100.00%	29.90	20.90	25.20	24.00
FR1 n41 PC2	TX1	6	100.00%	29.90	20.90	25.20	26.00
FR1 n41 PC3 SRS	TX1	12	100.00%	23.50	23.50	24.90	24.00
FR1 n41 PC2 SRS	TX1	12	100.00%	23.50	23.50	24.90	26.00
FR1 n41 PC3 SRS	TX1	1	100.00%	20.40	23.40	29.20	24.00
FR1 n41 PC2 SRS	TX1	1	100.00%	20.40	23.40	29.20	26.00
FR1 n41 PC3 SRS	TX1	7	100.00%	22.10	23.50	28.50	24.00
FR1 n41 PC2 SRS	TX1	7	100.00%	22.10	23.50	28.50	26.00
FR1 n66	TX1	2	100.00%	35.10	23.70	26.00	24.20
FR1 n71	TX0	0	100.00%	28.40	26.70	27.80	23.70
FR1 n77/78 PC3	TX0	12	100.00%	18.20	17.80	21.00	24.00
FR1 n77/78 PC2	TX0	12	100.00%	18.20	17.80	21.00	25.50
FR1 n77/78 PC3	TX1	11	100.00%	15.00	17.90	21.50	24.00
FR1 n77/78 PC2	TX1	11	100.00%	15.00	17.90	21.50	25.50
FR1 n77/78 SRS	TX1	5	100.00%	14.90	15.80	15.80	24.00
FR1 n77/78 SRS	TX1	3	100.00%	18.80	18.50	21.20	22.00



4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																										
FCC ID	UZ7TC58B1																																																																									
Equipment Name	Touch Computer																																																																									
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3550 MHz ~ 3600 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																																									
Channel Bandwidth	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 17: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																																									
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																									
LTE Voice / Data requirements	Voice and Data																																																																									
LTE MPR permanently built-in by design	<p align="center">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>												Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																																			
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																																				
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																																			
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																																			
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																																			
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																																			
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																																			
256 QAM	≥ 1						≤ 5																																																																			
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																									
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																									
Power reduction applied to satisfy SAR compliance	The device has several different power modes for each exposure conditions SAR compliance; power selection is determined by the device's positioning and usage scenarios. Detail refer to operational description																																																																									
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12.																																																																									
LTE Carrier Aggregation Additional Information	This device supports maximum of 4 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																																									
Transmission (H, M, L) channel numbers and frequencies in each LTE band																																																																										
LTE Band 2																																																																										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz																																																															
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)																																																														
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860																																																														
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880																																																														
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900																																																														
LTE Band 4																																																																										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz																																																															
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)																																																														
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720																																																														
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5																																																														
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745																																																														



LTE Band 5												
Bandwidth 1.4 MHz			Bandwidth 3 MHz			Bandwidth 5 MHz			Bandwidth 10 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	20407	824.7	20415	825.5		20425	826.5		20450	829		
M	20525	836.5	20525	836.5		20525	836.5		20525	836.5		
H	20643	848.3	20635	847.5		20625	846.5		20600	844		
LTE Band 7												
Bandwidth 5 MHz			Bandwidth 10 MHz			Bandwidth 15 MHz			Bandwidth 20 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	20775	2502.5	20800	2505		20825	2507.5		20850	2510		
M	21100	2535	21100	2535		21100	2535		21100	2535		
H	21425	2567.5	21400	2565		21375	2562.5		21350	2560		
LTE Band 17												
Bandwidth 5 MHz						Bandwidth 10 MHz						
Channel #			Freq. (MHz)			Channel #			Freq. (MHz)			
L	23755		706.5			23780		709				
M	23790		710			23790		710				
H	23825		713.5			23800		711				
LTE Band 38												
Bandwidth 5 MHz			Bandwidth 10 MHz			Bandwidth 15 MHz			Bandwidth 20 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	37775	2572.5	37800	2575		37825	2577.5		37850	2580		
M	38000	2595	38000	2595		38000	2595		38000	2595		
H	38225	2617.5	38200	2615		38175	2612.5		38150	2610		
LTE Band 41												
Bandwidth 5 MHz			Bandwidth 10 MHz			Bandwidth 15 MHz			Bandwidth 20 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	39675	2498.5	39700	2501		39725	2503.5		39750	2506		
L	40148	2545.8	40160	2547		40173	2548.3		40185	2549.5		
M	40620	2593	40620	2593		40620	2593		40620	2593		
H	41093	2640.3	41080	2639		41068	2637.8		41055	2636.5		
H	41565	2687.5	41540	2685		41515	2682.5		41490	2680		
LTE Band 42												
Bandwidth 5 MHz			Bandwidth 10 MHz			Bandwidth 15 MHz			Bandwidth 20 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	43315	3552.5	43140	3555		43165	3557.5		43190	3560		
M	43340	3575	43340	3575		43340	3575		43340	3575		
H	43565	3597.5	43540	3595		43515	3592.5		43490	3590		
LTE Band 66												
Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
Bandwidth 5 MHz			Bandwidth 10 MHz			Bandwidth 15 MHz			Bandwidth 20 MHz			
Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		Ch. #	Freq. (MHz)		
L	133147	665.5	133172	668		133197	670.5		133222	673		
M	133297	680.5	133297	680.5		133297	680.5		133297	680.5		
H	133447	695.5	133422	693		133397	690.5		133372	688		



4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information								
FCC ID	UZ7TC58B1							
Equipment Name	Touch Computer							
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3450MHz ~ 3550MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450MHz ~ 3550MHz, 3700 MHz ~ 3800 MHz							
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n38: 20MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 40MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n77: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz							
SCS	FDD: SCS15KHz, TDD: SCS30KHz							
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM							
A-MPR (Additional MPR) disabled for SAR Testing?	Yes							
LTE Anchor Bands for n2	LTE B7							
LTE Anchor Bands for n5	LTE B2/7							
LTE Anchor Bands for n7	LTE B2/5/66							
LTE Anchor Bands for n38	LTE B5							
LTE Anchor Bands for n66	LTE B5/12/13/14/48/71							
LTE Anchor Bands for n77	LTE B7/41							
LTE Anchor Bands for n78	LTE B2/5/7/41/66							
NR Band 2								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900
NR Band 5								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839
NR Band 7								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560
NR Band 38								
	Bandwidth 20MHz							
	Ch. #				Freq. (MHz)			
L	516000				2580			
M	519000				2595			
H	522000				2610			



NR Band 41																		
	Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01		
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99		
H	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640		
NR Band 66																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)								
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	346000	1730								
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745								
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	352000	1760								
NR Band 71																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz											
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)										
L	133100	665.5	133600	668	13410	670.5	134600	673										
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5										
H	139100	695.5	138600	693	13810	690.5	137600	688										
NR Band 77/78(3450MHz ~ 3550MHz)																		
	Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		
NR Band 77 (3700MHz~3980MHz)																		
	Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930
NR Band 78 (3700MHz~3800MHz)																		
	Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		



5. RF Exposure Limits

5.1 Uncontrolled Environment

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.

5.2 Controlled Environment

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. The 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.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

6. Specific Absorption Rate (SAR)

6.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

6.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

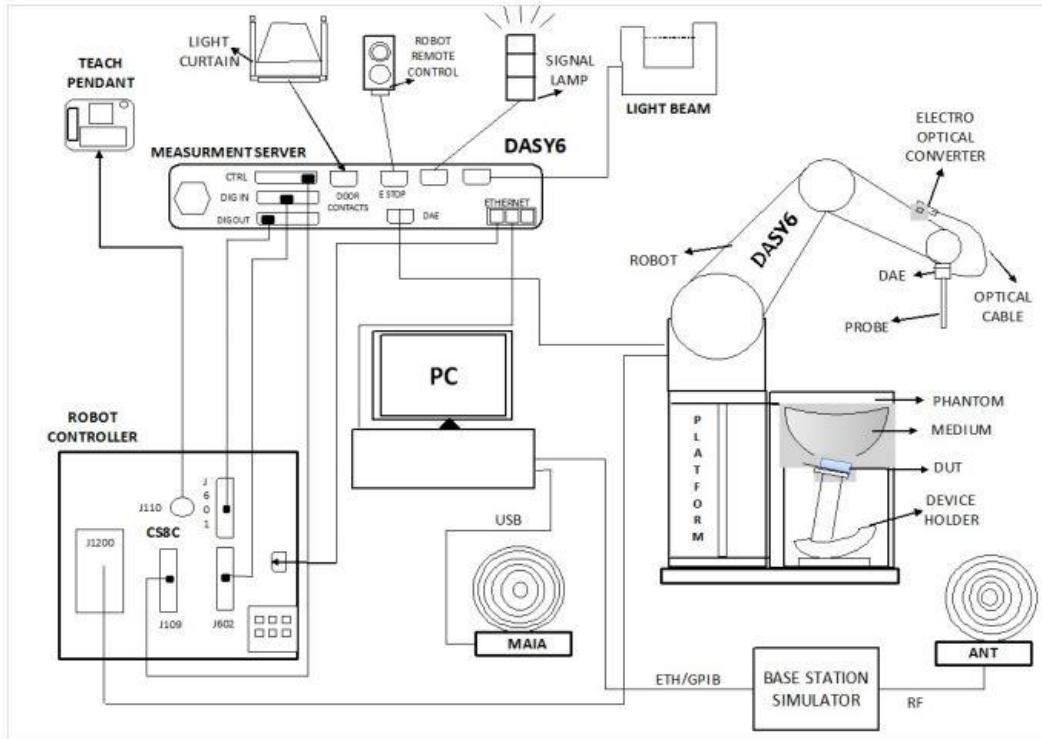
SAR is expressed in units of Watts per kilogram (W/kg)

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

7. System Description and Setup

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



- The DASY system in SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

7.1 Test Site Location


The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	EMC & Wireless Communications Laboratory		Wensan Laboratory		
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan		
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	


7.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ± 0.2 dB (30 MHz – 4 GHz)	
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μ W/g – >100 mW/g; Linearity: ± 0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

7.3 Data Acquisition Electronics (DAE)

The data acquisition electronics (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 measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

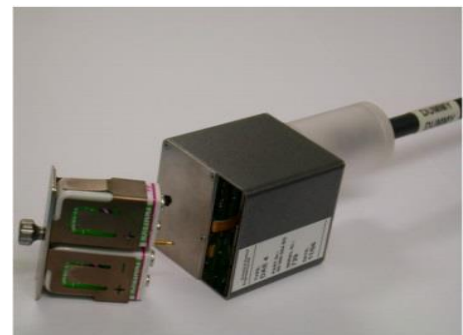



Fig 5.1 Photo of DAE

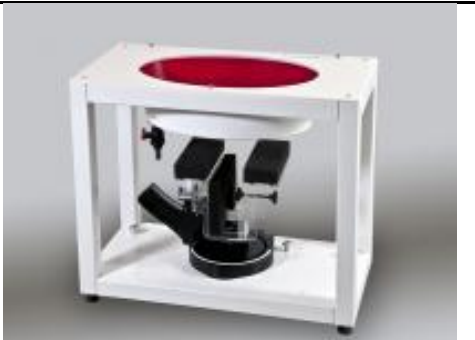
7.4 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

7.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

8. Measurement Procedures

The measurement procedures are as follows:

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

8.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

8.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

8.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

		≤ 3 GHz	> 3 GHz	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm	
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 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.				

8.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Aug. 18, 2021	Aug. 17, 2022
SPEAG	835MHz System Validation Kit	D835V2	499	Aug. 18, 2021	Aug. 17, 2022
SPEAG	835MHz System Validation Kit ⁽²⁾	D835V2	4d167	Nov. 25, 2019	Nov. 22, 2022
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 25, 2021	Nov. 24, 2022
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Aug. 19, 2021	Aug. 18, 2022
SPEAG	2450MHz System Validation Kit ⁽²⁾	D2450V2	929	Nov. 21, 2019	Nov. 18, 2022
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 17, 2021	Aug. 16, 2022
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 17, 2022	Jan. 16, 2023
SPEAG	3700MHz System Validation Kit	D3700V2	1022	Jul. 14, 2021	Jul. 13, 2022
SPEAG	3900MHz System Validation Kit ⁽²⁾	D3900V2	1017	Apr. 22, 2022	Apr. 19, 2025
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 15, 2021	Sep. 14, 2022
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1003	Sep. 24, 2021	Sep. 23, 2022
SPEAG	5G Verification Source	10GHz	1020	Jan. 18, 2022	Jan. 17, 2023
SPEAG	EUmmWV Probe Tip Protection	EUmmWV3	9424	Mar. 23, 2021	Mar. 22, 2022
SPEAG	Data Acquisition Electronics	DAE4	316	Jan. 26, 2022	Jan. 25, 2023
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 24, 2022	Feb. 23, 2023
SPEAG	Data Acquisition Electronics	DAE4	1399	Feb. 28, 2022	Feb. 27, 2023
SPEAG	Data Acquisition Electronics	DAE4	1424	Jan. 20, 2022	Jan. 19, 2023
SPEAG	Data Acquisition Electronics	DAE4	1696	Nov. 03, 2021	Nov. 02, 2022
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 19, 2022	Jan. 18, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3728	Mar. 02, 2022	Mar. 01, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Apr. 29, 2022	Apr. 28, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Oct. 21, 2021	Oct. 20, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3976	Jan. 27, 2022	Jan. 26, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Jan. 27, 2022	Jan. 26, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7694	Jan. 24, 2022	Jan. 23, 2023
RCPTWN	Thermometer	HTC-1	TM685-1	Oct. 28, 2021	Oct. 27, 2022
RCPTWN	Thermometer	HTC-1	TM560-2	Oct. 28, 2021	Oct. 27, 2022
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 21, 2021	Oct. 20, 2022
Keysight	Wireless Communication Test Set	E5515C	MY50267236	Mar. 02, 2022	Mar. 01, 2023
R&S	BT Base Station	CBT32	101136	Oct. 17, 2021	Oct. 16, 2022
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Oct. 24, 2021	Oct. 23, 2022
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 19, 2021	Sep. 18, 2022
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 24, 2021	Sep. 23, 2022
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Oct. 26, 2021	Oct. 25, 2022
Anritsu	Power Meter	ML2495A	1419002	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Meter	ML2496A	2119003	Jun. 09, 2021	Jun. 08, 2022
Anritsu	Power Sensor	MA2411B	1726150	Oct. 09, 2021	Oct. 08, 2022
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Jan. 12, 2022	Jan. 11, 2023
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 19, 2021	Aug. 18, 2022
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 12, 2021	Oct. 11, 2022
Mini-Circuits	Power Amplifier	ZVE-8G+	479102029	Sep. 06, 2021	Sep. 05, 2022
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005-3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.



10. System Verification

10.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18°C to 25°C, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.

The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
750	22.8	0.886	42.286	0.89	41.90	-0.45	0.92	±5	2022/4/25
750	22.8	0.902	42.806	0.89	41.90	1.35	2.16	±5	2022/4/26
750	22.3	0.920	41.860	0.89	41.90	3.37	-0.10	±5	2022/5/6
750	22.7	0.908	41.250	0.89	41.90	2.02	-1.55	±5	2022/5/9
835	22.8	0.926	42.510	0.90	41.50	2.89	2.43	±5	2022/4/26
835	22.2	0.907	42.143	0.90	41.50	0.78	1.55	±5	2022/4/27
835	22.6	0.920	43.340	0.90	41.50	2.22	4.43	±5	2022/4/29
835	22.3	0.939	40.994	0.90	41.50	4.33	-1.22	±5	2022/5/6
1750	22.4	1.342	39.743	1.37	40.10	-2.04	-0.89	±5	2022/4/21
1750	22.6	1.374	40.634	1.37	40.10	0.29	1.33	±5	2022/4/24
1900	22.3	1.457	40.315	1.40	40.00	4.07	0.79	±5	2022/4/23
1900	22.6	1.390	40.382	1.40	40.00	-0.71	0.95	±5	2022/4/24
1900	22.6	1.425	39.563	1.40	40.00	1.79	-1.09	±5	2022/4/29
2450	22.8	1.826	39.688	1.80	39.20	1.44	1.24	±5	2022/4/29
2450	22.6	1.846	40.003	1.80	39.20	2.56	2.05	±5	2022/5/2
2600	22.7	1.963	38.891	1.96	39.00	0.15	-0.28	±5	2022/4/20
2600	22.5	1.980	39.206	1.96	39.00	1.02	0.53	±5	2022/4/22
2600	22.3	2.002	39.521	1.96	39.00	2.14	1.34	±5	2022/4/28
2600	22.7	1.989	39.070	1.96	39.00	1.48	0.18	±5	2022/4/30
2600	22.1	1.988	38.566	1.96	39.00	1.43	-1.11	±5	2022/5/4
2600	22.3	2.014	38.160	1.96	39.00	2.76	-2.15	±5	2022/5/6
2600	22.4	1.877	38.753	1.96	39.00	-4.23	-0.63	±5	2022/5/13
3500	22.4	2.929	36.617	2.91	37.90	0.65	-3.39	±5	2022/5/3
3500	22.3	2.951	36.817	2.91	37.90	1.41	-2.86	±5	2022/5/5
3500	22.5	2.980	37.132	2.91	37.90	2.41	-2.03	±5	2022/5/6
3500	22.3	2.906	38.200	2.91	37.90	-0.14	0.79	±5	2022/5/7
3500	22.2	2.838	37.500	2.91	37.90	-2.47	-1.06	±5	2022/5/8
3500	22.4	2.982	37.945	2.91	37.90	2.47	0.12	±5	2022/5/15
3500	22.7	2.914	37.958	2.91	37.90	0.14	0.15	±5	2022/5/21
3700	22.3	3.090	36.813	3.12	37.70	-0.96	-2.35	±5	2022/4/19
3700	22.3	3.151	36.498	3.12	37.70	0.99	-3.19	±5	2022/5/5
3700	22.5	3.182	36.813	3.12	37.70	1.99	-2.35	±5	2022/5/6
3700	22.4	3.140	37.707	3.12	37.70	0.64	0.02	±5	2022/5/15
3900	22.4	3.326	35.980	3.33	37.51	-0.12	-4.08	±5	2022/5/3
3900	22.3	3.350	36.180	3.33	37.51	0.60	-3.55	±5	2022/5/5
3900	22.5	3.383	36.495	3.33	37.51	1.59	-2.71	±5	2022/5/6
3900	22.3	3.323	37.811	3.33	37.51	-0.21	0.80	±5	2022/5/7
3900	22.7	3.324	37.497	3.33	37.51	-0.18	-0.03	±5	2022/5/20
5250	22.7	4.766	36.482	4.71	35.95	1.19	1.48	±5	2022/4/30
5600	22.7	5.082	36.365	5.07	35.50	0.24	2.44	±5	2022/5/1
5750	22.7	5.233	36.171	5.22	35.35	0.25	2.32	±5	2022/5/1
6500	22.4	6.110	34.550	6.07	34.50	0.66	0.14	±5	2022/5/6



10.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR09	2022/4/25	750	50	D750V3-1012	EX3DV4 - SN3976	DAE4 Sn316	0.409	8.56	8.18	-4.44				
SAR09	2022/4/26	750	250	D750V3-1012	EX3DV4 - SN3976	DAE4 Sn316	2.230	8.56	8.92	4.21				
SAR14	2022/5/6	750	50	D750V3-1012	EX3DV4 - SN7694	DAE4 Sn1424	0.426	8.56	8.52	-0.47				
SAR14	2022/5/9	750	50	D750V3-1012	EX3DV4 - SN3931	DAE4 Sn1399	0.407	8.56	8.14	-4.91				
SAR09	2022/4/26	835	250	D835V2-499	EX3DV4 - SN3976	DAE4 Sn316	2.260	9.68	9.04	-6.61				
SAR09	2022/4/27	835	250	D835V2-499	EX3DV4 - SN3976	DAE4 Sn316	2.480	9.68	9.92	2.48				
SAR08	2022/4/29	835	50	D835V2-499	EX3DV4 - SN7625	DAE4 Sn1696	0.460	9.68	9.2	-4.96				
SAR14	2022/5/6	835	50	D835V2-4d167	EX3DV4 - SN7694	DAE4 Sn1424	0.500	9.55	10	4.71				
SAR09	2022/4/21	1750	50	D1750V2-1068	EX3DV4 - SN3976	DAE4 Sn316	1.830	36.60	36.6	0.00				
SAR09	2022/4/24	1750	50	D1750V2-1068	EX3DV4 - SN3976	DAE4 Sn316	1.770	36.60	35.4	-3.28				
SAR09	2022/4/23	1900	50	D1900V2-5d041	EX3DV4 - SN3976	DAE4 Sn316	2.000	40.60	40	-1.48				
SAR09	2022/4/24	1900	50	D1900V2-5d041	EX3DV4 - SN3976	DAE4 Sn316	1.890	40.60	37.8	-6.90				
SAR08	2022/4/29	1900	250	D1900V2-5d041	EX3DV4 - SN7625	DAE4 Sn1696	9.650	40.60	38.6	-4.93				
SAR09	2022/4/29	2450	50	D2450V2-929	EX3DV4 - SN3976	DAE4 Sn316	2.730	53.10	54.6	2.82				
SAR09	2022/5/2	2450	50	D2450V2-929	EX3DV4 - SN3976	DAE4 Sn316	2.770	53.10	55.4	4.33				
SAR09	2022/4/20	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn316	2.760	58.00	55.2	-4.83				
SAR09	2022/4/22	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn316	2.790	58.00	55.8	-3.79				
SAR09	2022/4/28	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn316	2.820	58.00	56.4	-2.76				
SAR08	2022/4/30	2600	250	D2600V2-1008	EX3DV4 - SN7625	DAE4 Sn1696	14.900	58.00	59.6	2.76	6.740	25.80	26.96	4.50
SAR09	2022/5/4	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn316	2.910	58.00	58.2	0.34				
SAR14	2022/5/6	2600	250	D2600V2-1008	EX3DV4 - SN7694	DAE4 Sn1424	14.100	58.00	56.4	-2.76				
SAR11	2022/5/13	2600	50	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn914	2.610	58.00	52.2	-10.00				
SAR09	2022/5/3	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn316	3.300	67.20	66	-1.79				
SAR09	2022/5/5	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn316	3.330	67.20	66.6	-0.89				
SAR09	2022/5/6	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn316	3.360	67.20	67.2	0.00				
SAR08	2022/5/7	3500	100	D3500V2-1014	EX3DV4 - SN7625	DAE4 Sn1696	6.330	67.20	63.3	-5.80				
SAR14	2022/5/8	3500	100	D3500V2-1014	EX3DV4 - SN7694	DAE4 Sn1424	6.310	67.20	63.1	-6.10				
SAR09	2022/5/15	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn316	3.400	67.20	68	1.19				
SAR11	2022/5/21	3500	50	D3500V2-1014	EX3DV4 - SN3925	DAE4 Sn914	3.430	67.20	68.6	2.08				

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR09	2022/4/19	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn316	3.270	68.20	65.4	-4.11				
SAR09	2022/5/5	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn316	3.330	68.20	66.6	-2.35				
SAR09	2022/5/6	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn316	3.370	68.20	67.4	-1.17				
SAR09	2022/5/15	3700	100	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn316	6.390	68.20	63.9	-6.30				
SAR09	2022/5/3	3900	50	D3900V2-1017-3900	EX3DV4 - SN3976	DAE4 Sn316	3.180	68.70	63.6	-7.42				
SAR09	2022/5/5	3900	50	D3900V2-1017-3900	EX3DV4 - SN3976	DAE4 Sn316	3.200	68.70	64	-6.84				
SAR09	2022/5/6	3900	50	D3900V2-1017-3900	EX3DV4 - SN3976	DAE4 Sn316	3.230	68.70	64.6	-5.97				
SAR08	2022/5/7	3900	100	D3900V2-1017-3900	EX3DV4 - SN7625	DAE4 Sn1696	7.160	68.70	71.6	4.22				
SAR11	2022/5/20	3900	50	D3900V2-1017-3900	EX3DV4 - SN3925	DAE4 Sn914	3.240	68.70	64.8	-5.68				
SAR09	2022/4/30	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3976	DAE4 Sn316	7.940	81.70	79.4	-2.82				
SAR09	2022/5/1	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3976	DAE4 Sn316	7.900	85.10	79	-7.17				
SAR09	2022/5/1	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN3976	DAE4 Sn316	7.670	81.40	76.7	-5.77				
SAR13	2022/5/6	6500	100	D6.5GHzV2-1003	EX3DV4 - SN3728	DAE4 Sn699	31.800	292.00	318	8.90				

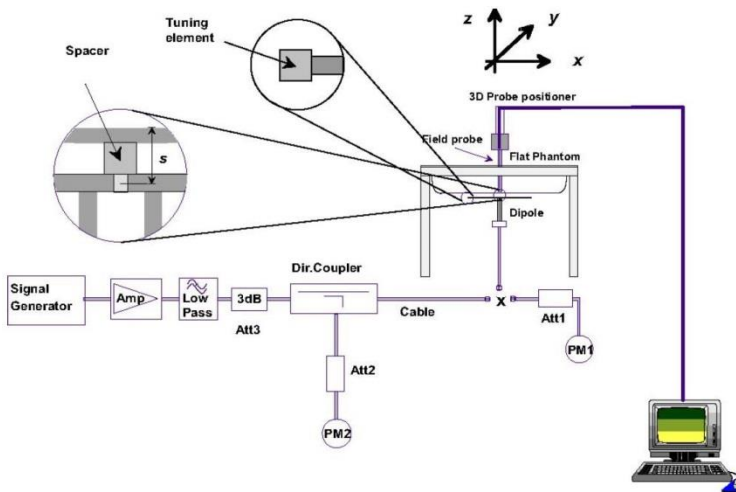


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

10.3 PD System Performance Check Results

The system was verified to be within ± 0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes

Test Location	Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Measured 4 cm ² (W/m ²)	Targeted 4 cm ² (W/m ²)	Deviation (dB)	Date
SAR06-HY	10G	10GHz_1020	SN9461	SN656	10mm	55.7	51.7	0.32	2022/3/15

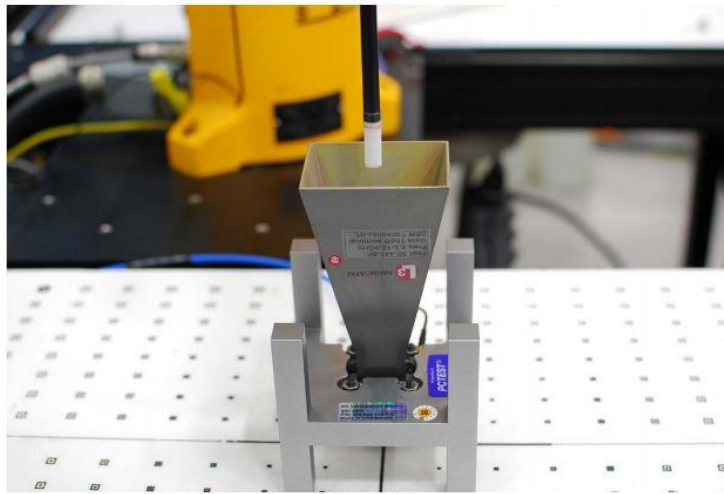


Figure 4-3
System Verification Setup Photo

System Performance Check Setup

11. RF Exposure Positions

11.1 Ear and handset reference point

Figure 9.1.1 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 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 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 normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

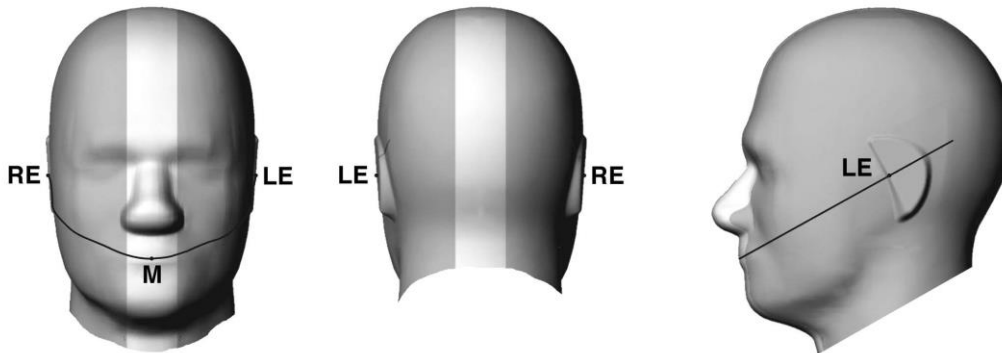


Fig 9.1.1 Front, back, and side views of SAM twin phantom

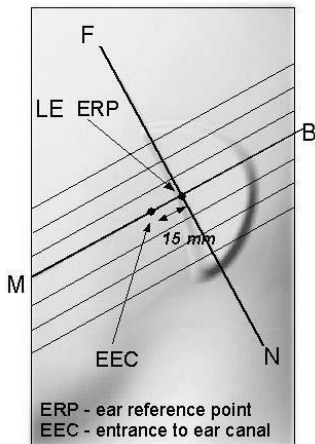


Fig 9.1.2 Close-up side view of phantom showing the ear region.

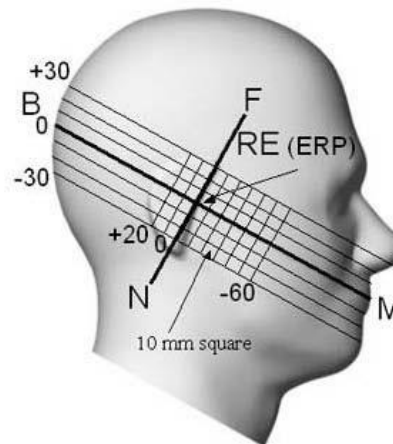


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

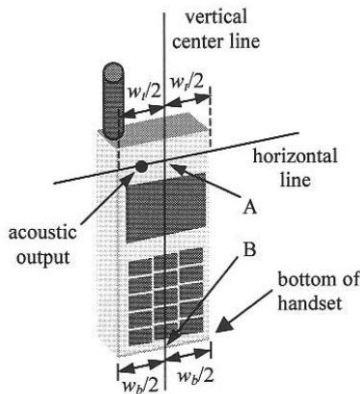


Fig 9.2.1 Handset vertical and horizontal reference lines—“fixed case”

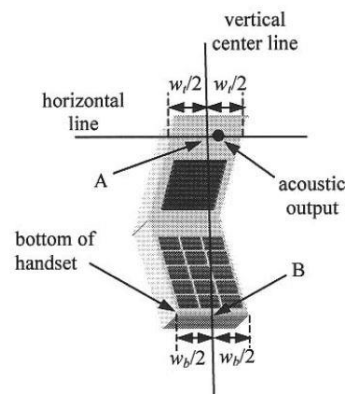


Fig 9.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

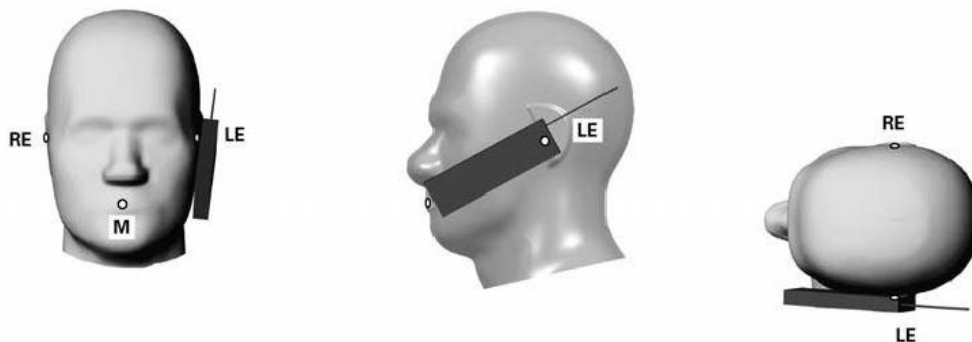


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

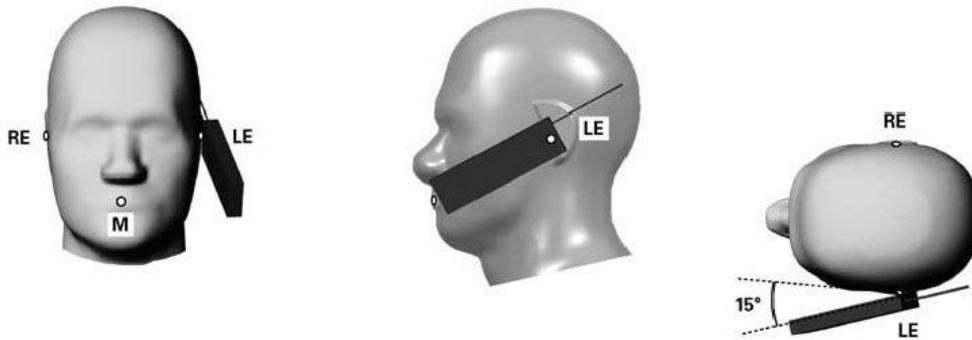


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 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 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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

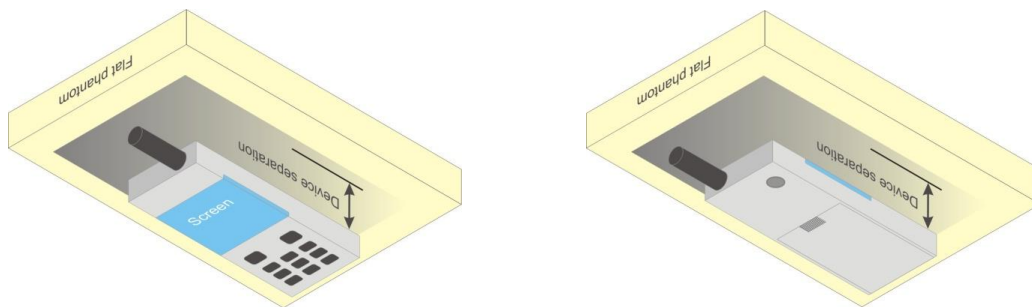


Fig 9.4 Body Worn Position

11.5 Product Specific Exposure

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, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.



11.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 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 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm 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.

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.



12. GSM/UMTS/LTE Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The 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. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode
4. Power reduction which is triggered by hotspot mode is implemented in GSM1900 band, for hotspot mode SAR testing EUT was set in reduced power mode and GPRS 4 Tx slot due to its highest frame-average power.

DSI 0_ANT 4								
GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	32.46	32.52	32.53	33.50	23.46	23.52	23.53	24.50
GPRS 1 Tx slot	32.66	32.45	32.63	33.50	23.66	23.45	23.63	24.50
GPRS 2 Tx slots	31.81	31.52	31.52	32.50	25.81	25.52	25.52	26.50
GPRS 3 Tx slots	30.74	30.84	30.70	31.50	26.48	26.58	26.44	27.24
GPRS 4 Tx slots	29.82	29.23	29.31	30.50	26.82	26.23	26.31	27.50
EDGE 1 Tx slot	27.34	27.54	27.61	28.00	18.34	18.54	18.61	19.00
EDGE 2 Tx slots	25.94	26.08	26.29	27.00	19.94	20.08	20.29	21.00
EDGE 3 Tx slots	25.36	25.47	25.55	26.00	21.10	21.21	21.29	21.74
EDGE 4 Tx slots	24.47	24.57	24.74	25.50	21.47	21.57	21.74	22.50

DSI 0_ANT 4								
GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.64	30.05	30.23	30.50	20.64	21.05	21.23	21.50
GPRS 1 Tx slot	29.84	30.24	30.35	30.50	20.84	21.24	21.35	21.50
GPRS 2 Tx slots	28.19	28.55	28.72	29.50	22.19	22.55	22.72	23.50
GPRS 3 Tx slots	27.64	27.41	27.57	28.50	23.38	23.15	23.31	24.24
GPRS 4 Tx slots	26.05	25.99	26.10	27.50	23.05	22.99	23.10	24.50
EDGE 1 Tx slot	25.71	25.52	25.79	27.00	16.71	16.52	16.79	18.00
EDGE 2 Tx slots	25.46	25.12	25.27	26.00	19.46	19.12	19.27	20.00
EDGE 3 Tx slots	24.18	23.79	24.03	25.00	19.92	19.53	19.77	20.74
EDGE 4 Tx slots	23.05	23.46	23.91	24.50	20.05	20.46	20.91	21.50



DSI 3_ANT 4								
GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	27.03	27.08	27.14	27.50	18.03	18.08	18.14	18.50
GPRS 1 Tx slot	27.03	27.14	27.23	27.50	18.03	18.14	18.23	18.50
GPRS 2 Tx slots	26.68	26.76	26.77	27.00	20.68	20.76	20.77	21.00
GPRS 3 Tx slots	26.22	26.31	26.32	26.50	21.96	22.05	22.06	22.24
GPRS 4 Tx slots	25.65	25.68	25.76	26.00	22.65	22.68	22.76	23.00
EDGE 1 Tx slot	25.71	25.52	25.79	27.00	16.71	16.52	16.79	18.00
EDGE 2 Tx slots	25.46	25.12	25.27	26.00	19.46	19.12	19.27	20.00
EDGE 3 Tx slots	24.18	23.79	24.03	25.00	19.92	19.53	19.77	20.74
EDGE 4 Tx slots	23.05	23.46	23.91	24.50	20.05	20.46	20.91	21.50

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set Gain Factors (β_c and β_d) and parameters were set according to each
 - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - iii. Set RMC 12.2Kbps + HSDPA mode.
 - iv. Set Cell Power = -86 dBm
 - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
 - vi. Select HSDPA Uplink Parameters
 - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
 - viii. Set Ack-Nack Repetition Factor to 3
 - ix. Set CQI Feedback Cycle (k) to 4 ms
 - x. Set CQI Repetition Factor to 2
 - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

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

Note 1: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d = 12/15, \beta_{HS}/\beta_c = 24/15$. For all other combinations of DPCCH, DPDCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

Setup Configuration

HSUPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
 - iii. Set Cell Power = -86 dBm
 - iv. Set Channel Type = 12.2k + HSPA
 - v. Set UE Target Power
 - vi. Power Ctrl Mode= Alternating bits
 - vii. Set and observe the E-TFCl
 - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

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

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

Note 4: In case of testing by UE using E-DPDCCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
 - vii. Set Ack-Nack Repetition Factor to 3
 - viii. Set CQI Feedback Cycle (k) to 4 ms
 - ix. Set CQI Repetition Factor to 2
 - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

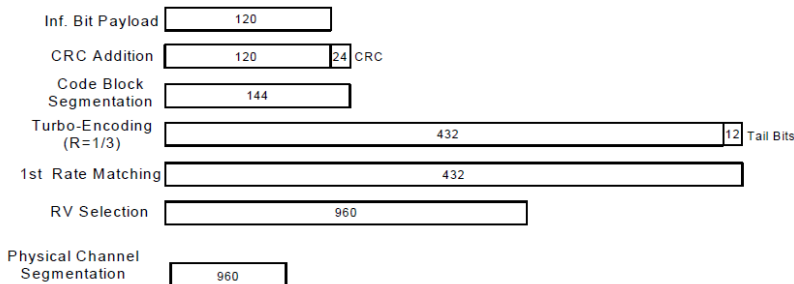


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



<WCDMA Conducted Power>

General Note:

- Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
- Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

Band		WCDMA II_DSI0 Ant 2			Tune-up Limit (dBm)	WCDMA IV_DSI0 Ant 2			Tune-up Limit (dBm)	WCDMA V_DSI0 Ant 4			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6			
3GPP Rel 99	AMR 12.2Kbps	23.74	23.86	24.24	25.20	23.98	23.90	24.01	25.20	24.70	24.66	24.45	25.20
3GPP Rel 99	RMC 12.2Kbps	23.79	24.02	24.42	25.20	24.03	23.97	24.05	25.20	24.74	24.69	24.51	25.20
3GPP Rel 6	HSDPA Subtest-1	22.63	22.87	23.36	24.20	22.90	22.84	22.89	24.20	23.55	23.64	23.48	24.20
3GPP Rel 6	HSDPA Subtest-2	22.61	22.85	23.34	24.20	22.88	22.82	22.88	24.20	23.55	23.62	23.43	24.20
3GPP Rel 6	HSDPA Subtest-3	22.08	22.33	22.83	23.70	22.39	22.26	22.30	23.70	22.99	23.12	22.96	23.70
3GPP Rel 6	HSDPA Subtest-4	22.06	22.29	22.79	23.70	22.33	22.29	22.38	23.70	22.97	23.06	22.84	23.70
3GPP Rel 8	DC-HSDPA Subtest-1	22.60	22.69	23.36	24.20	22.79	22.79	22.82	24.20	23.37	23.59	23.34	24.20
3GPP Rel 8	DC-HSDPA Subtest-2	22.56	22.75	23.16	24.20	22.81	22.78	22.73	24.20	23.38	23.45	23.32	24.20
3GPP Rel 8	DC-HSDPA Subtest-3	22.05	22.14	22.83	23.70	22.33	22.24	22.23	23.70	22.92	22.95	22.81	23.70
3GPP Rel 8	DC-HSDPA Subtest-4	22.06	22.21	22.69	23.70	22.22	22.10	22.34	23.70	22.84	22.99	22.79	23.70
3GPP Rel 6	HSUPA Subtest-1	22.53	22.79	23.32	24.20	22.87	22.83	22.89	24.20	23.48	23.55	23.41	24.20
3GPP Rel 6	HSUPA Subtest-2	20.65	20.95	21.48	22.20	21.00	20.97	21.09	22.20	21.63	21.65	21.55	22.20
3GPP Rel 6	HSUPA Subtest-3	21.46	21.73	22.27	23.20	21.85	21.75	21.87	23.20	22.43	22.50	22.41	23.20
3GPP Rel 6	HSUPA Subtest-4	20.59	20.87	21.39	22.20	20.94	20.90	21.04	22.20	21.60	21.62	21.46	22.20
3GPP Rel 6	HSUPA Subtest-5	22.47	22.73	23.31	24.20	22.87	22.73	22.85	24.20	23.41	23.55	23.31	24.20

Band		WCDMA II_DSI 3 Ant 2			Tune-up Limit (dBm)
TX Channel		9262	9400	9538	
Rx Channel		9662	9800	9938	
Frequency (MHz)		1852.4	1880	1907.6	
3GPP Rel 99	AMR 12.2Kbps	21.60	21.56	21.96	23.50
3GPP Rel 99	RMC 12.2Kbps	21.89	22.88	22.99	23.50
3GPP Rel 6	HSDPA Subtest-1	20.54	20.58	21.06	22.50
3GPP Rel 6	HSDPA Subtest-2	20.57	20.63	21.11	22.50
3GPP Rel 6	HSDPA Subtest-3	20.12	20.12	20.57	22.00
3GPP Rel 6	HSDPA Subtest-4	20.06	20.02	20.57	22.00
3GPP Rel 6	HSUPA Subtest-1	20.57	20.58	21.08	22.50
3GPP Rel 6	HSUPA Subtest-2	18.54	18.65	19.23	20.50
3GPP Rel 6	HSUPA Subtest-3	19.52	19.55	20.02	21.50
3GPP Rel 6	HSUPA Subtest-4	18.56	18.58	19.13	20.50
3GPP Rel 6	HSUPA Subtest-5	20.54	20.55	21.02	22.50

**<LTE Conducted Power>****General Note:**

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4/B5/B17/B38/B71 the maximum 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 middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 4/38 SAR test was covered by Band 66/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band



DSI 0

<LTE Band 2 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.23	23.84	24.47	25.2
20	QPSK	1	49	23.36	24.15	24.34	
20	QPSK	1	99	23.64	24.10	24.34	
20	QPSK	50	0	22.37	23.06	23.49	24.2
20	QPSK	50	24	22.51	23.17	23.39	
20	QPSK	50	50	22.63	23.25	23.47	
20	QPSK	100	0	22.54	23.14	23.40	24.2
20	16QAM	1	0	22.62	23.21	23.63	
20	16QAM	1	49	22.69	23.48	23.69	
20	16QAM	1	99	22.97	23.49	23.66	23.2
20	16QAM	50	0	21.38	22.08	22.43	
20	16QAM	50	24	21.54	22.17	22.41	
20	16QAM	50	50	21.62	22.24	22.47	23.2
20	16QAM	100	0	21.53	22.13	22.42	
20	64QAM	1	0	21.44	22.02	22.60	
20	64QAM	1	49	21.57	22.40	22.52	23.2
20	64QAM	1	99	21.82	22.37	22.62	
20	64QAM	50	0	20.39	21.10	21.43	
20	64QAM	50	24	20.57	21.19	21.46	22.2
20	64QAM	50	50	20.65	21.26	21.46	
20	64QAM	100	0	20.55	21.15	21.41	
20	256QAM	1	0	19.43	19.46	19.33	20.2
20	256QAM	1	49	18.95	18.96	18.55	
20	256QAM	1	99	19.36	19.63	19.57	
20	256QAM	50	0	18.90	18.83	18.49	20.2
20	256QAM	50	24	18.85	18.78	18.62	
20	256QAM	50	50	18.86	18.93	18.69	
20	256QAM	100	0	18.85	18.95	18.62	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	23.28	23.86	24.33	25.2
15	QPSK	1	37	23.34	24.14	24.29	
15	QPSK	1	74	23.65	24.12	24.27	
15	QPSK	36	0	22.33	23.08	23.49	24.2
15	QPSK	36	20	22.56	23.22	23.37	
15	QPSK	36	39	22.59	23.27	23.42	
15	QPSK	75	0	22.49	23.17	23.35	24.2
15	16QAM	1	0	22.59	23.16	23.58	
15	16QAM	1	37	22.64	23.50	23.63	
15	16QAM	1	74	22.98	23.52	23.62	23.2
15	16QAM	36	0	21.40	22.12	22.38	
15	16QAM	36	20	21.52	22.17	22.41	
15	16QAM	36	39	21.58	22.29	22.52	23.2
15	16QAM	75	0	21.48	22.13	22.42	
15	64QAM	1	0	21.42	22.01	22.58	
15	64QAM	1	37	21.61	22.41	22.47	23.2
15	64QAM	1	74	21.77	22.34	22.67	
15	64QAM	36	0	20.40	21.09	21.40	
15	64QAM	36	20	20.59	21.21	21.50	22.2



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15	64QAM	36	39	20.62	21.31	21.49	
15	64QAM	75	0	20.50	21.17	21.46	
15	256QAM	1	0	19.44	19.47	19.33	
15	256QAM	1	37	18.98	18.92	18.51	20.2
15	256QAM	1	74	19.34	19.59	19.57	
15	256QAM	36	0	18.86	18.82	18.50	
15	256QAM	36	20	18.87	18.82	18.64	20.2
15	256QAM	36	39	18.85	18.98	18.70	
15	256QAM	75	0	18.83	18.97	18.62	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.20	23.72	24.33	25.2
10	QPSK	1	25	23.25	24.05	24.14	
10	QPSK	1	49	23.56	24.00	24.23	
10	QPSK	25	0	22.26	22.93	23.33	24.2
10	QPSK	25	12	22.40	23.08	23.20	
10	QPSK	25	25	22.45	23.16	23.34	
10	QPSK	50	0	22.40	23.10	23.28	24.2
10	16QAM	1	0	22.52	22.99	23.42	
10	16QAM	1	25	22.48	23.42	23.61	
10	16QAM	1	49	22.87	23.44	23.53	23.2
10	16QAM	25	0	21.24	21.97	22.28	
10	16QAM	25	12	21.42	22.10	22.31	
10	16QAM	25	25	21.47	22.19	22.41	23.2
10	16QAM	50	0	21.40	22.02	22.29	
10	64QAM	1	0	21.26	21.84	22.44	
10	64QAM	1	25	21.52	22.30	22.31	23.2
10	64QAM	1	49	21.65	22.26	22.57	
10	64QAM	25	0	20.24	20.92	21.25	
10	64QAM	25	12	20.50	21.13	21.40	22.2
10	64QAM	25	25	20.55	21.22	21.41	
10	64QAM	50	0	20.43	21.08	21.30	
10	256QAM	1	0	19.36	19.36	19.25	20.2
10	256QAM	1	25	18.89	18.84	18.43	
10	256QAM	1	49	19.19	19.45	19.43	
10	256QAM	25	0	18.71	18.73	18.41	20.2
10	256QAM	25	12	18.73	18.73	18.50	
10	256QAM	25	25	18.71	18.91	18.59	
10	256QAM	50	0	18.66	18.80	18.51	Tune-up limit (dBm)
Channel				18625	18900	19175	
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.23	23.70	24.27	25.2
5	QPSK	1	12	23.25	23.96	24.26	
5	QPSK	1	24	23.53	23.95	24.29	
5	QPSK	12	0	22.25	22.99	23.41	24.2
5	QPSK	12	7	22.45	23.04	23.28	
5	QPSK	12	13	22.50	23.05	23.35	
5	QPSK	25	0	22.39	22.94	23.26	24.2
5	16QAM	1	0	22.48	23.06	23.50	
5	16QAM	1	12	22.56	23.35	23.60	
5	16QAM	1	24	22.87	23.31	23.52	23.2
5	16QAM	12	0	21.33	22.05	22.33	
5	16QAM	12	7	21.49	22.04	22.22	
5	16QAM	12	13	21.58	22.10	22.43	23.2
5	16QAM	25	0	21.46	21.98	22.24	
5	64QAM	1	0	21.30	21.85	22.44	23.2



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5	64QAM	1	12	21.50	22.26	22.36	22.2
5	64QAM	1	24	21.63	22.27	22.57	
5	64QAM	12	0	20.25	21.03	21.30	
5	64QAM	12	7	20.40	21.06	21.28	
5	64QAM	12	13	20.53	21.21	21.41	
5	64QAM	25	0	20.39	21.00	21.33	
5	256QAM	1	0	19.23	19.31	19.26	20.2
5	256QAM	1	12	18.82	18.80	18.36	
5	256QAM	1	24	19.33	19.51	19.42	
5	256QAM	12	0	18.80	18.65	18.28	20.2
5	256QAM	12	7	18.70	18.61	18.45	
5	256QAM	12	13	18.81	18.79	18.51	
5	256QAM	25	0	18.73	18.75	18.59	
Channel				18615	18900	19185	
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	23.20	23.83	24.35	25.2
3	QPSK	1	8	23.40	24.12	24.33	
3	QPSK	1	14	23.64	24.11	24.38	
3	QPSK	8	0	22.36	23.10	23.48	24.2
3	QPSK	8	4	22.56	23.14	23.39	
3	QPSK	8	7	22.61	23.21	23.49	
3	QPSK	15	0	22.54	23.11	23.38	
3	16QAM	1	0	22.65	23.21	23.60	
3	16QAM	1	8	22.68	23.47	23.62	24.2
3	16QAM	1	14	22.99	23.46	23.66	
3	16QAM	8	0	21.41	22.13	22.42	
3	16QAM	8	4	21.59	22.15	22.36	23.2
3	16QAM	8	7	21.66	22.23	22.51	
3	16QAM	15	0	21.56	22.09	22.37	
3	64QAM	1	0	21.39	21.99	22.58	
3	64QAM	1	8	21.58	22.41	22.52	
3	64QAM	1	14	21.78	22.37	22.67	23.2
3	64QAM	8	0	20.42	21.13	21.41	
3	64QAM	8	4	20.52	21.17	21.45	
3	64QAM	8	7	20.70	21.30	21.51	
3	64QAM	15	0	20.56	21.10	21.44	
3	256QAM	1	0	19.39	19.42	19.38	20.2
3	256QAM	1	8	18.94	18.93	18.53	
3	256QAM	1	14	19.41	19.68	19.58	
3	256QAM	8	0	18.94	18.80	18.45	20.2
3	256QAM	8	4	18.83	18.73	18.59	
3	256QAM	8	7	18.88	18.94	18.67	
3	256QAM	15	0	18.89	18.91	18.67	
Channel				18607	18900	19193	
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.22	23.84	24.39	25.2
1.4	QPSK	1	3	23.31	24.12	24.34	
1.4	QPSK	1	5	23.64	24.08	24.34	
1.4	QPSK	3	0	23.27	23.82	24.32	
1.4	QPSK	3	1	23.32	24.14	24.32	
1.4	QPSK	3	3	23.59	24.13	24.35	
1.4	QPSK	6	0	22.58	23.16	23.38	24.2
1.4	16QAM	1	0	22.60	23.16	23.59	24.2
1.4	16QAM	1	3	22.69	23.44	23.67	
1.4	16QAM	1	5	22.96	23.46	23.64	
1.4	16QAM	3	0	22.63	23.22	23.62	



1.4	16QAM	3	1	22.70	23.49	23.64	
1.4	16QAM	3	3	22.94	23.48	23.68	
1.4	16QAM	6	0	21.56	22.10	22.37	23.2
1.4	64QAM	1	0	21.47	21.99	22.63	23.2
1.4	64QAM	1	3	21.54	22.36	22.55	
1.4	64QAM	1	5	21.85	22.42	22.59	
1.4	64QAM	3	0	21.40	21.97	22.62	
1.4	64QAM	3	1	21.60	22.41	22.57	
1.4	64QAM	3	3	21.79	22.40	22.63	
1.4	64QAM	6	0	20.58	21.14	21.41	22.2
1.4	256QAM	1	0	19.43	19.46	19.32	20.2
1.4	256QAM	1	3	18.95	18.95	18.60	
1.4	256QAM	1	5	19.32	19.58	19.53	
1.4	256QAM	3	0	19.48	19.50	19.31	
1.4	256QAM	3	1	18.99	19.00	18.53	
1.4	256QAM	3	3	19.38	19.65	19.55	
1.4	256QAM	6	0	18.82	18.92	18.63	20.2

<LTE Band 4 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.50	23.44	23.89	25.2
20	QPSK	1	49	23.34	23.46	23.79	
20	QPSK	1	99	23.39	23.60	23.83	
20	QPSK	50	0	22.47	22.51	22.98	24.2
20	QPSK	50	24	22.51	22.63	22.86	
20	QPSK	50	50	22.46	22.65	22.88	
20	QPSK	100	0	22.49	22.62	22.84	24.2
20	16QAM	1	0	22.81	22.82	23.02	
20	16QAM	1	49	22.69	22.84	23.10	
20	16QAM	1	99	22.76	22.94	23.17	23.2
20	16QAM	50	0	21.46	21.52	21.81	
20	16QAM	50	24	21.54	21.64	21.90	
20	16QAM	50	50	21.48	21.64	21.99	23.2
20	16QAM	100	0	21.53	21.62	21.87	
20	64QAM	1	0	21.58	21.67	21.75	
20	64QAM	1	49	21.52	21.66	21.63	23.2
20	64QAM	1	99	21.63	21.25	21.40	
20	64QAM	50	0	20.50	20.58	20.52	
20	64QAM	50	24	20.56	20.64	20.65	22.2
20	64QAM	50	50	20.50	20.60	20.53	
20	64QAM	100	0	20.54	20.65	20.27	
20	256QAM	1	0	19.76	19.75	19.97	20.2
20	256QAM	1	49	19.29	19.26	18.89	
20	256QAM	1	99	19.67	19.96	19.93	
20	256QAM	50	0	19.21	19.17	18.83	20.2
20	256QAM	50	24	19.23	19.16	18.95	
20	256QAM	50	50	19.19	19.25	19.04	
20	256QAM	100	0	19.19	19.28	19.01	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.52	23.44	23.80	25.2
15	QPSK	1	37	23.37	23.51	23.76	
15	QPSK	1	74	23.40	23.59	23.85	



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15	QPSK	36	0	22.45	22.46	22.95	24.2
15	QPSK	36	20	22.51	22.59	22.91	
15	QPSK	36	39	22.47	22.63	22.88	
15	QPSK	75	0	22.49	22.67	22.82	
15	16QAM	1	0	22.85	22.85	23.06	24.2
15	16QAM	1	37	22.68	22.87	23.12	
15	16QAM	1	74	22.77	22.91	23.16	
15	16QAM	36	0	21.41	21.47	21.80	23.2
15	16QAM	36	20	21.59	21.66	21.94	
15	16QAM	36	39	21.44	21.61	21.98	
15	16QAM	75	0	21.50	21.67	21.82	
15	64QAM	1	0	21.61	21.69	21.78	23.2
15	64QAM	1	37	21.47	21.71	21.63	
15	64QAM	1	74	21.59	21.35	21.39	
15	64QAM	36	0	20.51	20.59	20.56	22.2
15	64QAM	36	20	20.56	20.65	20.61	
15	64QAM	36	39	20.51	20.61	20.49	
15	64QAM	75	0	20.57	20.69	20.25	
15	256QAM	1	0	19.72	19.77	19.99	20.2
15	256QAM	1	37	19.24	19.21	18.89	
15	256QAM	1	74	19.67	19.99	19.98	
15	256QAM	36	0	19.26	19.13	18.87	20.2
15	256QAM	36	20	19.27	19.14	18.90	
15	256QAM	36	39	19.20	19.24	19.06	
15	256QAM	75	0	19.23	19.29	18.99	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.39	23.35	23.68	25.2
10	QPSK	1	25	23.29	23.43	23.64	
10	QPSK	1	49	23.29	23.42	23.74	
10	QPSK	25	0	22.31	22.30	22.80	24.2
10	QPSK	25	12	22.35	22.49	22.75	
10	QPSK	25	25	22.39	22.53	22.77	
10	QPSK	50	0	22.36	22.57	22.66	
10	16QAM	1	0	22.74	22.77	22.91	24.2
10	16QAM	1	25	22.56	22.74	23.01	
10	16QAM	1	49	22.60	22.83	22.99	
10	16QAM	25	0	21.31	21.32	21.69	23.2
10	16QAM	25	12	21.52	21.53	21.77	
10	16QAM	25	25	21.28	21.53	21.84	
10	16QAM	50	0	21.43	21.53	21.74	
10	64QAM	1	0	21.48	21.59	21.63	23.2
10	64QAM	1	25	21.40	21.63	21.50	
10	64QAM	1	49	21.49	21.23	21.32	
10	64QAM	25	0	20.34	20.46	20.45	22.2
10	64QAM	25	12	20.39	20.56	20.51	
10	64QAM	25	25	20.35	20.48	20.38	
10	64QAM	50	0	20.47	20.58	20.53	
10	256QAM	1	0	19.56	19.62	19.87	20.2
10	256QAM	1	25	19.14	19.09	18.72	
10	256QAM	1	49	19.55	19.88	19.82	
10	256QAM	25	0	19.15	19.02	18.71	20.2
10	256QAM	25	12	19.13	18.99	18.80	
10	256QAM	25	25	19.04	19.10	18.97	
10	256QAM	50	0	19.14	19.19	18.84	
Channel				19975	20175	20375	



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Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.53	23.49	23.88	25.2
5	QPSK	1	12	23.39	23.42	23.84	
5	QPSK	1	24	23.44	23.63	23.82	
5	QPSK	12	0	22.47	22.47	22.95	24.2
5	QPSK	12	7	22.48	22.67	22.86	
5	QPSK	12	13	22.49	22.70	22.89	
5	QPSK	25	0	22.47	22.57	22.80	24.2
5	16QAM	1	0	22.86	22.85	22.97	
5	16QAM	1	12	22.72	22.83	23.05	
5	16QAM	1	24	22.74	22.92	23.16	23.2
5	16QAM	12	0	21.50	21.56	21.76	
5	16QAM	12	7	21.59	21.67	21.88	
5	16QAM	12	13	21.53	21.66	22.03	23.2
5	16QAM	25	0	21.55	21.64	21.90	
5	64QAM	1	0	21.62	21.70	21.70	
5	64QAM	1	12	21.57	21.67	21.58	22.2
5	64QAM	1	24	21.58	21.21	21.40	
5	64QAM	12	0	20.46	20.63	20.56	
5	64QAM	12	7	20.51	20.69	20.70	20.2
5	64QAM	12	13	20.53	20.64	20.58	
5	64QAM	25	0	20.59	20.62	20.32	
5	256QAM	1	0	19.71	19.77	19.92	20.2
5	256QAM	1	12	19.27	19.24	18.93	
5	256QAM	1	24	19.63	19.77	19.91	
5	256QAM	12	0	19.17	19.22	18.87	20.2
5	256QAM	12	7	19.21	19.16	18.96	
5	256QAM	12	13	19.21	19.27	19.03	
5	256QAM	25	0	19.17	19.32	19.00	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	23.35	23.35	23.74	25.2
3	QPSK	1	8	23.27	23.28	23.61	
3	QPSK	1	14	23.27	23.50	23.71	
3	QPSK	8	0	22.29	22.41	22.80	24.2
3	QPSK	8	4	22.43	22.59	22.80	
3	QPSK	8	7	22.34	22.51	22.81	
3	QPSK	15	0	22.38	22.41	22.76	24.2
3	16QAM	1	0	22.75	22.79	22.96	
3	16QAM	1	8	22.57	22.79	23.02	
3	16QAM	1	14	22.63	22.79	23.03	23.2
3	16QAM	8	0	21.36	21.33	21.69	
3	16QAM	8	4	21.44	21.53	21.87	
3	16QAM	8	7	21.44	21.57	21.85	23.2
3	16QAM	15	0	21.46	21.53	21.75	
3	64QAM	1	0	21.45	21.62	21.57	
3	64QAM	1	8	21.35	21.58	21.50	23.2
3	64QAM	1	14	21.58	21.22	21.36	
3	64QAM	8	0	20.34	20.43	20.36	
3	64QAM	8	4	20.51	20.46	20.53	22.2
3	64QAM	8	7	20.41	20.45	20.39	
3	64QAM	15	0	20.41	20.46	20.56	
3	256QAM	1	0	19.61	19.56	19.84	20.2
3	256QAM	1	8	19.19	19.18	18.74	
3	256QAM	1	14	19.50	19.81	19.76	



3	256QAM	8	0	19.05	19.07	18.64	20.2
3	256QAM	8	4	19.09	19.07	18.84	
3	256QAM	8	7	18.99	19.11	18.92	
3	256QAM	15	0	19.00	19.16	18.89	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.46	23.39	23.88	25.2
1.4	QPSK	1	3	23.36	23.50	23.77	
1.4	QPSK	1	5	23.42	23.56	23.78	
1.4	QPSK	3	0	23.50	23.39	23.86	
1.4	QPSK	3	1	23.38	23.51	23.83	
1.4	QPSK	3	3	23.34	23.63	23.79	
1.4	QPSK	6	0	22.52	22.65	22.84	24.2
1.4	16QAM	1	0	22.79	22.78	22.98	24.2
1.4	16QAM	1	3	22.68	22.87	23.06	
1.4	16QAM	1	5	22.75	22.97	23.13	
1.4	16QAM	3	0	22.78	22.77	22.97	
1.4	16QAM	3	1	22.72	22.82	23.07	
1.4	16QAM	3	3	22.76	22.89	23.12	
1.4	16QAM	6	0	21.54	21.65	21.91	23.2
1.4	64QAM	1	0	21.54	21.63	21.70	23.2
1.4	64QAM	1	3	21.50	21.63	21.58	
1.4	64QAM	1	5	21.60	21.20	21.40	
1.4	64QAM	3	0	21.53	21.65	21.80	
1.4	64QAM	3	1	21.48	21.71	21.59	
1.4	64QAM	3	3	21.64	21.21	21.44	
1.4	64QAM	6	0	20.56	20.69	20.24	22.2
1.4	256QAM	1	0	19.80	19.75	19.93	20.2
1.4	256QAM	1	3	19.28	19.22	18.88	
1.4	256QAM	1	5	19.62	19.96	19.93	
1.4	256QAM	3	0	19.80	19.75	19.92	
1.4	256QAM	3	1	19.31	19.24	18.92	
1.4	256QAM	3	3	19.62	19.94	19.96	
1.4	256QAM	6	0	19.17	19.29	19.06	20.2

<LTE Band 5 Ant 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	23.88	23.99	24.13	25.2
10	QPSK	1	25	23.70	23.66	23.50	
10	QPSK	1	49	23.65	23.72	23.89	
10	QPSK	25	0	22.79	22.77	22.88	24.2
10	QPSK	25	12	22.82	22.85	22.65	
10	QPSK	25	25	22.87	22.79	22.63	
10	QPSK	50	0	22.91	22.80	22.53	24.2
10	16QAM	1	0	23.44	23.51	23.84	
10	16QAM	1	25	22.98	23.05	22.85	
10	16QAM	1	49	23.58	23.89	23.85	23.2
10	16QAM	25	0	21.75	21.75	21.52	
10	16QAM	25	12	21.93	21.85	21.65	
10	16QAM	25	25	21.99	21.93	21.78	23.2
10	16QAM	50	0	21.79	21.81	21.61	
10	64QAM	1	0	22.30	22.41	22.68	
10	64QAM	1	25	21.99	21.88	21.69	23.2



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10	64QAM	1	49	22.48	22.84	22.93	
10	64QAM	25	0	20.82	20.80	20.57	22.2
10	64QAM	25	12	20.87	20.91	20.74	
10	64QAM	25	25	20.97	20.90	20.66	
10	64QAM	50	0	20.96	20.86	20.67	
10	256QAM	1	0	19.37	19.42	19.56	20.2
10	256QAM	1	25	18.98	18.87	18.56	
10	256QAM	1	49	19.36	19.81	19.92	
10	256QAM	25	0	18.82	18.80	18.49	20.2
10	256QAM	25	12	18.87	18.84	18.63	
10	256QAM	25	25	18.83	18.90	18.69	
10	256QAM	50	0	18.86	18.91	18.65	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	23.89	23.96	24.10	25.2
5	QPSK	1	12	23.63	23.66	23.40	
5	QPSK	1	24	23.65	23.64	23.85	
5	QPSK	12	0	22.79	22.74	22.79	24.2
5	QPSK	12	7	22.78	22.80	22.56	
5	QPSK	12	13	22.79	22.73	22.59	
5	QPSK	25	0	22.88	22.77	22.53	
5	16QAM	1	0	23.40	23.44	23.83	24.2
5	16QAM	1	12	22.96	22.96	22.81	
5	16QAM	1	24	23.54	23.82	23.82	
5	16QAM	12	0	21.75	21.72	21.43	23.2
5	16QAM	12	7	21.94	21.75	21.65	
5	16QAM	12	13	21.96	21.91	21.75	
5	16QAM	25	0	21.79	21.80	21.51	
5	64QAM	1	0	22.22	22.34	22.65	23.2
5	64QAM	1	12	21.95	21.82	21.65	
5	64QAM	1	24	22.47	22.82	22.89	
5	64QAM	12	0	20.80	20.73	20.52	
5	64QAM	12	7	20.86	20.82	20.69	22.2
5	64QAM	12	13	20.95	20.82	20.56	
5	64QAM	25	0	20.89	20.86	20.64	
5	256QAM	1	0	19.28	19.36	19.52	20.2
5	256QAM	1	12	18.95	18.85	18.51	
5	256QAM	1	24	19.33	19.81	19.84	
5	256QAM	12	0	18.82	18.76	18.45	20.2
5	256QAM	12	7	18.83	18.74	18.57	
5	256QAM	12	13	18.74	18.88	18.65	
5	256QAM	25	0	18.84	18.81	18.60	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	23.82	23.92	24.10	25.2
3	QPSK	1	8	23.57	23.57	23.39	
3	QPSK	1	14	23.65	23.57	23.78	
3	QPSK	8	0	22.74	22.65	22.70	24.2
3	QPSK	8	4	22.72	22.73	22.53	
3	QPSK	8	7	22.71	22.72	22.51	
3	QPSK	15	0	22.89	22.67	22.43	
3	16QAM	1	0	23.36	23.40	23.78	24.2
3	16QAM	1	8	22.90	22.94	22.72	
3	16QAM	1	14	23.45	23.79	23.78	
3	16QAM	8	0	21.67	21.72	21.36	23.2
3	16QAM	8	4	21.86	21.70	21.57	



3	16QAM	8	7	21.97	21.90	21.68	
3	16QAM	15	0	21.77	21.77	21.46	
3	64QAM	1	0	22.20	22.26	22.63	23.2
3	64QAM	1	8	21.89	21.72	21.62	
3	64QAM	1	14	22.46	22.76	22.83	
3	64QAM	8	0	20.73	20.67	20.43	22.2
3	64QAM	8	4	20.86	20.79	20.60	
3	64QAM	8	7	20.89	20.78	20.47	
3	64QAM	15	0	20.82	20.83	20.56	
3	256QAM	1	0	19.28	19.27	19.51	20.2
3	256QAM	1	8	18.89	18.79	18.50	
3	256QAM	1	14	19.30	19.72	19.77	
3	256QAM	8	0	18.78	18.67	18.45	20.2
3	256QAM	8	4	18.81	18.70	18.49	
3	256QAM	8	7	18.68	18.84	18.65	
3	256QAM	15	0	18.80	18.74	18.54	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	23.90	23.92	24.03	25.2
1.4	QPSK	1	3	23.64	23.60	23.37	
1.4	QPSK	1	5	23.59	23.56	23.81	
1.4	QPSK	3	0	23.86	23.93	24.08	
1.4	QPSK	3	1	23.59	23.58	23.35	
1.4	QPSK	3	3	23.57	23.56	23.83	
1.4	QPSK	6	0	22.83	22.76	22.53	24.2
1.4	16QAM	1	0	23.41	23.35	23.82	24.2
1.4	16QAM	1	3	22.90	22.94	22.73	
1.4	16QAM	1	5	23.49	23.77	23.75	
1.4	16QAM	3	0	23.31	23.38	23.77	
1.4	16QAM	3	1	22.88	22.91	22.71	
1.4	16QAM	3	3	23.50	23.81	23.73	
1.4	16QAM	6	0	21.72	21.68	21.36	23.2
1.4	64QAM	1	0	22.17	22.30	22.62	23.2
1.4	64QAM	1	3	21.86	21.75	21.65	
1.4	64QAM	1	5	22.39	22.74	22.83	
1.4	64QAM	3	0	22.22	22.31	22.59	
1.4	64QAM	3	1	21.88	21.78	21.61	
1.4	64QAM	3	3	22.48	22.82	22.87	
1.4	64QAM	6	0	20.80	20.79	20.58	22.2
1.4	256QAM	1	0	19.21	19.35	19.46	20.2
1.4	256QAM	1	3	18.94	18.82	18.50	
1.4	256QAM	1	5	19.33	19.77	19.82	
1.4	256QAM	3	0	19.25	19.34	19.46	
1.4	256QAM	3	1	18.89	18.79	18.42	
1.4	256QAM	3	3	19.34	19.78	19.79	
1.4	256QAM	6	0	18.75	18.75	18.51	20.2

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	23.10	23.22	23.38	24
20	QPSK	1	49	23.07	23.21	23.26	
20	QPSK	1	99	23.00	23.15	23.19	
20	QPSK	50	0	22.07	22.24	22.36	23



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20	QPSK	50	24	22.03	22.17	22.29	
20	QPSK	50	50	22.05	22.21	22.31	
20	QPSK	100	0	22.19	22.32	22.31	
20	16QAM	1	0	22.00	22.13	22.18	23
20	16QAM	1	49	21.92	22.02	22.08	
20	16QAM	1	99	22.01	22.11	22.16	
20	16QAM	50	0	21.08	21.24	21.30	22
20	16QAM	50	24	21.06	21.19	21.30	
20	16QAM	50	50	21.12	21.23	21.26	
20	16QAM	100	0	21.09	21.24	21.35	
20	64QAM	1	0	20.92	21.02	21.13	22
20	64QAM	1	49	20.97	21.10	21.16	
20	64QAM	1	99	20.90	21.09	21.14	
20	64QAM	50	0	20.11	20.21	20.34	21
20	64QAM	50	24	20.09	20.19	20.32	
20	64QAM	50	50	20.10	20.24	20.33	
20	64QAM	100	0	20.09	20.27	20.37	
20	256QAM	1	0	17.84	18.01	18.11	19
20	256QAM	1	49	17.80	17.91	17.96	
20	256QAM	1	99	17.80	17.99	18.06	
20	256QAM	50	0	18.07	18.16	18.24	19
20	256QAM	50	24	18.03	18.22	18.32	
20	256QAM	50	50	18.04	18.17	18.29	
20	256QAM	100	0	18.14	18.27	18.35	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	23.07	23.25	23.30	24
15	QPSK	1	37	23.02	23.18	23.23	
15	QPSK	1	74	22.96	23.17	23.14	
15	QPSK	36	0	22.10	22.24	22.31	23
15	QPSK	36	20	22.00	22.16	22.29	
15	QPSK	36	39	22.05	22.24	22.31	
15	QPSK	75	0	22.19	22.30	22.25	
15	16QAM	1	0	22.02	22.17	22.17	23
15	16QAM	1	37	21.94	21.97	22.04	
15	16QAM	1	74	21.99	22.16	22.16	
15	16QAM	36	0	21.07	21.27	21.25	22
15	16QAM	36	20	21.06	21.19	21.28	
15	16QAM	36	39	21.10	21.20	21.27	
15	16QAM	75	0	21.14	21.22	21.31	
15	64QAM	1	0	20.87	21.05	21.18	22
15	64QAM	1	37	20.96	21.09	21.14	
15	64QAM	1	74	20.93	21.12	21.13	
15	64QAM	36	0	20.09	20.24	20.31	21
15	64QAM	36	20	20.11	20.15	20.27	
15	64QAM	36	39	20.11	20.29	20.34	
15	64QAM	75	0	20.11	20.24	20.42	
15	256QAM	1	0	17.84	17.98	18.12	19
15	256QAM	1	37	17.80	17.92	18.00	
15	256QAM	1	74	17.81	17.96	18.07	
15	256QAM	36	0	18.06	18.19	18.26	19
15	256QAM	36	20	18.01	18.22	18.27	
15	256QAM	36	39	18.01	18.22	18.32	
15	256QAM	75	0	18.19	18.29	18.37	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	



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10	QPSK	1	0	22.96	23.09	23.22	24
10	QPSK	1	25	22.86	23.09	23.15	
10	QPSK	1	49	22.86	23.03	23.04	
10	QPSK	25	0	21.99	22.11	22.26	23
10	QPSK	25	12	21.90	22.03	22.12	
10	QPSK	25	25	21.92	22.13	22.20	
10	QPSK	50	0	22.12	22.23	22.32	23
10	16QAM	1	0	21.95	22.10	22.03	
10	16QAM	1	25	21.83	21.85	21.88	
10	16QAM	1	49	21.92	22.07	22.00	22
10	16QAM	25	0	20.97	21.11	21.12	
10	16QAM	25	12	20.89	21.04	21.11	
10	16QAM	25	25	21.02	21.08	21.12	22
10	16QAM	50	0	21.04	21.14	21.15	
10	64QAM	1	0	20.70	20.88	21.06	
10	64QAM	1	25	20.86	20.92	21.07	21
10	64QAM	1	49	20.86	21.01	21.04	
10	64QAM	25	0	19.93	20.12	20.23	
10	64QAM	25	12	19.94	20.03	20.19	19
10	64QAM	25	25	19.99	20.21	20.27	
10	64QAM	50	0	20.01	20.14	20.26	
10	256QAM	1	0	17.75	17.88	18.00	19
10	256QAM	1	25	17.68	17.85	17.90	
10	256QAM	1	49	17.68	17.81	17.94	
10	256QAM	25	0	17.89	18.07	18.14	19
10	256QAM	25	12	17.89	18.09	18.19	
10	256QAM	25	25	17.84	18.11	18.25	
10	256QAM	50	0	18.11	18.18	18.22	Tune-up limit (dBm)
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	23.05	23.24	23.32	24
5	QPSK	1	12	23.09	23.22	23.23	
5	QPSK	1	24	23.02	23.16	23.15	
5	QPSK	12	0	22.08	22.27	22.34	23
5	QPSK	12	7	22.07	22.18	22.26	
5	QPSK	12	13	22.10	22.17	22.32	
5	QPSK	25	0	22.18	22.36	22.36	23
5	16QAM	1	0	22.05	22.11	22.20	
5	16QAM	1	12	21.94	22.01	22.10	
5	16QAM	1	24	21.96	22.13	22.16	22
5	16QAM	12	0	21.12	21.19	21.33	
5	16QAM	12	7	21.11	21.14	21.26	
5	16QAM	12	13	21.17	21.20	21.31	22
5	16QAM	25	0	21.09	21.21	21.35	
5	64QAM	1	0	20.91	20.98	21.14	
5	64QAM	1	12	21.02	21.07	21.21	21
5	64QAM	1	24	20.86	21.13	21.15	
5	64QAM	12	0	20.16	20.19	20.30	
5	64QAM	12	7	20.07	20.24	20.29	19
5	64QAM	12	13	20.11	20.29	20.31	
5	64QAM	25	0	20.13	20.32	20.38	
5	256QAM	1	0	17.89	18.06	18.11	19
5	256QAM	1	12	17.75	17.86	18.01	
5	256QAM	1	24	17.76	17.97	18.08	
5	256QAM	12	0	18.06	18.18	18.28	19
5	256QAM	12	7	18.02	18.17	18.29	



5	256QAM	12	13	18.04	18.20	18.33	
5	256QAM	25	0	18.15	18.28	18.33	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	23.29	23.50	23.83	24
20	QPSK	1	49	23.39	23.64	23.72	
20	QPSK	1	99	23.51	23.75	23.82	
20	QPSK	50	0	22.46	22.69	22.92	23
20	QPSK	50	24	22.61	22.76	22.90	
20	QPSK	50	50	22.60	22.86	22.91	
20	QPSK	100	0	22.57	22.73	22.85	23
20	16QAM	1	0	22.60	22.85	22.91	
20	16QAM	1	49	22.72	22.96	22.95	
20	16QAM	1	99	22.92	22.89	22.97	22
20	16QAM	50	0	21.43	21.69	21.73	
20	16QAM	50	24	21.57	21.76	21.89	
20	16QAM	50	50	21.64	21.86	21.89	22
20	16QAM	100	0	21.58	21.76	21.87	
20	64QAM	1	0	21.44	21.67	21.72	
20	64QAM	1	49	21.62	21.84	21.95	22
20	64QAM	1	99	21.74	21.94	21.98	
20	64QAM	50	0	20.47	20.70	20.77	
20	64QAM	50	24	20.59	20.77	20.90	21
20	64QAM	50	50	20.60	20.86	20.91	
20	64QAM	100	0	20.62	20.76	20.87	
20	256QAM	1	0	18.45	18.55	18.55	19
20	256QAM	1	49	18.67	18.73	18.73	
20	256QAM	1	99	18.60	18.64	18.54	
20	256QAM	50	0	18.41	18.43	18.39	19
20	256QAM	50	24	18.31	18.41	18.32	
20	256QAM	50	50	18.49	18.54	18.45	
20	256QAM	100	0	18.37	18.43	18.42	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	23.21	23.46	23.80	24
15	QPSK	1	37	23.30	23.57	23.63	
15	QPSK	1	74	23.48	23.74	23.79	
15	QPSK	36	0	22.47	22.59	22.83	23
15	QPSK	36	20	22.60	22.67	22.88	
15	QPSK	36	39	22.55	22.83	22.85	
15	QPSK	75	0	22.48	22.70	22.77	23
15	16QAM	1	0	22.52	22.85	22.81	
15	16QAM	1	37	22.66	22.94	22.94	
15	16QAM	1	74	22.91	22.88	22.96	22
15	16QAM	36	0	21.36	21.64	21.73	
15	16QAM	36	20	21.52	21.74	21.85	
15	16QAM	36	39	21.55	21.78	21.83	22
15	16QAM	75	0	21.53	21.69	21.80	
15	64QAM	1	0	21.45	21.62	21.71	
15	64QAM	1	37	21.56	21.79	21.94	22
15	64QAM	1	74	21.72	21.90	21.96	
15	64QAM	36	0	20.40	20.60	20.76	
15	64QAM	36	20	20.60	20.74	20.90	21



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15	64QAM	36	39	20.59	20.81	20.90	
15	64QAM	75	0	20.60	20.74	20.81	
15	256QAM	1	0	18.38	18.51	18.49	
15	256QAM	1	37	18.65	18.70	18.69	19
15	256QAM	1	74	18.58	18.57	18.51	
15	256QAM	36	0	18.35	18.33	18.34	
15	256QAM	36	20	18.24	18.40	18.23	19
15	256QAM	36	39	18.41	18.52	18.36	
15	256QAM	75	0	18.29	18.37	18.39	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	23.21	23.44	23.70	24
10	QPSK	1	25	23.23	23.51	23.62	
10	QPSK	1	49	23.43	23.68	23.71	
10	QPSK	25	0	22.41	22.54	22.82	23
10	QPSK	25	12	22.58	22.57	22.87	
10	QPSK	25	25	22.48	22.81	22.75	
10	QPSK	50	0	22.40	22.65	22.69	23
10	16QAM	1	0	22.49	22.78	22.75	
10	16QAM	1	25	22.60	22.87	22.89	
10	16QAM	1	49	22.88	22.81	22.89	22
10	16QAM	25	0	21.35	21.55	21.67	
10	16QAM	25	12	21.46	21.66	21.85	
10	16QAM	25	25	21.51	21.73	21.79	22
10	16QAM	50	0	21.51	21.63	21.78	
10	64QAM	1	0	21.37	21.59	21.70	
10	64QAM	1	25	21.54	21.77	21.86	22
10	64QAM	1	49	21.71	21.84	21.90	
10	64QAM	25	0	20.40	20.52	20.75	
10	64QAM	25	12	20.60	20.74	20.90	21
10	64QAM	25	25	20.57	20.80	20.90	
10	64QAM	50	0	20.60	20.71	20.80	
10	256QAM	1	0	18.37	18.50	18.40	19
10	256QAM	1	25	18.57	18.67	18.62	
10	256QAM	1	49	18.59	18.53	18.51	
10	256QAM	25	0	18.31	18.30	18.32	19
10	256QAM	25	12	18.15	18.40	18.23	
10	256QAM	25	25	18.39	18.48	18.28	
10	256QAM	50	0	18.26	18.31	18.32	19
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	23.20	23.35	23.70	24
5	QPSK	1	12	23.22	23.44	23.56	
5	QPSK	1	24	23.35	23.62	23.64	
5	QPSK	12	0	22.40	22.50	22.76	23
5	QPSK	12	7	22.52	22.56	22.83	
5	QPSK	12	13	22.49	22.72	22.69	
5	QPSK	25	0	22.38	22.64	22.67	23
5	16QAM	1	0	22.49	22.77	22.75	
5	16QAM	1	12	22.61	22.79	22.79	
5	16QAM	1	24	22.83	22.74	22.87	23
5	16QAM	12	0	21.27	21.49	21.57	
5	16QAM	12	7	21.42	21.64	21.81	
5	16QAM	12	13	21.44	21.69	21.78	22
5	16QAM	25	0	21.43	21.53	21.69	
5	64QAM	1	0	21.31	21.55	21.63	



5	64QAM	1	12	21.49	21.67	21.83	
5	64QAM	1	24	21.65	21.74	21.84	
5	64QAM	12	0	20.39	20.49	20.71	21
5	64QAM	12	7	20.57	20.66	20.88	
5	64QAM	12	13	20.54	20.72	20.88	
5	64QAM	25	0	20.58	20.69	20.73	
5	256QAM	1	0	18.36	18.47	18.37	19
5	256QAM	1	12	18.53	18.63	18.55	
5	256QAM	1	24	18.53	18.45	18.41	
5	256QAM	12	0	18.26	18.24	18.26	19
5	256QAM	12	7	18.06	18.40	18.16	
5	256QAM	12	13	18.30	18.45	18.25	
5	256QAM	25	0	18.26	18.30	18.25	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.07	23.08	23.15	24.7
10	QPSK	1	25	22.98	23.07	23.05	
10	QPSK	1	49	22.91	22.98	22.88	
10	QPSK	25	0	22.01	22.05	22.09	23.7
10	QPSK	25	12	21.96	22.00	21.91	
10	QPSK	25	25	21.88	21.97	21.88	
10	QPSK	50	0	21.95	21.98	21.97	23.7
10	16QAM	1	0	22.35	22.39	22.39	
10	16QAM	1	25	22.34	22.35	22.30	
10	16QAM	1	49	22.28	22.31	22.25	22.7
10	16QAM	25	0	21.64	21.66	21.59	
10	16QAM	25	12	21.54	21.58	21.48	
10	16QAM	25	25	21.50	21.55	21.48	22.7
10	16QAM	50	0	21.40	21.47	21.44	
10	64QAM	1	0	21.31	21.31	21.31	
10	64QAM	1	25	21.33	21.39	21.32	22.7
10	64QAM	1	49	21.31	21.38	21.37	
10	64QAM	25	0	20.33	20.33	20.28	
10	64QAM	25	12	20.50	20.56	20.51	21.7
10	64QAM	25	25	20.53	20.59	20.50	
10	64QAM	50	0	20.40	20.47	20.38	
10	256QAM	1	0	18.73	18.77	18.73	19.7
10	256QAM	1	25	18.62	18.64	18.61	
10	256QAM	1	49	18.64	18.69	18.63	
10	256QAM	25	0	18.37	18.47	18.38	19.7
10	256QAM	25	12	18.40	18.44	18.43	
10	256QAM	25	25	18.43	18.49	18.42	
10	256QAM	50	0	18.46	18.50	18.47	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.06	23.07	23.10	24.7
5	QPSK	1	12	22.98	22.97	22.99	
5	QPSK	1	24	22.90	22.91	22.86	
5	QPSK	12	0	21.93	21.96	22.06	23.7
5	QPSK	12	7	21.93	21.94	21.81	
5	QPSK	12	13	21.79	21.95	21.88	
5	QPSK	25	0	21.92	21.95	21.94	



5	16QAM	1	0	22.31	22.37	22.39	23.7
5	16QAM	1	12	22.29	22.33	22.23	
5	16QAM	1	24	22.19	22.31	22.24	
5	16QAM	12	0	21.62	21.66	21.58	22.7
5	16QAM	12	7	21.49	21.48	21.46	
5	16QAM	12	13	21.44	21.52	21.42	
5	16QAM	25	0	21.32	21.37	21.38	22.7
5	64QAM	1	0	21.22	21.25	21.24	
5	64QAM	1	12	21.25	21.33	21.27	
5	64QAM	1	24	21.28	21.36	21.37	21.7
5	64QAM	12	0	20.24	20.29	20.22	
5	64QAM	12	7	20.48	20.56	20.44	
5	64QAM	12	13	20.51	20.51	20.50	19.7
5	64QAM	25	0	20.40	20.39	20.36	
5	256QAM	1	0	18.68	18.69	18.63	
5	256QAM	1	12	18.63	18.62	18.52	19.7
5	256QAM	1	24	18.56	18.68	18.59	
5	256QAM	12	0	18.37	18.42	18.31	
5	256QAM	12	7	18.33	18.35	18.39	19.7
5	256QAM	12	13	18.42	18.43	18.39	
5	256QAM	25	0	18.43	18.44	18.38	

<LTE Band 66 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	23.37	24.16	24.34	25.2
20	QPSK	1	49	23.24	24.11	23.76	
20	QPSK	1	99	23.35	24.31	23.68	
20	QPSK	50	0	22.32	22.80	23.41	24.2
20	QPSK	50	24	22.28	22.36	23.08	
20	QPSK	50	50	22.27	22.29	22.85	
20	QPSK	100	0	22.57	22.61	23.22	24.2
20	16QAM	1	0	22.38	23.36	23.60	
20	16QAM	1	49	22.51	22.52	23.14	
20	16QAM	1	99	23.02	23.02	23.05	23.2
20	16QAM	50	0	21.86	22.05	22.40	
20	16QAM	50	24	21.56	21.57	22.17	
20	16QAM	50	50	21.53	21.49	21.92	23.2
20	16QAM	100	0	21.41	21.80	22.26	
20	64QAM	1	0	21.81	21.93	22.07	
20	64QAM	1	49	21.54	21.53	21.20	21.7
20	64QAM	1	99	21.37	21.31	21.35	
20	64QAM	50	0	20.19	20.25	20.72	
20	64QAM	50	24	20.11	20.14	20.24	20.2
20	64QAM	50	50	19.90	20.11	20.06	
20	64QAM	100	0	19.80	19.98	20.40	
20	256QAM	1	0	19.44	19.49	19.57	20.2
20	256QAM	1	49	19.28	19.53	19.45	
20	256QAM	1	99	19.19	19.40	19.58	
20	256QAM	50	0	19.58	19.46	19.39	20.2
20	256QAM	50	24	19.38	19.45	19.54	
20	256QAM	50	50	19.36	19.48	19.37	
20	256QAM	100	0	18.84	18.98	18.97	
Channel				132047	132322	132597	



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Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	23.54	23.99	24.28	25.2
15	QPSK	1	37	23.52	23.64	23.66	
15	QPSK	1	74	23.42	23.54	23.70	
15	QPSK	36	0	22.23	22.84	23.31	24.2
15	QPSK	36	20	22.27	22.42	23.15	
15	QPSK	36	39	22.25	22.21	22.86	
15	QPSK	75	0	22.63	22.56	23.15	24.2
15	16QAM	1	0	22.43	23.46	23.78	
15	16QAM	1	37	22.42	22.47	23.16	
15	16QAM	1	74	23.10	22.95	23.13	23.2
15	16QAM	36	0	21.77	22.12	22.31	
15	16QAM	36	20	21.65	21.49	22.19	
15	16QAM	36	39	21.60	21.56	21.82	23.2
15	16QAM	75	0	21.39	21.74	22.29	
15	64QAM	1	0	21.91	22.02	22.03	
15	64QAM	1	37	21.34	21.33	21.21	23.2
15	64QAM	1	74	21.33	21.36	21.23	
15	64QAM	36	0	20.24	20.32	20.73	
15	64QAM	36	20	20.19	20.22	20.19	21.7
15	64QAM	36	39	19.89	20.06	20.15	
15	64QAM	75	0	19.90	19.92	20.46	
15	256QAM	1	0	19.89	19.93	20.07	20.2
15	256QAM	1	37	19.83	20.09	19.90	
15	256QAM	1	74	19.72	19.85	20.07	
15	256QAM	36	0	20.06	19.91	19.92	20.2
15	256QAM	36	20	19.90	19.90	20.10	
15	256QAM	36	39	19.77	19.93	19.86	
15	256QAM	75	0	19.43	19.50	19.47	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	23.56	24.00	24.30	25.2
10	QPSK	1	25	23.54	23.58	23.75	
10	QPSK	1	49	23.42	23.59	23.78	
10	QPSK	25	0	22.23	22.74	23.41	24.2
10	QPSK	25	12	22.26	22.45	23.16	
10	QPSK	25	25	22.27	22.28	22.94	
10	QPSK	50	0	22.63	22.69	23.31	24.2
10	16QAM	1	0	22.40	23.43	23.82	
10	16QAM	1	25	22.55	22.43	23.07	
10	16QAM	1	49	22.95	23.05	22.97	24.2
10	16QAM	25	0	21.79	22.11	22.34	
10	16QAM	25	12	21.22	21.59	22.18	
10	16QAM	25	25	21.44	21.58	21.88	23.2
10	16QAM	50	0	21.40	21.81	22.26	
10	64QAM	1	0	21.83	21.98	22.03	
10	64QAM	1	25	21.35	21.30	21.28	23.2
10	64QAM	1	49	21.30	21.34	21.24	
10	64QAM	25	0	20.11	20.28	20.65	
10	64QAM	25	12	20.13	20.07	20.14	21.7
10	64QAM	25	25	19.95	20.07	20.04	
10	64QAM	50	0	19.90	19.98	20.32	
10	256QAM	1	0	20.04	19.94	20.10	20.2
10	256QAM	1	25	19.72	20.02	19.88	
10	256QAM	1	49	19.74	19.87	20.02	



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10	256QAM	25	0	20.01	19.91	19.98	20.2
10	256QAM	25	12	19.87	19.97	20.10	
10	256QAM	25	25	19.85	19.97	19.91	
10	256QAM	50	0	19.36	19.57	19.47	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	23.20	24.04	24.31	25.2
5	QPSK	1	12	23.26	23.34	23.67	
5	QPSK	1	24	23.45	23.20	23.68	
5	QPSK	12	0	22.26	22.90	23.38	24.2
5	QPSK	12	7	23.10	22.37	23.12	
5	QPSK	12	13	22.21	22.29	22.83	
5	QPSK	25	0	22.48	22.56	23.24	
5	16QAM	1	0	22.32	23.42	23.74	24.2
5	16QAM	1	12	22.49	22.61	23.04	
5	16QAM	1	24	23.11	22.96	22.96	
5	16QAM	12	0	21.93	21.96	22.33	23.2
5	16QAM	12	7	21.84	21.55	22.08	
5	16QAM	12	13	21.47	21.43	21.82	
5	16QAM	25	0	21.41	21.79	22.22	
5	64QAM	1	0	21.86	21.85	22.17	23.2
5	64QAM	1	12	21.21	21.64	21.66	
5	64QAM	1	24	21.40	21.63	21.63	
5	64QAM	12	0	20.16	20.17	20.73	21.7
5	64QAM	12	7	20.20	20.24	20.23	
5	64QAM	12	13	19.93	20.14	20.09	
5	64QAM	25	0	19.76	20.05	20.36	
5	256QAM	1	0	19.99	20.04	20.05	20.2
5	256QAM	1	12	19.78	20.10	19.89	
5	256QAM	1	24	19.70	19.93	20.03	
5	256QAM	12	0	20.10	19.91	19.91	20.2
5	256QAM	12	7	19.96	19.91	20.08	
5	256QAM	12	13	19.79	20.04	19.88	
5	256QAM	25	0	19.31	19.49	19.42	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	23.21	23.99	24.32	25.2
3	QPSK	1	8	23.21	23.20	23.73	
3	QPSK	1	14	23.46	23.20	23.63	
3	QPSK	8	0	22.20	22.79	23.51	24.2
3	QPSK	8	4	22.22	22.39	23.01	
3	QPSK	8	7	22.21	22.28	22.86	
3	QPSK	15	0	22.60	22.58	23.23	
3	16QAM	1	0	22.48	23.34	23.80	24.2
3	16QAM	1	8	22.50	22.47	23.10	
3	16QAM	1	14	23.09	23.10	22.95	
3	16QAM	8	0	21.82	21.99	22.43	23.2
3	16QAM	8	4	21.22	21.60	22.22	
3	16QAM	8	7	21.43	21.48	21.97	
3	16QAM	15	0	21.48	21.86	22.18	
3	64QAM	1	0	21.90	21.95	22.09	23.2
3	64QAM	1	8	21.26	21.20	21.27	
3	64QAM	1	14	21.43	21.25	21.26	
3	64QAM	8	0	20.28	20.32	20.75	21.7
3	64QAM	8	4	20.09	20.13	20.33	
3	64QAM	8	7	19.94	20.03	19.98	



3	64QAM	15	0	19.71	20.07	20.31	
3	256QAM	1	0	19.93	19.91	20.03	20.2
3	256QAM	1	8	19.88	20.03	19.88	
3	256QAM	1	14	19.67	19.90	20.10	
3	256QAM	8	0	20.03	19.93	19.97	20.2
3	256QAM	8	4	19.95	19.90	20.07	
3	256QAM	8	7	19.78	20.03	19.94	
3	256QAM	15	0	19.44	19.58	19.42	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	23.24	24.09	24.27	25.2
1.4	QPSK	1	3	23.24	23.21	23.83	
1.4	QPSK	1	5	23.42	23.20	23.76	
1.4	QPSK	3	0	23.20	24.03	24.24	
1.4	QPSK	3	1	23.25	23.23	23.82	
1.4	QPSK	3	3	23.53	23.20	23.69	
1.4	QPSK	6	0	22.66	22.57	23.22	24.2
1.4	16QAM	1	0	22.40	23.26	23.65	24.2
1.4	16QAM	1	3	22.44	22.61	23.19	
1.4	16QAM	1	5	22.92	23.03	23.13	
1.4	16QAM	3	0	22.48	23.26	23.82	
1.4	16QAM	3	1	22.50	22.42	23.06	
1.4	16QAM	3	3	22.95	23.01	23.02	
1.4	16QAM	6	0	21.51	21.90	22.24	23.2
1.4	64QAM	1	0	21.71	22.01	22.10	23.2
1.4	64QAM	1	3	21.23	21.20	21.25	
1.4	64QAM	1	5	21.35	21.26	21.26	
1.4	64QAM	3	0	21.87	21.92	22.04	
1.4	64QAM	3	1	21.25	21.25	21.20	
1.4	64QAM	3	3	21.35	21.22	21.26	
1.4	64QAM	6	0	19.89	20.00	20.36	21.7
1.4	256QAM	1	0	19.85	19.96	20.09	20.2
1.4	256QAM	1	3	19.76	20.09	19.94	
1.4	256QAM	1	5	19.68	19.91	20.04	
1.4	256QAM	3	0	19.91	20.04	20.10	
1.4	256QAM	3	1	19.86	20.07	19.97	
1.4	256QAM	3	3	19.59	19.89	20.09	
1.4	256QAM	6	0	19.27	19.57	19.51	20.2

<LTE Band 71 Ant 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.36	23.49	23.65	24.7
20	QPSK	1	49	23.35	23.46	23.60	
20	QPSK	1	99	23.30	23.42	23.48	
20	QPSK	50	0	22.39	22.39	22.59	23.7
20	QPSK	50	24	22.37	22.40	22.47	
20	QPSK	50	50	22.30	22.36	22.46	
20	QPSK	100	0	22.33	22.33	22.46	23.7
20	16QAM	1	0	22.67	22.82	22.96	
20	16QAM	1	49	22.64	22.77	22.90	
20	16QAM	1	99	22.64	22.65	22.87	22.7
20	16QAM	50	0	21.99	22.04	22.23	
20	16QAM	50	24	21.94	21.94	22.09	



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20	16QAM	50	50	21.88	21.92	22.09	
20	16QAM	100	0	21.80	21.84	21.99	
20	64QAM	1	0	21.68	21.67	21.82	
20	64QAM	1	49	21.69	21.76	21.94	22.7
20	64QAM	1	99	21.65	21.76	21.90	
20	64QAM	50	0	20.70	20.70	20.81	
20	64QAM	50	24	20.89	20.90	21.09	21.7
20	64QAM	50	50	20.96	21.01	21.07	
20	64QAM	100	0	20.80	20.87	21.04	
20	256QAM	1	0	19.07	19.18	19.31	19.7
20	256QAM	1	49	18.98	19.07	19.19	
20	256QAM	1	99	19.04	19.09	19.18	
20	256QAM	50	0	18.77	18.91	19.00	19.7
20	256QAM	50	24	18.74	18.84	18.94	
20	256QAM	50	50	18.80	18.89	19.01	
20	256QAM	100	0	18.79	18.94	18.97	
Channel				133197	133297	133397	
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.34	23.44	23.60	24.7
15	QPSK	1	37	23.26	23.43	23.56	
15	QPSK	1	74	23.28	23.32	23.39	
15	QPSK	36	0	22.31	22.38	22.50	23.7
15	QPSK	36	20	22.28	22.39	22.40	
15	QPSK	36	39	22.22	22.26	22.39	
15	QPSK	75	0	22.24	22.26	22.43	
15	16QAM	1	0	22.61	22.79	22.88	23.7
15	16QAM	1	37	22.59	22.77	22.81	
15	16QAM	1	74	22.55	22.56	22.79	
15	16QAM	36	0	21.91	21.94	22.17	22.7
15	16QAM	36	20	21.89	21.85	22.05	
15	16QAM	36	39	21.84	21.91	22.08	
15	16QAM	75	0	21.73	21.84	21.94	
15	64QAM	1	0	21.64	21.65	21.72	
15	64QAM	1	37	21.62	21.66	21.91	22.7
15	64QAM	1	74	21.58	21.70	21.90	
15	64QAM	36	0	20.66	20.70	20.72	
15	64QAM	36	20	20.90	20.82	21.09	21.7
15	64QAM	36	39	20.89	21.00	21.06	
15	64QAM	75	0	20.79	20.78	21.03	
15	256QAM	1	0	19.02	19.13	19.25	
15	256QAM	1	37	18.92	19.04	19.18	19.7
15	256QAM	1	74	19.02	19.00	19.10	
15	256QAM	36	0	18.72	18.82	18.90	
15	256QAM	36	20	18.70	18.79	18.86	19.7
15	256QAM	36	39	18.77	18.88	18.97	
15	256QAM	75	0	18.76	18.88	18.96	
Channel				133172	133297	133422	
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.29	23.39	23.59	24.7
10	QPSK	1	25	23.19	23.38	23.51	
10	QPSK	1	49	23.29	23.29	23.29	
10	QPSK	25	0	22.31	22.30	22.40	23.7
10	QPSK	25	12	22.26	22.32	22.39	
10	QPSK	25	25	22.19	22.20	22.34	
10	QPSK	50	0	22.25	22.21	22.39	
10	16QAM	1	0	22.55	22.79	22.88	23.7



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10	16QAM	1	25	22.58	22.77	22.72	
10	16QAM	1	49	22.54	22.55	22.72	
10	16QAM	25	0	21.82	21.94	22.16	
10	16QAM	25	12	21.85	21.84	22.00	22.7
10	16QAM	25	25	21.80	21.82	22.08	
10	16QAM	50	0	21.65	21.74	21.92	
10	64QAM	1	0	21.57	21.64	21.69	22.7
10	64QAM	1	25	21.61	21.58	21.83	
10	64QAM	1	49	21.49	21.65	21.84	
10	64QAM	25	0	20.64	20.61	20.70	21.7
10	64QAM	25	12	20.90	20.81	21.08	
10	64QAM	25	25	20.85	20.98	20.98	
10	64QAM	50	0	20.71	20.68	21.01	19.7
10	256QAM	1	0	19.03	19.08	19.24	
10	256QAM	1	25	18.84	19.00	19.11	
10	256QAM	1	49	19.03	18.90	19.06	19.7
10	256QAM	25	0	18.68	18.80	18.87	
10	256QAM	25	12	18.65	18.77	18.80	
10	256QAM	25	25	18.77	18.81	18.93	19.7
10	256QAM	50	0	18.70	18.80	18.91	
Channel				133147	133297	133447	
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.28	23.35	23.58	24.7
5	QPSK	1	12	23.13	23.31	23.48	
5	QPSK	1	24	23.25	23.23	23.24	
5	QPSK	12	0	22.30	22.27	22.36	23.7
5	QPSK	12	7	22.21	22.22	22.30	
5	QPSK	12	13	22.18	22.19	22.34	
5	QPSK	25	0	22.23	22.20	22.33	23.7
5	16QAM	1	0	22.48	22.69	22.84	
5	16QAM	1	12	22.49	22.77	22.62	
5	16QAM	1	24	22.45	22.47	22.71	22.7
5	16QAM	12	0	21.73	21.87	22.06	
5	16QAM	12	7	21.85	21.74	21.93	
5	16QAM	12	13	21.76	21.75	22.02	22.7
5	16QAM	25	0	21.65	21.72	21.84	
5	64QAM	1	0	21.53	21.59	21.66	
5	64QAM	1	12	21.57	21.55	21.82	22.7
5	64QAM	1	24	21.47	21.63	21.74	
5	64QAM	12	0	20.60	20.59	20.69	
5	64QAM	12	7	20.85	20.72	21.08	21.7
5	64QAM	12	13	20.76	20.97	20.98	
5	64QAM	25	0	20.63	20.61	21.01	
5	256QAM	1	0	18.99	19.07	19.21	19.7
5	256QAM	1	12	18.75	18.96	19.09	
5	256QAM	1	24	19.00	18.87	18.96	
5	256QAM	12	0	18.61	18.75	18.85	19.7
5	256QAM	12	7	18.59	18.73	18.74	
5	256QAM	12	13	18.77	18.75	18.91	
5	256QAM	25	0	18.68	18.70	18.82	



DSI 1

<LTE Band 7 Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.59	22.67	22.87	23.3
20	QPSK	1	49	22.36	22.57	22.64	
20	QPSK	1	99	22.49	22.46	22.74	
20	QPSK	50	0	21.62	21.80	21.87	22.3
20	QPSK	50	24	21.60	21.71	21.73	
20	QPSK	50	50	21.58	21.66	21.86	
20	QPSK	100	0	21.56	21.68	21.84	22.3
20	16QAM	1	0	21.58	21.77	21.86	
20	16QAM	1	49	21.69	21.91	21.98	
20	16QAM	1	99	21.84	21.93	21.97	21.3
20	16QAM	50	0	20.44	20.66	20.72	
20	16QAM	50	24	20.60	20.73	20.86	
20	16QAM	50	50	20.62	20.81	20.87	21.3
20	16QAM	100	0	20.59	20.70	20.85	
20	64QAM	1	0	20.36	20.63	20.72	
20	64QAM	1	49	20.58	20.75	20.83	21.3
20	64QAM	1	99	20.67	20.88	20.91	
20	64QAM	50	0	19.48	19.69	19.76	
20	64QAM	50	24	19.60	19.76	19.89	20.3
20	64QAM	50	50	19.63	19.84	19.89	
20	64QAM	100	0	19.61	19.72	19.87	
20	256QAM	1	0	17.52	17.63	17.71	18.3
20	256QAM	1	49	17.49	17.54	17.84	
20	256QAM	1	99	17.43	17.70	17.38	
20	256QAM	50	0	17.24	17.57	17.56	18.3
20	256QAM	50	24	17.45	17.32	17.39	
20	256QAM	50	50	17.47	17.53	17.28	
20	256QAM	100	0	17.53	17.40	17.34	
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.21	22.47	22.51	23.3
15	QPSK	1	37	22.29	22.55	22.62	
15	QPSK	1	74	22.38	22.68	22.70	
15	QPSK	36	0	21.38	21.64	21.71	22.3
15	QPSK	36	20	21.50	21.69	21.76	
15	QPSK	36	39	21.55	21.76	21.85	
15	QPSK	75	0	21.52	21.69	21.73	22.3
15	16QAM	1	0	21.55	21.80	21.93	
15	16QAM	1	37	21.63	21.87	21.93	
15	16QAM	1	74	21.76	21.95	21.90	21.3
15	16QAM	36	0	20.39	20.64	20.69	
15	16QAM	36	20	20.52	20.68	20.74	
15	16QAM	36	39	20.52	20.76	20.83	21.3
15	16QAM	75	0	20.54	20.70	20.77	
15	64QAM	1	0	20.38	20.62	20.72	
15	64QAM	1	37	20.49	20.76	20.83	21.3
15	64QAM	1	74	20.62	20.87	20.91	
15	64QAM	36	0	19.42	19.68	19.75	
15	64QAM	36	20	19.53	19.73	19.79	20.3



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15	64QAM	36	39	19.55	19.79	19.86	
15	64QAM	75	0	19.56	19.68	19.76	
15	256QAM	1	0	17.52	17.59	17.62	
15	256QAM	1	37	17.43	17.49	17.82	18.3
15	256QAM	1	74	17.37	17.67	17.30	
15	256QAM	36	0	17.17	17.47	17.55	
15	256QAM	36	20	17.43	17.23	17.33	18.3
15	256QAM	36	39	17.45	17.53	17.19	
15	256QAM	75	0	17.48	17.36	17.32	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.34	22.62	22.77	23.3
10	QPSK	1	25	22.40	22.70	22.80	
10	QPSK	1	49	22.50	22.77	22.86	
10	QPSK	25	0	21.52	21.74	21.82	22.3
10	QPSK	25	12	21.58	21.78	21.94	
10	QPSK	25	25	21.57	21.85	21.95	
10	QPSK	50	0	21.57	21.77	21.83	22.3
10	16QAM	1	0	21.71	21.98	21.90	
10	16QAM	1	25	21.77	21.89	21.94	
10	16QAM	1	49	21.90	21.92	21.96	21.3
10	16QAM	25	0	20.56	20.75	20.82	
10	16QAM	25	12	20.57	20.82	20.96	
10	16QAM	25	25	20.59	20.84	20.94	21.3
10	16QAM	50	0	20.58	20.79	20.83	
10	64QAM	1	0	20.59	20.83	20.92	
10	64QAM	1	25	20.62	20.89	20.93	21.3
10	64QAM	1	49	20.73	20.93	20.87	
10	64QAM	25	0	19.58	19.79	19.86	
10	64QAM	25	12	19.59	19.84	19.98	20.3
10	64QAM	25	25	19.62	19.90	19.99	
10	64QAM	50	0	19.60	19.78	19.87	
10	256QAM	1	0	17.52	17.53	17.64	18.3
10	256QAM	1	25	17.40	17.50	17.82	
10	256QAM	1	49	17.34	17.62	17.30	
10	256QAM	25	0	17.17	17.48	17.47	18.3
10	256QAM	25	12	17.43	17.29	17.37	
10	256QAM	25	25	17.40	17.47	17.19	
10	256QAM	50	0	17.51	17.37	17.32	
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.39	22.67	22.75	23.3
5	QPSK	1	12	22.47	22.79	22.83	
5	QPSK	1	24	22.44	22.77	22.86	
5	QPSK	12	0	21.48	21.67	21.82	22.3
5	QPSK	12	7	21.56	21.77	21.92	
5	QPSK	12	13	21.57	21.87	21.95	
5	QPSK	25	0	21.56	21.73	21.88	22.3
5	16QAM	1	0	21.78	21.92	21.82	
5	16QAM	1	12	21.81	21.88	21.83	
5	16QAM	1	24	21.89	21.85	21.84	21.3
5	16QAM	12	0	20.51	20.70	20.85	
5	16QAM	12	7	20.60	20.80	20.95	
5	16QAM	12	13	20.61	20.90	20.97	21.3
5	16QAM	25	0	20.56	20.75	20.91	
5	64QAM	1	0	20.67	20.81	20.88	21.3



5	64QAM	1	12	20.61	20.90	20.98	
5	64QAM	1	24	20.66	20.93	20.89	
5	64QAM	12	0	19.51	19.72	19.85	
5	64QAM	12	7	19.61	19.82	19.96	20.3
5	64QAM	12	13	19.63	19.92	19.99	
5	64QAM	25	0	19.52	19.75	19.92	18.3
5	256QAM	1	0	17.45	17.62	17.64	
5	256QAM	1	12	17.47	17.48	17.78	
5	256QAM	1	24	17.43	17.61	17.34	18.3
5	256QAM	12	0	17.20	17.51	17.49	
5	256QAM	12	7	17.44	17.23	17.33	
5	256QAM	12	13	17.41	17.43	17.18	
5	256QAM	25	0	17.46	17.34	17.28	

DSI 3

<LTE Band 2 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.36	22.83	23.28	24.3
20	QPSK	1	49	22.37	23.10	23.20	
20	QPSK	1	99	22.63	23.09	23.21	
20	QPSK	50	0	21.37	22.08	22.32	23.3
20	QPSK	50	24	21.50	22.15	22.29	
20	QPSK	50	50	21.61	22.23	22.27	
20	QPSK	100	0	21.51	22.15	22.31	23.3
20	16QAM	1	0	21.57	22.16	22.61	
20	16QAM	1	49	21.73	22.42	22.58	
20	16QAM	1	99	21.99	22.46	22.60	22.3
20	16QAM	50	0	20.37	21.06	21.33	
20	16QAM	50	24	20.56	21.19	21.34	
20	16QAM	50	50	20.64	21.23	21.38	
20	16QAM	100	0	20.55	21.14	21.32	
20	64QAM	1	0	20.49	21.01	21.42	22.3
20	64QAM	1	49	20.64	21.32	21.48	
20	64QAM	1	99	20.84	21.33	21.44	
20	64QAM	50	0	19.38	20.10	20.35	21.3
20	64QAM	50	24	19.57	20.19	20.35	
20	64QAM	50	50	19.64	20.26	20.40	
20	64QAM	100	0	19.57	20.15	20.33	
20	256QAM	1	0	18.21	18.45	18.49	19.3
20	256QAM	1	49	18.06	18.00	17.49	
20	256QAM	1	99	18.16	18.67	18.56	
20	256QAM	50	0	17.85	17.77	17.34	19.3
20	256QAM	50	24	18.00	17.60	17.72	
20	256QAM	50	50	18.00	18.01	17.72	
20	256QAM	100	0	17.90	17.92	17.37	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.34	22.86	23.20	24.3
15	QPSK	1	37	22.36	23.08	23.18	
15	QPSK	1	74	22.46	23.07	23.20	
15	QPSK	36	0	21.35	22.09	22.33	23.3
15	QPSK	36	20	21.44	22.18	22.34	



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15	QPSK	36	39	21.50	22.24	22.40		
15	QPSK	75	0	21.43	22.14	22.30		
15	16QAM	1	0	21.62	22.24	22.61		
15	16QAM	1	37	21.61	22.42	22.59	23.3	
15	16QAM	1	74	21.86	22.47	22.63		
15	16QAM	36	0	20.32	21.09	21.33		
15	16QAM	36	20	20.47	21.16	21.35	22.3	
15	16QAM	36	39	20.52	21.21	21.39		
15	16QAM	75	0	20.47	21.15	21.35		
15	64QAM	1	0	20.50	21.09	21.44	22.3	
15	64QAM	1	37	20.51	21.32	21.49		
15	64QAM	1	74	20.72	21.34	21.49		
15	64QAM	36	0	19.39	20.11	20.38	21.3	
15	64QAM	36	20	19.47	20.20	20.38		
15	64QAM	36	39	19.56	20.28	20.44		
15	64QAM	75	0	19.45	20.18	20.34	19.3	
15	256QAM	1	0	18.23	18.48	18.45		
15	256QAM	1	37	18.09	17.96	17.50		
15	256QAM	1	74	18.22	18.64	18.62	19.3	
15	256QAM	36	0	17.83	17.75	17.39		
15	256QAM	36	20	17.96	17.60	17.66		
15	256QAM	36	39	18.03	17.95	17.81	19.3	
15	256QAM	75	0	17.85	17.87	17.39		
Channel				18650	18900	19150		Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.40	23.14	23.18	24.3	
10	QPSK	1	25	22.32	23.19	23.16		
10	QPSK	1	49	22.39	23.18	23.12		
10	QPSK	25	0	21.51	22.26	22.45	23.3	
10	QPSK	25	12	21.48	22.29	22.45		
10	QPSK	25	25	21.51	22.30	22.49		
10	QPSK	50	0	21.44	22.25	22.43	23.3	
10	16QAM	1	0	21.75	22.47	22.80		
10	16QAM	1	25	21.65	22.53	22.71		
10	16QAM	1	49	21.75	22.51	22.71	22.3	
10	16QAM	25	0	20.47	21.30	21.51		
10	16QAM	25	12	20.48	21.34	21.50		
10	16QAM	25	25	20.49	21.33	21.51	22.3	
10	16QAM	50	0	20.48	21.28	21.47		
10	64QAM	1	0	20.66	21.33	21.66		
10	64QAM	1	25	20.50	21.41	21.67	22.3	
10	64QAM	1	49	20.66	21.45	21.72		
10	64QAM	25	0	19.54	20.33	20.53		
10	64QAM	25	12	19.53	20.35	20.51	21.3	
10	64QAM	25	25	19.53	20.35	20.53		
10	64QAM	50	0	19.49	20.29	20.47		
10	256QAM	1	0	18.24	18.47	18.40	19.3	
10	256QAM	1	25	18.10	18.03	17.47		
10	256QAM	1	49	18.15	18.71	18.62		
10	256QAM	25	0	17.81	17.76	17.33	19.3	
10	256QAM	25	12	17.98	17.62	17.69		
10	256QAM	25	25	17.98	18.02	17.81		
10	256QAM	50	0	17.87	17.91	17.36	19.3	
Channel				18625	18900	19175		Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.38	23.24	23.25	24.3	



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5	QPSK	1	12	22.41	23.22	23.22	23.3	
5	QPSK	1	24	22.37	23.19	23.18		
5	QPSK	12	0	21.50	22.27	22.53		
5	QPSK	12	7	21.45	22.25	22.50		
5	QPSK	12	13	21.37	22.25	22.40		
5	QPSK	25	0	21.43	22.23	22.49		
5	16QAM	1	0	21.78	22.56	22.80	23.3	
5	16QAM	1	12	21.70	22.59	22.77		
5	16QAM	1	24	21.62	22.50	22.74		
5	16QAM	12	0	20.53	21.32	21.56	22.3	
5	16QAM	12	7	20.48	21.27	21.55		
5	16QAM	12	13	20.39	21.28	21.44		
5	16QAM	25	0	20.47	21.26	21.51		
5	64QAM	1	0	20.68	21.36	21.69		
5	64QAM	1	12	20.65	21.41	21.65	22.3	
5	64QAM	1	24	20.58	21.39	21.59		
5	64QAM	12	0	19.58	20.33	20.59		
5	64QAM	12	7	19.51	20.32	20.57	21.3	
5	64QAM	12	13	19.40	20.29	20.48		
5	64QAM	25	0	19.47	20.27	20.50		
5	256QAM	1	0	18.20	18.45	18.47		
5	256QAM	1	12	18.10	18.00	17.46		
5	256QAM	1	24	18.21	18.72	18.56	19.3	
5	256QAM	12	0	17.84	17.77	17.30		
5	256QAM	12	7	18.01	17.62	17.71		
5	256QAM	12	13	17.98	17.94	17.73		
5	256QAM	25	0	17.83	17.87	17.40		
Channel				18615	18900	19185	Tune-up limit (dBm)	
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.45	23.27	23.23	24.3	
3	QPSK	1	8	22.41	23.24	23.22		
3	QPSK	1	14	22.40	23.19	23.20		
3	QPSK	8	0	21.48	22.27	22.52	23.3	
3	QPSK	8	4	21.43	22.26	22.48		
3	QPSK	8	7	21.40	22.27	22.45		
3	QPSK	15	0	21.44	22.24	22.46		
3	16QAM	1	0	21.75	22.60	22.75		
3	16QAM	1	8	21.81	22.66	22.70	23.3	
3	16QAM	1	14	21.58	22.46	22.69		
3	16QAM	8	0	20.55	21.32	21.54		
3	16QAM	8	4	20.54	21.30	21.56	22.3	
3	16QAM	8	7	20.43	21.28	21.45		
3	16QAM	15	0	20.45	21.28	21.52		
3	64QAM	1	0	20.67	21.46	21.72		
3	64QAM	1	8	20.66	21.50	21.64		
3	64QAM	1	14	20.52	21.40	21.57	22.3	
3	64QAM	8	0	19.56	20.35	20.58		
3	64QAM	8	4	19.56	20.30	20.56		
3	64QAM	8	7	19.44	20.32	20.47	21.3	
3	64QAM	15	0	19.47	20.30	20.57		
3	256QAM	1	0	18.16	18.43	18.50		
3	256QAM	1	8	18.03	17.97	17.47		19.3
3	256QAM	1	14	18.17	18.71	18.59		
3	256QAM	8	0	17.78	17.74	17.37		
3	256QAM	8	4	17.95	17.67	17.75	19.3	
3	256QAM	8	7	17.95	17.96	17.71		



3	256QAM	15	0	17.89	17.94	17.40	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.31	23.14	23.22	24.3
1.4	QPSK	1	3	22.36	23.26	23.26	
1.4	QPSK	1	5	22.34	23.05	23.22	
1.4	QPSK	3	0	22.37	23.19	23.18	
1.4	QPSK	3	1	22.39	23.20	23.24	
1.4	QPSK	3	3	22.32	23.17	23.27	
1.4	QPSK	6	0	21.39	22.17	22.40	23.3
1.4	16QAM	1	0	21.67	22.50	22.74	23.3
1.4	16QAM	1	3	21.69	22.56	22.75	
1.4	16QAM	1	5	21.59	22.44	22.66	
1.4	16QAM	3	0	21.45	22.26	22.45	
1.4	16QAM	3	1	21.41	22.30	22.43	
1.4	16QAM	3	3	21.41	22.21	22.40	
1.4	16QAM	6	0	20.40	21.26	21.51	22.3
1.4	64QAM	1	0	20.69	21.37	21.69	22.3
1.4	64QAM	1	3	20.59	21.46	21.67	
1.4	64QAM	1	5	20.52	21.35	21.58	
1.4	64QAM	3	0	20.52	21.29	21.58	
1.4	64QAM	3	1	20.52	21.30	21.57	
1.4	64QAM	3	3	20.49	21.44	21.52	
1.4	64QAM	6	0	19.41	20.16	20.41	21.3
1.4	256QAM	1	0	18.18	18.47	18.50	19.3
1.4	256QAM	1	3	18.11	18.03	17.46	
1.4	256QAM	1	5	18.21	18.63	18.58	
1.4	256QAM	3	0	17.80	17.76	17.37	
1.4	256QAM	3	1	17.99	17.60	17.68	
1.4	256QAM	3	3	18.00	17.99	17.72	
1.4	256QAM	6	0	17.83	17.88	17.36	19.3

<LTE Band 4 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	Tune-up limit (dBm)
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.13	23.11	23.55	24.2
20	QPSK	1	49	22.95	23.08	23.38	
20	QPSK	1	99	23.06	23.21	23.39	
20	QPSK	50	0	22.04	22.15	22.67	23.2
20	QPSK	50	24	22.10	22.24	22.48	
20	QPSK	50	50	22.11	22.16	22.51	
20	QPSK	100	0	22.12	22.25	22.45	23.2
20	16QAM	1	0	22.39	22.32	22.58	
20	16QAM	1	49	22.21	22.48	22.78	
20	16QAM	1	99	22.44	22.49	22.85	22.2
20	16QAM	50	0	21.13	21.09	21.37	
20	16QAM	50	24	21.17	21.15	21.48	
20	16QAM	50	50	21.10	21.34	21.69	22.2
20	16QAM	100	0	21.14	21.17	21.40	
20	64QAM	1	0	21.12	21.32	21.25	
20	64QAM	1	49	21.13	21.21	21.14	22.2
20	64QAM	1	99	21.25	20.75	20.91	
20	64QAM	50	0	20.10	20.12	20.13	
20	64QAM	50	24	20.11	20.34	20.25	21.2



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20	64QAM	50	50	20.17	20.30	20.09		
20	64QAM	100	0	20.12	20.19	19.60		
20	256QAM	1	0	19.13	19.17	19.10		
20	256QAM	1	49	18.81	18.92	18.49	19.2	
20	256QAM	1	99	19.03	19.03	19.08		
20	256QAM	50	0	18.90	18.71	18.36		
20	256QAM	50	24	18.83	18.80	18.58	19.2	
20	256QAM	50	50	18.85	18.87	18.59		
20	256QAM	100	0	18.85	18.83	18.60		
Channel				20025	20175	20325	Tune-up limit (dBm)	
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.02	23.07	23.37	24.2	
15	QPSK	1	37	22.95	23.05	23.46		
15	QPSK	1	74	22.93	23.12	23.42		
15	QPSK	36	0	22.15	22.00	22.58	23.2	
15	QPSK	36	20	22.03	22.19	22.60		
15	QPSK	36	39	22.10	22.29	22.56		
15	QPSK	75	0	22.01	22.36	22.43	23.2	
15	16QAM	1	0	22.45	22.53	22.74		
15	16QAM	1	37	22.30	22.48	22.68		
15	16QAM	1	74	22.37	22.44	22.75	22.2	
15	16QAM	36	0	21.06	21.03	21.45		
15	16QAM	36	20	21.13	21.28	21.50		
15	16QAM	36	39	21.09	21.30	21.63	22.2	
15	16QAM	75	0	21.15	21.20	21.33		
15	64QAM	1	0	21.27	21.32	21.39		
15	64QAM	1	37	21.16	21.26	21.21	22.2	
15	64QAM	1	74	21.15	20.69	20.96		
15	64QAM	36	0	20.14	20.23	20.16		
15	64QAM	36	20	20.24	20.32	20.31	21.2	
15	64QAM	36	39	20.19	20.20	20.00		
15	64QAM	75	0	20.22	20.23	19.63		
15	256QAM	1	0	19.10	19.19	19.16	19.2	
15	256QAM	1	37	18.81	18.85	18.39		
15	256QAM	1	74	19.07	19.09	19.10		
15	256QAM	36	0	18.95	18.77	18.47	19.2	
15	256QAM	36	20	18.85	18.78	18.42		
15	256QAM	36	39	18.84	18.83	18.58		
15	256QAM	75	0	18.83	18.99	18.50	19.2	
Channel				20000	20175	20350		Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.99	22.87	23.20	24.2	
10	QPSK	1	25	22.83	22.98	23.26		
10	QPSK	1	49	22.93	22.95	23.30		
10	QPSK	25	0	21.91	21.91	22.41	23.2	
10	QPSK	25	12	21.97	22.13	22.39		
10	QPSK	25	25	22.08	22.15	22.35		
10	QPSK	50	0	22.05	22.15	22.31	23.2	
10	16QAM	1	0	22.40	22.32	22.53		
10	16QAM	1	25	22.19	22.36	22.59		
10	16QAM	1	49	22.18	22.35	22.53	23.2	
10	16QAM	25	0	20.99	20.84	21.22		
10	16QAM	25	12	21.02	21.16	21.37		
10	16QAM	25	25	20.97	21.09	21.36	22.2	
10	16QAM	50	0	20.99	21.04	21.34		
10	64QAM	1	0	21.15	21.12	21.24		22.2



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10	64QAM	1	25	20.95	21.31	21.00	21.2	
10	64QAM	1	49	21.13	20.56	20.84		
10	64QAM	25	0	19.91	20.02	19.98		
10	64QAM	25	12	19.98	20.20	20.19		
10	64QAM	25	25	20.04	20.13	19.97		
10	64QAM	50	0	20.08	20.18	20.17		
10	256QAM	1	0	19.14	19.18	19.14	19.2	
10	256QAM	1	25	18.72	18.62	18.28		
10	256QAM	1	49	19.05	19.18	19.08		
10	256QAM	25	0	18.83	18.69	18.28	19.2	
10	256QAM	25	12	18.75	18.62	18.47		
10	256QAM	25	25	18.70	18.75	18.64		
10	256QAM	50	0	18.70	18.86	18.49		
Channel				19975	20175	20375		Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.15	22.99	23.48	24.2	
5	QPSK	1	12	22.91	23.01	23.54		
5	QPSK	1	24	23.13	23.29	23.32		
5	QPSK	12	0	22.02	22.08	22.58	23.2	
5	QPSK	12	7	22.02	22.26	22.38		
5	QPSK	12	13	22.03	22.33	22.45		
5	QPSK	25	0	22.13	22.24	22.37		
5	16QAM	1	0	22.49	22.38	22.58		
5	16QAM	1	12	22.30	22.40	22.64	23.2	
5	16QAM	1	24	22.40	22.46	22.86		
5	16QAM	12	0	21.07	21.18	21.44		
5	16QAM	12	7	21.29	21.35	21.45	22.2	
5	16QAM	12	13	21.10	21.30	21.64		
5	16QAM	25	0	21.24	21.28	21.41		
5	64QAM	1	0	21.29	21.40	21.25		
5	64QAM	1	12	21.14	21.27	21.27		
5	64QAM	1	24	21.26	20.81	21.01	21.2	
5	64QAM	12	0	20.03	20.28	20.19		
5	64QAM	12	7	20.06	20.32	20.40		
5	64QAM	12	13	20.19	20.31	20.14		
5	64QAM	25	0	20.27	20.19	19.70		
5	256QAM	1	0	19.11	19.13	19.14		
5	256QAM	1	12	18.92	18.80	18.45	19.2	
5	256QAM	1	24	19.05	19.10	19.04		
5	256QAM	12	0	18.78	18.73	18.42		
5	256QAM	12	7	18.85	18.78	18.63	19.2	
5	256QAM	12	13	18.76	18.80	18.61		
5	256QAM	25	0	18.67	19.01	18.60		
Channel				19965	20175	20385		Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.90	22.85	23.35	24.2	
3	QPSK	1	8	22.79	22.90	23.30		
3	QPSK	1	14	22.91	23.07	23.26		
3	QPSK	8	0	21.82	22.03	22.30	23.2	
3	QPSK	8	4	21.97	22.18	22.45		
3	QPSK	8	7	21.99	22.10	22.31		
3	QPSK	15	0	21.93	21.94	22.42		
3	16QAM	1	0	22.31	22.48	22.62		
3	16QAM	1	8	22.22	22.43	22.59	23.2	
3	16QAM	1	14	22.14	22.48	22.69		
3	16QAM	8	0	20.86	20.94	21.29		22.2



3	16QAM	8	4	21.03	21.14	21.43	
3	16QAM	8	7	21.13	21.12	21.50	
3	16QAM	15	0	20.98	21.16	21.45	
3	64QAM	1	0	21.15	21.13	21.11	22.2
3	64QAM	1	8	21.04	21.10	21.08	
3	64QAM	1	14	21.14	20.69	20.92	
3	64QAM	8	0	19.84	20.13	19.98	21.2
3	64QAM	8	4	20.15	20.12	20.09	
3	64QAM	8	7	19.97	19.95	20.09	
3	64QAM	15	0	20.11	20.02	20.08	
3	256QAM	1	0	19.14	19.06	19.09	19.2
3	256QAM	1	8	18.74	18.76	18.39	
3	256QAM	1	14	19.15	19.07	19.05	
3	256QAM	8	0	18.66	18.75	18.31	19.2
3	256QAM	8	4	18.77	18.74	18.52	
3	256QAM	8	7	18.62	18.67	18.62	
3	256QAM	15	0	18.68	18.82	18.41	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.15	22.99	23.48	24.2
1.4	QPSK	1	3	22.98	23.14	23.30	
1.4	QPSK	1	5	22.99	23.26	23.37	
1.4	QPSK	3	0	23.12	22.93	23.40	
1.4	QPSK	3	1	22.88	23.17	23.47	
1.4	QPSK	3	3	22.96	23.21	23.30	
1.4	QPSK	6	0	22.06	22.32	22.44	23.2
1.4	16QAM	1	0	22.34	22.28	22.60	23.2
1.4	16QAM	1	3	22.34	22.53	22.66	
1.4	16QAM	1	5	22.30	22.49	22.81	
1.4	16QAM	3	0	22.29	22.40	22.48	
1.4	16QAM	3	1	22.30	22.36	22.73	
1.4	16QAM	3	3	22.35	22.43	22.79	
1.4	16QAM	6	0	21.23	21.17	21.45	22.2
1.4	64QAM	1	0	21.08	21.33	21.30	22.2
1.4	64QAM	1	3	21.12	21.25	21.22	
1.4	64QAM	1	5	21.23	20.73	21.10	
1.4	64QAM	3	0	21.18	21.24	21.35	
1.4	64QAM	3	1	20.98	21.29	21.19	
1.4	64QAM	3	3	21.23	20.73	21.08	
1.4	64QAM	6	0	20.16	20.32	19.72	21.2
1.4	256QAM	1	0	19.07	19.15	19.13	19.2
1.4	256QAM	1	3	18.67	18.58	18.19	
1.4	256QAM	1	5	18.94	19.16	19.18	
1.4	256QAM	3	0	19.20	18.95	19.19	
1.4	256QAM	3	1	18.52	18.57	18.18	
1.4	256QAM	3	3	18.95	19.17	19.06	
1.4	256QAM	6	0	18.55	18.53	18.32	19.2

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	21.20	21.39	21.45	22.3
20	QPSK	1	49	20.94	21.21	21.36	
20	QPSK	1	99	21.00	21.35	21.39	



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20	QPSK	50	0	21.08	21.41	21.42	22.3
20	QPSK	50	24	21.02	21.37	21.39	
20	QPSK	50	50	20.93	21.33	21.40	
20	QPSK	100	0	21.00	21.38	21.38	
20	16QAM	1	0	20.83	20.88	21.25	22.3
20	16QAM	1	49	20.56	21.04	21.03	
20	16QAM	1	99	20.63	21.24	21.13	
20	16QAM	50	0	20.05	20.30	20.47	21.3
20	16QAM	50	24	20.06	20.41	20.42	
20	16QAM	50	50	19.95	20.53	20.41	
20	16QAM	100	0	20.00	20.33	20.40	
20	64QAM	1	0	20.15	20.13	20.58	21.3
20	64QAM	1	49	19.95	20.37	20.37	
20	64QAM	1	99	20.03	20.53	20.44	
20	64QAM	50	0	19.06	19.31	19.46	20.3
20	64QAM	50	24	19.03	19.41	19.41	
20	64QAM	50	50	18.93	19.53	19.40	
20	64QAM	100	0	19.04	19.38	19.43	
20	256QAM	1	0	16.94	16.84	17.33	18.3
20	256QAM	1	49	16.68	17.15	17.17	
20	256QAM	1	99	16.72	17.41	17.15	
20	256QAM	50	0	17.04	17.27	17.52	18.3
20	256QAM	50	24	17.03	17.38	17.41	
20	256QAM	50	50	16.92	17.52	17.46	
20	256QAM	100	0	17.07	17.36	17.46	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	21.11	21.30	21.39	22.3
15	QPSK	1	37	20.84	21.11	21.30	
15	QPSK	1	74	20.94	21.25	21.31	
15	QPSK	36	0	21.01	21.39	21.36	22.3
15	QPSK	36	20	21.02	21.31	21.33	
15	QPSK	36	39	20.88	21.32	21.33	
15	QPSK	75	0	20.93	21.29	21.30	
15	16QAM	1	0	20.73	20.85	21.15	22.3
15	16QAM	1	37	20.47	21.00	20.93	
15	16QAM	1	74	20.57	21.16	21.12	
15	16QAM	36	0	20.04	20.24	20.39	21.3
15	16QAM	36	20	20.01	20.35	20.36	
15	16QAM	36	39	19.95	20.44	20.34	
15	16QAM	75	0	19.92	20.29	20.34	
15	64QAM	1	0	20.15	20.10	20.52	21.3
15	64QAM	1	37	19.91	20.35	20.37	
15	64QAM	1	74	19.99	20.45	20.37	
15	64QAM	36	0	19.01	19.31	19.41	20.3
15	64QAM	36	20	18.99	19.32	19.37	
15	64QAM	36	39	18.89	19.46	19.32	
15	64QAM	75	0	19.02	19.30	19.36	
15	256QAM	1	0	16.93	16.84	17.24	18.3
15	256QAM	1	37	16.64	17.06	17.15	
15	256QAM	1	74	16.66	17.35	17.10	
15	256QAM	36	0	16.94	17.27	17.43	18.3
15	256QAM	36	20	16.96	17.34	17.31	
15	256QAM	36	39	16.89	17.45	17.38	
15	256QAM	75	0	17.05	17.34	17.40	
Channel				20800	21100	21400	



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Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	21.14	21.38	21.40	22.3
10	QPSK	1	25	20.88	21.16	21.27	
10	QPSK	1	49	20.95	21.29	21.33	
10	QPSK	25	0	21.08	21.39	21.41	22.3
10	QPSK	25	12	20.96	21.31	21.31	
10	QPSK	25	25	20.84	21.24	21.32	
10	QPSK	50	0	20.99	21.37	21.29	22.3
10	16QAM	1	0	20.78	20.81	21.24	
10	16QAM	1	25	20.52	20.97	21.00	
10	16QAM	1	49	20.58	21.21	21.06	21.3
10	16QAM	25	0	19.97	20.27	20.39	
10	16QAM	25	12	20.05	20.32	20.34	
10	16QAM	25	25	19.91	20.43	20.32	21.3
10	16QAM	50	0	19.92	20.27	20.40	
10	64QAM	1	0	20.09	20.09	20.50	
10	64QAM	1	25	19.89	20.27	20.29	20.3
10	64QAM	1	49	20.02	20.47	20.43	
10	64QAM	25	0	18.98	19.21	19.38	
10	64QAM	25	12	18.95	19.41	19.33	18.3
10	64QAM	25	25	18.90	19.52	19.37	
10	64QAM	50	0	18.94	19.38	19.37	
10	256QAM	1	0	16.88	16.78	17.31	18.3
10	256QAM	1	25	16.59	17.15	17.16	
10	256QAM	1	49	16.66	17.38	17.14	
10	256QAM	25	0	17.00	17.24	17.48	18.3
10	256QAM	25	12	16.95	17.30	17.40	
10	256QAM	25	25	16.85	17.47	17.37	
10	256QAM	50	0	17.00	17.33	17.41	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	21.11	21.30	21.39	22.3
5	QPSK	1	12	20.89	21.12	21.36	
5	QPSK	1	24	21.00	21.35	21.39	
5	QPSK	12	0	21.04	21.37	21.42	22.3
5	QPSK	12	7	21.00	21.27	21.29	
5	QPSK	12	13	20.84	21.30	21.37	
5	QPSK	25	0	20.92	21.34	21.32	22.3
5	16QAM	1	0	20.80	20.81	21.16	
5	16QAM	1	12	20.56	21.04	21.01	
5	16QAM	1	24	20.58	21.20	21.13	21.3
5	16QAM	12	0	19.97	20.28	20.39	
5	16QAM	12	7	20.00	20.40	20.37	
5	16QAM	12	13	19.88	20.51	20.31	21.3
5	16QAM	25	0	19.90	20.31	20.31	
5	64QAM	1	0	20.11	20.06	20.55	
5	64QAM	1	12	19.94	20.36	20.33	20.3
5	64QAM	1	24	20.01	20.51	20.39	
5	64QAM	12	0	18.98	19.29	19.46	
5	64QAM	12	7	18.95	19.40	19.38	18.3
5	64QAM	12	13	18.85	19.53	19.30	
5	64QAM	25	0	19.03	19.36	19.42	
5	256QAM	1	0	16.94	16.82	17.24	18.3
5	256QAM	1	12	16.58	17.15	17.15	
5	256QAM	1	24	16.71	17.37	17.14	



5	256QAM	12	0	17.01	17.27	17.50	18.3
5	256QAM	12	7	16.96	17.32	17.33	
5	256QAM	12	13	16.89	17.48	17.37	
5	256QAM	25	0	17.05	17.28	17.42	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.07	23.08	23.15	24.1
10	QPSK	1	25	22.98	23.07	23.05	
10	QPSK	1	49	22.91	22.98	22.88	
10	QPSK	25	0	22.01	22.05	22.09	23.1
10	QPSK	25	12	21.96	22.00	21.91	
10	QPSK	25	25	21.88	21.97	21.88	
10	QPSK	50	0	21.95	21.98	21.97	23.1
10	16QAM	1	0	22.35	22.39	22.39	
10	16QAM	1	25	22.34	22.35	22.30	
10	16QAM	1	49	22.28	22.31	22.25	22.1
10	16QAM	25	0	21.64	21.66	21.59	
10	16QAM	25	12	21.54	21.58	21.48	
10	16QAM	25	25	21.50	21.55	21.48	22.1
10	16QAM	50	0	21.40	21.47	21.44	
10	64QAM	1	0	21.31	21.31	21.31	
10	64QAM	1	25	21.33	21.39	21.32	22.1
10	64QAM	1	49	21.31	21.38	21.37	
10	64QAM	25	0	20.33	20.33	20.28	
10	64QAM	25	12	20.50	20.56	20.51	21.1
10	64QAM	25	25	20.53	20.59	20.50	
10	64QAM	50	0	20.40	20.47	20.38	
10	256QAM	1	0	18.73	18.77	18.73	19.1
10	256QAM	1	25	18.62	18.64	18.61	
10	256QAM	1	49	18.64	18.69	18.63	
10	256QAM	25	0	18.37	18.47	18.38	19.1
10	256QAM	25	12	18.40	18.44	18.43	
10	256QAM	25	25	18.43	18.49	18.42	
10	256QAM	50	0	18.46	18.50	18.47	
Channel				23755	23790	23825	
Frequency (MHz)				706.5	710	713.5	Tune-up limit (dBm)
5	QPSK	1	0	23.06	23.07	23.10	24.1
5	QPSK	1	12	22.98	22.97	22.99	
5	QPSK	1	24	22.90	22.91	22.86	
5	QPSK	12	0	21.93	21.96	22.06	23.1
5	QPSK	12	7	21.93	21.94	21.81	
5	QPSK	12	13	21.79	21.95	21.88	
5	QPSK	25	0	21.92	21.95	21.94	23.1
5	16QAM	1	0	22.31	22.37	22.39	
5	16QAM	1	12	22.29	22.33	22.23	
5	16QAM	1	24	22.19	22.31	22.24	22.1
5	16QAM	12	0	21.62	21.66	21.58	
5	16QAM	12	7	21.49	21.48	21.46	
5	16QAM	12	13	21.44	21.52	21.42	22.1
5	16QAM	25	0	21.32	21.37	21.38	
5	64QAM	1	0	21.22	21.25	21.24	
5	64QAM	1	12	21.25	21.33	21.27	22.1



5	64QAM	1	24	21.28	21.36	21.37	21.1
5	64QAM	12	0	20.24	20.29	20.22	
5	64QAM	12	7	20.48	20.56	20.44	
5	64QAM	12	13	20.51	20.51	20.50	
5	64QAM	25	0	20.40	20.39	20.36	19.1
5	256QAM	1	0	18.68	18.69	18.63	
5	256QAM	1	12	18.63	18.62	18.52	
5	256QAM	1	24	18.56	18.68	18.59	19.1
5	256QAM	12	0	18.37	18.42	18.31	
5	256QAM	12	7	18.33	18.35	18.39	
5	256QAM	12	13	18.42	18.43	18.39	
5	256QAM	25	0	18.43	18.44	18.38	

<LTE Band 66 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.97	23.76	23.94	24.2
20	QPSK	1	49	22.84	22.71	23.36	
20	QPSK	1	99	22.95	22.72	23.28	
20	QPSK	50	0	21.92	22.40	23.01	23.2
20	QPSK	50	24	21.88	21.96	22.68	
20	QPSK	50	50	21.87	21.89	22.45	
20	QPSK	100	0	22.17	22.21	22.82	23.2
20	16QAM	1	0	21.98	22.96	23.20	
20	16QAM	1	49	22.11	22.12	22.74	
20	16QAM	1	99	22.62	22.62	22.65	22.2
20	16QAM	50	0	21.46	21.65	22.00	
20	16QAM	50	24	20.73	21.17	21.77	
20	16QAM	50	50	21.13	21.09	21.52	22.2
20	16QAM	100	0	21.01	21.40	21.86	
20	64QAM	1	0	21.41	21.53	21.67	
20	64QAM	1	49	20.74	20.70	20.79	22.2
20	64QAM	1	99	20.97	20.79	20.77	
20	64QAM	50	0	19.79	19.85	20.32	
20	64QAM	50	24	19.71	19.74	19.84	20.7
20	64QAM	50	50	19.50	19.71	19.66	
20	64QAM	100	0	19.40	19.58	20.00	
20	256QAM	1	0	19.04	19.09	19.17	19.2
20	256QAM	1	49	18.88	19.13	19.05	
20	256QAM	1	99	18.79	19.00	19.18	
20	256QAM	50	0	19.18	19.06	18.99	19.2
20	256QAM	50	24	18.98	19.05	19.14	
20	256QAM	50	50	18.96	19.08	18.97	
20	256QAM	100	0	18.44	18.58	18.57	
Channel				132047	132322	132597	
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.87	23.70	23.90	24.2
15	QPSK	1	37	22.81	22.66	23.35	
15	QPSK	1	74	22.90	22.64	23.26	
15	QPSK	36	0	21.88	22.33	22.96	23.2
15	QPSK	36	20	21.84	21.92	22.68	
15	QPSK	36	39	21.82	21.85	22.40	
15	QPSK	75	0	22.08	22.17	22.82	
15	16QAM	1	0	21.89	22.92	23.13	



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15	16QAM	1	37	22.06	22.06	22.68	22.2
15	16QAM	1	74	22.55	22.58	22.63	
15	16QAM	36	0	21.39	21.61	21.97	
15	16QAM	36	20	20.67	21.09	21.74	
15	16QAM	36	39	21.13	21.05	21.50	
15	16QAM	75	0	20.96	21.39	21.82	
15	64QAM	1	0	21.38	21.43	21.67	22.2
15	64QAM	1	37	20.67	20.69	20.70	
15	64QAM	1	74	20.96	20.78	20.76	
15	64QAM	36	0	19.74	19.80	20.22	20.7
15	64QAM	36	20	19.63	19.71	19.80	
15	64QAM	36	39	19.44	19.70	19.56	
15	64QAM	75	0	19.40	19.57	19.90	
15	256QAM	1	0	18.94	19.06	19.08	19.2
15	256QAM	1	37	18.79	19.06	19.04	
15	256QAM	1	74	18.75	18.99	19.13	
15	256QAM	36	0	19.11	18.99	18.91	19.2
15	256QAM	36	20	18.94	18.96	19.14	
15	256QAM	36	39	18.93	19.07	18.88	
15	256QAM	75	0	18.35	18.51	18.47	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.88	23.72	23.93	24.2
10	QPSK	1	25	22.80	22.69	23.34	
10	QPSK	1	49	22.87	22.65	23.18	
10	QPSK	25	0	21.86	22.36	22.94	23.2
10	QPSK	25	12	21.83	21.89	22.58	
10	QPSK	25	25	21.77	21.84	22.45	
10	QPSK	50	0	22.17	22.11	22.76	
10	16QAM	1	0	21.97	22.94	23.17	23.2
10	16QAM	1	25	22.08	22.02	22.64	
10	16QAM	1	49	22.54	22.53	22.60	
10	16QAM	25	0	21.36	21.57	21.93	22.2
10	16QAM	25	12	20.67	21.08	21.76	
10	16QAM	25	25	21.13	20.99	21.43	
10	16QAM	50	0	20.97	21.36	21.80	
10	64QAM	1	0	21.37	21.44	21.61	
10	64QAM	1	25	20.73	20.63	20.79	22.2
10	64QAM	1	49	20.91	20.76	20.70	
10	64QAM	25	0	19.72	19.82	20.22	
10	64QAM	25	12	19.63	19.72	19.81	20.7
10	64QAM	25	25	19.48	19.66	19.58	
10	64QAM	50	0	19.30	19.55	19.98	
10	256QAM	1	0	19.04	19.02	19.09	
10	256QAM	1	25	18.81	19.03	19.05	19.2
10	256QAM	1	49	18.76	18.97	19.13	
10	256QAM	25	0	19.09	18.98	18.93	
10	256QAM	25	12	18.96	18.98	19.09	19.2
10	256QAM	25	25	18.90	19.00	18.87	
10	256QAM	50	0	18.36	18.56	18.55	
Channel				131997	132322	132647	
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.90	23.73	23.91	24.2
5	QPSK	1	12	22.78	22.67	23.28	
5	QPSK	1	24	22.87	22.69	23.28	
5	QPSK	12	0	21.88	22.37	22.91	23.2



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5	QPSK	12	7	21.80	21.94	22.67	
5	QPSK	12	13	21.80	21.81	22.40	
5	QPSK	25	0	22.08	22.14	22.79	
5	16QAM	1	0	21.95	22.92	23.14	23.2
5	16QAM	1	12	22.11	22.12	22.65	
5	16QAM	1	24	22.54	22.60	22.64	
5	16QAM	12	0	21.43	21.58	21.94	22.2
5	16QAM	12	7	20.73	21.07	21.75	
5	16QAM	12	13	21.10	21.08	21.45	
5	16QAM	25	0	21.01	21.30	21.85	22.2
5	64QAM	1	0	21.39	21.51	21.59	
5	64QAM	1	12	20.68	20.68	20.70	
5	64QAM	1	24	20.91	20.78	20.70	20.7
5	64QAM	12	0	19.73	19.82	20.26	
5	64QAM	12	7	19.70	19.72	19.74	
5	64QAM	12	13	19.43	19.63	19.64	19.2
5	64QAM	25	0	19.38	19.56	19.92	
5	256QAM	1	0	18.94	19.08	19.14	
5	256QAM	1	12	18.78	19.07	18.98	19.2
5	256QAM	1	24	18.77	19.00	19.12	
5	256QAM	12	0	19.08	19.01	18.99	
5	256QAM	12	7	18.98	19.05	19.07	19.2
5	256QAM	12	13	18.87	19.07	18.91	
5	256QAM	25	0	18.34	18.48	18.52	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.87	23.71	23.87	24.2
3	QPSK	1	8	22.83	22.67	23.33	
3	QPSK	1	14	22.85	22.62	23.23	
3	QPSK	8	0	21.86	22.39	23.01	23.2
3	QPSK	8	4	21.79	21.89	22.58	
3	QPSK	8	7	21.84	21.88	22.35	
3	QPSK	15	0	22.17	22.14	22.79	23.2
3	16QAM	1	0	21.89	22.87	23.18	
3	16QAM	1	8	22.11	22.05	22.71	
3	16QAM	1	14	22.58	22.60	22.60	22.2
3	16QAM	8	0	21.46	21.60	21.91	
3	16QAM	8	4	20.64	21.10	21.72	
3	16QAM	8	7	21.04	21.06	21.50	22.2
3	16QAM	15	0	20.99	21.39	21.82	
3	64QAM	1	0	21.34	21.47	21.67	
3	64QAM	1	8	20.73	20.66	20.74	22.2
3	64QAM	1	14	20.96	20.73	20.70	
3	64QAM	8	0	19.78	19.83	20.28	
3	64QAM	8	4	19.67	19.64	19.77	20.7
3	64QAM	8	7	19.41	19.61	19.66	
3	64QAM	15	0	19.31	19.57	19.99	
3	256QAM	1	0	18.94	18.99	19.14	19.2
3	256QAM	1	8	18.88	19.04	18.98	
3	256QAM	1	14	18.71	18.99	19.12	
3	256QAM	8	0	19.14	19.03	18.97	19.2
3	256QAM	8	4	18.92	19.03	19.07	
3	256QAM	8	7	18.95	19.03	18.95	
3	256QAM	15	0	18.38	18.48	18.50	
Channel				131979	132322	132665	
Frequency (MHz)				1710.7	1745	1779.3	



1.4	QPSK	1	0	22.92	23.69	23.90	24.2
1.4	QPSK	1	3	22.78	22.69	23.32	
1.4	QPSK	1	5	22.87	22.67	23.23	
1.4	QPSK	3	0	22.89	23.70	23.88	
1.4	QPSK	3	1	22.77	22.69	23.28	
1.4	QPSK	3	3	22.88	22.71	23.22	
1.4	QPSK	6	0	22.10	22.16	22.73	23.2
1.4	16QAM	1	0	21.92	22.92	23.10	23.2
1.4	16QAM	1	3	22.09	22.08	22.71	
1.4	16QAM	1	5	22.59	22.53	22.65	
1.4	16QAM	3	0	21.98	22.93	23.11	
1.4	16QAM	3	1	22.09	22.05	22.64	
1.4	16QAM	3	3	22.56	22.53	22.61	
1.4	16QAM	6	0	20.95	21.40	21.86	22.2
1.4	64QAM	1	0	21.36	21.53	21.64	22.2
1.4	64QAM	1	3	20.71	20.66	20.71	
1.4	64QAM	1	5	20.94	20.70	20.74	
1.4	64QAM	3	0	21.32	21.52	21.57	
1.4	64QAM	3	1	20.73	20.66	20.77	
1.4	64QAM	3	3	20.90	20.78	20.69	
1.4	64QAM	6	0	19.32	19.57	19.90	20.7
1.4	256QAM	1	0	19.02	19.02	19.09	19.2
1.4	256QAM	1	3	18.88	19.11	18.98	
1.4	256QAM	1	5	18.76	18.94	19.10	
1.4	256QAM	3	0	18.99	19.05	19.14	
1.4	256QAM	3	1	18.82	19.03	19.03	
1.4	256QAM	3	3	18.75	18.91	19.09	
1.4	256QAM	6	0	18.40	18.53	18.56	19.2

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

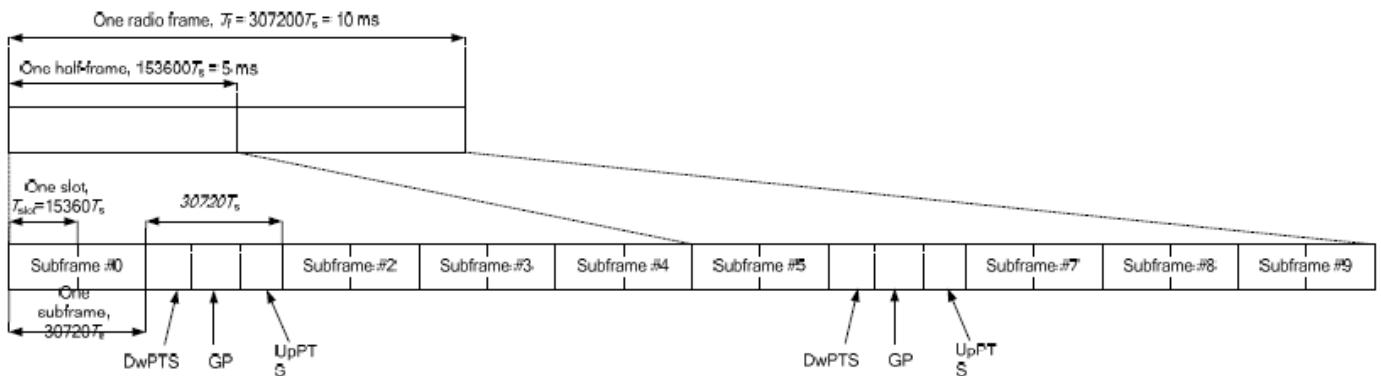


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

Special subframe (30720·T_s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~4	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T_s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.143)/5 = 62.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
- vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
- vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.



DSI 0

<LTE Band 38 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	23.63	23.73	23.93	24.5
20	QPSK	1	49	23.57	23.67	23.84	
20	QPSK	1	99	23.70	23.73	23.90	
20	QPSK	50	0	22.63	22.69	22.90	23.5
20	QPSK	50	24	22.73	22.74	22.97	
20	QPSK	50	50	22.70	22.72	22.93	
20	QPSK	100	0	22.74	22.74	22.91	23.5
20	16QAM	1	0	22.61	22.66	22.85	
20	16QAM	1	49	22.56	22.63	22.85	
20	16QAM	1	99	22.61	22.71	22.88	22.5
20	16QAM	50	0	21.61	21.68	21.92	
20	16QAM	50	24	21.73	21.74	21.94	
20	16QAM	50	50	21.66	21.72	21.99	22.5
20	16QAM	100	0	21.68	21.74	21.93	
20	64QAM	1	0	21.29	21.33	21.60	
20	64QAM	1	49	21.31	21.37	21.61	22.5
20	64QAM	1	99	21.37	21.41	21.68	
20	64QAM	50	0	20.71	20.75	21.00	
20	64QAM	50	24	20.77	20.81	21.02	21.5
20	64QAM	50	50	20.75	20.77	20.94	
20	64QAM	100	0	20.68	20.74	20.94	
20	256QAM	1	0	18.52	18.58	18.83	19.5
20	256QAM	1	49	18.42	18.51	18.75	
20	256QAM	1	99	18.53	18.62	18.87	
20	256QAM	50	0	18.75	18.77	18.97	19.5
20	256QAM	50	24	18.79	18.84	19.03	
20	256QAM	50	50	18.73	18.81	19.05	
20	256QAM	100	0	18.70	18.76	18.97	
Channel				37825	38000	38175	
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.63	23.71	23.91	24.5
15	QPSK	1	37	23.55	23.66	23.84	
15	QPSK	1	74	23.69	23.76	23.88	
15	QPSK	36	0	22.61	22.65	22.85	23.5
15	QPSK	36	20	22.72	22.74	22.98	
15	QPSK	36	39	22.70	22.75	22.95	
15	QPSK	75	0	22.71	22.78	22.86	23.5
15	16QAM	1	0	22.66	22.69	22.80	
15	16QAM	1	37	22.53	22.67	22.86	
15	16QAM	1	74	22.56	22.76	22.92	22.5
15	16QAM	36	0	21.64	21.68	21.87	
15	16QAM	36	20	21.78	21.77	21.90	
15	16QAM	36	39	21.69	21.69	22.00	22.5
15	16QAM	75	0	21.67	21.78	21.88	
15	64QAM	1	0	21.34	21.35	21.60	
15	64QAM	1	37	21.35	21.37	21.64	22.5
15	64QAM	1	74	21.33	21.41	21.63	
15	64QAM	36	0	20.73	20.78	21.01	
15	64QAM	36	20	20.75	20.83	20.99	21.5
15	64QAM	36	39	20.74	20.79	20.96	



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15	64QAM	75	0	20.70	20.73	20.99	
15	256QAM	1	0	18.56	18.57	18.80	19.5
15	256QAM	1	37	18.37	18.47	18.77	
15	256QAM	1	74	18.50	18.61	18.92	
15	256QAM	36	0	18.70	18.81	18.95	19.5
15	256QAM	36	20	18.76	18.87	19.05	
15	256QAM	36	39	18.69	18.81	19.09	
15	256QAM	75	0	18.73	18.75	18.99	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.47	23.61	23.82	24.5
10	QPSK	1	25	23.44	23.54	23.69	
10	QPSK	1	49	23.54	23.67	23.79	
10	QPSK	25	0	22.50	22.51	22.78	23.5
10	QPSK	25	12	22.58	22.67	22.86	
10	QPSK	25	25	22.54	22.60	22.78	
10	QPSK	50	0	22.58	22.66	22.71	
10	16QAM	1	0	22.52	22.59	22.67	23.5
10	16QAM	1	25	22.44	22.54	22.70	
10	16QAM	1	49	22.42	22.63	22.78	
10	16QAM	25	0	21.51	21.57	21.78	22.5
10	16QAM	25	12	21.67	21.70	21.83	
10	16QAM	25	25	21.59	21.57	21.92	
10	16QAM	50	0	21.56	21.69	21.76	
10	64QAM	1	0	21.19	21.28	21.53	22.5
10	64QAM	1	25	21.21	21.25	21.57	
10	64QAM	1	49	21.21	21.32	21.55	
10	64QAM	25	0	20.58	20.63	20.85	21.5
10	64QAM	25	12	20.68	20.75	20.90	
10	64QAM	25	25	20.64	20.62	20.82	
10	64QAM	50	0	20.56	20.66	20.91	
10	256QAM	1	0	18.39	18.42	18.71	19.5
10	256QAM	1	25	18.22	18.39	18.67	
10	256QAM	1	49	18.33	18.44	18.85	
10	256QAM	25	0	18.54	18.69	18.80	19.5
10	256QAM	25	12	18.64	18.71	18.97	
10	256QAM	25	25	18.52	18.71	19.01	
10	256QAM	50	0	18.56	18.64	18.84	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.62	23.77	23.88	24.5
5	QPSK	1	12	23.62	23.71	23.87	
5	QPSK	1	24	23.75	23.71	23.87	
5	QPSK	12	0	22.62	22.70	22.94	23.5
5	QPSK	12	7	22.73	22.77	22.92	
5	QPSK	12	13	22.69	22.67	22.92	
5	QPSK	25	0	22.73	22.78	22.93	
5	16QAM	1	0	22.64	22.69	22.84	23.5
5	16QAM	1	12	22.60	22.65	22.86	
5	16QAM	1	24	22.57	22.67	22.85	
5	16QAM	12	0	21.61	21.73	21.97	22.5
5	16QAM	12	7	21.78	21.71	21.94	
5	16QAM	12	13	21.67	21.74	21.96	
5	16QAM	25	0	21.66	21.79	21.91	
5	64QAM	1	0	21.27	21.29	21.63	22.5
5	64QAM	1	12	21.26	21.36	21.56	



5	64QAM	1	24	21.39	21.36	21.64	21.5
5	64QAM	12	0	20.66	20.71	20.95	
5	64QAM	12	7	20.77	20.76	20.98	
5	64QAM	12	13	20.79	20.76	20.90	
5	64QAM	25	0	20.69	20.76	20.96	
5	256QAM	1	0	18.51	18.58	18.85	19.5
5	256QAM	1	12	18.39	18.46	18.75	
5	256QAM	1	24	18.50	18.61	18.85	
5	256QAM	12	0	18.77	18.79	18.92	19.5
5	256QAM	12	7	18.78	18.83	19.02	
5	256QAM	12	13	18.70	18.76	19.04	
5	256QAM	25	0	18.75	18.72	18.92	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	23.20	23.42	23.89	24.22	24.16	25
20	QPSK	1	49	23.10	23.54	23.72	23.90	23.90	
20	QPSK	1	99	23.19	23.65	23.79	24.09	23.94	
20	QPSK	50	0	22.19	22.63	22.81	23.03	23.10	24
20	QPSK	50	24	22.29	22.74	22.90	23.11	23.08	
20	QPSK	50	50	22.26	22.74	22.88	23.10	22.98	
20	QPSK	100	0	22.28	22.74	22.90	23.10	23.08	24
20	16QAM	1	0	22.23	22.57	22.96	23.13	23.16	
20	16QAM	1	49	22.23	22.67	22.85	23.05	23.02	
20	16QAM	1	99	22.33	22.78	22.92	23.22	23.06	23
20	16QAM	50	0	21.22	21.67	21.85	22.06	22.12	
20	16QAM	50	24	21.31	21.78	21.91	22.12	22.09	
20	16QAM	50	50	21.30	21.72	21.93	22.11	22.01	23
20	16QAM	100	0	21.31	21.75	21.90	22.14	22.09	
20	64QAM	1	0	21.16	21.25	21.60	21.81	21.85	
20	64QAM	1	49	21.04	21.39	21.54	21.72	21.69	23
20	64QAM	1	99	21.09	21.43	21.62	21.91	21.69	
20	64QAM	50	0	20.21	20.69	20.86	21.06	21.14	
20	64QAM	50	24	20.31	20.79	20.95	21.15	21.11	22
20	64QAM	50	50	20.30	20.78	20.92	21.12	21.01	
20	64QAM	100	0	20.29	20.79	20.91	21.12	21.09	
20	256QAM	1	0	18.91	18.88	18.65	18.92	18.80	20
20	256QAM	1	49	18.81	18.81	18.70	18.82	18.75	
20	256QAM	1	99	18.99	18.99	18.74	19.00	18.98	
20	256QAM	50	0	19.11	19.14	18.80	19.11	19.14	20
20	256QAM	50	24	19.22	19.16	18.98	19.16	19.10	
20	256QAM	50	50	19.07	19.09	18.95	19.03	19.03	
20	256QAM	100	0	19.11	19.14	18.81	19.04	19.06	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	23.20	23.46	23.94	24.19	24.21	25.00
15	QPSK	1	37	23.11	23.53	23.68	23.85	23.89	
15	QPSK	1	74	23.22	23.61	23.80	24.10	23.97	
15	QPSK	36	0	22.22	22.68	22.81	22.99	23.12	24
15	QPSK	36	20	22.33	22.71	22.93	23.15	23.10	
15	QPSK	36	39	22.29	22.77	22.83	23.14	22.95	
15	QPSK	75	0	22.30	22.69	22.90	23.13	23.07	
15	16QAM	1	0	22.27	22.55	22.94	23.11	23.12	24



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15	16QAM	1	37	22.21	22.64	22.84	23.07	23.01	23
15	16QAM	1	74	22.30	22.77	22.95	23.27	23.07	
15	16QAM	36	0	21.25	21.69	21.81	22.10	22.13	
15	16QAM	36	20	21.30	21.83	21.87	22.12	22.11	
15	16QAM	36	39	21.27	21.70	21.88	22.13	21.99	
15	16QAM	75	0	21.31	21.77	21.93	22.14	22.08	
15	64QAM	1	0	21.17	21.25	21.55	21.82	21.90	23
15	64QAM	1	37	21.02	21.38	21.59	21.67	21.71	
15	64QAM	1	74	21.04	21.38	21.66	21.90	21.64	
15	64QAM	36	0	20.23	20.74	20.87	21.10	21.19	22
15	64QAM	36	20	20.33	20.81	20.97	21.19	21.12	
15	64QAM	36	39	20.29	20.81	20.97	21.11	20.98	
15	64QAM	75	0	20.32	20.81	20.93	21.17	21.08	
15	256QAM	1	0	18.90	18.90	18.65	18.92	18.82	20
15	256QAM	1	37	18.82	18.77	18.69	18.84	18.70	
15	256QAM	1	74	19.03	19.03	18.74	18.96	19.00	
15	256QAM	36	0	19.07	19.10	18.79	19.08	19.10	20
15	256QAM	36	20	19.24	19.21	18.99	19.14	19.11	
15	256QAM	36	39	19.02	19.07	18.94	19.06	19.01	
15	256QAM	75	0	19.11	19.09	18.78	19.04	19.04	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	23.18	23.44	23.91	24.16	24.20	25.00
10	QPSK	1	25	23.08	23.57	23.69	23.82	23.87	
10	QPSK	1	49	23.17	23.61	23.80	24.13	23.93	
10	QPSK	25	0	22.18	22.69	22.84	23.02	23.12	24
10	QPSK	25	12	22.33	22.67	22.94	23.11	23.15	
10	QPSK	25	25	22.32	22.82	22.83	23.11	22.95	
10	QPSK	50	0	22.30	22.67	22.87	23.09	23.08	
10	16QAM	1	0	22.25	22.51	22.99	23.08	23.16	24
10	16QAM	1	25	22.22	22.66	22.89	23.08	22.98	
10	16QAM	1	49	22.28	22.74	22.99	23.29	23.05	
10	16QAM	25	0	21.28	21.73	21.86	22.14	22.13	23
10	16QAM	25	12	21.28	21.88	21.88	22.13	22.14	
10	16QAM	25	25	21.29	21.70	21.88	22.17	22.04	
10	16QAM	50	0	21.31	21.77	21.88	22.10	22.05	
10	64QAM	1	0	21.18	21.22	21.60	21.78	21.88	23
10	64QAM	1	25	21.05	21.36	21.63	21.67	21.76	
10	64QAM	1	49	21.04	21.35	21.61	21.89	21.63	
10	64QAM	25	0	20.26	20.76	20.90	21.13	21.18	22
10	64QAM	25	12	20.34	20.81	20.95	21.20	21.08	
10	64QAM	25	25	20.34	20.78	20.98	21.06	20.94	
10	64QAM	50	0	20.32	20.76	20.92	21.14	21.12	
10	256QAM	1	0	18.90	18.94	18.64	18.90	18.83	20
10	256QAM	1	25	18.79	18.73	18.65	18.89	18.69	
10	256QAM	1	49	18.98	19.05	18.76	18.95	18.99	
10	256QAM	25	0	19.09	19.13	18.81	19.03	19.11	20
10	256QAM	25	12	19.26	19.21	19.02	19.15	19.06	
10	256QAM	25	25	19.03	19.12	18.99	19.03	19.03	
10	256QAM	50	0	19.06	19.10	18.81	19.01	19.02	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	23.23	23.48	23.90	24.15	24.15	25.00
5	QPSK	1	12	23.07	23.54	23.74	23.79	23.88	
5	QPSK	1	24	23.19	23.60	23.76	24.14	23.98	
5	QPSK	12	0	22.23	22.73	22.79	23.07	23.11	24



5	QPSK	12	7	22.38	22.71	22.98	23.15	23.20	
5	QPSK	12	13	22.29	22.84	22.84	23.10	22.97	
5	QPSK	25	0	22.35	22.62	22.82	23.05	23.08	
5	16QAM	1	0	22.29	22.46	23.01	23.05	23.12	24
5	16QAM	1	12	22.17	22.64	22.91	23.07	22.93	
5	16QAM	1	24	22.24	22.79	23.02	23.29	23.03	
5	16QAM	12	0	21.32	21.71	21.91	22.10	22.15	23
5	16QAM	12	7	21.27	21.90	21.90	22.11	22.11	
5	16QAM	12	13	21.33	21.65	21.90	22.17	22.03	
5	16QAM	25	0	21.35	21.75	21.93	22.15	22.04	23
5	64QAM	1	0	21.21	21.23	21.58	21.83	21.90	
5	64QAM	1	12	21.00	21.34	21.67	21.69	21.81	
5	64QAM	1	24	21.08	21.40	21.56	21.87	21.68	22
5	64QAM	12	0	20.29	20.71	20.95	21.16	21.21	
5	64QAM	12	7	20.38	20.82	21.00	21.20	21.13	
5	64QAM	12	13	20.32	20.83	20.99	21.11	20.95	20
5	64QAM	25	0	20.31	20.75	20.90	21.18	21.14	
5	256QAM	1	0	18.85	18.93	18.65	18.88	18.79	
5	256QAM	1	12	18.75	18.76	18.65	18.86	18.74	20
5	256QAM	1	24	18.96	19.01	18.72	19.00	19.04	
5	256QAM	12	0	19.07	19.11	18.85	18.99	19.07	
5	256QAM	12	7	19.24	19.23	19.02	19.12	19.09	20
5	256QAM	12	13	19.08	19.12	19.04	19.08	18.99	
5	256QAM	25	0	19.04	19.14	18.84	18.98	18.97	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	25.59	25.49	26.01	26.32	26.12	27
20	QPSK	1	49	25.17	25.46	25.88	26.15	25.89	
20	QPSK	1	99	25.27	25.55	25.98	26.29	25.88	
20	QPSK	50	0	24.27	24.20	24.62	24.78	24.83	26
20	QPSK	50	24	24.69	24.24	24.67	24.81	24.80	
20	QPSK	50	50	24.33	24.26	24.58	24.77	24.71	
20	QPSK	100	0	24.23	24.24	24.65	24.79	24.83	26
20	16QAM	1	0	24.67	25.43	26.00	25.99	25.84	
20	16QAM	1	49	25.15	25.40	25.79	25.94	25.86	
20	16QAM	1	99	25.27	25.54	25.91	25.97	25.85	25
20	16QAM	50	0	23.92	24.19	24.59	24.78	24.83	
20	16QAM	50	24	24.00	24.28	24.67	24.83	24.83	
20	16QAM	50	50	23.99	24.23	24.60	24.74	24.70	25
20	16QAM	100	0	24.02	24.31	24.65	24.81	24.84	
20	64QAM	1	0	23.79	24.07	24.78	24.47	24.39	
20	64QAM	1	49	23.40	24.00	24.66	24.35	24.20	25
20	64QAM	1	99	24.04	24.23	24.73	24.52	24.24	
20	64QAM	50	0	22.17	23.19	23.65	23.56	23.48	
20	64QAM	50	24	22.56	23.21	23.67	23.53	23.43	24
20	64QAM	50	50	22.95	23.25	23.68	23.57	23.40	
20	64QAM	100	0	22.61	23.25	23.66	23.56	23.45	
20	256QAM	1	0	20.99	21.19	21.64	21.86	21.83	22
20	256QAM	1	49	20.88	21.19	21.54	21.69	21.66	
20	256QAM	1	99	20.99	21.36	21.57	21.79	21.63	
20	256QAM	50	0	21.03	21.32	21.68	21.83	21.87	22
20	256QAM	50	24	21.09	21.35	21.70	21.87	21.83	



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20	256QAM	50	50	21.06	21.33	21.64	21.86	21.76	
20	256QAM	100	0	21.04	21.31	21.64	21.83	21.81	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	25.51	25.41	25.99	26.24	26.05	27.00
15	QPSK	1	37	25.08	25.45	25.84	26.09	25.81	
15	QPSK	1	74	25.26	25.50	25.92	26.25	25.88	
15	QPSK	36	0	24.21	24.12	24.56	24.74	24.83	26
15	QPSK	36	20	24.59	24.20	24.62	24.78	24.72	
15	QPSK	36	39	24.29	24.19	24.48	24.74	24.61	
15	QPSK	75	0	24.19	24.16	24.58	24.79	24.73	26
15	16QAM	1	0	24.65	25.35	25.97	25.92	25.79	
15	16QAM	1	37	25.08	25.37	25.69	25.92	25.81	
15	16QAM	1	74	25.17	25.45	25.91	25.94	25.77	25
15	16QAM	36	0	23.82	24.12	24.50	24.74	24.83	
15	16QAM	36	20	23.92	24.24	24.58	24.79	24.81	
15	16QAM	36	39	23.96	24.17	24.51	24.73	24.69	25
15	16QAM	75	0	24.02	24.22	24.60	24.75	24.78	
15	64QAM	1	0	23.69	24.06	24.75	24.38	24.37	
15	64QAM	1	37	23.32	23.97	24.64	24.26	24.17	25
15	64QAM	1	74	23.94	24.15	24.66	24.52	24.18	
15	64QAM	36	0	22.13	23.12	23.62	23.51	23.42	
15	64QAM	36	20	22.56	23.17	23.58	23.50	23.39	24
15	64QAM	36	39	22.86	23.20	23.61	23.56	23.38	
15	64QAM	75	0	22.61	23.19	23.61	23.52	23.35	
15	256QAM	1	0	20.96	21.12	21.56	21.78	21.78	22
15	256QAM	1	37	20.87	21.10	21.54	21.65	21.64	
15	256QAM	1	74	20.90	21.34	21.54	21.76	21.62	
15	256QAM	36	0	20.94	21.32	21.66	21.76	21.78	22
15	256QAM	36	20	21.03	21.29	21.64	21.86	21.78	
15	256QAM	36	39	20.97	21.23	21.58	21.82	21.66	
15	256QAM	75	0	21.00	21.25	21.56	21.75	21.76	
Channel				39700	40160	40620	41080	41540	
Frequency (MHz)				2501	2547	2593	2639	2685	Tune-up limit (dBm)
10	QPSK	1	0	25.41	25.32	25.99	26.14	26.03	27.00
10	QPSK	1	25	25.08	25.38	25.76	26.01	25.76	
10	QPSK	1	49	25.20	25.46	25.83	26.18	25.78	
10	QPSK	25	0	24.12	24.11	24.54	24.64	24.82	26
10	QPSK	25	12	24.57	24.15	24.52	24.76	24.65	
10	QPSK	25	25	24.28	24.13	24.43	24.74	24.52	
10	QPSK	50	0	24.18	24.13	24.56	24.73	24.69	26
10	16QAM	1	0	24.64	25.31	25.88	25.86	25.73	
10	16QAM	1	25	25.07	25.33	25.60	25.86	25.79	
10	16QAM	1	49	25.10	25.44	25.83	25.94	25.73	25
10	16QAM	25	0	23.77	24.12	24.41	24.70	24.76	
10	16QAM	25	12	23.83	24.14	24.50	24.74	24.80	
10	16QAM	25	25	23.87	24.08	24.43	24.65	24.67	25
10	16QAM	50	0	23.93	24.20	24.51	24.73	24.70	
10	64QAM	1	0	23.66	23.97	24.69	24.28	24.31	
10	64QAM	1	25	23.26	23.89	24.60	24.17	24.08	25
10	64QAM	1	49	23.93	24.10	24.65	24.47	24.18	
10	64QAM	25	0	22.03	23.02	23.54	23.45	23.41	
10	64QAM	25	12	22.55	23.17	23.55	23.44	23.39	24
10	64QAM	25	25	22.82	23.11	23.59	23.48	23.38	
10	64QAM	50	0	22.61	23.13	23.56	23.48	23.32	
10	256QAM	1	0	20.86	21.08	21.56	21.78	21.70	22



10	256QAM	1	25	20.77	21.02	21.49	21.56	21.55	22
10	256QAM	1	49	20.83	21.25	21.48	21.72	21.62	
10	256QAM	25	0	20.89	21.31	21.66	21.72	21.69	
10	256QAM	25	12	20.96	21.26	21.62	21.77	21.77	
10	256QAM	25	25	20.93	21.21	21.54	21.82	21.66	
10	256QAM	50	0	20.96	21.18	21.49	21.69	21.76	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	25.43	25.33	25.92	26.21	26.00	27.00
5	QPSK	1	12	25.01	25.45	25.75	26.02	25.74	
5	QPSK	1	24	25.21	25.41	25.87	26.25	25.85	
5	QPSK	12	0	24.14	24.11	24.47	24.74	24.78	26
5	QPSK	12	7	24.59	24.15	24.60	24.72	24.68	
5	QPSK	12	13	24.20	24.19	24.47	24.64	24.61	
5	QPSK	25	0	24.15	24.13	24.55	24.74	24.70	
5	16QAM	1	0	24.61	25.31	25.88	25.85	25.71	26
5	16QAM	1	12	25.03	25.36	25.64	25.84	25.71	
5	16QAM	1	24	25.15	25.36	25.89	25.93	25.76	
5	16QAM	12	0	23.81	24.06	24.41	24.70	24.75	25
5	16QAM	12	7	23.84	24.21	24.51	24.76	24.77	
5	16QAM	12	13	23.94	24.14	24.44	24.69	24.66	
5	16QAM	25	0	24.00	24.22	24.58	24.69	24.78	
5	64QAM	1	0	23.66	24.04	24.65	24.29	24.30	25
5	64QAM	1	12	23.29	23.93	24.55	24.19	24.07	
5	64QAM	1	24	23.93	24.14	24.61	24.52	24.18	
5	64QAM	12	0	22.11	23.07	23.58	23.43	23.34	24
5	64QAM	12	7	22.55	23.14	23.50	23.41	23.29	
5	64QAM	12	13	22.78	23.12	23.55	23.51	23.31	
5	64QAM	25	0	22.59	23.18	23.61	23.48	23.33	
5	256QAM	1	0	20.90	21.11	21.56	21.75	21.72	22
5	256QAM	1	12	20.80	21.09	21.51	21.57	21.61	
5	256QAM	1	24	20.80	21.30	21.49	21.70	21.61	
5	256QAM	12	0	20.93	21.31	21.59	21.67	21.76	22
5	256QAM	12	7	20.96	21.25	21.56	21.76	21.72	
5	256QAM	12	13	20.91	21.15	21.52	21.80	21.59	
5	256QAM	25	0	20.90	21.24	21.55	21.74	21.75	



<LTE Band 42 Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	23.41	23.50	23.18	25
20	QPSK	1	49	23.05	23.17	23.04	
20	QPSK	1	99	23.08	23.30	23.05	
20	QPSK	50	0	22.60	22.63	22.35	24
20	QPSK	50	24	22.49	22.43	22.23	
20	QPSK	50	50	22.38	22.26	22.05	
20	QPSK	100	0	22.48	22.54	22.08	24
20	16QAM	1	0	22.85	22.92	22.86	
20	16QAM	1	49	22.10	22.09	22.09	
20	16QAM	1	99	22.13	22.16	22.21	23
20	16QAM	50	0	21.19	21.50	21.37	
20	16QAM	50	24	21.26	21.36	21.34	
20	16QAM	50	50	21.10	21.08	21.11	23
20	16QAM	100	0	21.62	21.36	21.25	
20	64QAM	1	0	21.58	21.77	21.62	
20	64QAM	1	49	21.66	21.64	21.60	23
20	64QAM	1	99	21.72	21.72	21.61	
20	64QAM	50	0	20.70	20.72	20.69	
20	64QAM	50	24	20.68	20.63	20.71	22
20	64QAM	50	50	20.68	20.61	20.74	
20	64QAM	100	0	20.74	20.68	20.66	
20	256QAM	1	0	18.63	18.80	18.78	20
20	256QAM	1	49	18.65	18.64	18.75	
20	256QAM	1	99	18.78	18.62	18.74	
20	256QAM	50	0	18.82	18.74	18.80	20
20	256QAM	50	24	18.77	18.82	18.78	
20	256QAM	50	50	18.64	18.81	18.81	
20	256QAM	100	0	18.66	18.63	18.69	
Channel				42165	42590	43015	
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	23.36	23.40	23.10	25
15	QPSK	1	37	23.06	23.14	23.10	
15	QPSK	1	74	23.01	23.28	23.09	
15	QPSK	36	0	22.55	22.41	22.31	24
15	QPSK	36	20	22.44	22.38	22.15	
15	QPSK	36	39	22.37	22.20	22.03	
15	QPSK	75	0	22.42	22.29	22.08	24
15	16QAM	1	0	22.79	22.92	22.81	
15	16QAM	1	37	22.10	22.09	22.15	
15	16QAM	1	74	22.04	22.08	22.18	23
15	16QAM	36	0	21.10	21.43	21.34	
15	16QAM	36	20	21.22	21.36	21.32	
15	16QAM	36	39	21.08	21.11	21.12	23
15	16QAM	75	0	21.62	21.27	21.16	
15	64QAM	1	0	21.56	21.71	21.61	
15	64QAM	1	37	21.58	21.55	21.54	23
15	64QAM	1	74	21.70	21.63	21.58	
15	64QAM	36	0	20.61	20.65	20.66	
15	64QAM	36	20	20.62	20.53	20.66	22
15	64QAM	36	39	20.65	20.51	20.66	
15	64QAM	75	0	20.64	20.59	20.58	



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15	256QAM	1	0	18.63	18.80	18.72	20
15	256QAM	1	37	18.63	18.56	18.69	
15	256QAM	1	74	18.68	18.55	18.72	
15	256QAM	36	0	18.74	18.71	18.80	20
15	256QAM	36	20	18.74	18.78	18.73	
15	256QAM	36	39	18.58	18.73	18.76	
15	256QAM	75	0	18.61	18.60	18.63	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	23.35	23.44	23.18	25
10	QPSK	1	25	23.18	23.10	23.09	
10	QPSK	1	49	23.00	23.26	23.20	
10	QPSK	25	0	22.54	22.40	22.26	24
10	QPSK	25	12	22.44	22.36	22.21	
10	QPSK	25	25	22.29	22.21	22.21	
10	QPSK	50	0	22.45	22.34	22.08	
10	16QAM	1	0	22.81	22.82	22.81	24
10	16QAM	1	25	22.06	22.10	22.04	
10	16QAM	1	49	22.09	22.12	22.17	
10	16QAM	25	0	21.10	21.46	21.31	23
10	16QAM	25	12	21.19	21.34	21.27	
10	16QAM	25	25	21.07	21.01	21.10	
10	16QAM	50	0	21.56	21.29	21.18	
10	64QAM	1	0	21.53	21.74	21.55	23
10	64QAM	1	25	21.62	21.58	21.53	
10	64QAM	1	49	21.63	21.71	21.58	
10	64QAM	25	0	20.64	20.71	20.64	22
10	64QAM	25	12	20.59	20.59	20.69	
10	64QAM	25	25	20.66	20.56	20.64	
10	64QAM	50	0	20.69	20.60	20.63	
10	256QAM	1	0	18.63	18.71	18.76	20
10	256QAM	1	25	18.63	18.64	18.69	
10	256QAM	1	49	18.68	18.62	18.65	
10	256QAM	25	0	18.80	18.64	18.75	20
10	256QAM	25	12	18.77	18.76	18.76	
10	256QAM	25	25	18.64	18.77	18.71	
10	256QAM	50	0	18.66	18.54	18.62	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	23.33	23.44	23.15	25
5	QPSK	1	12	23.06	23.14	23.02	
5	QPSK	1	24	23.08	23.22	23.05	
5	QPSK	12	0	22.60	22.42	22.28	24
5	QPSK	12	7	22.48	22.40	22.14	
5	QPSK	12	13	22.37	22.26	22.05	
5	QPSK	25	0	22.45	22.26	22.03	
5	16QAM	1	0	22.77	22.84	22.86	24
5	16QAM	1	12	21.85	21.81	22.06	
5	16QAM	1	24	22.09	22.06	22.20	
5	16QAM	12	0	21.10	21.46	21.36	23
5	16QAM	12	7	21.20	21.31	21.33	
5	16QAM	12	13	21.05	21.08	21.06	
5	16QAM	25	0	21.56	21.32	21.15	
5	64QAM	1	0	21.58	21.70	21.59	23
5	64QAM	1	12	21.66	21.61	21.52	
5	64QAM	1	24	21.71	21.65	21.58	



5	64QAM	12	0	20.65	20.62	20.59	22
5	64QAM	12	7	20.59	20.60	20.62	
5	64QAM	12	13	20.62	20.52	20.73	
5	64QAM	25	0	20.71	20.59	20.60	20
5	256QAM	1	0	18.61	18.70	18.74	
5	256QAM	1	12	18.64	18.57	18.66	
5	256QAM	1	24	18.78	18.57	18.65	20
5	256QAM	12	0	18.80	18.64	18.74	
5	256QAM	12	7	18.74	18.82	18.68	
5	256QAM	12	13	18.62	18.71	18.81	
5	256QAM	25	0	18.56	18.56	18.67	

DSI 1

<LTE Band 42 Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	Tune-up limit (dBm)
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	22.10	22.18	22.04	22.8
20	QPSK	1	49	22.12	22.10	22.01	
20	QPSK	1	99	22.04	22.06	22.00	
20	QPSK	50	0	21.29	21.30	21.18	21.8
20	QPSK	50	24	21.28	21.32	21.12	
20	QPSK	50	50	21.27	21.31	21.08	
20	QPSK	100	0	21.23	21.23	21.19	21.8
20	16QAM	1	0	21.21	21.33	21.20	
20	16QAM	1	49	21.26	21.24	21.21	
20	16QAM	1	99	21.24	21.11	21.09	21.8
20	16QAM	50	0	21.22	21.29	21.14	
20	16QAM	50	24	21.21	21.26	21.19	
20	16QAM	50	50	21.23	21.18	21.14	21.8
20	16QAM	100	0	21.28	21.26	21.13	
20	64QAM	1	0	21.22	21.30	21.19	
20	64QAM	1	49	21.24	21.17	21.08	21.8
20	64QAM	1	99	21.24	21.31	21.13	
20	64QAM	50	0	20.53	20.51	20.42	
20	64QAM	50	24	20.39	20.41	20.20	21.3
20	64QAM	50	50	20.44	20.42	20.39	
20	64QAM	100	0	20.47	20.46	20.37	
20	256QAM	1	0	20.45	20.38	20.20	20.8
20	256QAM	1	49	20.42	20.37	20.46	
20	256QAM	1	99	20.47	20.43	20.38	
20	256QAM	50	0	20.42	20.42	20.24	20.8
20	256QAM	50	24	20.41	20.37	20.37	
20	256QAM	50	50	20.54	20.45	20.36	
20	256QAM	100	0	20.44	20.41	20.29	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	22.05	22.11	22.00	22.8
15	QPSK	1	37	22.03	22.08	22.01	
15	QPSK	1	74	21.98	21.97	21.99	
15	QPSK	36	0	21.25	21.22	21.15	21.8
15	QPSK	36	20	21.25	21.31	21.03	
15	QPSK	36	39	21.25	21.27	21.05	
15	QPSK	75	0	21.19	21.22	21.15	
15	16QAM	1	0	21.14	21.30	21.20	21.8



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15	16QAM	1	37	21.19	21.22	21.11	
15	16QAM	1	74	21.17	21.05	21.09	
15	16QAM	36	0	21.21	21.21	21.11	
15	16QAM	36	20	21.12	21.22	21.16	21.8
15	16QAM	36	39	21.16	21.13	21.12	
15	16QAM	75	0	21.23	21.16	21.03	
15	64QAM	1	0	21.22	21.25	21.09	21.8
15	64QAM	1	37	21.19	21.16	21.01	
15	64QAM	1	74	21.23	21.31	21.11	
15	64QAM	36	0	20.49	20.48	20.34	21.3
15	64QAM	36	20	20.39	20.31	20.17	
15	64QAM	36	39	20.39	20.41	20.29	
15	64QAM	75	0	20.37	20.39	20.31	
15	256QAM	1	0	20.43	20.35	20.17	20.8
15	256QAM	1	37	20.34	20.30	20.42	
15	256QAM	1	74	20.39	20.35	20.34	
15	256QAM	36	0	20.35	20.32	20.14	20.8
15	256QAM	36	20	20.32	20.30	20.31	
15	256QAM	36	39	20.48	20.35	20.26	
15	256QAM	75	0	20.44	20.38	20.23	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	22.03	22.16	22.01	22.8
10	QPSK	1	25	22.12	22.08	21.97	
10	QPSK	1	49	22.03	22.02	21.92	
10	QPSK	25	0	21.22	21.21	21.14	21.8
10	QPSK	25	12	21.21	21.32	21.02	
10	QPSK	25	25	21.26	21.22	21.05	
10	QPSK	50	0	21.16	21.21	21.18	
10	16QAM	1	0	21.15	21.32	21.19	21.8
10	16QAM	1	25	21.25	21.16	21.14	
10	16QAM	1	49	21.20	21.10	21.00	
10	16QAM	25	0	21.18	21.20	21.08	21.8
10	16QAM	25	12	21.12	21.18	21.15	
10	16QAM	25	25	21.21	21.16	21.04	
10	16QAM	50	0	21.28	21.24	21.09	
10	64QAM	1	0	21.12	21.30	21.14	21.8
10	64QAM	1	25	21.22	21.15	21.02	
10	64QAM	1	49	21.24	21.28	21.06	
10	64QAM	25	0	20.52	20.42	20.35	21.3
10	64QAM	25	12	20.38	20.36	20.16	
10	64QAM	25	25	20.38	20.38	20.35	
10	64QAM	50	0	20.37	20.45	20.32	
10	256QAM	1	0	20.41	20.36	20.15	20.8
10	256QAM	1	25	20.38	20.33	20.43	
10	256QAM	1	49	20.38	20.39	20.28	
10	256QAM	25	0	20.38	20.39	20.20	20.8
10	256QAM	25	12	20.40	20.34	20.31	
10	256QAM	25	25	20.48	20.35	20.35	
10	256QAM	50	0	20.37	20.31	20.28	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	22.07	22.16	21.95	22.8
5	QPSK	1	12	22.11	22.09	22.01	
5	QPSK	1	24	21.94	22.00	22.00	
5	QPSK	12	0	21.24	21.27	21.11	21.8



5	QPSK	12	7	21.25	21.23	21.11	
5	QPSK	12	13	21.27	21.21	21.07	
5	QPSK	25	0	21.20	21.17	21.10	
5	16QAM	1	0	21.15	21.27	21.17	21.8
5	16QAM	1	12	21.19	21.24	21.20	
5	16QAM	1	24	21.24	21.02	20.99	
5	16QAM	12	0	21.22	21.27	21.06	21.8
5	16QAM	12	7	21.19	21.17	21.15	
5	16QAM	12	13	21.20	21.13	21.13	
5	16QAM	25	0	21.27	21.21	21.09	21.8
5	64QAM	1	0	21.12	21.20	21.19	
5	64QAM	1	12	21.14	21.11	21.03	
5	64QAM	1	24	21.16	21.30	21.07	21.3
5	64QAM	12	0	20.47	20.46	20.42	
5	64QAM	12	7	20.35	20.32	20.17	
5	64QAM	12	13	20.42	20.36	20.34	20.8
5	64QAM	25	0	20.41	20.45	20.35	
5	256QAM	1	0	20.44	20.32	20.11	
5	256QAM	1	12	20.37	20.27	20.45	20.8
5	256QAM	1	24	20.39	20.42	20.31	
5	256QAM	12	0	20.41	20.39	20.24	
5	256QAM	12	7	20.37	20.34	20.35	20.8
5	256QAM	12	13	20.44	20.40	20.26	
5	256QAM	25	0	20.43	20.38	20.19	

DSI 2

<LTE Band 42 Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	20.75	20.98	20.52	22.3
20	QPSK	1	49	20.38	20.44	20.30	
20	QPSK	1	99	20.39	20.58	20.38	
20	QPSK	50	0	19.91	19.88	19.66	21.3
20	QPSK	50	24	19.74	19.69	19.48	
20	QPSK	50	50	19.66	19.52	19.33	
20	QPSK	100	0	19.81	19.88	19.41	21.3
20	16QAM	1	0	20.17	20.25	20.18	
20	16QAM	1	49	19.44	19.35	19.34	
20	16QAM	1	99	19.42	19.47	19.53	20.3
20	16QAM	50	0	18.52	18.77	18.71	
20	16QAM	50	24	18.58	18.68	18.58	
20	16QAM	50	50	18.39	18.32	18.41	20.3
20	16QAM	100	0	18.92	18.67	18.53	
20	64QAM	1	0	18.84	19.11	18.94	
20	64QAM	1	49	19.00	18.97	18.90	20.3
20	64QAM	1	99	18.97	18.97	18.87	
20	64QAM	50	0	17.99	18.05	17.94	
20	64QAM	50	24	17.93	17.91	18.02	19.3
20	64QAM	50	50	17.99	17.90	18.05	
20	64QAM	100	0	18.07	17.94	17.98	
20	256QAM	1	0	17.34	17.50	17.53	18.3
20	256QAM	1	49	17.41	17.38	17.44	
20	256QAM	1	99	17.55	17.31	17.52	
20	256QAM	50	0	17.59	17.42	17.51	18.3



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20	256QAM	50	24	17.50	17.53	17.51	
20	256QAM	50	50	17.34	17.58	17.52	
20	256QAM	100	0	17.39	17.35	17.40	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	20.71	20.70	20.43	22.3
15	QPSK	1	37	20.33	20.41	20.31	
15	QPSK	1	74	20.38	20.52	20.34	
15	QPSK	36	0	19.82	19.84	19.65	21.3
15	QPSK	36	20	19.79	19.65	19.45	
15	QPSK	36	39	19.63	19.49	19.30	
15	QPSK	75	0	19.69	19.79	19.34	21.3
15	16QAM	1	0	20.09	20.22	20.12	
15	16QAM	1	37	19.34	19.34	19.39	
15	16QAM	1	74	19.36	19.43	19.39	20.3
15	16QAM	36	0	18.48	18.77	18.66	
15	16QAM	36	20	18.54	18.56	18.60	
15	16QAM	36	39	18.36	18.30	18.37	20.3
15	16QAM	75	0	18.80	18.56	18.47	
15	64QAM	1	0	18.86	19.01	18.88	
15	64QAM	1	37	18.90	18.86	18.81	20.3
15	64QAM	1	74	19.00	19.06	18.84	
15	64QAM	36	0	18.03	17.91	18.00	
15	64QAM	36	20	17.91	17.87	17.94	19.3
15	64QAM	36	39	17.92	17.89	17.92	
15	64QAM	75	0	17.96	17.92	17.82	
15	256QAM	1	0	17.24	17.51	17.45	18.3
15	256QAM	1	37	17.31	17.39	17.36	
15	256QAM	1	74	17.37	17.38	17.46	
15	256QAM	36	0	17.56	17.51	17.42	18.3
15	256QAM	36	20	17.48	17.42	17.45	
15	256QAM	36	39	17.35	17.44	17.52	
15	256QAM	75	0	17.34	17.26	17.42	Tune-up limit (dBm)
Channel				42140	42590	43040	
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	20.65	20.73	20.49	22.3
10	QPSK	1	25	20.37	20.39	20.49	
10	QPSK	1	49	20.31	20.51	20.40	
10	QPSK	25	0	19.75	19.81	19.59	21.3
10	QPSK	25	12	19.75	19.65	19.47	
10	QPSK	25	25	19.63	19.51	19.34	
10	QPSK	50	0	19.70	19.80	19.32	21.3
10	16QAM	1	0	20.09	20.18	20.10	
10	16QAM	1	25	19.32	19.30	19.36	
10	16QAM	1	49	19.32	19.46	19.38	20.3
10	16QAM	25	0	18.39	18.67	18.60	
10	16QAM	25	12	18.59	18.50	18.55	
10	16QAM	25	25	18.37	18.32	18.37	20.3
10	16QAM	50	0	18.81	18.56	18.48	
10	64QAM	1	0	18.81	18.97	18.91	
10	64QAM	1	25	18.87	18.89	18.81	20.3
10	64QAM	1	49	18.99	19.05	18.83	
10	64QAM	25	0	18.00	17.88	17.99	
10	64QAM	25	12	17.87	17.81	17.99	19.3
10	64QAM	25	25	17.93	17.85	18.01	
10	64QAM	50	0	18.03	17.94	17.80	



10	256QAM	1	0	17.26	17.42	17.45	18.3
10	256QAM	1	25	17.35	17.35	17.38	
10	256QAM	1	49	17.36	17.37	17.39	
10	256QAM	25	0	17.50	17.52	17.43	18.3
10	256QAM	25	12	17.42	17.42	17.41	
10	256QAM	25	25	17.35	17.49	17.49	
10	256QAM	50	0	17.34	17.29	17.43	Tune-up limit (dBm)
Channel				42115	42590	43065	
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	20.63	20.73	20.47	22.3
5	QPSK	1	12	20.38	20.40	20.41	
5	QPSK	1	24	20.32	20.54	20.33	
5	QPSK	12	0	19.81	19.85	19.64	21.3
5	QPSK	12	7	19.76	19.60	19.46	
5	QPSK	12	13	19.59	19.56	19.32	
5	QPSK	25	0	19.70	19.81	19.37	21.3
5	16QAM	1	0	20.13	20.17	20.09	
5	16QAM	1	12	19.31	19.32	19.35	
5	16QAM	1	24	19.28	19.38	19.40	20.3
5	16QAM	12	0	18.43	18.75	18.59	
5	16QAM	12	7	18.59	18.52	18.64	
5	16QAM	12	13	18.40	18.38	18.38	20.3
5	16QAM	25	0	18.83	18.53	18.54	
5	64QAM	1	0	18.80	18.99	18.83	
5	64QAM	1	12	18.91	18.93	18.90	20.3
5	64QAM	1	24	18.97	19.05	18.88	
5	64QAM	12	0	17.99	17.94	17.98	
5	64QAM	12	7	17.84	17.85	17.97	19.3
5	64QAM	12	13	17.98	17.88	17.97	
5	64QAM	25	0	17.94	17.91	17.89	
5	256QAM	1	0	17.25	17.49	17.52	18.3
5	256QAM	1	12	17.29	17.34	17.42	
5	256QAM	1	24	17.43	17.33	17.40	
5	256QAM	12	0	17.51	17.43	17.48	18.3
5	256QAM	12	7	17.44	17.45	17.51	
5	256QAM	12	13	17.29	17.51	17.49	
5	256QAM	25	0	17.30	17.28	17.39	18.3

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	Tune-up limit (dBm)
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	20.59	20.70	20.63	
20	QPSK	1	49	20.60	20.57	20.52	
20	QPSK	1	99	20.60	20.61	20.57	
20	QPSK	50	0	19.81	19.80	19.65	20.1
20	QPSK	50	24	19.77	19.82	19.67	
20	QPSK	50	50	19.78	19.84	19.67	
20	QPSK	100	0	19.67	19.72	19.71	20.1
20	16QAM	1	0	19.74	19.77	19.68	
20	16QAM	1	49	19.79	19.80	19.73	
20	16QAM	1	99	19.77	19.63	19.58	20.1
20	16QAM	50	0	19.72	19.85	19.60	
20	16QAM	50	24	19.81	19.70	19.72	
20	16QAM	50	50	19.70	19.58	19.65	20.1



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20	16QAM	100	0	19.71	19.76	19.60	
20	64QAM	1	0	19.74	19.74	19.73	20.1
20	64QAM	1	49	19.73	19.58	19.60	
20	64QAM	1	99	19.74	19.77	19.64	
20	64QAM	50	0	19.54	19.53	19.44	20.1
20	64QAM	50	24	19.51	19.48	19.29	
20	64QAM	50	50	19.51	19.49	19.50	
20	64QAM	100	0	19.52	19.54	19.42	
20	256QAM	1	0	19.52	19.44	19.33	20.1
20	256QAM	1	49	19.47	19.48	19.47	
20	256QAM	1	99	19.55	19.56	19.37	
20	256QAM	50	0	19.48	19.43	19.32	20.1
20	256QAM	50	24	19.45	19.49	19.42	
20	256QAM	50	50	19.53	19.47	19.36	
20	256QAM	100	0	19.43	19.49	19.33	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	20.55	20.60	20.54	21.1
15	QPSK	1	37	20.54	20.51	20.49	
15	QPSK	1	74	20.56	20.55	20.54	
15	QPSK	36	0	19.76	19.70	19.63	20.1
15	QPSK	36	20	19.72	19.82	19.62	
15	QPSK	36	39	19.69	19.77	19.57	
15	QPSK	75	0	19.60	19.62	19.69	
15	16QAM	1	0	19.64	19.72	19.58	20.1
15	16QAM	1	37	19.75	19.79	19.71	
15	16QAM	1	74	19.76	19.56	19.54	
15	16QAM	36	0	19.67	19.81	19.52	20.1
15	16QAM	36	20	19.74	19.60	19.72	
15	16QAM	36	39	19.60	19.53	19.57	
15	16QAM	75	0	19.61	19.74	19.51	
15	64QAM	1	0	19.66	19.71	19.67	20.1
15	64QAM	1	37	19.66	19.56	19.52	
15	64QAM	1	74	19.64	19.69	19.59	
15	64QAM	36	0	19.45	19.43	19.38	20.1
15	64QAM	36	20	19.41	19.47	19.25	
15	64QAM	36	39	19.46	19.44	19.40	
15	64QAM	75	0	19.44	19.48	19.42	
15	256QAM	1	0	19.48	19.36	19.33	20.1
15	256QAM	1	37	19.44	19.38	19.41	
15	256QAM	1	74	19.49	19.54	19.34	
15	256QAM	36	0	19.48	19.36	19.26	20.1
15	256QAM	36	20	19.38	19.44	19.38	
15	256QAM	36	39	19.45	19.44	19.30	
15	256QAM	75	0	19.40	19.49	19.26	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	20.53	20.60	20.59	21.1
10	QPSK	1	25	20.60	20.57	20.43	
10	QPSK	1	49	20.59	20.60	20.56	
10	QPSK	25	0	19.79	19.80	19.60	20.1
10	QPSK	25	12	19.73	19.77	19.59	
10	QPSK	25	25	19.76	19.82	19.59	
10	QPSK	50	0	19.61	19.66	19.68	
10	16QAM	1	0	19.66	19.75	19.61	20.1
10	16QAM	1	25	19.70	19.75	19.72	



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10	16QAM	1	49	19.77	19.58	19.52	
10	16QAM	25	0	19.70	19.85	19.56	20.1
10	16QAM	25	12	19.77	19.69	19.65	
10	16QAM	25	25	19.70	19.51	19.55	
10	16QAM	50	0	19.64	19.73	19.59	
10	64QAM	1	0	19.69	19.70	19.63	20.1
10	64QAM	1	25	19.67	19.54	19.57	
10	64QAM	1	49	19.69	19.69	19.63	
10	64QAM	25	0	19.52	19.45	19.37	20.1
10	64QAM	25	12	19.47	19.46	19.27	
10	64QAM	25	25	19.41	19.48	19.45	
10	64QAM	50	0	19.44	19.49	19.36	
10	256QAM	1	0	19.51	19.38	19.33	20.1
10	256QAM	1	25	19.47	19.46	19.38	
10	256QAM	1	49	19.48	19.46	19.31	
10	256QAM	25	0	19.39	19.36	19.31	20.1
10	256QAM	25	12	19.36	19.44	19.37	
10	256QAM	25	25	19.48	19.46	19.33	
10	256QAM	50	0	19.37	19.41	19.23	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	20.58	20.67	20.61	21.1
5	QPSK	1	12	20.52	20.50	20.47	
5	QPSK	1	24	20.60	20.61	20.49	
5	QPSK	12	0	19.79	19.74	19.65	20.1
5	QPSK	12	7	19.69	19.77	19.59	
5	QPSK	12	13	19.68	19.77	19.67	
5	QPSK	25	0	19.65	19.66	19.70	
5	16QAM	1	0	19.65	19.76	19.66	20.1
5	16QAM	1	12	19.69	19.70	19.72	
5	16QAM	1	24	19.72	19.61	19.55	
5	16QAM	12	0	19.71	19.83	19.60	
5	16QAM	12	7	19.79	19.61	19.70	20.1
5	16QAM	12	13	19.64	19.56	19.61	
5	16QAM	25	0	19.65	19.70	19.52	
5	64QAM	1	0	19.68	19.67	19.70	
5	64QAM	1	12	19.72	19.48	19.53	20.1
5	64QAM	1	24	19.66	19.68	19.54	
5	64QAM	12	0	19.46	19.49	19.36	
5	64QAM	12	7	19.50	19.48	19.21	20.1
5	64QAM	12	13	19.45	19.40	19.41	
5	64QAM	25	0	19.50	19.45	19.34	
5	256QAM	1	0	19.44	19.35	19.29	
5	256QAM	1	12	19.42	19.45	19.46	20.1
5	256QAM	1	24	19.53	19.48	19.34	
5	256QAM	12	0	19.45	19.33	19.25	
5	256QAM	12	7	19.45	19.44	19.42	20.1
5	256QAM	12	13	19.43	19.39	19.31	
5	256QAM	25	0	19.35	19.44	19.33	



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<LTE Band 42 Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	23.41	23.50	23.18	23.6
20	QPSK	1	49	23.05	23.17	23.04	
20	QPSK	1	99	23.08	23.30	23.05	
20	QPSK	50	0	22.60	22.63	22.35	23.1
20	QPSK	50	24	22.49	22.43	22.23	
20	QPSK	50	50	22.38	22.26	22.05	
20	QPSK	100	0	22.48	22.54	22.08	23.1
20	16QAM	1	0	22.85	22.92	22.86	
20	16QAM	1	49	22.10	22.09	22.09	
20	16QAM	1	99	22.13	22.16	22.21	22.1
20	16QAM	50	0	21.19	21.50	21.37	
20	16QAM	50	24	21.26	21.36	21.34	
20	16QAM	50	50	21.10	21.08	21.11	22.1
20	16QAM	100	0	21.62	21.36	21.25	
20	64QAM	1	0	21.58	21.77	21.62	
20	64QAM	1	49	21.66	21.64	21.60	22.1
20	64QAM	1	99	21.72	21.72	21.61	
20	64QAM	50	0	20.70	20.72	20.69	
20	64QAM	50	24	20.68	20.63	20.71	21.1
20	64QAM	50	50	20.68	20.61	20.74	
20	64QAM	100	0	20.74	20.68	20.66	
20	256QAM	1	0	18.63	18.80	18.78	19.1
20	256QAM	1	49	18.65	18.64	18.75	
20	256QAM	1	99	18.78	18.62	18.74	
20	256QAM	50	0	18.82	18.74	18.80	19.1
20	256QAM	50	24	18.77	18.82	18.78	
20	256QAM	50	50	18.64	18.81	18.81	
20	256QAM	100	0	18.66	18.63	18.69	
Channel				42165	42590	43015	
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	23.36	23.40	23.10	23.6
15	QPSK	1	37	23.06	23.14	23.10	
15	QPSK	1	74	23.01	23.28	23.09	
15	QPSK	36	0	22.55	22.41	22.31	23.1
15	QPSK	36	20	22.44	22.38	22.15	
15	QPSK	36	39	22.37	22.20	22.03	
15	QPSK	75	0	22.42	22.29	22.08	23.1
15	16QAM	1	0	22.79	22.92	22.81	
15	16QAM	1	37	22.10	22.09	22.15	
15	16QAM	1	74	22.04	22.08	22.18	22.1
15	16QAM	36	0	21.10	21.43	21.34	
15	16QAM	36	20	21.22	21.36	21.32	
15	16QAM	36	39	21.08	21.11	21.12	22.1
15	16QAM	75	0	21.62	21.27	21.16	
15	64QAM	1	0	21.56	21.71	21.61	
15	64QAM	1	37	21.58	21.55	21.54	22.1
15	64QAM	1	74	21.70	21.63	21.58	
15	64QAM	36	0	20.61	20.65	20.66	
15	64QAM	36	20	20.62	20.53	20.66	21.1
15	64QAM	36	39	20.65	20.51	20.66	



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15	64QAM	75	0	20.64	20.59	20.58	
15	256QAM	1	0	18.63	18.80	18.72	19.1
15	256QAM	1	37	18.63	18.56	18.69	
15	256QAM	1	74	18.68	18.55	18.72	
15	256QAM	36	0	18.74	18.71	18.80	19.1
15	256QAM	36	20	18.74	18.78	18.73	
15	256QAM	36	39	18.58	18.73	18.76	
15	256QAM	75	0	18.61	18.60	18.63	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	23.35	23.44	23.18	23.6
10	QPSK	1	25	23.18	23.10	23.09	
10	QPSK	1	49	23.00	23.26	23.20	
10	QPSK	25	0	22.54	22.40	22.26	23.1
10	QPSK	25	12	22.44	22.36	22.21	
10	QPSK	25	25	22.29	22.21	22.21	
10	QPSK	50	0	22.45	22.34	22.08	
10	16QAM	1	0	22.81	22.82	22.81	23.1
10	16QAM	1	25	22.06	22.10	22.04	
10	16QAM	1	49	22.09	22.12	22.17	
10	16QAM	25	0	21.10	21.46	21.31	22.1
10	16QAM	25	12	21.19	21.34	21.27	
10	16QAM	25	25	21.07	21.01	21.10	
10	16QAM	50	0	21.56	21.29	21.18	
10	64QAM	1	0	21.53	21.74	21.55	22.1
10	64QAM	1	25	21.62	21.58	21.53	
10	64QAM	1	49	21.63	21.71	21.58	
10	64QAM	25	0	20.64	20.71	20.64	21.1
10	64QAM	25	12	20.59	20.59	20.69	
10	64QAM	25	25	20.66	20.56	20.64	
10	64QAM	50	0	20.69	20.60	20.63	
10	256QAM	1	0	18.63	18.71	18.76	19.1
10	256QAM	1	25	18.63	18.64	18.69	
10	256QAM	1	49	18.68	18.62	18.65	
10	256QAM	25	0	18.80	18.64	18.75	19.1
10	256QAM	25	12	18.77	18.76	18.76	
10	256QAM	25	25	18.64	18.77	18.71	
10	256QAM	50	0	18.66	18.54	18.62	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	23.33	23.44	23.15	23.6
5	QPSK	1	12	23.06	23.14	23.02	
5	QPSK	1	24	23.08	23.22	23.05	
5	QPSK	12	0	22.60	22.42	22.28	23.1
5	QPSK	12	7	22.48	22.40	22.14	
5	QPSK	12	13	22.37	22.26	22.05	
5	QPSK	25	0	22.45	22.26	22.03	
5	16QAM	1	0	22.77	22.84	22.86	23.1
5	16QAM	1	12	21.85	21.81	22.06	
5	16QAM	1	24	22.09	22.06	22.20	
5	16QAM	12	0	21.10	21.46	21.36	22.1
5	16QAM	12	7	21.20	21.31	21.33	
5	16QAM	12	13	21.05	21.08	21.06	
5	16QAM	25	0	21.56	21.32	21.15	
5	64QAM	1	0	21.58	21.70	21.59	22.1
5	64QAM	1	12	21.66	21.61	21.52	



5	64QAM	1	24	21.71	21.65	21.58	21.1
5	64QAM	12	0	20.65	20.62	20.59	
5	64QAM	12	7	20.59	20.60	20.62	
5	64QAM	12	13	20.62	20.52	20.73	
5	64QAM	25	0	20.71	20.59	20.60	19.1
5	256QAM	1	0	18.61	18.70	18.74	
5	256QAM	1	12	18.64	18.57	18.66	
5	256QAM	1	24	18.78	18.57	18.65	19.1
5	256QAM	12	0	18.80	18.64	18.74	
5	256QAM	12	7	18.74	18.82	18.68	
5	256QAM	12	13	18.62	18.71	18.81	
5	256QAM	25	0	18.56	18.56	18.67	

<LTE Band 42 Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	Tune-up limit (dBm)
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	20.29	20.33	20.31	20.5
20	QPSK	1	49	20.06	19.97	19.94	
20	QPSK	1	99	20.08	20.06	20.03	
20	QPSK	50	0	19.25	19.28	19.08	19.5
20	QPSK	50	24	19.22	19.32	19.16	
20	QPSK	50	50	19.21	19.25	19.14	
20	QPSK	100	0	19.17	19.13	19.18	19.5
20	16QAM	1	0	19.19	19.18	19.14	
20	16QAM	1	49	19.21	19.24	19.17	
20	16QAM	1	99	19.18	19.09	19.04	19.5
20	16QAM	50	0	19.15	19.35	19.09	
20	16QAM	50	24	19.31	19.17	19.19	
20	16QAM	50	50	19.16	18.98	19.13	19.5
20	16QAM	100	0	19.18	19.24	19.00	
20	64QAM	1	0	19.22	19.15	19.16	
20	64QAM	1	49	19.21	19.03	19.09	
20	64QAM	1	99	19.20	19.20	19.09	
20	64QAM	50	0	18.97	19.00	18.84	19.5
20	64QAM	50	24	18.96	18.88	18.78	
20	64QAM	50	50	18.96	18.99	18.98	
20	64QAM	100	0	18.97	19.03	18.88	19.5
20	256QAM	1	0	19.01	18.86	18.77	
20	256QAM	1	49	18.93	18.90	18.95	
20	256QAM	1	99	19.05	19.03	18.82	19.5
20	256QAM	50	0	18.93	18.85	18.74	
20	256QAM	50	24	18.95	18.92	18.89	
20	256QAM	50	50	19.03	18.91	18.82	19.5
20	256QAM	100	0	18.83	18.96	18.80	
Channel				42165	42590	43015	
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	20.04	20.13	20.03	20.5
15	QPSK	1	37	20.10	19.98	19.96	
15	QPSK	1	74	20.04	20.04	19.97	
15	QPSK	36	0	19.24	19.26	19.09	19.5
15	QPSK	36	20	19.21	19.22	19.11	
15	QPSK	36	39	19.27	19.26	19.11	
15	QPSK	75	0	19.17	19.18	19.14	19.5
15	16QAM	1	0	19.15	19.27	19.09	



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15	16QAM	1	37	19.22	19.28	19.22	
15	16QAM	1	74	19.26	19.12	19.02	
15	16QAM	36	0	19.21	19.25	19.01	
15	16QAM	36	20	19.21	19.10	19.18	19.5
15	16QAM	36	39	19.17	18.98	19.08	
15	16QAM	75	0	19.12	19.16	19.04	
15	64QAM	1	0	19.19	19.18	19.20	19.5
15	64QAM	1	37	19.21	19.03	19.08	
15	64QAM	1	74	19.18	19.23	19.08	
15	64QAM	36	0	19.01	19.00	18.86	19.5
15	64QAM	36	20	18.92	18.96	18.74	
15	64QAM	36	39	18.99	18.96	18.91	
15	64QAM	75	0	18.96	19.01	18.88	
15	256QAM	1	0	18.96	18.89	18.82	
15	256QAM	1	37	18.87	18.94	18.96	19.5
15	256QAM	1	74	19.02	19.02	18.85	
15	256QAM	36	0	18.91	18.86	18.81	
15	256QAM	36	20	18.94	18.90	18.91	19.5
15	256QAM	36	39	18.99	18.95	18.81	
15	256QAM	75	0	18.90	18.91	18.77	
Channel				42140	42590	43040	
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	20.04	20.12	20.04	20.5
10	QPSK	1	25	20.07	20.02	19.96	
10	QPSK	1	49	20.06	20.02	20.00	
10	QPSK	25	0	19.31	19.22	19.10	19.5
10	QPSK	25	12	19.19	19.32	19.09	
10	QPSK	25	25	19.24	19.29	19.12	
10	QPSK	50	0	19.11	19.21	19.20	
10	16QAM	1	0	19.23	19.18	19.12	19.5
10	16QAM	1	25	19.28	19.22	19.13	
10	16QAM	1	49	19.20	19.09	18.99	
10	16QAM	25	0	19.20	19.28	19.08	19.5
10	16QAM	25	12	19.26	19.11	19.12	
10	16QAM	25	25	19.10	18.98	19.05	
10	16QAM	50	0	19.14	19.21	19.03	
10	64QAM	1	0	19.20	19.15	19.22	
10	64QAM	1	25	19.21	18.99	19.05	19.5
10	64QAM	1	49	19.19	19.18	19.11	
10	64QAM	25	0	19.01	18.97	18.86	
10	64QAM	25	12	18.94	18.92	18.75	19.5
10	64QAM	25	25	18.98	18.97	18.91	
10	64QAM	50	0	18.94	18.97	18.92	
10	256QAM	1	0	18.96	18.88	18.73	
10	256QAM	1	25	18.93	18.91	18.87	19.5
10	256QAM	1	49	18.95	19.00	18.86	
10	256QAM	25	0	18.94	18.89	18.77	
10	256QAM	25	12	18.94	18.90	18.87	19.5
10	256QAM	25	25	19.00	18.95	18.85	
10	256QAM	50	0	18.89	18.97	18.77	
Channel				42115	42590	43065	
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	20.06	20.17	20.04	20.5
5	QPSK	1	12	20.08	20.05	20.01	
5	QPSK	1	24	20.08	20.08	20.05	
5	QPSK	12	0	19.31	19.24	19.07	19.5



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5	QPSK	12	7	19.26	19.28	19.09	
5	QPSK	12	13	19.25	19.27	19.16	
5	QPSK	25	0	19.07	19.18	19.16	
5	16QAM	1	0	19.18	19.26	19.09	19.5
5	16QAM	1	12	19.27	19.24	19.14	
5	16QAM	1	24	19.26	19.07	19.04	
5	16QAM	12	0	19.17	19.26	19.07	19.5
5	16QAM	12	7	19.24	19.11	19.14	
5	16QAM	12	13	19.13	18.99	19.11	
5	16QAM	25	0	19.17	19.23	19.02	
5	64QAM	1	0	19.24	19.15	19.17	19.5
5	64QAM	1	12	19.22	19.08	19.07	
5	64QAM	1	24	19.19	19.23	19.07	
5	64QAM	12	0	18.95	18.99	18.88	19.5
5	64QAM	12	7	18.97	18.94	18.76	
5	64QAM	12	13	18.93	18.90	18.93	
5	64QAM	25	0	19.02	18.99	18.88	
5	256QAM	1	0	18.99	18.85	18.77	19.5
5	256QAM	1	12	18.88	18.89	18.87	
5	256QAM	1	24	19.03	18.98	18.84	
5	256QAM	12	0	18.89	18.83	18.77	19.5
5	256QAM	12	7	18.91	18.89	18.92	
5	256QAM	12	13	18.96	18.94	18.79	
5	256QAM	25	0	18.93	18.93	18.78	

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_2C	28	25	CA_41A-41C	58	46	CA_41A-41D	
2	CA_5B	26	26	CA_2A-5B		47	CA_4A-4A-5B	
3	CA_7B		27	CA_2A-7A-7A		48	CA_5A-5A-66A-66A	
4	CA_7C	34	28	CA_2C-5A		49	CA_5A-5A-66B	
5	CA_38C		29	CA_4A-4A-5A		50	CA_5A-5A-66C	
6	CA_41C	25	30	CA_4A-4A-7A		51	CA_5A-66A-66C	
7	CA_66B	39	31	CA_4A-4A-71A		52	CA_5A-66A-66B	
8	CA_66C	40	32	CA_4A-5B	47	53	CA_5A-66D	
9	CA_2A-2A		33	CA_4A-7A-7A		54	CA_5B-66A-66A	
10	CA_4A-4A	29	34	CA_4A-7C		55	CA_5B-66B	
11	CA_5A-5A	35	35	CA_5A-5A-66A	48	56	CA_5B-66C	
12	CA_7A-7A	27	36	CA_5A-7A-7A		57	CA_7C-66A-66A	
13	CA_41A-41A	58	37	CA_5A-7C		58	CA_41A-41A-41C	
14	CA_66A-66A	38	38	CA_5A-66A-66A	48	59	CA_5A-7C-66A	
15	CA_2A-5A		39	CA_5A-66B	49			
16	CA_2A-7A	27	40	CA_5A-66C	50			
17	CA_4A-5A	29	41	CA_5B-66A	54			
18	CA_4A-7A	30	42	CA_7A-66A-66A				
19	CA_4A-71A	31	43	CA_7C-66A	57			
20	CA_5A-7A	36	44	CA_2A-4A-7A				
21	CA_5A-38A		45	CA_5A-7A-66A				
22	CA_5A-41A							
23	CA_5A-66A	35						
24	CA_7A-66A	42						

<Power verification when LTE Carrier Aggregation Active>

General Note:

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

<Two Carrier power verification>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		2	20	1900	19100	QPSK	1	0	5	10	881.5	2525	24.02	24.47
		5	10	844	20600	QPSK	1	0	38	20	2595	38000	23.89	24.13
		5	10	844	20600	QPSK	1	0	41	20	2593	40620	23.84	24.13
Intra-Band	Non-Contiguous	2	20	1900	19100	QPSK	1	0	2	5	1932.5	625	24.08	24.47
	Contiguous	7	20	2560	21350	QPSK	1	0	7	20	2660.20	3152	23.76	23.83
		38	20	2610	38150	QPSK	1	0	38	20	2590.20	37952	23.69	23.93

<Three Carrier power verification>

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		5	10	844	20600	QPSK	1	0	5	10	881.5	2525	2	20	1960	900	24.06	24.13
		7	20	2560	21350	QPSK	1	0	7	5	2655	3100	2	20	1960	900	23.77	23.83
		2	20	1900	19100	QPSK	1	0	2	5	1960	900	5	10	881.5	2525	24.22	24.47
		4	20	1745	20300	QPSK	1	0	4	1.4	2132.5	2175	5	10	881.5	2525	23.51	23.59
		4	20	1745	20300	QPSK	1	0	4	1.4	2132.5	2175	7	20	2655	3100	23.35	23.59
		4	20	1745	20300	QPSK	1	0	4	1.4	2132.5	2175	71	20	634.5	68761	23.36	23.59
		7	20	2560	21350	QPSK	1	0	7	5	2655	3100	4	20	2132.5	2175	23.72	23.83
		7	20	2560	21350	QPSK	1	0	7	20	2660.2	3152	4	20	2132.5	2175	23.61	23.83
		7	20	2560	21350	QPSK	1	0	7	5	2655	3100	5	10	881.5	2525	23.71	23.83
		7	20	2560	21350	QPSK	1	0	7	20	2660.2	3152	5	10	881.5	2525	23.62	23.83
		66	20	1770	132572	QPSK	1	0	66	5	2155	66886	7	20	2655	3100	24.13	24.34
		2	20	1900	19100	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	24.35	24.47
		5	10	844	20600	QPSK	1	0	7	20	2655	3100	66	20	2155	66886	23.99	24.13



<Four Carrier power verification>

Configure	PCC						SCC1				SCC2				SCC3				Power		
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	41	20	2636.5	41055	QPSK	1	0	41	20	2656.3	41253	41	20	2676.1	41451	41	20	2593	40620	24.52	24.56
	5	10	844	20600	QPSK	1	0	5	10	879.1	2501	4	20	2145	2300	4	5	2112.5	1975	23.94	24.13
	5	10	844	20600	QPSK	1	0	5	5	871.5	2425	66	20	2170	67036	66	5	2112.5	66461	23.92	24.13
	5	10	844	20600	QPSK	1	0	5	5	871.5	2425	66	15	2192.5	67261	66	5	2112.5	66461	23.93	24.13
	66	20	1770	132572	QPSK	1	0	66	20	2150.2	66838	5	10	881.5	2525	5	5	871.5	2425	24.28	24.34
	66	20	1770	132572	QPSK	1	0	66	20	2150.2	66838	66	20	2155	66886	5	10	881.5	2525	24.07	24.34
	66	20	1770	132572	QPSK	1	0	66	15	2192.5	67261	66	5	2112.5	66461	5	10	881.5	2525	24.18	24.34
	66	20	1770	132572	QPSK	1	0	66	20	2150.2	66838	66	20	2130.4	66640	5	10	881.5	2525	24.23	24.34
	5	10	844	20600	QPSK	1	0	5	5	871.5	2425	66	20	2170	67036	66	20	2150.2	66838	24.08	24.13
	5	10	844	20600	QPSK	1	0	5	5	871.5	2425	66	15	2192.5	67261	66	5	2112.5	66461	23.92	24.13
	5	10	844	20600	QPSK	1	0	5	5	871.5	2425	66	20	2150.2	66838	66	20	2155	66886	24.06	24.13
	7	20	2560	21350	QPSK	1	0	7	20	2660.2	3152	66	20	2170	67036	66	5	2112.5	66461	23.65	23.83
	41	20	2636.5	41055	QPSK	1	0	41	5	2498.5	39675	41	20	2593	40620	41	20	2573.2	40422	24.32	24.56
	7	20	2560	21350	QPSK	1	0	7	20	2660.2	3152	5	10	881.5	2525	66	20	2170	67036	23.70	23.83



<LTE Uplink carrier aggregation>

<Intra-band>

2CC Downlink Carrier Aggregation	
UL_CA	
5B	Ant 4
7C	Ant 12
38C	Ant 6
41C	Ant 6
66B	Ant 2
66C	Ant 2

General Note:

- i. The device supports intra-band uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- ii. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- iii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- iv. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- v. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.



DSI 0

CA_5B_Ant 4										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	23.73	25.2
20575	20476	QPSK	1	0	1	49	2	0	24.58	25.2
20600	20501	QPSK	1	0	1	49	2	0	24.92	25.2

CA_7C_Ant 12										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	23.26	24
21100	20902	QPSK	1	0	1	99	2	0	23.78	24
21350	21152	QPSK	1	0	1	99	2	0	23.99	24

CA_66B_Ant 2										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	23.89	25.2
132322	132229	QPSK	1	0	1	24	2	0	23.98	25.2
132597	132504	QPSK	1	0	1	24	2	0	24.01	25.2

CA_66C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	23.87	25.2
132322	132124	QPSK	1	0	1	99	2	0	24.25	25.2
132572	132374	QPSK	1	0	1	99	2	0	25.09	25.2

CA_38C_ANT6										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	23.45	24.5
37901	38099	QPSK	1	0	0	0	1	0	23.52	24.5
38150	37952	QPSK	1	0	1	99	2	0	23.86	24.5

CA_41C_Ant 6										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	23.03	25
40185	39987	QPSK	1	0	1	99	2	0	23.87	25
40620	40422	QPSK	1	0	1	99	2	0	24.26	25
41055	40857	QPSK	1	0	1	99	2	0	24.45	25
41490	41292	QPSK	1	0	1	99	2	0	24.57	25



CA_41C_HPUE_Ant6										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	25.13	27
40185	39987	QPSK	1	0	1	99	2	0	26.57	27
40620	40422	QPSK	1	0	1	99	2	0	26.96	27
41055	40857	QPSK	1	0	1	99	2	0	26.89	27
41490	41292	QPSK	1	0	1	99	2	0	26.99	27

DSI 1

CA_7C_Ant 12										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	22.66	23.3
21100	20902	QPSK	1	0	1	99	2	0	23.14	23.3
21350	21152	QPSK	1	0	1	99	2	0	23.26	23.3

DSI 3

CA_66B_Ant 2										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	23.31	24.2
132322	132229	QPSK	1	0	1	24	2	0	23.42	24.2
132597	132504	QPSK	1	0	1	24	2	0	23.83	24.2

CA_66C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	23.36	24.2
132322	132124	QPSK	1	0	1	99	2	0	23.76	24.2
132572	132374	QPSK	1	0	1	99	2	0	24.01	24.2

13. 5G NR Output Power (Unit: dBm)

General Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
 - a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
 - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
 - c. To start SAR test for the largest channel bandwidth for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for Pi/2 BPSK SAR testing using 1RB Pi/2 BPSK allocation procedure
 - d. For Pi/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
3. Ant 1/3/5/7/12 dedicated is used for SRS only, different from Tx antennas, then the SAR measurement at Plimit for SRS dedicated antenna(s) can be performed using FTM mode with CW modulation with 100% duty cycle(as SRS operates at very low duty cycle in online mode).
4. Since the 5G NR TDD PC2 and PC3 are using FTA mode for SAR testing and the duty cycle are the same 100% duty cycle, therefore, the SAR testing was selected higher power mode to be tested.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM		≤ 2.5	
CP-OFDM	256 QAM		≤ 4.5	
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM		≤ 3.5	
	256 QAM		≤ 6.5	

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5	≤ 0.5	0
	QPSK	≤ 3.5	≤ 1	0
	16 QAM	≤ 3.5	≤ 2	≤ 1
	64 QAM	≤ 3.5		≤ 2.5
	256 QAM		≤ 4.5	
CP-OFDM	QPSK	≤ 3.5	≤ 3	≤ 1.5
	16 QAM	≤ 3.5	≤ 3	≤ 2
	64 QAM		≤ 3.5	
	256 QAM		≤ 6.5	



DSI 0

<n2 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	24.62	24.63	24.66	
20	PI/2 BPSK	1	53	24.54	24.48	24.61	
20	PI/2 BPSK	1	104	24.51	24.44	24.66	
20	PI/2 BPSK	50	0	23.86	23.82	23.99	24.7
20	PI/2 BPSK	50	28	24.58	24.40	24.56	25.2
20	PI/2 BPSK	50	56	24.00	23.92	24.04	24.7
20	PI/2 BPSK	100	0	23.96	23.94	24.01	
20	QPSK	1	1	24.20	24.05	24.28	
20	QPSK	1	53	24.54	24.44	24.60	25.2
20	QPSK	1	104	24.46	24.35	24.52	
20	QPSK	50	0	23.33	23.26	23.43	
20	QPSK	50	28	24.51	24.46	24.65	24.2
20	QPSK	50	56	23.53	23.44	23.65	25.2
20	QPSK	100	0	23.37	23.29	23.47	
20	QPSK	1	1	23.90	23.81	23.94	
20	16QAM	1	1	22.39	22.34	22.47	24.2
20	64QAM	1	1	20.33	20.24	20.39	22.7
20	256QAM	1	1				20.7
Channel				371500	376000	380500	
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	24.53	24.61	24.64	
Channel				371000	376000	381000	
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	24.52	24.60	24.60	
Channel				370500	376000	381500	
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	24.50	24.50	24.56	

<n5 Ant 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	24.41	24.51	24.38	
20	PI/2 BPSK	1	53	24.33	24.40	24.44	
20	PI/2 BPSK	1	104	24.46	24.44	24.49	
20	PI/2 BPSK	50	0	23.84	23.77	23.98	24.7
20	PI/2 BPSK	50	28	24.47	24.38	24.50	25.2
20	PI/2 BPSK	50	56	24.00	23.89	23.96	24.7
20	PI/2 BPSK	100	0	23.91	23.93	24.00	
20	QPSK	1	1	24.16	23.98	24.27	
20	QPSK	1	53	24.42	24.44	24.43	25.2
20	QPSK	1	104	24.45	24.28	24.50	
20	QPSK	50	0	23.32	23.17	23.43	
20	QPSK	50	28	24.48	24.44	24.42	24.2
20	QPSK	50	56	23.50	23.44	23.58	25.2
20	QPSK	100	0	23.29	23.23	23.44	
20	QPSK	1	1	23.89	23.73	23.92	
20	16QAM	1	1	22.39	22.34	22.44	24.2
20	64QAM	1	1	20.33	20.21	20.33	22.7
20	256QAM	1	1				20.7



Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	24.35	24.46	24.31	25.2
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	24.28	24.37	24.25	25.2
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	24.25	24.33	24.19	25.2

<n7 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.41	23.38	23.48	24.0
20	PI/2 BPSK	1	53	23.14	23.00	23.14	
20	PI/2 BPSK	1	104	23.42	23.36	23.47	
20	PI/2 BPSK	50	0	22.71	22.58	22.80	23.5
20	PI/2 BPSK	50	28	22.99	22.86	23.07	24.0
20	PI/2 BPSK	50	56	23.28	23.13	23.31	23.5
20	PI/2 BPSK	100	0	23.01	22.92	23.07	
20	QPSK	1	1	22.56	22.52	22.62	24.0
20	QPSK	1	53	23.17	23.13	23.26	
20	QPSK	1	104	23.43	23.29	23.20	
20	QPSK	50	0	22.70	22.58	22.88	23.0
20	QPSK	50	28	22.98	22.92	22.97	24.0
20	QPSK	50	56	22.67	22.63	22.80	23.0
20	QPSK	100	0	22.89	22.82	22.96	
20	16QAM	1	1	22.32	22.22	22.45	23.0
20	64QAM	1	1	20.90	20.90	21.05	21.5
20	256QAM	1	1	18.75	18.75	18.81	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.42	23.33	23.44	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.42	23.25	23.41	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.36	23.22	23.38	24.0



<n7 Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.77	23.82	23.91	
20	PI/2 BPSK	1	53	23.47	23.65	23.72	
20	PI/2 BPSK	1	104	23.51	23.74	23.88	
20	PI/2 BPSK	50	0	23.05	23.27	23.31	23.5
20	PI/2 BPSK	50	28	23.08	23.11	23.22	24.0
20	PI/2 BPSK	50	56	23.23	23.33	23.47	23.5
20	PI/2 BPSK	100	0	23.10	23.20	23.37	
20	QPSK	1	1	23.64	23.78	23.84	24.0
20	QPSK	1	53	23.57	23.78	23.86	
20	QPSK	1	104	23.62	23.71	23.84	
20	QPSK	50	0	22.65	22.82	22.87	23.0
20	QPSK	50	28	23.14	23.31	23.44	24.0
20	QPSK	50	56	22.79	22.82	22.98	23.0
20	QPSK	100	0	22.54	22.81	22.83	
20	16QAM	1	1	22.72	22.74	22.86	23.5
20	64QAM	1	1	21.02	21.18	21.19	21.5
20	256QAM	1	1	18.09	18.29	18.24	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.66	23.73	23.85	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.68	23.80	23.89	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.70	23.77	23.89	24.0

<n38 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	24.25	24.09	24.27	
20	PI/2 BPSK	1	26	24.19	24.03	24.17	
20	PI/2 BPSK	1	49	24.16	24.05	24.24	
20	PI/2 BPSK	25	0	23.96	23.91	23.99	24.0
20	PI/2 BPSK	25	13	23.91	23.93	23.98	24.5
20	PI/2 BPSK	25	26	23.86	23.82	23.94	24.0
20	PI/2 BPSK	50	0	23.50	23.37	23.61	
20	QPSK	1	1	24.00	23.91	24.02	24.5
20	QPSK	1	26	24.17	24.06	24.23	
20	QPSK	1	49	24.22	24.10	24.23	
20	QPSK	25	0	23.02	22.94	23.03	24.5
20	QPSK	25	13	24.01	23.88	24.05	
20	QPSK	25	26	24.00	23.92	24.10	
20	QPSK	50	0	22.94	22.84	23.05	23.5
20	16QAM	1	1	23.09	23.02	23.17	23.5
20	64QAM	1	1	21.42	21.40	21.48	22.0
20	256QAM	1	1	19.57	19.50	19.67	20.0



<n41 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	Tune-up limit (dBm)
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	24.53	24.49	24.56	25.0
100	PI/2 BPSK	1	137	24.03	23.98	23.99	
100	PI/2 BPSK	1	271	24.21	24.22	24.20	
100	PI/2 BPSK	135	0	24.02	23.99	24.05	24.5
100	PI/2 BPSK	135	69	23.92	23.95	23.90	25.0
100	PI/2 BPSK	135	138	23.96	23.97	23.94	24.5
100	PI/2 BPSK	270	0	23.89	23.86	23.82	
100	QPSK	1	1	24.17	24.14	24.21	25.0
100	QPSK	1	137	24.10	24.04	24.05	
100	QPSK	1	271	24.28	24.28	24.30	
100	QPSK	135	0	23.97	24.03	23.98	25.0
100	QPSK	135	69	23.95	23.89	23.88	
100	QPSK	135	138	23.88	23.89	23.88	
100	QPSK	270	0	23.86	23.82	23.79	24.0
100	16QAM	1	1	23.68	23.66	23.65	24.0
100	64QAM	1	1	22.26	22.27	22.27	22.5
100	256QAM	1	1	21.51	21.52	21.57	22.0
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	24.51	24.47	24.49	25.0
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	24.50	24.41	24.53	25.0
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	24.50	24.39	24.43	25.0
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	24.41	24.35	24.35	25.0
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	24.45	24.42	24.47	25.0
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	24.36	24.42	24.40	25.0
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	24.35	24.33	24.36	25.0



<n41 HPUE Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	27.0
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	26.51	26.47	26.63	27.0
100	PI/2 BPSK	1	137	26.03	25.92	25.89	
100	PI/2 BPSK	1	271	26.15	26.21	26.19	
100	PI/2 BPSK	135	0	25.93	25.94	26.00	26.5
100	PI/2 BPSK	135	69	25.92	25.90	25.84	27.0
100	PI/2 BPSK	135	138	25.89	25.96	25.91	26.5
100	PI/2 BPSK	270	0	25.88	25.86	25.73	
100	QPSK	1	1	26.12	26.13	26.16	27.0
100	QPSK	1	137	26.06	25.98	26.02	
100	QPSK	1	271	26.22	26.25	26.23	
100	QPSK	135	0	25.87	25.93	25.88	27.0
100	QPSK	135	69	25.95	25.82	25.84	
100	QPSK	135	138	25.85	25.79	25.88	
100	QPSK	270	0	25.78	25.74	25.79	26.0
100	16QAM	1	1	25.68	25.57	25.58	26.0
100	64QAM	1	1	24.25	24.23	24.22	24.5
100	256QAM	1	1	23.48	23.43	23.49	24.0
Channel				508200	518598	528996	27.0
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	26.49	26.48	26.32	27.0
Channel				507204	518598	529998	27.0
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	26.16	26.23	26.18	27.0
Channel				505200	518598	531996	27.0
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	26.19	26.15	26.23	27.0
Channel				504204	518598	532998	27.0
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	26.02	26.21	26.22	27.0
Channel				503202	518598	534000	27.0
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	26.04	26.03	26.08	27.0
Channel				502200	518598	534996	27.0
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	26.14	26.17	26.13	27.0
Channel				501204	518598	535998	27.0
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	26.43	26.40	26.57	27.0



<n41 HPUE Ant 1>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	27.0
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	25.51	26.00	26.17	

<n41 HPUE Ant 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	27.0
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	25.96	26.12	26.25	

<n66 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	25.2
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	24.32	24.23	24.44	
40	PI/2 BPSK	1	108	23.76	23.62	23.80	24.7
40	PI/2 BPSK	1	214	24.32	24.26	24.43	
40	PI/2 BPSK	108	0	23.23	23.15	23.24	
40	PI/2 BPSK	108	54	23.85	23.78	23.91	25.2
40	PI/2 BPSK	108	108	23.50	23.48	23.59	
40	PI/2 BPSK	216	0	23.34	23.30	23.47	
40	QPSK	1	1	23.95	23.80	23.96	24.7
40	QPSK	1	108	24.07	23.98	24.11	
40	QPSK	1	214	24.19	24.10	24.32	
40	QPSK	108	0	22.68	22.63	22.77	25.2
40	QPSK	108	54	23.82	23.81	23.91	
40	QPSK	108	108	23.54	23.42	23.56	
40	QPSK	216	0	22.85	22.80	22.93	24.2
40	16QAM	1	1	22.81	22.72	22.97	
40	64QAM	1	1	21.37	21.30	21.48	
40	256QAM	1	1	19.79	19.69	19.83	20.7
Channel				344000	349000	354000	25.2
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	24.29	24.18	24.43	
20	PI/2 BPSK	1	53	23.73	23.58	23.78	24.7
20	PI/2 BPSK	1	104	24.29	24.18	24.43	
20	PI/2 BPSK	50	0	23.22	23.08	23.19	
20	PI/2 BPSK	50	28	23.83	23.78	23.90	25.2
20	PI/2 BPSK	50	56	23.42	23.38	23.50	
20	PI/2 BPSK	100	0	23.26	23.22	23.42	
20	QPSK	1	1	23.86	23.80	23.94	24.7
20	QPSK	1	53	24.00	23.93	24.11	
20	QPSK	1	104	24.18	24.01	24.24	
20	QPSK	50	0	22.67	22.55	22.71	25.2
20	QPSK	50	28	23.81	23.74	23.82	
20	QPSK	50	56	23.54	23.37	23.49	
20	QPSK	100	0	22.80	22.78	22.83	24.2
20	16QAM	1	1	22.81	22.62	22.90	
20	64QAM	1	1	21.32	21.28	21.43	



20	256QAM	1	1	19.72	19.62	19.75	20.7
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	24.08	24.11	24.37	25.2
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.99	24.11	24.37	25.2
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.96	24.04	24.33	25.2

<n71 Ant 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	24.59	24.67	24.57	24.7
20	PI/2 BPSK	1	53	24.11	24.22	24.37	
20	PI/2 BPSK	1	104	24.17	24.38	24.42	
20	PI/2 BPSK	50	0	23.46	23.53	23.70	24.2
20	PI/2 BPSK	50	28	24.23	24.26	24.46	24.7
20	PI/2 BPSK	50	56	23.64	23.77	23.83	24.2
20	PI/2 BPSK	100	0	23.59	23.73	23.76	
20	QPSK	1	1	23.90	23.97	24.13	24.7
20	QPSK	1	53	24.23	24.36	24.42	
20	QPSK	1	104	24.42	24.47	24.57	
20	QPSK	50	0	22.87	23.04	23.14	23.7
20	QPSK	50	28	24.20	24.25	24.45	24.7
20	QPSK	50	56	23.15	23.24	23.35	23.7
20	QPSK	100	0	23.04	23.22	23.25	
20	16QAM	1	1	23.24	23.39	23.49	23.7
20	64QAM	1	1	21.61	21.84	21.88	22.2
20	256QAM	1	1	19.57	19.71	19.81	20.2
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	24.57	24.61	24.53	24.7
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	24.62	24.66	24.53	24.7
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	24.58	24.52	24.55	24.7



DSI 1

<n38 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	24.25	24.09	24.27	
20	PI/2 BPSK	1	26	24.19	24.03	24.17	24.5
20	PI/2 BPSK	1	49	24.16	24.05	24.24	
20	PI/2 BPSK	25	0	23.96	23.91	23.99	
20	PI/2 BPSK	25	13	23.91	23.93	23.98	24.5
20	PI/2 BPSK	25	26	23.86	23.82	23.94	24.0
20	PI/2 BPSK	50	0	23.50	23.37	23.61	
20	QPSK	1	1	24.00	23.91	24.02	
20	QPSK	1	26	24.17	24.06	24.23	24.5
20	QPSK	1	49	24.22	24.10	24.23	
20	QPSK	25	0	23.02	22.94	23.03	
20	QPSK	25	13	24.01	23.88	24.05	24.5
20	QPSK	25	26	24.00	23.92	24.10	
20	QPSK	50	0	22.94	22.84	23.05	
20	16QAM	1	1	23.09	23.02	23.17	23.5
20	64QAM	1	1	21.42	21.40	21.48	22.0
20	256QAM	1	1	19.57	19.50	19.67	20.0

<n41 HPUE Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	25.94	25.90	26.05	
100	PI/2 BPSK	1	137	25.51	25.37	25.37	26.2
100	PI/2 BPSK	1	271	25.61	25.63	25.63	
100	PI/2 BPSK	135	0	25.42	25.34	25.42	
100	PI/2 BPSK	135	69	25.33	25.35	25.32	26.2
100	PI/2 BPSK	135	138	25.38	25.43	25.33	26.2
100	PI/2 BPSK	270	0	25.38	25.27	25.18	
100	QPSK	1	1	25.62	25.56	25.59	
100	QPSK	1	137	25.50	25.48	25.49	26.2
100	QPSK	1	271	25.68	25.66	25.64	
100	QPSK	135	0	25.36	25.39	25.33	
100	QPSK	135	69	25.35	25.30	25.29	26.2
100	QPSK	135	138	25.27	25.23	25.36	
100	QPSK	270	0	25.20	25.16	25.19	
100	16QAM	1	1	25.18	25.02	25.03	26.0
100	64QAM	1	1	23.67	23.65	23.67	24.5
100	256QAM	1	1	22.08	22.09	22.18	22.5
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	25.86	25.89	25.95	
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	25.94	25.86	25.99	
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	



60	PI/2 BPSK	1	1	25.88	25.88	25.98	26.2
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	25.93	25.82	25.95	26.2
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	25.91	25.86	26.04	26.2
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	25.89	25.88	25.97	26.2
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	25.89	25.87	26.01	26.2

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	Tune-up limit (dBm)
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	25.01	25.38	25.31	25.9

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	21.79	22.30	22.28	22.5
100	PI/2 BPSK	1	137	22.02	22.28	22.24	
100	PI/2 BPSK	1	271	21.78	22.22	22.18	
100	PI/2 BPSK	135	0	21.83	22.04	22.23	22.5
100	PI/2 BPSK	135	69	21.84	22.29	22.28	22.5
100	PI/2 BPSK	135	138	21.74	22.21	22.16	22.5
100	PI/2 BPSK	270	0	21.76	22.14	22.18	
100	QPSK	1	1	21.68	21.73	22.21	22.5
100	QPSK	1	137	21.87	22.28	22.16	
100	QPSK	1	271	21.63	22.27	22.14	
100	QPSK	135	0	21.72	22.02	22.26	22.5
100	QPSK	135	69	21.85	22.24	22.16	
100	QPSK	135	138	21.72	22.29	22.17	
100	QPSK	270	0	21.72	22.13	22.21	22.5
100	16QAM	1	1	21.58	21.69	22.13	22.0
100	64QAM	1	1	21.45	21.52	21.97	22.0
100	256QAM	1	1	21.56	21.50	21.32	22.0
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	21.85	22.10	22.21	22.5
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	21.74	22.06	22.28	22.5
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	21.89	21.96	22.15	22.5
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	21.79	22.14	22.28	22.5



Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	21.81	21.98	22.24	22.5
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	21.80	22.10	22.18	22.5
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	21.90	22.01	22.17	22.5
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	21.76	21.96	22.27	22.5

<n77/78 Par 27Q HPUE Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		Tune-up limit (dBm)
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		22.25		22.5
100	PI/2 BPSK	1	137		22.24		
100	PI/2 BPSK	1	271		22.21		
100	PI/2 BPSK	135	0		22.05		22.5
100	PI/2 BPSK	135	69		22.04		22.5
100	PI/2 BPSK	135	138		22.15		22.5
100	PI/2 BPSK	270	0		22.12		
100	QPSK	1	1		22.02		22.5
100	QPSK	1	137		22.06		
100	QPSK	1	271		22.13		
100	QPSK	135	0		22.01		22.5
100	QPSK	135	69		22.03		
100	QPSK	135	138		22.04		
100	QPSK	270	0		22.02		22.5
100	16QAM	1	1		21.93		22.0
100	64QAM	1	1		21.77		22.0
100	256QAM	1	1		21.39		22.0
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	22.15	21.93	22.05	22.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	22.23	22.00	22.13	22.5
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	22.23	21.95	22.06	22.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	22.06	21.90	21.98	22.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	22.10	22.00	22.13	22.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	21.98	22.06	21.93	22.5
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	22.09	22.23	21.99	22.5



Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	22.23	21.90	22.13	22.5

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	22.0
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	21.50	21.94	21.90	22.0
100	PI/2 BPSK	1	137	21.42	21.88	21.79	
100	PI/2 BPSK	1	271	21.22	21.81	21.72	
100	PI/2 BPSK	135	0	21.35	21.95	21.66	22.0
100	PI/2 BPSK	135	69	21.41	21.98	21.77	22.0
100	PI/2 BPSK	135	138	21.17	21.91	21.76	22.0
100	PI/2 BPSK	270	0	21.31	21.88	21.75	
100	QPSK	1	1	21.34	21.65	21.61	
100	QPSK	1	137	21.32	21.89	21.76	22.0
100	QPSK	1	271	21.04	21.47	21.43	
100	QPSK	135	0	21.39	21.55	21.65	
100	QPSK	135	69	21.24	21.73	21.68	22.0
100	QPSK	135	138	21.15	21.72	21.55	
100	QPSK	270	0	21.21	21.64	21.76	
100	16QAM	1	1	21.34	21.58	21.50	22.0
100	64QAM	1	1	21.28	21.40	21.31	22.0
100	256QAM	1	1	20.79	20.98	20.67	22.0
Channel				649668	656000	662332	22.0
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	21.43	21.91	21.90	22.0
Channel				649334	656000	662666	22.0
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	21.36	21.90	21.70	22.0
Channel				649000	656000	663000	22.0
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	21.40	21.89	21.60	22.0
Channel				648668	656000	663332	22.0
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	21.25	21.92	21.62	22.0
Channel				648334	656000	663666	22.0
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	21.30	21.88	21.57	22.0
Channel				648000	656000	664000	22.0
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	21.36	21.85	21.58	22.0
Channel				647668	656000	664332	22.0
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	21.26	21.89	21.61	22.0
Channel				647334	656000	664666	22.0
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	21.38	21.95	21.57	22.0



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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		22.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		21.88		22.0
100	PI/2 BPSK	1	137		21.68		
100	PI/2 BPSK	1	271		21.57		
100	PI/2 BPSK	135	0		21.56		22.0
100	PI/2 BPSK	135	69		21.68		22.0
100	PI/2 BPSK	135	138		21.67		22.0
100	PI/2 BPSK	270	0		21.69		
100	QPSK	1	1		21.50		22.0
100	QPSK	1	137		21.63		
100	QPSK	1	271		21.80		
100	QPSK	135	0		21.57		22.0
100	QPSK	135	69		21.65		
100	QPSK	135	138		21.64		
100	QPSK	270	0		21.65		22.0
100	16QAM	1	1		21.45		22.0
100	64QAM	1	1		21.20		22.0
100	256QAM	1	1		20.53		22.0
Channel				633000	633332	633666	22.0
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	21.73	21.78	21.61	22.0
Channel				632668	633332	634000	22.0
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	21.64	21.72	21.66	22.0
Channel				632334	633332	634332	22.0
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	21.65	21.75	21.65	22.0
Channel				632000	633332	634666	22.0
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	21.66	21.75	21.61	22.0
Channel				631668	633332	635000	22.0
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	21.72	21.72	21.67	22.0
Channel				631334	633332	635332	22.0
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	21.66	21.82	21.65	22.0
Channel				631000	633332	635666	22.0
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	21.71	21.87	21.62	22.0
Channel				630668	633332	636000	22.0
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	21.81	21.79	21.57	22.0



<n77 Par27O Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	22.2
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	21.23	22.20	22.19	

<n77 Par27Q Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		22.2
Frequency (MHz)					3499.98		
100	CW	-	-		21.58		

<n77 Par27O Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	16.8
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	16.00	16.04	16.02	

<n77 Par27Q Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		16.8
Frequency (MHz)					3499.98		
100	CW	-	-		16.32		

<n78 Part27O HPUE Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		22.5
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		22.49		
100	PI/2 BPSK	1	137		22.39		22.5
100	PI/2 BPSK	1	271		22.05		
100	PI/2 BPSK	135	0		22.09		
100	PI/2 BPSK	135	69		22.23		22.5
100	PI/2 BPSK	135	138		22.34		
100	PI/2 BPSK	270	0		22.32		
100	QPSK	1	1		21.79		22.5
100	QPSK	1	137		22.33		
100	QPSK	1	271		22.43		
100	QPSK	135	0		22.11		22.5
100	QPSK	135	69		22.30		
100	QPSK	135	138		22.38		
100	QPSK	270	0		22.27		22.5
100	16QAM	1	1		21.72		
100	64QAM	1	1		21.61		
100	256QAM	1	1		20.69		22.5
Channel				649668	650000	650332	
Frequency (MHz)				3745.02	3750	3754.98	



90	PI/2 BPSK	1	1	22.39	22.40	22.34	22.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	22.31	22.47	22.38	22.5
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	22.35	22.34	22.24	22.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	22.36	22.42	22.36	22.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	22.31	22.44	22.31	22.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	22.34	22.36	22.24	22.5
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	22.32	22.45	22.40	22.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	22.37	22.43	22.31	22.5

<n78 Part270 HPUE Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		22.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		21.92		22.0
100	PI/2 BPSK	1	137		21.77		
100	PI/2 BPSK	1	271		21.88		
100	PI/2 BPSK	135	0		21.85		22.0
100	PI/2 BPSK	135	69		21.90		22.0
100	PI/2 BPSK	135	138		21.85		22.0
100	PI/2 BPSK	270	0		21.89		
100	QPSK	1	1		21.74		22.0
100	QPSK	1	137		21.88		
100	QPSK	1	271		21.90		
100	QPSK	135	0		21.87		22.0
100	QPSK	135	69		21.87		
100	QPSK	135	138		21.89		
100	QPSK	270	0		21.90		22.0
100	16QAM	1	1		21.59		22.0
100	64QAM	1	1		20.73		22.0
100	256QAM	1	1		21.07		22.0
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	21.82	21.79	21.79	22.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	21.90	21.74	21.88	22.0
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	21.76	21.69	21.70	22.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	



60	PI/2 BPSK	1	1	21.88	21.85	21.85	22.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	21.91	21.75	21.82	22.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	21.80	21.73	21.75	22.0
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	21.90	21.78	21.71	22.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	21.76	21.73	21.72	22.0

<n78 Part270 Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	CW	-	-		21.24		22.2

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	CW	-	-		16.23		16.8



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<n41 HPUE Ant 1>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	21.4
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	21.19	21.21	21.30	

<n41 HPUE Ant 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	23.1
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	23.01	23.08	23.10	

<n41 Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.5
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	24.12	24.30	24.18	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	16.0
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	15.49	15.95	15.93	
100	PI/2 BPSK	1	137	15.36	15.87	15.86	16.0
100	PI/2 BPSK	1	271	15.19	15.88	15.72	
100	PI/2 BPSK	135	0	15.37	15.61	15.81	
100	PI/2 BPSK	135	69	15.38	15.92	15.86	16.0
100	PI/2 BPSK	135	138	15.24	15.84	15.73	
100	PI/2 BPSK	270	0	15.39	15.77	15.80	
100	QPSK	1	1	15.23	15.81	15.76	16.0
100	QPSK	1	137	15.41	15.81	15.87	
100	QPSK	1	271	15.16	15.79	15.67	
100	QPSK	135	0	15.39	15.61	15.81	16.0
100	QPSK	135	69	15.38	15.79	15.80	
100	QPSK	135	138	15.22	15.83	15.70	
100	QPSK	270	0	15.34	15.79	15.83	16.0
100	16QAM	1	1	15.13	15.74	15.73	
100	64QAM	1	1	14.96	15.53	15.50	
100	256QAM	1	1	15.06	15.69	15.62	16.0
Channel				649668	656000	662332	
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	15.32	15.85	15.84	16.0
Channel				649334	656000	662666	
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	15.35	15.76	15.77	16.0
Channel				649000	656000	663000	
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	15.48	15.90	15.89	16.0
Channel				648668	656000	663332	



Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	15.34	15.78	15.84	16.0
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	15.34	15.86	15.90	16.0
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	15.39	15.92	15.89	16.0
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	15.45	15.86	15.77	16.0
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	15.43	15.82	15.82	16.0

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		16.0
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		15.64		16.0
100	PI/2 BPSK	1	137		15.51		
100	PI/2 BPSK	1	271		15.63		
100	PI/2 BPSK	135	0		15.63		16.0
100	PI/2 BPSK	135	69		15.78		16.0
100	PI/2 BPSK	135	138		15.65		16.0
100	PI/2 BPSK	270	0		15.73		
100	QPSK	1	1		15.57		16.0
100	QPSK	1	137		15.68		
100	QPSK	1	271		15.66		
100	QPSK	135	0		15.71		16.0
100	QPSK	135	69		15.73		
100	QPSK	135	138		15.74		
100	QPSK	270	0		15.76		15.0
100	16QAM	1	1		15.66		15.0
100	64QAM	1	1		15.39		14.5
100	256QAM	1	1		15.44		13.5
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	15.53	15.44	15.58	16.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	15.39	15.28	15.48	16.0
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	15.51	15.42	15.56	16.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	15.34	15.36	15.45	16.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	15.46	15.39	15.54	16.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	15.36	15.33	15.46	16.0



Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	15.50	15.29	15.57	16.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	15.39	15.31	15.54	16.0

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	17.88	18.66	18.82	19.2
100	PI/2 BPSK	1	137	17.73	18.64	18.75	
100	PI/2 BPSK	1	271	17.55	18.00	18.67	
100	PI/2 BPSK	135	0	17.66	18.36	18.74	19.2
100	PI/2 BPSK	135	69	17.75	18.55	18.75	19.2
100	PI/2 BPSK	135	138	17.46	18.51	18.73	19.2
100	PI/2 BPSK	270	0	17.61	18.45	18.78	
100	QPSK	1	1	17.75	18.62	18.62	19.2
100	QPSK	1	137	17.60	18.60	18.73	
100	QPSK	1	271	17.49	17.99	18.77	
100	QPSK	135	0	17.79	18.35	18.78	19.2
100	QPSK	135	69	17.64	18.55	18.74	
100	QPSK	135	138	17.51	18.57	18.71	
100	QPSK	270	0	17.56	18.44	18.79	19.2
100	16QAM	1	1	17.75	17.95	18.66	19.2
100	64QAM	1	1	17.64	17.92	18.65	19.2
100	256QAM	1	1	17.92	17.90	18.08	19.2
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	17.81	18.59	18.70	19.2
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	17.85	18.59	18.78	19.2
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	17.88	18.65	18.79	19.2
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	17.81	18.65	18.80	19.2
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	17.82	18.64	18.79	19.2
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	17.84	18.59	18.78	19.2
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	17.80	18.58	18.75	19.2
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	17.87	18.63	18.78	19.2



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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		19.2
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		18.31		19.2
100	PI/2 BPSK	1	137		17.96		
100	PI/2 BPSK	1	271		17.97		
100	PI/2 BPSK	135	0		17.80		19.2
100	PI/2 BPSK	135	69		18.13		19.2
100	PI/2 BPSK	135	138		17.81		19.2
100	PI/2 BPSK	270	0		17.85		
100	QPSK	1	1		17.89		19.2
100	QPSK	1	137		17.86		
100	QPSK	1	271		17.72		
100	QPSK	135	0		17.90		19.2
100	QPSK	135	69		17.96		
100	QPSK	135	138		17.92		
100	QPSK	270	0		17.92		19.2
100	16QAM	1	1		17.65		19.2
100	64QAM	1	1		17.80		19.2
100	256QAM	1	1		17.73		19.2
Channel				633000	633332	633666	19.2
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	17.96	18.06	17.93	19.2
Channel				632668	633332	634000	19.2
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	17.91	18.01	17.94	19.2
Channel				632334	633332	634332	19.2
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	17.99	17.98	18.00	19.2
Channel				632000	633332	634666	19.2
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	17.99	18.00	17.99	19.2
Channel				631668	633332	635000	19.2
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	18.01	18.05	17.93	19.2
Channel				631334	633332	635332	19.2
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	17.94	18.03	17.98	19.2
Channel				631000	633332	635666	19.2
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	18.01	18.06	17.96	19.2
Channel				630668	633332	636000	19.2
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	17.94	17.98	17.92	19.2



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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	19.8
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	19.47	19.78	19.55	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		19.8
Frequency (MHz)					3499.98		
100	CW	-	-		19.01		

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	15.9
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	15.46	15.70	15.69	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		15.9
Frequency (MHz)					3499.98		
100	CW	-	-		15.43		

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		16.0
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		15.92		
100	PI/2 BPSK	1	137		15.88		16.0
100	PI/2 BPSK	1	271		15.66		
100	PI/2 BPSK	135	0		15.87		
100	PI/2 BPSK	135	69		15.91		16.0
100	PI/2 BPSK	135	138		15.89		
100	PI/2 BPSK	270	0		15.83		
100	QPSK	1	1		15.63		16.0
100	QPSK	1	137		15.88		
100	QPSK	1	271		15.90		
100	QPSK	135	0		15.89		16.0
100	QPSK	135	69		15.81		
100	QPSK	135	138		15.91		
100	QPSK	270	0		15.78		15.0
100	16QAM	1	1		15.59		15.0
100	64QAM	1	1		15.38		13.5
100	256QAM	1	1		15.49		11.5
Channel				649668	650000	650332	16.0
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	15.85	15.78	15.84	



Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	15.74	15.61	15.67	16.0
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	15.77	15.65	15.64	16.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	15.84	15.77	15.70	16.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	15.65	15.71	15.66	16.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	15.71	15.66	15.76	16.0
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	15.75	15.60	15.79	16.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	15.66	15.76	15.67	16.0

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		18.62		19.2
100	PI/2 BPSK	1	137		18.33		
100	PI/2 BPSK	1	271		18.15		
100	PI/2 BPSK	135	0		18.09		19.2
100	PI/2 BPSK	135	69		18.24		19.2
100	PI/2 BPSK	135	138		18.28		19.2
100	PI/2 BPSK	270	0		18.23		
100	QPSK	1	1		18.34		19.2
100	QPSK	1	137		18.35		
100	QPSK	1	271		18.03		
100	QPSK	135	0		18.18		19.2
100	QPSK	135	69		18.25		
100	QPSK	135	138		18.22		
100	QPSK	270	0		18.16		19.2
100	16QAM	1	1		17.93		19.2
100	64QAM	1	1		17.97		19.2
100	256QAM	1	1		18.12		19.2
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	18.53	18.57	18.51	19.2
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	18.53	18.50	18.51	19.2
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	18.48	18.60	18.48	19.2
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	18.48	18.61	18.51	19.2



Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	18.52	18.57	18.50	19.2
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	18.51	18.22	18.51	19.2
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	18.48	18.57	18.50	19.2
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	18.52	18.60	18.44	19.2

<n78 Part270 Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	CW	-	-		19.47		19.8

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	CW	-	-		15.19		15.9



DSI 3

<n2 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	22.78	23.33	23.27	
20	PI/2 BPSK	1	53	22.50	23.23	23.24	
20	PI/2 BPSK	1	104	22.47	22.91	23.25	
20	PI/2 BPSK	50	0	22.43	23.22	23.07	23.9
20	PI/2 BPSK	50	28	22.58	23.26	23.25	24.4
20	PI/2 BPSK	50	56	22.44	23.20	23.23	23.9
20	PI/2 BPSK	100	0	22.57	23.22	23.28	
20	QPSK	1	1	22.54	22.96	23.24	24.4
20	QPSK	1	53	22.51	23.26	23.23	
20	QPSK	1	104	22.75	23.24	23.28	
20	QPSK	50	0	22.49	23.10	23.24	23.4
20	QPSK	50	28	22.56	23.28	23.30	24.4
20	QPSK	50	56	22.53	23.24	23.25	23.4
20	QPSK	100	0	22.66	23.23	23.21	
20	16QAM	1	1	22.40	22.79	23.00	23.4
20	64QAM	1	1	20.65	21.03	21.43	21.9
20	256QAM	1	1	18.95	19.24	19.64	19.9
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	22.68	23.02	23.25	24.4
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	22.74	23.20	23.28	24.4
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	22.75	23.23	23.30	24.4

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	22.71	23.05	23.05	
20	PI/2 BPSK	1	53	22.44	23.02	23.02	
20	PI/2 BPSK	1	104	23.02	22.41	23.10	
20	PI/2 BPSK	50	0	22.39	22.56	23.09	23.2
20	PI/2 BPSK	50	28	22.37	23.04	23.09	23.2
20	PI/2 BPSK	50	56	22.66	22.84	23.07	23.2
20	PI/2 BPSK	100	0	22.54	22.83	23.02	
20	QPSK	1	1	22.62	22.42	22.91	23.2
20	QPSK	1	53	22.51	22.92	23.02	
20	QPSK	1	104	22.86	22.90	22.99	
20	QPSK	50	0	22.46	22.60	22.99	23.2
20	QPSK	50	28	22.46	22.88	23.07	23.2
20	QPSK	50	56	22.69	22.88	23.02	23.2
20	QPSK	100	0	22.48	22.93	22.97	
20	16QAM	1	1	22.60	22.46	22.78	23.2
20	64QAM	1	1	21.71	21.48	21.98	22.2
20	256QAM	1	1	19.99	19.77	20.07	20.2



Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	22.70	23.06	23.08	23.2
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	22.62	23.00	23.03	23.2
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	22.69	23.09	23.03	23.2

<n38 Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	20.24	20.29	20.23	21.9
20	PI/2 BPSK	1	26	20.21	20.18	20.24	
20	PI/2 BPSK	1	49	20.27	20.23	20.23	
20	PI/2 BPSK	25	0	20.15	20.12	20.21	21.9
20	PI/2 BPSK	25	13	20.23	20.24	20.18	21.9
20	PI/2 BPSK	25	26	20.18	20.22	20.17	21.9
20	PI/2 BPSK	50	0	20.17	20.13	20.21	
20	QPSK	1	1	20.22	20.22	20.24	21.9
20	QPSK	1	26	20.14	20.16	20.26	
20	QPSK	1	49	20.21	20.24	20.23	
20	QPSK	25	0	20.16	20.23	20.20	21.9
20	QPSK	25	13	20.14	20.14	20.19	
20	QPSK	25	26	20.22	20.18	20.24	
20	QPSK	50	0	20.20	20.15	20.23	21.9
20	16QAM	1	1	20.22	20.19	20.22	21.4
20	64QAM	1	1	20.14	20.13	20.20	21.4
20	256QAM	1	1	19.02	19.09	19.05	19.9

<n41 HPUE Ant 6>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	20.12	20.46	20.42	21.9
100	PI/2 BPSK	1	137	19.96	20.35	20.43	
100	PI/2 BPSK	1	271	20.14	20.38	20.36	
100	PI/2 BPSK	135	0	20.04	20.22	20.32	21.9
100	PI/2 BPSK	135	69	19.97	20.38	20.34	21.9
100	PI/2 BPSK	135	138	20.20	20.28	20.29	21.9
100	PI/2 BPSK	270	0	20.01	20.31	20.42	
100	QPSK	1	1	19.92	20.33	20.21	21.9
100	QPSK	1	137	20.16	20.18	20.35	
100	QPSK	1	271	20.06	20.41	20.37	
100	QPSK	135	0	20.00	20.18	20.34	21.9
100	QPSK	135	69	20.10	20.26	20.34	
100	QPSK	135	138	20.23	20.33	20.42	
100	QPSK	270	0	19.96	20.30	20.43	21.9
100	16QAM	1	1	19.55	20.21	20.15	21.4
100	64QAM	1	1	19.53	20.22	20.17	21.4
100	256QAM	1	1	19.17	19.86	19.79	19.9



Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	20.04	20.29	20.40	21.9
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	20.07	20.45	20.34	21.9
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	20.07	20.37	20.40	21.9
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	20.06	20.30	20.26	21.9
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	20.05	20.37	20.42	21.9
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	20.04	20.43	20.40	21.9
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	20.08	20.33	20.34	21.9

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	23.89	24.02	24.23	24.4

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	24.03	24.18	24.32	24.5

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	CW	-	-	23.02	23.78	23.64	24.5

<n66 Ant 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				346000	349000	352000		
Frequency (MHz)				1730	1745	1760		
40	PI/2 BPSK	1	1	24.32	24.23	24.44	24.7	0.0
40	PI/2 BPSK	1	108	23.76	23.62	23.80		
40	PI/2 BPSK	1	214	24.32	24.26	24.43		
40	PI/2 BPSK	108	0	23.23	23.15	23.24	24.2	0.5
40	PI/2 BPSK	108	54	23.85	23.78	23.91	24.7	0.0
40	PI/2 BPSK	108	108	23.50	23.48	23.59	24.2	0.5



40	PI/2 BPSK	216	0	23.34	23.30	23.47		
40	QPSK	1	1	23.95	23.80	23.96	24.7	0.0
40	QPSK	1	108	24.07	23.98	24.11		
40	QPSK	1	214	24.19	24.10	24.32		
40	QPSK	108	0	22.68	22.63	22.77	23.7	1.0
40	QPSK	108	54	23.82	23.81	23.91	24.7	0.0
40	QPSK	108	108	23.54	23.42	23.56	23.7	1.0
40	QPSK	216	0	22.85	22.80	22.93		
40	16QAM	1	1	22.81	22.72	22.97	23.7	1.0
40	64QAM	1	1	21.37	21.30	21.48	22.2	2.5
40	256QAM	1	1	19.79	19.69	19.83	20.2	4.5
Channel				344000	349000	354000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1720	1745	1770		
20	PI/2 BPSK	1	1	24.29	24.18	24.43	24.7	0.0
20	PI/2 BPSK	1	53	23.73	23.58	23.78		
20	PI/2 BPSK	1	104	24.29	24.18	24.43		
20	PI/2 BPSK	50	0	23.22	23.08	23.19	24.2	0.5
20	PI/2 BPSK	50	28	23.83	23.78	23.90	24.7	0.0
20	PI/2 BPSK	50	56	23.42	23.38	23.50	24.2	0.5
20	PI/2 BPSK	100	0	23.26	23.22	23.42		
20	QPSK	1	1	23.86	23.80	23.94	24.7	0.0
20	QPSK	1	53	24.00	23.93	24.11		
20	QPSK	1	104	24.18	24.01	24.24		
20	QPSK	50	0	22.67	22.55	22.71	23.7	1.0
20	QPSK	50	28	23.81	23.74	23.82	24.7	0.0
20	QPSK	50	56	23.54	23.37	23.49	23.7	1.0
20	QPSK	100	0	22.80	22.78	22.83		
20	16QAM	1	1	22.81	22.62	22.90	23.7	1.0
20	64QAM	1	1	21.32	21.28	21.43	22.2	2.5
20	256QAM	1	1	19.72	19.62	19.75	20.2	4.5
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	PI/2 BPSK	1	1	24.08	24.11	24.37	24.7	0.0
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	PI/2 BPSK	1	1	23.99	24.11	24.37	24.7	0.0
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	PI/2 BPSK	1	1	23.96	24.04	24.33	24.7	0.0

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	18.33	18.43	18.46	
100	PI/2 BPSK	1	137	18.41	18.42	18.43	18.9
100	PI/2 BPSK	1	271	18.05	18.12	18.29	
100	PI/2 BPSK	135	0	18.20	18.17	18.21	
100	PI/2 BPSK	135	69	18.22	18.23	18.25	18.9
100	PI/2 BPSK	135	138	18.11	18.22	18.20	
100	PI/2 BPSK	270	0	18.15	18.27	18.27	18.9
100	QPSK	1	1	18.14	18.08	18.24	
100	QPSK	1	137	18.34	18.40	18.31	
100	QPSK	1	271	18.06	18.37	18.26	
100	QPSK	135	0	18.17	18.20	18.28	18.9



100	QPSK	135	69	18.21	18.38	18.31	
100	QPSK	135	138	18.06	18.35	18.23	
100	QPSK	270	0	18.17	18.27	18.29	18.9
100	16QAM	1	1	17.65	17.80	18.24	18.4
100	64QAM	1	1	17.58	17.74	18.09	18.4
100	256QAM	1	1	17.55	17.91	18.10	18.4
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	18.17	18.20	18.32	18.9
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	18.10	18.13	18.38	18.9
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	18.11	18.14	18.45	18.9
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	18.16	18.19	18.36	18.9
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	18.07	18.20	18.33	18.9
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	18.15	18.21	18.43	18.9
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	18.07	18.26	18.34	18.9
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	18.10	18.19	18.27	18.9

<n77/78 Par 27Q HPUE Ant 11>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		Tune-up limit (dBm)
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		18.33		18.9
100	PI/2 BPSK	1	137		18.25		
100	PI/2 BPSK	1	271		18.24		
100	PI/2 BPSK	135	0		18.11		18.9
100	PI/2 BPSK	135	69		18.20		18.9
100	PI/2 BPSK	135	138		18.08		18.9
100	PI/2 BPSK	270	0		18.24		
100	QPSK	1	1		18.11		18.9
100	QPSK	1	137		18.25		
100	QPSK	1	271		18.20		
100	QPSK	135	0		18.21		18.9
100	QPSK	135	69		18.23		
100	QPSK	135	138		18.14		
100	QPSK	270	0		18.13		18.9
100	16QAM	1	1		18.03		18.4
100	64QAM	1	1		17.86		18.4
100	256QAM	1	1		17.98		18.4
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	18.18	18.27	18.23	18.9



Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	18.13	18.18	18.14	18.9
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	18.06	18.15	18.09	18.9
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	18.07	18.21	18.08	18.9
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	18.11	18.16	18.22	18.9
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	18.12	18.18	18.10	18.9
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	18.02	18.09	18.13	18.9
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	18.03	18.19	18.04	18.9

<n77 Par270 HPUE Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	17.76	18.40	18.45	18.8
100	PI/2 BPSK	1	137	17.75	18.26	18.34	
100	PI/2 BPSK	1	271	17.57	18.38	18.42	
100	PI/2 BPSK	135	0	17.68	18.35	18.29	18.8
100	PI/2 BPSK	135	69	17.75	18.42	18.37	18.8
100	PI/2 BPSK	135	138	17.55	18.33	18.28	18.8
100	PI/2 BPSK	270	0	17.61	18.38	18.32	
100	QPSK	1	1	17.90	18.22	18.28	18.8
100	QPSK	1	137	17.91	18.38	18.42	
100	QPSK	1	271	17.68	18.33	18.42	
100	QPSK	135	0	17.67	18.40	18.28	18.8
100	QPSK	135	69	17.65	18.32	18.26	
100	QPSK	135	138	17.56	18.28	18.32	18.8
100	QPSK	270	0	17.64	18.22	18.34	
100	16QAM	1	1	17.67	17.99	18.04	18.8
100	64QAM	1	1	17.71	18.08	18.21	18.8
100	256QAM	1	1	17.54	17.91	18.02	18.8
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	17.61	18.34	18.28	18.8
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	17.71	18.39	18.31	18.8
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	17.77	18.28	18.33	18.8
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	17.59	18.44	18.33	18.8



Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	17.67	18.34	18.23	18.8
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	17.64	18.34	18.23	18.8
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	17.62	18.32	18.22	18.8
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	17.58	18.33	18.26	18.8

<n77/78 Par 27Q HPUE Ant 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		18.8
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		18.31		18.8
100	PI/2 BPSK	1	137		18.24		
100	PI/2 BPSK	1	271		18.06		
100	PI/2 BPSK	135	0		18.13		18.8
100	PI/2 BPSK	135	69		18.21		18.8
100	PI/2 BPSK	135	138		18.19		18.8
100	PI/2 BPSK	270	0		18.11		
100	QPSK	1	1		18.12		18.8
100	QPSK	1	137		18.21		
100	QPSK	1	271		18.28		
100	QPSK	135	0		18.08		18.8
100	QPSK	135	69		18.14		
100	QPSK	135	138		18.23		
100	QPSK	270	0		18.20		18.8
100	16QAM	1	1		17.90		18.8
100	64QAM	1	1		18.03		18.8
100	256QAM	1	1		17.85		18.8
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	18.16	18.25	18.21	18.8
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	18.00	18.30	18.25	18.8
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	18.13	18.26	18.18	18.8
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	18.16	18.25	18.21	18.8
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	18.09	18.29	18.30	18.8
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	18.18	18.15	18.17	18.8
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	18.13	18.18	18.23	18.8



Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	18.10	18.28	18.15	18.8

<n77 Par27O Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	18.89	18.94	18.90	19.5

<n77/78 Par27Q Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		Tune-up limit (dBm)
Frequency (MHz)					3499.98		
100	CW	-	-		18.92		19.5

<n77 Par27O Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	CW	-	-	15.37	15.78	15.67	16.8

<n77/78 Par27Q Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		Tune-up limit (dBm)
Frequency (MHz)					3499.98		
100	CW	-	-		16.04		16.8

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		18.37		18.9
100	PI/2 BPSK	1	137		18.22		
100	PI/2 BPSK	1	271		18.35		
100	PI/2 BPSK	135	0		18.16		18.9
100	PI/2 BPSK	135	69		18.24		18.9
100	PI/2 BPSK	135	138		18.21		18.9
100	PI/2 BPSK	270	0		18.06		18.9
100	QPSK	1	1		18.35		18.9
100	QPSK	1	137		18.22		
100	QPSK	1	271		18.28		
100	QPSK	135	0		18.06		18.9
100	QPSK	135	69		18.14		
100	QPSK	135	138		18.29		
100	QPSK	270	0		18.16		18.9
100	16QAM	1	1		17.77		18.4



100	64QAM	1	1		17.83		18.4
100	256QAM	1	1		17.55		18.4
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	18.28	18.34	18.25	18.9
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	18.28	18.22	18.08	18.9
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	18.27	18.21	18.07	18.9
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	18.14	18.28	18.05	18.9
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	18.09	18.29	18.21	18.9
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	18.23	18.34	18.16	18.9
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	18.09	18.22	18.15	18.9
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	18.24	18.16	18.09	18.9

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		18.8
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		18.39		18.8
100	PI/2 BPSK	1	137		18.38		
100	PI/2 BPSK	1	271		18.19		
100	PI/2 BPSK	135	0		18.28		18.8
100	PI/2 BPSK	135	69		18.36		18.8
100	PI/2 BPSK	135	138		18.33		18.8
100	PI/2 BPSK	270	0		18.32		
100	QPSK	1	1		18.15		
100	QPSK	1	137		18.35		18.8
100	QPSK	1	271		18.36		
100	QPSK	135	0		18.22		
100	QPSK	135	69		18.32		18.8
100	QPSK	135	138		18.36		
100	QPSK	270	0		18.22		
100	16QAM	1	1		17.99		18.8
100	64QAM	1	1		18.15		18.8
100	256QAM	1	1		17.94		18.8
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	18.00	18.10	17.99	18.8
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	17.96	18.06	17.97	18.8
Channel				649000	650000	651000	



Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	18.06	18.08	18.02	18.8
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	18.00	18.10	17.95	18.8
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	17.90	18.06	17.91	18.8
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	18.00	18.10	17.89	18.8
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	18.04	18.06	18.04	18.8
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	18.07	18.01	18.00	18.8

<n78 Part270 Ant 3>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	CW	-	-		19.11		19.5

<n78 Part270 Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	CW	-	-		15.29		16.8



14. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

1. The SISO operation only operate in 2.4GHz WLAN, the MIMO operation is support in 2.4GHz / 5GHz / 6GHz WLAN
2. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
3. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
4. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
5. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
6. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. 18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
7. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
8. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
9. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
10. When SAR testing for 802.11ax is required
 - a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
 - b. Otherwise, consider the fully allocated channel for SAR testing
 - c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel



<2.4GHz WLAN>

(NON-DBS)

2.4GHz WLAN				Ant 8		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.60	18.00	99.90
		6	2437	17.50	18.00	
		11	2462	17.60	18.00	
	802.11g 6Mbps	1	2412	not required	18.00	not required
		6	2437		18.00	
		11	2462		18.00	
	802.11n-HT20 MCS0	1	2412		18.00	
		6	2437		18.00	
		11	2462		16.00	
	802.11n-HT40 MCS0	3	2422		18.00	
		6	2437		18.00	
		9	2452		15.00	
	802.11ac-VHT20 MCS0	1	2412		18.00	
		6	2437		18.00	
		11	2462		16.00	
	802.11ac-VHT40 MCS0	3	2422		18.00	
		6	2437		18.00	
		9	2452		15.00	
	802.11ax-HE20 MCS0	1	2412		18.00	
		6	2437		18.00	
11		2462	16.00			
802.11ax-HE40 MCS0	3	2422	18.00			
	6	2437	18.00			
	9	2452	15.00			



2.4GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	17.00	18.00	17.10	18.00	20.06	21.00	99.30
		6	2437	16.80	18.00	17.30	18.00	20.07	21.00	
		11	2462	17.00	18.00	17.00	18.00	20.01	21.00	
	802.11g 6Mbps	1	2412	not required	18.00	not required	18.00	not required	21.00	not required
		6	2437		18.00		21.00			
		11	2462		18.00		21.00			
	802.11n-HT20 MCS0	1	2412		18.00		18.00		21.00	
		6	2437		18.00		18.00		21.00	
		11	2462		16.00		19.00			
	802.11n-HT40 MCS0	3	2422		18.00		18.00		21.00	
6		2437	18.00		18.00		21.00			
9		2452	15.00		18.00					
802.11ac-VHT20 MCS0	1	2412	18.00		18.00		21.00			
	6	2437	18.00		18.00		21.00			
	11	2462	16.00	19.00						
802.11ac-VHT40 MCS0	3	2422	18.00	18.00	21.00					
	6	2437	18.00	18.00	21.00					
	9	2452	15.00	18.00						
802.11ax-HE20 MCS0	1	2412	18.00	18.00	21.00					
	6	2437	18.00	18.00	21.00					
	11	2462	16.00	19.00						
802.11ax-HE40 MCS0	3	2422	18.00	18.00	21.00					
	6	2437	18.00	18.00	21.00					
	9	2452	15.00	18.00						



(DBS)

2.4GHz WLAN				Ant 8		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	12.80	14.00	99.30	
	6	2437	12.60	14.00		
	11	2462	12.50	14.00		
802.11g 6Mbps	1	2412	not required	14.00	not required	
	6	2437		14.00		
	11	2462		14.00		
802.11n-HT20 MCS0	1	2412		14.00		
	6	2437		14.00		
	11	2462		14.00		
802.11n-HT40 MCS0	3	2422		14.00		
	6	2437		14.00		
	9	2452		14.00		
802.11ac-VHT20 MCS0	1	2412		14.00		
	6	2437		14.00		
	11	2462		14.00		
802.11ac-VHT40 MCS0	3	2422		14.00		
	6	2437		14.00		
	9	2452		14.00		
802.11ax-HE20 MCS0	1	2412	14.00			
	6	2437	14.00			
	11	2462	14.00			
802.11ax-HE40 MCS0	3	2422	14.00			
	6	2437	14.00			
	9	2452	14.00			



2.4GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8				
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	14.90	15.50	15.20	15.50	18.06	18.50	16.00	99.30	
		6	2437	14.90	15.50	15.30	15.50	18.11	18.50	16.00		
		11	2462	15.00	15.50	15.00	15.50	18.01	18.50	16.00		
	802.11g 6Mbps	1	2412		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		11	2462		15.50		15.50		18.50			
	802.11n-HT20 MCS0	1	2412		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		11	2462		15.50		15.50		18.50			
	802.11n-HT40 MCS0	3	2422		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		9	2452		15.00		15.00		18.00			
	802.11ac-VHT20 MCS0	1	2412	not required	15.50	not required	15.50	not required	18.50	not required	not required	
		6	2437		15.50		15.50					
		11	2462		15.50		15.50					
	802.11ac-VHT40 MCS0	3	2422		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		9	2452		15.00		15.00		18.00			
	802.11ax-HE20 MCS0	1	2412		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		11	2462		15.50		15.50		18.50			
	802.11ax-HE40 MCS0	3	2422		15.50		15.50		18.50			
		6	2437		15.50		15.50		18.50			
		9	2452		15.00		15.00		18.00			



<5GHz WLAN>

(NON-DBS)

5.2GHz WLAN	5.2GHz WLAN			Ant 9+8(9)		Ant 9+8(8)		Ant 9+8				
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %		
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.00	15.00	14.30	15.00	17.67	18.00	99.10		
		40	5200	15.10	16.00	15.20	16.00	18.16	19.00			
		44	5220	15.10	16.00	15.20	16.00	18.16	19.00			
		48	5240	15.10	16.00	15.40	16.00	18.26	19.00			
	802.11n-HT20 MCS0	36	5180	not required	16.00	not required	16.00	not required	19.00	not required		
		40	5200		16.00		19.00					
		44	5220		16.00		19.00					
		48	5240		16.00		19.00					
	802.11n-HT40 MCS0	38	5190	13.10	14.00	13.60	14.00	16.37	17.00	99.30		
		46	5230	15.10	16.00	15.60	16.00	18.37	19.00			
	802.11ac-VHT20 MCS0	36	5180	not required	16.00	not required	16.00	not required	19.00	not required		
		40	5200		16.00		19.00					
		44	5220		16.00		19.00					
		48	5240		16.00		19.00					
	802.11ac-VHT40 MCS0	38	5190		14.00		14.00		14.00		14.00	17.00
		46	5230		16.00		16.00		16.00		16.00	19.00
	802.11ac-VHT80 MCS0	42	5210		14.00		14.00		14.00		14.00	17.00
	802.11ax-HE20 MCS0	36	5180		16.00		16.00		16.00		16.00	19.00
		40	5200		16.00		16.00		16.00		16.00	19.00
		44	5220		16.00		16.00		16.00		16.00	19.00
48		5240	16.00		16.00		16.00		16.00		19.00	
802.11ax-HE40 MCS0	38	5190	14.00		14.00		14.00		14.00		17.00	
	46	5230	16.00	16.00	16.00	16.00	19.00					
802.11ax-HE80 MCS0	42	5210	14.00	14.00	14.00	14.00	17.00					



5.3GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	52	5260	18.30	18.50	17.60	18.50	20.97	21.50	99.20
		56	5280	18.30	18.50	17.60	18.50	20.97	21.50	
		60	5300	17.00	17.00	16.20	17.00	19.63	20.00	
		64	5320	16.50	16.50	15.90	16.50	19.22	19.50	
	802.11n-HT20 MCS0	52	5260	not required	18.00	not required	18.00	not required	21.00	not required
		56	5280		18.00		21.00			
		60	5300		18.00		21.00			
		64	5320		16.50		19.50			
	802.11n-HT40 MCS0	54	5270		18.00		21.00			
		62	5310		14.00		17.00			
	802.11ac-VHT20 MCS0	52	5260		18.00		21.00			
		56	5280		18.00		21.00			
		60	5300		18.00		21.00			
		64	5320		16.50		19.50			
802.11ac-VHT40 MCS0	54	5270	18.00		21.00					
	62	5310	14.00		17.00					
802.11ac-VHT80 MCS0	58	5290	13.50		16.50					
802.11ac-VHT160 MCS0	50	5250	12.5		15.5					
802.11ax-HE20 MCS0	52	5260	18.00		21.00					
	56	5280	18.00	21.00						
	60	5300	18.00	21.00						
	64	5320	16.50	19.50						
802.11ax-HE40 MCS0	54	5270	18.00	21.00						
	62	5310	14.00	17.00						
802.11ax-HE80 MCS0	58	5290	13.50	16.50						
802.11ax-HE160 MCS0	50	5250	12.5	15.5						



5.5GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	17.50	17.50	17.20	17.50	20.36	20.50	99.20	
	116	5580	18.40	18.50	17.50	18.50	20.98	21.50		
	124	5620	18.20	18.50	17.40	18.50	20.83	21.50		
	132	5660	18.30	18.50	17.60	18.50	20.97	21.50		
	140	5700	16.00	16.00	15.40	16.00	18.72	19.00		
	144	5720	18.30	18.50	17.40	18.50	20.88	21.50		
802.11n-HT20 MCS0	100	5500	not required	18.50	not required	18.50	not required	21.50	not required	
	116	5580		18.00		18.00		21.00		
	124	5620		18.00		18.00		21.00		
	132	5660		18.00		18.00		21.00		
	140	5700		16.00		16.00		19.00		
	144	5720		18.00		18.00		21.00		
802.11n-HT40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ac- VHT20 MCS0	100	5500	not required	18.50	not required	18.50	not required	21.50	not required	
	116	5580		18.00		18.00		21.00		
	124	5620		18.00		18.00		21.00		
	132	5660		18.00		18.00		21.00		
	140	5700		16.00		16.00		19.00		
	144	5720		18.00		18.00		21.00		
802.11ac- VHT40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ac- VHT80 MCS0	106	5530	not required	14.50	not required	14.50	not required	17.50	not required	
	122	5610		18.00		18.00		21.00		
	138	5690		17.00		17.00		20.00		
802.11ac- VHT160 MCS0	114	5570	not required	14.50	not required	14.50	not required	17.50	not required	
802.11ax- HE20 MCS0	100	5500		18.50		18.50		21.50		
	116	5580		18.00		18.00		21.00		
	124	5620	18.00	18.00	21.00					
	132	5660	18.00	18.00	21.00					
	140	5700	16.00	16.00	19.00					
	144	5720	18.00	18.00	21.00					
802.11ax- HE40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ax- HE80 MCS0	106	5530	not required	14.50	not required	14.50	not required	17.50	not required	
	122	5610		18.00		18.00		21.00		
	138	5690		17.00		17.00		20.00		
802.11ax- HE160 MCS0	114	5570	not required	14.50	not required	14.50	not required	17.50	not required	



5.8GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	18.40	18.50	17.70	18.50	21.07	21.50	99.20
		157	5785	18.50	18.50	17.50	18.50	21.04	21.50	
		165	5825	18.40	18.50	17.70	18.50	21.07	21.50	
	802.11n-HT20 MCS0	149	5745	not required	18.00	not required	18.00	not required	21.00	not required
		157	5785		18.00		21.00			
		165	5825		18.00		21.00			
	802.11n-HT40 MCS0	151	5755		18.00		21.00			
		159	5795		18.00		21.00			
	802.11ac- VHT20 MCS0	149	5745		18.00		21.00			
		157	5785		18.00		21.00			
		165	5825		18.00		21.00			
	802.11ac- VHT40 MCS0	151	5755		18.00		21.00			
		159	5795		18.00		21.00			
	802.11ac- VHT80 MCS0	155	5775		17.00		20.00			
149		5745	18.00		21.00					
802.11ax- HE20 MCS0	157	5785	18.00		21.00					
	165	5825	18.00		21.00					
	151	5755	18.00		21.00					
802.11ax- HE40 MCS0	159	5795	18.00	21.00						
	155	5775	17.00	20.00						



(DBS)

5.2GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8								
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %					
	5.2GHz WLAN	802.11a 6Mbps	36	5180	not required	13.00	not required	13.00	not required	16.00	not required	not required				
40			5200	13.00		13.00		16.00								
44			5220	13.00		13.00		16.00								
48			5240	13.00		13.00		16.00								
802.11n-HT20 MCS0		36	5180	13.00		13.00		16.00								
		40	5200	13.00		13.00		16.00								
		44	5220	13.00		13.00		16.00								
		48	5240	13.00		13.00		16.00								
802.11n-HT40 MCS0		38	5190	13.00		13.00		16.00								
		46	5230	13.00		13.00		16.00								
802.11ac-VHT20 MCS0		36	5180	13.00		13.00		16.00								
		40	5200	13.00		13.00		16.00								
		44	5220	13.00		13.00		16.00								
		48	5240	13.00		13.00		16.00								
802.11ac-VHT40 MCS0		38	5190	13.00		13.00		16.00								
		46	5230	13.00		13.00		16.00								
802.11ac-VHT80 MCS0		42	5210	12.30		13.00		12.80		13.00			15.57	16.00	14.50	98.50
802.11ax-HE20 MCS0		36	5180	not required		13.00		not required		13.00			not required	16.00	not required	not required
		40	5200			13.00				13.00				16.00		
		44	5220			13.00				13.00				16.00		
	48	5240	13.00		13.00	16.00										
802.11ax-HE40 MCS0	38	5190	13.00		13.00	16.00										
	46	5230	13.00		13.00	16.00										
802.11ax-HE80 MCS0	42	5210	13.00		13.00	16.00										



5.3GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	52	5260	18.30	18.50	17.60	18.50	20.97	21.50	99.20
		56	5280	18.30	18.50	17.60	18.50	20.97	21.50	
		60	5300	17.00	17.00	16.20	17.00	19.63	20.00	
		64	5320	16.50	16.50	15.90	16.50	19.22	19.50	
	802.11n-HT20 MCS0	52	5260	not required	18.00	not required	18.00	not required	21.00	not required
		56	5280		18.00		21.00			
		60	5300		18.00		21.00			
		64	5320		16.50		19.50			
	802.11n-HT40 MCS0	54	5270		18.00		21.00			
		62	5310		14.00		17.00			
	802.11ac-VHT20 MCS0	52	5260		18.00		21.00			
		56	5280		18.00		21.00			
		60	5300		18.00		21.00			
		64	5320		16.50		19.50			
802.11ac-VHT40 MCS0	54	5270	18.00		21.00					
	62	5310	14.00		17.00					
802.11ac-VHT80 MCS0	58	5290	13.50		16.50					
802.11ac-VHT160 MCS0	50	5250	12.5		15.5					
802.11ax-HE20 MCS0	52	5260	18.00		21.00					
	56	5280	18.00	21.00						
	60	5300	18.00	21.00						
	64	5320	16.50	19.50						
802.11ax-HE40 MCS0	54	5270	18.00	21.00						
	62	5310	14.00	17.00						
802.11ax-HE80 MCS0	58	5290	13.50	16.50						
802.11ax-HE160 MCS0	50	5250	12.5	15.5						



5.5GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	17.50	17.50	17.20	17.50	20.36	20.50	99.20	
	116	5580	18.40	18.50	17.50	18.50	20.98	21.50		
	124	5620	18.20	18.50	17.40	18.50	20.83	21.50		
	132	5660	18.30	18.50	17.60	18.50	20.97	21.50		
	140	5700	16.00	16.00	15.40	16.00	18.72	19.00		
	144	5720	18.30	18.50	17.40	18.50	20.88	21.50		
802.11n-HT20 MCS0	100	5500	not required	18.50	not required	18.50	not required	21.50	not required	
	116	5580		18.00		18.00		21.00		
	124	5620		18.00		18.00		21.00		
	132	5660		18.00		18.00		21.00		
	140	5700		16.00		16.00		19.00		
	144	5720		18.00		18.00		21.00		
802.11n-HT40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ac- VHT20 MCS0	100	5500	not required	18.50	not required	18.50	not required	21.50	not required	
	116	5580		18.00		18.00		21.00		
	124	5620		18.00		18.00		21.00		
	132	5660		18.00		18.00		21.00		
	140	5700		16.00		16.00		19.00		
	144	5720		18.00		18.00		21.00		
802.11ac- VHT40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ac- VHT80 MCS0	106	5530	not required	14.50	not required	14.50	not required	17.50	not required	
	122	5610		18.00		18.00		21.00		
	138	5690		17.00		17.00		20.00		
802.11ac- VHT160 MCS0	114	5570	not required	14.50	not required	14.50	not required	17.50	not required	
802.11ax- HE20 MCS0	100	5500		18.50		18.50		21.50		
	116	5580		18.00		18.00		21.00		
	124	5620	18.00	18.00	21.00					
	132	5660	18.00	18.00	21.00					
	140	5700	16.00	16.00	19.00					
	144	5720	18.00	18.00	21.00					
802.11ax- HE40 MCS0	102	5510	not required	16.50	not required	16.50	not required	19.50	not required	
	110	5550		18.00		18.00		21.00		
	126	5630		18.00		18.00		21.00		
	134	5670		18.00		18.00		21.00		
	142	5710		18.00		18.00		21.00		
802.11ax- HE80 MCS0	106	5530	not required	14.50	not required	14.50	not required	17.50	not required	
	122	5610		18.00		18.00		21.00		
	138	5690		17.00		17.00		20.00		
802.11ax- HE160 MCS0	114	5570	not required	14.50	not required	14.50	not required	17.50	not required	



5.8GHz WLAN				Ant 9+8(9)		Ant 9+8(8)		Ant 9+8								
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %					
	5.8GHz WLAN	802.11a 6Mbps	149	5745	not required	14.00	not required	14.00	not required	17.00	not required	not required				
157			5785	14.00		14.00		17.00								
165			5825	14.00		14.00		17.00								
802.11n-HT20 MCS0		149	5745	14.00		14.00		17.00								
		157	5785	14.00		14.00		17.00								
		165	5825	14.00		14.00		17.00								
802.11n-HT40 MCS0		151	5755	14.00		14.00		17.00								
		159	5795	14.00		14.00		17.00								
802.11ac-VHT20 MCS0		149	5745	14.00		14.00		17.00								
		157	5785	14.00		14.00		17.00								
		165	5825	14.00		14.00		17.00								
802.11ac-VHT40 MCS0		151	5755	14.00		14.00		17.00								
		159	5795	14.00		14.00		17.00								
802.11ac-VHT80 MCS0		155	5775	13.90		14.00		13.20		14.00			16.57	17.00	15.50	98.50
802.11ax-HE20 MCS0		149	5745	not required		14.00		not required		14.00			not required	17.00	not required	not required
		157	5785			14.00				14.00				17.00		
		165	5825			14.00				14.00				17.00		
802.11ax-HE40 MCS0		151	5755			14.00				14.00				17.00		
	159	5795	14.00		14.00	17.00										
802.11ax-HE80 MCS0	155	5775	14.00		14.00	17.00										



<6GHz WLAN>

(NON-DBS / DBS)

	WiFi 6E			Ant 9+8(9)		Ant 9+8(8)		Ant 9+8						
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %				
WiFi 6E	802.11a 6Mbps	1	5955	not required	12.50	not required	12.50	not required	15.50	not required				
		57	6235		12.50		15.50							
		113	6515		1.00		4.00							
		173	6815		12.00		15.00							
		233	7115		1.00		4.00							
	802.11n-HT20 MCS0	1	5955		12.50		12.50		15.50					
		57	6235		12.50		12.50		15.50					
		113	6515		5.00		5.00		8.00					
		173	6815		12.00		12.00		15.00					
	802.11n-HT40 MCS0	3	5965		12.50		12.50		15.50					
		59	6245		12.50		12.50		15.50					
		107	6485		8.00		8.00		11.00					
		171	6805		12.00		12.00		15.00					
	802.11ac- VHT20 MCS0	227	7085		8.00		8.00		11.00					
		1	5955		12.50		12.50		15.50					
		57	6235		12.50		12.50		15.50					
		113	6515		5.00		5.00		8.00					
	802.11ac- VHT40 MCS0	173	6815		12.00		12.00		15.00					
		233	7115		5.00		5.00		8.00					
		3	5965		12.50		12.50		15.50					
		59	6245		12.50		12.50		15.50					
	802.11ac- VHT80 MCS0	107	6485		8.00		8.00		11.00					
		171	6805		12.00		12.00		15.00					
		227	7085		8.00		8.00		11.00					
		7	5985		12.50		12.50		15.50					
	802.11ac- VHT160 MCS0	71	6305		12.50		12.50		15.50					
		119	6545		10.50		10.50		13.50					
		167	6785		12.00		12.00		15.00					
		215	7025		11.00		11.00		14.00					
	802.11ax- HE20 MCS0	15	6025		12.20		12.50		14.97		15.50			
		47	6185		12.40		12.50		14.98		15.50			
		111	6505		9.80		11.00		12.86		14.00			
		175	6825		11.90		12.00		14.91		15.00			
	802.11ax- HE40 MCS0	207	6985		10.20		12.00		13.26		15.00			
		1	5955		not required		12.50		not required		12.50	not required	15.50	not required
		57	6235				12.50				15.50			
		113	6515				5.00				8.00			
	173	6815	12.00				15.00							
	802.11ax- HE80 MCS0	233	7115				5.00				5.00		8.00	
		3	5965				12.50				12.50		15.50	
		59	6245				12.50				12.50		15.50	
		107	6485				8.00				8.00		11.00	
	802.11ax- HE160 MCS0	171	6805				12.00				12.00		15.00	
		227	7085				8.00				8.00		11.00	
7		5985	12.50	12.50		15.50								
71		6305	12.50	12.50		15.50								
802.11ax- HE160 MCS0	119	6545	10.50	10.50		13.50								
	167	6785	12.00	12.00		15.00								
	215	7025	11.00	11.00		14.00								
	15	6025	12.50	12.50		15.50								
802.11ax- HE160 MCS0	47	6185	12.50	12.50		15.50								
	111	6505	11.00	11.00		15.50								
	175	6825	12.00	12.00		15.00								
	207	6985	12.00	12.00		15.00								



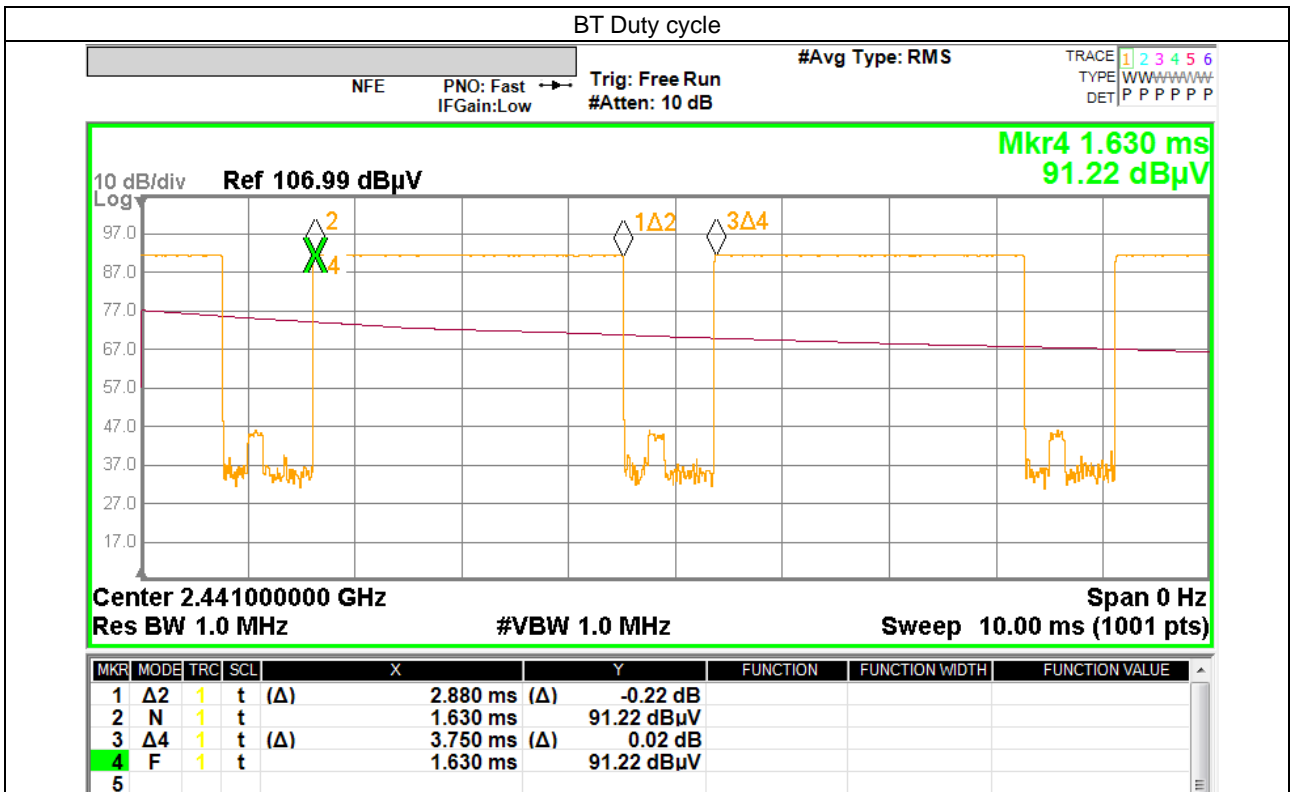
<2.4GHz Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	3.94	1.17	1.18
	CH 39	2441	3.91	0.91	0.95
	CH 78	2480	3.72	0.89	0.94
Tune-up Limit			4	1.5	1.5

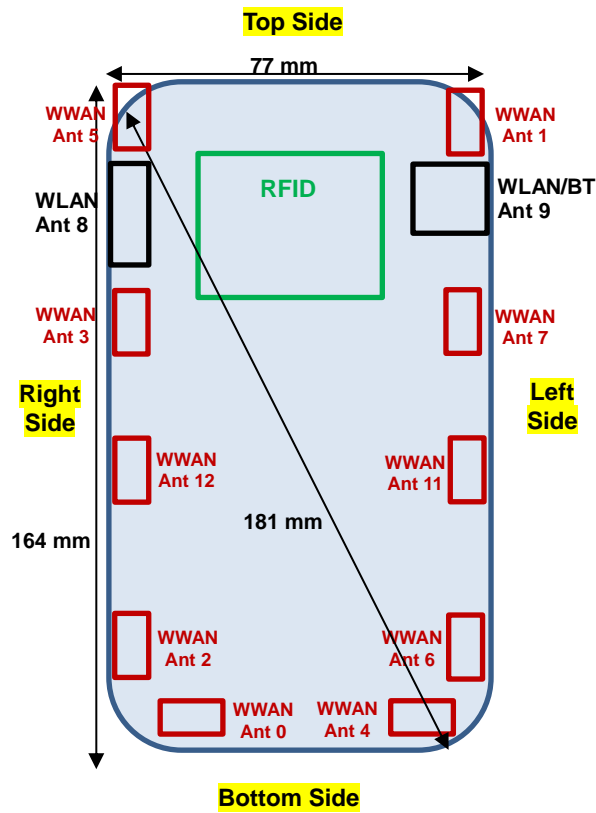
Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	3.80	3.80
	CH 19	2440	3.70	3.70
	CH 39	2480	3.60	3.60
Tune-up Limit			4	4

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.83% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.



15. Antenna Location



Back View



16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold, for this device only bottom side SAR for WWAN transmitter scaled to maximum output power is higher than 1.2W/kg of FR1 n41, therefore product specific SAR is necessary.
6. For 5.3GHz / 5.5GHz / 6GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16 cm.

**GSM Note:**

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The 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. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
3. Power reduction which is triggered by hotspot mode is implemented in GSM1900 band, for hotspot mode SAR testing EUT was set in reduced power mode and GPRS 4 Tx slot due to its highest frame-average power.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B17/B38/B71 the maximum 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 middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 4/38 SAR test was covered by Band 66/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

5G NR Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - e. For 5G FR1 n5/n41/n71/n77, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
 - f. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
 - g. Ant 1/3/5/7/12 dedicated is used for SRS only, different from Tx antennas, then the SAR measurement at Plimit for SRS dedicated antenna(s) can be performed using FTM mode with CW modulation with 100% duty cycle(as SRS operates at very low duty cycle in online mode).

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain
6. The SISO operation only operate in 2.4GHz WLAN, the MIMO operation is support in 2.4GHz / 5GHz / 6GHz WLAN
7. The head / body-worn 2.4GHz SISO mode was performed non DBS output power level only, due to it is higher power level and we using the non DBS mode result to evaluated DBS mode Sim-Tx analysis
8. During SAR testing the WLAN transmission was verified using a spectrum analyzer.



WLAN PD Note:

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by $\lambda/4$.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
6. The measurement procedure consists of measuring the PDinc at two different distances: 2 mm (compliance distance) and $\lambda/5$. The grid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPDn fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1 dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10 \cdot \log_{10} \frac{iPD_n(2mm)}{iPD_n(\lambda/5)} \geq -1$$



16.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_Ant 4	GPRS (4 Tx slots)	Right Cheek	0mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.19	0.073	0.085
	GSM850_Ant 4	GPRS (4 Tx slots)	Right Tilted	0mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.16	0.051	0.060
	GSM850_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.07	0.116	0.136
	GSM850_Ant 4	GPRS (4 Tx slots)	Left Tilted	0mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	-0.13	0.071	0.083
	GSM850_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 2	DSI 0	128	824.2	29.82	30.5	1.169	-0.01	0.140	0.164
01	GSM850_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 3	DSI 0	128	824.2	29.82	30.5	1.169	-0.06	0.178	0.208
	GSM1900_Ant 4	GPRS (4 Tx slots)	Right Cheek	0mm	Sample 1	DSI 0	810	1909.8	26.1	27.5	1.380	0.18	0.070	0.097
	GSM1900_Ant 4	GPRS (4 Tx slots)	Right Tilted	0mm	Sample 1	DSI 0	810	1909.8	26.1	27.5	1.380	0.17	0.031	0.043
	GSM1900_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 1	DSI 0	810	1909.8	26.1	27.5	1.380	-0.03	0.076	0.105
	GSM1900_Ant 4	GPRS (4 Tx slots)	Left Tilted	0mm	Sample 1	DSI 0	810	1909.8	26.1	27.5	1.380	0.07	0.051	0.070
	GSM1900_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 2	DSI 0	810	1909.8	26.1	27.5	1.380	0.09	0.099	0.137
02	GSM1900_Ant 4	GPRS (4 Tx slots)	Left Cheek	0mm	Sample 3	DSI 0	810	1909.8	26.1	27.5	1.380	-0.18	0.116	0.160

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Sample 1	DSI 0	9538	1907.6	24.42	25.2	1.197	0.06	0.142	0.170
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Tilted	0mm	Sample 1	DSI 0	9538	1907.6	24.42	25.2	1.197	0.02	0.066	0.079
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Cheek	0mm	Sample 1	DSI 0	9538	1907.6	24.42	25.2	1.197	0.01	0.128	0.153
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Tilted	0mm	Sample 1	DSI 0	9538	1907.6	24.42	25.2	1.197	-0.06	0.105	0.126
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Sample 2	DSI 0	9538	1907.6	24.42	25.2	1.197	-0.01	0.147	0.176
03	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Sample 3	DSI 0	9538	1907.6	24.42	25.2	1.197	0.11	0.169	0.202
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0	0.001	0.001
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Tilted	0mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0	0.001	0.001
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Cheek	0mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0	0.001	0.001
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Tilted	0mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0	0.001	0.001
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	Sample 2	DSI 0	1513	1752.6	24.05	25.2	1.303	0	0.001	0.001
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Cheek	0mm	Sample 2	DSI 0	1513	1752.6	24.05	25.2	1.303	0.15	0.050	0.065
04	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Cheek	0mm	Sample 3	DSI 0	1513	1752.6	24.05	25.2	1.303	0.11	0.056	0.073
	WCDMA V_Ant 4	RMC 12.2Kbps	Right Cheek	0mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	-0.05	0.113	0.125
	WCDMA V_Ant 4	RMC 12.2Kbps	Right Tilted	0mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	-0.08	0.085	0.094
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Cheek	0mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	-0.13	0.189	0.210
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Tilted	0mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	0.1	0.115	0.127
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Cheek	0mm	Sample 2	DSI 0	4132	826.4	24.74	25.2	1.112	0.03	0.237	0.263
05	WCDMA V_Ant 4	RMC 12.2Kbps	Left Cheek	0mm	Sample 3	DSI 0	4132	826.4	24.74	25.2	1.112	0.13	0.247	0.275



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	19100	1900	24.47	25.2	1.183	0.09	0.132	0.156
	LTE Band 2_Ant 2	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 0	19100	1900	23.49	24.2	1.178	0.19	0.107	0.126
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	19100	1900	24.47	25.2	1.183	0.09	0.002	0.002
	LTE Band 2_Ant 2	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 0	19100	1900	23.49	24.2	1.178	0.14	0.002	0.002
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	19100	1900	24.47	25.2	1.183	0.01	0.113	0.134
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 0	19100	1900	23.49	24.2	1.178	0.01	0.097	0.114
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	19100	1900	24.47	25.2	1.183	0.19	0.104	0.123
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 0	19100	1900	23.49	24.2	1.178	0.14	0.081	0.095
06	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Sample 2	DSI 0	19100	1900	24.47	25.2	1.183	0.03	0.171	0.202
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Sample 3	DSI 0	19100	1900	24.47	25.2	1.183	0.05	0.163	0.193
	LTE Band 5_Ant 4	10M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	-0.1	0.267	0.352
	LTE Band 5_Ant 4	10M	QPSK	25	0	Right Cheek	0mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0.19	0.222	0.309
	LTE Band 5_Ant 4	10M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	0.03	0.152	0.201
	LTE Band 5_Ant 4	10M	QPSK	25	0	Right Tilted	0mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	-0.09	0.113	0.157
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	-0.06	0.290	0.383
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Cheek	0mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0	0.245	0.340
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	0.11	0.167	0.221
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Tilted	0mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0.17	0.140	0.195
	LTE Band 5B_Ant 4	10M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	20575	841.5	24.58	25.20	1.153	0.01	0.287	0.331
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Cheek	0mm	Sample 2	DSI 0	20525	836.5	23.99	25.2	1.321	0.14	0.302	0.399
07	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Cheek	0mm	Sample 3	DSI 0	20525	836.5	23.99	25.2	1.321	0.15	0.334	0.441
	LTE Band 7_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.06	0.253	0.263
	LTE Band 7_Ant 12	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.01	0.209	0.213
	LTE Band 7_Ant 12	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.02	0.071	0.074
	LTE Band 7_Ant 12	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.06	0.058	0.059
	LTE Band 7_Ant 12	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.01	0.098	0.102
	LTE Band 7_Ant 12	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.09	0.080	0.081
	LTE Band 7_Ant 12	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	-0.01	0.079	0.082
	LTE Band 7_Ant 12	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	-0.05	0.063	0.064
	LTE Band 7C_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	21350	2560	23.99	24	1.002	0.17	0.244	0.245
	LTE Band 7_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 2	DSI 0	21350	2560	23.83	24	1.040	-0.01	0.305	0.317
08	LTE Band 7_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 3	DSI 0	21350	2560	23.83	24	1.040	-0.04	0.356	0.370
	LTE Band 7_Ant 6	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	21350	2560	23.38	24	1.153	0.05	0.063	0.073
	LTE Band 7_Ant 6	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 0	21350	2560	22.36	23	1.159	-0.06	0.053	0.061
	LTE Band 7_Ant 6	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	21350	2560	23.38	24	1.153	-0.02	0.029	0.033
	LTE Band 7_Ant 6	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 0	21350	2560	22.36	23	1.159	-0.09	0.028	0.032
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	21350	2560	23.38	24	1.153	-0.04	0.169	0.195
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 0	21350	2560	22.36	23	1.159	-0.12	0.138	0.160
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	21350	2560	23.38	24	1.153	0.03	0.031	0.036
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 0	21350	2560	22.36	23	1.159	0.05	0.024	0.028
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 2	DSI 0	21350	2560	23.38	24	1.153	0.09	0.138	0.159
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 3	DSI 0	21350	2560	23.38	24	1.153	0.07	0.156	0.180



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	23790	710	23.08	24.7	1.452	0.04	0.182	0.264
	LTE Band 17_Ant 0	10M	QPSK	25	0	Right Cheek	0mm	Sample 1	DSI 0	23790	710	22.05	23.7	1.462	-0.09	0.145	0.213
	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	23790	710	23.08	24.7	1.452	-0.05	0.109	0.159
	LTE Band 17_Ant 0	10M	QPSK	25	0	Right Tilted	0mm	Sample 1	DSI 0	23790	710	22.05	23.7	1.462	0.16	0.092	0.134
	LTE Band 17_Ant 0	10M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	23790	710	23.08	24.7	1.452	-0.05	0.159	0.231
	LTE Band 17_Ant 0	10M	QPSK	25	0	Left Cheek	0mm	Sample 1	DSI 0	23790	710	22.05	23.7	1.462	0.02	0.124	0.181
	LTE Band 17_Ant 0	10M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	23790	710	23.08	24.7	1.452	-0.11	0.082	0.118
	LTE Band 17_Ant 0	10M	QPSK	25	0	Left Tilted	0mm	Sample 1	DSI 0	23790	710	22.05	23.7	1.462	-0.06	0.071	0.103
09	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Cheek	0mm	Sample 2	DSI 0	23790	710	23.08	24.7	1.452	0.08	0.328	0.476
	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Cheek	0mm	Sample 3	DSI 0	23790	710	23.08	24.7	1.452	-0.17	0.177	0.257
	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	132572	1770	24.34	25.2	1.219	0.01	0.041	0.050
	LTE Band 66_Ant 2	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 0	132572	1770	23.41	24.2	1.199	0.12	0.034	0.041
	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	132572	1770	24.34	25.2	1.219	0.07	0.021	0.026
	LTE Band 66_Ant 2	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 0	132572	1770	23.41	24.2	1.199	0.08	0.018	0.022
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	132572	1770	24.34	25.2	1.219	0.19	0.045	0.055
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 0	132572	1770	23.41	24.2	1.199	0.03	0.039	0.047
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	132572	1770	24.34	25.2	1.219	0.1	0.023	0.028
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 0	132572	1770	23.41	24.2	1.199	0.18	0.021	0.025
	LTE Band 66C_Ant 2	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	132572	1770	24.09	25.20	1.291	0.12	0.038	0.049
	LTE Band 66B_Ant 2	15M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	132597	1772.5	24.01	25.20	1.315	-0.06	0.035	0.046
10	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Cheek	0mm	Sample 2	DSI 0	132572	1770	24.34	25.2	1.219	-0.01	0.065	0.079
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Cheek	0mm	Sample 3	DSI 0	132572	1770	24.34	25.2	1.219	0.19	0.056	0.068
	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.01	0.213	0.281
	LTE Band 71_Ant 0	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.05	0.195	0.264
	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.07	0.112	0.148
	LTE Band 71_Ant 0	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.02	0.103	0.139
	LTE Band 71_Ant 0	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.19	0.204	0.270
	LTE Band 71_Ant 0	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.13	0.170	0.230
	LTE Band 71_Ant 0	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.13	0.104	0.137
	LTE Band 71_Ant 0	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.01	0.090	0.122
11	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Cheek	0mm	Sample 2	DSI 0	133297	680.5	23.49	24.7	1.321	-0.15	0.242	0.320
	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Cheek	0mm	Sample 3	DSI 0	133297	680.5	23.49	24.7	1.321	0.06	0.228	0.301



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.02	0.043	0.052
	LTE Band 41_Ant 6	20M	QPSK	50	24	Right Cheek	0mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.16	0.035	0.043
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.03	0.001	0.001
	LTE Band 41_Ant 6	20M	QPSK	50	24	Right Tilted	0mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.12	0.001	0.001
12	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	-0.15	0.116	0.140
	LTE Band 41_Ant 6	20M	QPSK	50	24	Left Cheek	0mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.11	0.091	0.112
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0	0.001	0.001
	LTE Band 41_Ant 6	20M	QPSK	50	24	Left Tilted	0mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.1	0.001	0.001
	LTE Band 41_HPUE_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	41055	2636.5	26.32	27	1.169	42.9	1.009	-0.08	0.117	0.138
	LTE Band 41C_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	41490	2680	24.57	25.00	1.104	62.9	1.006	0.12	0.106	0.118
	LTE Band 41C_HPUE_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 0	41490	2680	26.99	27.00	1.002	42.9	1.009	0.06	0.095	0.096
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 2	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.16	0.104	0.125
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Cheek	0mm	Sample 3	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.05	0.100	0.120
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	-0.05	0.285	0.314
	LTE Band 42_Ant 12	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 2	42590	3500	19.8	20.1	1.072	62.9	1.006	-0.02	0.258	0.278
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	0.07	0.075	0.083
	LTE Band 42_Ant 12	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 2	42590	3500	19.8	20.1	1.072	62.9	1.006	0.1	0.059	0.064
	LTE Band 42_Ant 12	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	-0.18	0.127	0.140
	LTE Band 42_Ant 12	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 2	42590	3500	19.8	20.1	1.072	62.9	1.006	-0.14	0.084	0.090
	LTE Band 42_Ant 12	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	0.15	0.067	0.074
	LTE Band 42_Ant 12	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 2	42590	3500	19.8	20.1	1.072	62.9	1.006	-0.03	0.047	0.051
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 2	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	-0.15	0.352	0.388
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Cheek	0mm	Sample 3	DSI 2	42590	3500	20.7	21.1	1.096	62.9	1.006	0.06	0.430	0.474
	LTE Band 42_Ant 11	20M	QPSK	1	0	Right Cheek	0mm	Sample 1	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	0.05	0.055	0.075
	LTE Band 42_Ant 11	20M	QPSK	50	0	Right Cheek	0mm	Sample 1	DSI 2	42590	3500	19.88	21.3	1.387	62.9	1.006	0.01	0.042	0.059
	LTE Band 42_Ant 11	20M	QPSK	1	0	Right Tilted	0mm	Sample 1	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	0.03	0.001	0.001
	LTE Band 42_Ant 11	20M	QPSK	50	0	Right Tilted	0mm	Sample 1	DSI 2	42590	3500	19.88	21.3	1.387	62.9	1.006	-0.04	0.001	0.001
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Cheek	0mm	Sample 1	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	-0.01	0.232	0.316
	LTE Band 42_Ant 11	20M	QPSK	50	0	Left Cheek	0mm	Sample 1	DSI 2	42590	3500	19.88	21.3	1.387	62.9	1.006	-0.03	0.196	0.273
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Tilted	0mm	Sample 1	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	0.09	0.001	0.001
	LTE Band 42_Ant 11	20M	QPSK	50	0	Left Tilted	0mm	Sample 1	DSI 2	42590	3500	19.88	21.3	1.387	62.9	1.006	0.17	0.001	0.001
13	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Cheek	0mm	Sample 2	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	0.02	0.465	0.634
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Cheek	0mm	Sample 3	DSI 2	42590	3500	20.98	22.3	1.355	62.9	1.006	-0.04	0.411	0.560



<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n2_Ant 2	20M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	380000	1900	24.66	25.2	1.132	0.01	0.106	0.120
	FR1 n2_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	372000	1860	24.58	25.2	1.153	0.14	0.115	0.133
	FR1 n2_Ant 2	20M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	380000	1900	24.66	25.2	1.132	0.19	0.056	0.063
	FR1 n2_Ant 2	20M	BPSK	50	28	Right Tilted	0mm	Sample 1	DSI 0	372000	1860	24.58	25.2	1.153	0.03	0.061	0.070
	FR1 n2_Ant 2	20M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	380000	1900	24.66	25.2	1.132	0.03	0.098	0.111
	FR1 n2_Ant 2	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	372000	1860	24.58	25.2	1.153	0.03	0.112	0.129
	FR1 n2_Ant 2	20M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	380000	1900	24.66	25.2	1.132	0.03	0.082	0.093
	FR1 n2_Ant 2	20M	BPSK	50	28	Left Tilted	0mm	Sample 1	DSI 0	372000	1860	24.58	25.2	1.153	0.12	0.082	0.095
14	FR1 n2_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Sample 2	DSI 0	372000	1860	24.58	25.2	1.153	-0.01	0.139	0.160
	FR1 n2_Ant 2	20M	BPSK	50	28	Right Cheek	0mm	Sample 3	DSI 0	372000	1860	24.58	25.2	1.153	0.1	0.116	0.134
	FR1 n5_Ant 4	20M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.13	0.157	0.184
	FR1 n5_Ant 4	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	-0.11	0.170	0.205
	FR1 n5_Ant 4	20M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.15	0.087	0.102
	FR1 n5_Ant 4	20M	BPSK	50	28	Right Tilted	0mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	-0.01	0.095	0.115
	FR1 n5_Ant 4	20M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	-0.04	0.167	0.195
	FR1 n5_Ant 4	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	-0.16	0.201	0.243
	FR1 n5_Ant 4	20M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.17	0.093	0.109
	FR1 n5_Ant 4	20M	BPSK	50	28	Left Tilted	0mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	0.01	0.107	0.130
	FR1 n5_Ant 4	20M	BPSK	50	28	Left Cheek	0mm	Sample 2	DSI 0	167300	836.5	24.38	25.2	1.208	-0.02	0.116	0.140
15	FR1 n5_Ant 4	20M	BPSK	50	28	Left Cheek	0mm	Sample 3	DSI 0	167300	836.5	24.38	25.2	1.208	-0.04	0.248	0.300
	FR1 n7_Ant 12	20M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	0.03	0.254	0.265
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	0.01	0.261	0.320
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	502000	2510	23.08	24	1.236	-0.07	0.246	0.304
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	512000	2560	23.22	24	1.197	0.18	0.250	0.299
	FR1 n7_Ant 12	20M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	0.05	0.095	0.099
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Tilted	0mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.09	0.088	0.108
	FR1 n7_Ant 12	20M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	-0.01	0.126	0.131
	FR1 n7_Ant 12	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.05	0.118	0.145
	FR1 n7_Ant 12	20M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	0.03	0.109	0.114
	FR1 n7_Ant 12	20M	BPSK	50	28	Left Tilted	0mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.05	0.087	0.107
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Cheek	0mm	Sample 2	DSI 0	507000	2535	23.11	24	1.227	0.02	0.295	0.362
16	FR1 n7_Ant 12	20M	BPSK	50	28	Right Cheek	0mm	Sample 3	DSI 0	507000	2535	23.11	24	1.227	-0.09	0.298	0.366
	FR1 n7_Ant 6	20M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	507000	2535	23.38	24	1.153	-0.07	0.031	0.036
	FR1 n7_Ant 6	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	507000	2535	22.86	24	1.300	-0.02	0.036	0.047
	FR1 n7_Ant 6	20M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	507000	2535	23.38	24	1.153	0.06	0.001	0.001
	FR1 n7_Ant 6	20M	BPSK	50	28	Right Tilted	0mm	Sample 1	DSI 0	507000	2535	22.86	24	1.300	0.01	0.001	0.001
	FR1 n7_Ant 6	20M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	507000	2535	23.38	24	1.153	0.03	0.078	0.090
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	507000	2535	22.86	24	1.300	-0.11	0.106	0.138
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	502000	2510	22.99	24	1.262	0.17	0.096	0.121
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	512000	2560	23.07	24	1.239	0.07	0.093	0.115
	FR1 n7_Ant 6	20M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	507000	2535	23.38	24	1.153	-0.05	0.010	0.012
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Tilted	0mm	Sample 1	DSI 0	507000	2535	22.86	24	1.300	-0.16	0.001	0.001
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Cheek	0mm	Sample 2	DSI 0	507000	2535	22.86	24	1.300	-0.14	0.110	0.143
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Cheek	0mm	Sample 3	DSI 0	507000	2535	22.86	24	1.300	-0.1	0.085	0.111



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	518598	2592.99	26.47	27	1.130	0.05	0.049	0.055
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Right Cheek	0mm	Sample 1	DSI 0	518598	2592.99	25.9	27	1.288	0.09	0.053	0.068
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	518598	2592.99	26.47	27	1.130	0.08	0.024	0.027
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Right Tilted	0mm	Sample 1	DSI 0	518598	2592.99	25.9	27	1.288	0.07	0.026	0.033
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	518598	2592.99	26.47	27	1.130	0.04	0.137	0.155
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Left Cheek	0mm	Sample 1	DSI 0	518598	2592.99	25.9	27	1.288	0.19	0.152	0.196
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	518598	2592.99	26.47	27	1.130	0.15	0.025	0.028
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Left Tilted	0mm	Sample 1	DSI 0	518598	2592.99	25.9	27	1.288	0.03	0.028	0.036
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Left Cheek	0mm	Sample 2	DSI 0	518598	2592.99	25.9	27	1.288	0.05	0.170	0.219
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Left Cheek	0mm	Sample 3	DSI 0	518598	2592.99	25.9	27	1.288	0.06	0.153	0.197
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	518598	2592.99	24.3	24.5	1.047	-0.13	0.387	0.405
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	518598	2592.99	24.3	24.5	1.047	0.09	0.102	0.107
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	518598	2592.99	24.3	24.5	1.047	-0.13	0.180	0.188
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	518598	2592.99	24.3	24.5	1.047	0.08	0.115	0.120
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Cheek	0mm	Sample 2	DSI 2	518598	2592.99	24.3	24.5	1.047	-0.08	0.436	0.457
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Cheek	0mm	Sample 3	DSI 2	518598	2592.99	24.3	24.5	1.047	-0.14	0.393	0.412
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	518598	2592.99	21.21	21.40	1.045	0.09	0.402	0.420
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	518598	2592.99	21.21	21.40	1.045	-0.04	0.356	0.372
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	518598	2592.99	21.21	21.40	1.045	-0.01	0.342	0.357
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	518598	2592.99	21.21	21.40	1.045	0.07	0.268	0.280
17	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Right Cheek	0mm	Sample 2	DSI 2	518598	2592.99	21.21	21.40	1.045	-0.1	0.448	0.468
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Right Cheek	0mm	Sample 3	DSI 2	518598	2592.99	21.21	21.40	1.045	-0.09	0.392	0.410
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	518598	2592.99	23.08	23.10	1.005	0.11	0.194	0.195
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	518598	2592.99	23.08	23.10	1.005	-0.04	0.044	0.044
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	518598	2592.99	23.08	23.10	1.005	-0.15	0.433	0.435
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	518598	2592.99	23.08	23.10	1.005	0.03	0.045	0.045
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Cheek	0mm	Sample 2	DSI 2	518598	2592.99	23.08	23.10	1.005	0.01	0.339	0.341
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Cheek	0mm	Sample 3	DSI 2	518598	2592.99	23.08	23.10	1.005	-0.1	0.458	0.460
	FR1 n66_Ant 2	40M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	349000	1745	24.23	25.2	1.250	0.04	0.021	0.026
	FR1 n66_Ant 2	40M	BPSK	108	54	Right Cheek	0mm	Sample 1	DSI 0	349000	1745	23.78	25.2	1.387	0.06	0.014	0.019
	FR1 n66_Ant 2	40M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	349000	1745	24.23	25.2	1.250	0.03	0.001	0.001
	FR1 n66_Ant 2	40M	BPSK	108	54	Right Tilted	0mm	Sample 1	DSI 0	349000	1745	23.78	25.2	1.387	0.19	0.002	0.003
	FR1 n66_Ant 2	40M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	349000	1745	24.23	25.2	1.250	0.16	0.019	0.024
	FR1 n66_Ant 2	40M	BPSK	108	54	Left Cheek	0mm	Sample 1	DSI 0	349000	1745	23.78	25.2	1.387	0.09	0.025	0.035
	FR1 n66_Ant 2	40M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	349000	1745	24.23	25.2	1.250	0.09	0.003	0.004
	FR1 n66_Ant 2	40M	BPSK	108	54	Left Tilted	0mm	Sample 1	DSI 0	349000	1745	23.78	25.2	1.387	0.11	0.001	0.001
	FR1 n66_Ant 2	40M	BPSK	108	54	Left Cheek	0mm	Sample 2	DSI 0	349000	1745	23.78	25.2	1.387	0.19	0.046	0.064
18	FR1 n66_Ant 2	40M	BPSK	108	54	Left Cheek	0mm	Sample 3	DSI 0	349000	1745	23.78	25.2	1.387	-0.07	0.049	0.068
	FR1 n71_Ant 0	20M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.11	0.175	0.176
	FR1 n71_Ant 0	20M	BPSK	50	28	Right Cheek	0mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	0.17	0.210	0.232
	FR1 n71_Ant 0	20M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.14	0.088	0.089
	FR1 n71_Ant 0	20M	BPSK	50	28	Right Tilted	0mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	0.14	0.116	0.128
	FR1 n71_Ant 0	20M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.11	0.149	0.150
	FR1 n71_Ant 0	20M	BPSK	50	28	Left Cheek	0mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	0.1	0.181	0.200
	FR1 n71_Ant 0	20M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0	0.075	0.076
	FR1 n71_Ant 0	20M	BPSK	50	28	Left Tilted	0mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	0.04	0.091	0.101
19	FR1 n71_Ant 0	20M	BPSK	50	28	Right Cheek	0mm	Sample 2	DSI 0	136100	680.5	24.26	24.7	1.107	-0.14	0.255	0.282
	FR1 n71_Ant 0	20M	BPSK	50	28	Right Cheek	0mm	Sample 3	DSI 0	136100	680.5	24.26	24.7	1.107	0.07	0.231	0.256



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	18.66	19.2	1.132	0.04	0.085	0.096
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	18.55	19.2	1.161	0.02	0.144	0.167
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	18.66	19.2	1.132	0.03	0.048	0.054
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	18.55	19.2	1.161	0.02	0.041	0.048
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	18.66	19.2	1.132	0.01	0.039	0.044
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	18.55	19.2	1.161	0.02	0.064	0.074
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	18.66	19.2	1.132	-0.03	0.033	0.037
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	18.55	19.2	1.161	-0.08	0.056	0.065
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 2	DSI 2	656000	3840	18.55	19.2	1.161	-0.01	0.093	0.108
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 3	DSI 2	656000	3840	18.55	19.2	1.161	-0.07	0.113	0.131
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	18.31	19.2	1.227	-0.04	0.341	0.419
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	18.13	19.2	1.279	-0.02	0.350	0.448
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	18.31	19.2	1.227	-0.03	0.098	0.120
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	18.13	19.2	1.279	0.08	0.105	0.134
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	18.31	19.2	1.227	0.02	0.142	0.174
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	18.13	19.2	1.279	0.01	0.166	0.212
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	18.31	19.2	1.227	0.06	0.092	0.113
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	18.13	19.2	1.279	0.04	0.083	0.106
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 2	DSI 2	633332	3499.98	18.13	19.2	1.279	-0.1	0.363	0.464
20	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Cheek	0mm	Sample 3	DSI 2	633332	3499.98	18.13	19.2	1.279	0.08	0.372	0.476
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	15.95	16	1.012	0.14	0.051	0.052
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	15.92	16	1.019	-0.05	0.060	0.061
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	15.95	16	1.012	-0.09	0.039	0.039
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	15.92	16	1.019	-0.14	0.034	0.035
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	15.95	16	1.012	0.02	0.221	0.224
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	15.92	16	1.019	0.03	0.233	0.237
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	15.95	16	1.012	0.04	0.001	0.001
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	15.92	16	1.019	0.17	0.001	0.001
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Cheek	0mm	Sample 2	DSI 2	656000	3840	15.92	16	1.019	0.16	0.459	0.468
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Cheek	0mm	Sample 3	DSI 2	656000	3840	15.92	16	1.019	0.11	0.302	0.308
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.64	16	1.086	-0.02	0.320	0.348
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.78	16	1.052	0.03	0.304	0.320
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.64	16	1.086	-0.08	0.236	0.256
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.78	16	1.052	-0.09	0.228	0.240
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.64	16	1.086	0.03	0.159	0.173
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.78	16	1.052	-0.01	0.141	0.148
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.64	16	1.086	0.02	0.001	0.001
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.78	16	1.052	0.03	0.001	0.001
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Cheek	0mm	Sample 2	DSI 2	633332	3499.98	15.64	16	1.086	0.06	0.328	0.356
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Cheek	0mm	Sample 3	DSI 2	633332	3499.98	15.64	16	1.086	-0.04	0.223	0.242
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	19.78	19.80	1.005	0.04	0.108	0.108
	FR1 n77_Ant 3	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	19.78	19.80	1.005	0.08	0.013	0.013
	FR1 n77_Ant 3	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	19.78	19.80	1.005	-0.08	0.061	0.061
	FR1 n77_Ant 3	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	19.78	19.80	1.005	-0.1	0.017	0.017
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 2	DSI 2	656000	3840	19.78	19.80	1.005	-0.11	0.088	0.088
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 3	DSI 2	656000	3840	19.78	19.80	1.005	-0.07	0.083	0.083
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	19.01	19.80	1.199	0.13	0.093	0.112
	FR1 n77_Ant 3	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	19.01	19.80	1.199	-0.15	0.017	0.020
	FR1 n77_Ant 3	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	19.01	19.80	1.199	-0.15	0.052	0.062
	FR1 n77_Ant 3	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	19.01	19.80	1.199	-0.02	0.019	0.023
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 2	DSI 2	633332	3499.98	19.01	19.80	1.199	0	0.046	0.055
	FR1 n77_Ant 3	100M	CW	-	-	Right Cheek	0mm	Sample 3	DSI 2	633332	3499.98	19.01	19.80	1.199	-0.06	0.055	0.066



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_Ant 5	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	656000	3840	15.70	15.90	1.047	0.06	0.112	0.117
	FR1 n77_Ant 5	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	656000	3840	15.70	15.90	1.047	-0.03	0.132	0.138
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	656000	3840	15.70	15.90	1.047	0.02	0.157	0.164
	FR1 n77_Ant 5	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	656000	3840	15.70	15.90	1.047	-0.1	0.143	0.150
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 2	DSI 2	656000	3840	15.70	15.90	1.047	-0.04	0.116	0.121
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 3	DSI 2	656000	3840	15.70	15.90	1.047	-0.03	0.116	0.121
	FR1 n77_Ant 5	100M	CW	-	-	Right Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.43	15.90	1.114	-0.19	0.235	0.262
	FR1 n77_Ant 5	100M	CW	-	-	Right Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.43	15.90	1.114	0.02	0.286	0.319
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 1	DSI 2	633332	3499.98	15.43	15.90	1.114	-0.11	0.315	0.351
	FR1 n77_Ant 5	100M	CW	-	-	Left Tilted	0mm	Sample 1	DSI 2	633332	3499.98	15.43	15.90	1.114	0	0.302	0.337
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 2	DSI 2	633332	3499.98	15.43	15.90	1.114	-0.13	0.253	0.282
	FR1 n77_Ant 5	100M	CW	-	-	Left Cheek	0mm	Sample 3	DSI 2	633332	3499.98	15.43	15.90	1.114	-0.07	0.266	0.296

<2.4GHZ WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	0.03	0.219	0.291
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.05	0.069	0.092
21	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	0.12	0.313	0.416
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.11	0.114	0.151
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 2	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.01	0.168	0.223
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 3	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	0.14	0.298	0.396
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.15	0.125	0.145
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.01	0.039	0.045
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.13	0.176	0.203
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.15	0.065	0.075
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 2	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.11	0.096	0.111
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 3	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.18	0.170	0.197
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Sample 1	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.07	0.238	0.261
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Sample 1	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	0.18	0.076	0.083
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 1	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.12	0.347	0.381
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Sample 1	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.16	0.125	0.137
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 2	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	0.01	0.183	0.201
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Sample 3	Ant 8	nonDBS/DBS	1	2412	17.60	18.00	1.096	99.9	1.001	0.03	0.326	0.358



<5GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.06	0.454	0.563
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	-0.16	0.206	0.255
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	-0.08	0.331	0.410
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.15	0.255	0.316
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 2	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	-0.05	0.439	0.544
22	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 3	Ant 9+8(8)	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.01	0.542	0.672
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.09	0.493	0.626
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	-0.12	0.386	0.490
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	-0.11	0.454	0.576
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.17	0.421	0.534
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 2	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.17	0.565	0.717
23	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 3	Ant 9+8(8)	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.07	0.612	0.777
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.1	0.451	0.547
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.11	0.371	0.450
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.09	0.348	0.422
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.08	0.394	0.477
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 2	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.05	0.484	0.587
24	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Sample 3	Ant 9+8(8)	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.06	0.589	0.714



<6GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	OutPut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	APD (W/m ²)
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	-0.01	0.067	0.087	0.455
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.02	0.083	0.107	0.638
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	15	6025	11.70	12.50	1.202	97.50	1.026	-0.01	0.059	0.073	0.44
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 1	Ant 9+8(9)	nonDBS / DBS	111	6505	9.80	11.00	1.318	97.50	1.026	0.04	0.054	0.073	0.379
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	175	6825	11.90	12.00	1.023	97.50	1.026	-0.1	0.100	0.105	0.79
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 1	Ant 9+8(9)	nonDBS / DBS	207	6985	10.20	12.00	1.514	97.50	1.026	-0.1	0.056	0.087	0.486
	WLAN6GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.15	0.032	0.041	0.182
	WLAN6GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Sample 1	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.17	0.068	0.088	0.486
	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 2	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.17	0.064	0.083	0.455
25	WLAN6GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Sample 3	Ant 9+8(8)	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	-0.09	0.120	0.155	0.866

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	0.02	0.001	0.001
	Bluetooth	1Mbps	Right Tilted	0mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	0.03	0.001	0.001
	Bluetooth	1Mbps	Left Cheek	0mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	0.08	0.001	0.001
	Bluetooth	1Mbps	Left Tilted	0mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	0.12	0.001	0.001
26	Bluetooth	1Mbps	Right Cheek	0mm	Sample 2	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	0.03	0.068	0.079
	Bluetooth	1Mbps	Right Cheek	0mm	Sample 3	Ant 9	78	2480	3.72	4.00	1.067	76.83	1.084	-0.04	0.066	0.076



16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_Ant 4	GPRS (4 Tx slots)	Front	10mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	-0.04	0.178	0.208
	GSM850_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.06	0.364	0.426
	GSM850_Ant 4	GPRS (4 Tx slots)	Left Side	10mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.07	0.109	0.127
	GSM850_Ant 4	GPRS (4 Tx slots)	Right Side	10mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	0.05	0.097	0.113
	GSM850_Ant 4	GPRS (4 Tx slots)	Bottom Side	10mm	Sample 1	DSI 0	128	824.2	29.82	30.5	1.169	-0.12	0.288	0.337
	GSM850_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 2	DSI 0	128	824.2	29.82	30.5	1.169	-0.01	0.386	0.451
27	GSM850_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	DSI 0	128	824.2	29.82	30.5	1.169	-0.07	0.393	0.460
	GSM1900_Ant 4	GPRS (4 Tx slots)	Front	10mm	Sample 1	DSI 3	810	1909.8	25.76	26	1.057	-0.17	0.136	0.144
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 1	DSI 3	810	1909.8	25.76	26	1.057	0.03	0.628	0.664
	GSM1900_Ant 4	GPRS (4 Tx slots)	Left Side	10mm	Sample 1	DSI 3	810	1909.8	25.76	26	1.057	-0.18	0.114	0.120
	GSM1900_Ant 4	GPRS (4 Tx slots)	Right Side	10mm	Sample 1	DSI 3	810	1909.8	25.76	26	1.057	0.08	0.060	0.063
	GSM1900_Ant 4	GPRS (4 Tx slots)	Bottom Side	10mm	Sample 1	DSI 3	810	1909.8	25.76	26	1.057	0.09	0.457	0.483
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 2	DSI 3	810	1909.8	25.76	26	1.057	-0.14	0.659	0.696
28	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	DSI 3	810	1909.8	25.76	26	1.057	0.12	0.815	0.861
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	DSI 3	512	1850.2	25.65	26	1.084	-0.13	0.630	0.683
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	DSI 3	661	1880	25.68	26	1.076	-0.14	0.743	0.800

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Ant 2	RMC 12.2Kbps	Front	10mm	Sample 1	DSI 3	9538	1907.6	22.99	23.5	1.125	-0.11	0.183	0.206
	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	Sample 1	DSI 3	9538	1907.6	22.99	23.5	1.125	0.06	0.326	0.367
	WCDMA II_Ant 2	RMC 12.2Kbps	Left Side	10mm	Sample 1	DSI 3	9538	1907.6	22.99	23.5	1.125	0.05	0.031	0.035
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Side	10mm	Sample 1	DSI 3	9538	1907.6	22.99	23.5	1.125	-0.16	0.436	0.490
	WCDMA II_Ant 2	RMC 12.2Kbps	Bottom Side	10mm	Sample 1	DSI 3	9538	1907.6	22.99	23.5	1.125	-0.03	0.203	0.228
	WCDMA II_Ant 2	RMC 12.2Kbps	Right Side	10mm	Sample 2	DSI 3	9538	1907.6	22.99	23.5	1.125	-0.09	0.454	0.511
29	WCDMA II_Ant 2	RMC 12.2Kbps	Right Side	10mm	Sample 3	DSI 3	9538	1907.6	22.99	23.5	1.125	0.06	0.475	0.534
	WCDMA IV_Ant 2	RMC 12.2Kbps	Front	10mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0.05	0.147	0.192
	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	0.03	0.507	0.661
	WCDMA IV_Ant 2	RMC 12.2Kbps	Left Side	10mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.03	0.057	0.074
	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Side	10mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.07	0.138	0.180
	WCDMA IV_Ant 2	RMC 12.2Kbps	Bottom Side	10mm	Sample 1	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.12	0.058	0.076
30	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	Sample 2	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.02	0.530	0.691
	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	Sample 3	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.1	0.317	0.413
	WCDMA V_Ant 4	RMC 12.2Kbps	Front	10mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	0.14	0.177	0.197
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	10mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	0.09	0.355	0.395
	WCDMA V_Ant 4	RMC 12.2Kbps	Left Side	10mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	-0.03	0.108	0.120
	WCDMA V_Ant 4	RMC 12.2Kbps	Right Side	10mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	0.02	0.064	0.071
	WCDMA V_Ant 4	RMC 12.2Kbps	Bottom Side	10mm	Sample 1	DSI 0	4132	826.4	24.74	25.2	1.112	-0.04	0.214	0.238
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	10mm	Sample 2	DSI 0	4132	826.4	24.74	25.2	1.112	-0.01	0.329	0.366
31	WCDMA V_Ant 4	RMC 12.2Kbps	Back	10mm	Sample 3	DSI 0	4132	826.4	24.74	25.2	1.112	0.11	0.361	0.401



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	19100	1900	23.28	24.3	1.265	-0.06	0.167	0.212
	LTE Band 2_Ant 2	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 3	19100	1900	22.32	23.3	1.253	-0.18	0.139	0.174
	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	19100	1900	23.28	24.3	1.265	-0.18	0.261	0.331
	LTE Band 2_Ant 2	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 3	19100	1900	22.32	23.3	1.253	-0.06	0.213	0.267
	LTE Band 2_Ant 2	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	19100	1900	23.28	24.3	1.265	0.07	0.001	0.001
	LTE Band 2_Ant 2	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 3	19100	1900	22.32	23.3	1.253	-0.04	0.001	0.001
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	19100	1900	23.28	24.3	1.265	0.08	0.331	0.419
	LTE Band 2_Ant 2	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 3	19100	1900	22.32	23.3	1.253	-0.06	0.281	0.353
	LTE Band 2_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	19100	1900	23.28	24.3	1.265	-0.04	0.207	0.261
	LTE Band 2_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 3	19100	1900	22.32	23.3	1.253	0.09	0.154	0.193
	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Side	10mm	Sample 2	DSI 3	19100	1900	23.28	24.3	1.265	0.08	0.386	0.488
32	LTE Band 2_Ant 2	20M	QPSK	1	0	Right Side	10mm	Sample 3	DSI 3	19100	1900	23.28	24.3	1.265	-0.04	0.421	0.532
	LTE Band 5_Ant 4	10M	QPSK	1	0	Front	10mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	0.12	0.161	0.213
	LTE Band 5_Ant 4	10M	QPSK	25	0	Front	10mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	-0.1	0.137	0.190
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	0.01	0.299	0.395
	LTE Band 5_Ant 4	10M	QPSK	25	0	Back	10mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	-0.12	0.251	0.349
	LTE Band 5_Ant 4	10M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	-0.06	0.092	0.122
	LTE Band 5_Ant 4	10M	QPSK	25	0	Left Side	10mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0.18	0.072	0.100
	LTE Band 5_Ant 4	10M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	0.19	0.089	0.118
	LTE Band 5_Ant 4	10M	QPSK	25	0	Right Side	10mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0.08	0.065	0.090
	LTE Band 5_Ant 4	10M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 0	20525	836.5	23.99	25.2	1.321	-0.14	0.196	0.260
	LTE Band 5_Ant 4	10M	QPSK	25	0	Bottom Side	10mm	Sample 1	DSI 0	20525	836.5	22.77	24.2	1.390	0.14	0.156	0.217
	LTE Band 5B_Ant 4	10M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	20575	841.5	24.58	25.20	1.153	-0.05	0.331	0.382
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	10mm	Sample 2	DSI 0	20525	836.5	23.99	25.2	1.321	-0.1	0.339	0.447
33	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	10mm	Sample 3	DSI 0	20525	836.5	23.99	25.2	1.321	0.09	0.385	0.509
	LTE Band 7_Ant 12	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.12	0.200	0.208
	LTE Band 7_Ant 12	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.14	0.166	0.169
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.14	0.764	0.794
	LTE Band 7_Ant 12	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.04	0.653	0.665
	LTE Band 7_Ant 12	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	-0.05	0.168	0.175
	LTE Band 7_Ant 12	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.01	0.124	0.126
	LTE Band 7_Ant 12	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.11	0.453	0.471
	LTE Band 7_Ant 12	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.06	0.371	0.378
	LTE Band 7_Ant 12	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 0	21350	2560	23.83	24	1.040	0.19	0.207	0.215
	LTE Band 7_Ant 12	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 0	21350	2560	22.92	23	1.019	0.14	0.167	0.170
	LTE Band 7C_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	21350	2560	23.99	24.00	1.002	0.04	0.731	0.733
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 0	21350	2560	23.83	24	1.040	0.16	0.617	0.642
34	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 3	DSI 0	21350	2560	23.83	24	1.040	-0.15	0.854	0.888
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 3	DSI 0	20850	2510	23.29	24	1.178	0.19	0.697	0.821
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 3	DSI 0	21100	2535	23.5	24	1.122	0.1	0.785	0.881
	LTE Band 7_Ant 12	20M	QPSK	50	0	Back	10mm	Sample 3	DSI 0	21350	2560	22.92	23	1.019	0.19	0.697	0.710
	LTE Band 7_Ant 12	20M	QPSK	50	0	Back	10mm	Sample 3	DSI 0	20850	2510	22.46	23	1.132	0.16	0.567	0.642
	LTE Band 7_Ant 12	20M	QPSK	50	0	Back	10mm	Sample 3	DSI 0	21100	2535	22.69	23	1.074	0	0.645	0.693
	LTE Band 7_Ant 12	20M	QPSK	100	0	Back	10mm	Sample 3	DSI 0	21350	2560	22.85	23	1.035	0.03	0.704	0.729
	LTE Band 7_Ant 6	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	21350	2560	21.45	22.3	1.216	-0.04	0.145	0.176
	LTE Band 7_Ant 6	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 3	21350	2560	21.42	22.3	1.225	-0.02	0.120	0.147
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	21350	2560	21.45	22.3	1.216	-0.08	0.367	0.446
	LTE Band 7_Ant 6	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 3	21350	2560	21.42	22.3	1.225	0.06	0.268	0.328
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	21350	2560	21.45	22.3	1.216	-0.03	0.443	0.539
	LTE Band 7_Ant 6	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 3	21350	2560	21.42	22.3	1.225	0.1	0.431	0.528
	LTE Band 7_Ant 6	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	21350	2560	21.45	22.3	1.216	0.02	0.001	0.001
	LTE Band 7_Ant 6	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 3	21350	2560	21.42	22.3	1.225	0.03	0.001	0.001
	LTE Band 7_Ant 6	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	21350	2560	21.45	22.3	1.216	0.04	0.245	0.298
	LTE Band 7_Ant 6	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 3	21350	2560	21.42	22.3	1.225	0.02	0.118	0.145
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 2	DSI 3	21350	2560	21.45	22.3	1.216	0.08	0.342	0.416
	LTE Band 7_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 3	DSI 3	21350	2560	21.45	22.3	1.216	-0.01	0.307	0.373



FCC SAR TEST REPORT

Report No. : FA222201A

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut] Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 17_Ant 0	10M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	23790	710	23.08	24.1	1.265	-0.05	0.293	0.370
	LTE Band 17_Ant 0	10M	QPSK	25	0	Front	10mm	Sample 1	DSI 3	23790	710	22.05	23.1	1.274	-0.12	0.232	0.295
	LTE Band 17_Ant 0	10M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	23790	710	23.08	24.1	1.265	-0.09	0.351	0.444
	LTE Band 17_Ant 0	10M	QPSK	25	0	Back	10mm	Sample 1	DSI 3	23790	710	22.05	23.1	1.274	-0.03	0.281	0.358
	LTE Band 17_Ant 0	10M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	23790	710	23.08	24.1	1.265	0	0.209	0.264
	LTE Band 17_Ant 0	10M	QPSK	25	0	Left Side	10mm	Sample 1	DSI 3	23790	710	22.05	23.1	1.274	-0.14	0.140	0.178
	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	23790	710	23.08	24.1	1.265	0.09	0.354	0.448
	LTE Band 17_Ant 0	10M	QPSK	25	0	Right Side	10mm	Sample 1	DSI 3	23790	710	22.05	23.1	1.274	0.09	0.254	0.324
	LTE Band 17_Ant 0	10M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	23790	710	23.08	24.1	1.265	0.07	0.267	0.337
	LTE Band 17_Ant 0	10M	QPSK	25	0	Bottom Side	10mm	Sample 1	DSI 3	23790	710	22.05	23.1	1.274	-0.16	0.219	0.279
35	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Side	10mm	Sample 2	DSI 3	23790	710	23.08	24.1	1.265	-0.11	0.422	0.534
	LTE Band 17_Ant 0	10M	QPSK	1	0	Right Side	10mm	Sample 3	DSI 3	23790	710	23.08	24.1	1.265	0.13	0.377	0.477
	LTE Band 66_Ant 2	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	132572	1770	23.94	24.2	1.062	0	0.203	0.216
	LTE Band 66_Ant 2	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 3	132572	1770	23.01	23.2	1.045	0.05	0.172	0.180
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	132572	1770	23.94	24.2	1.062	0.18	0.669	0.710
	LTE Band 66_Ant 2	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 3	132572	1770	23.01	23.2	1.045	-0.14	0.485	0.507
	LTE Band 66_Ant 2	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	132572	1770	23.94	24.2	1.062	-0.13	0.085	0.091
	LTE Band 66_Ant 2	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 3	132572	1770	23.01	23.2	1.045	0.09	0.070	0.073
	LTE Band 66_Ant 2	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	132572	1770	23.94	24.2	1.062	0.03	0.265	0.282
	LTE Band 66_Ant 2	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 3	132572	1770	23.01	23.2	1.045	0.18	0.212	0.221
	LTE Band 66_Ant 2	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	132572	1770	23.94	24.2	1.062	-0.18	0.079	0.084
	LTE Band 66_Ant 2	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 3	132572	1770	23.01	23.2	1.045	-0.07	0.077	0.081
	LTE Band 66C_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 3	132572	1770	24.01	24.20	1.045	-0.08	0.566	0.591
	LTE Band 66B_Ant 2	15M	QPSK	1	0	Back	10mm	Sample 2	DSI 3	132597	1772.5	23.83	24.20	1.089	0.11	0.573	0.624
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 3	132572	1770	23.94	24.2	1.062	0.1	0.716	0.760
36	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 3	132072	1720	22.97	24.2	1.327	0.09	0.593	0.787
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 3	132322	1745	23.76	24.2	1.107	0.16	0.665	0.736
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	10mm	Sample 3	DSI 3	132572	1770	23.94	24.2	1.062	0.02	0.359	0.381
	LTE Band 71_Ant 0	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.1	0.207	0.274
	LTE Band 71_Ant 0	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.07	0.201	0.272
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.01	0.299	0.395
	LTE Band 71_Ant 0	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.16	0.264	0.357
	LTE Band 71_Ant 0	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.17	0.157	0.207
	LTE Band 71_Ant 0	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	-0.06	0.163	0.220
	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.01	0.221	0.292
	LTE Band 71_Ant 0	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.18	0.276	0.373
	LTE Band 71_Ant 0	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 0	133297	680.5	23.49	24.7	1.321	0.07	0.182	0.240
	LTE Band 71_Ant 0	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 0	133297	680.5	22.39	23.7	1.352	0.08	0.166	0.224
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Sample 2	DSI 0	133297	680.5	23.49	24.7	1.321	0.15	0.292	0.386
37	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	10mm	Sample 3	DSI 0	133297	680.5	23.49	24.7	1.321	-0.11	0.358	0.473



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	OutPut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_Ant 6	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.11	0.125	0.151
	LTE Band 41_Ant 6	20M	QPSK	50	24	Front	10mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.07	0.105	0.130
	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.15	0.327	0.394
	LTE Band 41_Ant 6	20M	QPSK	50	24	Back	10mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.08	0.272	0.335
38	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	-0.18	0.413	0.497
	LTE Band 41_Ant 6	20M	QPSK	50	24	Left Side	10mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.03	0.338	0.418
	LTE Band 41_Ant 6	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.13	0.001	0.001
	LTE Band 41_Ant 6	20M	QPSK	50	24	Right Side	10mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.15	0.001	0.001
	LTE Band 41_Ant 6	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.16	0.168	0.203
	LTE Band 41_Ant 6	20M	QPSK	50	24	Bottom Side	10mm	Sample 1	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.01	0.142	0.176
	LTE Band 41_HPUE_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	41055	2636.5	26.32	27	1.169	42.9	1.009	-0.13	0.413	0.487
	LTE Band 41C_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	41490	2680	24.57	25.00	1.104	62.9	1.006	-0.18	0.403	0.448
	LTE Band 41C_HPUE_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 0	41490	2680	26.99	27.00	1.002	42.9	1.009	0.06	0.426	0.431
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 2	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.09	0.382	0.459
	LTE Band 41_Ant 6	20M	QPSK	1	0	Left Side	10mm	Sample 3	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.14	0.362	0.435
	LTE Band 42_Ant 12	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	-0.13	0.118	0.123
	LTE Band 42_Ant 12	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 3	42590	3500	19.28	19.5	1.052	62.9	1.006	0.14	0.095	0.101
	LTE Band 42_Ant 12	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	0.17	0.199	0.208
	LTE Band 42_Ant 12	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 3	42590	3500	19.28	19.5	1.052	62.9	1.006	-0.05	0.154	0.163
	LTE Band 42_Ant 12	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	0.01	0.049	0.051
	LTE Band 42_Ant 12	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 3	42590	3500	19.28	19.5	1.052	62.9	1.006	0.06	0.039	0.041
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	-0.03	0.363	0.380
	LTE Band 42_Ant 12	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 3	42590	3500	19.28	19.5	1.052	62.9	1.006	-0.15	0.283	0.300
	LTE Band 42_Ant 12	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	-0.04	0.064	0.067
	LTE Band 42_Ant 12	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 3	42590	3500	19.28	19.5	1.052	62.9	1.006	-0.12	0.050	0.053
	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Side	10mm	Sample 2	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	-0.01	0.452	0.473
39	LTE Band 42_Ant 12	20M	QPSK	1	0	Right Side	10mm	Sample 3	DSI 3	42590	3500	20.33	20.5	1.040	62.9	1.006	-0.07	0.509	0.532
	LTE Band 42_Ant 11	20M	QPSK	1	0	Front	10mm	Sample 1	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	0.04	0.102	0.105
	LTE Band 42_Ant 11	20M	QPSK	50	0	Front	10mm	Sample 1	DSI 3	42590	3500	22.63	23.1	1.114	62.9	1.006	0.02	0.082	0.092
	LTE Band 42_Ant 11	20M	QPSK	1	0	Back	10mm	Sample 1	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	0.03	0.160	0.165
	LTE Band 42_Ant 11	20M	QPSK	50	0	Back	10mm	Sample 1	DSI 3	42590	3500	22.63	23.1	1.114	62.9	1.006	0.05	0.131	0.147
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Side	10mm	Sample 1	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	-0.06	0.210	0.216
	LTE Band 42_Ant 11	20M	QPSK	50	0	Left Side	10mm	Sample 1	DSI 3	42590	3500	22.63	23.1	1.114	62.9	1.006	-0.07	0.175	0.196
	LTE Band 42_Ant 11	20M	QPSK	1	0	Right Side	10mm	Sample 1	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	-0.08	0.085	0.088
	LTE Band 42_Ant 11	20M	QPSK	50	0	Right Side	10mm	Sample 1	DSI 3	42590	3500	22.63	23.1	1.114	62.9	1.006	0	0.078	0.087
	LTE Band 42_Ant 11	20M	QPSK	1	0	Bottom Side	10mm	Sample 1	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	-0.14	0.063	0.065
	LTE Band 42_Ant 11	20M	QPSK	50	0	Bottom Side	10mm	Sample 1	DSI 3	42590	3500	22.63	23.1	1.114	62.9	1.006	0.03	0.054	0.061
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Side	10mm	Sample 2	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	0.02	0.412	0.424
	LTE Band 42_Ant 11	20M	QPSK	1	0	Left Side	10mm	Sample 3	DSI 3	42590	3500	23.5	23.6	1.023	62.9	1.006	0.08	0.404	0.416



<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	OutPut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n2_Ant 2	20M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	376000	1880	23.33	24.4	1.279	0.15	0.205	0.262
	FR1 n2_Ant 2	20M	BPSK	50	28	Front	10mm	Sample 1	DSI 3	376000	1880	23.26	24.4	1.300	0.16	0.204	0.265
	FR1 n2_Ant 2	20M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	376000	1880	23.33	24.4	1.279	-0.12	0.370	0.473
	FR1 n2_Ant 2	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 3	376000	1880	23.26	24.4	1.300	-0.05	0.342	0.445
	FR1 n2_Ant 2	20M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	376000	1880	23.33	24.4	1.279	0.03	0.046	0.059
	FR1 n2_Ant 2	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 3	376000	1880	23.26	24.4	1.300	-0.14	0.062	0.081
	FR1 n2_Ant 2	20M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	376000	1880	23.33	24.4	1.279	0.12	0.389	0.498
40	FR1 n2_Ant 2	20M	BPSK	50	28	Right Side	10mm	Sample 1	DSI 3	376000	1880	23.26	24.4	1.300	0.17	0.409	0.532
	FR1 n2_Ant 2	20M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	376000	1880	23.33	24.4	1.279	0.17	0.270	0.345
	FR1 n2_Ant 2	20M	BPSK	50	28	Bottom Side	10mm	Sample 1	DSI 3	376000	1880	23.26	24.4	1.300	-0.15	0.194	0.252
	FR1 n2_Ant 2	20M	BPSK	50	28	Right Side	10mm	Sample 2	DSI 3	376000	1880	23.26	24.4	1.300	0.06	0.370	0.481
	FR1 n2_Ant 2	20M	BPSK	50	28	Right Side	10mm	Sample 3	DSI 3	376000	1880	23.26	24.4	1.300	-0.09	0.403	0.524
	FR1 n5_Ant 4	20M	BPSK	1	1	Front	10mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.04	0.149	0.175
	FR1 n5_Ant 4	20M	BPSK	50	28	Front	10mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	0.18	0.206	0.249
	FR1 n5_Ant 4	20M	BPSK	1	1	Back	10mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.11	0.278	0.326
41	FR1 n5_Ant 4	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	0.15	0.377	0.455
	FR1 n5_Ant 4	20M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.06	0.086	0.101
	FR1 n5_Ant 4	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	-0.03	0.104	0.126
	FR1 n5_Ant 4	20M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	-0.05	0.050	0.059
	FR1 n5_Ant 4	20M	BPSK	50	28	Right Side	10mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	-0.09	0.075	0.091
	FR1 n5_Ant 4	20M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 0	167300	836.5	24.51	25.2	1.172	0.02	0.203	0.238
	FR1 n5_Ant 4	20M	BPSK	50	28	Bottom Side	10mm	Sample 1	DSI 0	167300	836.5	24.38	25.2	1.208	0.03	0.312	0.377
	FR1 n5_Ant 4	20M	BPSK	50	28	Back	10mm	Sample 2	DSI 0	167300	836.5	24.38	25.2	1.208	-0.04	0.366	0.442
	FR1 n5_Ant 4	20M	BPSK	50	28	Back	10mm	Sample 3	DSI 0	167300	836.5	24.38	25.2	1.208	-0.01	0.356	0.430
	FR1 n7_Ant 12	20M	BPSK	1	1	Front	10mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	0.03	0.131	0.136
	FR1 n7_Ant 12	20M	BPSK	50	28	Front	10mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.08	0.129	0.158
	FR1 n7_Ant 12	20M	BPSK	1	1	Back	10mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	-0.12	0.511	0.533
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.03	0.591	0.725
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 0	502000	2510	23.08	24	1.236	-0.07	0.397	0.491
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 0	512000	2560	23.22	24	1.197	0.17	0.518	0.620
	FR1 n7_Ant 12	20M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	0.04	0.085	0.089
	FR1 n7_Ant 12	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	-0.12	0.101	0.124
	FR1 n7_Ant 12	20M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	-0.17	0.343	0.357
	FR1 n7_Ant 12	20M	BPSK	50	28	Right Side	10mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	0.09	0.299	0.367
	FR1 n7_Ant 12	20M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 0	507000	2535	23.82	24	1.042	-0.1	0.094	0.098
	FR1 n7_Ant 12	20M	BPSK	50	28	Bottom Side	10mm	Sample 1	DSI 0	507000	2535	23.11	24	1.227	0.17	0.154	0.189
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	10mm	Sample 2	DSI 0	507000	2535	23.11	24	1.227	0.01	0.521	0.639
42	FR1 n7_Ant 12	20M	BPSK	50	28	Back	10mm	Sample 3	DSI 0	507000	2535	23.11	24	1.227	0.03	0.701	0.860
	FR1 n7_Ant 12	20M	BPSK	100	0	Back	10mm	Sample 3	DSI 0	507000	2535	23.2	23.5	1.072	0.16	0.704	0.754
	FR1 n7_Ant 6	20M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	507000	2535	23.05	23.2	1.035	-0.08	0.131	0.136
	FR1 n7_Ant 6	20M	BPSK	50	28	Front	10mm	Sample 1	DSI 3	507000	2535	23.04	23.2	1.038	0.01	0.143	0.148
	FR1 n7_Ant 6	20M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	507000	2535	23.05	23.2	1.035	0.13	0.329	0.341
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 3	507000	2535	23.04	23.2	1.038	0.12	0.367	0.381
	FR1 n7_Ant 6	20M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	507000	2535	23.05	23.2	1.035	-0.04	0.316	0.327
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 3	507000	2535	23.04	23.2	1.038	-0.14	0.405	0.420
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 3	502000	2510	22.37	23.2	1.211	-0.04	0.394	0.477
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 3	512000	2560	23.09	23.2	1.026	0.11	0.373	0.383
	FR1 n7_Ant 6	20M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	507000	2535	23.05	23.2	1.035	-0.05	0.001	0.001
	FR1 n7_Ant 6	20M	BPSK	50	28	Right Side	10mm	Sample 1	DSI 3	507000	2535	23.04	23.2	1.038	-0.04	0.001	0.001
	FR1 n7_Ant 6	20M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	507000	2535	23.05	23.2	1.035	-0.09	0.157	0.163
	FR1 n7_Ant 6	20M	BPSK	50	28	Bottom Side	10mm	Sample 1	DSI 3	507000	2535	23.04	23.2	1.038	-0.17	0.167	0.173
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Side	10mm	Sample 2	DSI 3	507000	2535	23.04	23.2	1.038	0.04	0.354	0.367
	FR1 n7_Ant 6	20M	BPSK	50	28	Left Side	10mm	Sample 3	DSI 3	507000	2535	23.04	23.2	1.038	0.11	0.271	0.281



FCC SAR TEST REPORT

Report No. : FA222201A

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut] Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	518598	2592.99	20.46	21.9	1.393	-0.08	0.161	0.224
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Front	10mm	Sample 1	DSI 3	518598	2592.99	20.38	21.9	1.419	-0.02	0.146	0.207
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	518598	2592.99	20.46	21.9	1.393	-0.1	0.257	0.358
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Back	10mm	Sample 1	DSI 3	518598	2592.99	20.38	21.9	1.419	0.13	0.247	0.351
43	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	518598	2592.99	20.46	21.9	1.393	-0.05	0.388	0.541
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Left Side	10mm	Sample 1	DSI 3	518598	2592.99	20.38	21.9	1.419	-0.05	0.377	0.535
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	518598	2592.99	20.46	21.9	1.393	0.11	0.001	0.001
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Right Side	10mm	Sample 1	DSI 3	518598	2592.99	20.38	21.9	1.419	-0.06	0.001	0.001
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	20.46	21.9	1.393	0.09	0.172	0.240
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	20.38	21.9	1.419	0.07	0.168	0.238
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Left Side	10mm	Sample 2	DSI 3	518598	2592.99	20.46	21.9	1.393	0.02	0.373	0.520
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Left Side	10mm	Sample 3	DSI 3	518598	2592.99	20.46	21.9	1.393	0.02	0.348	0.485
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	518598	2592.99	23.78	24.50	1.180	-0.05	0.121	0.143
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	518598	2592.99	23.78	24.50	1.180	-0.01	0.297	0.351
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	518598	2592.99	23.78	24.50	1.180	0.07	0.109	0.129
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	518598	2592.99	23.78	24.50	1.180	0.1	0.270	0.319
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	23.78	24.50	1.180	0.02	0.053	0.063
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Side	10mm	Sample 2	DSI 3	518598	2592.99	23.78	24.50	1.180	-0.05	0.303	0.358
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Right Side	10mm	Sample 3	DSI 3	518598	2592.99	23.78	24.50	1.180	-0.1	0.250	0.295
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	-0.16	0.329	0.359
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	-0.05	0.133	0.145
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	0.05	0.304	0.332
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	-0.05	0.001	0.001
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Top Side	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	0.07	0.195	0.213
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	24.02	24.40	1.091	0.08	0.001	0.001
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	10mm	Sample 2	DSI 3	518598	2592.99	24.02	24.40	1.091	-0.1	0.333	0.363
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	10mm	Sample 3	DSI 3	518598	2592.99	24.02	24.40	1.091	0.08	0.310	0.338
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	0.03	0.222	0.239
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	-0.03	0.252	0.271
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	-0.15	0.467	0.503
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	-0.03	0.036	0.039
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	-0.13	0.027	0.029
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	518598	2592.99	24.18	24.50	1.076	-0.16	0.032	0.034
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Side	10mm	Sample 2	DSI 3	518598	2592.99	24.18	24.50	1.076	0.07	0.413	0.445
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Left Side	10mm	Sample 3	DSI 3	518598	2592.99	24.18	24.50	1.076	0	0.494	0.532
	FR1 n66_Ant 2	40M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	349000	1745	24.23	24.7	1.114	0.01	0.120	0.134
	FR1 n66_Ant 2	40M	BPSK	108	54	Front	10mm	Sample 1	DSI 3	349000	1745	23.78	24.7	1.236	0.17	0.125	0.154
	FR1 n66_Ant 2	40M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	349000	1745	24.23	24.7	1.114	0.12	0.479	0.534
44	FR1 n66_Ant 2	40M	BPSK	108	54	Back	10mm	Sample 1	DSI 3	349000	1745	23.78	24.7	1.236	0.02	0.557	0.688
	FR1 n66_Ant 2	40M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	349000	1745	24.23	24.7	1.114	0.15	0.001	0.001
	FR1 n66_Ant 2	40M	BPSK	108	54	Left Side	10mm	Sample 1	DSI 3	349000	1745	23.78	24.7	1.236	0.15	0.001	0.001
	FR1 n66_Ant 2	40M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	349000	1745	24.23	24.7	1.114	0.12	0.127	0.142
	FR1 n66_Ant 2	40M	BPSK	108	54	Right Side	10mm	Sample 1	DSI 3	349000	1745	23.78	24.7	1.236	0.15	0.134	0.166
	FR1 n66_Ant 2	40M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	349000	1745	24.23	24.7	1.114	0.1	0.077	0.086
	FR1 n66_Ant 2	40M	BPSK	108	54	Bottom Side	10mm	Sample 1	DSI 3	349000	1745	23.78	24.7	1.236	0.11	0.049	0.061
	FR1 n66_Ant 2	40M	BPSK	108	54	Back	10mm	Sample 2	DSI 3	349000	1745	23.78	24.7	1.236	0.01	0.426	0.527
	FR1 n66_Ant 2	40M	BPSK	108	54	Back	10mm	Sample 3	DSI 3	349000	1745	23.78	24.7	1.236	0.04	0.259	0.320
	FR1 n71_Ant 0	20M	BPSK	1	1	Front	10mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.05	0.125	0.126
	FR1 n71_Ant 0	20M	BPSK	50	28	Front	10mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	-0.05	0.278	0.308
	FR1 n71_Ant 0	20M	BPSK	1	1	Back	10mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	-0.01	0.251	0.253
45	FR1 n71_Ant 0	20M	BPSK	50	28	Back	10mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	-0.1	0.356	0.394
	FR1 n71_Ant 0	20M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.05	0.001	0.001
	FR1 n71_Ant 0	20M	BPSK	50	28	Left Side	10mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	-0.06	0.080	0.088
	FR1 n71_Ant 0	20M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	-0.02	0.154	0.155
	FR1 n71_Ant 0	20M	BPSK	50	28	Right Side	10mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	-0.08	0.236	0.261
	FR1 n71_Ant 0	20M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 0	136100	680.5	24.67	24.7	1.007	0.13	0.198	0.199
	FR1 n71_Ant 0	20M	BPSK	50	28	Bottom Side	10mm	Sample 1	DSI 0	136100	680.5	24.26	24.7	1.107	-0.18	0.222	0.246
	FR1 n71_Ant 0	20M	BPSK	50	28	Back	10mm	Sample 2	DSI 0	136100	680.5	24.26	24.7	1.107	-0.12	0.330	0.365
	FR1 n71_Ant 0	20M	BPSK	50	28	Back	10mm	Sample 3	DSI 0	136100	680.5	24.26	24.7	1.107	-0.02	0.336	0.372



FCC SAR TEST REPORT

Report No. : FA222201A

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	OutPut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	656000	3840	18.4	18.8	1.096	-0.08	0.047	0.052
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Front	10mm	Sample 1	DSI 3	656000	3840	18.42	18.8	1.091	-0.05	0.057	0.062
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	656000	3840	18.4	18.8	1.096	0.1	0.217	0.238
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	10mm	Sample 1	DSI 3	656000	3840	18.42	18.8	1.091	-0.04	0.253	0.276
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	656000	3840	18.4	18.8	1.096	-0.02	0.084	0.092
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Side	10mm	Sample 1	DSI 3	656000	3840	18.42	18.8	1.091	-0.01	0.101	0.110
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	656000	3840	18.4	18.8	1.096	-0.15	0.295	0.323
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 1	DSI 3	656000	3840	18.42	18.8	1.091	-0.04	0.303	0.331
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	18.4	18.8	1.096	-0.12	0.072	0.079
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	18.42	18.8	1.091	0.12	0.065	0.071
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 2	DSI 3	656000	3840	18.42	18.8	1.091	-0.17	0.322	0.351
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 3	DSI 3	656000	3840	18.42	18.8	1.091	-0.15	0.355	0.387
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	633332	3499.98	18.31	18.8	1.119	0.18	0.119	0.133
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Front	10mm	Sample 1	DSI 3	633332	3499.98	18.21	18.8	1.146	0.06	0.122	0.140
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	633332	3499.98	18.31	18.8	1.119	0.12	0.213	0.238
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	10mm	Sample 1	DSI 3	633332	3499.98	18.21	18.8	1.146	0.02	0.212	0.243
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	18.31	18.8	1.119	-0.07	0.054	0.060
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	18.21	18.8	1.146	0	0.043	0.049
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	18.31	18.8	1.119	0.15	0.341	0.382
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	18.21	18.8	1.146	0.05	0.346	0.396
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	18.31	18.8	1.119	0.11	0.083	0.093
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	18.21	18.8	1.146	0.09	0.074	0.085
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 2	DSI 3	633332	3499.98	18.21	18.8	1.146	-0.15	0.396	0.454
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Right Side	10mm	Sample 3	DSI 3	633332	3499.98	18.21	18.8	1.146	-0.03	0.471	0.540
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	656000	3840	18.43	18.9	1.114	0.04	0.073	0.081
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Front	10mm	Sample 1	DSI 3	656000	3840	18.23	18.9	1.167	0.01	0.064	0.075
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	656000	3840	18.43	18.9	1.114	0.06	0.103	0.115
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	10mm	Sample 1	DSI 3	656000	3840	18.23	18.9	1.167	0.08	0.094	0.110
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	656000	3840	18.43	18.9	1.114	0.12	0.146	0.163
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Side	10mm	Sample 1	DSI 3	656000	3840	18.23	18.9	1.167	0.03	0.130	0.152
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	656000	3840	18.43	18.9	1.114	-0.02	0.045	0.050
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Side	10mm	Sample 1	DSI 3	656000	3840	18.23	18.9	1.167	-0.05	0.044	0.051
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	18.43	18.9	1.114	0.03	0.054	0.060
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	18.23	18.9	1.167	-0.09	0.063	0.074
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 2	DSI 3	656000	3840	18.43	18.9	1.114	0.05	0.344	0.383
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 3	DSI 3	656000	3840	18.43	18.9	1.114	0.07	0.305	0.340
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Front	10mm	Sample 1	DSI 3	633332	3499.98	18.33	18.9	1.140	0.02	0.100	0.114
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Front	10mm	Sample 1	DSI 3	633332	3499.98	18.2	18.9	1.175	0.05	0.097	0.114
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	10mm	Sample 1	DSI 3	633332	3499.98	18.33	18.9	1.140	0.03	0.146	0.166
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	10mm	Sample 1	DSI 3	633332	3499.98	18.2	18.9	1.175	0.08	0.151	0.177
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	18.33	18.9	1.140	-0.12	0.212	0.242
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	18.2	18.9	1.175	-0.04	0.201	0.236
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	18.33	18.9	1.140	-0.09	0.047	0.054
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	18.2	18.9	1.175	0.03	0.063	0.074
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	18.33	18.9	1.140	0.05	0.051	0.058
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	18.2	18.9	1.175	0.18	0.048	0.056
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 2	DSI 3	633332	3499.98	18.33	18.9	1.140	0.03	0.367	0.418
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Left Side	10mm	Sample 3	DSI 3	633332	3499.98	18.33	18.9	1.140	0.1	0.349	0.398



FCC SAR TEST REPORT

Report No. : FA222201A

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_Ant 5	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	0.11	0.028	0.035
	FR1 n77_Ant 5	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	-0.17	0.391	0.495
	FR1 n77_Ant 5	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	-0.04	0.014	0.018
	FR1 n77_Ant 5	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	-0.12	0.026	0.033
46	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	0.13	0.620	0.784
	FR1 n77_Ant 5	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	15.78	16.80	1.265	-0.14	0.001	0.001
	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 2	DSI 3	656000	3840	15.78	16.80	1.265	-0.1	0.461	0.583
	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 3	DSI 3	656000	3840	15.78	16.80	1.265	0.11	0.465	0.588
	FR1 n77_Ant 5	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	-0.16	0.040	0.048
	FR1 n77_Ant 5	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	0.06	0.144	0.172
	FR1 n77_Ant 5	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	0.08	0.006	0.007
	FR1 n77_Ant 5	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	0.02	0.020	0.024
	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	0.11	0.450	0.536
	FR1 n77_Ant 5	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	16.04	16.80	1.191	-0.13	0.001	0.001
	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 2	DSI 3	633332	3499.98	16.04	16.80	1.191	-0.16	0.465	0.554
	FR1 n77_Ant 5	100M	CW	-	-	Top Side	10mm	Sample 3	DSI 3	633332	3499.98	16.04	16.80	1.191	-0.04	0.453	0.540
	FR1 n77_Ant 3	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	0.09	0.079	0.090
	FR1 n77_Ant 3	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	-0.03	0.120	0.137
	FR1 n77_Ant 3	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	-0.13	0.033	0.038
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	-0.01	0.181	0.206
	FR1 n77_Ant 3	100M	CW	-	-	Top Side	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	-0.09	0.025	0.028
	FR1 n77_Ant 3	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	656000	3840	18.94	19.50	1.138	0	0.044	0.050
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 2	DSI 3	656000	3840	18.94	19.50	1.138	-0.19	0.316	0.359
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 3	DSI 3	656000	3840	18.94	19.50	1.138	0.03	0.187	0.213
	FR1 n77_Ant 3	100M	CW	-	-	Front	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.13	0.143	0.163
	FR1 n77_Ant 3	100M	CW	-	-	Back	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.16	0.235	0.269
	FR1 n77_Ant 3	100M	CW	-	-	Left Side	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.18	0.063	0.072
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.08	0.402	0.459
	FR1 n77_Ant 3	100M	CW	-	-	Top Side	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.13	0.060	0.069
	FR1 n77_Ant 3	100M	CW	-	-	Bottom Side	10mm	Sample 1	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.02	0.071	0.081
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 2	DSI 3	633332	3499.98	18.92	19.50	1.143	0.01	0.407	0.465
	FR1 n77_Ant 3	100M	CW	-	-	Right Side	10mm	Sample 3	DSI 3	633332	3499.98	18.92	19.50	1.143	-0.09	0.378	0.432



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	0.17	0.100	0.133
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.06	0.519	0.689
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.16	0.689	0.915
47	WLAN2.4GHz	802.11b 1Mbps	Right side	10mm	Sample 1	Ant 9+8(8)	nonDBS	6	2437	17.30	18.00	1.175	99.3	1.007	-0.06	0.882	1.044
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 9+8(8)	nonDBS	1	2412	17.10	18.00	1.230	99.3	1.007	0.08	0.701	0.868
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 9+8(8)	nonDBS	11	2462	17.00	18.00	1.259	99.3	1.007	-0.11	0.812	1.029
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.07	0.075	0.100
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 2	Ant 9+8(8)	nonDBS	6	2437	17.30	18.00	1.175	99.3	1.007	0.15	0.577	0.683
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 3	Ant 9+8(8)	nonDBS	6	2437	17.30	18.00	1.175	99.3	1.007	0.02	0.830	0.982
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.06	0.064	0.074
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.09	0.358	0.414
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.13	0.418	0.483
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.12	0.518	0.599
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Sample 1	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.02	0.046	0.053
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 2	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.15	0.352	0.407
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 3	Ant 9+8(9)	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.11	0.506	0.585
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Sample 1	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.1	0.091	0.100
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Sample 1	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	0.02	0.525	0.576
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Sample 1	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.1	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.06	0.827	0.908
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 8	nonDBS	6	2437	17.50	18.00	1.122	99.9	1.001	-0.03	0.779	0.875
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 8	nonDBS	11	2462	17.60	18.00	1.096	99.9	1.001	0.04	0.815	0.895
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Sample 1	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	0.12	0.050	0.055
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 2	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.09	0.688	0.755
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 3	Ant 8	nonDBS	1	2412	17.60	18.00	1.096	99.9	1.001	-0.17	0.774	0.849
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Sample 1	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	-0.05	0.026	0.035
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Sample 1	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	-0.07	0.147	0.195
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Sample 1	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	0.07	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 1	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	-0.12	0.223	0.296
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Sample 1	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	0.01	0.014	0.019
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 2	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	0	0.193	0.256
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Sample 3	Ant 8	DBS	1	2412	12.80	14.00	1.318	99.3	1.007	-0.14	0.217	0.288



Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Out[put Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Sample 1	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	0.07	0.114	0.141
	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Sample 1	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	-0.09	0.314	0.389
	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	0.01	0.712	0.882
	WLAN5GHz	802.11a 6Mbps	Left Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	48	5240	15.10	16.00	1.230	99.1	1.009	-0.08	0.656	0.814
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	10mm	Sample 1	Ant 9+8(8)	nonDBS	46	5230	15.60	16.00	1.096	99.3	1.007	0.18	0.344	0.380
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	0.09	0.105	0.130
	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Sample 2	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	-0.06	0.646	0.800
48	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Sample 3	Ant 9+8(9)	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	-0.17	0.826	1.023
	WLAN5GHz	802.11a 6Mbps	Left Side	10mm	Sample 3	Ant 9+8(9)	nonDBS	48	5240	15.10	16.00	1.230	99.1	1.009	0.13	0.774	0.961
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	10mm	Sample 1	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	0.12	0.066	0.078
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Sample 1	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	-0.16	0.180	0.213
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 1	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	-0.1	0.376	0.445
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Sample 1	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	-0.06	0.197	0.233
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Sample 1	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	0.05	0.061	0.072
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 2	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	0.03	0.371	0.439
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 3	Ant 9+8(9)	DBS	42	5210	12.30	13.00	1.175	99.2	1.008	-0.07	0.471	0.558
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Sample 1	Ant 9+8(8)	nonDBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.02	0.154	0.187
	WLAN5GHz	802.11a 6Mbps	Back	10mm	Sample 1	Ant 9+8(8)	nonDBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.09	0.355	0.430
	WLAN5GHz	802.11a 6Mbps	Left Side	10mm	Sample 1	Ant 9+8(9)	nonDBS	149	5745	18.40	18.50	1.023	99.2	1.008	0.02	0.689	0.711
	WLAN5GHz	802.11a 6Mbps	Right Side	10mm	Sample 1	Ant 9+8(8)	nonDBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.18	0.563	0.682
	WLAN5GHz	802.11a 6Mbps	Top Side	10mm	Sample 1	Ant 9+8(8)	nonDBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.1	0.194	0.235
	WLAN5GHz	802.11a 6Mbps	Left Side	10mm	Sample 2	Ant 9+8(9)	nonDBS	149	5745	18.40	18.50	1.023	99.2	1.008	-0.15	0.537	0.554
49	WLAN5GHz	802.11a 6Mbps	Left Side	10mm	Sample 3	Ant 9+8(9)	nonDBS	149	5745	18.40	18.50	1.023	99.2	1.008	-0.18	0.751	0.775
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	10mm	Sample 1	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	-0.04	0.101	0.122
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Sample 1	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	-0.13	0.232	0.281
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 1	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	-0.14	0.450	0.545
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Sample 1	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	0.07	0.368	0.446
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Sample 1	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	-0.18	0.127	0.154
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 2	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	0.15	0.352	0.427
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Sample 3	Ant 9+8(8)	DBS	155	5775	13.20	14.00	1.202	99.2	1.008	-0.14	0.463	0.561

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	0.04	0.001	0.001
	Bluetooth	1Mbps	Back	10mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	0.07	0.001	0.001
	Bluetooth	1Mbps	Left Side	10mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	0.02	0.001	0.001
	Bluetooth	1Mbps	Right Side	10mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	0.09	0.001	0.001
	Bluetooth	1Mbps	Top Side	10mm	Sample 1	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	0.12	0.001	0.001
	Bluetooth	1Mbps	Left Side	10mm	Sample 2	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	-0.04	0.181	0.209
50	Bluetooth	1Mbps	Left Side	10mm	Sample 3	Ant 9	78	2480	3.72	4.00	1.068	76.83	1.084	-0.05	0.184	0.213



16.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_Ant 4	GPRS (4 Tx slots)	Front	15mm	Sample 1	-	DSI 0	128	824.2	29.82	30.5	1.169	0.15	0.115	0.134
	GSM850_Ant 4	GPRS (4 Tx slots)	Back	15mm	Sample 1	-	DSI 0	128	824.2	29.82	30.5	1.169	-0.08	0.170	0.199
	GSM850_Ant 4	GPRS (4 Tx slots)	Back	0mm	Sample 1	Holster	DSI 0	128	824.2	29.82	30.5	1.169	-0.12	0.211	0.247
	GSM850_Ant 4	GPRS (4 Tx slots)	Back	0mm	Sample 2	Holster	DSI 0	128	824.2	29.82	30.5	1.169	0.15	0.242	0.283
51	GSM850_Ant 4	GPRS (4 Tx slots)	Back	0mm	Sample 3	Holster	DSI 0	128	824.2	29.82	30.5	1.169	-0.18	0.246	0.288
	GSM1900_Ant 4	GPRS (4 Tx slots)	Front	15mm	Sample 1	-	DSI 0	810	1909.8	26.1	27.5	1.380	-0.07	0.091	0.126
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	15mm	Sample 1	-	DSI 0	810	1909.8	26.1	27.5	1.380	-0.13	0.315	0.435
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	0mm	Sample 1	Holster	DSI 0	810	1909.8	26.1	27.5	1.380	-0.07	0.238	0.329
	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	15mm	Sample 2	-	DSI 0	810	1909.8	26.1	27.5	1.380	-0.18	0.286	0.395
52	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	15mm	Sample 3	-	DSI 0	810	1909.8	26.1	27.5	1.380	0.11	0.348	0.480

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Ant 2	RMC 12.2Kbps	Front	15mm	Sample 1	-	DSI 0	9538	1907.6	24.42	25.2	1.197	-0.13	0.174	0.208
	WCDMA II_Ant 2	RMC 12.2Kbps	Back	15mm	Sample 1	-	DSI 0	9538	1907.6	24.42	25.2	1.197	-0.16	0.260	0.311
53	WCDMA II_Ant 2	RMC 12.2Kbps	Back	0mm	Sample 1	Holster	DSI 0	9538	1907.6	24.42	25.2	1.197	0.08	0.299	0.358
	WCDMA II_Ant 2	RMC 12.2Kbps	Back	0mm	Sample 2	Holster	DSI 0	9538	1907.6	24.42	25.2	1.197	0.03	0.280	0.335
	WCDMA II_Ant 2	RMC 12.2Kbps	Back	0mm	Sample 3	Holster	DSI 0	9538	1907.6	24.42	25.2	1.197	-0.08	0.266	0.318
	WCDMA IV_Ant 2	RMC 12.2Kbps	Front	15mm	Sample 1	-	DSI 0	1513	1752.6	24.05	25.2	1.303	0.01	0.096	0.124
54	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	15mm	Sample 1	-	DSI 0	1513	1752.6	24.05	25.2	1.303	0.16	0.410	0.534
	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	0mm	Sample 1	Holster	DSI 0	1513	1752.6	24.05	25.2	1.303	0.02	0.352	0.458
	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	15mm	Sample 2	-	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.06	0.356	0.464
	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	15mm	Sample 3	-	DSI 0	1513	1752.6	24.05	25.2	1.303	-0.11	0.196	0.255
	WCDMA V_Ant 4	RMC 12.2Kbps	Front	15mm	Sample 1	-	DSI 0	4132	826.4	24.74	25.2	1.112	0.01	0.134	0.149
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	15mm	Sample 1	-	DSI 0	4132	826.4	24.74	25.2	1.112	0.09	0.173	0.192
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	0mm	Sample 1	Holster	DSI 0	4132	826.4	24.74	25.2	1.112	0.02	0.269	0.299
	WCDMA V_Ant 4	RMC 12.2Kbps	Back	0mm	Sample 2	Holster	DSI 0	4132	826.4	24.74	25.2	1.112	0.01	0.290	0.322
55	WCDMA V_Ant 4	RMC 12.2Kbps	Back	0mm	Sample 3	Holster	DSI 0	4132	826.4	24.74	25.2	1.112	0.05	0.303	0.337



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_Ant 2	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	19100	1900	24.47	25.2	1.183	0	0.178	0.211
	LTE Band 2_Ant 2	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 0	19100	1900	23.49	24.2	1.178	0.13	0.151	0.178
	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	19100	1900	24.47	25.2	1.183	0.12	0.222	0.263
	LTE Band 2_Ant 2	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 0	19100	1900	23.49	24.2	1.178	-0.13	0.178	0.210
56	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	19100	1900	24.47	25.2	1.183	-0.03	0.254	0.300
	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 0	19100	1900	24.47	25.2	1.183	0.12	0.226	0.267
	LTE Band 2_Ant 2	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 0	19100	1900	24.47	25.2	1.183	-0.16	0.221	0.261
	LTE Band 5_Ant 4	10M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	20525	836.5	23.99	25.2	1.321	0.16	0.149	0.197
	LTE Band 5_Ant 4	10M	QPSK	25	0	Front	15mm	Sample 1	-	DSI 0	20525	836.5	22.77	24.2	1.390	0.17	0.122	0.169
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	20525	836.5	23.99	25.2	1.321	0.11	0.173	0.228
	LTE Band 5_Ant 4	10M	QPSK	25	0	Back	15mm	Sample 1	-	DSI 0	20525	836.5	22.77	24.2	1.390	-0.07	0.146	0.203
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	20525	836.5	23.99	25.2	1.321	-0.12	0.255	0.338
	LTE Band 5B_Ant 4	10M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	20575	841.5	24.58	25.20	1.153	-0.05	0.267	0.308
	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 0	20525	836.5	23.99	25.2	1.321	0.09	0.296	0.392
57	LTE Band 5_Ant 4	10M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 0	20525	836.5	23.99	25.2	1.321	0.06	0.325	0.429
	LTE Band 7_Ant 12	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 1	21350	2560	22.87	23.3	1.104	-0.14	0.117	0.129
	LTE Band 7_Ant 12	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 1	21350	2560	21.87	22.3	1.104	-0.11	0.098	0.108
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 1	21350	2560	22.87	23.3	1.104	-0.08	0.555	0.613
	LTE Band 7_Ant 12	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 1	21350	2560	21.87	22.3	1.104	-0.14	0.437	0.482
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 1	21350	2560	22.87	23.3	1.104	0.1	0.688	0.760
	LTE Band 7C_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 1	21350	2560	23.26	23.30	1.009	0.16	0.713	0.720
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 1	21350	2560	22.87	23.3	1.104	-0.13	0.413	0.456
58	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 1	21350	2560	22.87	23.3	1.104	-0.09	0.876	0.967
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 1	20850	2510	22.59	23.3	1.178	-0.1	0.662	0.780
	LTE Band 7_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 1	21100	2535	22.67	23.3	1.156	-0.15	0.767	0.887
	LTE Band 7_Ant 6	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	21350	2560	23.38	24	1.153	0.06	0.230	0.265
	LTE Band 7_Ant 6	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 0	21350	2560	22.36	23	1.159	0.08	0.174	0.202
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	21350	2560	23.38	24	1.153	0.02	0.556	0.641
	LTE Band 7_Ant 6	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 0	21350	2560	22.36	23	1.159	0.08	0.386	0.447
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	21350	2560	23.38	24	1.153	0.07	0.574	0.662
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 0	21350	2560	23.38	24	1.153	0.13	0.430	0.496
	LTE Band 7_Ant 6	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 0	21350	2560	23.38	24	1.153	0.05	0.547	0.631
	LTE Band 17_Ant 0	10M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	23790	710	23.08	24.7	1.452	0.03	0.262	0.380
	LTE Band 17_Ant 0	10M	QPSK	25	0	Front	15mm	Sample 1	-	DSI 0	23790	710	22.05	23.7	1.462	0.06	0.203	0.296
	LTE Band 17_Ant 0	10M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	23790	710	23.08	24.7	1.452	0.05	0.288	0.418
	LTE Band 17_Ant 0	10M	QPSK	25	0	Back	15mm	Sample 1	-	DSI 0	23790	710	22.05	23.7	1.462	-0.15	0.229	0.335
	LTE Band 17_Ant 0	10M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	23790	710	23.08	24.7	1.452	-0.02	0.275	0.399
	LTE Band 17_Ant 0	10M	QPSK	1	0	Back	15mm	Sample 2	-	DSI 0	23790	710	23.08	24.7	1.452	-0.05	0.304	0.441
59	LTE Band 17_Ant 0	10M	QPSK	1	0	Back	15mm	Sample 3	-	DSI 0	23790	710	23.08	24.7	1.452	-0.04	0.338	0.491



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66_Ant 2	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	132572	1770	24.34	25.2	1.219	-0.05	0.135	0.164
	LTE Band 66_Ant 2	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 0	132572	1770	23.41	24.2	1.199	0.07	0.110	0.131
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	132572	1770	24.34	25.2	1.219	0.17	0.391	0.476
	LTE Band 66_Ant 2	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 0	132572	1770	23.41	24.2	1.199	-0.17	0.302	0.362
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	132572	1770	24.34	25.2	1.219	0.09	0.336	0.410
	LTE Band 66C_Ant 2	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	132572	1770	24.09	25.20	1.291	0.12	0.355	0.458
	LTE Band 66B_Ant 2	15M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	132597	1772.5	24.01	25.20	1.315	-0.06	0.340	0.447
60	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	15mm	Sample 2	-	DSI 0	132572	1770	24.34	25.2	1.219	0.07	0.518	0.631
	LTE Band 66_Ant 2	20M	QPSK	1	0	Back	15mm	Sample 3	-	DSI 0	132572	1770	24.34	25.2	1.219	-0.04	0.253	0.309
	LTE Band 71_Ant 0	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	133297	680.5	23.49	24.7	1.321	0.1	0.230	0.304
	LTE Band 71_Ant 0	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 0	133297	680.5	22.39	23.7	1.352	0.19	0.201	0.272
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	133297	680.5	23.49	24.7	1.321	0.16	0.278	0.367
	LTE Band 71_Ant 0	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 0	133297	680.5	22.39	23.7	1.352	0.14	0.239	0.323
61	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	133297	680.5	23.49	24.7	1.321	-0.17	0.288	0.381
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 0	133297	680.5	23.49	24.7	1.321	0.12	0.198	0.262
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 0	133297	680.5	23.49	24.7	1.321	0.19	0.240	0.317



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_Ant 6	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.12	0.100	0.120
	LTE Band 41_Ant 6	20M	QPSK	50	24	Front	15mm	Sample 1	-	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.01	0.077	0.095
62	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	-0.18	0.269	0.324
	LTE Band 41_Ant 6	20M	QPSK	50	24	Back	15mm	Sample 1	-	DSI 0	41055	2636.5	23.11	24	1.227	62.9	1.006	0.15	0.211	0.261
	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.1	0.261	0.314
	LTE Band 41_HPUE_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	41055	2636.5	26.32	27	1.169	42.9	1.009	-0.18	0.270	0.319
	LTE Band 41C_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	41490	2680	24.57	25.00	1.104	62.9	1.006	-0.07	0.258	0.287
	LTE Band 41C_HPUE_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	41490	2680	26.99	27.00	1.002	42.9	1.009	0.18	0.273	0.276
	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 2	-	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.16	0.264	0.318
	LTE Band 41_Ant 6	20M	QPSK	1	0	Back	15mm	Sample 3	-	DSI 0	41055	2636.5	24.22	25	1.197	62.9	1.006	0.09	0.266	0.320
	LTE Band 42_Ant 12	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 1	42590	3500	22.18	22.8	1.153	62.9	1.006	0.18	0.167	0.194
	LTE Band 42_Ant 12	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 1	42590	3500	21.3	21.8	1.122	62.9	1.006	0.04	0.115	0.130
	LTE Band 42_Ant 12	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 1	42590	3500	22.18	22.8	1.153	62.9	1.006	0.01	0.261	0.303
	LTE Band 42_Ant 12	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 1	42590	3500	21.3	21.8	1.122	62.9	1.006	-0.04	0.210	0.237
	LTE Band 42_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 1	42590	3500	22.18	22.8	1.153	62.9	1.006	-0.02	0.282	0.327
	LTE Band 42_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 1	42590	3500	22.18	22.8	1.153	62.9	1.006	0	0.275	0.319
63	LTE Band 42_Ant 12	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 1	42590	3500	22.18	22.8	1.153	62.9	1.006	0.14	0.294	0.341
	LTE Band 42_Ant 11	20M	QPSK	1	0	Front	15mm	Sample 1	-	DSI 0	42590	3500	23.5	25	1.413	62.9	1.006	-0.04	0.047	0.067
	LTE Band 42_Ant 11	20M	QPSK	50	0	Front	15mm	Sample 1	-	DSI 0	42590	3500	22.63	24	1.371	62.9	1.006	-0.01	0.044	0.061
	LTE Band 42_Ant 11	20M	QPSK	1	0	Back	15mm	Sample 1	-	DSI 0	42590	3500	23.5	25	1.413	62.9	1.006	-0.08	0.074	0.105
	LTE Band 42_Ant 11	20M	QPSK	50	0	Back	15mm	Sample 1	-	DSI 0	42590	3500	22.63	24	1.371	62.9	1.006	-0.09	0.060	0.083
	LTE Band 42_Ant 11	20M	QPSK	1	0	Back	0mm	Sample 1	Holster	DSI 0	42590	3500	23.5	25	1.413	62.9	1.006	0.03	0.088	0.125
	LTE Band 42_Ant 11	20M	QPSK	1	0	Back	0mm	Sample 2	Holster	DSI 0	42590	3500	23.5	25	1.413	62.9	1.006	-0.12	0.158	0.225
	LTE Band 42_Ant 11	20M	QPSK	1	0	Back	0mm	Sample 3	Holster	DSI 0	42590	3500	23.5	25	1.413	62.9	1.006	0.1	0.156	0.222



<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n2_Ant 2	20M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	376000	1880	24.63	25.2	1.140	0.03	0.137	0.156
	FR1 n2_Ant 2	20M	BPSK	50	28	Front	15mm	Sample 1	-	DSI 0	376000	1880	24.4	25.2	1.202	-0.06	0.156	0.188
	FR1 n2_Ant 2	20M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	376000	1880	24.63	25.2	1.140	-0.01	0.219	0.250
	FR1 n2_Ant 2	20M	BPSK	50	28	Back	15mm	Sample 1	-	DSI 0	376000	1880	24.4	25.2	1.202	-0.04	0.232	0.279
64	FR1 n2_Ant 2	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	376000	1880	24.4	25.2	1.202	0.06	0.271	0.326
	FR1 n2_Ant 2	20M	BPSK	50	28	Back	0mm	Sample 2	Holster	DSI 0	376000	1880	24.4	25.2	1.202	-0.05	0.187	0.225
	FR1 n2_Ant 2	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	376000	1880	24.4	25.2	1.202	-0.17	0.221	0.266
	FR1 n5_Ant 4	20M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	167300	836.5	24.51	25.2	1.172	-0.04	0.157	0.184
	FR1 n5_Ant 4	20M	BPSK	50	28	Front	15mm	Sample 1	-	DSI 0	167300	836.5	24.38	25.2	1.208	-0.01	0.164	0.198
	FR1 n5_Ant 4	20M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	167300	836.5	24.51	25.2	1.172	-0.03	0.176	0.206
	FR1 n5_Ant 4	20M	BPSK	50	28	Back	15mm	Sample 1	-	DSI 0	167300	836.5	24.38	25.2	1.208	0.09	0.185	0.223
	FR1 n5_Ant 4	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	167300	836.5	24.38	25.2	1.208	0.05	0.321	0.388
65	FR1 n5_Ant 4	20M	BPSK	50	28	Back	0mm	Sample 2	Holster	DSI 0	167300	836.5	24.38	25.2	1.208	0.05	0.336	0.406
	FR1 n5_Ant 4	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	167300	836.5	24.38	25.2	1.208	0.04	0.333	0.402
	FR1 n7_Ant 12	20M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	507000	2535	23.82	24	1.042	0.02	0.082	0.085
	FR1 n7_Ant 12	20M	BPSK	50	28	Front	15mm	Sample 1	-	DSI 0	507000	2535	23.11	24	1.227	0.03	0.097	0.119
	FR1 n7_Ant 12	20M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	507000	2535	23.82	24	1.042	0.05	0.406	0.423
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	15mm	Sample 1	-	DSI 0	507000	2535	23.11	24	1.227	0.12	0.431	0.529
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	507000	2535	23.11	24	1.227	-0.07	0.645	0.792
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	502000	2510	23.08	24	1.236	0.07	0.521	0.644
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	512000	2560	23.22	24	1.197	-0.06	0.568	0.680
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 2	Holster	DSI 0	507000	2535	23.11	24	1.227	-0.01	0.469	0.576
66	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	507000	2535	23.11	24	1.227	0.02	0.671	0.824
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	502000	2510	23.08	24	1.236	0.13	0.660	0.816
	FR1 n7_Ant 12	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	512000	2560	23.22	24	1.197	-0.06	0.630	0.754
	FR1 n7_Ant 6	20M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	507000	2535	23.38	24	1.153	0.16	0.170	0.196
	FR1 n7_Ant 6	20M	BPSK	50	28	Front	15mm	Sample 1	-	DSI 0	507000	2535	22.86	24	1.300	0.01	0.201	0.261
	FR1 n7_Ant 6	20M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	507000	2535	23.38	24	1.153	0.08	0.418	0.482
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	15mm	Sample 1	-	DSI 0	507000	2535	22.86	24	1.300	0	0.488	0.634
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	507000	2535	22.86	24	1.300	-0.15	0.510	0.663
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	502000	2510	22.99	24	1.262	-0.08	0.492	0.621
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	0mm	Sample 1	Holster	DSI 0	512000	2560	23.07	24	1.239	0.15	0.465	0.576
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	0mm	Sample 2	Holster	DSI 0	507000	2535	22.86	24	1.300	0.19	0.509	0.662
	FR1 n7_Ant 6	20M	BPSK	50	28	Back	0mm	Sample 3	Holster	DSI 0	507000	2535	22.86	24	1.300	0.13	0.507	0.659



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 1	518598	2592.99	25.9	26.2	1.072	-0.02	0.176	0.189
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Front	15mm	Sample 1	-	DSI 1	518598	2592.99	25.35	26.2	1.216	-0.03	0.122	0.148
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 1	518598	2592.99	25.9	26.2	1.072	-0.07	0.411	0.440
	FR1 n41_HPUE_Ant 6	100M	BPSK	135	69	Back	15mm	Sample 1	-	DSI 1	518598	2592.99	25.35	26.2	1.216	0.03	0.330	0.401
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Back	0mm	Sample 1	Holster	DSI 1	518598	2592.99	25.9	26.2	1.072	-0.05	0.429	0.460
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Back	0mm	Sample 2	Holster	DSI 1	518598	2592.99	25.9	26.2	1.072	-0.04	0.372	0.399
	FR1 n41_HPUE_Ant 6	100M	BPSK	1	1	Back	0mm	Sample 3	Holster	DSI 1	518598	2592.99	25.9	26.2	1.072	-0.01	0.428	0.459
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 1	518598	2592.99	25.38	25.90	1.127	-0.15	0.107	0.121
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 1	518598	2592.99	25.38	25.90	1.127	-0.1	0.309	0.348
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 1	518598	2592.99	25.38	25.90	1.127	-0.07	0.397	0.447
67	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Back	0mm	Sample 2	Holster	DSI 1	518598	2592.99	25.38	25.90	1.127	-0.1	0.411	0.463
	FR1 n41_HPUE_Ant 12	100M	CW	-	-	Back	0mm	Sample 3	Holster	DSI 1	518598	2592.99	25.38	25.90	1.127	-0.01	0.393	0.443
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 0	518598	2592.99	26.00	27.00	1.259	-0.07	0.217	0.273
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 0	518598	2592.99	26.00	27.00	1.259	-0.11	0.105	0.132
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	0mm	Sample 1	Holster	DSI 0	518598	2592.99	26.00	27.00	1.259	0.08	0.136	0.171
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	15mm	Sample 2	-	DSI 0	518598	2592.99	26.00	27.00	1.259	-0.02	0.224	0.282
	FR1 n41_HPUE_Ant 1	100M	CW	-	-	Front	15mm	Sample 3	-	DSI 0	518598	2592.99	26.00	27.00	1.259	-0.09	0.204	0.257
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 0	518598	2592.99	26.12	27.00	1.225	-0.18	0.112	0.137
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 0	518598	2592.99	26.12	27.00	1.225	-0.02	0.159	0.195
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 0	518598	2592.99	26.12	27.00	1.225	0.08	0.105	0.129
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Back	15mm	Sample 2	-	DSI 0	518598	2592.99	26.12	27.00	1.225	-0.12	0.163	0.200
	FR1 n41_HPUE_Ant 7	100M	CW	-	-	Back	15mm	Sample 3	-	DSI 0	518598	2592.99	26.12	27.00	1.225	0.03	0.165	0.202
	FR1 n66_Ant 2	40M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	349000	1745	24.23	25.2	1.250	0.14	0.078	0.098
	FR1 n66_Ant 2	40M	BPSK	108	54	Front	15mm	Sample 1	-	DSI 0	349000	1745	23.78	25.2	1.387	-0.08	0.086	0.119
68	FR1 n66_Ant 2	40M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	349000	1745	24.23	25.2	1.250	0.09	0.421	0.526
	FR1 n66_Ant 2	40M	BPSK	108	54	Back	15mm	Sample 1	-	DSI 0	349000	1745	23.78	25.2	1.387	-0.19	0.357	0.495
	FR1 n66_Ant 2	40M	BPSK	1	1	Back	0mm	Sample 1	Holster	DSI 0	349000	1745	24.23	25.2	1.250	-0.07	0.391	0.489
	FR1 n66_Ant 2	40M	BPSK	1	1	Back	15mm	Sample 2	-	DSI 0	349000	1745	24.23	25.2	1.250	0.16	0.248	0.310
	FR1 n66_Ant 2	40M	BPSK	1	1	Back	15mm	Sample 3	-	DSI 0	349000	1745	24.23	25.2	1.250	0.02	0.206	0.258
	FR1 n71_Ant 0	20M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 0	136100	680.5	24.67	24.7	1.007	-0.07	0.176	0.177
	FR1 n71_Ant 0	20M	BPSK	50	28	Front	15mm	Sample 1	-	DSI 0	136100	680.5	24.26	24.7	1.107	-0.09	0.117	0.129
	FR1 n71_Ant 0	20M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 0	136100	680.5	24.67	24.7	1.007	-0.05	0.207	0.208
	FR1 n71_Ant 0	20M	BPSK	50	28	Back	15mm	Sample 1	-	DSI 0	136100	680.5	24.26	24.7	1.107	0.16	0.150	0.166
	FR1 n71_Ant 0	20M	BPSK	1	1	Back	0mm	Sample 1	Holster	DSI 0	136100	680.5	24.67	24.7	1.007	0	0.223	0.225
	FR1 n71_Ant 0	20M	BPSK	1	1	Back	0mm	Sample 2	Holster	DSI 0	136100	680.5	24.67	24.7	1.007	-0.05	0.238	0.240
69	FR1 n71_Ant 0	20M	BPSK	1	1	Back	0mm	Sample 3	Holster	DSI 0	136100	680.5	24.67	24.7	1.007	-0.19	0.304	0.306



FCC SAR TEST REPORT

Report No. : FA222201A

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	Accessory	Out[ut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 1	656000	3840	21.94	22	1.014	0.15	0.082	0.083
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Front	15mm	Sample 1	-	DSI 1	656000	3840	21.98	22	1.005	-0.01	0.072	0.072
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 1	656000	3840	21.94	22	1.014	-0.17	0.377	0.382
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	15mm	Sample 1	-	DSI 1	656000	3840	21.98	22	1.005	0.11	0.483	0.485
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	0mm	Sample 1	Holster	DSI 1	656000	3840	21.98	22	1.005	-0.11	0.448	0.450
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	15mm	Sample 2	-	DSI 1	656000	3840	21.98	22	1.005	-0.09	0.315	0.316
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	15mm	Sample 3	-	DSI 1	656000	3840	21.98	22	1.005	-0.06	0.415	0.417
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	21.88	22	1.028	-0.13	0.222	0.228
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	21.68	22	1.076	0.09	0.191	0.206
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	21.88	22	1.028	-0.16	0.367	0.377
	FR1 n77_HPUE_Ant 12	100M	BPSK	135	69	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	21.68	22	1.076	0.04	0.322	0.347
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	0mm	Sample 1	Holster	DSI 1	633332	3499.98	21.88	22	1.028	-0.01	0.365	0.375
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	15mm	Sample 2	-	DSI 1	633332	3499.98	21.88	22	1.028	0.01	0.418	0.430
	FR1 n77_HPUE_Ant 12	100M	BPSK	1	1	Back	15mm	Sample 3	-	DSI 1	633332	3499.98	21.88	22	1.028	0.13	0.346	0.356
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 1	656000	3840	22.3	22.5	1.047	0.18	0.169	0.177
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Front	15mm	Sample 1	-	DSI 1	656000	3840	22.29	22.5	1.050	-0.11	0.175	0.184
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 1	656000	3840	22.3	22.5	1.047	0.06	0.270	0.283
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	15mm	Sample 1	-	DSI 1	656000	3840	22.29	22.5	1.050	-0.02	0.340	0.357
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	0mm	Sample 1	Holster	DSI 1	656000	3840	22.29	22.5	1.050	0.05	0.257	0.270
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	15mm	Sample 2	-	DSI 1	656000	3840	22.29	22.5	1.050	0.14	0.349	0.366
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	15mm	Sample 3	-	DSI 1	656000	3840	22.29	22.5	1.050	-0.03	0.318	0.334
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	22.25	22.5	1.059	0.12	0.098	0.104
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	22.04	22.5	1.112	0.18	0.106	0.118
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	22.25	22.5	1.059	-0.14	0.205	0.217
	FR1 n77_HPUE_Ant 11	100M	BPSK	135	69	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	22.04	22.5	1.112	0.09	0.151	0.168
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	0mm	Sample 1	Holster	DSI 1	633332	3499.98	22.25	22.5	1.059	0.06	0.295	0.312
70	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	0mm	Sample 2	Holster	DSI 1	633332	3499.98	22.25	22.5	1.059	-0.08	0.562	0.595
	FR1 n77_HPUE_Ant 11	100M	BPSK	1	1	Back	0mm	Sample 3	Holster	DSI 1	633332	3499.98	22.25	22.5	1.059	0.1	0.418	0.443
	FR1 n77_Ant 3	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 1	656000	3840	22.20	22.20	1.000	0.03	0.228	0.228
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 1	656000	3840	22.20	22.20	1.000	-0.06	0.310	0.310
	FR1 n77_Ant 3	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 1	656000	3840	22.20	22.20	1.000	0.05	0.234	0.234
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 2	-	DSI 1	656000	3840	22.20	22.20	1.000	0.1	0.254	0.254
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 3	-	DSI 1	656000	3840	22.20	22.20	1.000	0.06	0.238	0.238
	FR1 n77_Ant 3	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	21.58	22.20	1.153	-0.17	0.174	0.201
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	21.58	22.20	1.153	0.06	0.394	0.454
	FR1 n77_Ant 3	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 1	633332	3499.98	21.58	22.20	1.153	-0.12	0.417	0.481
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 2	-	DSI 1	633332	3499.98	21.58	22.20	1.153	-0.04	0.193	0.223
	FR1 n77_Ant 3	100M	CW	-	-	Back	15mm	Sample 3	-	DSI 1	633332	3499.98	21.58	22.20	1.153	-0.19	0.235	0.271
	FR1 n77_Ant 5	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 1	656000	3840	16.04	16.80	1.191	-0.1	0.045	0.054
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 1	656000	3840	16.04	16.80	1.191	-0.03	0.332	0.395
	FR1 n77_Ant 5	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 1	656000	3840	16.04	16.80	1.191	0.07	0.156	0.186
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 2	-	DSI 1	656000	3840	16.04	16.80	1.191	0.03	0.296	0.353
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 3	-	DSI 1	656000	3840	16.04	16.80	1.191	-0.02	0.281	0.335
	FR1 n77_Ant 5	100M	CW	-	-	Front	15mm	Sample 1	-	DSI 1	633332	3499.98	16.32	16.80	1.117	0.02	0.108	0.121
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 1	-	DSI 1	633332	3499.98	16.32	16.80	1.117	-0.02	0.425	0.475
	FR1 n77_Ant 5	100M	CW	-	-	Back	0mm	Sample 1	Holster	DSI 1	633332	3499.98	16.32	16.80	1.117	-0.18	0.193	0.216
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 2	-	DSI 1	633332	3499.98	16.32	16.80	1.117	-0.17	0.385	0.430
	FR1 n77_Ant 5	100M	CW	-	-	Back	15mm	Sample 3	-	DSI 1	633332	3499.98	16.32	16.80	1.117	0.08	0.356	0.398



<2.4GHz, 5GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Sample 1	Ant 9+8(9)	-	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.07	0.050	0.066
71	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 1	Ant 9+8(9)	-	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.08	0.292	0.388
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Sample 1	Ant 9+8(9)	Holster	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	0.13	0.202	0.268
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 2	Ant 9+8(9)	-	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.05	0.157	0.208
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 3	Ant 9+8(9)	-	nonDBS	6	2437	16.80	18.00	1.318	99.3	1.007	-0.08	0.286	0.380
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Sample 1	Ant 9+8(9)	-	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.04	0.035	0.040
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 1	Ant 9+8(9)	-	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.06	0.198	0.229
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Sample 1	Ant 9+8(9)	Holster	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0.17	0.142	0.164
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 2	Ant 9+8(9)	-	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	-0.18	0.109	0.126
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 3	Ant 9+8(9)	-	DBS	6	2437	14.90	15.50	1.148	99.3	1.007	0	0.191	0.221
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Sample 1	Ant 8	-	nonDBS / DBS	1	2412	17.60	18.00	1.096	99.3	1.007	0.18	0.041	0.045
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 1	Ant 8	-	nonDBS / DBS	1	2412	17.60	18.00	1.096	99.3	1.007	-0.09	0.234	0.258
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Sample 1	Ant 8	Holster	nonDBS / DBS	1	2412	17.60	18.00	1.096	99.3	1.007	-0.03	0.165	0.182
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 2	Ant 8	-	nonDBS / DBS	1	2412	17.60	18.00	1.096	99.3	1.007	0.01	0.128	0.141
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Sample 3	Ant 8	-	nonDBS / DBS	1	2412	17.60	18.00	1.096	99.3	1.007	-0.1	0.232	0.256
	WLAN5GHz	802.11a 6Mbps	Front	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.05	0.102	0.126
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.15	0.348	0.432
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Sample 1	Ant 9+8(8)	Holster	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	-0.03	0.341	0.423
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 2	Ant 9+8(8)	-	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	0.14	0.292	0.362
72	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 3	Ant 9+8(8)	-	nonDBS / DBS	52	5260	17.60	18.50	1.230	99.2	1.008	-0.08	0.395	0.490
	WLAN5GHz	802.11a 6Mbps	Front	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.02	0.090	0.114
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	-0.06	0.189	0.240
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Sample 1	Ant 9+8(8)	Holster	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.02	0.139	0.176
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 2	Ant 9+8(8)	-	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.14	0.175	0.222
73	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 3	Ant 9+8(8)	-	nonDBS / DBS	116	5580	17.50	18.50	1.259	99.2	1.008	0.06	0.250	0.317
	WLAN5GHz	802.11a 6Mbps	Front	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.11	0.083	0.100
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.07	0.223	0.271
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Sample 1	Ant 9+8(8)	Holster	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.15	0.125	0.151
	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 2	Ant 9+8(8)	-	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	0.12	0.207	0.251
74	WLAN5GHz	802.11a 6Mbps	Back	15mm	Sample 3	Ant 9+8(8)	-	nonDBS / DBS	149	5745	17.70	18.50	1.202	99.2	1.008	-0.02	0.312	0.378



<6GHz WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Accessory	OutPut Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	APD (W/m^2)
	WLAN6GHz	802.11ac-VHT160 MCS0	Front	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	-0.07	0.035	0.046	0.287
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.03	0.065	0.084	0.546
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	15	6025	11.70	12.50	1.202	97.50	1.026	0.02	0.046	0.057	0.362
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 1	Ant 9+8(9)	-	nonDBS / DBS	111	6505	9.80	11.00	1.318	97.50	1.026	0.04	0.042	0.057	0.312
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 1	Ant 9+8(8)	-	nonDBS / DBS	175	6825	11.90	12.00	1.023	97.50	1.026	-0.03	0.078	0.082	0.649
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 1	Ant 9+8(9)	-	nonDBS / DBS	207	6985	10.20	12.00	1.514	97.50	1.026	-0.08	0.043	0.067	0.400
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	0mm	Sample 1	Ant 9+8(8)	Holster	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	-0.08	0.041	0.052	0.316
	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 2	Ant 9+8(8)	-	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	0.01	0.049	0.064	0.402
75	WLAN6GHz	802.11ac-VHT160 MCS0	Back	15mm	Sample 3	Ant 9+8(8)	-	nonDBS / DBS	47	6185	11.50	12.50	1.259	97.50	1.026	-0.04	0.076	0.098	0.606

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Accessory	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	15mm	Sample 1	Ant 9	-	78	2480	3.72	4.00	1.068	76.83	1.084	-0.11	0.001	0.001
	Bluetooth	1Mbps	Back	15mm	Sample 1	Ant 9	-	78	2480	3.72	4.00	1.068	76.83	1.084	-0.07	0.001	0.001
	Bluetooth	1Mbps	Back	0mm	Sample 1	Ant 9	Holster	78	2480	3.72	4.00	1.068	76.83	1.084	-0.05	0.001	0.001
	Bluetooth	1Mbps	Back	15mm	Sample 2	Ant 9	-	78	2480	3.72	4.00	1.068	76.83	1.084	0.07	0.081	0.094
76	Bluetooth	1Mbps	Back	15mm	Sample 3	Ant 9	-	78	2480	3.72	4.00	1.068	76.83	1.084	-0.18	0.085	0.098



16.4 Product Specific SAR

<5G NR SAR>

Table with 18 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), Sample, Output Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Reported 10g SAR (W/kg). Rows include FR1 n41_HPUE_Ant 6.

<5GHz WLAN SAR>

Table with 18 columns: Plot No., Band, Mode, Test Position, Gap (mm), Sample, Antenna, Output Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Reported 10g SAR (W/kg). Rows include WLAN5GHz configurations.

<6GHz WLAN SAR>

Table with 18 columns: Plot No., Band, Mode, Test Position, Gap (mm), Sample, Antenna, Output Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Reported 10g SAR (W/kg), APD (W/m^2). Rows include WLAN6GHz configurations.

16.5 6GHz PD Test result

Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m ²)	Total psPD (W/m ²)
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	15	6025	12.20	0.0625	1.42	-10.625555	3.26	3.87
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	10mm	Ant 9+8(8)	15	6025	12.20	0.25	16.4		1.77	2.02
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	207	6985	12.40	0.0625	2.18	-3.32716349	3.18	4.05
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	8.59mm	Ant 9+8(8)	207	6985	12.40	0.25	4.69		1.89	2.25

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for Measurement Uncertainty	Power Drift (dB)	Normal psPD (W/m ²)	Scaled Normal psPD (W/m ²)	Total psPD (W/m ²)	Scaled Total psPD (W/m ²)
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	15	6025	12.20	12.50	1.072	86.18	1.160	0.0625	1.5535	0.05	3.26	6.29	3.87	7.47
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	47	6185	12.40	12.50	1.023	86.18	1.160	0.0625	1.5535	-0.05	3.18	5.86	3.99	7.36
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	111	6505	10.60	11.00	1.096	86.18	1.160	0.0625	1.5535	0.15	3.22	6.36	3.65	7.21
01	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	175	6825	12.20	13.00	1.202	86.18	1.160	0.0625	1.5535	-0.03	2.86	6.20	3.46	7.50
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 9+8(8)	207	6985	12.40	12.50	1.023	86.18	1.160	0.0625	1.5535	-0.03	3.18	5.86	4.05	7.47

16.6 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Sample	Antenna	Accessory	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	-	-	DSI 3	810	1909.8	25.76	26	1.057	-	-	0.12	0.815		0.861
2nd	GSM1900_Ant 4	GPRS (4 Tx slots)	Back	10mm	Sample 3	-	-	DSI 3	810	1909.8	25.76	26	1.057	-	-	0.07	0.803	1.01	0.849
1st	LTE Band 7_Ant 12	20M_QPSK_1_0	Back	0mm	Sample 3	-	Holster	DSI 1	21350	2560	22.87	23.3	1.104	-	-	-0.09	0.876		0.967
2nd	LTE Band 7_Ant 12	20M_QPSK_1_0	Back	0mm	Sample 3	-	Holster	DSI 1	21350	2560	22.87	23.3	1.104	-	-	-0.09	0.868	1.01	0.958
1st	WLAN2.4GHz	802.11b 1Mbps	Right side	10mm	Sample 1	Ant 9+8(8)	-	nonDBS	6	2437	17.30	18.00	1.175	99.3	1.007	-0.06	0.882		1.044
2nd	WLAN2.4GHz	802.11b 1Mbps	Right side	10mm	Sample 1	Ant 9+8(8)	-	nonDBS	6	2437	17.30	18.00	1.175	99.3	1.007	-0.11	0.864	1.02	1.022
1st	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Sample 3	Ant 9+8(9)	-	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	-0.17	0.826		1.023
2nd	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Sample 3	Ant 9+8(9)	-	nonDBS	46	5230	15.10	16.00	1.230	99.3	1.007	-0.07	0.821	1.01	1.017

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.



16.7 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required

Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

Head_Ant 6	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	25	27
Reported 1g SAR (W/kg)	0.14	0.138
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	217.01
Linearity SAR(W/kg)	0.15	
% deviation from expected linearity		-9.08%

Hotspot_Ant 6	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	25	27
Reported 1g SAR (W/kg)	0.497	0.487
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	217.01
Linearity SAR(W/kg)	0.54	
% deviation from expected linearity		-9.62%

Bodyworn_Ant 6	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	25	27
Reported 1g SAR (W/kg)	0.324	0.319
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	217.01
Linearity SAR(W/kg)	0.35	
% deviation from expected linearity		-9.18%

17. Simultaneous Transmission Analysis

Non-DBS					
NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN2.4GHz Ant 8 + Bluetooth Ant 9	Yes	Yes	Yes	
2.	WWAN + WLAN2.4GHz Ant 9+8	Yes	Yes	Yes	
3.	WWAN + WLAN6GHz Ant 9+8 + Bluetooth Ant 9	Yes	Yes	Yes	
4.	WWAN + WLAN5GHz Ant 9+8 + Bluetooth Ant 9	Yes	Yes	Yes	
5.	WWAN + WLAN6GHz Ant 9+8				Yes
6.	WWAN + WLAN5GHz Ant 9+8				Yes

DBS					
NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
7.	WWAN + WLAN2.4GHz Ant 9+8+ WLAN5GHz Ant 9+8	Yes	Yes	Yes	
8.	WWAN + WLAN2.4GHz Ant 9+8+ WLAN6GHz Ant 9+8	Yes	Yes	Yes	
9.	WWAN + WLAN2.4GHz Ant 8 + WLAN5GHz Ant 9+8 + Bluetooth Ant 9	Yes	Yes	Yes	
10.	WWAN + WLAN2.4GHz Ant 8 + WLAN6GHz Ant 9+8 + Bluetooth Ant 9	Yes	Yes	Yes	
11.	WWAN + WLAN6GHz Ant 9+8				Yes
12.	WWAN + WLAN5GHz Ant 9+8				Yes

General Note:

1. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. The worst case WLAN reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
3. WLAN RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode. Therefore SPLSR calculation was choose worst case with SAR test results of each antenna in SISO mode perform evaluation.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - v) The SPLSR calculated results please refer to section 17.5.



17.1 Head Exposure Conditions

<Non-DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+4+6 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHz Ant 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)				
GSM850_Ant 4	Right Cheek	0.085	0.261	0.291	0.777	0.087	0.079	0.941	0.251	0.425	0.376
	Right Tilted	0.060	0.083	0.092	0.490	0.155	0.001	0.551	0.216	0.144	0.152
	Left Cheek	0.208	0.381	0.416	0.576	0.041	0.001	0.785	0.250	0.590	0.624
	Left Tilted	0.083	0.137	0.151	0.534	0.088	0.001	0.618	0.172	0.221	0.234
GSM1900_Ant 4	Right Cheek	0.097	0.261	0.291	0.777	0.087	0.079	0.953	0.263	0.437	0.388
	Right Tilted	0.043	0.083	0.092	0.490	0.155	0.001	0.534	0.199	0.127	0.135
	Left Cheek	0.160	0.381	0.416	0.576	0.041	0.001	0.737	0.202	0.542	0.576
	Left Tilted	0.070	0.137	0.151	0.534	0.088	0.001	0.605	0.159	0.208	0.221
WCDMA II_Ant 2	Right Cheek	0.202	0.261	0.291	0.777	0.087	0.079	1.058	0.368	0.542	0.493
	Right Tilted	0.079	0.083	0.092	0.490	0.155	0.001	0.570	0.235	0.163	0.171
	Left Cheek	0.153	0.381	0.416	0.576	0.041	0.001	0.730	0.195	0.535	0.569
	Left Tilted	0.126	0.137	0.151	0.534	0.088	0.001	0.661	0.215	0.264	0.277
WCDMA IV_Ant 2	Right Cheek	0.001	0.261	0.291	0.777	0.087	0.079	0.857	0.167	0.341	0.292
	Right Tilted	0.001	0.083	0.092	0.490	0.155	0.001	0.492	0.157	0.085	0.093
	Left Cheek	0.073	0.381	0.416	0.576	0.041	0.001	0.650	0.115	0.455	0.489
	Left Tilted	0.001	0.137	0.151	0.534	0.088	0.001	0.536	0.090	0.139	0.152
WCDMA V_Ant 4	Right Cheek	0.125	0.261	0.291	0.777	0.087	0.079	0.981	0.291	0.465	0.416
	Right Tilted	0.094	0.083	0.092	0.490	0.155	0.001	0.585	0.250	0.178	0.186
	Left Cheek	0.275	0.381	0.416	0.576	0.041	0.001	0.852	0.317	0.657	0.691
	Left Tilted	0.127	0.137	0.151	0.534	0.088	0.001	0.662	0.216	0.265	0.278
LTE Band 2_Ant 2	Right Cheek	0.202	0.261	0.291	0.777	0.087	0.079	1.058	0.368	0.542	0.493
	Right Tilted	0.002	0.083	0.092	0.490	0.155	0.001	0.493	0.158	0.086	0.094
	Left Cheek	0.134	0.381	0.416	0.576	0.041	0.001	0.711	0.176	0.516	0.550
	Left Tilted	0.123	0.137	0.151	0.534	0.088	0.001	0.658	0.212	0.261	0.274
LTE Band 5_Ant 4	Right Cheek	0.352	0.261	0.291	0.777	0.087	0.079	1.208	0.518	0.692	0.643
	Right Tilted	0.201	0.083	0.092	0.490	0.155	0.001	0.692	0.357	0.285	0.293
	Left Cheek	0.441	0.381	0.416	0.576	0.041	0.001	1.018	0.483	0.823	0.857
	Left Tilted	0.221	0.137	0.151	0.534	0.088	0.001	0.756	0.310	0.359	0.372
LTE Band 7_Ant 12	Right Cheek	0.370	0.261	0.291	0.777	0.087	0.079	1.226	0.536	0.710	0.661
	Right Tilted	0.074	0.083	0.092	0.490	0.155	0.001	0.565	0.230	0.158	0.166
	Left Cheek	0.102	0.381	0.416	0.576	0.041	0.001	0.679	0.144	0.484	0.518
	Left Tilted	0.082	0.137	0.151	0.534	0.088	0.001	0.617	0.171	0.220	0.233
LTE Band 7_Ant 6	Right Cheek	0.073	0.261	0.291	0.777	0.087	0.079	0.929	0.239	0.413	0.364
	Right Tilted	0.033	0.083	0.092	0.490	0.155	0.001	0.524	0.189	0.117	0.125
	Left Cheek	0.195	0.381	0.416	0.576	0.041	0.001	0.772	0.237	0.577	0.611
	Left Tilted	0.036	0.137	0.151	0.534	0.088	0.001	0.571	0.125	0.174	0.187
LTE Band 17_Ant 0	Right Cheek	0.476	0.261	0.291	0.777	0.087	0.079	1.332	0.642	0.816	0.767
	Right Tilted	0.159	0.083	0.092	0.490	0.155	0.001	0.650	0.315	0.243	0.251
	Left Cheek	0.231	0.381	0.416	0.576	0.041	0.001	0.808	0.273	0.613	0.647
	Left Tilted	0.118	0.137	0.151	0.534	0.088	0.001	0.653	0.207	0.256	0.269
LTE Band 41_Ant 6	Right Cheek	0.052	0.261	0.291	0.777	0.087	0.079	0.908	0.218	0.392	0.343
	Right Tilted	0.001	0.083	0.092	0.490	0.155	0.001	0.492	0.157	0.085	0.093
	Left Cheek	0.140	0.381	0.416	0.576	0.041	0.001	0.717	0.182	0.522	0.556
	Left Tilted	0.001	0.137	0.151	0.534	0.088	0.001	0.536	0.090	0.139	0.152



LTE Band 42_Ant 12	Right Cheek	0.474	0.261	0.291	0.777	0.087	0.079	1.330	0.640	0.814	0.765
	Right Tilted	0.083	0.083	0.092	0.490	0.155	0.001	0.574	0.239	0.167	0.175
	Left Cheek	0.140	0.381	0.416	0.576	0.041	0.001	0.717	0.182	0.522	0.556
	Left Tilted	0.074	0.137	0.151	0.534	0.088	0.001	0.609	0.163	0.212	0.225
LTE Band 42_Ant 11	Right Cheek	0.075	0.261	0.291	0.777	0.087	0.079	0.931	0.241	0.415	0.366
	Right Tilted	0.001	0.083	0.092	0.490	0.155	0.001	0.492	0.157	0.085	0.093
	Left Cheek	0.634	0.381	0.416	0.576	0.041	0.001	1.211	0.676	1.016	1.050
	Left Tilted	0.001	0.137	0.151	0.534	0.088	0.001	0.536	0.090	0.139	0.152
LTE Band 66_Ant 2	Right Cheek	0.060	0.261	0.291	0.777	0.087	0.079	0.916	0.226	0.400	0.351
	Right Tilted	0.026	0.083	0.092	0.490	0.155	0.001	0.517	0.182	0.110	0.118
	Left Cheek	0.079	0.381	0.416	0.576	0.041	0.001	0.656	0.121	0.461	0.495
	Left Tilted	0.028	0.137	0.151	0.534	0.088	0.001	0.563	0.117	0.166	0.179
LTE Band 71_Ant 0	Right Cheek	0.320	0.261	0.291	0.777	0.087	0.079	1.176	0.486	0.660	0.611
	Right Tilted	0.148	0.083	0.092	0.490	0.155	0.001	0.639	0.304	0.232	0.240
	Left Cheek	0.270	0.381	0.416	0.576	0.041	0.001	0.847	0.312	0.652	0.686
	Left Tilted	0.137	0.137	0.151	0.534	0.088	0.001	0.672	0.226	0.275	0.288
FR1 n2_Ant 2	Right Cheek	0.160	0.261	0.291	0.777	0.087	0.079	1.016	0.326	0.500	0.451
	Right Tilted	0.070	0.083	0.092	0.490	0.155	0.001	0.561	0.226	0.154	0.162
	Left Cheek	0.129	0.381	0.416	0.576	0.041	0.001	0.706	0.171	0.511	0.545
	Left Tilted	0.095	0.137	0.151	0.534	0.088	0.001	0.630	0.184	0.233	0.246
FR1 n5_Ant 4	Right Cheek	0.205	0.261	0.291	0.777	0.087	0.079	1.061	0.371	0.545	0.496
	Right Tilted	0.115	0.083	0.092	0.490	0.155	0.001	0.606	0.271	0.199	0.207
	Left Cheek	0.300	0.381	0.416	0.576	0.041	0.001	0.877	0.342	0.682	0.716
	Left Tilted	0.130	0.137	0.151	0.534	0.088	0.001	0.665	0.219	0.268	0.281
FR1 n7_Ant 12	Right Cheek	0.366	0.261	0.291	0.777	0.087	0.079	1.222	0.532	0.706	0.657
	Right Tilted	0.108	0.083	0.092	0.490	0.155	0.001	0.599	0.264	0.192	0.200
	Left Cheek	0.145	0.381	0.416	0.576	0.041	0.001	0.722	0.187	0.527	0.561
	Left Tilted	0.114	0.137	0.151	0.534	0.088	0.001	0.649	0.203	0.252	0.265
FR1 n7_Ant 6	Right Cheek	0.047	0.261	0.291	0.777	0.087	0.079	0.903	0.213	0.387	0.338
	Right Tilted	0.001	0.083	0.092	0.490	0.155	0.001	0.492	0.157	0.085	0.093
	Left Cheek	0.143	0.381	0.416	0.576	0.041	0.001	0.720	0.185	0.525	0.559
	Left Tilted	0.012	0.137	0.151	0.534	0.088	0.001	0.547	0.101	0.150	0.163
FR1 n66_Ant 2	Right Cheek	0.036	0.261	0.291	0.777	0.087	0.079	0.892	0.202	0.376	0.327
	Right Tilted	0.003	0.083	0.092	0.490	0.155	0.001	0.494	0.159	0.087	0.095
	Left Cheek	0.068	0.381	0.416	0.576	0.041	0.001	0.645	0.110	0.450	0.484
	Left Tilted	0.004	0.137	0.151	0.534	0.088	0.001	0.539	0.093	0.142	0.155
FR1 n71_Ant 0	Right Cheek	0.282	0.261	0.291	0.777	0.087	0.079	1.138	0.448	0.622	0.573
	Right Tilted	0.128	0.083	0.092	0.490	0.155	0.001	0.619	0.284	0.212	0.220
	Left Cheek	0.200	0.381	0.416	0.576	0.041	0.001	0.777	0.242	0.582	0.616
	Left Tilted	0.101	0.137	0.151	0.534	0.088	0.001	0.636	0.190	0.239	0.252
FR1 n41_Ant 6	Right Cheek	0.068	0.261	0.291	0.777	0.087	0.079	0.924	0.234	0.408	0.359
	Right Tilted	0.033	0.083	0.092	0.490	0.155	0.001	0.524	0.189	0.117	0.125
	Left Cheek	0.219	0.381	0.416	0.576	0.041	0.001	0.796	0.261	0.601	0.635
	Left Tilted	0.036	0.137	0.151	0.534	0.088	0.001	0.571	0.125	0.174	0.187
FR1 n77_Ant 12	Right Cheek	0.476	0.261	0.291	0.777	0.087	0.079	1.332	0.642	0.816	0.767
	Right Tilted	0.134	0.083	0.092	0.490	0.155	0.001	0.625	0.290	0.218	0.226
	Left Cheek	0.212	0.381	0.416	0.576	0.041	0.001	0.789	0.254	0.594	0.628
	Left Tilted	0.113	0.137	0.151	0.534	0.088	0.001	0.648	0.202	0.251	0.264
FR1 n77_Ant 11	Right Cheek	0.348	0.261	0.291	0.777	0.087	0.079	1.204	0.514	0.688	0.639
	Right Tilted	0.256	0.083	0.092	0.490	0.155	0.001	0.747	0.412	0.340	0.348
	Left Cheek	0.468	0.381	0.416	0.576	0.041	0.001	1.045	0.510	0.850	0.884
	Left Tilted	0.001	0.137	0.151	0.534	0.088	0.001	0.536	0.090	0.139	0.152
FR1 n77_Ant 5	Right Cheek	0.262	0.261	0.291	0.777	0.087	0.079	1.118	0.428	0.602	0.553
	Right Tilted	0.319	0.083	0.092	0.490	0.155	0.001	0.810	0.475	0.403	0.411
	Left Cheek	0.351	0.381	0.416	0.576	0.041	0.001	0.928	0.393	0.733	0.767
	Left Tilted	0.337	0.137	0.151	0.534	0.088	0.001	0.872	0.426	0.475	0.488



FR1 n77_Ant 3	Right Cheek	0.112	0.261	0.291	0.777	0.087	0.079	0.968	0.278	0.452	0.403
	Right Tilted	0.020	0.083	0.092	0.490	0.155	0.001	0.511	0.176	0.104	0.112
	Left Cheek	0.062	0.381	0.416	0.576	0.041	0.001	0.639	0.104	0.444	0.478
	Left Tilted	0.023	0.137	0.151	0.534	0.088	0.001	0.558	0.112	0.161	0.174
FR1 n41_Ant 12	Right Cheek	0.457	0.261	0.291	0.777	0.087	0.079	1.313	0.623	0.797	0.748
	Right Tilted	0.107	0.083	0.092	0.490	0.155	0.001	0.598	0.263	0.191	0.199
	Left Cheek	0.188	0.381	0.416	0.576	0.041	0.001	0.765	0.230	0.570	0.604
	Left Tilted	0.120	0.137	0.151	0.534	0.088	0.001	0.655	0.209	0.258	0.271
FR1 n41_Ant 1	Right Cheek	0.468	0.261	0.291	0.777	0.087	0.079	1.324	0.634	0.808	0.759
	Right Tilted	0.372	0.083	0.092	0.490	0.155	0.001	0.863	0.528	0.456	0.464
	Left Cheek	0.357	0.381	0.416	0.576	0.041	0.001	0.934	0.399	0.739	0.773
	Left Tilted	0.280	0.137	0.151	0.534	0.088	0.001	0.815	0.369	0.418	0.431
FR1 n41_Ant 7	Right Cheek	0.195	0.261	0.291	0.777	0.087	0.079	1.051	0.361	0.535	0.486
	Right Tilted	0.044	0.083	0.092	0.490	0.155	0.001	0.535	0.200	0.128	0.136
	Left Cheek	0.460	0.381	0.416	0.576	0.041	0.001	1.037	0.502	0.842	0.876
	Left Tilted	0.045	0.137	0.151	0.534	0.088	0.001	0.580	0.134	0.183	0.196

<DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)	1+2+5+6 Summed 1g SAR (W/kg)
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHzAnt 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)				
GSM850_Ant 4	Right Cheek	0.085	0.261	0.145	0.777	0.087	0.079	1.007	0.317	1.202	0.512
	Right Tilted	0.060	0.083	0.045	0.490	0.155	0.001	0.595	0.260	0.634	0.299
	Left Cheek	0.208	0.381	0.203	0.576	0.041	0.001	0.987	0.452	1.166	0.631
	Left Tilted	0.083	0.137	0.075	0.534	0.088	0.001	0.692	0.246	0.755	0.309
GSM1900_Ant 4	Right Cheek	0.097	0.261	0.145	0.777	0.087	0.079	1.019	0.329	1.214	0.524
	Right Tilted	0.043	0.083	0.045	0.490	0.155	0.001	0.578	0.243	0.617	0.282
	Left Cheek	0.160	0.381	0.203	0.576	0.041	0.001	0.939	0.404	1.118	0.583
	Left Tilted	0.070	0.137	0.075	0.534	0.088	0.001	0.679	0.233	0.742	0.296
WCDMA II_Ant 2	Right Cheek	0.202	0.261	0.145	0.777	0.087	0.079	1.124	0.434	1.319	0.629
	Right Tilted	0.079	0.083	0.045	0.490	0.155	0.001	0.614	0.279	0.653	0.318
	Left Cheek	0.153	0.381	0.203	0.576	0.041	0.001	0.932	0.397	1.111	0.576
	Left Tilted	0.126	0.137	0.075	0.534	0.088	0.001	0.735	0.289	0.798	0.352
WCDMA IV_Ant 2	Right Cheek	0.001	0.261	0.145	0.777	0.087	0.079	0.923	0.233	1.118	0.428
	Right Tilted	0.001	0.083	0.045	0.490	0.155	0.001	0.536	0.201	0.575	0.240
	Left Cheek	0.073	0.381	0.203	0.576	0.041	0.001	0.852	0.317	1.031	0.496
	Left Tilted	0.001	0.137	0.075	0.534	0.088	0.001	0.610	0.164	0.673	0.227
WCDMA V_Ant 4	Right Cheek	0.125	0.261	0.145	0.777	0.087	0.079	1.047	0.357	1.242	0.552
	Right Tilted	0.094	0.083	0.045	0.490	0.155	0.001	0.629	0.294	0.668	0.333
	Left Cheek	0.275	0.381	0.203	0.576	0.041	0.001	1.054	0.519	1.233	0.698
	Left Tilted	0.127	0.137	0.075	0.534	0.088	0.001	0.736	0.290	0.799	0.353
LTE Band 2_Ant 2	Right Cheek	0.202	0.261	0.145	0.777	0.087	0.079	1.124	0.434	1.319	0.629
	Right Tilted	0.002	0.083	0.045	0.490	0.155	0.001	0.537	0.202	0.576	0.241
	Left Cheek	0.134	0.381	0.203	0.576	0.041	0.001	0.913	0.378	1.092	0.557
	Left Tilted	0.123	0.137	0.075	0.534	0.088	0.001	0.732	0.286	0.795	0.349
LTE Band 5_Ant 4	Right Cheek	0.352	0.261	0.145	0.777	0.087	0.079	1.274	0.584	1.469	0.779
	Right Tilted	0.201	0.083	0.045	0.490	0.155	0.001	0.736	0.401	0.775	0.440
	Left Cheek	0.441	0.381	0.203	0.576	0.041	0.001	1.220	0.685	1.399	0.864
	Left Tilted	0.221	0.137	0.075	0.534	0.088	0.001	0.830	0.384	0.893	0.447
LTE Band 7_Ant 12	Right Cheek	0.370	0.261	0.145	0.777	0.087	0.079	1.292	0.602	1.487	0.797
	Right Tilted	0.074	0.083	0.045	0.490	0.155	0.001	0.609	0.274	0.648	0.313
	Left Cheek	0.102	0.381	0.203	0.576	0.041	0.001	0.881	0.346	1.060	0.525
	Left Tilted	0.082	0.137	0.075	0.534	0.088	0.001	0.691	0.245	0.754	0.308
LTE Band 7_Ant 6	Right Cheek	0.073	0.261	0.145	0.777	0.087	0.079	0.995	0.305	1.190	0.500
	Right Tilted	0.033	0.083	0.045	0.490	0.155	0.001	0.568	0.233	0.607	0.272



	Left Cheek	0.195	0.381	0.203	0.576	0.041	0.001	0.974	0.439	1.153	0.618
	Left Tilted	0.036	0.137	0.075	0.534	0.088	0.001	0.645	0.199	0.708	0.262
LTE Band 17_Ant 0	Right Cheek	0.476	0.261	0.145	0.777	0.087	0.079	1.398	0.708	1.593	0.903
	Right Tilted	0.159	0.083	0.045	0.490	0.155	0.001	0.694	0.359	0.733	0.398
	Left Cheek	0.231	0.381	0.203	0.576	0.041	0.001	1.010	0.475	1.189	0.654
	Left Tilted	0.118	0.137	0.075	0.534	0.088	0.001	0.727	0.281	0.790	0.344
LTE Band 41_Ant 6	Right Cheek	0.052	0.261	0.145	0.777	0.087	0.079	0.974	0.284	1.169	0.479
	Right Tilted	0.001	0.083	0.045	0.490	0.155	0.001	0.536	0.201	0.575	0.240
	Left Cheek	0.140	0.381	0.203	0.576	0.041	0.001	0.919	0.384	1.098	0.563
	Left Tilted	0.001	0.137	0.075	0.534	0.088	0.001	0.610	0.164	0.673	0.227
LTE Band 42_Ant 12	Right Cheek	0.474	0.261	0.145	0.777	0.087	0.079	1.396	0.706	1.591	0.901
	Right Tilted	0.083	0.083	0.045	0.490	0.155	0.001	0.618	0.283	0.657	0.322
	Left Cheek	0.140	0.381	0.203	0.576	0.041	0.001	0.919	0.384	1.098	0.563
	Left Tilted	0.074	0.137	0.075	0.534	0.088	0.001	0.683	0.237	0.746	0.300
LTE Band 42_Ant 11	Right Cheek	0.075	0.261	0.145	0.777	0.087	0.079	0.997	0.307	1.192	0.502
	Right Tilted	0.001	0.083	0.045	0.490	0.155	0.001	0.536	0.201	0.575	0.240
	Left Cheek	0.634	0.381	0.203	0.576	0.041	0.001	1.413	0.878	1.592	1.057
	Left Tilted	0.001	0.137	0.075	0.534	0.088	0.001	0.610	0.164	0.673	0.227
LTE Band 66_Ant 2	Right Cheek	0.060	0.261	0.145	0.777	0.087	0.079	0.982	0.292	1.177	0.487
	Right Tilted	0.026	0.083	0.045	0.490	0.155	0.001	0.561	0.226	0.600	0.265
	Left Cheek	0.079	0.381	0.203	0.576	0.041	0.001	0.858	0.323	1.037	0.502
	Left Tilted	0.028	0.137	0.075	0.534	0.088	0.001	0.637	0.191	0.700	0.254
LTE Band 71_Ant 0	Right Cheek	0.320	0.261	0.145	0.777	0.087	0.079	1.242	0.552	1.437	0.747
	Right Tilted	0.148	0.083	0.045	0.490	0.155	0.001	0.683	0.348	0.722	0.387
	Left Cheek	0.270	0.381	0.203	0.576	0.041	0.001	1.049	0.514	1.228	0.693
	Left Tilted	0.137	0.137	0.075	0.534	0.088	0.001	0.746	0.300	0.809	0.363
FR1 n2_Ant 2	Right Cheek	0.160	0.261	0.145	0.777	0.087	0.079	1.082	0.392	1.277	0.587
	Right Tilted	0.070	0.083	0.045	0.490	0.155	0.001	0.605	0.270	0.644	0.309
	Left Cheek	0.129	0.381	0.203	0.576	0.041	0.001	0.908	0.373	1.087	0.552
	Left Tilted	0.095	0.137	0.075	0.534	0.088	0.001	0.704	0.258	0.767	0.321
FR1 n5_Ant 4	Right Cheek	0.205	0.261	0.145	0.777	0.087	0.079	1.127	0.437	1.322	0.632
	Right Tilted	0.115	0.083	0.045	0.490	0.155	0.001	0.650	0.315	0.689	0.354
	Left Cheek	0.300	0.381	0.203	0.576	0.041	0.001	1.079	0.544	1.258	0.723
	Left Tilted	0.130	0.137	0.075	0.534	0.088	0.001	0.739	0.293	0.802	0.356
FR1 n7_Ant 12	Right Cheek	0.366	0.261	0.145	0.777	0.087	0.079	1.288	0.598	1.483	0.793
	Right Tilted	0.108	0.083	0.045	0.490	0.155	0.001	0.643	0.308	0.682	0.347
	Left Cheek	0.145	0.381	0.203	0.576	0.041	0.001	0.924	0.389	1.103	0.568
	Left Tilted	0.114	0.137	0.075	0.534	0.088	0.001	0.723	0.277	0.786	0.340
FR1 n7_Ant 6	Right Cheek	0.047	0.261	0.145	0.777	0.087	0.079	0.969	0.279	1.164	0.474
	Right Tilted	0.001	0.083	0.045	0.490	0.155	0.001	0.536	0.201	0.575	0.240
	Left Cheek	0.143	0.381	0.203	0.576	0.041	0.001	0.922	0.387	1.101	0.566
	Left Tilted	0.012	0.137	0.075	0.534	0.088	0.001	0.621	0.175	0.684	0.238
FR1 n66_Ant 2	Right Cheek	0.036	0.261	0.145	0.777	0.087	0.079	0.958	0.268	1.153	0.463
	Right Tilted	0.003	0.083	0.045	0.490	0.155	0.001	0.538	0.203	0.577	0.242
	Left Cheek	0.068	0.381	0.203	0.576	0.041	0.001	0.847	0.312	1.026	0.491
	Left Tilted	0.004	0.137	0.075	0.534	0.088	0.001	0.613	0.167	0.676	0.230
FR1 n71_Ant 0	Right Cheek	0.282	0.261	0.145	0.777	0.087	0.079	1.204	0.514	1.399	0.709
	Right Tilted	0.128	0.083	0.045	0.490	0.155	0.001	0.663	0.328	0.702	0.367
	Left Cheek	0.200	0.381	0.203	0.576	0.041	0.001	0.979	0.444	1.158	0.623
	Left Tilted	0.101	0.137	0.075	0.534	0.088	0.001	0.710	0.264	0.773	0.327
FR1 n41_Ant 6	Right Cheek	0.068	0.261	0.145	0.777	0.087	0.079	0.990	0.300	1.185	0.495
	Right Tilted	0.033	0.083	0.045	0.490	0.155	0.001	0.568	0.233	0.607	0.272
	Left Cheek	0.219	0.381	0.203	0.576	0.041	0.001	0.998	0.463	1.177	0.642
	Left Tilted	0.036	0.137	0.075	0.534	0.088	0.001	0.645	0.199	0.708	0.262
FR1 n77_Ant 12	Right Cheek	0.476	0.261	0.145	0.777	0.087	0.079	1.398	0.708	1.593	0.903
	Right Tilted	0.134	0.083	0.045	0.490	0.155	0.001	0.669	0.334	0.708	0.373



	Left Cheek	0.212	0.381	0.203	0.576	0.041	0.001	0.991	0.456	1.170	0.635
	Left Tilted	0.113	0.137	0.075	0.534	0.088	0.001	0.722	0.276	0.785	0.339
FR1 n77_Ant 11	Right Cheek	0.348	0.261	0.145	0.777	0.087	0.079	1.270	0.580	1.465	0.775
	Right Tilted	0.256	0.083	0.045	0.490	0.155	0.001	0.791	0.456	0.830	0.495
	Left Cheek	0.468	0.381	0.203	0.576	0.041	0.001	1.247	0.712	1.426	0.891
	Left Tilted	0.001	0.137	0.075	0.534	0.088	0.001	0.610	0.164	0.673	0.227
FR1 n77_Ant 5	Right Cheek	0.262	0.261	0.145	0.777	0.087	0.079	1.184	0.494	1.379	0.689
	Right Tilted	0.319	0.083	0.045	0.490	0.155	0.001	0.854	0.519	0.893	0.558
	Left Cheek	0.351	0.381	0.203	0.576	0.041	0.001	1.130	0.595	1.309	0.774
	Left Tilted	0.337	0.137	0.075	0.534	0.088	0.001	0.946	0.500	1.009	0.563
FR1 n77_Ant 3	Right Cheek	0.112	0.261	0.145	0.777	0.087	0.079	1.034	0.344	1.229	0.539
	Right Tilted	0.020	0.083	0.045	0.490	0.155	0.001	0.555	0.220	0.594	0.259
	Left Cheek	0.062	0.381	0.203	0.576	0.041	0.001	0.841	0.306	1.020	0.485
	Left Tilted	0.023	0.137	0.075	0.534	0.088	0.001	0.632	0.186	0.695	0.249
FR1 n41_Ant 12	Right Cheek	0.457	0.261	0.145	0.777	0.087	0.079	1.379	0.689	1.574	0.884
	Right Tilted	0.107	0.083	0.045	0.490	0.155	0.001	0.642	0.307	0.681	0.346
	Left Cheek	0.188	0.381	0.203	0.576	0.041	0.001	0.967	0.432	1.146	0.611
	Left Tilted	0.120	0.137	0.075	0.534	0.088	0.001	0.729	0.283	0.792	0.346
FR1 n41_Ant 1	Right Cheek	0.468	0.261	0.145	0.777	0.087	0.079	1.390	0.700	1.585	0.895
	Right Tilted	0.372	0.083	0.045	0.490	0.155	0.001	0.907	0.572	0.946	0.611
	Left Cheek	0.357	0.381	0.203	0.576	0.041	0.001	1.136	0.601	1.315	0.780
	Left Tilted	0.280	0.137	0.075	0.534	0.088	0.001	0.889	0.443	0.952	0.506
FR1 n41_Ant 7	Right Cheek	0.195	0.261	0.145	0.777	0.087	0.079	1.117	0.427	1.312	0.622
	Right Tilted	0.044	0.083	0.045	0.490	0.155	0.001	0.579	0.244	0.618	0.283
	Left Cheek	0.460	0.381	0.203	0.576	0.041	0.001	1.239	0.704	1.418	0.883
	Left Tilted	0.045	0.137	0.075	0.534	0.088	0.001	0.654	0.208	0.717	0.271

17.2 Hotspot Exposure Conditions

<Non-DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+4+6 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHz Ant 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)						
GSM850_Ant 4	Front	0.208	0.100	0.133	0.187		0.001	0.396	0.209	0.309	0.341		
	Back	0.460	0.576	0.689	0.430		0.001	0.891	0.461	1.037	1.149		
	Left side	0.127	0.001	0.915	1.023		0.213	1.363	0.340	0.341	1.042		
	Right side	0.113	0.895	1.044	0.682		0.001	0.796	0.114	1.009	1.157		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.337						0.337	0.337	0.337	0.337		
GSM1900_Ant 4	Front	0.144	0.100	0.133	0.187		0.001	0.332	0.145	0.245	0.277		
	Back	0.861	0.576	0.689	0.430		0.001	1.292	0.862	1.438	1.550		
	Left side	0.120	0.001	0.915	1.023		0.213	1.356	0.333	0.334	1.035		
	Right side	0.063	0.895	1.044	0.682		0.001	0.746	0.064	0.959	1.107		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.483						0.483	0.483	0.483	0.483		
WCDMA II_Ant 2	Front	0.206	0.100	0.133	0.187		0.001	0.394	0.207	0.307	0.339		
	Back	0.367	0.576	0.689	0.430		0.001	0.798	0.368	0.944	1.056		
	Left side	0.035	0.001	0.915	1.023		0.213	1.271	0.248	0.249	0.950		
	Right side	0.534	0.895	1.044	0.682		0.001	1.217	0.535	1.430	1.578		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.228						0.228	0.228	0.228	0.228		
WCDMA IV_Ant 2	Front	0.192	0.100	0.133	0.187		0.001	0.380	0.193	0.293	0.325		
	Back	0.691	0.576	0.689	0.430		0.001	1.122	0.692	1.268	1.380		



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	Left side	0.074	0.001	0.915	1.023		0.213	1.310	0.287	0.288	0.989		
	Right side	0.180	0.895	1.044	0.682		0.001	0.863	0.181	1.076	1.224		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.076						0.076	0.076	0.076	0.076		
WCDMA V_Ant 4	Front	0.197	0.100	0.133	0.187		0.001	0.385	0.198	0.298	0.330		
	Back	0.401	0.576	0.689	0.430		0.001	0.832	0.402	0.978	1.090		
	Left side	0.120	0.001	0.915	1.023		0.213	1.356	0.333	0.334	1.035		
	Right side	0.071	0.895	1.044	0.682		0.001	0.754	0.072	0.967	1.115		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.238						0.238	0.238	0.238	0.238		
LTE Band 2_Ant 2	Front	0.212	0.100	0.133	0.187		0.001	0.400	0.213	0.313	0.345		
	Back	0.331	0.576	0.689	0.430		0.001	0.762	0.332	0.908	1.020		
	Left side	0.001	0.001	0.915	1.023		0.213	1.237	0.214	0.215	0.916		
	Right side	0.532	0.895	1.044	0.682		0.001	1.215	0.533	1.428	1.576		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.261						0.261	0.261	0.261	0.261		
LTE Band 5_Ant 4	Front	0.213	0.100	0.133	0.187		0.001	0.401	0.214	0.314	0.346		
	Back	0.509	0.576	0.689	0.430		0.001	0.940	0.510	1.086	1.198		
	Left side	0.122	0.001	0.915	1.023		0.213	1.358	0.335	0.336	1.037		
	Right side	0.118	0.895	1.044	0.682		0.001	0.801	0.119	1.014	1.162		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.260						0.260	0.260	0.260	0.260		
LTE Band 7_Ant 12	Front	0.208	0.100	0.133	0.187		0.001	0.396	0.209	0.309	0.341		
	Back	0.888	0.576	0.689	0.430		0.001	1.319	0.889	1.465	1.577		
	Left side	0.175	0.001	0.915	1.023		0.213	1.411	0.388	0.389	1.090		
	Right side	0.471	0.895	1.044	0.682		0.001	1.154	0.472	1.367	1.515		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.215						0.215	0.215	0.215	0.215		
LTE Band 7_Ant 6	Front	0.176	0.100	0.133	0.187		0.001	0.364	0.177	0.277	0.309		
	Back	0.446	0.576	0.689	0.430		0.001	0.877	0.447	1.023	1.135		
	Left side	0.539	0.001	0.915	1.023		0.213	1.775	0.752	0.753	1.454	0.03	Case 1
	Right side	0.001	0.895	1.044	0.682		0.001	0.684	0.002	0.897	1.045		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.298						0.298	0.298	0.298	0.298		
LTE Band 17_Ant 0	Front	0.370	0.100	0.133	0.187		0.001	0.558	0.371	0.471	0.503		
	Back	0.444	0.576	0.689	0.430		0.001	0.875	0.445	1.021	1.133		
	Left side	0.264	0.001	0.915	1.023		0.213	1.500	0.477	0.478	1.179		
	Right side	0.534	0.895	1.044	0.682		0.001	1.217	0.535	1.430	1.578		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.337						0.337	0.337	0.337	0.337		
LTE Band 41_Ant 6	Front	0.151	0.100	0.133	0.187		0.001	0.339	0.152	0.252	0.284		
	Back	0.394	0.576	0.689	0.430		0.001	0.825	0.395	0.971	1.083		
	Left side	0.497	0.001	0.915	1.023		0.213	1.733	0.710	0.711	1.412	0.03	Case 2
	Right side	0.001	0.895	1.044	0.682		0.001	0.684	0.002	0.897	1.045		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.203						0.203	0.203	0.203	0.203		



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LTE Band 42_Ant 12	Front	0.123	0.100	0.133	0.187	0.001	0.311	0.124	0.224	0.256		
	Back	0.208	0.576	0.689	0.430	0.001	0.639	0.209	0.785	0.897		
	Left side	0.051	0.001	0.915	1.023	0.213	1.287	0.264	0.265	0.966		
	Right side	0.532	0.895	1.044	0.682	0.001	1.215	0.533	1.428	1.576		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.067					0.067	0.067	0.067	0.067		
LTE Band 42_Ant 11	Front	0.105	0.100	0.133	0.187	0.001	0.293	0.106	0.206	0.238		
	Back	0.165	0.576	0.689	0.430	0.001	0.596	0.166	0.742	0.854		
	Left side	0.424	0.001	0.915	1.023	0.213	1.660	0.637	0.638	1.339	0.04	Case 3
	Right side	0.088	0.895	1.044	0.682	0.001	0.771	0.089	0.984	1.132		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.065					0.065	0.065	0.065	0.065		
LTE Band 66_Ant 2	Front	0.216	0.100	0.133	0.187	0.001	0.404	0.217	0.317	0.349		
	Back	0.787	0.576	0.689	0.430	0.001	1.218	0.788	1.364	1.476		
	Left side	0.091	0.001	0.915	1.023	0.213	1.327	0.304	0.305	1.006		
	Right side	0.282	0.895	1.044	0.682	0.001	0.965	0.283	1.178	1.326		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.084					0.084	0.084	0.084	0.084		
LTE Band 71_Ant 0	Front	0.274	0.100	0.133	0.187	0.001	0.462	0.275	0.375	0.407		
	Back	0.473	0.576	0.689	0.430	0.001	0.904	0.474	1.050	1.162		
	Left side	0.220	0.001	0.915	1.023	0.213	1.456	0.433	0.434	1.135		
	Right side	0.373	0.895	1.044	0.682	0.001	1.056	0.374	1.269	1.417		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.240					0.240	0.240	0.240	0.240		
FR1 n2_Ant 2	Front	0.265	0.100	0.133	0.187	0.001	0.453	0.266	0.366	0.398		
	Back	0.473	0.576	0.689	0.430	0.001	0.904	0.474	1.050	1.162		
	Left side	0.081	0.001	0.915	1.023	0.213	1.317	0.294	0.295	0.996		
	Right side	0.532	0.895	1.044	0.682	0.001	1.215	0.533	1.428	1.576		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.345					0.345	0.345	0.345	0.345		
FR1 n5_Ant 4	Front	0.249	0.100	0.133	0.187	0.001	0.437	0.250	0.350	0.382		
	Back	0.455	0.576	0.689	0.430	0.001	0.886	0.456	1.032	1.144		
	Left side	0.126	0.001	0.915	1.023	0.213	1.362	0.339	0.340	1.041		
	Right side	0.091	0.895	1.044	0.682	0.001	0.774	0.092	0.987	1.135		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.377					0.377	0.377	0.377	0.377		
FR1 n7_Ant 12	Front	0.158	0.100	0.133	0.187	0.001	0.346	0.159	0.259	0.291		
	Back	0.860	0.576	0.689	0.430	0.001	1.291	0.861	1.437	1.549		
	Left side	0.124	0.001	0.915	1.023	0.213	1.360	0.337	0.338	1.039		
	Right side	0.367	0.895	1.044	0.682	0.001	1.050	0.368	1.263	1.411		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.189					0.189	0.189	0.189	0.189		
FR1 n7_Ant 6	Front	0.148	0.100	0.133	0.187	0.001	0.336	0.149	0.249	0.281		
	Back	0.381	0.576	0.689	0.430	0.001	0.812	0.382	0.958	1.070		
	Left side	0.477	0.001	0.915	1.023	0.213	1.713	0.690	0.691	1.392	0.03	Case 4
	Right side	0.001	0.895	1.044	0.682	0.001	0.684	0.002	0.897	1.045		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.173					0.173	0.173	0.173	0.173		
FR1 n66_Ant 2	Front	0.154	0.100	0.133	0.187	0.001	0.342	0.155	0.255	0.287		
	Back	0.688	0.576	0.689	0.430	0.001	1.119	0.689	1.265	1.377		
	Left side	0.001	0.001	0.915	1.023	0.213	1.237	0.214	0.215	0.916		
	Right side	0.166	0.895	1.044	0.682	0.001	0.849	0.167	1.062	1.210		
	Top side		0.055	0.100	0.235	0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.086					0.086	0.086	0.086	0.086		
FR1 n71_Ant 0	Front	0.308	0.100	0.133	0.187	0.001	0.496	0.309	0.409	0.441		
	Back	0.394	0.576	0.689	0.430	0.001	0.825	0.395	0.971	1.083		



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	Left side	0.088	0.001	0.915	1.023		0.213	1.324	0.301	0.302	1.003		
	Right side	0.261	0.895	1.044	0.682		0.001	0.944	0.262	1.157	1.305		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.246						0.246	0.246	0.246	0.246		
FR1 n41_Ant 6	Front	0.224	0.100	0.133	0.187		0.001	0.412	0.225	0.325	0.357		
	Back	0.358	0.576	0.689	0.430		0.001	0.789	0.359	0.935	1.047		
	Left side	0.541	0.001	0.915	1.023		0.213	1.777	0.754	0.755	1.456	0.03	Case 5
	Right side	0.001	0.895	1.044	0.682		0.001	0.684	0.002	0.897	1.045		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.240						0.240	0.240	0.240	0.240		
FR1 n77_Ant 12	Front	0.140	0.100	0.133	0.187		0.001	0.328	0.141	0.241	0.273		
	Back	0.276	0.576	0.689	0.430		0.001	0.707	0.277	0.853	0.965		
	Left side	0.110	0.001	0.915	1.023		0.213	1.346	0.323	0.324	1.025		
	Right side	0.540	0.895	1.044	0.682		0.001	1.223	0.541	1.436	1.584		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.093						0.093	0.093	0.093	0.093		
FR1 n77_Ant 11	Front	0.114	0.100	0.133	0.187		0.001	0.302	0.115	0.215	0.247		
	Back	0.177	0.576	0.689	0.430		0.001	0.608	0.178	0.754	0.866		
	Left side	0.418	0.001	0.915	1.023		0.213	1.654	0.631	0.632	1.333	0.04	Case 6
	Right side	0.074	0.895	1.044	0.682		0.001	0.757	0.075	0.970	1.118		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.074						0.074	0.074	0.074	0.074		
FR1 n77_Ant 5	Front	0.048	0.100	0.133	0.187		0.001	0.236	0.049	0.149	0.181		
	Back	0.495	0.576	0.689	0.430		0.001	0.926	0.496	1.072	1.184		
	Left side	0.018	0.001	0.915	1.023		0.213	1.254	0.231	0.232	0.933		
	Right side	0.033	0.895	1.044	0.682		0.001	0.716	0.034	0.929	1.077		
	Top side	0.784	0.055	0.100	0.235		0.001	1.020	0.785	0.840	0.884		
	Bottom side	0.001						0.001	0.001	0.001	0.001		
FR1 n77_Ant 3	Front	0.163	0.100	0.133	0.187		0.001	0.351	0.164	0.264	0.296		
	Back	0.269	0.576	0.689	0.430		0.001	0.700	0.270	0.846	0.958		
	Left side	0.072	0.001	0.915	1.023		0.213	1.308	0.285	0.286	0.987		
	Right side	0.465	0.895	1.044	0.682		0.001	1.148	0.466	1.361	1.509		
	Top side	0.069	0.055	0.100	0.235		0.001	0.305	0.070	0.125	0.169		
	Bottom side	0.081						0.081	0.081	0.081	0.081		
FR1 n41_Ant 12	Front	0.143	0.100	0.133	0.187		0.001	0.331	0.144	0.244	0.276		
	Back	0.351	0.576	0.689	0.430		0.001	0.782	0.352	0.928	1.040		
	Left side	0.129	0.001	0.915	1.023		0.213	1.365	0.342	0.343	1.044		
	Right side	0.358	0.895	1.044	0.682		0.001	1.041	0.359	1.254	1.402		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.063						0.063	0.063	0.063	0.063		
FR1 n41_Ant 1	Front	0.363	0.100	0.133	0.187		0.001	0.551	0.364	0.464	0.496		
	Back	0.145	0.576	0.689	0.430		0.001	0.576	0.146	0.722	0.834		
	Left side	0.332	0.001	0.915	1.023		0.213	1.568	0.545	0.546	1.247		
	Right side	0.001	0.895	1.044	0.682		0.001	0.684	0.002	0.897	1.045		
	Top side	0.213	0.055	0.100	0.235		0.001	0.449	0.214	0.269	0.313		
	Bottom side	0.001						0.001	0.001	0.001	0.001		
FR1 n41_Ant 7	Front	0.239	0.100	0.133	0.187		0.001	0.427	0.240	0.340	0.372		
	Back	0.271	0.576	0.689	0.430		0.001	0.702	0.272	0.848	0.960		
	Left side	0.532	0.001	0.915	1.023		0.213	1.768	0.745	0.746	1.447	0.04	Case 8
	Right side	0.039	0.895	1.044	0.682		0.001	0.722	0.040	0.935	1.083		
	Top side		0.055	0.100	0.235		0.001	0.236	0.001	0.056	0.100		
	Bottom side	0.034						0.034	0.034	0.034	0.034		



<DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)	1+2+5+6 Summed 1g SAR (W/kg)
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHzAnt 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)				
GSM850_Ant 4	Front	0.208	0.035	0.074	0.122		0.001	0.404	0.282	0.366	0.244
	Back	0.460	0.195	0.414	0.281		0.001	1.155	0.874	0.937	0.656
	Left side	0.127	0.001	0.483	0.561		0.213	1.171	0.610	0.902	0.341
	Right side	0.113	0.296	0.599	0.446		0.001	1.158	0.712	0.856	0.410
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.337						0.337	0.337	0.337	0.337
GSM1900_Ant 4	Front	0.144	0.035	0.074	0.122		0.001	0.340	0.218	0.302	0.180
	Back	0.861	0.195	0.414	0.281		0.001	1.556	1.275	1.338	1.057
	Left side	0.120	0.001	0.483	0.561		0.213	1.164	0.603	0.895	0.334
	Right side	0.063	0.296	0.599	0.446		0.001	1.108	0.662	0.806	0.360
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.483						0.483	0.483	0.483	0.483
WCDMA II_Ant 2	Front	0.206	0.035	0.074	0.122		0.001	0.402	0.280	0.364	0.242
	Back	0.367	0.195	0.414	0.281		0.001	1.062	0.781	0.844	0.563
	Left side	0.035	0.001	0.483	0.561		0.213	1.079	0.518	0.810	0.249
	Right side	0.534	0.296	0.599	0.446		0.001	1.579	1.133	1.277	0.831
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.228						0.228	0.228	0.228	0.228
WCDMA IV_Ant 2	Front	0.192	0.035	0.074	0.122		0.001	0.388	0.266	0.350	0.228
	Back	0.691	0.195	0.414	0.281		0.001	1.386	1.105	1.168	0.887
	Left side	0.074	0.001	0.483	0.561		0.213	1.118	0.557	0.849	0.288
	Right side	0.180	0.296	0.599	0.446		0.001	1.225	0.779	0.923	0.477
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.076						0.076	0.076	0.076	0.076
WCDMA V_Ant 4	Front	0.197	0.035	0.074	0.122		0.001	0.393	0.271	0.355	0.233
	Back	0.401	0.195	0.414	0.281		0.001	1.096	0.815	0.878	0.597
	Left side	0.120	0.001	0.483	0.561		0.213	1.164	0.603	0.895	0.334
	Right side	0.071	0.296	0.599	0.446		0.001	1.116	0.670	0.814	0.368
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.238						0.238	0.238	0.238	0.238
LTE Band 2_Ant 2	Front	0.212	0.035	0.074	0.122		0.001	0.408	0.286	0.370	0.248
	Back	0.331	0.195	0.414	0.281		0.001	1.026	0.745	0.808	0.527
	Left side	0.001	0.001	0.483	0.561		0.213	1.045	0.484	0.776	0.215
	Right side	0.532	0.296	0.599	0.446		0.001	1.577	1.131	1.275	0.829
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.261						0.261	0.261	0.261	0.261
LTE Band 5_Ant 4	Front	0.213	0.035	0.074	0.122		0.001	0.409	0.287	0.371	0.249
	Back	0.509	0.195	0.414	0.281		0.001	1.204	0.923	0.986	0.705
	Left side	0.122	0.001	0.483	0.561		0.213	1.166	0.605	0.897	0.336
	Right side	0.118	0.296	0.599	0.446		0.001	1.163	0.717	0.861	0.415
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.260						0.260	0.260	0.260	0.260
LTE Band 7_Ant 12	Front	0.208	0.035	0.074	0.122		0.001	0.404	0.282	0.366	0.244
	Back	0.888	0.195	0.414	0.281		0.001	1.583	1.302	1.365	1.084
	Left side	0.175	0.001	0.483	0.561		0.213	1.219	0.658	0.950	0.389
	Right side	0.471	0.296	0.599	0.446		0.001	1.516	1.070	1.214	0.768
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.215						0.215	0.215	0.215	0.215
LTE Band 7_Ant 6	Front	0.176	0.035	0.074	0.122		0.001	0.372	0.250	0.334	0.212
	Back	0.446	0.195	0.414	0.281		0.001	1.141	0.860	0.923	0.642
	Left side	0.539	0.001	0.483	0.561		0.213	1.583	1.022	1.314	0.753



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	Right side	0.001	0.296	0.599	0.446		0.001	1.046	0.600	0.744	0.298
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.298						0.298	0.298	0.298	0.298
LTE Band 17_Ant 0	Front	0.370	0.035	0.074	0.122		0.001	0.566	0.444	0.528	0.406
	Back	0.444	0.195	0.414	0.281		0.001	1.139	0.858	0.921	0.640
	Left side	0.264	0.001	0.483	0.561		0.213	1.308	0.747	1.039	0.478
	Right side	0.534	0.296	0.599	0.446		0.001	1.579	1.133	1.277	0.831
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.337						0.337	0.337	0.337	0.337
LTE Band 41_Ant 6	Front	0.151	0.035	0.074	0.122		0.001	0.347	0.225	0.309	0.187
	Back	0.394	0.195	0.414	0.281		0.001	1.089	0.808	0.871	0.590
	Left side	0.497	0.001	0.483	0.561		0.213	1.541	0.980	1.272	0.711
	Right side	0.001	0.296	0.599	0.446		0.001	1.046	0.600	0.744	0.298
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.203						0.203	0.203	0.203	0.203
LTE Band 42_Ant 12	Front	0.123	0.035	0.074	0.122		0.001	0.319	0.197	0.281	0.159
	Back	0.208	0.195	0.414	0.281		0.001	0.903	0.622	0.685	0.404
	Left side	0.051	0.001	0.483	0.561		0.213	1.095	0.534	0.826	0.265
	Right side	0.532	0.296	0.599	0.446		0.001	1.577	1.131	1.275	0.829
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.067						0.067	0.067	0.067	0.067
LTE Band 42_Ant 11	Front	0.105	0.035	0.074	0.122		0.001	0.301	0.179	0.263	0.141
	Back	0.165	0.195	0.414	0.281		0.001	0.860	0.579	0.642	0.361
	Left side	0.424	0.001	0.483	0.561		0.213	1.468	0.907	1.199	0.638
	Right side	0.088	0.296	0.599	0.446		0.001	1.133	0.687	0.831	0.385
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.065						0.065	0.065	0.065	0.065
LTE Band 66_Ant 2	Front	0.216	0.035	0.074	0.122		0.001	0.412	0.290	0.374	0.252
	Back	0.787	0.195	0.414	0.281		0.001	1.482	1.201	1.264	0.983
	Left side	0.091	0.001	0.483	0.561		0.213	1.135	0.574	0.866	0.305
	Right side	0.282	0.296	0.599	0.446		0.001	1.327	0.881	1.025	0.579
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.084						0.084	0.084	0.084	0.084
LTE Band 71_Ant 0	Front	0.274	0.035	0.074	0.122		0.001	0.470	0.348	0.432	0.310
	Back	0.473	0.195	0.414	0.281		0.001	1.168	0.887	0.950	0.669
	Left side	0.220	0.001	0.483	0.561		0.213	1.264	0.703	0.995	0.434
	Right side	0.373	0.296	0.599	0.446		0.001	1.418	0.972	1.116	0.670
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.240						0.240	0.240	0.240	0.240
FR1 n2_Ant 2	Front	0.265	0.035	0.074	0.122		0.001	0.461	0.339	0.423	0.301
	Back	0.473	0.195	0.414	0.281		0.001	1.168	0.887	0.950	0.669
	Left side	0.081	0.001	0.483	0.561		0.213	1.125	0.564	0.856	0.295
	Right side	0.532	0.296	0.599	0.446		0.001	1.577	1.131	1.275	0.829
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.345						0.345	0.345	0.345	0.345
FR1 n5_Ant 4	Front	0.249	0.035	0.074	0.122		0.001	0.445	0.323	0.407	0.285
	Back	0.455	0.195	0.414	0.281		0.001	1.150	0.869	0.932	0.651
	Left side	0.126	0.001	0.483	0.561		0.213	1.170	0.609	0.901	0.340
	Right side	0.091	0.296	0.599	0.446		0.001	1.136	0.690	0.834	0.388
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.377						0.377	0.377	0.377	0.377
FR1 n7_Ant 12	Front	0.158	0.035	0.074	0.122		0.001	0.354	0.232	0.316	0.194
	Back	0.860	0.195	0.414	0.281		0.001	1.555	1.274	1.337	1.056
	Left side	0.124	0.001	0.483	0.561		0.213	1.168	0.607	0.899	0.338
	Right side	0.367	0.296	0.599	0.446		0.001	1.412	0.966	1.110	0.664
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020



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	Bottom side	0.189						0.189	0.189	0.189	0.189
FR1 n7_Ant 6	Front	0.148	0.035	0.074	0.122		0.001	0.344	0.222	0.306	0.184
	Back	0.381	0.195	0.414	0.281		0.001	1.076	0.795	0.858	0.577
	Left side	0.477	0.001	0.483	0.561		0.213	1.521	0.960	1.252	0.691
	Right side	0.001	0.296	0.599	0.446		0.001	1.046	0.600	0.744	0.298
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.173							0.173	0.173	0.173
FR1 n66_Ant 2	Front	0.154	0.035	0.074	0.122		0.001	0.350	0.228	0.312	0.190
	Back	0.688	0.195	0.414	0.281		0.001	1.383	1.102	1.165	0.884
	Left side	0.001	0.001	0.483	0.561		0.213	1.045	0.484	0.776	0.215
	Right side	0.166	0.296	0.599	0.446		0.001	1.211	0.765	0.909	0.463
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.086							0.086	0.086	0.086
FR1 n71_Ant 0	Front	0.308	0.035	0.074	0.122		0.001	0.504	0.382	0.466	0.344
	Back	0.394	0.195	0.414	0.281		0.001	1.089	0.808	0.871	0.590
	Left side	0.088	0.001	0.483	0.561		0.213	1.132	0.571	0.863	0.302
	Right side	0.261	0.296	0.599	0.446		0.001	1.306	0.860	1.004	0.558
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.246							0.246	0.246	0.246
FR1 n41_Ant 6	Front	0.224	0.035	0.074	0.122		0.001	0.420	0.298	0.382	0.260
	Back	0.358	0.195	0.414	0.281		0.001	1.053	0.772	0.835	0.554
	Left side	0.541	0.001	0.483	0.561		0.213	1.585	1.024	1.316	0.755
	Right side	0.001	0.296	0.599	0.446		0.001	1.046	0.600	0.744	0.298
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.240							0.240	0.240	0.240
FR1 n77_Ant 12	Front	0.140	0.035	0.074	0.122		0.001	0.336	0.214	0.298	0.176
	Back	0.276	0.195	0.414	0.281		0.001	0.971	0.690	0.753	0.472
	Left side	0.110	0.001	0.483	0.561		0.213	1.154	0.593	0.885	0.324
	Right side	0.540	0.296	0.599	0.446		0.001	1.585	1.139	1.283	0.837
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.093							0.093	0.093	0.093
FR1 n77_Ant 11	Front	0.114	0.035	0.074	0.122		0.001	0.310	0.188	0.272	0.150
	Back	0.177	0.195	0.414	0.281		0.001	0.872	0.591	0.654	0.373
	Left side	0.418	0.001	0.483	0.561		0.213	1.462	0.901	1.193	0.632
	Right side	0.074	0.296	0.599	0.446		0.001	1.119	0.673	0.817	0.371
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.074							0.074	0.074	0.074
FR1 n77_Ant 11	Front	0.114	0.035	0.074	0.122		0.001	0.310	0.188	0.272	0.150
	Back	0.177	0.195	0.414	0.281		0.001	0.872	0.591	0.654	0.373
	Left side	0.418	0.001	0.483	0.561		0.213	1.462	0.901	1.193	0.632
	Right side	0.074	0.296	0.599	0.446		0.001	1.119	0.673	0.817	0.371
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.074							0.074	0.074	0.074
FR1 n77_Ant 5	Front	0.048	0.035	0.074	0.122		0.001	0.244	0.122	0.206	0.084
	Back	0.495	0.195	0.414	0.281		0.001	1.190	0.909	0.972	0.691
	Left side	0.018	0.001	0.483	0.561		0.213	1.062	0.501	0.793	0.232
	Right side	0.033	0.296	0.599	0.446		0.001	1.078	0.632	0.776	0.330
	Top side	0.784	0.019	0.053	0.154		0.001	0.991	0.837	0.958	0.804
	Bottom side	0.001							0.001	0.001	0.001
FR1 n77_Ant 3	Front	0.163	0.035	0.074	0.122		0.001	0.359	0.237	0.321	0.199
	Back	0.269	0.195	0.414	0.281		0.001	0.964	0.683	0.746	0.465
	Left side	0.072	0.001	0.483	0.561		0.213	1.116	0.555	0.847	0.286
	Right side	0.465	0.296	0.599	0.446		0.001	1.510	1.064	1.208	0.762
	Top side	0.069	0.019	0.053	0.154		0.001	0.276	0.122	0.243	0.089
	Bottom side	0.081							0.081	0.081	0.081
FR1 n41_Ant 12	Front	0.143	0.035	0.074	0.122		0.001	0.339	0.217	0.301	0.179



	Back	0.351	0.195	0.414	0.281		0.001	1.046	0.765	0.828	0.547
	Left side	0.129	0.001	0.483	0.561		0.213	1.173	0.612	0.904	0.343
	Right side	0.358	0.296	0.599	0.446		0.001	1.403	0.957	1.101	0.655
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.063						0.063	0.063	0.063	0.063
FR1 n41_Ant 1	Front	0.363	0.035	0.074	0.122		0.001	0.559	0.437	0.521	0.399
	Back	0.145	0.195	0.414	0.281		0.001	0.840	0.559	0.622	0.341
	Left side	0.332	0.001	0.483	0.561		0.213	1.376	0.815	1.107	0.546
	Right side	0.001	0.296	0.599	0.446		0.001	1.046	0.600	0.744	0.298
	Top side	0.213	0.019	0.053	0.154		0.001	0.420	0.266	0.387	0.233
	Bottom side	0.001						0.001	0.001	0.001	0.001
FR1 n41_Ant 7	Front	0.239	0.035	0.074	0.122		0.001	0.435	0.313	0.397	0.275
	Back	0.271	0.195	0.414	0.281		0.001	0.966	0.685	0.748	0.467
	Left side	0.532	0.001	0.483	0.561		0.213	1.576	1.015	1.307	0.746
	Right side	0.039	0.296	0.599	0.446		0.001	1.084	0.638	0.782	0.336
	Top side		0.019	0.053	0.154		0.001	0.207	0.053	0.174	0.020
	Bottom side	0.034						0.034	0.034	0.034	0.034

17.3 Body-Worn Accessory Exposure Conditions

<Non-DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+4+6 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHz Ant 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)				
GSM850_Ant 4	Front	0.134	0.045	0.066	0.126	0.046	0.001	0.261	0.181	0.180	0.200
	Back	0.199	0.258	0.388	0.490	0.098	0.098	0.787	0.395	0.555	0.587
	Back with Headset	0.288	0.182	0.268	0.423	0.052	0.001	0.712	0.341	0.471	0.556
GSM1900_Ant 4	Front	0.126	0.045	0.066	0.126	0.046	0.001	0.253	0.173	0.172	0.192
	Back	0.480	0.258	0.388	0.490	0.098	0.098	1.068	0.676	0.836	0.868
	Back with Headset	0.329	0.182	0.268	0.423	0.052	0.001	0.753	0.382	0.512	0.597
WCDMA II_Ant 2	Front	0.208	0.045	0.066	0.126	0.046	0.001	0.335	0.255	0.254	0.274
	Back	0.311	0.258	0.388	0.490	0.098	0.098	0.899	0.507	0.667	0.699
	Back with Headset	0.358	0.182	0.268	0.423	0.052	0.001	0.782	0.411	0.541	0.626
WCDMA IV_Ant 2	Front	0.124	0.045	0.066	0.126	0.046	0.001	0.251	0.171	0.170	0.190
	Back	0.534	0.258	0.388	0.490	0.098	0.098	1.122	0.730	0.890	0.922
	Back with Headset	0.458	0.182	0.268	0.423	0.052	0.001	0.882	0.511	0.641	0.726
WCDMA V_Ant 4	Front	0.149	0.045	0.066	0.126	0.046	0.001	0.276	0.196	0.195	0.215
	Back	0.192	0.258	0.388	0.490	0.098	0.098	0.780	0.388	0.548	0.580
	Back with Headset	0.337	0.182	0.268	0.423	0.052	0.001	0.761	0.390	0.520	0.605
LTE Band 2_Ant 2	Front	0.211	0.045	0.066	0.126	0.046	0.001	0.338	0.258	0.257	0.277
	Back	0.263	0.258	0.388	0.490	0.098	0.098	0.851	0.459	0.619	0.651
	Back with Headset	0.300	0.182	0.268	0.423	0.052	0.001	0.724	0.353	0.483	0.568
LTE Band 5_Ant 4	Front	0.197	0.045	0.066	0.126	0.046	0.001	0.324	0.244	0.243	0.263
	Back	0.228	0.258	0.388	0.490	0.098	0.098	0.816	0.424	0.584	0.616
	Back with Headset	0.429	0.182	0.268	0.423	0.052	0.001	0.853	0.482	0.612	0.697
LTE Band 7_Ant 12	Front	0.129	0.045	0.066	0.126	0.046	0.001	0.256	0.176	0.175	0.195
	Back	0.613	0.258	0.388	0.490	0.098	0.098	1.201	0.809	0.969	1.001
	Back with Headset	0.967	0.182	0.268	0.423	0.052	0.001	1.391	1.020	1.150	1.235
LTE Band 7_Ant 6	Front	0.265	0.045	0.066	0.126	0.046	0.001	0.392	0.312	0.311	0.331
	Back	0.641	0.258	0.388	0.490	0.098	0.098	1.229	0.837	0.997	1.029
	Back with Headset	0.662	0.182	0.268	0.423	0.052	0.001	1.086	0.715	0.845	0.930
LTE Band 17_Ant 0	Front	0.380	0.045	0.066	0.126	0.046	0.001	0.507	0.427	0.426	0.446
	Back	0.491	0.258	0.388	0.490	0.098	0.098	1.079	0.687	0.847	0.879
	Back with Headset	0.399	0.182	0.268	0.423	0.052	0.001	0.823	0.452	0.582	0.667



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LTE Band 41_Ant 6	Front	0.120	0.045	0.066	0.126	0.046	0.001	0.247	0.167	0.166	0.186
	Back	0.324	0.258	0.388	0.490	0.098	0.098	0.912	0.520	0.680	0.712
	Back with Headset	0.314	0.182	0.268	0.423	0.052	0.001	0.738	0.367	0.497	0.582
LTE Band 42_Ant 12	Front	0.194	0.045	0.066	0.126	0.046	0.001	0.321	0.241	0.240	0.260
	Back	0.303	0.258	0.388	0.490	0.098	0.098	0.891	0.499	0.659	0.691
	Back with Headset	0.341	0.182	0.268	0.423	0.052	0.001	0.765	0.394	0.524	0.609
LTE Band 42_Ant 11	Front	0.067	0.045	0.066	0.126	0.046	0.001	0.194	0.114	0.113	0.133
	Back	0.105	0.258	0.388	0.490	0.098	0.098	0.693	0.301	0.461	0.493
	Back with Headset	0.225	0.182	0.268	0.423	0.052	0.001	0.649	0.278	0.408	0.493
LTE Band 66_Ant 2	Front	0.164	0.045	0.066	0.126	0.046	0.001	0.291	0.211	0.210	0.230
	Back	0.631	0.258	0.388	0.490	0.098	0.098	1.219	0.827	0.987	1.019
	Back with Headset	0.410	0.182	0.268	0.423	0.052	0.001	0.834	0.463	0.593	0.678
LTE Band 71_Ant 0	Front	0.304	0.045	0.066	0.126	0.046	0.001	0.431	0.351	0.350	0.370
	Back	0.367	0.258	0.388	0.490	0.098	0.098	0.955	0.563	0.723	0.755
	Back with Headset	0.381	0.182	0.268	0.423	0.052	0.001	0.805	0.434	0.564	0.649
FR1 n2_Ant 2	Front	0.188	0.045	0.066	0.126	0.046	0.001	0.315	0.235	0.234	0.254
	Back	0.279	0.258	0.388	0.490	0.098	0.098	0.867	0.475	0.635	0.667
	Back with Headset	0.326	0.182	0.268	0.423	0.052	0.001	0.750	0.379	0.509	0.594
FR1 n5_Ant 4	Front	0.198	0.045	0.066	0.126	0.046	0.001	0.325	0.245	0.244	0.264
	Back	0.223	0.258	0.388	0.490	0.098	0.098	0.811	0.419	0.579	0.611
	Back with Headset	0.406	0.182	0.268	0.423	0.052	0.001	0.830	0.459	0.589	0.674
FR1 n7_Ant 12	Front	0.119	0.045	0.066	0.126	0.046	0.001	0.246	0.166	0.165	0.185
	Back	0.529	0.258	0.388	0.490	0.098	0.098	1.117	0.725	0.885	0.917
	Back with Headset	0.824	0.182	0.268	0.423	0.052	0.001	1.248	0.877	1.007	1.092
FR1 n7_Ant 6	Front	0.261	0.045	0.066	0.126	0.046	0.001	0.388	0.308	0.307	0.327
	Back	0.634	0.258	0.388	0.490	0.098	0.098	1.222	0.830	0.990	1.022
	Back with Headset	0.663	0.182	0.268	0.423	0.052	0.001	1.087	0.716	0.846	0.931
FR1 n66_Ant 2	Front	0.119	0.045	0.066	0.126	0.046	0.001	0.246	0.166	0.165	0.185
	Back	0.526	0.258	0.388	0.490	0.098	0.098	1.114	0.722	0.882	0.914
	Back with Headset	0.489	0.182	0.268	0.423	0.052	0.001	0.913	0.542	0.672	0.757
FR1 n71_Ant 0	Front	0.177	0.045	0.066	0.126	0.046	0.001	0.304	0.224	0.223	0.243
	Back	0.208	0.258	0.388	0.490	0.098	0.098	0.796	0.404	0.564	0.596
	Back with Headset	0.306	0.182	0.268	0.423	0.052	0.001	0.730	0.359	0.489	0.574
FR1 n41_Ant 6	Front	0.189	0.045	0.066	0.126	0.046	0.001	0.316	0.236	0.235	0.255
	Back	0.440	0.258	0.388	0.490	0.098	0.098	1.028	0.636	0.796	0.828
	Back with Headset	0.460	0.182	0.268	0.423	0.052	0.001	0.884	0.513	0.643	0.728
FR1 n77_Ant 12	Front	0.228	0.045	0.066	0.126	0.046	0.001	0.355	0.275	0.274	0.294
	Back	0.485	0.258	0.388	0.490	0.098	0.098	1.073	0.681	0.841	0.873
	Back with Headset	0.450	0.182	0.268	0.423	0.052	0.001	0.874	0.503	0.633	0.718
FR1 n77_Ant 11	Front	0.184	0.045	0.066	0.126	0.046	0.001	0.376	0.296	0.356	0.250
	Back	0.366	0.258	0.388	0.490	0.098	0.098	1.244	0.852	1.212	0.754
	Back with Headset	0.595	0.182	0.268	0.423	0.052	0.001	1.286	0.915	1.201	0.863
FR1 n77_Ant 5	Front	0.121	0.045	0.066	0.126	0.046	0.001	0.313	0.233	0.293	0.187
	Back	0.475	0.258	0.388	0.490	0.098	0.098	1.353	0.961	1.321	0.863
	Back with Headset	0.216	0.182	0.268	0.423	0.052	0.001	0.907	0.536	0.822	0.484
FR1 n77_Ant 3	Front	0.228	0.045	0.066	0.126	0.046	0.001	0.420	0.340	0.400	0.294
	Back	0.454	0.258	0.388	0.490	0.098	0.098	1.332	0.940	1.300	0.842
	Back with Headset	0.481	0.182	0.268	0.423	0.052	0.001	1.172	0.801	1.087	0.749
FR1 n41_Ant 12	Front	0.121	0.045	0.066	0.126	0.046	0.001	0.313	0.233	0.293	0.187
	Back	0.348	0.258	0.388	0.490	0.098	0.098	1.226	0.834	1.194	0.736
	Back with Headset	0.463	0.182	0.268	0.423	0.052	0.001	1.154	0.783	1.069	0.731
FR1 n41_Ant 1	Front	0.282	0.045	0.066	0.126	0.046	0.001	0.474	0.394	0.454	0.348
	Back	0.132	0.258	0.388	0.490	0.098	0.098	1.010	0.618	0.978	0.520
	Front with Headset	0.171	0.045	0.066	0.126	0.046	0.001	0.363	0.283	0.343	0.237
FR1 n41_Ant 7	Front	0.137	0.045	0.066	0.126	0.046	0.001	0.329	0.249	0.309	0.203
	Back	0.202	0.258	0.388	0.490	0.098	0.098	1.080	0.688	1.048	0.590



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	Back with Headset	0.129	0.182	0.268	0.423	0.052	0.001	0.820	0.449	0.735	0.397
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<DBS>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+3+4 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+4+6 Summed 1g SAR (W/kg)	1+2+5+6 Summed 1g SAR (W/kg)
		WWAN 1g SAR (W/kg)	WLAN2.4GHz Ant 8 1g SAR (W/kg)	WLAN2.4GHzAnt 9+8 1g SAR (W/kg)	WLAN5GHz Ant 9+8 1g SAR (W/kg)	WLAN6GHz Ant 9+8 1g SAR (W/kg)	Bluetooth Ant 9 1g SAR (W/kg)				
GSM850_Ant 4	Front	0.134	0.045	0.040	0.126	0.046	0.001	0.300	0.220	0.306	0.226
	Back	0.199	0.258	0.229	0.490	0.098	0.098	0.918	0.526	1.045	0.653
	Back with Holster	0.288	0.182	0.164	0.423	0.052	0.001	0.875	0.504	0.894	0.523
GSM1900_Ant 4	Front	0.126	0.045	0.040	0.126	0.046	0.001	0.292	0.212	0.298	0.218
	Back	0.480	0.258	0.229	0.490	0.098	0.098	1.199	0.807	1.326	0.934
	Back with Headset	0.329	0.182	0.164	0.423	0.052	0.001	0.916	0.545	0.935	0.564
WCDMA II_Ant 2	Front	0.208	0.045	0.040	0.126	0.046	0.001	0.374	0.294	0.380	0.300
	Back	0.311	0.258	0.229	0.490	0.098	0.098	1.030	0.638	1.157	0.765
	Back with Headset	0.358	0.182	0.164	0.423	0.052	0.001	0.945	0.574	0.964	0.593
WCDMA IV_Ant 2	Front	0.124	0.045	0.040	0.126	0.046	0.001	0.290	0.210	0.296	0.216
	Back	0.534	0.258	0.229	0.490	0.098	0.098	1.253	0.861	1.380	0.988
	Back with Headset	0.458	0.182	0.164	0.423	0.052	0.001	1.045	0.674	1.064	0.693
WCDMA V_Ant 4	Front	0.149	0.045	0.040	0.126	0.046	0.001	0.315	0.235	0.321	0.241
	Back	0.192	0.258	0.229	0.490	0.098	0.098	0.911	0.519	1.038	0.646
	Back with Headset	0.337	0.182	0.164	0.423	0.052	0.001	0.924	0.553	0.943	0.572
LTE Band 2_Ant 2	Front	0.211	0.045	0.040	0.126	0.046	0.001	0.377	0.297	0.383	0.303
	Back	0.263	0.258	0.229	0.490	0.098	0.098	0.982	0.590	1.109	0.717
	Back with Headset	0.300	0.182	0.164	0.423	0.052	0.001	0.887	0.516	0.906	0.535
LTE Band 5_Ant 4	Front	0.197	0.045	0.040	0.126	0.046	0.001	0.363	0.283	0.369	0.289
	Back	0.228	0.258	0.229	0.490	0.098	0.098	0.947	0.555	1.074	0.682
	Back with Headset	0.429	0.182	0.164	0.423	0.052	0.001	1.016	0.645	1.035	0.664
LTE Band 7_Ant 12	Front	0.129	0.045	0.040	0.126	0.046	0.001	0.295	0.215	0.301	0.221
	Back	0.613	0.258	0.229	0.490	0.098	0.098	1.332	0.940	1.459	1.067
	Back with Headset	0.967	0.182	0.164	0.423	0.052	0.001	1.554	1.183	1.573	1.202
LTE Band 7_Ant 6	Front	0.265	0.045	0.040	0.126	0.046	0.001	0.431	0.351	0.437	0.357
	Back	0.641	0.258	0.229	0.490	0.098	0.098	1.360	0.968	1.487	1.095
	Back with Headset	0.662	0.182	0.164	0.423	0.052	0.001	1.249	0.878	1.268	0.897
LTE Band 17_Ant 0	Front	0.380	0.045	0.040	0.126	0.046	0.001	0.546	0.466	0.552	0.472
	Back	0.491	0.258	0.229	0.490	0.098	0.098	1.210	0.818	1.337	0.945
	Back with Headset	0.399	0.182	0.164	0.423	0.052	0.001	0.986	0.615	1.005	0.634
LTE Band 41_Ant 6	Front	0.120	0.045	0.040	0.126	0.046	0.001	0.286	0.206	0.292	0.212
	Back	0.324	0.258	0.229	0.490	0.098	0.098	1.043	0.651	1.170	0.778
	Back with Headset	0.314	0.182	0.164	0.423	0.052	0.001	0.901	0.530	0.920	0.549
LTE Band 42_Ant 12	Front	0.194	0.045	0.040	0.126	0.046	0.001	0.360	0.280	0.366	0.286
	Back	0.303	0.258	0.229	0.490	0.098	0.098	1.022	0.630	1.149	0.757
	Back with Headset	0.341	0.182	0.164	0.423	0.052	0.001	0.928	0.557	0.947	0.576
LTE Band 42_Ant 11	Front	0.067	0.045	0.040	0.126	0.046	0.001	0.233	0.153	0.239	0.159
	Back	0.105	0.258	0.229	0.490	0.098	0.098	0.824	0.432	0.951	0.559
	Back with Headset	0.225	0.182	0.164	0.423	0.052	0.001	0.812	0.441	0.831	0.460
LTE Band 66_Ant 2	Front	0.164	0.045	0.040	0.126	0.046	0.001	0.330	0.250	0.336	0.256
	Back	0.631	0.258	0.229	0.490	0.098	0.098	1.350	0.958	1.477	1.085
	Back with Headset	0.410	0.182	0.164	0.423	0.052	0.001	0.997	0.626	1.016	0.645
LTE Band 71_Ant 0	Front	0.304	0.045	0.040	0.126	0.046	0.001	0.470	0.390	0.476	0.396
	Back	0.367	0.258	0.229	0.490	0.098	0.098	1.086	0.694	1.213	0.821
	Back with Headset	0.381	0.182	0.164	0.423	0.052	0.001	0.968	0.597	0.987	0.616
FR1 n2_Ant 2	Front	0.188	0.045	0.040	0.126	0.046	0.001	0.354	0.274	0.360	0.280
	Back	0.279	0.258	0.229	0.490	0.098	0.098	0.998	0.606	1.125	0.733
	Back with Headset	0.326	0.182	0.164	0.423	0.052	0.001	0.913	0.542	0.932	0.561



FR1 n5_Ant 4	Front	0.198	0.045	0.040	0.126	0.046	0.001	0.364	0.284	0.370	0.290
	Back	0.223	0.258	0.229	0.490	0.098	0.098	0.942	0.550	1.069	0.677
	Back at 0mm Holster	0.406	0.182	0.164	0.423	0.052	0.001	0.993	0.622	1.012	0.641
FR1 n7_Ant 12	Front	0.119	0.045	0.040	0.126	0.046	0.001	0.285	0.205	0.291	0.211
	Back	0.529	0.258	0.229	0.490	0.098	0.098	1.248	0.856	1.375	0.983
	Back at 0mm Holster	0.824	0.182	0.164	0.423	0.052	0.001	1.411	1.040	1.430	1.059
FR1 n7_Ant 6	Front	0.261	0.045	0.040	0.126	0.046	0.001	0.427	0.347	0.433	0.353
	Back	0.634	0.258	0.229	0.490	0.098	0.098	1.353	0.961	1.480	1.088
	Back at 0mm Holster	0.663	0.182	0.164	0.423	0.052	0.001	1.250	0.879	1.269	0.898
FR1 n66_Ant 2	Front	0.119	0.045	0.040	0.126	0.046	0.001	0.285	0.205	0.291	0.211
	Back	0.526	0.258	0.229	0.490	0.098	0.098	1.245	0.853	1.372	0.980
	Back at 0mm Holster	0.489	0.182	0.164	0.423	0.052	0.001	1.076	0.705	1.095	0.724
FR1 n71_Ant 0	Front	0.177	0.045	0.040	0.126	0.046	0.001	0.343	0.263	0.349	0.269
	Back	0.208	0.258	0.229	0.490	0.098	0.098	0.927	0.535	1.054	0.662
	Back at 0mm Holster	0.306	0.182	0.164	0.423	0.052	0.001	0.893	0.522	0.912	0.541
FR1 n41_Ant 6	Front	0.189	0.045	0.040	0.126	0.046	0.001	0.355	0.275	0.361	0.281
	Back	0.440	0.258	0.229	0.490	0.098	0.098	1.159	0.767	1.286	0.894
	Back at 0mm Holster	0.460	0.182	0.164	0.423	0.052	0.001	1.047	0.676	1.066	0.695
FR1 n77_Ant 12	Front	0.228	0.045	0.040	0.126	0.046	0.001	0.394	0.314	0.400	0.320
	Back	0.485	0.258	0.229	0.490	0.098	0.098	1.204	0.812	1.331	0.939
	Back at 0mm Holster	0.450	0.182	0.164	0.423	0.052	0.001	1.037	0.666	1.056	0.685
FR1 n77_Ant 11	Front	0.184	0.045	0.040	0.126	0.046	0.001	0.350	0.270	0.356	0.276
	Back	0.366	0.258	0.229	0.490	0.098	0.098	1.085	0.693	1.212	0.820
	Back with Headset	0.595	0.182	0.164	0.423	0.052	0.001	1.182	0.811	1.201	0.830
FR1 n77_Ant 5	Front	0.121	0.045	0.040	0.126	0.046	0.001	0.287	0.207	0.293	0.213
	Back	0.475	0.258	0.229	0.490	0.098	0.098	1.194	0.802	1.321	0.929
	Back with Headset	0.216	0.182	0.164	0.423	0.052	0.001	0.803	0.432	0.822	0.451
FR1 n77_Ant 3	Front	0.228	0.045	0.040	0.126	0.046	0.001	0.394	0.314	0.400	0.320
	Back	0.454	0.258	0.229	0.490	0.098	0.098	1.173	0.781	1.300	0.908
	Back with Headset	0.481	0.182	0.164	0.423	0.052	0.001	1.068	0.697	1.087	0.716
FR1 n41_Ant 12	Front	0.121	0.045	0.040	0.126	0.046	0.001	0.287	0.207	0.293	0.213
	Back	0.348	0.258	0.229	0.490	0.098	0.098	1.067	0.675	1.194	0.802
	Back with Headset	0.463	0.182	0.164	0.423	0.052	0.001	1.050	0.679	1.069	0.698
FR1 n41_Ant 1	Front	0.282	0.045	0.040	0.126	0.046	0.001	0.448	0.368	0.454	0.374
	Back	0.132	0.258	0.229	0.490	0.098	0.098	0.851	0.459	0.978	0.586
	Front with Headset	0.171	0.045	0.040	0.126	0.046	0.001	0.337	0.257	0.343	0.263
FR1 n41_Ant 7	Front	0.137	0.045	0.040	0.126	0.046	0.001	0.303	0.223	0.309	0.229
	Back	0.202	0.258	0.229	0.490	0.098	0.098	0.921	0.529	1.048	0.656
	Back with Headset	0.129	0.182	0.164	0.423	0.052	0.001	0.716	0.345	0.735	0.364

17.4 Product Specific Exposure Conditions

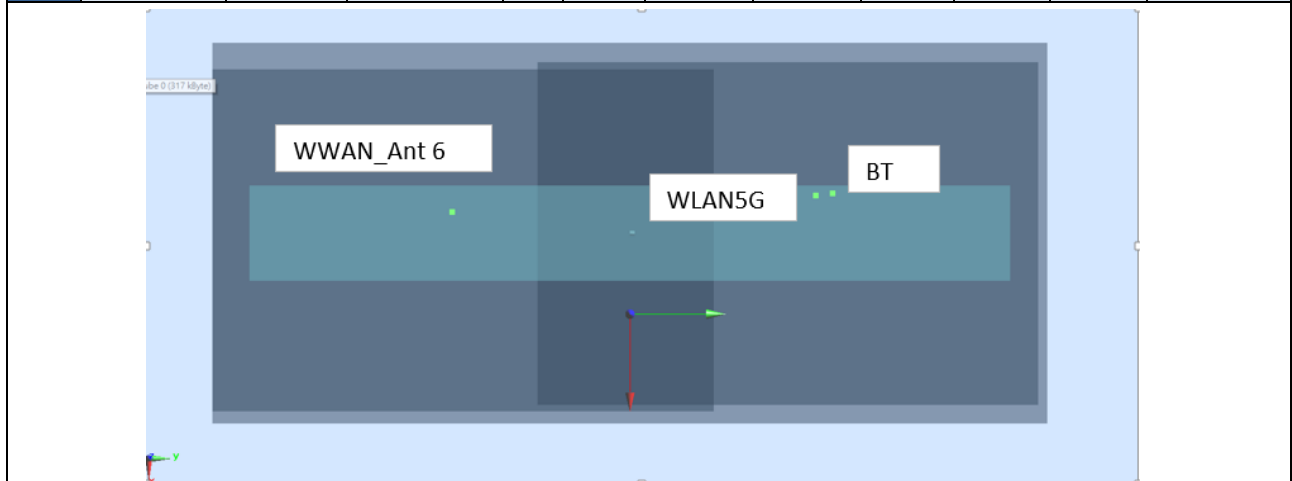
WWAN Band	Exposure Position	1	2	3	1+2 Summed 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)
		WWAN	WLAN5GHz Ant 9+8	WLAN6GHz Ant 9+8		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
FR1 n41_Ant 6	Front		0.215	0.082	0.215	0.082
	Back		0.536	0.207	0.536	0.207
	Left side	1.982	1.245	0.381	3.227	2.363
	Right side		2.468	0.670	2.468	0.670
	Top side		0.190	0.083	0.190	0.083
	Bottom side				0.000	0.000

17.5 SPLSR Evaluation and Analysis

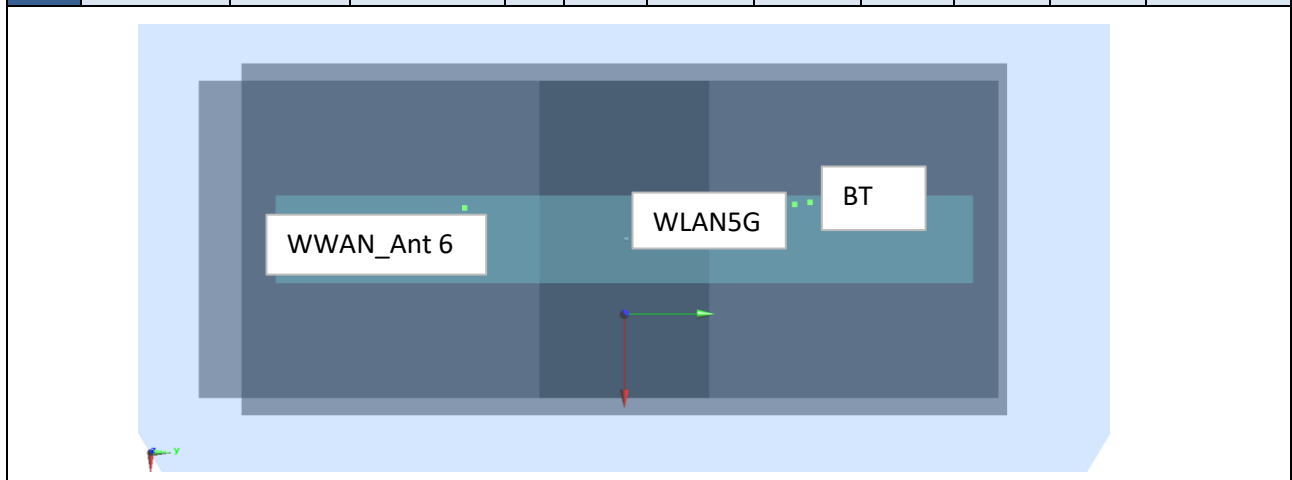
General Note:

1. Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas.
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
3. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.

Case 1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE B7_Ant 6				X	Y	Z				
	WLAN5G+BT	Left Side	1.236	10mm	-8.8	41.6	-1.17	81.2	1.78	0.03	Not required



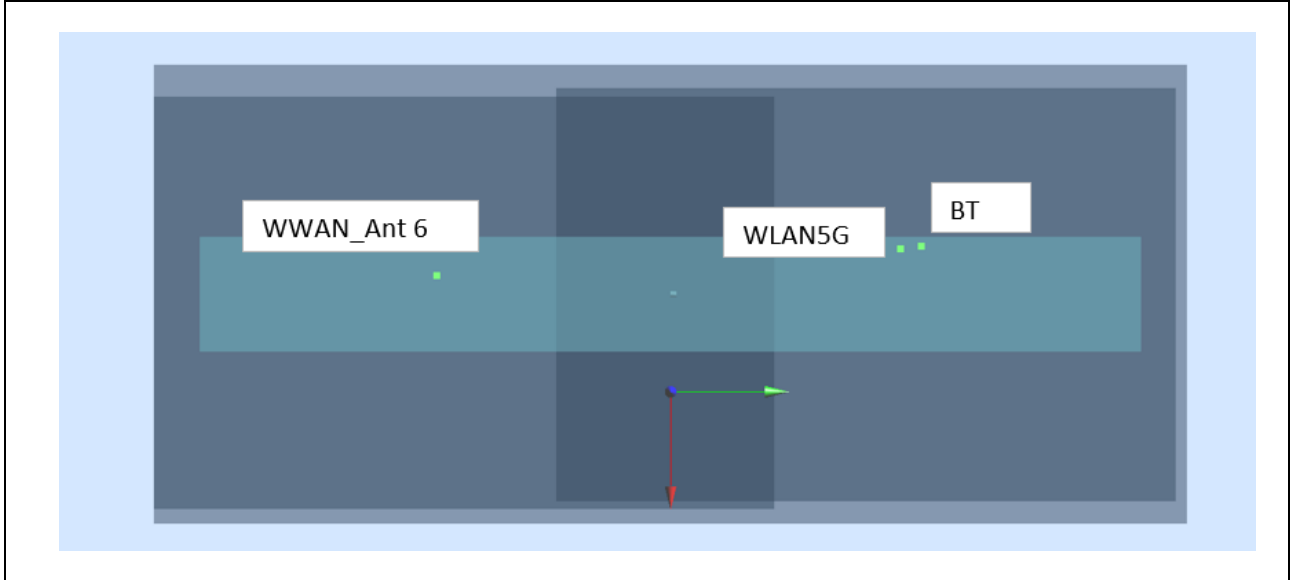
Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE B41_Ant 6				X	Y	Z				
	WLAN5G+BT	Left Side	1.236	10mm	-8.8	41.6	-1.17	82.2	1.73	0.03	Not required



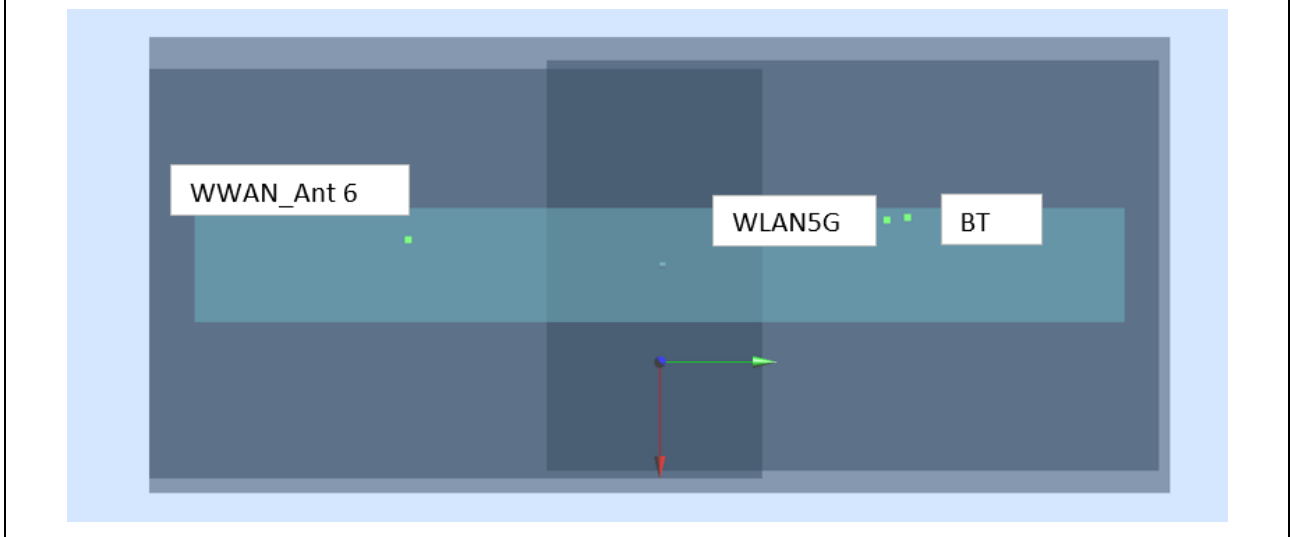
Case 3	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	LTE Band 42_Ant 11	Left Side	0.424	10mm	0.2	-9.6	3.36	52.2	1.66	0.04	Not required
	WLAN5G+BT		1.236	10mm	-8.8	41.6	-1.17				



Case 4	Band	Position	SAR (W/kg)	Gap	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	FR1 n7_Ant 6	Left Side	0.477	10mm	-3.3	-41.8	-1.32	83.6	1.71	0.03	Not required
	WLAN5G+BT		1.236	10mm	-8.8	41.6	-1.17				



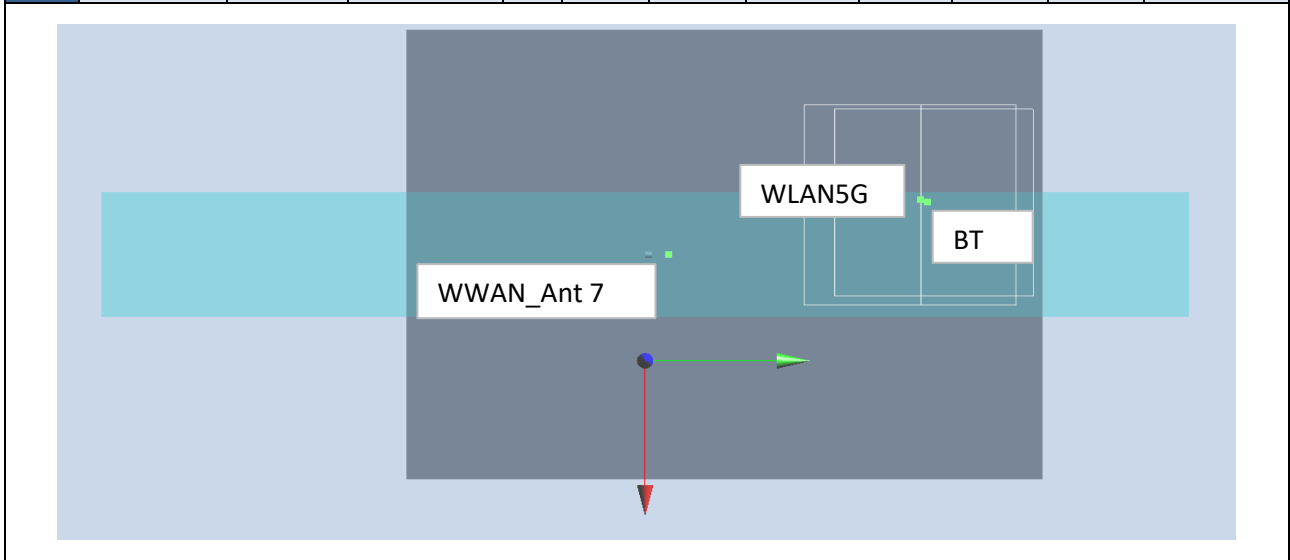
Case 5	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	FR1 n41_Ant 6	Left Side	0.541	10mm	-4.5	-46.4	-1.3	88.1	1.78	0.03	Not required
	WLAN5G+BT		1.236	10mm	-8.8	41.6	-1.17				



Case 6	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	FR1 n77_Ant 11	Left Side	0.418	10mm	-2.8	-5.8	3.69	48.0	1.65	0.04	Not required
	WLAN5G+BT		1.236	10mm	-8.8	41.6	-1.17				



Case 8	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	FR1 n41_Ant 7	Left Side	0.532	10mm	5.6	-9.5	-0.74	53.1	1.77	0.04	Not required
	WLAN5G+BT		1.236	10mm	-8.8	41.6	-1.17				





1. Supplemental Antenna tuner tests results

General Note:

1. This device implements antenna tuning techniques in the several frequency band and list as below. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching.
2. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
3. Dynamic antenna tuning mechanism is available at Ant. 0 / 4 and for its <1GHz band, details are illustrated in the operational description. In this section, all supported tuning states for each band are tested and it's verified that auto-tune state results in the highest SAR
4. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).

1.1 Supplemental Head SAR results

Head (Ant0)	RF exposure position						Average Value of Time Sweep (W/kg)																	
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State)																		
							0	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136
LTE Band 17	10M_QPSK_1_0	M	23790	Right Cheek	0.328	111	0.001	0.097	0.057	0.065	0.001	0.120	0.068	0.094	0.081	0.090	0.063	0.109	0.116	0.001	0.162	0.112	0.168	0.077
							1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137
LTE Band 71	20M_QPSK_1_0	M	133297	Right Cheek	0.242	36	0.001	0.001	0.001	0.001	0.001	0.001	0.055	0.086	0.069	0.170	0.107	0.001	0.053	0.001	0.096	0.069	0.105	0.085
							2	10	18	26	34	42	50	58	66	74	82	90	98	106	114	122	130	138
FR1 n71	20M_BPSK_50_28	M	136100	Right Cheek	0.255	36	0.053	0.001	0.001	0.043	0.001	0.076	0.001	0.001	0.001	0.087	0.052	0.076	0.001	0.001	0.043	0.001	0.001	0.056

Head (Ant4)	RF exposure position						Average Value of Time Sweep (W/kg)																	
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State)																		
							3	11	19	27	35	43	51	59	67	75	83	91	99	107	115	123	131	139
GSM850	GPRS (4 Tx slots)	L	128	Left Cheek	0.178	0	0.044	0.051	0.001	0.172	0.111	0.048	0.053	0.001	0.163	0.001	0.151	0.113	0.137	0.153	0.079	0.085	0.099	0.123
							4	12	20	28	36	44	52	60	68	76	84	92	100	108	116	124	132	140
GSM1900	GPRS (4 Tx slots)	H	810	Left Cheek	0.116	0	0.106	0.111	0.108	0.098	0.059	0.049	0.068	0.086	0.094	0.111	0.106	0.107	0.102	0.098	0.108	0.102	0.098	0.098
							5	13	21	29	37	45	53	61	69	77	85	93	101	109	117	125	133	141
WCDMA Band 5	RMC 12.2Kbps	L	4132	Left Cheek	0.247	0	0.113	0.137	0.109	0.099	0.044	0.055	0.135	0.092	0.114	0.192	0.161	0.165	0.134	0.107	0.114	0.180	0.147	0.168
							6	14	22	30	38	46	54	62	70	78	86	94	102	110	118	126	134	142
LTE Band 5	10M_QPSK_1_0	M	20525	Left Cheek	0.334	35	0.151	0.185	0.176	0.149	0.089	0.088	0.081	0.177	0.151	0.181	0.154	0.159	0.181	0.167	0.148	0.146	0.250	0.209
							7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135	143
FR1 n5	20M_BPSK_50_28	M	167300	Left Cheek	0.248	80	0.124	0.129	0.111	0.107	0.068	0.066	0.055	0.050	0.127	0.142	0.128	0.137	0.115	0.121	0.104	0.100	0.082	0.128



1.2 Supplemental Body SAR results

Body (Ant0)	RF exposure position						Average Value of Time Sweep (W/kg)																	
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State)																		
							0	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136
LTE Band 17	10M_QPSK_1_0	M	23790	Right Side_10mm	0.422	111	0.060	0.163	0.082	0.097	0.001	0.190	0.101	0.242	0.238	0.143	0.188	0.108	0.140	0.067	0.225	0.178	0.218	0.128
							1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137
LTE Band 71	20M_QPSK_1_0	M	133297	Back_10mm	0.358	36	0.086	0.001	0.078	0.095	0.001	0.205	0.099	0.161	0.135	0.288	0.189	0.049	0.096	0.046	0.165	0.134	0.196	0.144
							2	10	18	26	34	42	50	58	66	74	82	90	98	106	114	122	130	138
FR1 n71	20M_BPSK_50_28	M	136100	Back_10mm	0.356	36	0.111	0.044	0.047	0.091	0.001	0.143	0.075	0.105	0.068	0.197	0.127	0.161	0.066	0.041	0.130	0.093	0.131	0.154

Body (Ant4)	RF exposure position						Average Value of Time Sweep (W/kg)																	
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State)																		
							3	11	19	27	35	43	51	59	67	75	83	91	99	107	115	123	131	139
GSM850	GPRS (4 Tx slots)	L	128	Back_10mm	0.393	0	0.120	0.138	0.106	0.136	0.277	0.001	0.042	0.107	0.135	0.248	0.274	0.238	0.269	0.332	0.212	0.248	0.209	0.246
							4	12	20	28	36	44	52	60	68	76	84	92	100	108	116	124	132	140
GSM1900	GPRS (4 Tx slots)	H	810	Back_10mm	0.815	0	0.760	0.690	0.710	0.640	0.347	0.412	0.416	0.389	0.394	0.490	0.390	0.560	0.460	0.574	0.623	0.796	0.653	0.811
							5	13	21	29	37	45	53	61	69	77	85	93	101	109	117	125	133	141
WCDMA Band 5	RMC 12.2Kbps	L	4132	Back_10mm	0.361	0	0.358	0.332	0.348	0.352	0.157	0.194	0.337	0.316	0.312	0.321	0.342	0.341	0.333	0.337	0.314	0.311	0.313	0.306
							6	14	22	30	38	46	54	62	70	78	86	94	102	110	118	126	134	142
LTE Band 5	10M_QPSK_1_0	M	20525	Back_10mm	0.385	35	0.353	0.361	0.335	0.305	0.183	0.177	0.165	0.334	0.353	0.363	0.358	0.307	0.350	0.320	0.287	0.290	0.341	0.331
							7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135	143
FR1 n5	20M_BPSK_50_28	M	167300	Back_10mm	0.377	80	0.275	0.300	0.237	0.262	0.161	0.157	0.132	0.127	0.292	0.353	0.332	0.335	0.303	0.269	0.247	0.232	0.203	0.336

Test Engineer : Shane Song, Randy Lin and Jeff Tsao



2. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture’s specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	1/k ^(b)	1/√3	1/√6	1/√2

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual “root-sum-squares” (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.



Applicable for SAR Measurements:

Uncertainty Budget (4 MHz - 10 GHz range)							
Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	18.60	N	2	1	1	9.3	9.3
Axial Isotropy	4.70	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.60	R	1.732	0.7	0.7	3.9	3.9
Linearity	4.70	R	1.732	1	1	2.7	2.7
Modulation Response	4.68	R	1.732	1	1	2.7	2.7
System Detection Limits	1.00	R	1.732	1	1	0.6	0.6
Boundary Effects	2.00	R	1.732	1	1	1.2	1.2
Readout Electronics	0.30	N	1	1	1	0.3	0.3
Response Time	0.00	R	1.732	1	1	0.0	0.0
Integration Time	2.60	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.00	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.00	R	1.732	1	1	1.7	1.7
Probe Positioner	0.40	R	1.732	1	1	0.2	0.2
Probe Positioning	6.70	R	1.732	1	1	3.9	3.9
Post-processing	4.00	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Holder	3.60	N	1	1	1	3.6	3.6
Test sample Positioning	3.03	N	1	1	1	3.0	3.0
Power Scaling	0.00	R	1.732	1	1	0.0	0.0
Power Drift	5.00	R	1.732	1	1	2.9	2.9
Phantom and Setup							
Phantom Uncertainty	7.60	R	1.732	1	1	4.4	4.4
SAR correction	0.00	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.03	N	1	0.78	0.77	0.0	0.0
Liquid Conductivity (target)	5.00	R	1.732	0.78	0.77	2.3	2.2
Liquid Conductivity (mea.)	2.50	R	1.732	0.78	0.77	1.1	1.1
Temp. unc. - Conductivity	3.68	R	1.732	0.78	0.77	1.7	1.6
Liquid Permittivity Repeatability	0.02	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.00	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.50	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.84	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						14.5%	14.2%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.4%



Applicable for Power Density Measurements:

Error Description	Uncertainty Value (±dB)	Probability	Divisor	(Ci)	Standard Uncertainty (±dB)
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response (BW ≤ 1 GHz)	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependence	0.00	R	1.732	1	0.00
Amplitude and phase drift	0.00	R	1.732	1	0.00
Amplitude and phase noise	0.04	R	1.732	1	0.02
Measurement area truncation	0.00	R	1.732	1	0.00
Data acquisition	0.03	N	1	1	0.03
Sampling	0.00	R	1.732	1	0.00
Field reconstruction	2.00	R	1.732	1	1.15
Forward transformation	0.00	R	1.732	1	0.00
Power density scaling	0.00	R	1.732	1	0.00
Spatial averaging	0.10	R	1.732	1	0.06
System detection limit	0.04	R	1.732	1	0.02
Uncertainty terms dependent on the DUT and environmental factors					
Probe coupling with DUT	0.00	R	1.732	1	0.0
Modulation response	0.40	R	1.732	1	0.2
Integration time	0.00	R	1.732	1	0.0
Response time	0.00	R	1.732	1	0.0
Device holder influence	0.10	R	1.732	1	0.1
DUT alignment	0.00	R	1.732	1	0.0
RF ambient conditions	0.04	R	1.732	1	0.0
Ambient reflections	0.04	R	1.732	1	0.0
Immunity / secondary reception	0.00	R	1.732	1	0.0
Drift of the DUT		R	1.732	1	
Combined Std. Uncertainty					1.34
Expanded STD Uncertainty (95%)					2.68



3. References

- [1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”
- [2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992
- [3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.
- [6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015
- [7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015
- [9] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015
- [10] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015
- [11] FCC KDB 941225 D06 v02r01, “SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities”, Oct 2015.
- [12] FCC KDB 865664 D01 v01r04, “SAR Measurement Requirements for 100 MHz to 6 GHz”, Aug 2015.
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- [15] SPEAG DASY6 System Handbook
- [16] SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)