

FCC SAR Test Report

FCC ID : IHDT56AY3
Equipment : Mobile Cellular Phone
Brand Name : Motorola
Model Name : XT2629-2, XT2629-3
Applicant : Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA
Manufacturer : Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA
Standard : FCC 47 CFR Part 2 (2.1093)

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



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA651501-01	Rev. 01	Initial issue of report.	Jul. 03, 2026

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2629-2, XT2629-3**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.31	1.14	1.14	1.59
		GSM1900	0.12	1.20	1.08	
	WCDMA	WCDMA II	0.22	1.01	1.22	
		WCDMA IV	0.20	1.15	1.22	
		WCDMA V	0.37	1.22	1.22	
	LTE	LTE Band 7	0.80	1.28	1.28	
		LTE Band 12/17	0.81	0.80	0.80	
		LTE Band 13	0.27	1.21	1.15	
		LTE Band 25/2	0.23	1.16	1.25	
		LTE Band 26/5	0.84	1.16	1.16	
		LTE Band 66/4	0.71	1.21	1.25	
		LTE Band 38	0.36	1.11	1.11	
		LTE Band 41	0.84	0.59	0.66	
		LTE Band 42	0.62	0.48	0.66	
	5G NR	FR1 n2	0.86	0.99	1.18	
		FR1 n7	0.78	1.22	1.24	
		FR1 n26/5	0.87	1.07	1.07	
		FR1 n66	0.65	1.21	1.29	
		FR1 n41/38	0.62	0.60	0.77	
		FR1 n77/78	0.67	0.90	0.90	
DTS	WLAN	2.4GHz WLAN	0.95	0.75	0.95	1.59
NII		5GHz WLAN	1.15	0.76	1.19	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.19	0.12	0.12	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM850	1.96	3.99
		GSM1900	2.87	
	WCDMA	WCDMA II	2.72	
		WCDMA IV	2.91	
		WCDMA V	1.53	
	LTE	LTE Band 7	3.04	
		LTE Band 13	2.03	
		LTE Band 25/2	2.84	
		LTE Band 66/4	3.01	
		LTE Band 38	2.84	
		LTE Band 41	2.49	
		LTE Band 42	2.22	
	5G NR	FR1 n2	2.83	
		FR1 n7	2.87	

		FR1 n26/5	0.64	
		FR1 n66	2.89	
		FR1 n41/38	2.10	
		FR1 n77/78	2.00	
NII	WLAN	5GHz WLAN	2.88	3.99
DXX	NFC	NFC	0.01	3.99
Date of Testing:			2026/05/29 ~ 2026/06/23	

Remark:

1. This device supports LTE B2/4/5/17 and B25/66/26/12. Since the supported frequency span for LTE B2/4/5/17 falls completely within the support's frequency span for LTE B25/66/26/12, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25/66/26/12.
2. This device supports 5G NR n5/n38/n78 and n26/n41/n77. Since the supported frequency span for 5G NR n5 falls completely within the support's frequency span for n26, both 5G NR bands have the same target power, and both 5G NR bands share the same transmission path; therefore, SAR was only assessed for n26/n41/n77.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are 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.

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) 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.

2. 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
- IEC/IEEE 62209-1528:2020
- 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
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02



3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2629-2, XT2629-3
FCC ID	IHDT56AY3
IMEI Code	Sample 1: 359628650002632/359628650002640, 359628650002079/359628650002087 359628650002475/359628650002483, 359628650002699/359628650002707 Sample 2: 359628650014090/359628650014108
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 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 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA/HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC: ASK

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 supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5G NR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 2. This device WLAN 2.4GHz support hotspot operation and Bluetooth support tethering applications. 3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). 4. This device supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). 5. This device does not support DTM operation and support GRPS/EGPRS mode up to multi-slot class 12. 6. The device implements the power management and proximity sensor/receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E. 7. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head exposure condition. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions. 8. For 5G NR band testing, FTM (Factory Test Mode) with default 100% duty cycle transmission was used to perform SAR testing. 9. There are two samples. For details different between them refer to the XT2629-2, XT2629-3_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, sample 1 was chosen to perform full SAR testing and sample 2 verified the worst case of sample 1. 10. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths (BW)
NSA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																							
FCC ID	IHDT56AY3																																																																						
Equipment Name	Mobile Cellular Phone																																																																						
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 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 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 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz 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																																																																						
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																						
LTE Voice / Data requirements	Voice and Data																																																																						
LTE Release Version	R16																																																																						
CA Support	Supported, Uplink and Downlink																																																																						
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><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><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></table>	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								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
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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	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to the operational description and section 13.																																																																						
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.																																																																						
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 2 carriers in the uplink.																																																																						

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		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	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 20 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	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	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 26												
	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	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5
LTE Band 25												
	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	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

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				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
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 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	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540				

<For LTE Overlap Bands Description>
1) LTE Bands BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Ant	Full	DSI2	DSI3	DSI6	DSI7	DSI4
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 0	24	24	20.5	22	18	24
LTE Band 25	Ant 0	24	24	20.5	22	18	24
LTE Band 4	Ant 0	24	24	21	22	18.5	24
LTE Band 66	Ant 0	24	24	21	22	18.5	24
LTE Band 4 PA(Reference Designator)	Ant 0	24	24	21	22	18.5	24
LTE Band 66 PA(Reference Designator)	Ant 0	24	24	21	22	18.5	24
LTE Band 4	Ant 4	24	15.5	16.5	19.5	14	24
LTE Band 66	Ant 4	24	15.5	16.5	19.5	14	24
LTE Band 4 PA(Reference Designator)	Ant 4	24	15.5	16.5	19.5	14	24
LTE Band 66 PA(Reference Designator)	Ant 4	24	15.5	16.5	19.5	14	24
LTE Band 5	Ant 0	24	24	24	24	24	24
LTE Band 26	Ant 0	24	24	24	24	24	24
LTE Band 5	Ant 4	24	22	22.5	24	20.5	24
LTE Band 26	Ant 4	24	22	22.5	24	20.5	24
LTE Band 12	Ant 0	24	24	24	24	24	24
LTE Band 17	Ant 0	24	24	24	24	24	24
LTE Band 38	Ant 4	24	20	16	22	14.5	24
LTE Band 41 PC3	Ant 4	24	20	16	22	14.5	24

3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
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 n26: 814 MHz ~ 849 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5G NR FR1 bands table.
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 B4/12
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n38	LTE B2/4/5/66
LTE Anchor Bands for n41	LTE B2/4/5/66
LTE Anchor Bands for n66	LTE B2/5/7/12
LTE Anchor Bands for n78	LTE B2/4/5/7/12/38/66

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band																
NR Band 2																
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		
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 370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	373500	1867.5	374000	1870	
M 376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	
H 381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378500	1892.5	378000	1890	

NR Band 5									
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz			
Ch. #	Freq. (MHz)	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		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
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 500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520	505000	2525
M 507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H 513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510500	2552.5	510000	2550	509000	2545

NR Band 26								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	163300	816.5	163800	819	164300	821.5	164800	824
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 66																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	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	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

NR Band 38												
	Bandwidth10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515000	2575	515500	2577.5	516000	2580	516500	2582.5	517000	2585	518000	2590
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	523000	2615	522500	2612.5	522000	2610	521500	2607.5	521000	2605	520000	2600

NR Band 41																												
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	502200	2511	502704	2513.52	503202	2516.01	503700	2518.5	504204	2521.02	505200	2526	500202	2501.01	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	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	534996	2674.98	534498	2672.49	534000	2670	533496	2667.48	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

NR Band 77 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	3840.00	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	3750.00	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652500	3787.5	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

<For NR Overlap Bands Description>
1) NR Bands BW

Band	Duplex	SCS(KHz)	Bandwidths(BW)
FR1 n5	TDD	15	5,10,15,20
FR1 n26	TDD	15	5,10,15,20
FR1 n38	TDD	30	10,15,20,25,30,40
FR1 n41	TDD	30	10,15,20,25,30,35,40,45,50,60,70,80,90,100
FR1 n77	TDD	30	10,15,20,25,30,40,50,60,70,80,90,100
FR1 n78	TDD	30	10,15,20,25,30,40,50,60,70,80,90,100

2) NR Bands Tune up:

Band	Ant	Full	DSI2	DSI3	DSI6	DSI7	DSI4
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
n5	Ant 0	24	24	24	24	24	24
n26	Ant 0	24	24	24	24	24	24
n5	Ant 4	24	22	22	24	20.5	24
n26	Ant 4	24	22	22	24	20.5	24
n38	Ant 4	24	18	14.5	21	13	24
n41 PC3	Ant 4	24	18	14.5	21	13	24
n77 PC3	Ant 5	24	15.5	18	21.5	15.5	24
n78 PC3	Ant 5	24	15.5	18	21.5	15.5	24
n77 PC3	Ant 2	22	22	20.5	22	18	22
n78 PC3	Ant 2	22	22	20.5	22	18	22
n77 PC3	Ant 8	23	23	15	23	14	23
n78 PC3	Ant 8	23	23	15	23	14	23
n77 PC3	Ant 1	20	20	20	20	20	20
n78 PC3	Ant 1	20	20	20	20	20	20

4. Smart Transmit feature for RF Exposure compliance

Qualcomm® Smart Transmit™ 3.0 of Smart Transmit (GEN2) Feature operates based on pre-defined sub6 antenna groups (AG). This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

Note that WLAN/BT operations are not enabled with Smart Transmit.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) version 20 to enable the Smart Transmit GEN2 Feature.

<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 SAR limit to account for all device design related uncertainty.
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>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

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

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

Antenna Group:

Antenna Group 0 (AG0)	ANT0 & ANT1
Antenna Group 1 (AG1)	ANT2 & ANT4 & ANT5 & ANT8

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

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

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

Band	Antenna	Head	Body Sensor on	Body/Extremity Sensor off	Extremity Sensor on	Hotspot	Pmax*
		DSI2	DSI3	DSI4	DSI6	DSI7	
GSM850	Ant 0	32.6	23.5	24.5	25.7	23.5	24.5
GSM1900	Ant 0	32.2	19.5	22.0	21.0	17.0	22.0
WCDMA II	Ant 0	30.5	19.5	23.0	20.5	17.0	23.0
WCDMA IV	Ant 0	31.3	20.0	23.0	21.0	17.5	23.0
WCDMA V	Ant 0	29.5	22.5	23.0	25.7	22.5	23.0
LTE Band 2	Ant 0	29.8	19.5	23.0	21.0	17.0	23.0
LTE Band 2 PA(Reference Designator)	Ant 0	29.8	19.5	23.0	21.0	17.0	23.0
LTE Band 4	Ant 0	31.8	20.0	23.0	21.0	17.5	23.0
LTE Band 4 PA(Reference Designator)	Ant 0	31.8	20.0	23.0	21.0	17.5	23.0
LTE Band 4	Ant 4	14.5	15.5	23.0	18.5	13.0	23.0
LTE Band 4 PA(Reference Designator)	Ant 4	14.5	15.5	23.0	18.5	13.0	23.0
LTE Band 5	Ant 0	29.9	23.8	23.0	25.8	23.8	23.0
LTE Band 5	Ant 4	21.0	21.5	23.0	23.7	19.5	23.0
LTE Band 5 PA(Reference Designator)	Ant 4	21.0	21.5	23.0	23.7	19.5	23.0
LTE Band 7	Ant 1	26.9	19.0	23.0	21.5	19.0	23.0
LTE Band 7	Ant 4	16.0	13.0	23.0	18.0	11.5	23.0
LTE Band 12	Ant 0	32.0	25.4	23.0	23.0	25.4	23.0
LTE Band 12	Ant 4	22.0	24.0	23.0	23.0	22.0	23.0
LTE Band 13	Ant 0	28.6	23.0	23.0	23.0	23.0	23.0
LTE Band 17	Ant 0	32.0	25.4	23.0	23.0	25.4	23.0
LTE Band 25	Ant 0	29.8	19.5	23.0	21.0	17.0	23.0
LTE Band 26	Ant 0	29.9	23.8	23.0	25.8	23.8	23.0
LTE Band 26	Ant 4	21.0	21.5	23.0	23.7	19.5	23.0
LTE Band 66	Ant 0	31.8	20.0	23.0	21.0	17.5	23.0
LTE Band 66 PA(Reference Designator)	Ant 0	31.8	20.0	23.0	21.0	17.5	23.0
LTE Band 66	Ant 4	14.5	15.5	23.0	18.5	13.0	23.0
LTE Band 66 PA(Reference Designator)	Ant 4	14.5	15.5	23.0	18.5	13.0	23.0
LTE Band 38	Ant 1	26.1	18.0	21.0	19.5	18.0	21.0
LTE Band 38	Ant 4	17.0	13.0	21.0	19.0	11.5	21.0
LTE Band 41 PC3	Ant 4	17.0	13.0	21.0	19.0	11.5	21.0
LTE Band 42	Ant 5	15.0	14.5	21.0	21.1	13.0	21.0
n2	Ant 0	32.6	19.5	23.0	21.0	16.5	23.0
n2 PA(Reference Designator)	Ant 0	32.6	19.5	23.0	21.0	16.5	23.0
n2	Ant 4	15.0	13.5	23.0	19.5	11.5	23.0
n5	Ant 0	30.8	23.2	23.0	23.0	23.2	23.0
n5	Ant 4	21.0	21.0	23.0	24.8	19.5	23.0
n7	Ant 1	26.8	19.0	23.0	20.0	19.0	23.0
n7	Ant 4	16.5	13.5	23.0	19.0	12.0	23.0
n26	Ant 0	30.8	23.2	23.0	23.0	23.2	23.0
n26	Ant 4	21.0	21.0	23.0	24.8	19.5	23.0
n66	Ant 0	32.7	20.0	23.0	20.5	17.0	23.0
n66 PA(Reference Designator)	Ant 0	32.7	20.0	23.0	20.5	17.0	23.0
n66	Ant 4	15.5	15.5	23.0	18.0	12.5	23.0
n66 PA(Reference Designator)	Ant 4	15.5	15.5	23.0	18.0	12.5	23.0
n38	Ant 4	17.0	13.5	23.0	20.0	12.0	23.0
n41 PC3	Ant 4	17.0	13.5	23.0	20.0	12.0	23.0
n77 PC3	Ant 5	14.5	17.0	23.0	20.5	14.5	23.0

n77 PC3	Ant 2	32.5	19.5	21.0	21.0	17.0	21.0
n77 PC3	Ant 8	27.1	14.0	22.0	22.4	13.0	22.0
n77 PC3	Ant 1	27.0	19.8	19.0	19.0	20.1	19.0
n78 PC3	Ant 5	14.5	17.0	23.0	20.5	14.5	23.0
n78 PC3	Ant 2	32.5	19.5	21.0	21.0	17.0	21.0
n78 PC3	Ant 8	27.1	14.0	22.0	22.4	13.0	22.0
n78 PC3	Ant 1	27.0	19.8	19.0	19.0	20.1	19.0

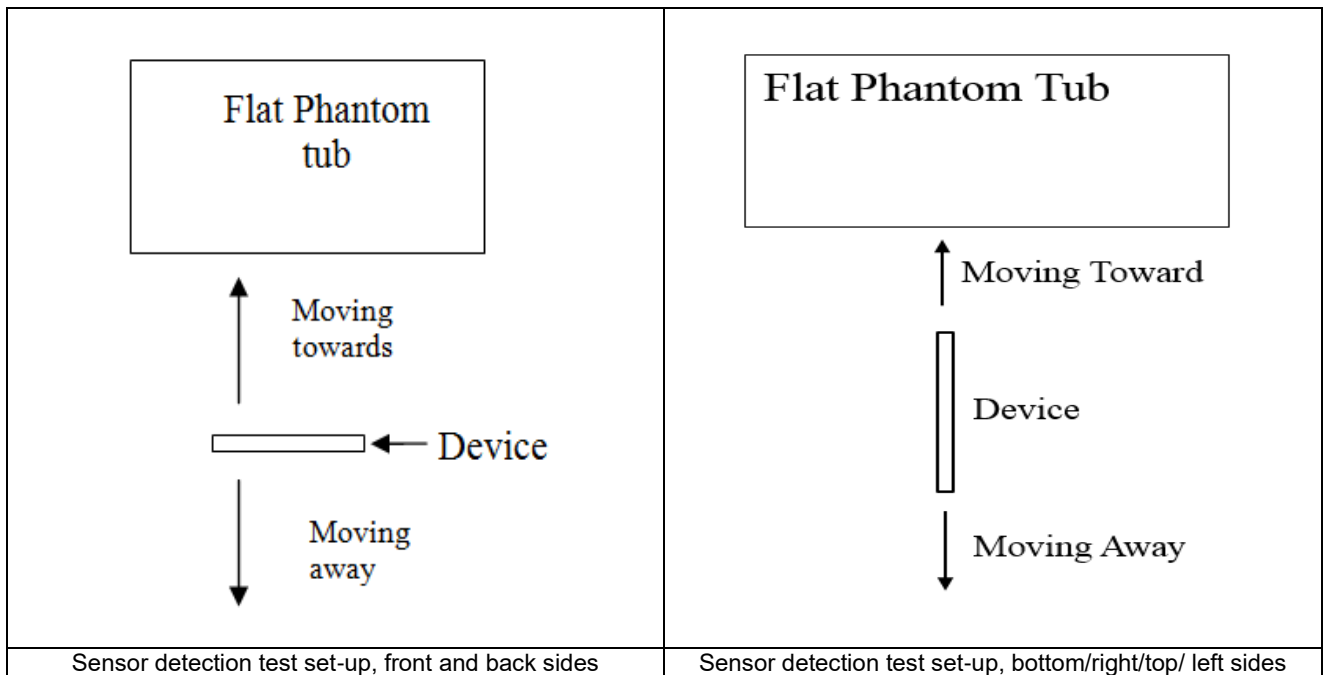
Note:

- 1) *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax +1dB device uncertainty.
- 2) All Plimit 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).
- 3) The max allowed output power is the Plimit +1dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5825MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
3. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
4. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or top or bottom or right or left side of the device use a detection threshold distance. When front/back/top/bottom/right/left sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
5. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	15	26	23	33

<Handheld for ANT 0>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	10	21	15	25	5	15	16	27

<Handheld for ANT 1>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	2	10	7	20	2	12	5	16

<Handheld for ANT 4>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	14	25	22	32	10	20	23	33

<Handheld for ANT6>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	4	15	11	21	6	16	10	20

<Handheld for ANT5>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	5	15	13	23	10	22

6. RF Exposure Limits

6.1 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.

6.2 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

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.

7. Specific Absorption Rate (SAR)

7.1 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.

7.2 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:

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

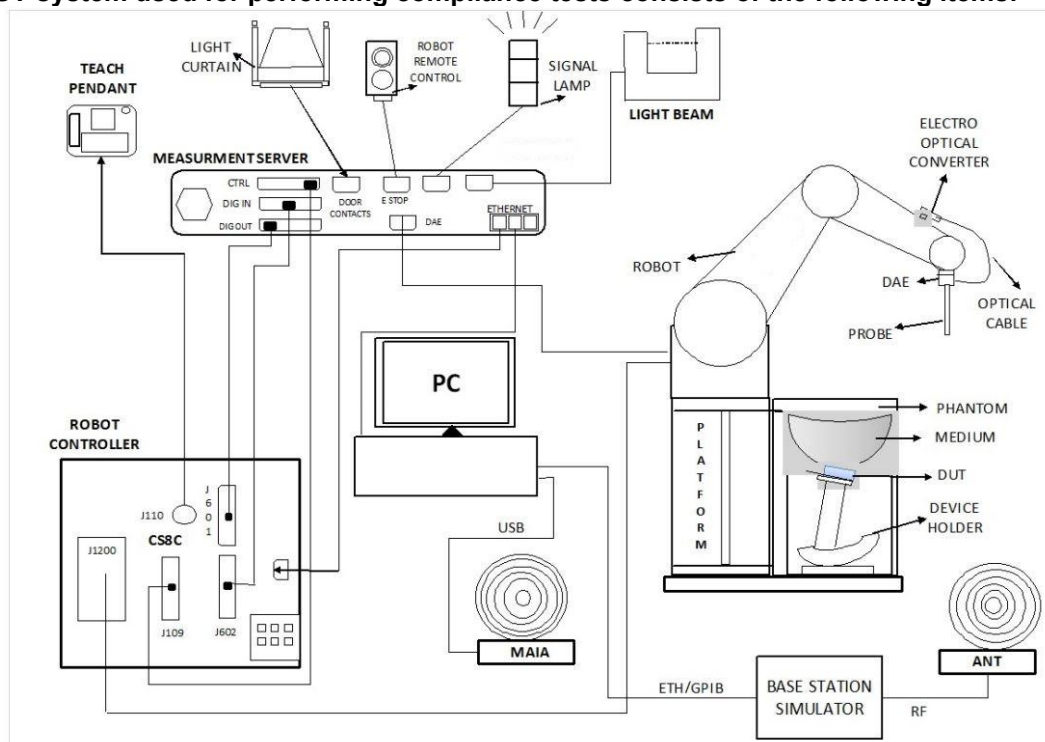
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. 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.

8.1 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: 3786) and the FCC designation No. TW4086H under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Laboratory	Wensan Laboratory	
Test Site Location	CABID: TW3786 Company Number: 4086H No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan	
Test Site No.	SAR08-HY	SAR09-HY
	SAR11-HY	SAR12-HY
	SAR13-HY	SAR14-HY

8.2 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.

<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	4 MHz – 10 GHz Linearity: ± 0.2 dB (30 MHz – 10 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	

8.3 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.



Photo of DAE

8.4 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 or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

8.5 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

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

- (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

9.1 *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

9.2 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.

9.3 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 dB) 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	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 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: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 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: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: 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
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
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.				

9.5 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.

9.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASy 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.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Last Cal.	Due Date
SPEAG	13MHz System Validation Kit	CLA13	1011	Jul. 10, 2023	Jul. 07, 2026
SPEAG	750MHz System Validation Kit	D750V3	1012	Aug. 22, 2024	Aug. 20, 2026
SPEAG	750MHz System Validation Kit	D750V3	1107	Jun. 11, 2025	Jun. 10, 2026
SPEAG	835MHz System Validation Kit	D835V2	499	Aug. 22, 2024	Aug. 20, 2026
SPEAG	835MHz System Validation Kit	D835V2	4d167	Dec. 02, 2025	Dec. 01, 2026
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Feb. 20, 2025	Feb. 18, 2027
SPEAG	1750MHz System Validation Kit	D1750V2	1120	Mar. 12, 2025	Mar. 10, 2027
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 12, 2025	Nov. 11, 2026
SPEAG	1900MHz System Validation Kit	D1900V2	5d093	Mar. 20, 2025	Mar. 18, 2027
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Jun. 11, 2025	Jun. 09, 2027
SPEAG	2450MHz System Validation Kit	D2450V2	929	Nov. 12, 2025	Nov. 11, 2026
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 15, 2024	Aug. 13, 2026
SPEAG	2600MHz System Validation Kit	D2600V2	1078	Jun. 11, 2025	Jun. 09, 2027
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 15, 2025	Jan. 13, 2027
SPEAG	3500MHz System Validation Kit	D3500V2	1036	Mar. 11, 2025	Mar. 09, 2027
SPEAG	3700MHz System Validation Kit	D3700V2	1022	Jul. 10, 2024	Jul. 08, 2026
SPEAG	3900MHz System Validation Kit	D3900V2	1017	Apr. 22, 2025	Apr. 20, 2027
SPEAG	3900MHz System Validation Kit	D3900V2	1092	May 11, 2026	May 10, 2027
SPEAG	5GHz System Validation Kit	D5GHzV2	1171	Apr. 19, 2024	Apr. 16, 2027
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Oct. 15, 2024	Oct. 13, 2026
SPEAG	Data Acquisition Electronics	DAE4	1647	Oct. 20, 2025	Oct. 19, 2026
SPEAG	Data Acquisition Electronics	DAE4	1697	Nov. 19, 2025	Nov. 18, 2026
SPEAG	Data Acquisition Electronics	DAE4	1707	Nov. 20, 2025	Nov. 19, 2026
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 15, 2026	Jan. 14, 2027
SPEAG	Data Acquisition Electronics	DAE4	661	May 13, 2026	May 12, 2027
SPEAG	Dosimetric E-Field Probe	ES3DV3	3115	Aug. 19, 2025	Aug. 18, 2026
SPEAG	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 25, 2025	Sep. 24, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7694	Oct. 23, 2025	Oct. 22, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Oct. 23, 2025	Oct. 22, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7902	Dec. 12, 2025	Dec. 11, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7970	Jan. 28, 2026	Jan. 27, 2027
SPEAG	Dosimetric E-Field Probe	EX3DV4	7793	Feb. 23, 2026	Feb. 22, 2027
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 14, 2025	Jul. 13, 2026
SPEAG	Dielectric Probe Kit	DAK-12	1156	Jul. 14, 2025	Jul. 13, 2026
Testo	Hygro meter	608-H1	45196600	Nov. 04, 2025	Nov. 03, 2026
Testo	Hygro meter	608-H1	45207528	Nov. 04, 2025	Nov. 03, 2026
Anritsu	Radio Communication Analyzer	MT8821C	6201074414	Aug. 19, 2025	Aug. 18, 2026
Keysight	5G Wireless Test Platform	E7515B	MY59321595	Jun. 20, 2025	Jun. 19, 2026
R&S	BT Base Station	CBT	101136	Oct. 29, 2025	Oct. 28, 2026
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2025	Sep. 23, 2026
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 14, 2025	Oct. 13, 2026
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 14, 2025	Aug. 13, 2026
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 11, 2026
Anritsu	Power Sensor	MA2411B	1911334	Jul. 14, 2025	Jul. 13, 2026
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2025	Jul. 08, 2026
Mini-Circuits	Power Amplifier	ZHL-42W+	N147802518	Jul. 30, 2025	Jul. 29, 2026
Mini-Circuits	Power Amplifier	ZVE-8G+	D120604	Oct. 17, 2025	Oct. 16, 2026
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	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	

Note:

- 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.
- The dipole calibration interval can be extended to 3 years with justification. 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.

11. System Verification

11.1 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 $\pm 2^\circ\text{C}$ 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

The SPEAG Dasy Measurement system implement a SAR error compensation algorithm as documented in IEEE Std 1528-2013 to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, according to KDB 865664 D01 and IEC/IEEE 62209-1528, the tolerance for "Delta (σ)" and "Delta (ϵ_r)" can be relaxed to $\pm 10\%$

< 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
13	22.4	0.757	53.592	0.75	55	0.93	-2.56	± 10.0	2026-06-17
750	22.5	0.851	45.447	0.89	41.9	-4.38	8.47	± 10.0	2026-05-29
750	22.5	0.865	44.981	0.89	41.9	-2.81	7.35	± 10.0	2026-05-31
750	22.5	0.885	44.626	0.89	41.9	-0.56	6.51	± 10.0	2026-05-31
750	22.4	0.901	42.866	0.89	41.9	1.24	2.31	± 10.0	2026-06-04
750	22.4	0.861	44.861	0.89	41.9	-3.26	7.07	± 10.0	2026-06-04
750	22.4	0.893	42.725	0.89	41.9	0.34	1.97	± 10.0	2026-06-17
835	22.5	0.885	45.159	0.9	41.5	-1.67	8.82	± 10.0	2026-05-29
835	22.5	0.917	44.38	0.9	41.5	1.89	6.94	± 10.0	2026-05-31
835	22.5	0.894	44.777	0.9	41.5	-0.67	7.90	± 10.0	2026-05-31
835	22.4	0.914	42.283	0.9	41.5	1.56	1.89	± 10.0	2026-06-03
835	22.4	0.932	42.625	0.9	41.5	3.56	2.71	± 10.0	2026-06-04
835	22.4	0.896	44.538	0.9	41.5	-0.44	7.32	± 10.0	2026-06-04
835	22.4	0.923	42.484	0.9	41.5	2.56	2.37	± 10.0	2026-06-17
1750	22.6	1.359	42.706	1.37	40.1	-0.80	6.50	± 10.0	2026-05-30
1750	22.5	1.313	43.286	1.37	40.1	-4.16	7.95	± 10.0	2026-05-30
1750	22.4	1.374	42.779	1.37	40.1	0.29	6.68	± 10.0	2026-05-30
1750	22.6	1.359	40.753	1.37	40.1	-0.80	1.63	± 10.0	2026-06-02
1750	22.5	1.357	42.265	1.37	40.1	-0.95	5.40	± 10.0	2026-06-05
1750	22.5	1.383	40.948	1.37	40.1	0.95	2.11	± 10.0	2026-06-05
1750	22.4	1.365	40.807	1.37	40.1	-0.36	1.76	± 10.0	2026-06-17
1900	22.6	1.462	42.355	1.4	40	4.43	5.89	± 10.0	2026-05-30
1900	22.4	1.410	42.127	1.4	40	0.71	5.32	± 10.0	2026-05-30
1900	22.5	1.398	43.075	1.4	40	-0.14	7.69	± 10.0	2026-05-30
1900	22.6	1.436	40.468	1.4	40	2.57	1.17	± 10.0	2026-06-02
1900	22.5	1.450	41.98	1.4	40	3.57	4.95	± 10.0	2026-06-05
1900	22.5	1.462	40.663	1.4	40	4.43	1.66	± 10.0	2026-06-05
1900	22.4	1.432	40.296	1.4	40	2.29	0.74	± 10.0	2026-06-08
1900	22.4	1.443	40.522	1.4	40	3.07	1.30	± 10.0	2026-06-17
2450	22.4	1.855	39.907	1.8	39.2	3.06	1.80	± 10.0	2026-06-11
2450	22.4	1.865	40.735	1.8	39.2	3.61	3.92	± 10.0	2026-06-16
2450	22.8	1.837	39.637	1.8	39.2	2.06	1.11	± 10.0	2026-06-18
2600	22.7	1.956	40.977	1.96	39	-0.20	5.07	± 10.0	2026-05-29
2600	22.5	1.895	42.17	1.96	39	-3.32	8.13	± 10.0	2026-06-01
2600	22.6	1.993	39.614	1.96	39	1.68	1.57	± 10.0	2026-06-06
2600	22.4	1.953	40.738	1.96	39	-0.36	4.46	± 10.0	2026-06-06
2600	22.4	1.983	41.164	1.96	39	1.17	5.55	± 10.0	2026-06-08
2600	22.2	1.935	39.197	1.96	39	-1.28	0.51	± 10.0	2026-06-16
2600	22.4	1.966	39.473	1.96	39	0.31	1.21	± 10.0	2026-06-17
2600	22.4	1.913	42.29	1.96	39	-2.40	8.44	± 10.0	2026-06-23
3500	22.4	2.821	39.755	2.91	37.9	-3.06	4.89	± 10.0	2026-06-01
3500	22.6	2.778	37.991	2.91	37.9	-4.54	0.24	± 10.0	2026-06-06
3500	22.4	2.691	38.975	2.91	37.9	-7.53	2.84	± 10.0	2026-06-06
3500	22.4	2.742	37.85	2.91	37.9	-5.77	-0.13	± 10.0	2026-06-17
3700	22.1	2.981	39.442	3.12	37.7	-4.46	4.62	± 10.0	2026-06-01
3700	22.4	2.862	38.644	3.12	37.7	-8.27	2.50	± 10.0	2026-06-06
3700	22.6	2.958	37.655	3.12	37.7	-5.19	-0.12	± 10.0	2026-06-06
3700	22.4	2.920	37.514	3.12	37.7	-6.41	-0.49	± 10.0	2026-06-17
3900	22.1	3.177	39.477	3.33	37.51	-4.59	5.24	± 10.0	2026-06-01



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3900	22.6	3.044	38.341	3.33	37.51	-8.59	2.22	±10.0	2026-06-06
3900	22.6	3.129	37.376	3.33	37.51	-6.04	-0.36	±10.0	2026-06-06
3900	22.4	3.088	37.235	3.33	37.51	-7.27	-0.73	±10.0	2026-06-17
5250	22.2	4.585	34.964	4.71	35.95	-2.65	-2.74	±10.0	2026-06-12
5250	22.3	4.573	34.753	4.71	35.95	-2.91	-3.33	±10.0	2026-06-13
5250	22.8	4.545	34.693	4.71	35.95	-3.50	-3.50	±10.0	2026-06-18
5250	22.4	4.552	38.017	4.71	35.95	-3.35	5.75	±10.0	2026-06-23
5600	22.2	4.963	34.244	5.07	35.5	-2.11	-3.54	±10.0	2026-06-12
5600	22.3	4.950	34.033	5.07	35.5	-2.37	-4.13	±10.0	2026-06-13
5600	22.8	4.920	33.973	5.07	35.5	-2.96	-4.30	±10.0	2026-06-18
5800	22.2	5.212	33.948	5.27	35.3	-1.10	-3.83	±10.0	2026-06-12
5800	22.3	5.199	33.738	5.27	35.3	-1.35	-4.42	±10.0	2026-06-13
5800	22.8	5.168	33.677	5.27	35.3	-1.94	-4.60	±10.0	2026-06-18

11.2 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.

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 (%)
2026-06-17	13	1000.00	CLA13 - 1011	EX3DV4 - SN3931	DAE4 Sn1697	0.496	0.544	0.496	-8.82	0.309	0.340	0.309	-9.12
2026-05-29	750	250.00	D750V3 - 1107	ES3DV3 - SN3270	DAE4 Sn656	2.230	8.840	8.920	0.90	1.450	5.810	5.800	-0.17
2026-05-31	750	50.00	D750V3 - 1012	EX3DV4 - SN7793	DAE4 Sn1647	0.413	8.400	8.260	-1.67	0.267	5.410	5.340	-1.29
2026-05-31	750	250.00	D750V3 - 1012	EX3DV4 - SN7970	DAE4 Sn1707	2.110	8.400	8.440	0.48	1.400	5.410	5.600	3.51
2026-06-04	750	250.00	D750V3 - 1012	EX3DV4 - SN7970	DAE4 Sn1707	2.140	8.400	8.560	1.90	1.420	5.410	5.680	4.99
2026-06-04	750	250.00	D750V3 - 1107	EX3DV4 - SN7694	DAE4 Sn1647	2.370	8.840	9.480	7.24	1.550	5.810	6.200	6.71
2026-06-17	750	250.00	D750V3 - 1012	EX3DV4 - SN7970	DAE4 Sn1707	2.100	8.400	8.400	0.00	1.390	5.410	5.560	2.77
2026-05-29	835	250.00	D835V2 - 4d167	ES3DV3 - SN3270	DAE4 Sn656	2.550	9.360	10.200	8.97	1.650	6.050	6.600	9.09
2026-05-31	835	250.00	D835V2 - 499	EX3DV4 - SN7970	DAE4 Sn1707	2.510	9.440	10.040	6.36	1.650	6.050	6.600	9.09
2026-05-31	835	50.00	D835V2 - 499	EX3DV4 - SN7793	DAE4 Sn1647	0.477	9.440	9.540	1.06	0.309	6.050	6.180	2.15
2026-06-03	835	50.00	D835V2 - 4d167	EX3DV4 - SN7970	DAE4 Sn1707	0.483	9.360	9.660	3.21	0.321	6.050	6.420	6.12
2026-06-04	835	250.00	D835V2 - 4d167	EX3DV4 - SN7970	DAE4 Sn1707	2.440	9.360	9.760	4.27	1.610	6.050	6.440	6.45
2026-06-04	835	250.00	D835V2 - 4d167	EX3DV4 - SN7694	DAE4 Sn1647	2.230	9.360	8.920	-4.70	1.430	6.050	5.720	-5.45
2026-06-17	835	250.00	D835V2 - 499	EX3DV4 - SN7970	DAE4 Sn1707	2.500	9.440	10.000	5.93	1.650	6.050	6.600	9.09
2026-05-30	1750	250.00	D1750V2 - 1112	ES3DV3 - SN3270	DAE4 Sn656	9.170	36.300	36.680	1.05	4.830	19.300	19.320	0.10
2026-05-30	1750	50.00	D1750V2 - 1068	EX3DV4 - SN7793	DAE4 Sn1647	1.880	36.500	37.600	3.01	0.986	19.400	19.720	1.65
2026-05-30	1750	50.00	D1750V2 - 1068	EX3DV4 - SN7970	DAE4 Sn1707	1.890	36.500	37.800	3.56	1.000	19.400	20.000	3.09
2026-06-02	1750	50.00	D1750V2 - 1112	EX3DV4 - SN7970	DAE4 Sn1707	1.850	36.300	37.000	1.93	0.981	19.300	19.620	1.66
2026-06-05	1750	250.00	D1750V2 - 1120	EX3DV4 - SN7694	DAE4 Sn1647	9.650	36.800	38.600	4.89	5.000	19.600	20.000	2.04
2026-06-05	1750	50.00	D1750V2 - 1112	EX3DV4 - SN7970	DAE4 Sn1707	1.900	36.300	38.000	4.68	1.010	19.300	20.200	4.66
2026-06-17	1750	50.00	D1750V2 - 1068	EX3DV4 - SN7970	DAE4 Sn1707	1.860	36.500	37.200	1.92	0.994	19.400	19.880	2.47
2026-06-01	1900	250.00	D1900V2 - 5d185	ES3DV3 - SN3270	DAE4 Sn656	10.500	39.600	42.000	6.06	5.420	20.800	21.680	4.23
2026-05-30	1900	50.00	D1900V2 - 5d185	EX3DV4 - SN7970	DAE4 Sn1707	1.920	39.600	38.400	-3.03	0.997	20.800	19.940	-4.13
2026-05-30	1900	50.00	D1900V2 - 5d093	EX3DV4 - SN7793	DAE4 Sn1647	2.040	39.300	40.800	3.82	1.050	20.800	21.000	0.96
2026-06-02	1900	50.00	D1900V2 - 5d185	EX3DV4 - SN7970	DAE4 Sn1707	1.960	39.600	39.200	-1.01	1.020	20.800	20.400	-1.92
2026-06-05	1900	250.00	D1900V2 - 5d185	EX3DV4 - SN7694	DAE4 Sn1647	10.800	39.600	43.200	9.09	5.510	20.800	22.040	5.96
2026-06-05	1900	50.00	D1900V2 - 5d185	EX3DV4 - SN7970	DAE4 Sn1707	1.990	39.600	39.800	0.51	1.030	20.800	20.600	-0.96
2026-06-08	1900	250.00	D1900V2 - 5d185	ES3DV3 - SN3115	DAE4 Sn661	10.700	39.600	42.800	8.08	5.580	20.800	22.320	7.31
2026-06-17	1900	50.00	D1900V2 - 5d185	EX3DV4 - SN7970	DAE4 Sn1707	1.950	39.600	39.000	-1.52	1.010	20.800	20.200	-2.88
2026-06-11	2450	250.00	D2450V2 - 929	EX3DV4 - SN7793	DAE4 Sn1647	13.400	53.300	53.600	0.56	6.210	25.200	24.840	-1.43
2026-06-16	2450	250.00	D2450V2 - 929	EX3DV4 - SN3931	DAE4 Sn1697	13.200	53.300	52.800	-0.94	6.100	25.200	24.400	-3.17
2026-06-18	2450	50.00	D2450V2 - 929	EX3DV4 - SN7793	DAE4 Sn1707	2.700	53.300	54.000	1.31	1.240	25.200	24.800	-1.59
2026-05-29	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7970	DAE4 Sn1707	2.560	55.700	51.200	-8.08	1.140	25.300	22.800	-9.88
2026-06-01	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7793	DAE4 Sn1647	2.800	55.700	56.000	0.54	1.260	25.300	25.200	-0.40
2026-06-06	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7970	DAE4 Sn1707	2.570	55.700	51.400	-7.72	1.150	25.300	23.000	-9.09
2026-06-06	2600	50.00	D2600V2 - 1078	EX3DV4 - SN7694	DAE4 Sn1647	2.760	55.300	55.200	-0.18	1.290	24.900	25.800	3.61
2026-06-08	2600	50.00	D2600V2 - 1078	EX3DV4 - SN7694	DAE4 Sn1647	2.790	55.300	55.800	0.90	1.310	24.900	26.200	5.22
2026-06-16	2600	50.00	D2600V2 - 1078	EX3DV4 - SN7694	DAE4 Sn1647	2.720	55.300	54.400	-1.63	1.280	24.900	25.600	2.81
2026-06-17	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7970	DAE4 Sn1707	2.540	55.700	50.800	-8.80	1.140	25.300	22.800	-9.88
2026-06-23	2600	50.00	D2600V2 - 1078	EX3DV4 - SN7902	DAE4 Sn1697	2.680	55.300	53.600	-3.07	1.190	24.900	23.800	-4.42
2026-06-01	3500	50.00	D3500V2 - 1036	EX3DV4 - SN7970	DAE4 Sn1707	3.600	65.600	72.000	9.76	1.340	24.900	26.800	7.63
2026-06-06	3500	100.00	D3500V2 - 1014	EX3DV4 - SN7970	DAE4 Sn1707	6.520	65.700	65.200	-0.76	2.410	24.900	24.100	-3.21
2026-06-06	3500	100.00	D3500V2 - 1036	EX3DV4 - SN7694	DAE4 Sn661	6.480	65.600	64.800	-1.22	2.400	24.900	24.000	-3.61
2026-06-17	3500	100.00	D3500V2 - 1014	EX3DV4 - SN7970	DAE4 Sn1707	6.450	65.700	64.500	-1.83	2.380	24.900	23.800	-4.42
2026-06-01	3700	100.00	D3700V2 - 1022	EX3DV4 - SN7970	DAE4 Sn1707	6.630	68.100	66.300	-2.64	2.510	25.200	25.100	-0.40
2026-06-06	3700	50.00	D3700V2 - 1022	EX3DV4 - SN7694	DAE4 Sn661	3.710	68.100	74.200	8.96	1.340	25.200	26.800	6.35
2026-06-06	3700	100.00	D3700V2 - 1022	EX3DV4 - SN7970	DAE4 Sn1707	6.520	68.100	65.200	-4.26	2.470	25.200	24.700	-1.98
2026-06-17	3700	100.00	D3700V2 - 1022	EX3DV4 - SN7970	DAE4 Sn1707	6.450	68.100	64.500	-5.29	2.440	25.200	24.400	-3.17
2026-06-01	3900	100.00	D3900V2 - 1092	EX3DV4 - SN7970	DAE4 Sn1707	6.670	65.700	66.700	1.52	2.330	23.100	23.300	0.87
2026-06-06	3900	50.00	D3900V2 - 1017	EX3DV4 - SN7694	DAE4 Sn1647	3.520	70.200	70.400	0.28	1.210	24.600	24.200	-1.63
2026-06-06	3900	100.00	D3900V2 - 1092	EX3DV4 - SN7970	DAE4 Sn1707	6.490	65.700	64.900	-1.22	2.260	23.100	22.600	-2.16
2026-06-17	3900	100.00	D3900V2 - 1092	EX3DV4 - SN7970	DAE4 Sn1707	6.420	65.700	64.200	-2.28	2.230	23.100	22.300	-3.46
2026-06-12	5250	100.00	D5GHzV2 - 1006	EX3DV4 - SN7793	DAE4 Sn1647	7.510	80.600	75.100	-6.82	2.130	22.800	21.300	-6.58
2026-06-13	5250	50.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1647	3.940	78.700	78.800	0.13	1.120	22.700	22.400	-1.32
2026-06-18	5250	100.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1707	8.390	78.700	83.900	6.61	2.360	22.700	23.600	3.96
2026-06-23	5250	50.00	D5GHzV2 - 1006	EX3DV4 - SN7793	DAE4 Sn1697	3.960	80.600	79.200	-1.74	1.130	22.800	22.600	-0.88
2026-06-12	5600	50.00	D5GHzV2 - 1006	EX3DV4 - SN7793	DAE4 Sn1647	3.920	83.400	78.400	-6.00	1.100	23.700	22.000	-7.17
2026-06-13	5600	50.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1647	4.340	81.400	86.800	6.63	1.220	23.400	24.400	4.27
2026-06-18	5600	100.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1707	8.870	81.400	88.700	8.97	2.490	23.400	24.900	6.41
2026-06-12	5800	50.00	D5GHzV2 - 1006	EX3DV4 - SN7793	DAE4 Sn1647	3.860	80.600	77.200	-4.22	1.090	22.700	21.800	-3.96
2026-06-13	5800	50.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1647	4.330	78.900	86.600	9.76	1.220	22.400	24.400	8.93
2026-06-18	5800	50.00	D5GHzV2 - 1171	EX3DV4 - SN7793	DAE4 Sn1707	4.290	78.900	85.800	8.75	1.210	22.400	24.200	8.04

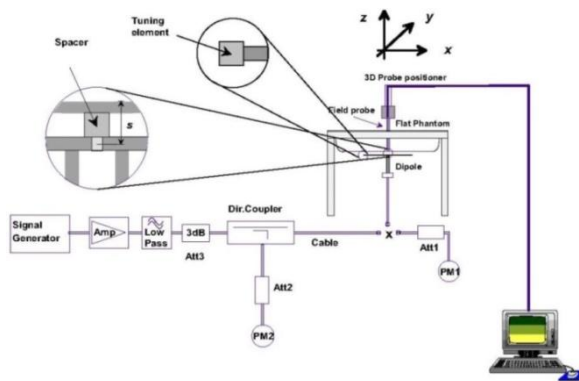


Fig 11.3.1 System Performance Check Setup

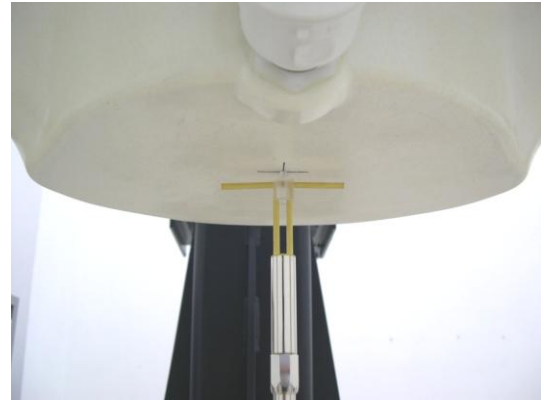


Fig 11.3.2 Setup Photo



Fig 11.3.3 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

Figure 12.1.1 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 12.1.2 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 12.1.3). 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 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

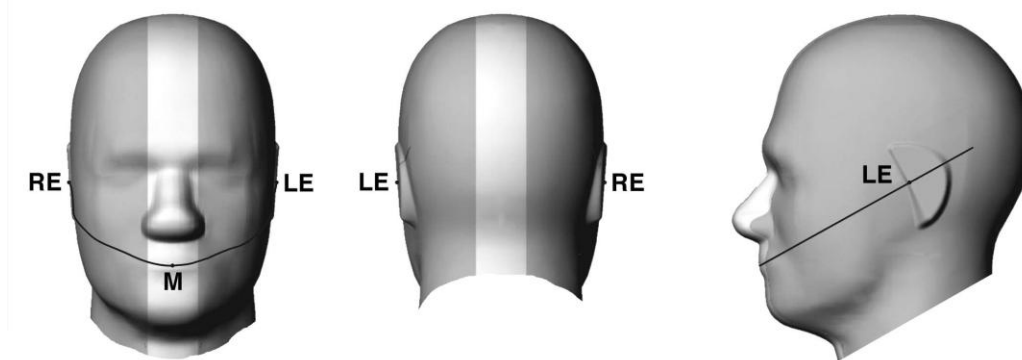


Fig 12.1.1 Front, back, and side views of SAM twin phantom

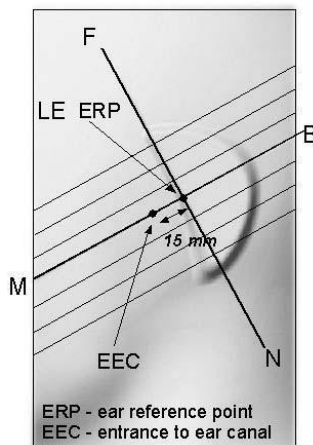


Fig 12.1.2 Close-up side view of phantom showing the ear region.

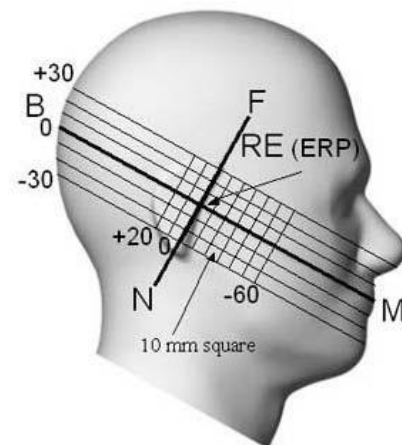


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 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 12.2.1 and Figure 12.2.2), 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 12.2.1). 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 handset. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), 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 12.2.3), 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 12.2.3. The actual rotation angles should be documented in the test report.

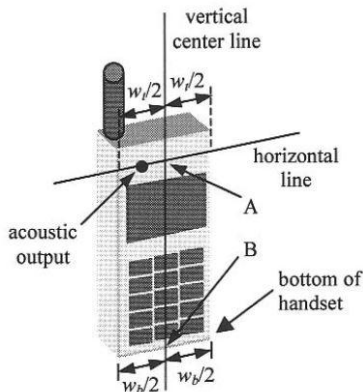


Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”

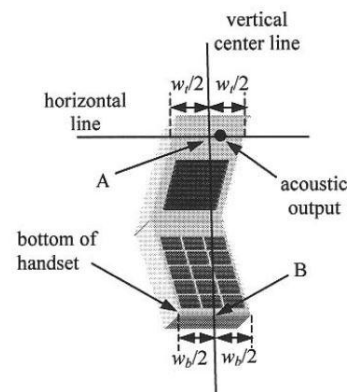


Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

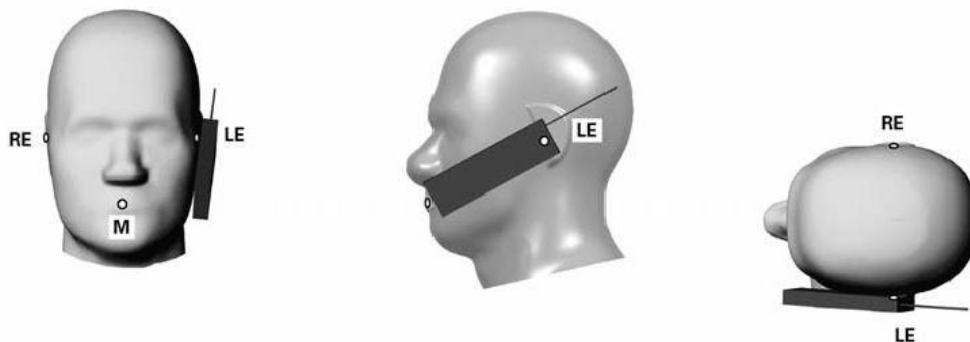


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 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 12.3.1. 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

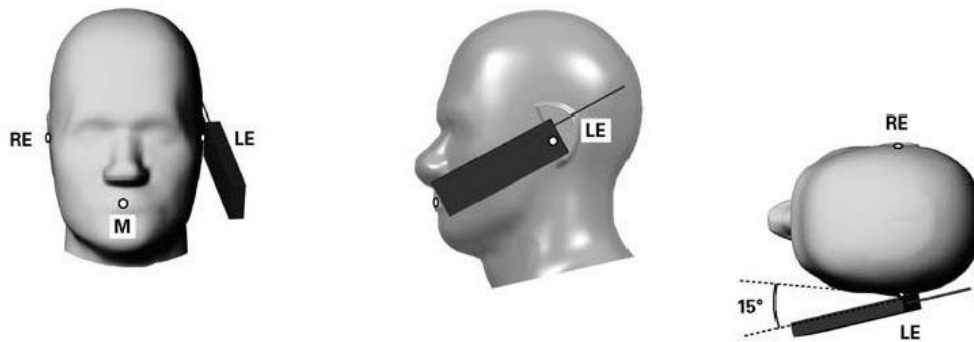


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 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 12.4). 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 $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a 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 test 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.

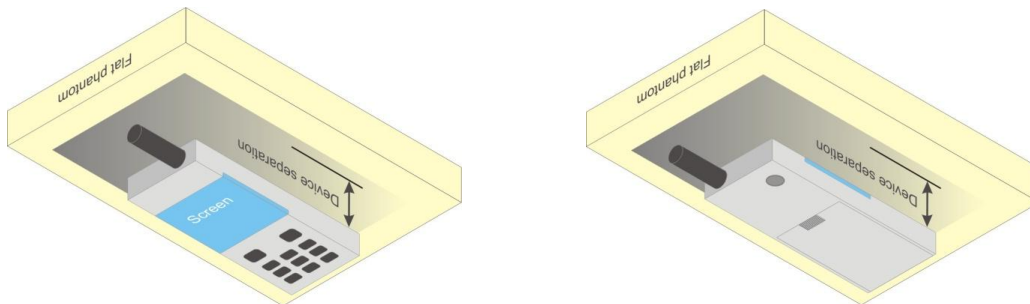


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and 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.

12.6 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 ($L \times W \geq 9$ cm x 5 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.

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

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.
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 $\leq 1/4$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<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 HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. 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_o/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: Δ_{ACK}, Δ_{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 $\beta_o/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPCCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 4: For subtest 2 the β_o/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-TFCI
 - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- 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} (Note 1)	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-TFCI
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	β_{ed1} : 47/15 β_{ed2} : 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	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 DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

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

Note 4: In case of testing by UE using E-DPDCH 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-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

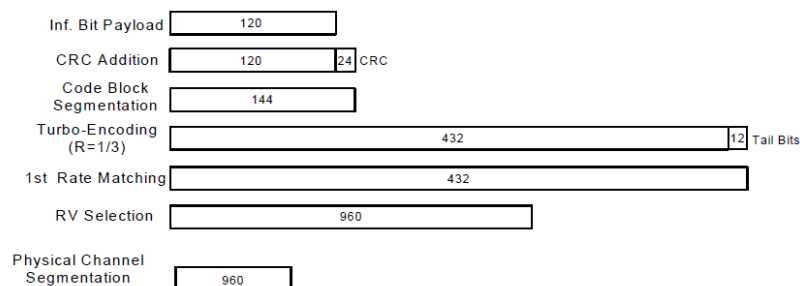
DC-HSDPA 3GPP release 8 Setup Configuration:

- 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

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, 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 = 5.2E:HSPA+:UL with 16QAM
 - 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, C11.1.4, quoted from the TS 34.121-1 s5.2E
 - iii. Set Channel Params
 - iv. Set Cell Power = -86 dBm
 - v. Set Channel Type = HSPA
 - vi. Set UE Target Power =21 dBm
 - vii. Power Ctrl Mode= All Up Bits
 - viii. Set Manual Uplink DPCH Bc/Bd = Manual
 - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
 - x. Set HSPA Conn DL Channel Levels
 - xi. Set HS-SCCH Configs
 - xii. Set RB Test Mode Setup
 - xiii. Set Common HSUPA Parameters
 - xiv. Set Serving Grant
 - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{fs} = 30/15 * \beta_c$.
 Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
 Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.
 Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
 Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

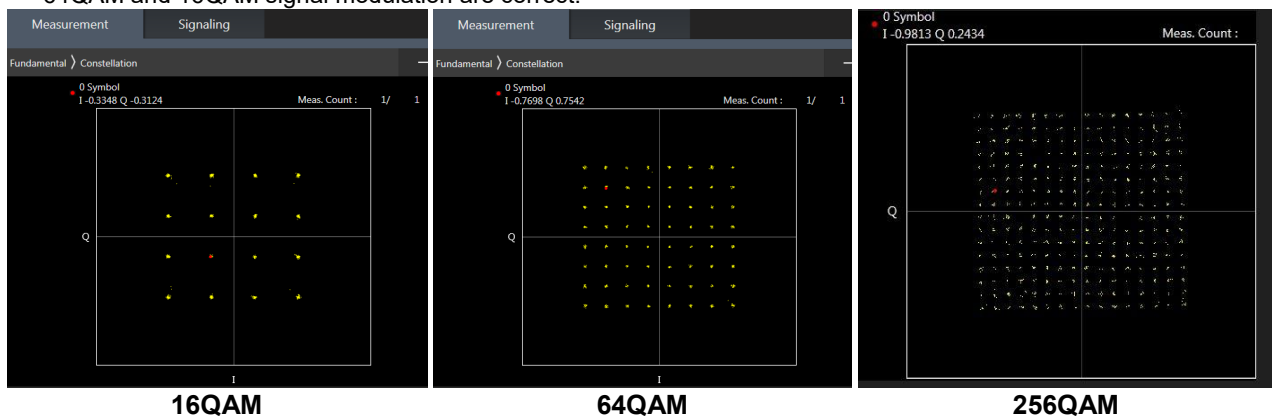
<WCDMA Conducted Power>**General Note:**

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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

<LTE Conducted Power>

General Note:

1. Anritsu MT8821C 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/64QAM/256QAM 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/64QAM/256QAM 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 / B12 / B17 / B26 / B38 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 B17/5/38/4/2 SAR test was covered by B12/26/41/66/25; 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
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.



<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.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “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
- 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.

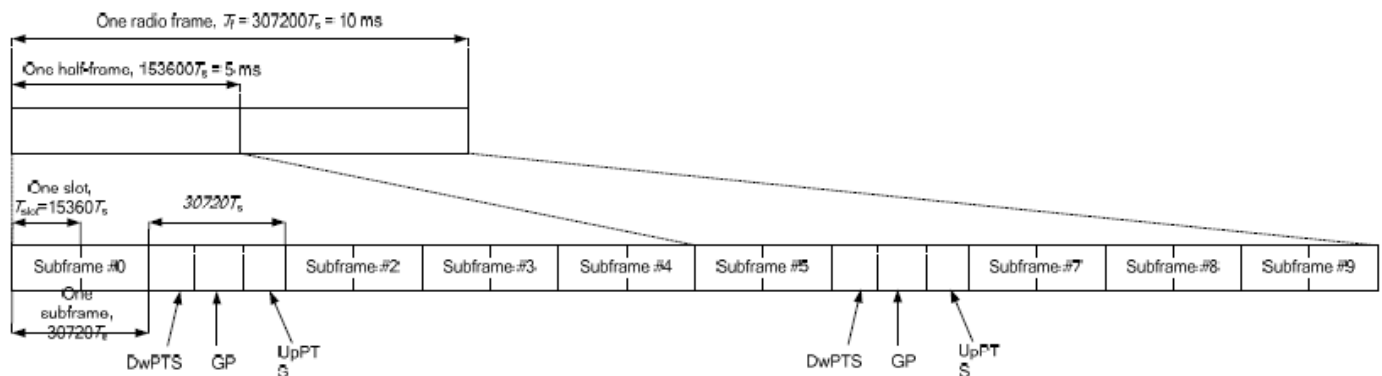


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

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:

For LTE TDD Power class 3

- 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.

<LTE Carrier Aggregation>

The detailed LTE Carrier Aggregation conducted power table can refer to Appendix F.

General Note:

1. Per Oct. 2024 TCB workshop, the downlink (DL) pertains to receiver functionality, thus it is not related to RF exposure compliance limits related to cumulative effects of different transmitters.
2. Per Oct. 2024 TCB workshop, equipment authorization applications shall refer to the worst-case UL powers resulting from all the possible modes of operations. Accordingly, CA-DL cases do not need to be analyzed separately, unless pertinent to establishing UL power setting.
3. Per Oct. 2024 TCB workshop, Manufacturer declares that TX power measurement for multiple DL CA configurations is deemed not required as the DL CA has no impact on the TX power according to preliminary scan. TX power measured in LTE standalone operation represents the worst case.
4. This device supports LTE carrier aggregation in the downlink. All 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.

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Intra CA	Ant	
CA_2C	Ant0	
CA_7C	Ant0	
CA_66C	Ant0	Ant4
CA_42C	Ant5	

<Intra-band>
General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B2/7/66/42 with a maximum of two uplink 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. According Nov. 2017 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.
- iii. Additional SAR measurement for LTE UL CA with 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.

<Inter-band>

LTE Inter CA	Band	Ant
CA_2A-4A	LTE Band 2	Ant0
	LTE Band 4	Ant4
CA_2A-5A	LTE Band 2	Ant0
	LTE Band 5	Ant4
CA_2A-66A	LTE Band 2	Ant0
	LTE Band 66	Ant4
CA_2A-7A	LTE Band 2	Ant0
	LTE Band 7	Ant4
CA_4A-5A	LTE Band 4	Ant0
	LTE Band 5	Ant4
CA_4A-7A	LTE Band 4	Ant0
	LTE Band 7	Ant4
CA_5A-66A	LTE Band 5	Ant4
	LTE Band 66	Ant0
CA_5A-7A	LTE Band 5	Ant0
	LTE Band 7	Ant4
CA_7A-66A	LTE Band 7	Ant4
	LTE Band 66	Ant0
CA_7A-26A	LTE Band 7	Ant4
	LTE Band 26	Ant0

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window. To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit.

5G NR Output Power (Unit: dBm)**General Note:**

1. 5G NR n2/n7/n38/n41/n66/n78 is NSA mode.
2. 5G NR n2/n5/n7/n26/n38/n41/n66/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
 - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
 - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
5. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
6. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
7. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
8. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
9. For NR inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two NR bands. Smart Transmit algorithm controls the total RF exposure base on NR inter band ULCA bands to not exceed FCC limit.

<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		

<EN-DC combination>

ENDC	Band	Ant
DC_12A_n2A	LTE Band 12	Ant 4
	FR1 n2	Ant 0
DC_12A_n66A	LTE Band 12	Ant 4
	FR1 n66	Ant 0
DC_12A_n78A	LTE Band 12	Ant 0
	FR1 n78	Ant 5
DC_2A_n38A	LTE Band 2	Ant 0
	FR1 n38	Ant 4
DC_2A_n41A	LTE Band 2	Ant 0
	FR1 n41	Ant 4
DC_2A_n66A	LTE Band 2	Ant 0
	FR1 n66	Ant 4
DC_2A_n78A	LTE Band 2	Ant 0
	FR1 n78	Ant 5
DC_2A_n7A	LTE Band 2	Ant 0
	FR1 n7	Ant 4
DC_38A_n78A	LTE Band 38	Ant 1
	FR1 n78	Ant 5
DC_4A_n2A	LTE Band 4	Ant 0
	FR1 n2	Ant 4
DC_4A_n38A	LTE Band 4	Ant 0
	FR1 n38	Ant 4
DC_4A_n41A	LTE Band 4	Ant 0
	FR1 n41	Ant 4
DC_4A_n78A	LTE Band 4	Ant 0
	FR1 n78	Ant 5
DC_4A_n7A	LTE Band 4	Ant 0
	FR1 n7	Ant 4

DC_5A_n38A	LTE Band 5	Ant 0
	FR1 n38	Ant 4
DC_5A_n41A	LTE Band 5	Ant 0
	FR1 n41	Ant 4
DC_5A_n78A	LTE Band 5	Ant 0
	FR1 n78	Ant 5
DC_5A_n7A	LTE Band 5	Ant 0
	FR1 n7	Ant 4
DC_66A_n38A	LTE Band 66	Ant 0
	FR1 n38	Ant 4
DC_66A_n41A	LTE Band 66	Ant 0
	FR1 n41	Ant 4
DC_66A_n78A	LTE Band 66	Ant 0
	FR1 n78	Ant 5
DC_66A_n7A	LTE Band 66	Ant 0
	FR1 n7	Ant 4
DC_5A_n66A	LTE Band 5	Ant 4
	FR1 n66	Ant 0
DC_7A_n66A	LTE Band 7	Ant 1
	FR1 n66	Ant 4
DC_7A_n78A	LTE Band 7	Ant 1
	FR1 n78	Ant 5

Inter-Band CA Configuration:

NR Inter CA	Band	Ant
CA_n2A-n78A	FR1 n2	Ant0
	FR1 n78	Ant5
CA_n66A-n78A	FR1 n66	Ant0
	FR1 n78	Ant5
CA_n7A-n78A	FR1 n7	Ant0
	FR1 n78	Ant5

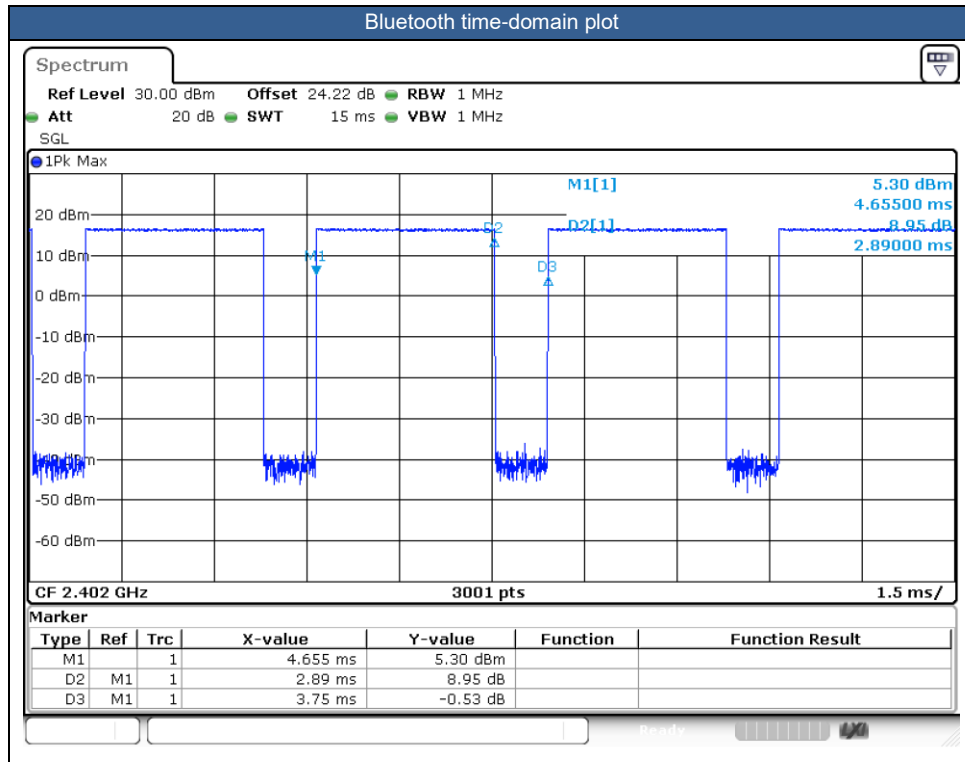
<WLAN Conducted Power>**General Note:**

1. 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.
2. 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.
3. 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).
4. 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.
5. 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.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 77.07% as following figure, Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.





14. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

15. 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 SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - f. For TDD LTE SAR measurement of power class 3, 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 (W/kg) = 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 when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management, proximity sensor/receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. 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.
6. 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 extremity 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.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM850/1900, WCDMA Band II/IV/V, LTE Band 2/4/7/13/25/38/41/66/42, 5GNR n2/n5/n7/n26/n66/n38/n41/n77/n78 and WLAN 5.2/5.8GHz therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
7. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
8. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
9. For Phablet devices, when hotspot mode is not supported, Product specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.

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.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. Both primary and secondary modes must be in the same frequency band. 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 or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

WCDMA 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/ HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA/ HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA/ HSPA+.

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/64QAM/256QAM 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/64QAM/256QAM 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 / B12 / B17 / B26 / B38 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 B17/5/38/4/2 SAR test was covered by B12/26/41/66/25; 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

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing 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.
 - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - c. 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.
 - d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will 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
 - f. For 5G FR1 n2/n5/n7/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, 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.

WLAN/Bluetooth 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, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 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. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

NFC Note:

1. NFC mainly operate in hand-held extremity exposure conditions, therefore Standalone 10-g extremity SAR testing for NFC will be performed with active mode, with 100% duty cycle at 0mm separation distance.
2. NFC SAR is measured for all surface edges of the device with a transmitting antenna located within 25 mm from that surface or edge.
3. NFC SAR test tissue-simulating liquid parameter: refer to IEC/IEEE 62209-1528:2020.

DSI status description:

The device has the following DSI state which used at different exposure condition.

This WWAN bands enabled with Qualcomm Smart Transmit feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	DSI	Trigger Conditions
Head SAR	DSI 2	Earpiece On
Body worn SAR	DSI 3	Sensor On
Hotspot SAR	DSI 7	Hotspot On
Extremity SAR	DSI 6	Sensor On
Body Worn / Extremity / Sensor Off	DSI 4	Sensor Off



15.1 Head SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	GSM850	GPRS 4 Tx slots	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	Sample1	27.36	28.50	1.3	0.11	0.236	0.307
	GSM850	GPRS 4 Tx slots	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	Sample1	27.36	28.50	1.3	-0.03	0.109	0.142
	GSM850	GPRS 4 Tx slots	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	Sample1	27.36	28.50	1.3	-0.15	0.213	0.277
	GSM850	GPRS 4 Tx slots	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	Sample1	27.36	28.50	1.3	0.09	0.101	0.131
02	GSM1900	GPRS 4 Tx slots	Right Cheek	0mm	Ant 0	DSI 2	810	1909.8	Sample1	25.11	26.00	1.227	0.12	0.099	0.121
	GSM1900	GPRS 4 Tx slots	Right Tilted	0mm	Ant 0	DSI 2	810	1909.8	Sample1	25.11	26.00	1.227	0.18	0.045	0.055
	GSM1900	GPRS 4 Tx slots	Left Cheek	0mm	Ant 0	DSI 2	810	1909.8	Sample1	25.11	26.00	1.227	0.03	0.075	0.092
	GSM1900	GPRS 4 Tx slots	Left Tilted	0mm	Ant 0	DSI 2	810	1909.8	Sample1	25.11	26.00	1.227	0.10	0.067	0.082

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
03	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9400	1880	Sample1	23.26	24.00	1.186	0.10	0.189	0.224
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	9400	1880	Sample1	23.26	24.00	1.186	0.19	0.101	0.120
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9400	1880	Sample1	23.26	24.00	1.186	0.17	0.127	0.151
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	9400	1880	Sample1	23.26	24.00	1.186	0.10	0.143	0.170
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9400	1880	Sample2	23.26	24.00	1.186	-0.05	0.188	0.223
04	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1413	1732.6	Sample1	23.19	24.00	1.205	0.07	0.162	0.195
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	1413	1732.6	Sample1	23.19	24.00	1.205	0.05	0.091	0.110
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	1413	1732.6	Sample1	23.19	24.00	1.205	0.15	0.103	0.124
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	1413	1732.6	Sample1	23.19	24.00	1.205	0.00	0.101	0.122
05	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	Sample1	22.75	24.00	1.334	0.10	0.275	0.367
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	Sample1	22.75	24.00	1.334	-0.08	0.147	0.196
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	Sample1	22.75	24.00	1.334	0.10	0.247	0.329
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	Sample1	22.75	24.00	1.334	0.04	0.139	0.185
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	Sample2	22.75	24.00	1.334	-0.15	0.193	0.257

【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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 7	20M	QPSK	1	49	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	Sample1	23.21	24.00	1.199			0.17	0.269	0.323
	LTE Band 7	20M	QPSK	50	24	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	Sample1	22.17	23.00	1.211			0.06	0.160	0.194
	LTE Band 7	20M	QPSK	1	49	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	Sample1	23.21	24.00	1.199			-0.17	0.237	0.284
	LTE Band 7	20M	QPSK	50	24	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	Sample1	22.17	23.00	1.211			0.01	0.157	0.190
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	Sample1	23.21	24.00	1.199			0.14	0.417	0.500
	LTE Band 7	20M	QPSK	50	24	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	Sample1	22.17	23.00	1.211			0.17	0.283	0.343
	LTE Band 7	20M	QPSK	1	49	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	Sample1	23.21	24.00	1.199			-0.04	0.132	0.158
	LTE Band 7	20M	QPSK	50	24	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	Sample1	22.17	23.00	1.211			-0.08	0.085	0.103
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	Sample2	23.21	24.00	1.199			-0.09	0.144	0.173
	LTE Band 7C	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	21350+21152	2560+2540.2	Sample1	22.85	24.00	1.303			0.04	0.375	0.489
	LTE Band 7	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.38	17.00	1.452			-0.15	0.473	0.687
	LTE Band 7	20M	QPSK	50	24	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.37	17.00	1.455			-0.08	0.377	0.549
06	LTE Band 7	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.38	17.00	1.452			-0.12	0.549	0.797
	LTE Band 7	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.37	17.00	1.455			-0.05	0.457	0.665
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.38	17.00	1.452			0.08	0.211	0.306
	LTE Band 7	20M	QPSK	50	24	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.37	17.00	1.455			-0.06	0.166	0.242
	LTE Band 7	20M	QPSK	1	49	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.38	17.00	1.452			0.15	0.296	0.430
	LTE Band 7	20M	QPSK	50	24	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	Sample1	15.37	17.00	1.455			0.07	0.231	0.336
	LTE Band 12	10M	QPSK	1	25	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	Sample1	22.94	24.00	1.276			0.01	0.138	0.176
	LTE Band 12	10M	QPSK	25	12	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	Sample1	21.82	23.00	1.312			0.04	0.079	0.104
	LTE Band 12	10M	QPSK	1	25	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	Sample1	22.94	24.00	1.276			-0.00	0.047	0.060
	LTE Band 12	10M	QPSK	25	12	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	Sample1	21.82	23.00	1.312			-0.15	0.001	0.001
	LTE Band 12	10M	QPSK	1	25	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	Sample1	22.94	24.00	1.276			0.02	0.143	0.182
	LTE Band 12	10M	QPSK	25	12	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	Sample1	21.82	23.00	1.312			0.14	0.078	0.102
	LTE Band 12	10M	QPSK	1	25	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	Sample1	22.94	24.00	1.276			-0.01	0.071	0.091
	LTE Band 12	10M	QPSK	25	12	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	Sample1	21.82	23.00	1.312			-0.10	0.001	0.001
07	LTE Band 12	10M	QPSK	1	25	Right Cheek	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.49	23.00	1.416			-0.03	0.571	0.809
	LTE Band 12	10M	QPSK	25	12	Right Cheek	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.45	22.00	1.135			0.05	0.486	0.552
	LTE Band 12	10M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.38	22.00	1.153			0.19	0.466	0.537
	LTE Band 12	10M	QPSK	1	25	Right Tilted	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.49	23.00	1.416			-0.12	0.362	0.513
	LTE Band 12	10M	QPSK	25	12	Right Tilted	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.45	22.00	1.135			0.13	0.403	0.457
	LTE Band 12	10M	QPSK	1	25	Left Cheek	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.49	23.00	1.416			-0.04	0.313	0.443
	LTE Band 12	10M	QPSK	25	12	Left Cheek	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.45	22.00	1.135			-0.02	0.305	0.346



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	LTE Band 12	10M	QPSK	1	25	Left Tilted	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.49	23.00	1.416			-0.04	0.231	0.327
	LTE Band 12	10M	QPSK	25	12	Left Tilted	0mm	Ant 4	DSI 2	23095	707.5	Sample1	21.45	22.00	1.135			0.19	0.241	0.274
08	LTE Band 13	10M	QPSK	1	25	Right Cheek	0mm	Ant 0	DSI 2	23230	782	Sample1	22.92	24.00	1.282			0.00	0.213	0.273
	LTE Band 13	10M	QPSK	25	12	Right Cheek	0mm	Ant 0	DSI 2	23230	782	Sample1	21.85	23.00	1.303			-0.01	0.137	0.179
	LTE Band 13	10M	QPSK	1	25	Right Tilted	0mm	Ant 0	DSI 2	23230	782	Sample1	22.92	24.00	1.282			-0.02	0.112	0.144
	LTE Band 13	10M	QPSK	25	12	Right Tilted	0mm	Ant 0	DSI 2	23230	782	Sample1	21.85	23.00	1.303			0.09	0.062	0.081
	LTE Band 13	10M	QPSK	1	25	Left Cheek	0mm	Ant 0	DSI 2	23230	782	Sample1	22.92	24.00	1.282			0.03	0.181	0.232
	LTE Band 13	10M	QPSK	25	12	Left Cheek	0mm	Ant 0	DSI 2	23230	782	Sample1	21.85	23.00	1.303			0.14	0.100	0.130
	LTE Band 13	10M	QPSK	1	25	Left Tilted	0mm	Ant 0	DSI 2	23230	782	Sample1	22.92	24.00	1.282			-0.01	0.198	0.254
	LTE Band 13	10M	QPSK	25	12	Left Tilted	0mm	Ant 0	DSI 2	23230	782	Sample1	21.85	23.00	1.303			-0.14	0.105	0.137
	LTE Band 25	20M	QPSK	1	49	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.90	24.00	1.288			0.07	0.171	0.220
	LTE Band 25	20M	QPSK	50	24	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.43	23.00	1.14			-0.10	0.117	0.133
	LTE Band 25	20M	QPSK	1	49	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.90	24.00	1.288			0.01	0.107	0.138
	LTE Band 25	20M	QPSK	50	24	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.43	23.00	1.14			0.17	0.087	0.099
	LTE Band 25	20M	QPSK	1	49	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.90	24.00	1.288			-0.04	0.157	0.202
	LTE Band 25	20M	QPSK	50	24	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.43	23.00	1.14			-0.06	0.088	0.100
	LTE Band 25	20M	QPSK	1	49	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.90	24.00	1.288			0.09	0.127	0.164
	LTE Band 25	20M	QPSK	50	24	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	Sample1	22.43	23.00	1.14			-0.14	0.085	0.097
09	LTE Band 2	20M	QPSK	1	49	Right Cheek	0mm	Ant 0_PA_ Reference Designator	DSI 2	18900	1880	Sample1	23.05	24.00	1.245			0.12	0.187	0.233
	LTE Band 2	20M	QPSK	1	49	Right Cheek	0mm	Ant 0_PA_ Reference Designator	DSI 2	18900	1880	Sample2	23.05	24.00	1.245			-0.13	0.146	0.182
	LTE Band 2C	20M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	18700+18898	1860+1879.8	Sample1	22.89	24.00	1.291			-0.07	0.175	0.226
	LTE Band 26	15M	QPSK	1	37	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	Sample1	22.64	24.00	1.368			0.04	0.161	0.220
	LTE Band 26	15M	QPSK	36	20	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	Sample1	21.71	23.00	1.346			0.10	0.095	0.128
	LTE Band 26	15M	QPSK	1	37	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	Sample1	22.64	24.00	1.368			-0.02	0.084	0.115
	LTE Band 26	15M	QPSK	36	20	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	Sample1	21.71	23.00	1.346			-0.16	0.047	0.063
	LTE Band 26	15M	QPSK	1	37	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	Sample1	22.64	24.00	1.368			0.04	0.162	0.222
	LTE Band 26	15M	QPSK	36	20	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	Sample1	21.71	23.00	1.346			0.02	0.093	0.125
	LTE Band 26	15M	QPSK	1	37	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	Sample1	22.64	24.00	1.368			0.02	0.089	0.122
	LTE Band 26	15M	QPSK	36	20	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	Sample1	21.71	23.00	1.346			0.09	0.046	0.062
10	LTE Band 26	15M	QPSK	1	37	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.20	22.00	1.514			0.05	0.553	0.837
	LTE Band 26	15M	QPSK	36	20	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.18	22.00	1.521			0.07	0.512	0.779
	LTE Band 26	15M	QPSK	75	0	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.15	22.00	1.531			0.13	0.514	0.787
	LTE Band 26	15M	QPSK	1	37	Right Tilted	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.20	22.00	1.514			-0.07	0.462	0.699
	LTE Band 26	15M	QPSK	36	20	Right Tilted	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.18	22.00	1.521			-0.01	0.432	0.657
	LTE Band 26	15M	QPSK	1	37	Left Cheek	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.20	22.00	1.514			0.03	0.394	0.597
	LTE Band 26	15M	QPSK	36	20	Left Cheek	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.18	22.00	1.521			0.18	0.355	0.540
	LTE Band 26	15M	QPSK	1	37	Left Tilted	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.20	22.00	1.514			0.01	0.325	0.492
	LTE Band 26	15M	QPSK	36	20	Left Tilted	0mm	Ant 4	DSI 2	26865	831.5	Sample1	20.18	22.00	1.521			-0.16	0.279	0.424
	LTE Band 5	10M	QPSK	1	25	Right Cheek	0mm	Ant 4_PA_ Reference Designator	DSI 2	20525	836.5	Sample1	20.82	22.00	1.312			0.05	0.565	0.741
	LTE Band 66	20M	QPSK	1	49	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	Sample1	23.28	24.00	1.18			0.06	0.127	0.150
	LTE Band 66	20M	QPSK	50	24	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	Sample1	22.22	23.00	1.197			-0.08	0.105	0.126
	LTE Band 66	20M	QPSK	1	49	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	Sample1	23.28	24.00	1.18			0.17	0.083	0.098
	LTE Band 66	20M	QPSK	50	24	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	Sample1	22.22	23.00	1.197			0.00	0.051	0.061
	LTE Band 66	20M	QPSK	1	49	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	Sample1	23.28	24.00	1.18			-0.03	0.095	0.112
	LTE Band 66	20M	QPSK	50	24	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	Sample1	22.22	23.00	1.197			-0.12	0.058	0.069
	LTE Band 66	20M	QPSK	1	49	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	Sample1	23.28	24.00	1.18			0.00	0.088	0.104
	LTE Band 66	20M	QPSK	50	24	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	Sample1	22.22	23.00	1.197			0.18	0.054	0.065
	LTE Band 66	20M	QPSK	1	49	Right Cheek	0mm	Ant 0_PA_ Reference Designator	DSI 2	132322	1745	Sample1	22.83	24.00	1.309			0.13	0.136	0.178
	LTE Band 66C	20M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	132322+132124	1745+1725.2	Sample1	23.10	24.00	1.23			-0.02	0.134	0.165
	LTE Band 66	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.15	15.50	1.365			0.02	0.344	0.470
	LTE Band 66	20M	QPSK	50	24	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.12	15.50	1.374			0.18	0.318	0.437
	LTE Band 66	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.15	15.50	1.365			0.15	0.383	0.523
	LTE Band 66	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.12	15.50	1.374			0.02	0.430	0.591
	LTE Band 66	20M	QPSK	1	49	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.15	15.50	1.365			0.07	0.260	0.355
	LTE Band 66	20M	QPSK	50	24	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.12	15.50	1.374			-0.08	0.244	0.335
	LTE Band 66	20M	QPSK	1	49	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.15	15.50	1.365			-0.18	0.296	0.404
	LTE Band 66	20M	QPSK	50	24	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	Sample1	14.12	15.50	1.374			0.16	0.302	0.415
11	LTE Band 66	20M	QPSK	1	49	Right Tilted	0mm	Ant 4_PA_ Reference Designator	DSI 2	132322	1745	Sample1	14.75	15.50	1.189			0.15	0.598	0.711
	LTE Band 66C	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	132322+132124	1745+1725.2	Sample1	13.96	15.50	1.426			-0.14	0.495	0.706
	LTE Band 38	20M	QPSK	1	49	Right Cheek	0mm	Ant 1	DSI 2	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.01	0.125	0.185
	LTE Band 38	20M	QPSK	50	24	Right Cheek	0mm	Ant 1	DSI 2	38000	2595	Sample1	21.39	23.00	1.449	62.9	1.006	0.08	0.122	0.178
	LTE Band 38	20M	QPSK	1	49	Right Tilted	0mm	Ant 1	DSI 2	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.02	0.098	0.145
	LTE Band 38	20M	QPSK	50	24	Right Tilted	0mm	Ant 1	DSI 2	38000	2595	Sample1	21.39	23.00	1.449	62.9	1.006	0.08	0.104	0.152
12	LTE Band 38	20M	QPSK	1	49	Left Cheek	0mm	Ant 1	DSI 2	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.05	0.241	0.356
	LTE Band 38	20M	QPSK	50	24	Left Cheek	0mm	Ant 1	DSI 2	38000	2595	Sample1	21.39	23.00	1.449	62.9	1.006	0.18	0.228	0.332



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	LTE Band 38	20M	QPSK	1	49	Left Tilted	0mm	Ant 1	DSI 2	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.13	0.056	0.083
	LTE Band 38	20M	QPSK	50	24	Left Tilted	0mm	Ant 1	DSI 2	38000	2595	Sample1	21.39	23.00	1.449	62.9	1.006	0.01	0.044	0.064
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.68	20.00	1.076	62.9	1.006	0.06	0.554	0.600
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	39750	2506	Sample1	19.32	20.00	1.169	62.9	1.006	0.05	0.519	0.610
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	40185	2549.5	Sample1	19.50	20.00	1.122	62.9	1.006	0.00	0.531	0.599
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	41055	2636.5	Sample1	19.67	20.00	1.079	62.9	1.006	-0.05	0.411	0.446
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	Ant 4	DSI 2	41490	2680	Sample1	19.61	20.00	1.094	62.9	1.006	0.13	0.322	0.354
	LTE Band 41	20M	QPSK	50	24	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.66	20.00	1.081	62.9	1.006	0.02	0.468	0.509
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.68	20.00	1.076	62.9	1.006	0.09	0.630	0.682
13	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	39750	2506	Sample1	19.32	20.00	1.169	62.9	1.006	-0.07	0.711	0.836
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	40185	2549.5	Sample1	19.50	20.00	1.122	62.9	1.006	0.08	0.698	0.788
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	41055	2636.5	Sample1	19.67	20.00	1.079	62.9	1.006	0.04	0.535	0.581
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	41490	2680	Sample1	19.61	20.00	1.094	62.9	1.006	0.12	0.408	0.449
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.66	20.00	1.081	62.9	1.006	-0.18	0.649	0.706
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	39750	2506	Sample1	19.30	20.00	1.175	62.9	1.006	-0.07	0.599	0.708
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	40185	2549.5	Sample1	19.42	20.00	1.143	62.9	1.006	0.12	0.609	0.700
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	41055	2636.5	Sample1	19.61	20.00	1.094	62.9	1.006	0.11	0.467	0.514
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	Ant 4	DSI 2	41490	2680	Sample1	19.59	20.00	1.099	62.9	1.006	-0.16	0.365	0.404
	LTE Band 41	20M	QPSK	100	0	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.64	20.00	1.086	62.9	1.006	-0.18	0.633	0.692
	LTE Band 41	20M	QPSK	1	49	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.68	20.00	1.076	62.9	1.006	0.00	0.197	0.213
	LTE Band 41	20M	QPSK	50	24	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.66	20.00	1.081	62.9	1.006	-0.16	0.180	0.196
	LTE Band 41	20M	QPSK	1	49	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.68	20.00	1.076	62.9	1.006	0.05	0.246	0.266
	LTE Band 41	20M	QPSK	50	24	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	Sample1	19.66	20.00	1.081	62.9	1.006	-0.06	0.237	0.258
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	Ant 4	DSI 2	39750	2506	Sample2	19.32	20.00	1.169	62.9	1.006	0.08	0.578	0.680
	LTE Band 42	20M	QPSK	1	49	Right Cheek	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.11	18.00	1.227	62.9	1.006	-0.19	0.321	0.396
	LTE Band 42	20M	QPSK	50	24	Right Cheek	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.08	18.00	1.236	62.9	1.006	-0.10	0.295	0.367
	LTE Band 42	20M	QPSK	1	49	Right Tilted	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.11	18.00	1.227	62.9	1.006	0.16	0.310	0.383
	LTE Band 42	20M	QPSK	50	24	Right Tilted	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.08	18.00	1.236	62.9	1.006	-0.16	0.288	0.358
14	LTE Band 42	20M	QPSK	1	49	Left Cheek	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.11	18.00	1.227	62.9	1.006	-0.02	0.504	0.622
	LTE Band 42	20M	QPSK	50	24	Left Cheek	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.08	18.00	1.236	62.9	1.006	0.16	0.443	0.551
	LTE Band 42	20M	QPSK	1	49	Left Tilted	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.11	18.00	1.227	62.9	1.006	0.07	0.417	0.515
	LTE Band 42	20M	QPSK	50	24	Left Tilted	0mm	Ant 5	DSI 2	42590	3500	Sample1	17.08	18.00	1.236	62.9	1.006	0.02	0.382	0.475
	LTE Band 42C	20M	QPSK	1	0	Left Cheek	0mm	Ant 5	DSI 2	42990+42792	3540+3520.2	Sample1	16.55	18.00	1.396	62.9	1.006	0.19	0.373	0.524

[FR1 SAR]

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
	FR1 n2	40M	QPSK	1	1	Right Cheek	0mm	Ant 0	DSI 2	376000	1880	Sample1	23.34	24.00	1.164			0.01	0.121	0.141
	FR1 n2	40M	QPSK	108	54	Right Cheek	0mm	Ant 0	DSI 2	376000	1880	Sample1	22.91	24.00	1.285			0.16	0.122	0.157
	FR1 n2	40M	QPSK	1	1	Right Tilted	0mm	Ant 0	DSI 2	376000	1880	Sample1	23.34	24.00	1.164			0.01	0.086	0.100
	FR1 n2	40M	QPSK	108	54	Right Tilted	0mm	Ant 0	DSI 2	376000	1880	Sample1	22.91	24.00	1.285			0.02	0.084	0.108
	FR1 n2	40M	QPSK	1	1	Left Cheek	0mm	Ant 0	DSI 2	376000	1880	Sample1	23.34	24.00	1.164			-0.19	0.091	0.106
	FR1 n2	40M	QPSK	108	54	Left Cheek	0mm	Ant 0	DSI 2	376000	1880	Sample1	22.91	24.00	1.285			0.04	0.091	0.117
	FR1 n2	40M	QPSK	1	1	Left Tilted	0mm	Ant 0	DSI 2	376000	1880	Sample1	23.34	24.00	1.164			0.13	0.099	0.115
	FR1 n2	40M	QPSK	108	54	Left Tilted	0mm	Ant 0	DSI 2	376000	1880	Sample1	22.91	24.00	1.285			-0.06	0.086	0.111
	FR1 n2	40M	QPSK	108	54	Right Cheek	0mm	Ant 0_PA Reference Designator	DSI 2	376000	1880	Sample1	23.22	24.00	1.197			0.15	0.115	0.138
	FR1 n2	40M	QPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.41	16.00	1.146			-0.02	0.537	0.615
	FR1 n2	40M	QPSK	108	54	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.39	16.00	1.151			-0.15	0.468	0.539
15	FR1 n2	40M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.41	16.00	1.146			-0.17	0.746	0.855
	FR1 n2	40M	QPSK	108	54	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.39	16.00	1.151			-0.09	0.671	0.772
	FR1 n2	40M	QPSK	216	0	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.38	16.00	1.153			-0.17	0.676	0.779
	FR1 n2	40M	QPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.41	16.00	1.146			0.01	0.312	0.358
	FR1 n2	40M	QPSK	108	54	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.39	16.00	1.151			0.10	0.275	0.317
	FR1 n2	40M	QPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.41	16.00	1.146			0.06	0.375	0.430
	FR1 n2	40M	QPSK	108	54	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample1	15.39	16.00	1.151			0.05	0.332	0.382
	FR1 n2	40M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	Sample2	15.41	16.00	1.146			-0.10	0.594	0.681
	FR1 n7	50M	QPSK	1	1	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	Sample1	23.08	24.00	1.236			0.17	0.189	0.234
	FR1 n7	50M	QPSK	135	68	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	Sample1	22.88	24.00	1.294			-0.17	0.217	0.281
	FR1 n7	50M	QPSK	1	1	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	Sample1	23.08	24.00	1.236			0.12	0.204	0.252
	FR1 n7	50M	QPSK	135	68	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	Sample1	22.88	24.00	1.294			-0.13	0.221	0.286
	FR1 n7	50M	QPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	Sample1	23.08	24.00	1.236			0.15	0.321	0.397
	FR1 n7	50M	QPSK	135	68	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	Sample1	22.88	24.00	1.294			0.01	0.364	0.471
	FR1 n7	50M	QPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	Sample1	23.08	24.00	1.236			0.06	0.119	0.147
	FR1 n7	50M	QPSK	135	68	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	Sample1	22.88	24.00	1.294			0.16	0.126	0.163
	FR1 n7	40M	QPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.72	17.50	1.197			0.16	0.465	0.557
	FR1 n7	40M	QPSK	108	54	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.69	17.50	1.205			0.03	0.461	0.556
	FR1 n7	40M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.72	17.50	1.197			-0.17	0.643	0.770
16	FR1 n7	40M	QPSK	108	54	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.69	17.50	1.205			-0.08	0.648	0.781
	FR1 n7	40M	QPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.72	17.50	1.197			0.14	0.215	0.257



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	FR1 n7	40M	QPSK	108	54	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.69	17.50	1.205			-0.10	0.215	0.259
	FR1 n7	40M	QPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.72	17.50	1.197			-0.18	0.325	0.389
	FR1 n7	40M	QPSK	108	54	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	Sample1	16.69	17.50	1.205			-0.03	0.319	0.384
	FR1 n26	20M	QPSK	1	1	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.72	24.00	1.343			0.06	0.142	0.191
	FR1 n26	20M	QPSK	50	28	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.69	24.00	1.352			-0.07	0.160	0.216
	FR1 n26	20M	QPSK	1	1	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.72	24.00	1.343			-0.08	0.070	0.094
	FR1 n26	20M	QPSK	50	28	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.69	24.00	1.352			-0.10	0.079	0.107
	FR1 n26	20M	QPSK	1	1	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.72	24.00	1.343			0.07	0.132	0.177
	FR1 n26	20M	QPSK	50	28	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.69	24.00	1.352			0.05	0.156	0.211
	FR1 n26	20M	QPSK	1	1	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.72	24.00	1.343			-0.13	0.069	0.093
	FR1 n26	20M	QPSK	50	28	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	Sample1	22.69	24.00	1.352			-0.09	0.078	0.105
	FR1 n26	20M	QPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.63	22.00	1.371			0.09	0.556	0.762
17	FR1 n26	20M	QPSK	50	28	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.62	22.00	1.374			0.08	0.633	0.870
	FR1 n26	20M	QPSK	100	0	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.60	22.00	1.38			-0.18	0.503	0.694
	FR1 n26	20M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.63	22.00	1.371			0.13	0.443	0.607
	FR1 n26	20M	QPSK	50	28	Right Tilted	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.62	22.00	1.374			0.02	0.585	0.804
	FR1 n26	20M	QPSK	100	0	Right Tilted	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.60	22.00	1.38			0.17	0.584	0.806
	FR1 n26	20M	QPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.63	22.00	1.371			-0.10	0.369	0.506
	FR1 n26	20M	QPSK	50	28	Left Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.62	22.00	1.374			-0.17	0.437	0.600
	FR1 n26	20M	QPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.63	22.00	1.371			0.17	0.296	0.406
	FR1 n26	20M	QPSK	50	28	Left Tilted	0mm	Ant 4	DSI 2	166300	831.5	Sample1	20.62	22.00	1.374			-0.19	0.355	0.488
	FR1 n26	20M	QPSK	50	28	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	Sample2	20.62	22.00	1.374			-0.06	0.554	0.761
	FR1 n66	40M	QPSK	1	1	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.11	24.00	1.227			0.16	0.109	0.134
	FR1 n66	40M	QPSK	108	54	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.03	24.00	1.25			0.06	0.114	0.143
	FR1 n66	40M	QPSK	1	1	Right Tilted	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.11	24.00	1.227			-0.03	0.069	0.085
	FR1 n66	40M	QPSK	108	54	Right Tilted	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.03	24.00	1.25			0.07	0.077	0.096
	FR1 n66	40M	QPSK	1	1	Left Cheek	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.11	24.00	1.227			0.11	0.071	0.087
	FR1 n66	40M	QPSK	108	54	Left Cheek	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.03	24.00	1.25			-0.01	0.073	0.091
	FR1 n66	40M	QPSK	1	1	Left Tilted	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.11	24.00	1.227			-0.13	0.068	0.083
	FR1 n66	40M	QPSK	108	54	Left Tilted	0mm	Ant 0	DSI 2	349000	1745	Sample1	23.03	24.00	1.25			-0.03	0.079	0.099
	FR1 n66	40M	QPSK	108	54	Right Cheek	0mm	Ant 0_PA Reference Designator	DSI 2	349000	1745	Sample1	23.04	24.00	1.247			0.17	0.135	0.168
	FR1 n66	40M	QPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.85	16.50	1.161			-0.08	0.317	0.368
	FR1 n66	40M	QPSK	108	54	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.83	16.50	1.167			-0.02	0.522	0.609
	FR1 n66	40M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.85	16.50	1.161			0.04	0.553	0.642
	FR1 n66	40M	QPSK	108	54	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.83	16.50	1.167			-0.06	0.455	0.531
	FR1 n66	40M	QPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.85	16.50	1.161			-0.11	0.460	0.534
	FR1 n66	40M	QPSK	108	54	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.83	16.50	1.167			-0.06	0.371	0.433
	FR1 n66	40M	QPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.85	16.50	1.161			-0.00	0.492	0.571
	FR1 n66	40M	QPSK	108	54	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	Sample1	15.83	16.50	1.167			0.00	0.483	0.564
18	FR1 n66	40M	QPSK	108	54	Right Cheek	0mm	Ant 4_PA Reference Designator	DSI 2	349000	1745	Sample1	15.83	16.50	1.167			0.08	0.560	0.654
19	FR1 n41	100M	QPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.10	18.00	1.23			0.03	0.500	0.615
	FR1 n41	100M	QPSK	135	69	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.06	18.00	1.242			0.09	0.486	0.604
	FR1 n41	100M	QPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.10	18.00	1.23			0.17	0.454	0.558
	FR1 n41	100M	QPSK	135	69	Right Tilted	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.06	18.00	1.242			-0.10	0.439	0.545
	FR1 n41	100M	QPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.10	18.00	1.23			-0.16	0.235	0.289
	FR1 n41	100M	QPSK	135	69	Left Cheek	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.06	18.00	1.242			0.05	0.222	0.276
	FR1 n41	100M	QPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.10	18.00	1.23			0.00	0.334	0.411
	FR1 n41	100M	QPSK	135	69	Left Tilted	0mm	Ant 4	DSI 2	518598	2592.99	Sample1	17.06	18.00	1.242			-0.12	0.308	0.383
	FR1 n77	100M	QPSK	1	1	Right Cheek	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.47	20.00	1.422			0.00	0.001	0.001
	FR1 n77	100M	QPSK	135	69	Right Cheek	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.32	20.00	1.472			-0.19	0.001	0.001
	FR1 n77	100M	QPSK	1	1	Right Tilted	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.47	20.00	1.422			-0.16	0.012	0.017
	FR1 n77	100M	QPSK	135	69	Right Tilted	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.32	20.00	1.472			-0.17	0.010	0.015
	FR1 n77	100M	QPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.47	20.00	1.422			0.00	0.001	0.001
	FR1 n77	100M	QPSK	135	69	Left Cheek	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.32	20.00	1.472			0.04	0.001	0.001
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.47	20.00	1.422			0.19	0.036	0.051
	FR1 n77	100M	QPSK	135	69	Left Tilted	0mm	Ant 1	DSI 2	656000	3840	Sample1	18.32	20.00	1.472			-0.14	0.030	0.044
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	656000	3840	Sample2	18.47	20.00	1.422			-0.09	0.032	0.046
	FR1 n77	100M	QPSK	1	1	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.39	22.00	1.449			-0.18	0.053	0.077
	FR1 n77	100M	QPSK	135	69	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.34	22.00	1.466			-0.09	0.052	0.076
	FR1 n77	100M	QPSK	1	1	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.39	22.00	1.449			-0.04	0.050	0.072
	FR1 n77	100M	QPSK	135	69	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.34	22.00	1.466			0.18	0.043	0.063
	FR1 n77	100M	QPSK	1	1	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.39	22.00	1.449			-0.07	0.026	0.038
	FR1 n77	100M	QPSK	135	69	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.34	22.00	1.466			0.07	0.026	0.038
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.39	22.00	1.449			0.11	0.058	0.084
	FR1 n77	100M	QPSK	135	69	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	Sample1	20.34	22.00	1.466			-0.06	0.038	0.056
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	Sample2	20.39	22.00	1.449			0.03	0.055	0.080
	FR1 n77	100M	QPSK	1	1	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.58	15.50	1.236			-0.13	0.364	0.450
	FR1 n77	100M	QPSK	135	69	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.56	15.50	1.242			0.14	0.338	0.420
	FR1 n77	100M	QPSK	1	1	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.58	15.50	1.236			0.05	0.398	0.492
	FR1 n77	100M	QPSK	135	69	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.56	15.50	1.242			0.04		



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20	FR1 n77	100M	QPSK	1	1	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.58	15.50	1.236		0.03	0.543	0.671
	FR1 n77	100M	QPSK	135	69	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.56	15.50	1.242		0.12	0.501	0.622
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.58	15.50	1.236		-0.10	0.524	0.648
	FR1 n77	100M	QPSK	135	69	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	Sample1	14.56	15.50	1.242		-0.10	0.499	0.620
	FR1 n77	100M	QPSK	1	1	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	Sample2	14.58	15.50	1.236		-0.15	0.375	0.464
	FR1 n77	100M	QPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.11	23.00	1.545		0.10	0.107	0.165
	FR1 n77	100M	QPSK	135	69	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.00	23.00	1.585		0.15	0.093	0.147
	FR1 n77	100M	QPSK	1	1	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.11	23.00	1.545		0.10	0.098	0.151
	FR1 n77	100M	QPSK	135	69	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.00	23.00	1.585		-0.08	0.089	0.141
	FR1 n77	100M	QPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.11	23.00	1.545		0.03	0.137	0.212
	FR1 n77	100M	QPSK	135	69	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.00	23.00	1.585		0.12	0.130	0.206
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.11	23.00	1.545		-0.13	0.196	0.303
	FR1 n77	100M	QPSK	135	69	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	Sample1	21.00	23.00	1.585		-0.11	0.172	0.273
	FR1 n77	100M	QPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	Sample2	21.11	23.00	1.545		-0.08	0.204	0.315

[WLAN 2.4GHz_5GHz SAR]

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	Ant 6	Head Standalone	6	2437	Sample1	17.77	18.50	1.183	98.63	1.014	0.03	0.327	0.392
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	Head Standalone	6	2437	Sample1	17.77	18.50	1.183	98.63	1.014	-0.01	0.365	0.438
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Head Standalone	6	2437	Sample1	17.77	18.50	1.183	98.63	1.014	-0.13	0.702	0.842
21	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Head Standalone	1	2412	Sample1	17.34	18.50	1.306	98.63	1.014	-0.01	0.715	0.947
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Head Standalone	1	2412	Sample2	17.34	18.50	1.306	98.63	1.014	0.16	0.651	0.862
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Head Standalone	11	2462	Sample1	17.01	18.50	1.409	98.63	1.014	-0.12	0.588	0.840
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Head Standalone	6	2437	Sample1	17.77	18.50	1.183	98.63	1.014	-0.05	0.619	0.743
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	Head Simultaneous	6	2437	Sample1	15.93	16.50	1.14	98.63	1.014	-0.05	0.203	0.235
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	Head Simultaneous	6	2437	Sample1	15.93	16.50	1.14	98.63	1.014	0.04	0.265	0.306
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Head Simultaneous	6	2437	Sample1	15.93	16.50	1.14	98.63	1.014	-0.04	0.510	0.590
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Head Simultaneous	6	2437	Sample1	15.93	16.50	1.14	98.63	1.014	0.09	0.384	0.444
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 6	Head Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.06	0.393	0.461
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 6	Head Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.10	0.459	0.538
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 6	Head Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.08	0.590	0.692
22	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 6	Head Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.09	0.647	0.759
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Head Simultaneous	58	5290	Sample1	13.51	14.50	1.256	92.62	1.08	0.10	0.049	0.066
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Head Simultaneous	58	5290	Sample1	13.51	14.50	1.256	92.62	1.08	0.07	0.163	0.221
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Head Simultaneous	58	5290	Sample1	13.51	14.50	1.256	92.62	1.08	0.05	0.126	0.171
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Simultaneous	58	5290	Sample1	13.51	14.50	1.256	92.62	1.08	0.10	0.191	0.259
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Head Standalone	106	5530	Sample1	13.84	14.50	1.164	92.62	1.08	0.01	0.291	0.366
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Head Standalone	106	5530	Sample1	13.84	14.50	1.164	92.62	1.08	0.09	0.319	0.401
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Head Standalone	106	5530	Sample1	13.84	14.50	1.164	92.62	1.08	-0.04	0.314	0.395
23	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Standalone	106	5530	Sample1	13.84	14.50	1.164	92.62	1.08	-0.08	0.438	0.551
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Head Simultaneous	106	5530	Sample1	11.52	12.50	1.253	92.62	1.08	0.16	0.211	0.286
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Head Simultaneous	106	5530	Sample1	11.52	12.50	1.253	92.62	1.08	0.03	0.232	0.314
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Head Simultaneous	106	5530	Sample1	11.52	12.50	1.253	92.62	1.08	-0.17	0.228	0.309
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Simultaneous	106	5530	Sample1	11.52	12.50	1.253	92.62	1.08	0.04	0.296	0.401
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Head Standalone	155	5775	Sample1	13.63	15.00	1.371	92.62	1.08	0.11	0.612	0.906
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Head Standalone	155	5775	Sample1	13.63	15.00	1.371	92.62	1.08	0.11	0.742	1.099
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Head Standalone	155	5775	Sample1	13.63	15.00	1.371	92.62	1.08	0.04	0.687	1.017
24	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Standalone	155	5775	Sample1	13.63	15.00	1.371	92.62	1.08	0.11	0.778	1.152
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Standalone	155	5775	Sample2	13.63	15.00	1.371	92.62	1.08	-0.09	0.583	0.863
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 6	Head Simultaneous	155	5775	Sample1	8.59	10.00	1.384	92.62	1.08	0.11	0.195	0.291
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 6	Head Simultaneous	155	5775	Sample1	8.59	10.00	1.384	92.62	1.08	0.15	0.201	0.300
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 6	Head Simultaneous	155	5775	Sample1	8.59	10.00	1.384	92.62	1.08	0.17	0.216	0.323
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 6	Head Simultaneous	155	5775	Sample1	8.59	10.00	1.384	92.62	1.08	0.16	0.225	0.336

[Bluetooth SAR]

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.02	0.059	0.069
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.05	0.080	0.093
25	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.01	0.167	0.194
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.16	0.128	0.149



15.2 Hotspot SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
26	GSM850	GPRS 4 Tx slots	Front	5mm	Ant 0	DSI 7	251	848.8	Sample1	26.45	27.50	1.274	0.06	0.314	0.400
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 7	251	848.8	Sample1	26.45	27.50	1.274	-0.11	0.893	1.138
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 7	128	824.2	Sample1	25.99	27.50	1.416	0.12	0.704	0.997
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 7	189	836.4	Sample1	25.97	27.50	1.422	-0.04	0.769	1.094
	GSM850	GPRS 4 Tx slots	Left Edge	5mm	Ant 0	DSI 7	251	848.8	Sample1	26.45	27.50	1.274	0.00	0.136	0.173
	GSM850	GPRS 4 Tx slots	Right Edge	5mm	Ant 0	DSI 7	251	848.8	Sample1	26.45	27.50	1.274	0.09	0.214	0.273
	GSM850	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	251	848.8	Sample1	26.45	27.50	1.274	-0.18	0.646	0.823
	GSM850	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	128	824.2	Sample1	25.99	27.50	1.416	0.01	0.577	0.817
	GSM850	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	189	836.4	Sample1	25.97	27.50	1.422	0.06	0.547	0.778
	GSM1900	GPRS 4 Tx slots	Front	5mm	Ant 0	DSI 7	810	1909.8	Sample1	19.83	21.00	1.309	-0.06	0.251	0.329
27	GSM1900	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 7	810	1909.8	Sample1	19.83	21.00	1.309	-0.14	0.467	0.611
	GSM1900	GPRS 4 Tx slots	Left Edge	5mm	Ant 0	DSI 7	810	1909.8	Sample1	19.83	21.00	1.309	-0.13	0.073	0.096
	GSM1900	GPRS 4 Tx slots	Right Edge	5mm	Ant 0	DSI 7	810	1909.8	Sample1	19.83	21.00	1.309	-0.11	0.074	0.097
	GSM1900	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	810	1909.8	Sample1	19.83	21.00	1.309	0.09	0.914	1.196
	GSM1900	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	512	1850.2	Sample1	19.13	21.00	1.538	-0.03	0.671	1.032
	GSM1900	GPRS 4 Tx slots	Bottom Edge	5mm	Ant 0	DSI 7	661	1880	Sample1	19.74	21.00	1.337	-0.10	0.787	1.052

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
28	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	9400	1880	Sample1	17.43	18.00	1.14	0.02	0.186	0.212
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	9400	1880	Sample1	17.43	18.00	1.14	0.04	0.552	0.629
	WCDMA II	RMC 12.2Kbps	Left Edge	5mm	Ant 0	DSI 7	9400	1880	Sample1	17.43	18.00	1.14	-0.07	0.079	0.090
	WCDMA II	RMC 12.2Kbps	Right Edge	5mm	Ant 0	DSI 7	9400	1880	Sample1	17.43	18.00	1.14	-0.06	0.107	0.122
	WCDMA II	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	9400	1880	Sample1	17.43	18.00	1.14	0.10	0.808	0.921
	WCDMA II	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	9262	1852.4	Sample1	17.33	18.00	1.167	0.05	0.758	0.885
	WCDMA II	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	9538	1907.6	Sample1	17.42	18.00	1.143	-0.06	0.887	1.014
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1413	1732.6	Sample1	17.49	18.50	1.262	-0.01	0.232	0.293
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1413	1732.6	Sample1	17.49	18.50	1.262	-0.03	0.368	0.464
	WCDMA IV	RMC 12.2Kbps	Left Edge	5mm	Ant 0	DSI 7	1413	1732.6	Sample1	17.49	18.50	1.262	-0.09	0.073	0.092
29	WCDMA IV	RMC 12.2Kbps	Right Edge	5mm	Ant 0	DSI 7	1413	1732.6	Sample1	17.49	18.50	1.262	-0.14	0.073	0.092
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	1413	1732.6	Sample1	17.49	18.50	1.262	-0.14	0.861	1.087
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	1312	1712.4	Sample1	17.42	18.50	1.282	-0.14	0.793	1.017
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	1513	1752.6	Sample1	17.47	18.50	1.268	-0.12	0.906	1.149
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	Sample1	22.50	23.50	1.259	-0.03	0.453	0.570
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	Sample1	22.50	23.50	1.259	-0.02	0.856	1.078
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4132	826.4	Sample1	22.48	23.50	1.265	-0.11	0.724	0.916
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	Sample1	22.40	23.50	1.288	-0.05	0.949	1.222
	WCDMA V	RMC 12.2Kbps	Left Edge	5mm	Ant 0	DSI 7	4182	836.4	Sample1	22.50	23.50	1.259	-0.05	0.175	0.220
	WCDMA V	RMC 12.2Kbps	Right Edge	5mm	Ant 0	DSI 7	4182	836.4	Sample1	22.50	23.50	1.259	-0.04	0.393	0.495
30	WCDMA V	RMC 12.2Kbps	Bottom Edge	5mm	Ant 0	DSI 7	4182	836.4	Sample1	22.50	23.50	1.259	0.08	0.564	0.710
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	Sample2	22.40	23.50	1.288	-0.09	0.817	1.052

【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
31	LTE Band 7	20M	QPSK	1	49	Front	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.68	20.00	1.355			-0.07	0.487	0.660
	LTE Band 7	20M	QPSK	50	24	Front	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.66	20.00	1.361			-0.06	0.441	0.600
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.68	20.00	1.355			0.02	0.859	1.164
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 7	20850	2510	Sample1	18.56	20.00	1.393			0.02	0.862	1.201
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 7	21350	2560	Sample1	18.63	20.00	1.371			0.05	0.932	1.278
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.66	20.00	1.361			-0.08	0.815	1.109
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 7	20850	2510	Sample1	18.52	20.00	1.406			-0.05	0.753	1.059
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 7	21350	2560	Sample1	18.60	20.00	1.38			-0.06	0.834	1.151
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.60	20.00	1.38			-0.15	0.744	1.027
	LTE Band 7	20M	QPSK	1	49	Left Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.68	20.00	1.355			-0.06	0.471	0.638
32	LTE Band 7	20M	QPSK	50	24	Left Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.66	20.00	1.361			0.06	0.391	0.532
	LTE Band 7	20M	QPSK	1	49	Right Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.68	20.00	1.355			-0.11	0.001	0.001
	LTE Band 7	20M	QPSK	50	24	Right Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.66	20.00	1.361			-0.07	0.001	0.001
	LTE Band 7	20M	QPSK	1	49	Bottom Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.68	20.00	1.355			-0.08	0.586	0.794
	LTE Band 7	20M	QPSK	50	24	Bottom Edge	5mm	Ant 1	DSI 7	21100	2535	Sample1	18.66	20.00	1.361			-0.15	0.492	0.670
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 7	21350	2560	Sample2	18.63	20.00	1.371			-0.07	0.780	1.069
	LTE Band 7C	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	21350+21152	2560+2540.2	Sample1	18.75	20	1.334			0	0.880	1.174



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	LTE Band 7	20M	QPSK	1	49	Front	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.88	12.50	1.452			-0.13	0.087	0.126
	LTE Band 7	20M	QPSK	50	24	Front	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.83	12.50	1.469			0.18	0.080	0.118
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.88	12.50	1.452			0.02	0.409	0.594
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.83	12.50	1.469			0.09	0.349	0.513
	LTE Band 7	20M	QPSK	1	49	Left Edge	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.88	12.50	1.452			0.16	0.105	0.152
	LTE Band 7	20M	QPSK	50	24	Left Edge	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.83	12.50	1.469			-0.06	0.084	0.123
	LTE Band 7	20M	QPSK	1	49	Top Edge	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.88	12.50	1.452			0.17	0.332	0.482
	LTE Band 7	20M	QPSK	50	24	Top Edge	5mm	Ant 4	DSI 7	21100	2535	Sample1	10.83	12.50	1.469			-0.15	0.317	0.466
	LTE Band 12	10M	QPSK	1	25	Front	5mm	Ant 0	DSI 7	23095	707.5	Sample1	22.94	24.00	1.276			-0.07	0.318	0.406
	LTE Band 12	10M	QPSK	25	12	Front	5mm	Ant 0	DSI 7	23095	707.5	Sample1	21.82	23.00	1.312			0.07	0.167	0.219
32	LTE Band 12	10M	QPSK	1	25	Back	5mm	Ant 0	DSI 7	23095	707.5	Sample1	22.94	24.00	1.276			-0.06	0.625	0.798
	LTE Band 12	10M	QPSK	25	12	Back	5mm	Ant 0	DSI 7	23095	707.5	Sample1	21.82	23.00	1.312			-0.14	0.337	0.442
	LTE Band 12	10M	QPSK	1	25	Left Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	22.94	24.00	1.276			-0.03	0.204	0.260
	LTE Band 12	10M	QPSK	25	12	Left Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	21.82	23.00	1.312			-0.02	0.113	0.148
	LTE Band 12	10M	QPSK	1	25	Right Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	22.94	24.00	1.276			-0.03	0.551	0.703
	LTE Band 12	10M	QPSK	25	12	Right Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	21.82	23.00	1.312			0.08	0.260	0.341
	LTE Band 12	10M	QPSK	1	25	Bottom Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	22.94	24.00	1.276			-0.19	0.442	0.564
	LTE Band 12	10M	QPSK	25	12	Bottom Edge	5mm	Ant 0	DSI 7	23095	707.5	Sample1	21.82	23.00	1.312			-0.16	0.245	0.321
	LTE Band 12	10M	QPSK	1	25	Front	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.49	23.00	1.416			-0.01	0.171	0.242
	LTE Band 12	10M	QPSK	25	12	Front	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.45	22.00	1.135			0.17	0.093	0.106
	LTE Band 12	10M	QPSK	1	25	Back	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.49	23.00	1.416			-0.04	0.365	0.517
	LTE Band 12	10M	QPSK	25	12	Back	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.45	22.00	1.135			0.14	0.214	0.243
	LTE Band 12	10M	QPSK	1	25	Left Edge	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.49	23.00	1.416			-0.14	0.210	0.297
	LTE Band 12	10M	QPSK	25	12	Left Edge	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.45	22.00	1.135			-0.12	0.112	0.127
	LTE Band 12	10M	QPSK	1	25	Top Edge	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.49	23.00	1.416			0.05	0.189	0.268
	LTE Band 12	10M	QPSK	25	12	Top Edge	5mm	Ant 4	DSI 7	23095	707.5	Sample1	21.45	22.00	1.135			-0.17	0.112	0.127
	LTE Band 13	10M	QPSK	1	25	Front	5mm	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			-0.00	0.497	0.637
	LTE Band 13	10M	QPSK	25	12	Front	5mm	Ant 0	DSI 7	23230	782	Sample1	21.85	23.00	1.303			-0.13	0.287	0.374
	LTE Band 13	10M	QPSK	1	25	Back	5mm	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			0.00	0.899	1.153
	LTE Band 13	10M	QPSK	25	12	Back	5mm	Ant 0	DSI 7	23230	782	Sample1	21.85	23.00	1.303			0.12	0.645	0.840
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Ant 0	DSI 7	23230	782	Sample1	21.83	23.00	1.309			0.04	0.514	0.673
	LTE Band 13	10M	QPSK	1	25	Left Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			0.10	0.254	0.326
	LTE Band 13	10M	QPSK	25	12	Left Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	21.85	23.00	1.303			-0.02	0.141	0.184
	LTE Band 13	10M	QPSK	1	25	Right Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			0.01	0.606	0.777
	LTE Band 13	10M	QPSK	25	12	Right Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	21.85	23.00	1.303			-0.11	0.330	0.430
33	LTE Band 13	10M	QPSK	1	25	Bottom Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			-0.16	0.944	1.210
	LTE Band 13	10M	QPSK	25	12	Bottom Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	21.85	23.00	1.303			0.10	0.614	0.800
	LTE Band 13	10M	QPSK	50	0	Bottom Edge	5mm	Ant 0	DSI 7	23230	782	Sample1	21.83	23.00	1.309			-0.07	0.547	0.716
	LTE Band 13	10M	QPSK	1	25	Bottom Edge	5mm	Ant 0	DSI 7	23230	782	Sample2	22.92	24.00	1.282			0.07	0.818	1.049
	LTE Band 25	20M	QPSK	1	49	Front	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.20	18.00	1.202			-0.06	0.216	0.260
	LTE Band 25	20M	QPSK	50	24	Front	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.18	18.00	1.208			0.18	0.252	0.304
	LTE Band 25	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.20	18.00	1.202			-0.01	0.475	0.571
	LTE Band 25	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.18	18.00	1.208			0.19	0.509	0.615
	LTE Band 25	20M	QPSK	1	49	Left Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.20	18.00	1.202			-0.00	0.082	0.099
	LTE Band 25	20M	QPSK	50	24	Left Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.18	18.00	1.208			-0.17	0.089	0.108
	LTE Band 25	20M	QPSK	1	49	Right Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.20	18.00	1.202			-0.18	0.077	0.093
	LTE Band 25	20M	QPSK	50	24	Right Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.18	18.00	1.208			-0.16	0.076	0.092
	LTE Band 25	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.20	18.00	1.202			0.13	0.864	1.039
	LTE Band 25	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	26140	1860	Sample1	17.16	18.00	1.213			0.04	0.800	0.970
	LTE Band 25	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	26590	1905	Sample1	17.18	18.00	1.208			0.15	0.926	1.119
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.18	18.00	1.208			-0.19	0.888	1.073
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	26140	1860	Sample1	17.08	18.00	1.236			-0.09	0.910	1.125
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	26590	1905	Sample1	17.15	18.00	1.216			-0.12	0.928	1.128
	LTE Band 25	20M	QPSK	100	0	Bottom Edge	5mm	Ant 0	DSI 7	26340	1880	Sample1	17.16	18.00	1.213			0.00	0.866	1.050
34	LTE Band 2	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0_PA Reference Designator	DSI 7	18900	1880	Sample1	17.07	18.00	1.239			0.14	0.938	1.162
	LTE Band 2C	20M	QPSK	1	0	Bottom Edge	5mm	Ant 0	DSI 7	18700+18898	1860+1879.8	Sample1	16.67	18.00	1.358			-0.03	0.810	1.100
	LTE Band 26	15M	QPSK	1	37	Front	5mm	Ant 0	DSI 7	26865	831.5	Sample1	22.64	24.00	1.368			-0.06	0.444	0.607
	LTE Band 26	15M	QPSK	36	20	Front	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.71	23.00	1.346			0.18	0.323	0.435
35	LTE Band 26	15M	QPSK	1	37	Back	5mm	Ant 0	DSI 7	26865	831.5	Sample1	22.64	24.00	1.368			-0.03	0.847	1.159
	LTE Band 26	15M	QPSK	36	20	Back	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.71	23.00	1.346			-0.11	0.561	0.755
	LTE Band 26	15M	QPSK	75	0	Back	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.66	23.00	1.361			0.17	0.564	0.768
	LTE Band 26	15M	QPSK	1	37	Left Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	22.64	24.00	1.368			0.02	0.177	0.242
	LTE Band 26	15M	QPSK	36	20	Left Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.71	23.00	1.346			-0.01	0.133	0.179
	LTE Band 26	15M	QPSK	1	37	Right Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	22.64	24.00	1.368			-0.03	0.427	0.584
	LTE Band 26	15M	QPSK	36	20	Right Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.71	23.00	1.346			-0.03	0.311	0.419
	LTE Band 26	15M	QPSK	1	37	Bottom Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	22.64	24.00	1.368			0.09	0.494	0.676
	LTE Band 26	15M	QPSK	36	20	Bottom Edge	5mm	Ant 0	DSI 7	26865	831.5	Sample1	21.71	23.00	1.346			0.13	0.358	0.482
	LTE Band 26	15M	QPSK	1	37	Front	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.87	20.50	1.455			-0.02	0.215	0.313
	LTE Band 26	15M	QPSK	36	20	Front	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.85	20.50	1.462			0.10	0.205	0.300
	LTE Band 26	15M	QPSK	1	37	Back	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.87	20.50	1.455			-0.10	0.368	0.535
	LTE Band 26	15M	QPSK	36	20	Back	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.85	20.50	1.462			0.11	0.351	0.513
	LTE Band 26	15M	QPSK	1	37	Left Edge														



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	LTE Band 26	15M	QPSK	36	20	Left Edge	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.85	20.50	1.462			-0.07	0.075	0.110
	LTE Band 26	15M	QPSK	1	37	Top Edge	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.87	20.50	1.455			0.02	0.314	0.457
	LTE Band 26	15M	QPSK	36	20	Top Edge	5mm	Ant 4	DSI 7	26865	831.5	Sample1	18.85	20.50	1.462			-0.04	0.305	0.446
	LTE Band 5	10M	QPSK	1	25	Back	5mm	Ant 4_PA Reference Designator	DSI 7	20525	836.5	Sample1	19.24	20.50	1.337			0.05	0.384	0.513
	LTE Band 66	20M	QPSK	1	49	Front	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.08	18.50	1.102			-0.18	0.221	0.244
	LTE Band 66	20M	QPSK	50	24	Front	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.05	18.50	1.109			-0.15	0.209	0.232
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.08	18.50	1.102			-0.14	0.546	0.602
	LTE Band 66	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.05	18.50	1.109			-0.19	0.525	0.582
	LTE Band 66	20M	QPSK	1	49	Left Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.08	18.50	1.102			0.09	0.072	0.079
	LTE Band 66	20M	QPSK	50	24	Left Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.05	18.50	1.109			-0.03	0.068	0.075
	LTE Band 66	20M	QPSK	1	49	Right Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.08	18.50	1.102			-0.11	0.083	0.091
	LTE Band 66	20M	QPSK	50	24	Right Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.05	18.50	1.109			0.11	0.079	0.088
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.08	18.50	1.102			-0.12	0.949	1.046
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	132072	1720	Sample1	18.00	18.50	1.122			-0.08	0.822	0.922
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0	DSI 7	132572	1770	Sample1	18.05	18.50	1.109			-0.12	1.000	1.109
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.05	18.50	1.109			0.10	0.890	0.987
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	132072	1720	Sample1	17.98	18.50	1.127			-0.04	0.869	0.979
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	5mm	Ant 0	DSI 7	132572	1770	Sample1	18.02	18.50	1.117			-0.02	0.934	1.043
	LTE Band 66	20M	QPSK	100	0	Bottom Edge	5mm	Ant 0	DSI 7	132322	1745	Sample1	18.03	18.50	1.114			-0.11	0.848	0.945
36	LTE Band 66	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0_PA Reference Designator	DSI 7	132572	1770	Sample1	17.24	18.50	1.337			-0.03	0.908	1.214
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	5mm	Ant 0_PA Reference Designator	DSI 7	132572	1770	Sample2	17.24	18.50	1.337			0.18	0.872	1.166
	LTE Band 66C	20M	QPSK	1	0	Bottom Edge	5mm	Ant 0	DSI 7	132322+132124	1745+1725.2	Sample1	17.88	18.50	1.153			0.02	0.867	1.000
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.59	14.00	1.384			0.04	0.109	0.151
	LTE Band 66	20M	QPSK	50	24	Front	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.56	14.00	1.393			0.11	0.088	0.123
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.59	14.00	1.384			0.09	0.242	0.335
	LTE Band 66	20M	QPSK	50	24	Back	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.56	14.00	1.393			-0.01	0.195	0.272
	LTE Band 66	20M	QPSK	1	0	Left Edge	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.59	14.00	1.384			-0.19	0.015	0.021
	LTE Band 66	20M	QPSK	50	24	Left Edge	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.56	14.00	1.393			0.11	0.012	0.017
	LTE Band 66	20M	QPSK	1	0	Top Edge	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.59	14.00	1.384			0.17	0.252	0.349
	LTE Band 66	20M	QPSK	50	24	Top Edge	5mm	Ant 4	DSI 7	132322	1745	Sample1	12.56	14.00	1.393			0.10	0.280	0.390
	LTE Band 66	20M	QPSK	1	49	Top Edge	5mm	Ant 4_PA Reference Designator	DSI 7	132322	1745	Sample1	13.19	14.00	1.205			0.13	0.489	0.589
	LTE Band 66C	20M	QPSK	1	0	Top Edge	5mm	Ant 4	DSI 7	132322+132124	1745+1725.2	Sample1	12.42	14.00	1.439			-0.09	0.178	0.256
	LTE Band 38	20M	QPSK	1	49	Front	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	-0.00	0.465	0.689
	LTE Band 38	20M	QPSK	50	24	Front	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	0.09	0.450	0.677
37	LTE Band 38	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	-0.12	0.746	1.105
	LTE Band 38	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	-0.14	0.718	1.081
	LTE Band 38	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.23	21.00	1.503	62.9	1.006	-0.05	0.714	1.080
	LTE Band 38	20M	QPSK	1	49	Left Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	0.03	0.398	0.589
	LTE Band 38	20M	QPSK	50	24	Left Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	0.17	0.373	0.561
	LTE Band 38	20M	QPSK	1	49	Right Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	0.07	0.001	0.001
	LTE Band 38	20M	QPSK	50	24	Right Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	-0.08	0.001	0.002
	LTE Band 38	20M	QPSK	1	49	Bottom Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	-0.07	0.589	0.872
	LTE Band 38	20M	QPSK	50	24	Bottom Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	0.04	0.580	0.873
	LTE Band 38	20M	QPSK	100	0	Bottom Edge	5mm	Ant 1	DSI 7	38000	2595	Sample1	19.23	21.00	1.503	62.9	1.006	0.08	0.607	0.918
	LTE Band 41	20M	QPSK	1	49	Front	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.90	14.50	1.148	62.9	1.006	-0.10	0.142	0.164
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.88	14.50	1.153	62.9	1.006	0.00	0.123	0.143
	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.90	14.50	1.148	62.9	1.006	0.00	0.475	0.549
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.88	14.50	1.153	62.9	1.006	0.05	0.390	0.452
	LTE Band 41	20M	QPSK	1	49	Left Edge	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.90	14.50	1.148	62.9	1.006	-0.13	0.121	0.140
	LTE Band 41	20M	QPSK	50	24	Left Edge	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.88	14.50	1.153	62.9	1.006	-0.04	0.107	0.124
	LTE Band 41	20M	QPSK	1	49	Top Edge	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.90	14.50	1.148	62.9	1.006	-0.06	0.345	0.398
	LTE Band 41	20M	QPSK	50	24	Top Edge	5mm	Ant 4	DSI 7	40620	2593	Sample1	13.88	14.50	1.153	62.9	1.006	0.04	0.311	0.361
38	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 7	39750	2506	Sample1	13.55	14.50	1.245	62.9	1.006	-0.02	0.471	0.590
	LTE Band 42	20M	QPSK	1	49	Front	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.11	16.00	1.227	62.9	1.006	-0.10	0.190	0.235
	LTE Band 42	20M	QPSK	50	24	Front	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.10	16.00	1.23	62.9	1.006	-0.13	0.196	0.243
39	LTE Band 42	20M	QPSK	1	49	Back	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.11	16.00	1.227	62.9	1.006	-0.07	0.390	0.481
	LTE Band 42	20M	QPSK	50	24	Back	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.10	16.00	1.23	62.9	1.006	-0.07	0.368	0.455
	LTE Band 42	20M	QPSK	1	49	Right Edge	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.11	16.00	1.227	62.9	1.006	-0.09	0.074	0.091
	LTE Band 42	20M	QPSK	50	24	Right Edge	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.10	16.00	1.23	62.9	1.006	-0.03	0.075	0.093
	LTE Band 42	20M	QPSK	1	49	Top Edge	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.11	16.00	1.227	62.9	1.006	0.14	0.202	0.249
	LTE Band 42	20M	QPSK	50	24	Top Edge	5mm	Ant 5	DSI 7	42590	3500	Sample1	15.10	16.00	1.23	62.9	1.006	-0.15	0.200	0.247
	LTE Band 42C	20M	QPSK	1	0	Back	5mm	Ant 5	DSI 7	42990+42792	3540+3520.2	Sample1	14.61	16.00	1.377	62.9	1.006	0.17	0.345	0.478



【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
	FR1 n2	40M	QPSK	1	1	Front	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.38	17.50	1.294			-0.12	0.277	0.358
	FR1 n2	40M	QPSK	108	54	Front	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.35	17.50	1.303			0.18	0.282	0.367
	FR1 n2	40M	QPSK	1	1	Back	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.38	17.50	1.294			0.03	0.548	0.709
	FR1 n2	40M	QPSK	108	54	Back	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.35	17.50	1.303			0.06	0.573	0.747
	FR1 n2	40M	QPSK	1	1	Left Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.38	17.50	1.294			0.02	0.081	0.105
	FR1 n2	40M	QPSK	108	54	Left Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.35	17.50	1.303			0.01	0.092	0.120
	FR1 n2	40M	QPSK	1	1	Right Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.38	17.50	1.294			-0.16	0.064	0.083
	FR1 n2	40M	QPSK	108	54	Right Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.35	17.50	1.303			-0.17	0.065	0.085
	FR1 n2	40M	QPSK	1	1	Bottom Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.38	17.50	1.294			-0.07	0.738	0.955
40	FR1 n2	40M	QPSK	108	54	Bottom Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.35	17.50	1.303			0.07	0.758	0.988
	FR1 n2	40M	QPSK	216	0	Bottom Edge	5mm	Ant 0	DSI 7	376000	1880	Sample1	16.31	17.50	1.315			0.08	0.638	0.839
	FR1 n2	40M	QPSK	108	54	Bottom Edge	5mm	Ant 0_PA Reference Designator	DSI 7	376000	1880	Sample1	16.55	17.50	1.245			-0.13	0.784	0.976
	FR1 n2	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.93	12.50	1.14			0.18	0.169	0.193
	FR1 n2	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.90	12.50	1.148			-0.05	0.157	0.180
	FR1 n2	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.93	12.50	1.14			-0.07	0.324	0.369
	FR1 n2	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.90	12.50	1.148			0.02	0.315	0.362
	FR1 n2	40M	QPSK	1	1	Left Edge	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.93	12.50	1.14			0.01	0.023	0.026
	FR1 n2	40M	QPSK	108	54	Left Edge	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.90	12.50	1.148			0.02	0.022	0.025
	FR1 n2	40M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.93	12.50	1.14			-0.10	0.530	0.604
	FR1 n2	40M	QPSK	108	54	Top Edge	5mm	Ant 4	DSI 7	376000	1880	Sample1	11.90	12.50	1.148			-0.19	0.535	0.614
	FR1 n2	40M	QPSK	108	54	Top Edge	5mm	Ant 4	DSI 7	376000	1880	Sample2	11.90	12.50	1.148			0.17	0.438	0.503
	FR1 n7	50M	QPSK	1	1	Front	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.12	20.00	1.225			-0.03	0.642	0.786
	FR1 n7	50M	QPSK	135	68	Front	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.10	20.00	1.23			-0.10	0.551	0.678
	FR1 n7	50M	QPSK	1	1	Back	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.12	20.00	1.225			-0.13	0.990	1.213
41	FR1 n7	50M	QPSK	135	68	Back	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.10	20.00	1.23			-0.03	0.995	1.224
	FR1 n7	50M	QPSK	270	0	Back	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.07	20.00	1.239			-0.08	0.966	1.197
	FR1 n7	50M	QPSK	1	1	Left Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.12	20.00	1.225			0.08	0.529	0.648
	FR1 n7	50M	QPSK	135	68	Left Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.10	20.00	1.23			-0.11	0.427	0.525
	FR1 n7	50M	QPSK	1	1	Right Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.12	20.00	1.225			0.15	0.001	0.001
	FR1 n7	50M	QPSK	135	68	Right Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.10	20.00	1.23			-0.01	0.001	0.001
	FR1 n7	50M	QPSK	1	1	Bottom Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.12	20.00	1.225			-0.12	0.853	1.045
	FR1 n7	50M	QPSK	135	68	Bottom Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.10	20.00	1.23			-0.07	0.873	1.074
	FR1 n7	50M	QPSK	270	0	Bottom Edge	5mm	Ant 1	DSI 7	507000	2535	Sample1	19.07	20.00	1.239			0.15	0.906	1.123
	FR1 n7	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.47	13.00	1.13			-0.18	0.104	0.118
	FR1 n7	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.45	13.00	1.135			0.13	0.143	0.162
	FR1 n7	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.47	13.00	1.13			0.13	0.439	0.496
	FR1 n7	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.45	13.00	1.135			0.13	0.474	0.538
	FR1 n7	40M	QPSK	1	1	Left Edge	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.47	13.00	1.13			0.10	0.109	0.123
	FR1 n7	40M	QPSK	108	54	Left Edge	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.45	13.00	1.135			0.02	0.104	0.118
	FR1 n7	40M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.47	13.00	1.13			-0.11	0.428	0.484
	FR1 n7	40M	QPSK	108	54	Top Edge	5mm	Ant 4	DSI 7	507000	2535	Sample1	12.45	13.00	1.135			0.13	0.493	0.560
	FR1 n7	40M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	507000	2535	Sample2	12.47	13.00	1.13			-0.01	0.333	0.376
	FR1 n26	20M	QPSK	1	1	Front	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.72	24.00	1.343			-0.13	0.335	0.450
	FR1 n26	20M	QPSK	50	28	Front	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.69	24.00	1.352			-0.01	0.419	0.566
	FR1 n26	20M	QPSK	1	1	Back	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.72	24.00	1.343			0.04	0.743	0.998
42	FR1 n26	20M	QPSK	50	28	Back	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.69	24.00	1.352			-0.10	0.789	1.067
	FR1 n26	20M	QPSK	100	0	Back	5mm	Ant 0	DSI 7	166300	831.5	Sample1	21.70	23.00	1.349			0.17	0.692	0.934
	FR1 n26	20M	QPSK	1	1	Left Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.72	24.00	1.343			0.04	0.141	0.189
	FR1 n26	20M	QPSK	50	28	Left Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.69	24.00	1.352			0.09	0.163	0.220
	FR1 n26	20M	QPSK	1	1	Right Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.72	24.00	1.343			-0.19	0.347	0.466
	FR1 n26	20M	QPSK	50	28	Right Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.69	24.00	1.352			0.08	0.388	0.525
	FR1 n26	20M	QPSK	1	1	Bottom Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.72	24.00	1.343			0.03	0.550	0.739
	FR1 n26	20M	QPSK	50	28	Bottom Edge	5mm	Ant 0	DSI 7	166300	831.5	Sample1	22.69	24.00	1.352			0.07	0.577	0.780
	FR1 n26	20M	QPSK	1	1	Front	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.08	20.50	1.387			0.12	0.162	0.225
	FR1 n26	20M	QPSK	50	28	Front	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.05	20.50	1.396			-0.13	0.175	0.244
	FR1 n26	20M	QPSK	1	1	Back	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.08	20.50	1.387			0.05	0.385	0.534
	FR1 n26	20M	QPSK	50	28	Back	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.05	20.50	1.396			-0.04	0.384	0.536
	FR1 n26	20M	QPSK	1	1	Left Edge	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.08	20.50	1.387			-0.14	0.044	0.061
	FR1 n26	20M	QPSK	50	28	Left Edge	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.05	20.50	1.396			-0.14	0.049	0.068
	FR1 n26	20M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.08	20.50	1.387			-0.19	0.195	0.270
	FR1 n26	20M	QPSK	50	28	Top Edge	5mm	Ant 4	DSI 7	166300	831.5	Sample1	19.05	20.50	1.396			0.09	0.210	0.293
	FR1 n26	20M	QPSK	50	28	Back	5mm	Ant 4	DSI 7	166300	831.5	Sample2	19.05	20.50	1.396			-0.13	0.377	0.526
	FR1 n66	40M	QPSK	1	1	Front	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.88	18.00	1.294			-0.17	0.206	0.267
	FR1 n66	40M	QPSK	108	54	Front	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.86	18.00	1.3			-0.17	0.207	0.269
	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.88	18.00	1.294			0.16	0.507	0.656
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.86	18.00	1.3			-0.14	0.507	0.659



FCC SAR Test Report

Report No. : FA651501-01

	FR1 n66	40M	QPSK	1	1	Left Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.88	18.00	1.294			0.18	0.063	0.082
	FR1 n66	40M	QPSK	108	54	Left Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.86	18.00	1.3			0.12	0.066	0.086
	FR1 n66	40M	QPSK	1	1	Right Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.88	18.00	1.294			0.02	0.076	0.098
	FR1 n66	40M	QPSK	108	54	Right Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.86	18.00	1.3			-0.09	0.075	0.098
	FR1 n66	40M	QPSK	1	1	Bottom Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.88	18.00	1.294			-0.10	0.882	1.141
	FR1 n66	40M	QPSK	108	54	Bottom Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.86	18.00	1.3			-0.13	0.913	1.187
	FR1 n66	40M	QPSK	216	0	Bottom Edge	5mm	Ant 0	DSI 7	349000	1745	Sample1	16.83	18.00	1.309			0.06	0.834	1.092
43	FR1 n66	40M	QPSK	108	54	Bottom Edge	5mm	Ant 0_PA Reference Designator	DSI 7	349000	1745	Sample1	16.83	18.00	1.309			-0.03	0.923	1.208
	FR1 n66	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.87	13.50	1.156			0.12	0.086	0.099
	FR1 n66	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.83	13.50	1.167			-0.09	0.114	0.133
	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.87	13.50	1.156			-0.02	0.174	0.201
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.83	13.50	1.167			-0.05	0.249	0.291
	FR1 n66	40M	QPSK	1	1	Left Edge	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.87	13.50	1.156			-0.13	0.012	0.014
	FR1 n66	40M	QPSK	108	54	Left Edge	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.83	13.50	1.167			0.10	0.015	0.018
	FR1 n66	40M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.87	13.50	1.156			-0.12	0.321	0.371
	FR1 n66	40M	QPSK	108	54	Top Edge	5mm	Ant 4	DSI 7	349000	1745	Sample1	12.83	13.50	1.167			-0.07	0.365	0.426
	FR1 n66	40M	QPSK	108	54	Top Edge	5mm	Ant 4_PA Reference Designator	DSI 7	349000	1745	Sample1	13.90	14.50	1.148			0.16	0.469	0.538
	FR1 n41	100M	QPSK	1	1	Front	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.25	13.00	1.189			-0.06	0.112	0.133
	FR1 n41	100M	QPSK	135	69	Front	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.24	13.00	1.191			0.03	0.090	0.107
	FR1 n41	100M	QPSK	1	1	Back	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.25	13.00	1.189			-0.06	0.504	0.599
	FR1 n41	100M	QPSK	135	69	Back	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.24	13.00	1.191			0.19	0.433	0.516
	FR1 n41	100M	QPSK	1	1	Left Edge	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.25	13.00	1.189			-0.15	0.108	0.128
	FR1 n41	100M	QPSK	135	69	Left Edge	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.24	13.00	1.191			0.10	0.094	0.112
44	FR1 n41	100M	QPSK	1	1	Top Edge	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.25	13.00	1.189			-0.13	0.507	0.603
	FR1 n41	100M	QPSK	135	69	Top Edge	5mm	Ant 4	DSI 7	518598	2592.99	Sample1	12.24	13.00	1.191			-0.05	0.437	0.520
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			-0.04	0.067	0.095
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			-0.07	0.042	0.062
45	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			-0.06	0.633	0.900
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			-0.00	0.276	0.406
	FR1 n77	100M	QPSK	270	0	Back	5mm	Ant 1	DSI 7	656000	3840	Sample1	17.36	19.00	1.459			-0.00	0.401	0.585
	FR1 n77	100M	QPSK	1	1	Left Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			-0.04	0.056	0.080
	FR1 n77	100M	QPSK	135	69	Left Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			0.05	0.040	0.059
	FR1 n77	100M	QPSK	1	1	Right Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			-0.13	0.001	0.001
	FR1 n77	100M	QPSK	135	69	Right Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			0.05	0.001	0.001
	FR1 n77	100M	QPSK	1	1	Top Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			0.16	0.001	0.001
	FR1 n77	100M	QPSK	135	69	Top Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			-0.11	0.001	0.001
	FR1 n77	100M	QPSK	1	1	Bottom Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.47	20.00	1.422			-0.01	0.025	0.036
	FR1 n77	100M	QPSK	135	69	Bottom Edge	5mm	Ant 1	DSI 7	656000	3840	Sample1	18.32	20.00	1.472			-0.12	0.017	0.025
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 1	DSI 7	656000	3840	Sample2	18.47	20.00	1.422			0.03	0.606	0.862
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			0.16	0.019	0.028
	FR1 n77	100M	QPSK	135	0	Front	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			0.02	0.022	0.032
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			0.00	0.357	0.522
	FR1 n77	100M	QPSK	135	0	Back	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			-0.18	0.333	0.487
	FR1 n77	100M	QPSK	270	0	Back	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.25	18.00	1.496			0.07	0.308	0.461
	FR1 n77	100M	QPSK	1	1	Left Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			-0.09	0.183	0.268
	FR1 n77	100M	QPSK	135	0	Left Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			-0.14	0.099	0.145
	FR1 n77	100M	QPSK	1	1	Right Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			-0.13	0.001	0.001
	FR1 n77	100M	QPSK	135	0	Right Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			-0.07	0.001	0.001
	FR1 n77	100M	QPSK	1	1	Top Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			0.05	0.045	0.066
	FR1 n77	100M	QPSK	135	0	Top Edge	5mm	Ant 2	DSI 7	656000	3840	Sample1	16.35	18.00	1.462			0.13	0.033	0.048
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 2	DSI 7	656000	3840	Sample2	16.35	18.00	1.462			-0.03	0.327	0.478
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.58	15.50	1.236			-0.08	0.261	0.323
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.55	15.50	1.245			0.11	0.237	0.295
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.58	15.50	1.236			-0.06	0.318	0.393
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.55	15.50	1.245			-0.03	0.344	0.428
	FR1 n77	100M	QPSK	1	1	Right Edge	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.58	15.50	1.236			-0.04	0.101	0.125
	FR1 n77	100M	QPSK	135	69	Right Edge	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.55	15.50	1.245			0.03	0.099	0.123
	FR1 n77	100M	QPSK	1	1	Top Edge	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.58	15.50	1.236			-0.01	0.438	0.541
	FR1 n77	100M	QPSK	135	69	Top Edge	5mm	Ant 5	DSI 7	656000	3840	Sample1	14.55	15.50	1.245			-0.13	0.411	0.512
	FR1 n77	100M	QPSK	1	1	Top Edge	5mm	Ant 5	DSI 7	656000	3840	Sample2	14.58	15.50	1.236			-0.07	0.404	0.499
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.18	14.00	1.521			-0.16	0.016	0.024
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.15	14.00	1.531			-0.09	0.014	0.021
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.18	14.00	1.521			0.16	0.384	0.584
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.15	14.00	1.531			0.09	0.367	0.562
	FR1 n77	100M	QPSK	1	1	Right Edge	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.18	14.00	1.521			-0.02	0.086	0.131
	FR1 n77	100M	QPSK	135	69	Right Edge	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.15	14.00	1.531			-0.06	0.078	0.119
	FR1 n77	100M	QPSK	1	1	Top Edge	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.18	14.00	1.521			0.14	0.016	0.024
	FR1 n77	100M	QPSK	135	69	Top Edge	5mm	Ant 8	DSI 7	656000	3840	Sample1	12.15	14.00	1.531			-0.04	0.012	0.018
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 8	DSI 7	656000	3840	Sample2	12.18	14.00	1.521			0.16	0.372	0.566

**【WLAN 2.4GHz SAR】**

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	5mm	Ant 6	Hotspot	6	2437	Sample1	18.71	19.50	1.199	98.63	1.014	0.15	0.352	0.428
46	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Hotspot	6	2437	Sample1	18.71	19.50	1.199	98.63	1.014	0.02	0.617	0.750
	WLAN2.4GHz	802.11b 1Mbps	Right Edge	5mm	Ant 6	Hotspot	6	2437	Sample1	18.71	19.50	1.199	98.63	1.014	0.10	0.400	0.486
	WLAN2.4GHz	802.11b 1Mbps	Top Edge	5mm	Ant 6	Hotspot	6	2437	Sample1	18.71	19.50	1.199	98.63	1.014	-0.14	0.457	0.556
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Hotspot	6	2437	Sample2	18.71	19.50	1.199	98.63	1.014	0.01	0.607	0.738
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Hotspot	42	5210	Sample1	10.66	11.50	1.213	92.62	1.08	0.16	0.096	0.126
47	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Hotspot	42	5210	Sample1	10.66	11.50	1.213	92.62	1.08	0.00	0.312	0.409
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Edge	5mm	Ant 6	Hotspot	42	5210	Sample1	10.66	11.50	1.213	92.62	1.08	-0.09	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Edge	5mm	Ant 6	Hotspot	42	5210	Sample1	10.66	11.50	1.213	92.62	1.08	0.07	0.067	0.088
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Edge	5mm	Ant 6	Hotspot	42	5210	Sample1	10.66	11.50	1.213	92.62	1.08	-0.11	0.149	0.195
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Hotspot	155	5775	Sample1	10.61	12.00	1.377	92.62	1.08	0.13	0.247	0.367
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Hotspot	155	5775	Sample1	10.61	12.00	1.377	92.62	1.08	-0.07	0.313	0.465
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Edge	5mm	Ant 6	Hotspot	155	5775	Sample1	10.61	12.00	1.377	92.62	1.08	0.18	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Edge	5mm	Ant 6	Hotspot	155	5775	Sample1	10.61	12.00	1.377	92.62	1.08	-0.16	0.136	0.202
48	WLAN5GHz	802.11ac-VHT80 MCS0	Top Edge	5mm	Ant 6	Hotspot	155	5775	Sample1	10.61	12.00	1.377	92.62	1.08	0.03	0.509	0.757
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Edge	5mm	Ant 6	Hotspot	155	5775	Sample2	10.61	12.00	1.377	92.62	1.08	0.08	0.471	0.700

【Bluetooth SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	5mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.16	0.079	0.092
49	Bluetooth	1Mbps	Back	5mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.17	0.104	0.121
	Bluetooth	1Mbps	Right Edge	5mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.19	0.096	0.112
	Bluetooth	1Mbps	Top Edge	5mm	Ant 6	Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.08	0.103	0.120

15.3 Body Worn Accessory SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
50	GSM850	GPRS 4 Tx slots	Front	5mm	Ant 0	DSI 3	251	848.8	Sample1	26.45	27.50	1.274	-0.00	0.607	0.773
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	251	848.8	Sample1	26.45	27.50	1.274	-0.11	0.893	1.138
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	128	824.2	Sample1	25.99	27.50	1.416	-0.04	0.691	0.978
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	189	836.4	Sample1	25.97	27.50	1.422	-0.19	0.695	0.988
	GSM850	GPRS 4 Tx slots	Front	14mm	Ant 0	DSI 4	189	836.4	Sample1	27.36	28.50	1.3	-0.00	0.145	0.189
	GSM850	GPRS 4 Tx slots	Back	22mm	Ant 0	DSI 4	189	836.4	Sample1	27.36	28.50	1.3	0.01	0.150	0.195
51	GSM1900	GPRS 4 Tx slots	Front	5mm	Ant 0	DSI 3	810	1909.8	Sample1	22.95	23.50	1.135	-0.03	0.425	0.482
	GSM1900	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	810	1909.8	Sample1	22.95	23.50	1.135	0.04	0.746	0.847
	GSM1900	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	512	1850.2	Sample1	22.31	23.50	1.315	-0.12	0.818	1.076
	GSM1900	GPRS 4 Tx slots	Back	5mm	Ant 0	DSI 3	661	1880	Sample1	22.80	23.50	1.175	-0.01	0.777	0.913
	GSM1900	GPRS 4 Tx slots	Front	14mm	Ant 0	DSI 4	810	1909.8	Sample1	25.11	26.00	1.227	-0.05	0.210	0.258
	GSM1900	GPRS 4 Tx slots	Back	22mm	Ant 0	DSI 4	810	1909.8	Sample1	25.11	26.00	1.227	0.14	0.142	0.174

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
52	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 3	9400	1880	Sample1	19.73	20.50	1.194	-0.08	0.435	0.519
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	9400	1880	Sample1	19.73	20.50	1.194	-0.15	0.935	1.116
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	9262	1852.4	Sample1	19.63	20.50	1.222	-0.15	0.874	1.068
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	9538	1907.6	Sample1	19.72	20.50	1.197	-0.13	1.020	1.221
	WCDMA II	RMC 12.2Kbps	Front	14mm	Ant 0	DSI 4	9400	1880	Sample1	23.26	24.00	1.186	-0.01	0.373	0.442
	WCDMA II	RMC 12.2Kbps	Back	22mm	Ant 0	DSI 4	9400	1880	Sample1	23.26	24.00	1.186	0.18	0.323	0.383
53	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	9538	1907.6	Sample1	19.72	20.50	1.197	-0.06	0.970	1.161
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 3	1413	1732.6	Sample1	19.97	21.00	1.268	0.00	0.372	0.472
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	1413	1732.6	Sample1	19.97	21.00	1.268	-0.04	0.879	1.115
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	1312	1712.4	Sample1	19.81	21.00	1.315	-0.07	0.842	1.107
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	1513	1752.6	Sample1	19.91	21.00	1.285	-0.06	0.951	1.222
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	1513	1752.6	Sample1	19.91	21.00	1.285	0.06	0.941	1.209
54	WCDMA IV	RMC 12.2Kbps	Front	14mm	Ant 0	DSI 4	1413	1732.6	Sample1	23.19	24.00	1.205	-0.11	0.292	0.352
	WCDMA IV	RMC 12.2Kbps	Back	22mm	Ant 0	DSI 4	1413	1732.6	Sample1	23.19	24.00	1.205	-0.08	0.264	0.318
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 3	4182	836.4	Sample1	22.50	23.50	1.259	-0.03	0.453	0.570
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	4182	836.4	Sample1	22.50	23.50	1.259	-0.02	0.856	1.078
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	4132	826.4	Sample1	22.48	23.50	1.265	-0.11	0.724	0.916
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	4233	846.6	Sample1	22.40	23.50	1.288	-0.05	0.949	1.222
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	4233	846.6	Sample2	22.40	23.50	1.288	-0.16	0.946	1.218
	WCDMA V	RMC 12.2Kbps	Front	14mm	Ant 0	DSI 4	4182	836.4	Sample1	22.75	24.00	1.334	0.01	0.227	0.303
	WCDMA V	RMC 12.2Kbps	Back	22mm	Ant 0	DSI 4	4182	836.4	Sample1	22.75	24.00	1.334	0.17	0.239	0.319
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 3	4233	846.6	Sample1	22.40	23.50	1.288	0.07	0.849	1.094



【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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 7	20M	QPSK	1	49	Front	5mm	Ant 1	DSI 3	21100	2535	Sample1	18.68	20.00	1.355			-0.07	0.487	0.660
	LTE Band 7	20M	QPSK	50	24	Front	5mm	Ant 1	DSI 3	21100	2535	Sample1	18.66	20.00	1.361			-0.03	0.403	0.548
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	21100	2535	Sample1	18.68	20.00	1.355			0.02	0.859	1.164
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	20850	2510	Sample1	18.56	20.00	1.393			0.02	0.862	1.201
55	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	21350	2560	Sample1	18.63	20.00	1.371			0.05	0.932	1.278
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 3	21100	2535	Sample1	18.66	20.00	1.361			-0.08	0.815	1.109
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 3	20850	2510	Sample1	18.52	20.00	1.406			-0.05	0.753	1.059
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 3	21350	2560	Sample1	18.60	20.00	1.38			-0.06	0.834	1.151
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 3	21100	2535	Sample1	18.60	20.00	1.38			0.10	0.679	0.937
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	21350	2560	Sample2	18.63	20.00	1.371			-0.07	0.780	1.069
	LTE Band 7C	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3	21350+21152	2560+2540.2	Sample1	18.75	20.00	1.334			0.06	0.778	1.038
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	21350	2560	Sample1	18.63	20.00	1.371			0.14	0.892	1.223
	LTE Band 7	20M	QPSK	1	49	Front	14mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			-0.13	0.392	0.470
	LTE Band 7	20M	QPSK	1	49	Back	22mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			0.11	0.280	0.336
	LTE Band 7	20M	QPSK	1	49	Front	5mm	Ant 4	DSI 3	21100	2535	Sample1	12.32	14.00	1.472			0.19	0.124	0.183
	LTE Band 7	20M	QPSK	50	24	Front	5mm	Ant 4	DSI 3	21100	2535	Sample1	12.26	14.00	1.493			-0.02	0.096	0.143
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	21100	2535	Sample1	12.32	14.00	1.472			0.01	0.602	0.886
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	20850	2510	Sample1	12.26	14.00	1.493			-0.06	0.582	0.869
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	21350	2560	Sample1	12.31	14.00	1.476			-0.15	0.587	0.866
	LTE Band 7	20M	QPSK	50	24	Back	5mm	Ant 4	DSI 3	21100	2535	Sample1	12.26	14.00	1.493			0.18	0.501	0.748
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 4	DSI 3	21100	2535	Sample1	12.23	14.00	1.503			-0.03	0.387	0.582
	LTE Band 7	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	21100	2535	Sample2	12.32	14.00	1.472			0.16	0.576	0.848
	LTE Band 7	20M	QPSK	1	49	Front	14mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			0.08	0.290	0.436
	LTE Band 7	20M	QPSK	1	49	Back	22mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			-0.05	0.444	0.667
	LTE Band 12	10M	QPSK	1	25	Front	5mm	Ant 0	DSI 3	23095	707.5	Sample1	22.94	24.00	1.276			-0.07	0.318	0.406
	LTE Band 12	10M	QPSK	25	12	Front	5mm	Ant 0	DSI 3	23095	707.5	Sample1	21.82	23.00	1.312			-0.10	0.174	0.228
56	LTE Band 12	10M	QPSK	1	25	Back	5mm	Ant 0	DSI 3	23095	707.5	Sample1	22.94	24.00	1.276			-0.06	0.625	0.798
	LTE Band 12	10M	QPSK	25	12	Back	5mm	Ant 0	DSI 3	23095	707.5	Sample1	21.82	23.00	1.312			-0.12	0.306	0.401
	LTE Band 12	10M	QPSK	1	25	Front	5mm	Ant 4	DSI 3	23095	707.5	Sample1	22.49	24.00	1.416			-0.01	0.240	0.340
	LTE Band 12	10M	QPSK	25	12	Front	5mm	Ant 4	DSI 3	23095	707.5	Sample1	21.28	23.00	1.486			-0.03	0.120	0.178
	LTE Band 12	10M	QPSK	1	25	Back	5mm	Ant 4	DSI 3	23095	707.5	Sample1	22.49	24.00	1.416			-0.16	0.537	0.760
	LTE Band 12	10M	QPSK	25	12	Back	5mm	Ant 4	DSI 3	23095	707.5	Sample1	21.28	23.00	1.486			0.07	0.278	0.413
	LTE Band 13	10M	QPSK	1	25	Front	5mm	Ant 0	DSI 3	23230	782	Sample1	22.92	24.00	1.282			-0.00	0.497	0.637
	LTE Band 13	10M	QPSK	25	12	Front	5mm	Ant 0	DSI 3	23230	782	Sample1	21.85	23.00	1.303			0.00	0.273	0.356
57	LTE Band 13	10M	QPSK	1	25	Back	5mm	Ant 0	DSI 3	23230	782	Sample1	22.92	24.00	1.282			0.00	0.899	1.153
	LTE Band 13	10M	QPSK	25	12	Back	5mm	Ant 0	DSI 3	23230	782	Sample1	21.85	23.00	1.303			-0.17	0.512	0.667
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Ant 0	DSI 3	23230	782	Sample1	21.83	23.00	1.309			-0.03	0.480	0.628
	LTE Band 25	20M	QPSK	1	49	Front	5mm	Ant 0	DSI 3	26340	1880	Sample1	19.90	20.50	1.148			0.13	0.579	0.665
	LTE Band 25	20M	QPSK	50	24	Front	5mm	Ant 0	DSI 3	26340	1880	Sample1	19.88	20.50	1.153			-0.05	0.555	0.640
	LTE Band 25	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	26340	1880	Sample1	19.90	20.50	1.148			-0.05	0.927	1.064
	LTE Band 25	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	26140	1860	Sample1	19.89	20.50	1.151			-0.05	0.920	1.059
	LTE Band 25	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	26590	1905	Sample1	19.82	20.50	1.169			-0.02	0.983	1.149
	LTE Band 25	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	26340	1880	Sample1	19.88	20.50	1.153			0.01	0.986	1.137
	LTE Band 25	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	26140	1860	Sample1	19.86	20.50	1.159			-0.07	0.949	1.100
	LTE Band 25	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	26590	1905	Sample1	19.80	20.50	1.175			0.18	0.920	1.081
	LTE Band 25	20M	QPSK	100	0	Back	5mm	Ant 0	DSI 3	26340	1880	Sample1	19.87	20.50	1.156			0.13	1.020	1.179
58	LTE Band 2	20M	QPSK	1	49	Back	5mm	Ant 0_PA_ Reference Designator	DSI 3	18900	1880	Sample1	19.51	20.50	1.256			0.15	0.996	1.251
	LTE Band 2C	20M	QPSK	1	0	Back	5mm	Ant 0	DSI 3	18700+18898	1860+1879.8	Sample1	19.08	20.5	1.387			0.07	0.860	1.193
	LTE Band 25	20M	QPSK	1	49	Front	14mm	Ant 0	DSI 4	26340	1880	Sample1	23.29	24.00	1.178			0.11	0.149	0.176
	LTE Band 25	20M	QPSK	1	49	Back	22mm	Ant 0	DSI 3	26340	1880	Sample1	23.29	24.00	1.178			0.03	0.154	0.181
	LTE Band 2	20M	QPSK	1	49	Back	5mm	Ant 0_PA_ Reference Designator	DSI 4	18900	1880	Sample1	19.51	20.50	1.256			0.10	0.916	1.150
	LTE Band 26	15M	QPSK	1	37	Front	5mm	Ant 0	DSI 3	26865	831.5	Sample1	22.64	24.00	1.368			-0.06	0.444	0.607
	LTE Band 26	15M	QPSK	36	20	Front	5mm	Ant 0	DSI 3	26865	831.5	Sample1	21.71	23.00	1.346			-0.12	0.323	0.435
59	LTE Band 26	15M	QPSK	1	37	Back	5mm	Ant 0	DSI 3	26865	831.5	Sample1	22.64	24.00	1.368			-0.03	0.847	1.159
	LTE Band 26	15M	QPSK	36	20	Back	5mm	Ant 0	DSI 3	26865	831.5	Sample1	21.71	23.00	1.346			0.17	0.524	0.705
	LTE Band 26	15M	QPSK	75	0	Back	5mm	Ant 0	DSI 3	26865	831.5	Sample1	21.66	23.00	1.361			-0.03	0.526	0.716
	LTE Band 26	15M	QPSK	1	37	Front	5mm	Ant 4	DSI 3	26865	831.5	Sample1	20.95	22.50	1.429			-0.06	0.276	0.394
	LTE Band 26	15M	QPSK	36	20	Front	5mm	Ant 4	DSI 3	26865	831.5	Sample1	20.90	22.50	1.445			-0.15	0.257	0.371
	LTE Band 26	15M	QPSK	1	37	Back	5mm	Ant 4	DSI 3	26865	831.5	Sample1	20.95	22.50	1.429			0.10	0.587	0.839
	LTE Band 26	15M	QPSK	36	20	Back	5mm	Ant 4	DSI 3	26865	831.5	Sample1	20.90	22.50	1.445			-0.16	0.531	0.767
	LTE Band 26	15M	QPSK	75	0	Back	5mm	Ant 4	DSI 3	26865	831.5	Sample1	20.88	22.50	1.452			0.08	0.539	0.783
	LTE Band 5	10M	QPSK	1	25	Back	5mm	Ant 4_PA_ Reference Designator	DSI 3	20525	836.5	Sample1	21.29	22.50	1.321			0.04	0.592	0.782
	LTE Band 26	15M	QPSK	1	37	Front	14mm	Ant 4	DSI 4	26865	831.5	Sample1	22.42	24.00	1.439			-0.10	0.136	0.196



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	LTE Band 26	15M	QPSK	1	37	Back	22mm	Ant 4	DSI 4	26865	831.5	Sample1	22.42	24.00	1.439			0.02	0.118	0.170
	LTE Band 66	20M	QPSK	1	49	Front	5mm	Ant 0	DSI 3	132322	1745	Sample1	20.14	21.00	1.219			-0.01	0.354	0.432
	LTE Band 66	20M	QPSK	50	24	Front	5mm	Ant 0	DSI 3	132322	1745	Sample1	20.13	21.00	1.222			0.06	0.339	0.414
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	132322	1745	Sample1	20.14	21.00	1.219			-0.01	0.842	1.026
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	132072	1720	Sample1	20.05	21.00	1.245			0.05	0.792	0.986
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0	DSI 3	132572	1770	Sample1	20.09	21.00	1.233			0.02	0.833	1.027
	LTE Band 66	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	132322	1745	Sample1	20.13	21.00	1.222			-0.07	0.740	0.904
	LTE Band 66	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	132072	1720	Sample1	20.03	21.00	1.25			0.05	0.744	0.930
	LTE Band 66	20M	QPSK	50	24	Back	5mm	Ant 0	DSI 3	132572	1770	Sample1	20.06	21.00	1.242			0.04	0.788	0.979
	LTE Band 66	20M	QPSK	100	0	Back	5mm	Ant 0	DSI 3	132322	1745	Sample1	20.10	21.00	1.23			-0.07	0.807	0.993
60	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0_PA_ Reference Designator	DSI 3	132322	1745	Sample1	19.79	21.00	1.321			-0.19	0.946	1.250
	LTE Band 66C	20M	QPSK	1	0	Back	5mm	Ant 0	DSI 3	132322+132124	1745+1725.2	Sample1	20.06	21.00	1.242			0.05	0.930	1.155
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0_PA_ Reference Designator	DSI 3	132322	1745	Sample2	19.79	21.00	1.321			-0.14	0.919	1.214
	LTE Band 66	20M	QPSK	1	49	Front	14mm	Ant 0	DSI 4	132322	1745	Sample1	23.28	24.00	1.18			-0.15	0.172	0.203
	LTE Band 66	20M	QPSK	1	49	Back	22mm	Ant 0_PA_ Reference Designator	DSI 4	132322	1745	Sample1	22.83	24.00	1.309			0.08	0.210	0.275
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 0_PA_ Reference Designator	DSI 3	132322	1745	Sample1	19.79	21.00	1.321			0.19	0.856	1.131
	LTE Band 66	20M	QPSK	1	49	Back	22mm	Ant 0_PA_ Reference Designator	DSI 4	132322	1745	Sample1	22.83	24.00	1.309			-0.05	0.233	0.305
	LTE Band 66	20M	QPSK	1	49	Front	5mm	Ant 4	DSI 3	132322	1745	Sample1	14.93	16.50	1.435			-0.04	0.254	0.364
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 3	132322	1745	Sample1	14.90	16.50	1.445			0.09	0.245	0.354
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	132322	1745	Sample1	14.93	16.50	1.435			-0.01	0.519	0.745
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 3	132322	1745	Sample1	14.90	16.50	1.445			-0.07	0.504	0.728
	LTE Band 66	20M	QPSK	1	49	Back	5mm	Ant 4_PA_ Reference Designator	DSI 3	132322	1745	Sample1	15.77	16.50	1.183			-0.08	0.639	0.756
	LTE Band 66C	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 3	132322+132124	1745+1725.2	Sample1	14.73	16.50	1.503			-0.04	0.608	0.914
	LTE Band 66	20M	QPSK	1	49	Front	14mm	Ant 4	DSI 4	132322	1745	Sample1	22.37	24.00	1.455			0.11	0.236	0.343
	LTE Band 66	20M	QPSK	1	49	Back	22mm	Ant 4_PA_ Reference Designator	DSI 4	132322	1745	Sample1	23.23	24.00	1.194			-0.04	0.260	0.310
	LTE Band 38	20M	QPSK	1	49	Front	5mm	Ant 1	DSI 3	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	-0.00	0.465	0.689
	LTE Band 38	20M	QPSK	50	24	Front	5mm	Ant 1	DSI 3	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	-0.14	0.466	0.701
61	LTE Band 38	20M	QPSK	1	49	Back	5mm	Ant 1	DSI 3	38000	2595	Sample1	19.32	21.00	1.472	62.9	1.006	-0.12	0.746	1.105
	LTE Band 38	20M	QPSK	50	24	Back	5mm	Ant 1	DSI 3	38000	2595	Sample1	19.25	21.00	1.496	62.9	1.006	-0.02	0.718	1.081
	LTE Band 38	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 3	38000	2595	Sample1	19.23	21.00	1.503	62.9	1.006	0.00	0.714	1.080
	LTE Band 38	20M	QPSK	1	49	Front	14mm	Ant 1	DSI 4	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	-0.06	0.198	0.293
	LTE Band 38	20M	QPSK	1	49	Back	22mm	Ant 1	DSI 4	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.03	0.121	0.179
	LTE Band 41	20M	QPSK	1	49	Front	5mm	Ant 4	DSI 3	40620	2593	Sample1	15.45	16.00	1.135	62.9	1.006	0.07	0.100	0.114
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Ant 4	DSI 3	40620	2593	Sample1	15.43	16.00	1.14	62.9	1.006	0.06	0.101	0.116
62	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	40620	2593	Sample1	15.45	16.00	1.135	62.9	1.006	-0.11	0.574	0.655
	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	39750	2506	Sample1	15.14	16.00	1.219	62.9	1.006	0.06	0.494	0.606
	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	40185	2549.5	Sample1	15.33	16.00	1.167	62.9	1.006	-0.01	0.444	0.521
	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	41055	2636.5	Sample1	15.40	16.00	1.148	62.9	1.006	-0.07	0.466	0.538
	LTE Band 41	20M	QPSK	1	49	Back	5mm	Ant 4	DSI 3	41490	2680	Sample1	15.37	16.00	1.156	62.9	1.006	0.04	0.388	0.451
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Ant 4	DSI 3	40620	2593	Sample1	15.43	16.00	1.14	62.9	1.006	0.11	0.519	0.595
	LTE Band 41	20M	QPSK	1	49	Front	14mm	Ant 4	DSI 4	40620	2593	Sample1	23.28	24.00	1.18	62.9	1.006	-0.12	0.130	0.154
	LTE Band 41	20M	QPSK	1	49	Back	22mm	Ant 4	DSI 4	40620	2593	Sample1	23.28	24.00	1.18	62.9	1.006	0.17	0.188	0.223
	LTE Band 42	20M	QPSK	1	49	Front	5mm	Ant 5	DSI 3	42590	3500	Sample1	16.65	17.50	1.216	62.9	1.006	-0.05	0.203	0.248
	LTE Band 42	20M	QPSK	50	24	Front	5mm	Ant 5	DSI 3	42590	3500	Sample1	16.62	17.50	1.225	62.9	1.006	-0.02	0.192	0.237
63	LTE Band 42	20M	QPSK	1	49	Back	5mm	Ant 5	DSI 3	42590	3500	Sample1	16.65	17.50	1.216	62.9	1.006	-0.01	0.536	0.656
	LTE Band 42	20M	QPSK	50	24	Back	5mm	Ant 5	DSI 3	42590	3500	Sample1	16.62	17.50	1.225	62.9	1.006	-0.08	0.511	0.630
	LTE Band 42C	20M	QPSK	1	0	Back	5mm	Ant 5	DSI 3	42990+42792	3540+3520.2	Sample1	16.09	17.50	1.384	62.9	1.006	0.10	0.461	0.642
	LTE Band 42	20M	QPSK	1	49	Front	14mm	Ant 5	DSI 4	42590	3500	Sample1	23.26	24.00	1.186	62.9	1.006	-0.15	0.182	0.217
	LTE Band 42	20M	QPSK	1	49	Back	22mm	Ant 5	DSI 4	42590	3500	Sample1	23.26	24.00	1.186	62.9	1.006	0.13	0.188	0.224



【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
	FR1 n2	40M	QPSK	1	1	Front	5mm	Ant 0	DSI 3	376000	1880	Sample1	19.86	20.50	1.159			-0.02	0.476	0.552
	FR1 n2	40M	QPSK	108	54	Front	5mm	Ant 0	DSI 3	376000	1880	Sample1	19.85	20.50	1.161			0.05	0.503	0.584
	FR1 n2	40M	QPSK	1	1	Back	5mm	Ant 0	DSI 3	376000	1880	Sample1	19.86	20.50	1.159			-0.06	0.976	1.131
64	FR1 n2	40M	QPSK	108	54	Back	5mm	Ant 0	DSI 3	376000	1880	Sample1	19.85	20.50	1.161			0.02	1.020	1.184
	FR1 n2	40M	QPSK	216	0	Back	5mm	Ant 0	DSI 3	376000	1880	Sample1	19.84	20.50	1.164			-0.14	0.938	1.092
	FR1 n2	40M	QPSK	1	1	Back	5mm	Ant 0_PA Reference Designator	DSI 3	376000	1880	Sample1	19.83	20.50	1.167			0.12	0.892	1.041
	FR1 n2	40M	QPSK	108	54	Front	14mm	Ant 0	DSI 4	376000	1880	Sample1	22.91	24.00	1.285			-0.03	0.317	0.407
	FR1 n2	40M	QPSK	108	54	Back	22mm	Ant 0	DSI 4	376000	1880	Sample1	22.91	24.00	1.285			0.05	0.302	0.388
	FR1 n2	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 3	376000	1880	Sample1	13.88	14.50	1.153			0.03	0.206	0.238
	FR1 n2	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 3	376000	1880	Sample1	13.84	14.50	1.164			0.03	0.191	0.222
	FR1 n2	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	376000	1880	Sample1	13.88	14.50	1.153			0.17	0.636	0.733
	FR1 n2	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 3	376000	1880	Sample1	13.84	14.50	1.164			-0.18	0.590	0.687
	FR1 n2	40M	QPSK	1	1	Front	14mm	Ant 4	DSI 4	376000	1880	Sample1	23.39	24.00	1.151			0.10	0.229	0.264
	FR1 n2	40M	QPSK	1	1	Back	22mm	Ant 4	DSI 4	376000	1880	Sample1	23.39	24.00	1.151			-0.05	0.255	0.294
	FR1 n7	50M	QPSK	1	1	Front	5mm	Ant 1	DSI 3	507000	2535	Sample1	19.10	20.00	1.23			-0.07	0.632	0.777
	FR1 n7	50M	QPSK	135	68	Front	5mm	Ant 1	DSI 3	507000	2535	Sample1	19.08	20.00	1.236			-0.01	0.641	0.792
	FR1 n7	50M	QPSK	1	1	Back	5mm	Ant 1	DSI 3	507000	2535	Sample1	19.10	20.00	1.23			-0.05	0.995	1.224
65	FR1 n7	50M	QPSK	135	68	Back	5mm	Ant 1	DSI 3	507000	2535	Sample1	19.08	20.00	1.236			-0.01	1.000	1.236
	FR1 n7	50M	QPSK	270	0	Back	5mm	Ant 1	DSI 3	507000	2535	Sample1	18.96	20.00	1.271			-0.01	0.971	1.234
	FR1 n7	50M	QPSK	135	68	Front	14mm	Ant 1	DSI 4	507000	2535	Sample1	22.88	24.00	1.294			-0.02	0.351	0.454
	FR1 n7	50M	QPSK	135	68	Back	22mm	Ant 1	DSI 4	507000	2535	Sample1	22.88	24.00	1.294			0.08	0.216	0.280
	FR1 n7	50M	QPSK	135	68	Back	5mm	Ant 1	DSI 3	507000	2535	Sample1	19.08	20.00	1.236			0.09	0.960	1.187
	FR1 n7	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 3	507000	2535	Sample1	13.73	14.50	1.194			0.16	0.158	0.189
	FR1 n7	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 3	507000	2535	Sample1	13.70	14.50	1.202			-0.12	0.155	0.186
	FR1 n7	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	507000	2535	Sample1	13.73	14.50	1.194			0.03	0.668	0.798
	FR1 n7	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 3	507000	2535	Sample1	13.70	14.50	1.202			-0.03	0.640	0.769
	FR1 n7	40M	QPSK	1	1	Front	14mm	Ant 4	DSI 4	507000	2535	Sample1	23.19	24.00	1.205			0.08	0.345	0.416
	FR1 n7	40M	QPSK	1	1	Back	22mm	Ant 4	DSI 4	507000	2535	Sample1	23.19	24.00	1.205			0.04	0.541	0.652
	FR1 n26	20M	QPSK	1	1	Front	5mm	Ant 0	DSI 3	166300	831.5	Sample1	22.72	24.00	1.343			-0.06	0.335	0.450
	FR1 n26	20M	QPSK	50	28	Front	5mm	Ant 0	DSI 3	166300	831.5	Sample1	22.69	24.00	1.352			-0.01	0.419	0.566
	FR1 n26	20M	QPSK	1	1	Back	5mm	Ant 0	DSI 3	166300	831.5	Sample1	22.72	24.00	1.343			0.11	0.655	0.880
66	FR1 n26	20M	QPSK	50	28	Back	5mm	Ant 0	DSI 3	166300	831.5	Sample1	22.69	24.00	1.352			-0.10	0.789	1.067
	FR1 n26	20M	QPSK	100	0	Back	5mm	Ant 0	DSI 3	166300	831.5	Sample1	21.70	23.00	1.349			-0.03	0.604	0.815
	FR1 n26	20M	QPSK	1	1	Front	5mm	Ant 4	DSI 3	166300	831.5	Sample1	20.65	22.00	1.365			-0.13	0.301	0.411
	FR1 n26	20M	QPSK	50	28	Front	5mm	Ant 4	DSI 3	166300	831.5	Sample1	20.52	22.00	1.406			0.12	0.325	0.457
	FR1 n26	20M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	166300	831.5	Sample1	20.65	22.00	1.365			-0.07	0.628	0.857
	FR1 n26	20M	QPSK	50	28	Back	5mm	Ant 4	DSI 3	166300	831.5	Sample1	20.52	22.00	1.406			-0.07	0.606	0.852
	FR1 n26	20M	QPSK	100	0	Back	5mm	Ant 4	DSI 3	166300	831.5	Sample1	20.50	22.00	1.413			0.03	0.519	0.733
	FR1 n26	20M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	166300	831.5	Sample2	20.65	22.00	1.365			0.03	0.445	0.607
	FR1 n26	20M	QPSK	50	28	Front	14mm	Ant 4	DSI 4	166300	831.5	Sample1	22.49	24.00	1.416			0.01	0.088	0.125
	FR1 n26	20M	QPSK	1	1	Back	22mm	Ant 4	DSI 4	166300	831.5	Sample1	22.51	24.00	1.409			-0.04	0.071	0.100
	FR1 n66	40M	QPSK	1	1	Front	5mm	Ant 0	DSI 3	349000	1745	Sample1	20.15	21.00	1.216			-0.03	0.417	0.507
	FR1 n66	40M	QPSK	108	54	Front	5mm	Ant 0	DSI 3	349000	1745	Sample1	20.13	21.00	1.222			0.03	0.429	0.524
	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 0	DSI 3	349000	1745	Sample1	20.15	21.00	1.216			0.04	0.869	1.057
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 0	DSI 3	349000	1745	Sample1	20.13	21.00	1.222			-0.01	0.850	1.039
	FR1 n66	40M	QPSK	216	0	Back	5mm	Ant 0	DSI 3	349000	1745	Sample1	20.01	21.00	1.256			0.04	0.749	0.941
67	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 0_PA Reference Designator	DSI 3	349000	1745	Sample1	20.12	21.00	1.225			0.03	1.050	1.286
	FR1 n66	40M	QPSK	108	54	Front	14mm	Ant 0	DSI 4	349000	1745	Sample1	23.03	24.00	1.25			-0.14	0.228	0.285
	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 0_PA Reference Designator	DSI 3	349000	1745	Sample1	20.12	21.00	1.225			-0.16	0.950	1.164
	FR1 n66	40M	QPSK	1	1	Back	22mm	Ant 0_PA Reference Designator	DSI 4	349000	1745	Sample1	23.09	24.00	1.233			0.06	0.210	0.259
	FR1 n66	40M	QPSK	1	1	Front	5mm	Ant 4	DSI 3	349000	1745	Sample1	15.85	16.50	1.161			0.00	0.160	0.186
	FR1 n66	40M	QPSK	108	54	Front	5mm	Ant 4	DSI 3	349000	1745	Sample1	15.82	16.50	1.169			-0.16	0.154	0.180
	FR1 n66	40M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	349000	1745	Sample1	15.85	16.50	1.161			-0.15	0.324	0.376
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 4	DSI 3	349000	1745	Sample1	15.82	16.50	1.169			-0.01	0.383	0.448
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 4_PA	DSI 3	349000	1745	Sample1	15.88	16.50	1.153			-0.12	0.692	0.798
	FR1 n66	40M	QPSK	108	54	Back	5mm	Ant 4_PA	DSI 3	349000	1745	Sample2	15.88	16.50	1.153			-0.06	0.770	0.888
	FR1 n66	40M	QPSK	1	1	Front	14mm	Ant 4	DSI 4	349000	1745	Sample1	23.31	24.00	1.172			-0.09	0.355	0.416
	FR1 n66	40M	QPSK	108	54	Back	22mm	Ant 4_PA Reference Designator	DSI 4	349000	1745	Sample1	23.35	24.00	1.161			0.05	0.461	0.535
	FR1 n41	100M	QPSK	1	1	Front	5mm	Ant 4	DSI 3	518598	2592.99	Sample1	13.59	14.50	1.233			0.06	0.156	0.192
	FR1 n41	100M	QPSK	135	69	Front	5mm	Ant 4	DSI 3	518598	2592.99	Sample1	13.55	14.50	1.245			-0.18	0.151	0.188



FCC SAR Test Report

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68	FR1 n41	100M	QPSK	1	1	Back	5mm	Ant 4	DSI 3	518598	2592.99	Sample1	13.59	14.50	1.233			0.09	0.623	0.768
	FR1 n41	100M	QPSK	135	69	Back	5mm	Ant 4	DSI 3	518598	2592.99	Sample1	13.55	14.50	1.245			0.00	0.593	0.738
	FR1 n41	100M	QPSK	1	1	Front	14mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			0.10	0.345	0.427
	FR1 n41	100M	QPSK	1	1	Back	22mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			0.07	0.471	0.584
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 1	DSI 3	656000	3840	Sample1	18.47	20.00	1.422			-0.04	0.067	0.095
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 1	DSI 3	656000	3840	Sample1	18.32	20.00	1.472			0.03	0.070	0.103
69	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 1	DSI 3	656000	3840	Sample1	18.47	20.00	1.422			-0.06	0.633	0.900
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 1	DSI 3	656000	3840	Sample1	18.32	20.00	1.472			0.15	0.525	0.773
	FR1 n77	100M	QPSK	270	0	Back	5mm	Ant 1	DSI 3	656000	3840	Sample1	17.36	19.00	1.459			0.14	0.487	0.711
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 1	DSI 3	656000	3840	Sample2	18.47	20.00	1.422			-0.07	0.510	0.725
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 2	DSI 3	656000	3840	Sample1	18.93	20.50	1.435			-0.02	0.023	0.033
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 2	DSI 3	656000	3840	Sample1	18.89	20.50	1.449			-0.16	0.020	0.029
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 2	DSI 3	656000	3840	Sample1	18.93	20.50	1.435			-0.03	0.496	0.712
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 2	DSI 3	656000	3840	Sample1	18.89	20.50	1.449			0.03	0.458	0.664
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 2	DSI 3	656000	3840	Sample2	18.93	20.50	1.435			0.02	0.410	0.588
	FR1 n77	100M	QPSK	1	1	Front	14mm	Ant 2	DSI 4	656000	3840	Sample1	20.39	22.00	1.449			-0.16	0.011	0.016
	FR1 n77	100M	QPSK	1	1	Back	22mm	Ant 2	DSI 4	656000	3840	Sample1	20.39	22.00	1.449			-0.02	0.010	0.014
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 5	DSI 3	656000	3840	Sample1	17.09	18.00	1.233			0.10	0.470	0.580
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 5	DSI 3	656000	3840	Sample1	17.06	18.00	1.242			-0.08	0.426	0.529
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 5	DSI 3	656000	3840	Sample1	17.09	18.00	1.233			-0.10	0.444	0.547
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 5	DSI 3	656000	3840	Sample1	17.06	18.00	1.242			-0.01	0.588	0.730
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 5	DSI 3	656000	3840	Sample2	17.06	18.00	1.242			-0.12	0.447	0.555
	FR1 n77	100M	QPSK	1	1	Front	14mm	Ant 5	DSI 4	656000	3840	Sample1	23.05	24.00	1.245			-0.06	0.567	0.706
	FR1 n77	100M	QPSK	135	69	Back	22mm	Ant 5	DSI 4	656000	3840	Sample1	22.90	24.00	1.288			-0.01	0.319	0.411
	FR1 n77	100M	QPSK	1	1	Front	5mm	Ant 8	DSI 3	656000	3840	Sample1	13.19	15.00	1.517			0.00	0.001	0.002
	FR1 n77	100M	QPSK	135	69	Front	5mm	Ant 8	DSI 3	656000	3840	Sample1	13.16	15.00	1.528			-0.02	0.001	0.002
	FR1 n77	100M	QPSK	1	1	Back	5mm	Ant 8	DSI 3	656000	3840	Sample1	13.19	15.00	1.517			0.13	0.453	0.687
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 8	DSI 3	656000	3840	Sample1	13.16	15.00	1.528			0.14	0.495	0.756
	FR1 n77	100M	QPSK	135	69	Back	5mm	Ant 8	DSI 3	656000	3840	Sample2	13.16	15.00	1.528			0.06	0.430	0.657
	FR1 n77	100M	QPSK	135	69	Front	14mm	Ant 8	DSI 4	656000	3840	Sample1	21.00	23.00	1.585			0.11	0.040	0.063
	FR1 n77	100M	QPSK	135	69	Back	22mm	Ant 8	DSI 4	656000	3840	Sample1	21.00	23.00	1.585			0.04	0.088	0.139

[WLAN 2.4GHz_5GHz SAR]

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	5mm	Ant 6	Full Power/Body Standalone	6	2437	Sample1	19.81	20.50	1.172	98.63	1.014	-0.05	0.476	0.566
70	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Full Power/Body Standalone	6	2437	Sample1	19.81	20.50	1.172	98.63	1.014	-0.02	0.797	0.947
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Full Power/Body Standalone	1	2412	Sample1	19.36	20.50	1.3	98.63	1.014	0.09	0.715	0.943
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Full Power/Body Standalone	6	2437	Sample2	19.81	20.50	1.172	98.63	1.014	0.18	0.599	0.712
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 6	Full Power/Body Standalone	6	2437	Sample1	19.81	20.50	1.172	98.63	1.014	-0.14	0.100	0.119
	WLAN2.4GHz	802.11b 1Mbps	Back	22mm	Ant 6	Full Power/Body Standalone	6	2437	Sample1	19.81	20.50	1.172	98.63	1.014	0.08	0.078	0.093
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6	Body Simultaneous	6	2437	Sample1	18.31	19.00	1.172	98.63	1.014	-0.09	0.381	0.453
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Body Simultaneous	6	2437	Sample1	18.31	19.00	1.172	98.63	1.014	-0.09	0.637	0.757
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Full Power/Body Standalone	58	5290	Sample1	15.95	17.00	1.274	92.62	1.08	-0.05	0.212	0.292
71	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Full Power/Body Standalone	58	5290	Sample1	15.95	17.00	1.274	92.62	1.08	0.00	0.777	1.069
	WLAN5GHz	802.11a 6Mbps	Front	14mm	Ant 6	Full Power/Body Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.08	0.121	0.142
	WLAN5GHz	802.11a 6Mbps	Back	22mm	Ant 6	Full Power/Body Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.00	0.196	0.230
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Body Simultaneous	58	5290		11.17	12.00	1.211	92.62	1.08	0.10	0.096	0.126
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Body Simultaneous	58	5290	#10	11.17	12.00	1.211	92.62	1.08	0.00	0.297	0.388
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Full Power/Body Standalone	138	5690	Sample1	16.39	17.50	1.291	92.62	1.08	-0.11	0.402	0.561
72	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Full Power/Body Standalone	138	5690	Sample1	16.39	17.50	1.291	92.62	1.08	-0.15	0.851	1.187
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Full Power/Body Standalone	122	5610	Sample1	16.15	17.50	1.365	92.62	1.08	0.03	0.790	1.165
	WLAN5GHz	802.11a 6Mbps	Front	14mm	Ant 6	Full Power/Body Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	0.05	0.091	0.109
	WLAN5GHz	802.11a 6Mbps	Back	22mm	Ant 6	Full Power/Body Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	-0.09	0.189	0.227
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Body Simultaneous	106	5530	Sample1	12.03	13.00	1.25	92.62	1.08	-0.02	0.092	0.124
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Body Simultaneous	106	5530	Sample1	12.03	13.00	1.25	92.62	1.08	0.00	0.204	0.275
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Full Power/Body Standalone	155	5775	Sample1	15.01	16.00	1.256	92.62	1.08	-0.05	0.429	0.582
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Full Power/Body Standalone	155	5775	Sample1	15.01	16.00	1.256	92.62	1.08	0.16	0.674	0.914
73	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Full Power/Body Standalone	155	5775	Sample2	15.01	16.00	1.256	92.62	1.08	0.03	0.848	1.150
	WLAN5GHz	802.11a 6Mbps	Front	14mm	Ant 6	Full Power/Body Standalone	149	5745	Sample1	18.11	19.50	1.377	98.18	1.019	0.05	0.233	0.327
	WLAN5GHz	802.11a 6Mbps	Back	22mm	Ant 6	Full Power/Body Standalone	149	5745	Sample1	18.11	19.50	1.377	98.18	1.019	0.00	0.377	0.529
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 6	Body Simultaneous	155	5775	Sample1	11.42	13.00	1.439	92.62	1.08	0.00	0.069	0.107
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 6	Body Simultaneous	155	5775	Sample1	11.42	13.00	1.439	92.62	1.08	0.09	0.244	0.379



【Bluetooth SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.16	0.079	0.092
74	Bluetooth	1Mbps	Back	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.17	0.104	0.121
	Bluetooth	1Mbps	Left Edge	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.04	0.001	0.001
	Bluetooth	1Mbps	Right Edge	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	-0.06	0.096	0.112
	Bluetooth	1Mbps	Front	14mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	17.44	18.00	1.138	77.07	1.081	0.00	0.001	0.001
	Bluetooth	1Mbps	Back	22mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	17.44	18.00	1.138	77.07	1.081	-0.02	0.052	0.064
	Bluetooth	1Mbps	Top Edge	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.17	0.103	0.120
	Bluetooth	1Mbps	Bottom Edge	5mm	Ant 6	Default/Head/Body/Hotspot	0	2402	Sample1	12.18	12.50	1.076	77.07	1.081	0.12	0.001	0.001



15.4 Product specific 10g SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
75	GSM850	GPRS 4 Tx slots	Back	0mm	Ant 0	DSI 6	189	836.4	Sample1	27.36	28.50	1.3	0.02	1.510	1.963
	GSM1900	GPRS 4 Tx slots	Back	0mm	Ant 0	DSI 6	810	1909.8	Sample1	23.32	25.00	1.472	-0.06	0.870	1.281
	GSM1900	GPRS 4 Tx slots	Bottom Edge	0mm	Ant 0	DSI 6	810	1909.8	Sample1	23.32	25.00	1.472	-0.00	1.720	2.532
	GSM1900	GPRS 4 Tx slots	Bottom Edge	0mm	Ant 0	DSI 6	512	1850.2	Sample1	23.07	25.00	1.56	0.01	1.710	2.668
76	GSM1900	GPRS 4 Tx slots	Bottom Edge	0mm	Ant 0	DSI 6	661	1880	Sample1	23.25	25.00	1.496	0.06	1.920	2.872

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	9400	1880	Sample1	20.73	21.50	1.194	0.02	1.340	1.600
	WCDMA II	RMC 12.2Kbps	Back	14mm	Ant 0	DSI 4	9400	1880	Sample1	23.26	24.00	1.186	-0.06	0.435	0.516
77	WCDMA II	RMC 12.2Kbps	Bottom Edge	0mm	Ant 0	DSI 6	9262	1852.4	Sample1	20.71	21.50	1.199	0.17	2.270	2.722
	WCDMA II	RMC 12.2Kbps	Bottom Edge	0mm	Ant 0	DSI 6	9400	1880	Sample1	20.73	21.50	1.194	-0.06	2.250	2.686
	WCDMA II	RMC 12.2Kbps	Bottom Edge	15mm	Ant 0	DSI 4	9400	1880	Sample1	23.26	24.00	1.186	-0.05	0.404	0.479
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	1413	1732.6	Sample1	20.46	22.00	1.426	0.16	1.240	1.768
	WCDMA IV	RMC 12.2Kbps	Back	14mm	Ant 0	DSI 4	1413	1732.6	Sample1	23.19	24.00	1.205	-0.05	0.447	0.539
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	0mm	Ant 0	DSI 6	1413	1732.6	Sample1	20.46	22.00	1.426	0.11	2.000	2.852
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	0mm	Ant 0	DSI 6	1312	1712.4	Sample1	20.37	22.00	1.455	0.13	1.850	2.692
78	WCDMA IV	RMC 12.2Kbps	Bottom Edge	0mm	Ant 0	DSI 6	1513	1752.6	Sample1	20.42	22.00	1.439	-0.13	2.020	2.907
	WCDMA IV	RMC 12.2Kbps	Bottom Edge	15mm	Ant 0	DSI 4	1413	1732.6	Sample1	23.19	24.00	1.205	0.07	0.378	0.455
79	WCDMA V	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	Sample1	22.75	24.00	1.334	0.14	1.150	1.534

【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
	LTE Band 7	20M	QPSK	1	49	Front	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.50	22.50	1.259			0.07	1.760	2.216
	LTE Band 7	20M	QPSK	50	24	Front	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.47	22.50	1.268			0.01	1.550	1.965
	LTE Band 7	20M	QPSK	100	0	Front	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.46	22.50	1.271			0.09	1.040	1.322
	LTE Band 7	20M	QPSK	1	49	Front	1mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			0.03	1.610	1.930
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.50	22.50	1.259			-0.02	2.110	2.656
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 1	DSI 6	20850	2510	Sample1	21.43	22.50	1.279			-0.09	2.030	2.596
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 1	DSI 6	21350	2560	Sample1	21.40	22.50	1.288			-0.12	2.200	2.834
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.47	22.50	1.268			-0.13	1.980	2.511
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 1	DSI 6	20850	2510	Sample1	21.40	22.50	1.288			-0.09	1.980	2.550
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 1	DSI 6	21350	2560	Sample1	21.38	22.50	1.294			0.09	2.130	2.756
	LTE Band 7	20M	QPSK	100	0	Back	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.46	22.50	1.271			0.04	1.930	2.453
	LTE Band 7	20M	QPSK	1	49	Left Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.50	22.50	1.259			-0.10	1.650	2.077
	LTE Band 7	20M	QPSK	50	24	Left Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.47	22.50	1.268			-0.13	1.600	2.029
	LTE Band 7	20M	QPSK	100	0	Left Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.46	22.50	1.271			-0.13	1.100	1.398
	LTE Band 7	20M	QPSK	1	49	Left Edge	1mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			0.12	1.660	1.990
	LTE Band 7	20M	QPSK	1	49	Back	6mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			-0.11	0.858	1.029
	LTE Band 7	20M	QPSK	1	49	Bottom Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.50	22.50	1.259			-0.11	2.260	2.845
	LTE Band 7	20M	QPSK	1	49	Bottom Edge	0mm	Ant 1	DSI 6	20850	2510	Sample1	21.43	22.50	1.279			0.15	2.180	2.788
80	LTE Band 7	20M	QPSK	1	49	Bottom Edge	0mm	Ant 1	DSI 6	21350	2560	Sample1	21.40	22.50	1.288			0.11	2.360	3.040
	LTE Band 7	20M	QPSK	50	24	Bottom Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.47	22.50	1.268			-0.02	2.170	2.752
	LTE Band 7	20M	QPSK	50	24	Bottom Edge	0mm	Ant 1	DSI 6	20850	2510	Sample1	21.40	22.50	1.288			-0.03	2.060	2.653
	LTE Band 7	20M	QPSK	50	24	Bottom Edge	0mm	Ant 1	DSI 6	21350	2560	Sample1	21.38	22.50	1.294			-0.07	2.270	2.937
	LTE Band 7	20M	QPSK	100	0	Bottom Edge	0mm	Ant 1	DSI 6	21100	2535	Sample1	21.46	22.50	1.271			-0.02	1.500	1.906
	LTE Band 7	20M	QPSK	1	49	Bottom Edge	0mm	Ant 1	DSI 6	21350	2560	Sample2	21.40	22.50	1.288			0.13	2.090	2.692
	LTE Band 7C	20M	QPSK	1	0	Bottom Edge	0mm	Ant 1	DSI 6	21350+21152	2560+2540.2	Sample1	21.21	22.50	1.346			0.08	2.190	2.948
	LTE Band 7	20M	QPSK	1	49	Bottom Edge	4mm	Ant 1	DSI 4	21100	2535	Sample1	23.21	24.00	1.199			0.01	0.615	0.737
	LTE Band 7	20M	QPSK	1	49	Front	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.39	19.00	1.449			-0.17	0.665	0.964
	LTE Band 7	20M	QPSK	50	24	Front	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.33	19.00	1.469			0.02	0.630	0.925
	LTE Band 7	20M	QPSK	1	49	Front	13mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			-0.05	0.177	0.266
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.39	19.00	1.449			-0.16	1.520	2.202
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	20850	2510	Sample1	17.28	19.00	1.486			0.10	1.520	2.259
	LTE Band 7	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	21350	2560	Sample1	17.33	19.00	1.469			0.09	1.410	2.071
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.33	19.00	1.469			-0.15	1.470	2.159
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	20850	2510	Sample1	17.26	19.00	1.493			-0.16	1.480	2.210
	LTE Band 7	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	21350	2560	Sample1	17.28	19.00	1.486			-0.19	1.370	2.036
	LTE Band 7	20M	QPSK	100	0	Back	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.32	19.00	1.472			-0.03	1.330	1.958



FCC SAR Test Report

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	LTE Band 7	20M	QPSK	1	49	Left Edge	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.39	19.00	1.449			0.02	0.924	1.339
	LTE Band 7	20M	QPSK	50	24	Left Edge	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.33	19.00	1.469			0.11	0.862	1.266
	LTE Band 7	20M	QPSK	1	49	Left Edge	9mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			0.04	0.226	0.340
	LTE Band 7	20M	QPSK	1	49	Back	21mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			-0.03	0.231	0.347
	LTE Band 7	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.39	19.00	1.449			-0.18	1.360	1.971
	LTE Band 7	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	21100	2535	Sample1	17.33	19.00	1.469			-0.09	1.320	1.939
	LTE Band 7	20M	QPSK	1	49	Top Edge	22mm	Ant 4	DSI 4	21100	2535	Sample1	22.23	24.00	1.503			0.06	0.075	0.113
81	LTE Band 13	10M	QPSK	1	25	Bottom Edge	0mm	Ant 0	DSI 6	23230	782	Sample1	22.92	24.00	1.282			0.13	1.580	2.026
	LTE Band 13	10M	QPSK	25	12	Bottom Edge	0mm	Ant 0	DSI 6	23230	782	Sample1	21.85	23.00	1.303			0.03	1.030	1.342
	LTE Band 13	10M	QPSK	50	0	Bottom Edge	0mm	Ant 0	DSI 6	23230	782	Sample1	21.83	23.00	1.309			-0.01	0.916	1.199
	LTE Band 13	10M	QPSK	1	25	Bottom Edge	0mm	Ant 0	DSI 6	23230	782	Sample2	22.92	24.00	1.282			0.18	1.300	1.667
	LTE Band 25	20M	QPSK	1	49	Back	0mm	Ant 0	DSI 6	26340	1880	Sample1	20.60	22.00	1.38			0.05	1.160	1.601
	LTE Band 25	20M	QPSK	50	24	Back	0mm	Ant 0	DSI 6	26340	1880	Sample1	20.58	22.00	1.387			0.15	1.090	1.511
	LTE Band 25	20M	QPSK	1	49	Back	14mm	Ant 0	DSI 4	26340	1880	Sample1	23.29	24.00	1.178			-0.03	0.432	0.509
	LTE Band 25	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0	DSI 6	26340	1880	Sample1	20.60	22.00	1.38			-0.12	1.950	2.691
82	LTE Band 25	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0	DSI 6	26140	1860	Sample1	20.56	22.00	1.393			0.16	2.040	2.842
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	26340	1880	Sample1	20.58	22.00	1.387			0.08	1.820	2.524
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	26140	1860	Sample1	20.54	22.00	1.4			0.14	1.990	2.786
	LTE Band 25	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	26590	1905	Sample1	20.51	22.00	1.409			-0.08	1.710	2.409
	LTE Band 25	20M	QPSK	100	0	Bottom Edge	0mm	Ant 0	DSI 6	26340	1880	Sample1	20.53	22.00	1.403			0.01	1.830	2.567
	LTE Band 2C	20M	QPSK	1	0	Bottom Edge	0mm	Ant 0	DSI 6	18700+18898	1860+1879.8	Sample1	20.48	22.00	1.419			-0.03	1.890	2.682
	LTE Band 25	20M	QPSK	1	49	Bottom Edge	15mm	Ant 0	DSI 4	26340	1880	Sample1	23.29	24.00	1.178			0.02	0.417	0.491
	LTE Band 66	20M	QPSK	1	49	Back	0mm	Ant 0	DSI 6	132322	1745	Sample1	21.58	22.00	1.102			0.15	1.460	1.609
	LTE Band 66	20M	QPSK	50	24	Back	0mm	Ant 0	DSI 6	132322	1745	Sample1	21.55	22.00	1.109			0.06	1.410	1.564
	LTE Band 66	20M	QPSK	1	49	Back	14mm	Ant 0	DSI 4	132322	1745	Sample1	23.28	24.00	1.18			0.17	0.430	0.507
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0	DSI 6	132322	1745	Sample1	21.58	22.00	1.102			-0.01	2.360	2.601
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0	DSI 6	132072	1720	Sample1	21.50	22.00	1.122			-0.05	2.200	2.468
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0	DSI 6	132572	1770	Sample1	21.52	22.00	1.117			0.17	2.440	2.725
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	132322	1745	Sample1	21.55	22.00	1.109			-0.02	2.200	2.440
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	132072	1720	Sample1	21.49	22.00	1.125			0.06	2.120	2.385
	LTE Band 66	20M	QPSK	50	24	Bottom Edge	0mm	Ant 0	DSI 6	132572	1770	Sample1	21.49	22.00	1.125			-0.02	2.260	2.542
	LTE Band 66	20M	QPSK	100	0	Bottom Edge	0mm	Ant 0	DSI 6	132322	1745	Sample1	21.53	22.00	1.114			-0.06	1.960	2.183
83	LTE Band 66	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0_PA Reference Designator	DSI 6	132572	1770	Sample1	21.13	22.00	1.222			0.12	2.460	3.006
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	0mm	Ant 0_PA Reference Designator	DSI 6	132572	1770	Sample2	21.13	22.00	1.222			0.09	2.430	2.969
	LTE Band 66C	20M	QPSK	1	0	Bottom Edge	0mm	Ant 0	DSI 6	132322+132124	1745+1725.2	Sample1	21.44	22.00	1.138			-0.19	2.310	2.629
	LTE Band 66	20M	QPSK	1	49	Bottom Edge	15mm	Ant 0_PA Reference Designator	DSI 4	132322	1745	Sample1	22.83	24.00	1.309			-0.15	0.349	0.457
	LTE Band 66	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	132322	1745	Sample1	17.99	19.50	1.416			-0.12	0.387	0.548
	LTE Band 66	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	132322	1745	Sample1	17.98	19.50	1.419			-0.10	0.375	0.532
	LTE Band 66	20M	QPSK	1	49	Back	21mm	Ant 4	DSI 4	132322	1745	Sample1	22.37	24.00	1.455			-0.03	0.159	0.231
	LTE Band 66	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	132322	1745	Sample1	17.99	19.50	1.416			0.08	1.430	2.025
	LTE Band 66	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	132072	1720	Sample1	17.92	19.50	1.439			0.08	1.340	1.928
	LTE Band 66	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	132572	1770	Sample1	17.95	19.50	1.429			0.02	1.500	2.144
	LTE Band 66	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	132322	1745	Sample1	17.98	19.50	1.419			-0.06	1.460	2.072
	LTE Band 66	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	132072	1720	Sample1	17.90	19.50	1.445			0.00	1.410	2.037
	LTE Band 66	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	132572	1770	Sample1	17.93	19.50	1.435			0.19	1.450	2.081
	LTE Band 66	20M	QPSK	100	0	Top Edge	0mm	Ant 4	DSI 6	132322	1745	Sample1	17.94	19.50	1.432			0.11	1.430	2.048
	LTE Band 66	20M	QPSK	1	49	Top Edge	22mm	Ant 4	DSI 4	132322	1745	Sample1	22.37	24.00	1.455			0.01	0.175	0.255
	LTE Band 66	20M	QPSK	1	49	Top Edge	0mm	Ant 4_PA Reference Designator	DSI 6	132322	1745	Sample1	18.75	19.50	1.189			0.15	1.800	2.140
	LTE Band 66	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	132572	1770	Sample2	17.95	19.50	1.429			-0.12	1.560	2.229
	LTE Band 66C	20M	QPSK	1	0	Top Edge	0mm	Ant 4	DSI 6	132322+132124	1745+1725.2	Sample1	17.75	19.50	1.496			0.13	1.380	2.064
	LTE Band 38	20M	QPSK	1	49	Front	0mm	Ant 1	DSI 6	38000	2595	Sample1	20.93	22.50	1.435	62.9	1.006	0.03	1.120	1.617
	LTE Band 38	20M	QPSK	50	24	Front	0mm	Ant 1	DSI 6	38000	2595	Sample1	20.92	22.50	1.439	62.9	1.006	0.16	1.130	1.636
	LTE Band 38	20M	QPSK	1	49	Front	1mm	Ant 1	DSI 4	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.07	1.810	2.675
84	LTE Band 38	20M	QPSK	1	49	Back	0mm	Ant 1	DSI 6	38000	2595	Sample1	20.93	22.50	1.435	62.9	1.006	-0.10	1.970	2.844
	LTE Band 38	20M	QPSK	50	24	Back	0mm	Ant 1	DSI 6	38000	2595	Sample1	20.92	22.50	1.439	62.9	1.006	-0.08	1.920	2.779
	LTE Band 38	20M	QPSK	100	0	Back	0mm	Ant 1	DSI 6	38000	2595	Sample1	20.89	22.50	1.449	62.9	1.006	0.14	1.830	2.668
	LTE Band 38	20M	QPSK	1	49	Back	6mm	Ant 1	DSI 4	38000	2595	Sample1	22.33	24.00	1.469	62.9	1.006	0.03	0.873	1.290
	LTE Band 38	20M	QPSK	1	49	Bottom Edge	0mm	Ant 1												



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	LTE Band 41	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	41055	2636.5	Sample1	21.35	22.00	1.161	62.9	1.006	0.15	1.560	1.822
	LTE Band 41	20M	QPSK	1	49	Back	0mm	Ant 4	DSI 6	41490	2680	Sample1	21.31	22.00	1.172	62.9	1.006	0.01	1.390	1.639
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.33	22.00	1.167	62.9	1.006	-0.09	1.590	1.867
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	39750	2506	Sample1	21.06	22.00	1.242	62.9	1.006	0.15	1.830	2.286
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	40185	2549.5	Sample1	21.18	22.00	1.208	62.9	1.006	0.02	1.780	2.163
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	41055	2636.5	Sample1	21.32	22.00	1.169	62.9	1.006	-0.12	1.420	1.670
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 4	DSI 6	41490	2680	Sample1	21.30	22.00	1.175	62.9	1.006	0.02	1.230	1.454
	LTE Band 41	20M	QPSK	100	0	Back	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.30	22.00	1.175	62.9	1.006	0.07	1.470	1.738
	LTE Band 41	20M	QPSK	1	49	Left Edge	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.37	22.00	1.156	62.9	1.006	0.06	0.138	0.160
	LTE Band 41	20M	QPSK	50	24	Left Edge	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.33	22.00	1.167	62.9	1.006	0.06	0.162	0.190
	LTE Band 41	20M	QPSK	1	49	Left Edge	9mm	Ant 4	DSI 6	40620	2593	Sample1	23.28	24.00	1.197	62.9	1.006	-0.04	0.241	0.286
	LTE Band 41	20M	QPSK	1	49	Back	21mm	Ant 4	DSI 4	40620	2593	Sample1	23.28	24.00	1.18	62.9	1.006	0.00	0.241	0.286
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.37	22.00	1.156	62.9	1.006	0.03	1.610	1.872
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	39750	2506	Sample1	21.10	22.00	1.23	62.9	1.006	0.17	1.940	2.401
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	40185	2549.5	Sample1	21.22	22.00	1.197	62.9	1.006	0.16	1.670	2.011
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	41055	2636.5	Sample1	21.35	22.00	1.161	62.9	1.006	0.04	1.430	1.670
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	41490	2680	Sample1	21.31	22.00	1.172	62.9	1.006	-0.15	1.210	1.427
	LTE Band 41	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.33	22.00	1.167	62.9	1.006	0.07	1.510	1.773
	LTE Band 41	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	39750	2506	Sample1	21.06	22.00	1.242	62.9	1.006	0.17	1.740	2.174
	LTE Band 41	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	40185	2549.5	Sample1	21.18	22.00	1.208	62.9	1.006	0.08	1.600	1.944
	LTE Band 41	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	41055	2636.5	Sample1	21.32	22.00	1.169	62.9	1.006	0.03	1.290	1.517
	LTE Band 41	20M	QPSK	50	24	Top Edge	0mm	Ant 4	DSI 6	41490	2680	Sample1	21.30	22.00	1.175	62.9	1.006	0.06	1.070	1.265
	LTE Band 41	20M	QPSK	100	0	Top Edge	0mm	Ant 4	DSI 6	40620	2593	Sample1	21.30	22.00	1.175	62.9	1.006	0.10	1.420	1.679
	LTE Band 41	20M	QPSK	1	49	Top Edge	22mm	Ant 4	DSI 4	40620	2593	Sample1	23.28	24.00	1.18	62.9	1.006	0.01	0.175	0.208
	LTE Band 41	20M	QPSK	1	49	Top Edge	0mm	Ant 4	DSI 6	39750	2506	Sample2	21.10	22.00	1.23	62.9	1.006	0.19	1.670	2.066
	LTE Band 42	20M	QPSK	1	49	Front	0mm	Ant 5	DSI 6	42590	3500	Sample1	23.11	24.00	1.227	62.9	1.006	0.12	1.500	1.852
	LTE Band 42	20M	QPSK	50	24	Front	0mm	Ant 5	DSI 6	42590	3500	Sample1	22.24	23.00	1.191	62.9	1.006	-0.15	1.210	1.450
	LTE Band 42	20M	QPSK	1	49	Back	0mm	Ant 5	DSI 6	42590	3500	Sample1	23.11	24.00	1.227	62.9	1.006	-0.08	1.230	1.518
	LTE Band 42	20M	QPSK	50	24	Back	0mm	Ant 5	DSI 6	42590	3500	Sample1	22.24	23.00	1.191	62.9	1.006	0.04	0.948	1.136
	LTE Band 42	20M	QPSK	1	49	Top Edge	0mm	Ant 5	DSI 6	42590	3500	Sample1	23.11	24.00	1.227	62.9	1.006	0.05	1.740	2.148
	LTE Band 42	20M	QPSK	1	49	Top Edge	0mm	Ant 5	DSI 6	42190	3460	Sample1	22.92	24.00	1.282	62.9	1.006	-0.11	1.600	2.064
86	LTE Band 42	20M	QPSK	1	49	Top Edge	0mm	Ant 5	DSI 6	42990	3540	Sample1	23.07	24.00	1.239	62.9	1.006	0.16	1.780	2.219
	LTE Band 42	20M	QPSK	50	24	Top Edge	0mm	Ant 5	DSI 6	42590	3500	Sample1	22.24	23.00	1.191	62.9	1.006	0.13	1.370	1.641
	LTE Band 42	20M	QPSK	100	0	Top Edge	0mm	Ant 5	DSI 6	42590	3500	Sample1	22.17	23.00	1.211	62.9	1.006	0.04	1.470	1.791
	LTE Band 42	20M	QPSK	1	49	Top Edge	0mm	Ant 5	DSI 6	42990	3540	Sample2	23.07	24.00	1.239	62.9	1.006	-0.05	1.660	2.069
	LTE Band 42C	20M	QPSK	1	0	Top Edge	0mm	Ant 5	DSI 6	42990+42792	3540+3520.2	Sample1	22.66	24.00	1.361	62.9	1.006	0.03	1.580	2.163

【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
	FR1 n2	40M	QPSK	1	1	Front	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.22	22.00	1.197			-0.18	1.200	1.436
	FR1 n2	40M	QPSK	108	54	Front	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.20	22.00	1.202			0.11	1.110	1.334
	FR1 n2	40M	QPSK	1	1	Front	9mm	Ant 0	DSI 4	376000	1880	Sample1	23.34	24.00	1.164				0.318	0.370
	FR1 n2	40M	QPSK	1	1	Back	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.22	22.00	1.197			-0.15	1.340	1.604
	FR1 n2	40M	QPSK	108	54	Back	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.20	22.00	1.202			0.00	1.410	1.695
	FR1 n2	40M	QPSK	108	54	Back	14mm	Ant 0	DSI 4	376000	1880	Sample1	22.91	24.00	1.285			-0.01	0.333	0.428
	FR1 n2	40M	QPSK	1	1	Bottom Edge	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.22	22.00	1.197			-0.04	2.340	2.801
87	FR1 n2	40M	QPSK	108	54	Bottom Edge	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.20	22.00	1.202			0.18	2.350	2.825
	FR1 n2	40M	QPSK	216	0	Bottom Edge	0mm	Ant 0	DSI 6	376000	1880	Sample1	21.19	22.00	1.205			-0.18	1.850	2.229
	FR1 n2	40M	QPSK	108	54	Bottom Edge	0mm	Ant 0_PA Reference Designator	DSI 6	376000	1880	Sample1	21.15	22.00	1.216			0.16	1.900	2.310
	FR1 n2	40M	QPSK	108	54	Bottom Edge	15mm	Ant 0	DSI 4	376000	1880	Sample1	22.91	24.00	1.285				0.318	0.409
	FR1 n2	40M	QPSK	1	1	Front	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.92	20.50	1.439			0.16	0.641	0.922
	FR1 n2	40M	QPSK	108	54	Front	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.90	20.50	1.445			0.00	0.564	0.815
	FR1 n2	40M	QPSK	1	1	Front	13mm	Ant 4	DSI 4	376000	1880	Sample1	23.39	24.00	1.151			0.01	0.367	0.422
	FR1 n2	40M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.92	20.50	1.439			0.13	0.577	0.830
	FR1 n2	40M	QPSK	108	54	Back	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.90	20.50	1.445			0.02	0.548	0.792
	FR1 n2	40M	QPSK	1	1	Back	21mm	Ant 4	DSI 4	376000	1880	Sample1	23.39	24.00	1.151				0.358	0.412
	FR1 n2	40M	QPSK	1	1	Top Edge	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.92	20.50	1.439			0.04	1.420	2.043
	FR1 n2	40M	QPSK	108	54	Top Edge	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.90	20.50	1.445			0.17	1.420	2.052
	FR1 n2	40M	QPSK	216	0	Top Edge	0mm	Ant 4	DSI 6	376000	1880	Sample1	18.88	20.50	1.452			-0.03	1.360	1.975
	FR1 n2	40M	QPSK	108	54	Top Edge	22mm	Ant 4	DSI 4	376000	1880	Sample1	23.11	24.00	1.227				0.178	0.218
	FR1 n7	50M	QPSK	1	1	Front	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.12	21.00	1.225			0.10	1.220	1.495
	FR1 n7	50M	QPSK	135	68	Front	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.10	21.00	1.23			0.18	1.160	1.427
	FR1 n7	50M	QPSK	1	1	Front	1mm	Ant 1	DSI 4	507000	2535	Sample1	23.08	24.00	1.236			0.01	1.100	1.360
	FR1 n7	50M	QPSK	1	1	Back	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.12	21.00	1.225			0.18	2.260	2.769
88	FR1 n7	50M	QPSK	135	68	Back	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.10	21.00	1.23			0.13	2.330	2.866
	FR1 n7	50M	QPSK	270	0	Back	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.08	21.00	1.236			-0.08	1.840	2.274
	FR1 n7	50M	QPSK	1	1	Left Edge	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.12	21.00	1.225			0.11	1.210	1.482
	FR1 n7	50M	QPSK	135	68	Left Edge	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.10	21.00	1.23			0.17	1.180	1.451
	FR1 n7	50M	QPSK	1	1	Left Edge	1mm	Ant 1	DSI 4	507000	2535	Sample1	23.08	24.00	1.236			0.04	0.648	0.801



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	FR1 n7	50M	QPSK	135	68	Back	6mm	Ant 1	DSI 4	507000	2535	Sample1	22.88	24.00	1.294			0.08	1.070	1.385
	FR1 n7	50M	QPSK	1	1	Bottom Edge	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.12	21.00	1.225			0.07	1.610	1.972
	FR1 n7	50M	QPSK	135	68	Bottom Edge	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.10	21.00	1.23			0.16	1.660	2.042
	FR1 n7	50M	QPSK	270	0	Bottom Edge	0mm	Ant 1	DSI 6	507000	2535	Sample1	20.08	21.00	1.236			0.14	1.340	1.656
	FR1 n7	50M	QPSK	135	68	Bottom Edge	4mm	Ant 1	DSI 4	507000	2535	Sample1	22.88	24.00	1.294			0.02	0.354	0.458
	FR1 n7	40M	QPSK	1	1	Front	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.18	20.00	1.208			-0.18	0.817	0.987
	FR1 n7	40M	QPSK	108	54	Front	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.17	20.00	1.211			0.09	0.837	1.014
	FR1 n7	40M	QPSK	108	54	Front	13mm	Ant 4	DSI 4	507000	2535	Sample1	23.06	24.00	1.242			0.01	0.192	0.238
	FR1 n7	40M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.18	20.00	1.208			0.14	0.962	1.162
	FR1 n7	40M	QPSK	108	54	Back	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.17	20.00	1.211			-0.07	0.978	1.184
	FR1 n7	40M	QPSK	1	1	Left Edge	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.18	20.00	1.208			0.09	1.170	1.413
	FR1 n7	40M	QPSK	108	54	Left Edge	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.17	20.00	1.211			-0.08	1.140	1.381
	FR1 n7	40M	QPSK	1	1	Left Edge	9mm	Ant 4	DSI 4	507000	2535	Sample1	23.19	24.00	1.205			0.10	0.239	0.288
	FR1 n7	40M	QPSK	108	54	Back	21mm	Ant 4	DSI 4	507000	2535	Sample1	23.06	24.00	1.242			-0.12	0.249	0.309
	FR1 n7	40M	QPSK	1	1	Top Edge	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.18	20.00	1.208			0.14	1.820	2.199
	FR1 n7	40M	QPSK	108	54	Top Edge	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.17	20.00	1.211			-0.07	1.790	2.168
	FR1 n7	40M	QPSK	216	0	Top Edge	0mm	Ant 4	DSI 6	507000	2535	Sample1	19.12	20.00	1.225			-0.01	1.750	2.144
	FR1 n7	40M	QPSK	1	1	Top Edge	22mm	Ant 4	DSI 4	507000	2535	Sample1	23.19	24.00	1.205			0.02	0.085	0.102
	FR1 n26	20M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	166300	831.5	Sample1	22.51	24.00	1.409			-0.09	0.403	0.568
89	FR1 n26	20M	QPSK	50	28	Back	0mm	Ant 4	DSI 6	166300	831.5	Sample1	22.49	24.00	1.416			0.08	0.450	0.637
	FR1 n26	20M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	166300	831.5	Sample2	22.51	24.00	1.409			-0.10	0.427	0.602
	FR1 n66	40M	QPSK	1	1	Back	0mm	Ant 0	DSI 6	349000	1745	Sample1	20.67	21.50	1.211			0.11	1.590	1.925
	FR1 n66	40M	QPSK	108	54	Back	0mm	Ant 0	DSI 6	349000	1745	Sample1	20.66	21.50	1.213			0.15	1.610	1.953
	FR1 n66	40M	QPSK	108	54	Back	14mm	Ant 0	DSI 4	349000	1745	Sample1	23.03	24.00	1.25			0.01	0.287	0.359
	FR1 n66	40M	QPSK	1	1	Bottom Edge	0mm	Ant 0	DSI 6	349000	1745	Sample1	20.67	21.50	1.211			-0.09	2.230	2.701
90	FR1 n66	40M	QPSK	108	54	Bottom Edge	0mm	Ant 0	DSI 6	349000	1745	Sample1	20.66	21.50	1.213			0.14	2.380	2.887
	FR1 n66	40M	QPSK	216	0	Bottom Edge	0mm	Ant 0	DSI 6	349000	1745	Sample1	20.66	21.50	1.213			-0.05	2.200	2.669
	FR1 n66	40M	QPSK	108	54	Bottom Edge	0mm	Ant 0_PA Reference Designator	DSI 6	349000	1745	Sample1	20.61	21.50	1.227			0.12	2.320	2.847
	FR1 n66	40M	QPSK	108	54	Bottom Edge	15mm	Ant 0	DSI 4	349000	1745	Sample1	23.03	24.00	1.25			0.02	0.215	0.269
	FR1 n66	40M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	349000	1745	Sample1	18.38	19.00	1.153			0.00	0.606	0.699
	FR1 n66	40M	QPSK	108	54	Back	0mm	Ant 4	DSI 6	349000	1745	Sample1	18.35	19.00	1.161			-0.14	0.643	0.747
	FR1 n66	40M	QPSK	108	54	Back	21mm	Ant 4	DSI 4	349000	1745	Sample1	23.28	24.00	1.18			-0.01	0.273	0.322
	FR1 n66	40M	QPSK	1	1	Top Edge	0mm	Ant 4	DSI 6	349000	1745	Sample1	18.38	19.00	1.153			0.08	1.430	1.649
	FR1 n66	40M	QPSK	108	54	Top Edge	0mm	Ant 4	DSI 6	349000	1745	Sample1	18.35	19.00	1.161			0.09	1.590	1.846
	FR1 n66	40M	QPSK	108	54	Top Edge	0mm	Ant 4_PA Reference Designator	DSI 6	349000	1745	Sample1	18.40	19.00	1.148			0.08	1.810	2.078
	FR1 n66	40M	QPSK	108	54	Top Edge	22mm	Ant 4_PA Reference Designator	DSI 4	349000	1745	Sample1	23.35	24.00	1.161			-0.07	0.181	0.210
	FR1 n41	100M	QPSK	1	1	Front	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.60	21.00	1.38			-0.11	0.663	0.915
	FR1 n41	100M	QPSK	135	69	Front	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.55	21.00	1.396			0.08	0.590	0.824
	FR1 n41	100M	QPSK	1	1	Front	13mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			0.03	0.188	0.233
91	FR1 n41	100M	QPSK	1	1	Back	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.60	21.00	1.38			-0.00	1.520	2.098
	FR1 n41	100M	QPSK	135	69	Back	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.55	21.00	1.396			0.10	1.450	2.024
	FR1 n41	100M	QPSK	270	0	Back	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.52	21.00	1.406			0.03	1.420	1.997
	FR1 n41	100M	QPSK	1	1	Left Edge	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.60	21.00	1.38			0.02	0.851	1.174
	FR1 n41	100M	QPSK	135	69	Left Edge	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.55	21.00	1.396			0.03	0.715	0.998
	FR1 n41	100M	QPSK	1	1	Left Edge	9mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			-0.05	0.246	0.305
	FR1 n41	100M	QPSK	1	1	Back	21mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			-0.02	0.229	0.284
	FR1 n41	100M	QPSK	1	1	Top Edge	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.60	21.00	1.38			0.12	1.370	1.891
	FR1 n41	100M	QPSK	135	69	Top Edge	0mm	Ant 4	DSI 6	518598	2592.99	Sample1	19.55	21.00	1.396			0.02	1.320	1.843
	FR1 n41	100M	QPSK	1	1	Top Edge	22mm	Ant 4	DSI 4	518598	2592.99	Sample1	23.07	24.00	1.239			0.09	0.174	0.216
	FR1 n77	100M	QPSK	1	1	Back	0mm	Ant 2	DSI 6	656000	3840	Sample1	20.39	22.00	1.449			0.15	1.060	1.536
	FR1 n77	100M	QPSK	135	69	Back	0mm	Ant 2	DSI 6	656000	3840	Sample1	20.34	22.00	1.466			0.07	1.090	1.598
	FR1 n77	100M	QPSK	135	69	Back	0mm	Ant 2	DSI 6	656000	3840	Sample2	20.34	22.00	1.466			-0.01	1.040	1.525
	FR1 n77	100M	QPSK	1	1	Front	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.59	21.50	1.233			-0.08	1.270	1.566
	FR1 n77	100M	QPSK	135	69	Front	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.54	21.50	1.247			-0.08	1.330	1.659
	FR1 n77	100M	QPSK	1	1	Back	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.59	21.50	1.233			0.09	0.724	0.893
	FR1 n77	100M	QPSK	135	69	Back	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.54	21.50	1.247			-0.09	0.697	0.869
	FR1 n77	100M	QPSK	1	1	Back	12mm	Ant 5	DSI 4	656000	3840	Sample1	23.05	24.00	1.245			0.05	0.490	0.610
	FR1 n77	100M	QPSK	1	1	Top Edge	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.59	21.50	1.233			0.08	1.540	1.899
92	FR1 n77	100M	QPSK	135	69	Top Edge	0mm	Ant 5	DSI 6	656000	3840	Sample1	20.54	21.50	1.247			-0.10	1.600	1.995
	FR1 n77	100M	QPSK	135	69	Top Edge	9mm	Ant 5	DSI 4	656000	3840	Sample1	22.90	24.00	1.288			0.01	0.639	0.823
	FR1 n77	100M	QPSK	1	1	Back	0mm	Ant 8	DSI 6	656000	3840	Sample1	21.11	23.00	1.545			0.18	0.909	1.404
	FR1 n77	100M	QPSK	135	69	Back	0mm	Ant 8	DSI 6	656000	3840	Sample1	21.00	23.00	1.585			0.07	0.998	1.582
	FR1 n77	100M	QPSK	135	69	Back	0mm	Ant 8	DSI 6	656000	3840	Sample2	21.00	23.00	1.585			-0.07	0.805	1.276

【WLAN 2.4GHz_5GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
93	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Standalone	36	5180	Sample1	19.15	19.50	1.084	98.18	1.019	0.00	0.882	0.974
	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	36	5180	Sample1	19.15	19.50	1.084	98.18	1.019	0.15	0.582	0.643
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Simultaneous	36	5180	Sample1	18.15	18.50	1.084	98.18	1.019	0.00	0.743	0.821
	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Simultaneous	36	5180	Sample1	18.15	18.50	1.084	98.18	1.019	0.15	0.582	0.643
	WLAN5GHz	802.11a 6Mbps	Front	0mm	Ant 6	Extremity Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.16	0.419	0.491
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.19	0.656	0.769
	WLAN5GHz	802.11a 6Mbps	Right Edge	0mm	Ant 6	Extremity Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.12	0.327	0.384
94	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.02	0.805	0.944
	WLAN5GHz	802.11a 6Mbps	Front	0mm	Ant 6	Extremity Simultaneous	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.16	0.419	0.491
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Simultaneous	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	-0.12	0.656	0.769
	WLAN5GHz	802.11a 6Mbps	Right Edge	0mm	Ant 6	Extremity Simultaneous	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.11	0.327	0.384
	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Simultaneous	52	5260	Sample1	18.89	19.50	1.151	98.18	1.019	0.02	0.805	0.944
	WLAN5GHz	802.11a 6Mbps	Front	0mm	Ant 6	Extremity Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	-0.09	0.978	1.176
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	0.03	0.724	0.871
	WLAN5GHz	802.11a 6Mbps	Right Edge	0mm	Ant 6	Extremity Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	0.09	0.554	0.666
95	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	100	5500	Sample1	18.78	19.50	1.18	98.18	1.019	0.01	1.560	1.876
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 6	Extremity Simultaneous	138	5690	Sample1	14.44	16.00	1.432	92.62	1.08	0.12	0.453	0.701
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 6	Extremity Simultaneous	138	5690	Sample1	14.44	16.00	1.432	92.62	1.08	-0.06	0.323	0.500
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Edge	0mm	Ant 6	Extremity Simultaneous	138	5690	Sample1	14.44	16.00	1.432	92.62	1.08	0.04	0.250	0.387
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Edge	0mm	Ant 6	Extremity Simultaneous	138	5690	Sample1	14.44	16.00	1.432	92.62	1.08	0.17	0.825	1.276
	WLAN5GHz	802.11a 6Mbps	Front	0mm	Ant 6	Extremity Standalone	149	5745	Sample1	18.11	19.00	1.227	98.18	1.019	0.07	1.130	1.413
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 6	Extremity Standalone	149	5745	Sample1	18.11	19.00	1.227	98.18	1.019	0.01	0.640	0.800
	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	149	5745	Sample1	18.11	19.00	1.227	98.18	1.019	0.05	1.980	2.476
	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	157	5785	Sample1	17.85	19.00	1.303	98.18	1.019	0.08	1.790	2.377
96	WLAN5GHz	802.11a 6Mbps	Top Edge	0mm	Ant 6	Extremity Standalone	149	5745	Sample2	18.11	19.00	1.227	98.18	1.019	0.16	2.300	2.876
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 6	Extremity Simultaneous	155	5775	Sample1	13.99	15.50	1.416	92.62	1.08	0.00	0.199	0.304
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 6	Extremity Simultaneous	155	5775	Sample1	13.99	15.50	1.416	92.62	1.08	-0.08	0.240	0.367
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Edge	0mm	Ant 6	Extremity Simultaneous	155	5775	Sample1	13.99	15.50	1.416	92.62	1.08	0.07	0.683	1.044

【NFC SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Freq. (MHz)	Sample	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	NFC	ASK	Front	0mm	13.56	Sample1	-0.11	< 0.001	< 0.001
97	NFC	ASK	Back	0mm	13.56	Sample1	-0.09	0.014	0.014
	NFC	ASK	Left Edge	0mm	13.56	Sample1	-0.08	< 0.001	< 0.001
	NFC	ASK	Right Edge	0mm	13.56	Sample1	0.09	< 0.001	< 0.001
	NFC	ASK	Top Edge	0mm	13.56	Sample1	-0.08	< 0.001	< 0.001
	NFC	ASK	Bottom Edge	0mm	13.56	Sample1	0.17	< 0.001	< 0.001

15.5 Repeated SAR Measurement

【Repeat SAR 1g - FCC】

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)	Ratio
1st	LTE Band 13	10M_QPSK_1_25	Bottom Edge	5.0	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			-0.16	0.944	1.210	-
2nd	LTE Band 13	10M_QPSK_1_25	Bottom Edge	5.0	Ant 0	DSI 7	23230	782	Sample1	22.92	24.00	1.282			0.03	0.924	1.185	1.02
1st	WCDMA V	RMC 12.2Kbps	Back	5.0	Ant 0	DSI 7	4233	846.6	Sample1	22.40	23.50	1.288			-0.05	0.949	1.222	-
2nd	WCDMA V	RMC 12.2Kbps	Back	5.0	Ant 0	DSI 7	4233	846.6	Sample1	22.40	23.50	1.288			-0.12	0.939	1.210	1.01
1st	FR1 n66	40M_QPSK_1_1	Back	5.0	Ant 0_PA_Reference Designator	DSI 3	349000	1745	Sample1	20.12	21.00	1.225			0.03	1.050	1.286	-
2nd	FR1 n66	40M_QPSK_1_1	Back	5.0	Ant 0_PA_Reference Designator	DSI 3	349000	1745	Sample1	20.12	21.00	1.225			0.06	1.000	1.225	1.05
1st	WCDMA II	RMC 12.2Kbps	Back	5.0	Ant 0	DSI 3	9538	1907.6	Sample1	19.72	20.50	1.197			-0.13	1.020	1.221	-
2nd	WCDMA II	RMC 12.2Kbps	Back	5.0	Ant 0	DSI 3	9538	1907.6	Sample1	19.72	20.50	1.197			0.07	0.950	1.137	1.07
1st	FR1 n7	50M_QPSK_135_68	Back	5.0	Ant 1	DSI 3	507000	2535	Sample1	19.08	20.00	1.236			-0.01	1.000	1.236	-
2nd	FR1 n7	50M_QPSK_135_68	Back	5.0	Ant 1	DSI 3	507000	2535	Sample1	19.08	20.00	1.236			-0.06	0.950	1.174	1.05
1st	5.8GHz WLAN	80M_802.11ac-VHT80 MCS0	Back	5.0	Ant 6	Body Standalone	138	5690	Sample1	16.39	17.50	1.291	92.62	1.080	-0.15	0.851	1.187	-
2nd	5.8GHz WLAN	80M_802.11ac-VHT80 MCS0	Back	5.0	Ant 6	Body Standalone	138	5690	Sample1	16.39	17.50	1.291	92.62	1.080	0.14	0.801	1.117	1.06
1st	5.8GHz WLAN	80M_802.11ac-VHT80 MCS0	Back	5.0	Ant 6	Body Standalone	155	5775	Sample2	15.01	16.00	1.256	92.62	1.080	0.03	0.848	1.150	-
2nd	5.8GHz WLAN	80M_802.11ac-VHT80 MCS0	Back	5.0	Ant 6	Body Standalone	155	5775	Sample2	15.01	16.00	1.256	92.62	1.080	-0.10	0.758	1.028	1.12

【Repeat SAR 10g - FCC】

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)	Ratio
1st	LTE Band 66	20M_QPSK_1_49	Bottom Edge	0.0	Ant 0_PA_Reference Designator	DSI 6	132572	1770	Sample1	21.13	22.00	1.222			0.12	2.460	3.006	-
2nd	LTE Band 66	20M_QPSK_1_49	Bottom Edge	0.0	Ant 0_PA_Reference Designator	DSI 6	132572	1770	Sample1	21.13	22.00	1.222			0.10	2.430	2.969	1.01
1st	FR1 n2	40M_QPSK_108_54	Bottom Edge	0.0	Ant 0	DSI 6	376000	1880	Sample1	21.20	22.00	1.202			0.18	2.350	2.825	-
2nd	FR1 n2	40M_QPSK_108_54	Bottom Edge	0.0	Ant 0	DSI 6	376000	1880	Sample1	21.20	22.00	1.202			-0.14	2.320	2.789	1.01
1st	LTE Band 7	20M_QPSK_1_49	Bottom Edge	0.0	Ant 1	DSI 6	21350	2560	Sample1	21.40	22.50	1.288			0.11	2.360	3.040	-
2nd	LTE Band 7	20M_QPSK_1_49	Bottom Edge	0.0	Ant 1	DSI 6	21350	2560	Sample1	21.40	22.50	1.288			-0.17	2.270	2.924	1.04
1st	5.8GHz WLAN	20M_802.11a 6Mbps	Top Edge	0.0	Ant 6	Extremity Standalone	149	5745	Sample2	18.11	19.00	1.227	98.18	1.018	0.16	2.300	2.876	-
2nd	5.8GHz WLAN	20M_802.11a 6Mbps	Top Edge	0.0	Ant 6	Extremity Standalone	149	5745	Sample2	18.11	19.00	1.227	98.18	1.018	0.10	2.390	2.988	0.96

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
- Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + 2.4GHz WLAN	Yes	Yes	Yes	Yes
2.	WWAN + 5GHz WLAN	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WWAN + 5GHz WLAN + Bluetooth	Yes	Yes	Yes	Yes
6.	WWAN + 2.4GHz WLAN+NFC				Yes
7.	WWAN + 5GHz WLAN+NFC				Yes
8.	WWAN + Bluetooth + NFC				Yes
9.	5GHz WLAN + Bluetooth + NFC				Yes
10.	WWAN +5GHz WLAN + Bluetooth + NFC				Yes

General Note:

- This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- WWAN above includes 5G NR bands and EN-DC combination.
- EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation.
- Qualcomm Smart Transmit algorithm support to WWAN except WIFI/BT and NFC. And this device supports inter-band ULCA and EN-DC combination operations with component carriers from different antenna groups. Each antenna group has controlled the total RF exposure from all transmitter to not exceed FCC limit. Therefore, in this report, it is evaluated whether the sum of the groups of each antenna does not exceed FCC limit or spatial separation is applied. In addition, each antenna group need to satisfy simultaneous transmission analysis with External radios (WIFI/BT and NFC) in this report.
- This device WLAN 2.4GHz support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
- According to the EUT characteristic, WLAN 2.4GHz and Bluetooth cannot transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and WLAN 2.4GHz cannot transmit simultaneously.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- For Headset SAR and non-Headset SAR always chose higher SAR to do co-located analysis.
- For standalone WWAN, always choose the highest SAR among all WWAN bands within the selected antenna for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
- The maximum SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - The SPLSR calculated results please refer to section 16.6.
- The simultaneous transmission analysis was conducted in the following two steps:
 Step 1: If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneous transmission SAR measurement is not required. If $SPLSR > 0.04$ for 1g SAR and $SPLSR > 0.10$ for 10g SAR, proceed to Step 2.
 Step 2: If $SPLSR > 0.04$ for 1g SAR and $SPLSR > 0.10$ for 10g SAR, select the worst-case WWAN band of AG0/1 and WLAN/BT corresponding to the SPLSR condition to perform a small enlarged zoom scan. Using a small

enlarged zoom scan SAR and NFC SAR are summed to ensure that the 10g scalar SAR summation is less than 4.0 W/kg.

16.1 Sub6 Antenna Groups

Qualcomm® Smart Transmit™ 3.0 of Smart Transmit (GEN2) Feature operates based on pre-defined sub6 antenna groups (AG). Sub6 Tx antennas in the device are grouped based on spatial variation of RF exposure distributions, where the RF exposure of one AG is mutually exclusive from other AG. This is accomplished by demonstrating below conditions for all exposure positions under each DSI for a given exposure category.

- 1) Case 1: Demonstrate that Sum of maximum reported SAR from each of the sub6 AGs and the reported normalized SAR values from radios outside Smart Transmit should be less than regulatory limits for each supported DSI. This condition must be demonstrated for all antenna combinations of sub6 AGs.
 - i. For a given DSI, obtain the highest *reported* SAR for each antenna out of all supported technologies and frequency bands. Obtain the maximum *reported* SAR for each AG by taking the maximum out of *reported* SAR for all antennas belonging to each AG.
 - ii. Demonstrate that the sum of maximum reported SAR (normalized to regulatory limit) from each of the sub6 AGs and the sum of reported SAR (normalized to regulatory limit) from all supported radios outside of Smart Transmit should be less than 1.0
- 2) Case 2: If the Case 1 is NOT met, then for a given antenna grouping scheme plus external radios/antennas (ERs) (referred to as 'configuration'), demonstrate all AG pairs, all ER pairs and all (AG, ER) pairs in the configuration meet SPLSR criteria (Section 4.3.2 (c) in FCC KDB 447498 D01 v06) for each exposure position under each supported DSI. For a given exposure position under a given DSI, prove all AG pairs, all ER pairs and all (AG, ER) pairs (if there are external radios outside Smart Transmit) in the configuration meet SPLSR.

This device supports two sub6 AG: AG0 and AG1, the detailed please refer to the below table:

Antenna Group 0 (AG0)	ANT0 & ANT1
Antenna Group 1 (AG1)	ANT2 & ANT4 & ANT5 & ANT8

The conditions are verified through the following criterias:

- i) (SAR1 + SAR2 criteria): If SPLSR criteria is not used, then the highest reported SAR at *Plimit* for each antenna should be obtained out of all supported technologies and frequency bands for each DSI. Demonstrate that the sum of reported SAR of one antenna from each of the sub6 AGs and the sum of RF exposure from all supported radios outside of Smart Transmit should be less than the regulatory limit as given below for each DSI.
 1. Obtain the worst-case reported SAR for each antenna group (i.e., maximum *reported* SAR at *Plimit* out of all supported technologies, frequency bands and antennas in AG0 and AG1), denoted as max.SAR.AG0 and max.SAR.AG1, and obtain the worst-case RF exposure for each external radio, and demonstrate that the sum of these RF exposures meets: $\{ \text{max.SAR.AG0} + \text{max.SAR.AG1} \} + \text{WIFI/BT worst-case reported SAR} \leq 1.6$ (for 1g, or 4.0 for 10g). (WIFI/BT worst-case reported SAR is the worst SAR in all combinations of WIFI and BT simultaneous transmission)
- ii) (SPLSR criteria): For each antenna, obtain the highest reported SAR value at *Plimit* out of all supported technologies for each frequency band. Using these values, demonstrate for a given DSI that every antenna from one sub6 AG meets SPLSR criteria with every antenna in another sub6 AG for all frequency bands. This criteria must be demonstrated for all antenna pair combinations irrespective of supported simultaneous transmission scenarios as given below for each DSI:
 - a. SPLSR criteria should be met for all antenna pair combinations of AG0 and AG1. As it can be seen, these include all combinations of antenna groups, antennas, and frequency bands.
 - b. Obtain combined SAR per AG: Obtain the worst-case conservative combined SAR and its peak location for each AG.
 - c. Use the 'closest' peak location out of all antennas of AGj to evaluate SPLSR with other AGs in the configuration. Note, by 'closest', select the peak location out of all antennas (ϵ AGj) that is closest to the peak location of other AG where SPLSR is evaluated.
- iii) (combination of SPLSR & SAR1+SAR2 criteria): If SPLSR criteria for all the combinations of sub6 antenna groups in (i) is demonstrated to show that each AG is mutually exclusive from other AGs, and if the WIFI/BT antennas supported outside of Smart Transmit do not meet SPLSR criteria, then the condition in (ii) reduces to: $\{ \text{max.SAR.AG0} + \text{worst-case reported SAR} \} \leq 1.6$ and $\{ \text{max.SAR.AG1} + \text{worst-case reported SAR} \} \leq 1.6$ for compliance demonstration (for 1g, or 4.0 for 10g).
- iv) A small enlarged zoom scan SAR was used for Simultaneous transmission analysis, and the small enlarged zoom scan was performed in section 16.8 for those with SPLSR exceeding 0.10 for 10g SAR.

For summed SAR results and SPLSR detailed analysis, please refer to section 16.2/ 16.3 / 16.4 / 16.5 / 16.6 of this report. All of the combinations of sub6 antenna groups are sufficient to show that AG0 is mutually exclusive from AG1 and that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric

simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528- 2013 Section 6.3.4.1.

16.2 Head Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum reported SAR>:

Test Position	Ant 0	Ant 1	All Antenna MAX SAR 1g W/kg
Right Cheek	0.367	0.323	0.367
Right Tilted	0.196	0.286	0.286
Left Cheek	0.329	0.500	0.500
Left Tilted	0.254	0.163	0.254

<AG1 maximum reported SAR>:

Test Position	Ant 2	Ant 4	Ant 5	Ant 8	All Antenna MAX SAR 1g W/kg
Right Cheek	0.077	0.870	0.450	0.165	0.870
Right Tilted	0.072	0.855	0.492	0.151	0.855
Left Cheek	0.038	0.600	0.671	0.212	0.671
Left Tilted	0.084	0.571	0.648	0.315	0.648

<WLAN2.4GHz/5GHz+BT Worse-case SAR>:

	1	2	3	1+3	WLAN/BT worse case
Test Position	Bluetooth Ant 6	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Summed 1g SAR (W/kg)	
Right Cheek	0.069	0.235	0.291	0.360	0.360
Right Tilted	0.093	0.306	0.314	0.407	0.407
Left Cheek	0.194	0.590	0.323	0.517	0.590
Left Tilted	0.149	0.444	0.401	0.550	0.550

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case
Right Cheek	0.367	0.870	0.360	1.60
Right Tilted	0.286	0.855	0.407	1.55
Left Cheek	0.500	0.671	0.590	1.76
Left Tilted	0.254	0.648	0.550	1.45

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Right Cheek					
Ant,combination	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	0.367	0.077	0.360	0.80	
Ant 0-Ant 4	0.367	0.870	0.360	1.60	Case 1
Ant 0-Ant 5	0.367	0.450	0.360	1.18	
Ant 0-Ant 8	0.367	0.165	0.360	0.89	
Ant 1-Ant 2	0.323	0.077	0.360	0.76	
Ant 1-Ant 4	0.323	0.870	0.360	1.55	
Ant 1-Ant 5	0.323	0.450	0.360	1.13	
Ant 1-Ant 8	0.323	0.165	0.360	0.85	

Left Cheek					
Ant,combination	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	0.329	0.038	0.590	0.96	
Ant 0-Ant 4	0.329	0.600	0.590	1.52	
Ant 0-Ant 5	0.329	0.671	0.590	1.59	
Ant 0-Ant 8	0.329	0.212	0.590	1.13	
Ant 1-Ant 2	0.500	0.038	0.590	1.13	
Ant 1-Ant 4	0.500	0.600	0.590	1.69	Case 2
Ant 1-Ant 5	0.500	0.671	0.590	1.76	Case 3
Ant 1-Ant 8	0.500	0.212	0.590	1.30	

<Simultaneous Transmission analysis of WLAN/BT only and WWAN cell-off>:

Test Position	1	2	1+2
	5GWLAN Ant 6	BT Ant 6	Summed 1g SAR (W/kg)
Right Cheek	0.906	0.069	0.98
Right Tilted	1.099	0.093	1.19
Left Cheek	1.017	0.194	1.21
Left Tilted	1.152	0.149	1.30

16.3 Hotspot Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum reported SAR>:

Test Position	Ant 0	Ant 1	All Antenna MAX SAR 1g W/kg
Front	0.637	0.786	0.786
Back	1.222	1.278	1.278
Left Side	0.326	0.648	0.648
Right Side	0.770	0.002	0.770
Top Side	0.000	0.002	0.002
Bottom Side	1.214	1.123	1.214

<AG1 maximum reported SAR>:

Test Position	Ant 2	Ant 4	Ant 5	Ant 8	All Antenna MAX SAR 1g W/kg
Front	0.032	0.313	0.323	0.024	0.323
Back	0.522	0.599	0.481	0.584	0.599
Left Side	0.286	0.297	0.000	0.000	0.297
Right Side	0.001	0.000	0.125	0.131	0.131
Top Side	0.066	0.614	0.541	0.024	0.614
Bottom Side	0.000	0.000	0.000	0.000	0.000

<WLAN2.4GHz/5GHz+BT Worse-case SAR>:

	1	2	3	1+3	WLAN/BT worse case
Test Position	Bluetooth Ant 6	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Summed 1g SAR (W/kg)	
Front	0.092	0.428	0.367	0.459	0.459
Back	0.121	0.750	0.465	0.586	0.750
Left Side	0.000	0.000	0.001	0.001	0.001
Right Side	0.112	0.486	0.202	0.314	0.486
Top Side	0.120	0.556	0.757	0.877	0.877
Bottom Side	0.000	0.000	0.000	0.000	0.000

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case
Front	0.786	0.323	0.459	1.57
Back	1.278	0.599	0.750	2.63
Left Side	0.648	0.297	0.001	0.95
Right Side	0.770	0.131	0.486	1.39
Top Side	0.002	0.614	0.877	1.49
Bottom Side	1.214	0.000	0.000	1.21

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Back					
Ant,combination	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	1.222	0.522	0.750	2.49	Case 4
Ant 0-Ant 4	1.222	0.599	0.750	2.57	Case 5
Ant 0-Ant 5	1.222	0.481	0.750	2.45	Case 6
Ant 0-Ant 8	1.222	0.584	0.750	2.56	Case 7
Ant 1-Ant 2	1.278	0.522	0.750	2.55	Case 8
Ant 1-Ant 4	1.278	0.599	0.750	2.63	Case 9
Ant 1-Ant 5	1.278	0.481	0.750	2.51	Case 10
Ant 1-Ant 8	1.278	0.584	0.750	2.61	Case 11

<Simultaneous Transmission analysis of WLAN/BT only and WWAN cell-off>:

Test Position	1	2	1+2
	5GWLAN Ant 6	BT Ant 6	Summed 1g SAR (W/kg)
Front	0.367	0.092	0.46
Back	0.465	0.121	0.59
Left Side	0.000	0.000	0.00
Right Side	0.202	0.112	0.31
Top Side	0.757	0.120	0.88
Bottom Side	0.000	0.000	0.00

16.4 Body-Worn Accessory Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum reported SAR>:

Test Position	Ant 0	Ant 1	All Antenna MAX SAR 1g W/kg
Front	0.773	0.792	0.792
Back	1.286	1.278	1.286

<AG1 maximum reported SAR>:

Test Position	Ant 2	Ant 4	Ant 5	Ant 8	All Antenna MAX SAR 1g W/kg
Front	0.033	0.457	0.580	0.002	0.580
Back	0.712	0.917	0.730	0.756	0.917

<WLAN2.4GHz/5GHz+BT Worse-case SAR>:

	1	2	3	1+3	WLAN/BT worse case
Test Position	Bluetooth Ant 6	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Summed 1g SAR (W/kg)	
Front	0.092	0.453	0.126	0.218	0.453
Back	0.121	0.757	0.388	0.509	0.757

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case
Front	0.792	0.580	0.453	1.83
Back	1.286	0.917	0.757	2.96

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Front					
Ant,combination	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	0.773	0.033	0.453	1.26	
Ant 0-Ant 4	0.773	0.457	0.453	1.68	Case 12
Ant 0-Ant 5	0.773	0.580	0.453	1.81	Case 13
Ant 0-Ant 8	0.773	0.002	0.453	1.23	
Ant 1-Ant 2	0.792	0.033	0.453	1.28	
Ant 1-Ant 4	0.792	0.457	0.453	1.70	Case 14
Ant 1-Ant 5	0.792	0.580	0.453	1.83	Case 15
Ant 1-Ant 8	0.792	0.002	0.453	1.25	

Back					
Ant,combination	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	1.286	0.712	0.757	2.76	Case 16
Ant 0-Ant 4	1.286	0.917	0.757	2.96	Case 17
Ant 0-Ant 5	1.286	0.730	0.757	2.77	Case 18
Ant 0-Ant 8	1.286	0.756	0.757	2.80	Case 19
Ant 1-Ant 2	1.278	0.712	0.757	2.75	Case 20
Ant 1-Ant 4	1.278	0.917	0.757	2.95	Case 21
Ant 1-Ant 5	1.278	0.730	0.757	2.77	Case 22
Ant 1-Ant 8	1.278	0.756	0.757	2.79	Case 23

<Simultaneous Transmission analysis of WLAN/BT only and WWAN cell-off>:

Test Position	1	2	1+2
	5GWLAN Ant 6	BT Ant 6	Summed 1g SAR (W/kg)
Front	0.582	0.092	0.67
Back	1.187	0.121	1.31

<Sensor off>

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:
<AG0 maximum reported SAR>:

Test Position	Ant 0	Ant 1	All Antenna MAX SAR 1g W/kg
Front	0.442	0.470	0.470
Back	0.388	0.336	0.388

<AG1 maximum reported SAR>:

Test Position	Ant 2	Ant 4	Ant 5	Ant 8	All Antenna MAX SAR 1g W/kg
Front	0.016	0.436	0.706	0.063	0.706
Back	0.014	0.667	0.411	0.139	0.667

<WLAN2.4GHz/5GHz+BT Worse-case SAR>:

Test Position	1	2	3	1+3	WLAN/BT worse case
	Bluetooth Ant 6	WLAN2.4GHz Ant 6	WLAN5GHz Ant 6	Summed 1g SAR (W/kg)	
Front	0.001	0.119	0.327	0.328	0.328
Back	0.064	0.093	0.152	0.216	0.216

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG0	AG1	WLAN/BT worse case	AG0+AG1+ WLAN/BT worse case
Front	0.470	0.706	0.328	1.50
Back	0.388	0.667	0.216	1.27

16.5 Product specific 10g SAR Exposure Conditions

Remark:

- For WLAN2.4G/Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT+NFC:
<AG0 maximum reported SAR>:

Test Position	Ant 0	Ant 1	All Antenna MAX SAR 10g W/kg
Front	1.436	2.706	2.706
Back	1.963	2.866	2.866
Left Side	0.000	2.077	2.077
Right Side	0.000	0.000	0.000
Top Side	0.000	0.000	0.000
Bottom Side	3.006	3.040	3.040

<AG1 maximum reported SAR>:

Test Position	Ant 2	Ant 4	Ant 5	Ant 8	All Antenna MAX SAR 10g W/kg
Front	0.000	1.014	1.852	0.000	1.852
Back	1.598	2.487	1.518	1.582	2.487
Left Side	0.000	1.413	0.000	0.000	1.413
Right Side	0.000	0.000	0.000	0.000	0.000
Top Side	0.000	2.401	2.219	0.000	2.401
Bottom Side	0.000	0.000	0.000	0.000	0.000

<WLAN/BT + NFC Worse-case SAR>:

Test Position	3	4	3+4	WLAN/BT +NFC worse case
	WLAN5GHz Ant 6	NFC	Summed 10g SAR (W/kg)	
Front	0.701	0.000	0.701	0.701
Back	0.821	0.014	0.835	0.835
Left Side	0.000	0.000	0.000	0.000
Right Side	0.387	0.000	0.387	0.387
Top Side	1.276	0.000	1.276	1.276
Bottom Side	0.000	0.000	0.000	0.000

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT + NFC Worse-case>:

Test Position	AG0	AG1	WLAN/BT +NFC worse case	AG0+AG1+ WLAN/BT +NFC worse case
Front	2.706	1.852	0.701	5.26
Back	2.866	2.487	0.835	6.19
Left Side	2.077	1.413	0.000	3.49
Right Side	0.000	0.000	0.387	0.39
Top Side	0.000	2.401	1.276	3.68
Bottom Side	3.040	0.000	0.000	3.04

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Front					
Ant,combination	AG0	AG1	WLAN/BT +NFC worse case	AG0+AG1+ WLAN/BT +NFC worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	1.436	0.000	0.701	2.14	
Ant 0-Ant 4	1.436	1.014	0.701	3.15	
Ant 0-Ant 5	1.436	1.852	0.701	3.99	
Ant 0-Ant 8	1.436	0.000	0.701	2.14	
Ant 1-Ant 2	2.706	0.000	0.701	3.41	
Ant 1-Ant 4	2.706	1.014	0.701	4.42	Case 24
Ant 1-Ant 5	2.706	1.852	0.701	5.26	Case 25
Ant 1-Ant 8	2.706	0.000	0.701	3.41	

Back					
Ant,combination	AG0	AG1	WLAN/BT+NFC worse case	AG0+AG1+ WLAN/BT worse case	SPLSR
	SAR	SAR			
Ant 0-Ant 2	1.963	1.598	0.835	4.40	Case 26
Ant 0-Ant 4	1.963	2.487	0.835	5.29	Case 27
Ant 0-Ant 5	1.963	1.518	0.835	4.32	Case 28
Ant 0-Ant 8	1.963	1.582	0.835	4.38	Case 29
Ant 1-Ant 2	2.866	1.598	0.835	5.30	Case 30
Ant 1-Ant 4	2.866	2.487	0.835	6.19	Case 31
Ant 1-Ant 5	2.866	1.518	0.835	5.22	Case 32
Ant 1-Ant 8	2.866	1.582	0.835	5.28	Case 33

Back				
Ant combination	AG0+AG1+WLAN5G Multi-Band Combined SAR	NFC	AG0+AG1+WLAN5G+NFC	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	
Ant 1-Ant 4	2.960	0.014	2.97	

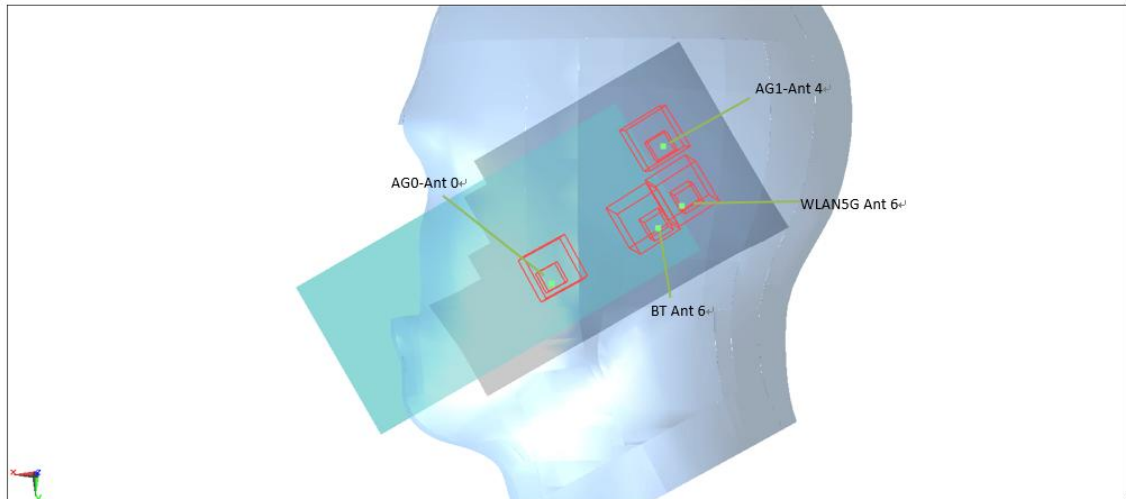
16.6 SPLSR Evaluation and Analysis

General Note:

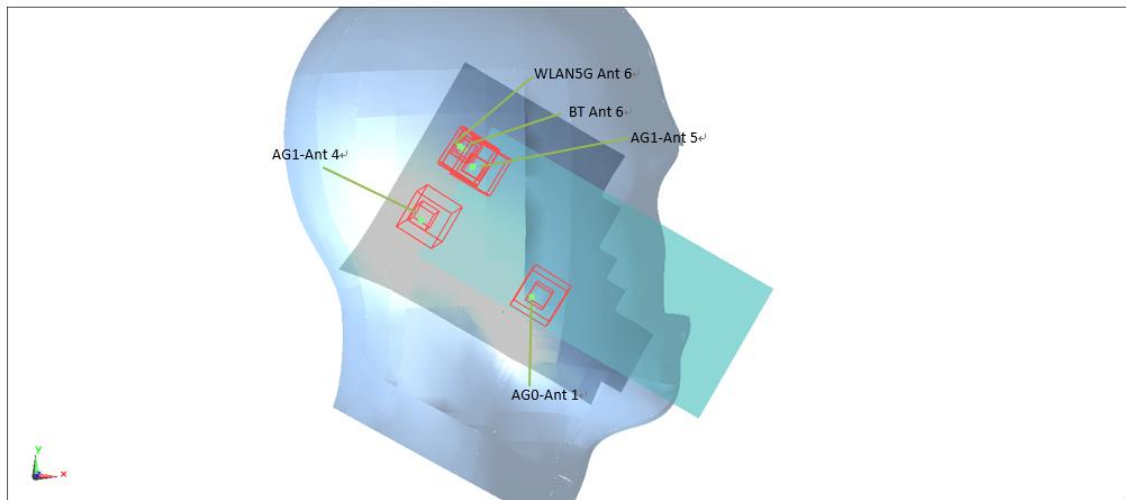
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where $(x1, y1, z1)$ and $(x2, y2, z2)$ are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. $SPLSR = (SAR1 + SAR2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
3. Per April 2022 TCB Workshop Notes, AG1 was summed algebraically with the BT/WIFI/NFC Antenna for the purposes of hybrid SPLSR combination and they are located at the top of the device
4. Per April 2022 TCB Workshop, instead of doing a small volume scan over a co-located antenna pair, used summing the SAR values of the co-located pair and using that value in SPLSR calculation. In the calculation used the minimum distance between the spatially separated antenna and the closest antenna of the co-located antenna pair to be conservative.
5. 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.
6. The axis peak locations refer to Section 16.7.

Head↓

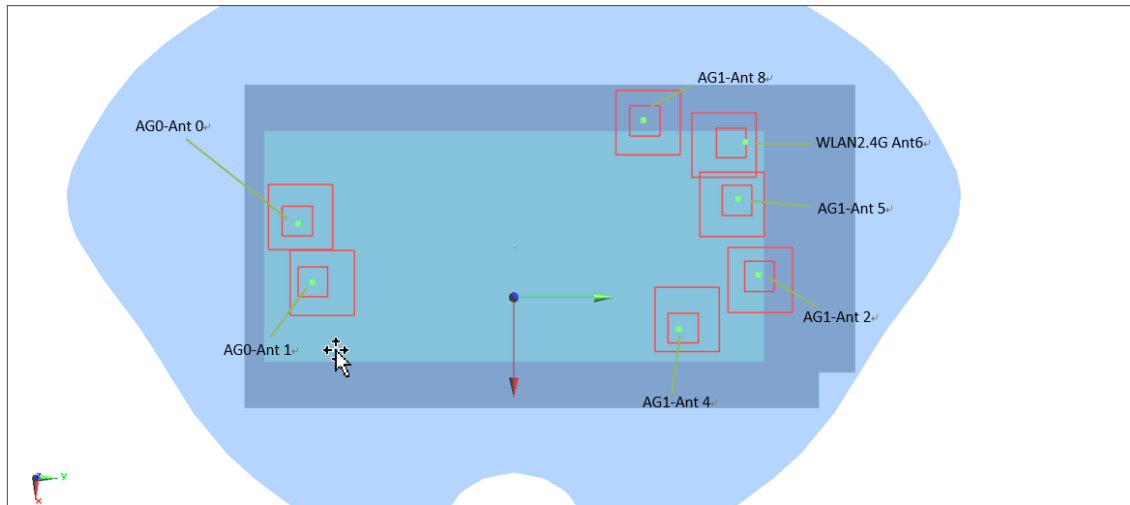
Right Cheek↓



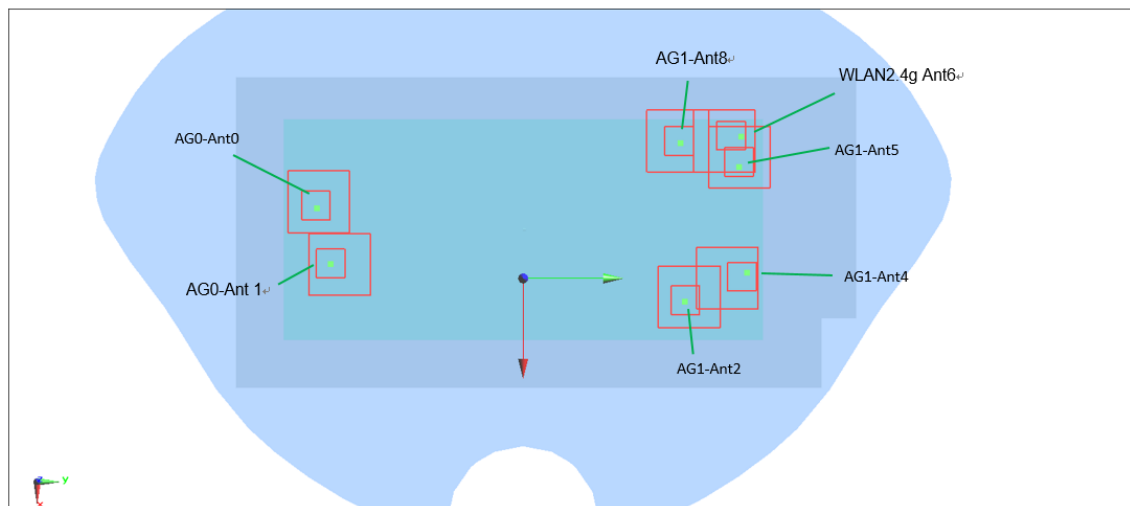
Left Cheek↓



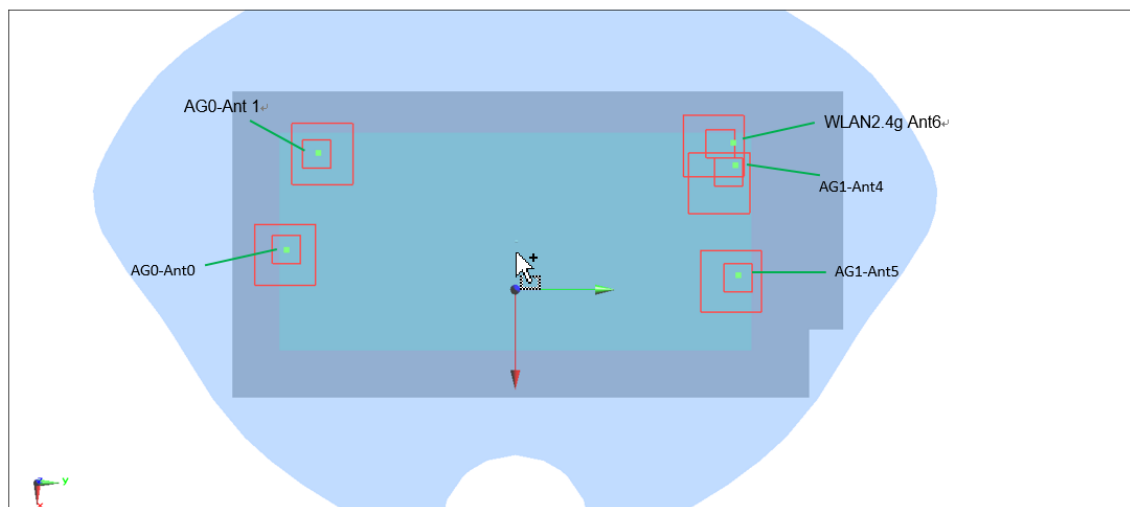
Hotspot Back



Body worn back

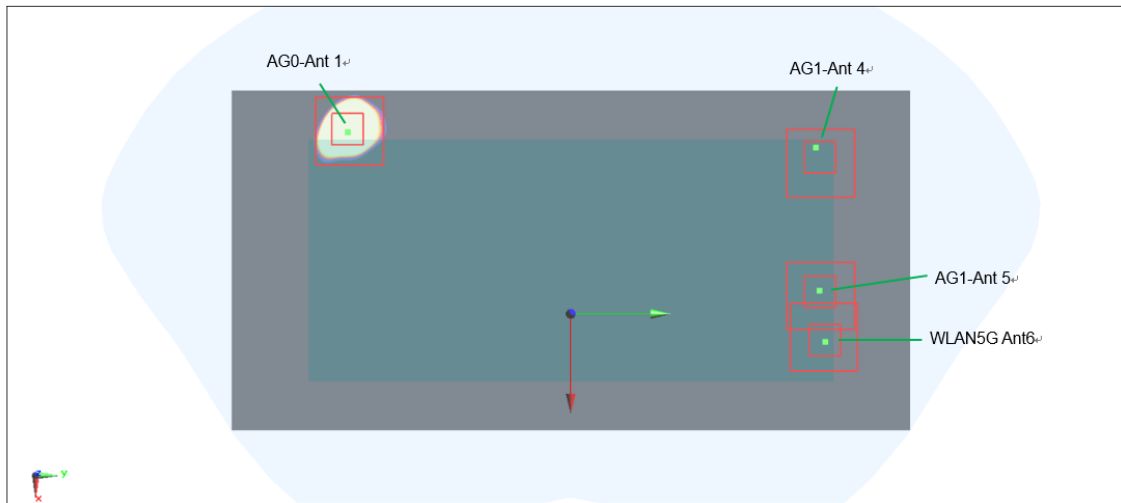


Front

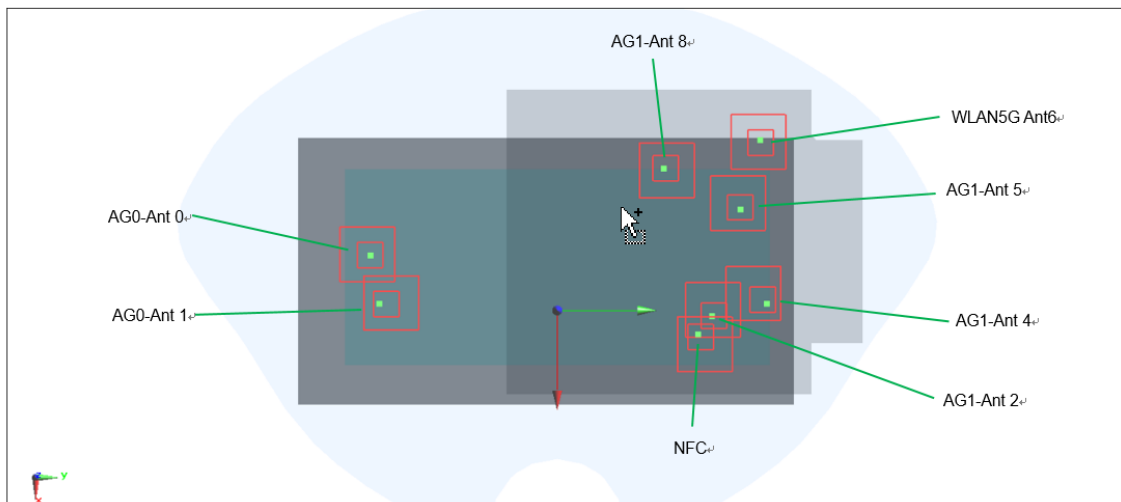


Extremity: ↵

Front: ↵



Back: ↵



<Head>

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 1	AG0-Ant 0	Right Cheek	0.367	0.37	0mm	45.86	47.29	-2.26	75.0	1.60	0.03	Not required
	AG1-Ant 4		0.870	1.23	0mm	1.36	-13.09	-1.33				
	WLAN		0.360		0mm							
	AG0-Ant 0	Right Cheek	0.367	0.37	0mm	45.86	47.29	-2.26	58.6	1.60	0.03	Not required
	AG1-Ant 4		0.870	1.23	0mm							
	WLAN		0.360		0mm	-7.26	23.10	2.54				

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 2	AG0-Ant 1	Left Cheek	0.500	0.50	0mm	39.30	-53.67	-2.84	70.2	1.69	0.03	Not required
	AG1-Ant 4		0.600	1.19	0mm	-18.31	-13.93	3.17				
	WLAN		0.590		0mm							
	AG0-Ant 1	Left Cheek	0.500	0.50	0mm	39.30	-53.67	-2.84	77.7	1.69	0.03	Not required
	AG1-Ant 4		0.600	1.19	0mm							
	WLAN		0.590		0mm	15.12	20.15	-2.90				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 3	AG0-Ant 1	Left Cheek	0.500	0.50	0mm	39.30	-53.67	-2.84	74.6	1.76	0.03	Not required
	AG1-Ant 5		0.671	1.26	0mm	7.32	13.73	-1.91				
	WLAN		0.590		0mm							
	AG0-Ant 1	Left Cheek	0.500	0.50	0mm	39.30	-53.67	-2.84	77.7	1.76	0.03	Not required
	AG1-Ant 5		0.671	1.26	0mm							
	WLAN		0.590		0mm	15.12	20.15	-2.90				

<Hotspot>

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 4	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	131.7	2.49	0.03	Not required
	AG1-Ant 2		0.522	1.27	5mm	26.60	55.20	-1.58				
	WLAN		0.750		5mm							
	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	149.9	2.49	0.03	Not required
	AG1-Ant 2		0.522	1.27	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 5	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	152.2	2.57	0.03	Not required
	AG1-Ant 4		0.599	1.35	5mm	5.60	79.60	-1.58				
	WLAN		0.750		5mm							

	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	149.9	2.57	0.03	Not required
	AG1-Ant 4		0.599	1.35	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 6	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	149.0	2.45	0.03	Not required
	AG1-Ant 5		0.481	1.23	5mm	-14.80	76.80	-2.08				
	WLAN		0.750		5mm							
	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	149.9	2.45	0.03	Not required
	AG1-Ant 5		0.481	1.23	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 7	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	116.1	2.56	0.04	Not required
	AG1-Ant 8		0.584	1.33	5mm	-41.00	39.20	-1.86				
	WLAN		0.750		5mm							
	AG0-Ant 0	Back	1.222	1.22	5mm	-7.50	-72.00	-2.78	149.9	2.56	0.03	Not required
	AG1-Ant 8		0.584	1.33	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 8	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	122.2	2.55	0.03	Not required
	AG1-Ant 2		0.522	1.27	5mm	26.60	55.20	-1.58				
	WLAN		0.750		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	149.6	2.55	0.03	Not required
	AG1-Ant 2		0.522	1.27	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 9	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	146.0	2.63	0.03	Not required
	AG1-Ant 4		0.599	1.35	5mm	5.60	79.60	-1.58				
	WLAN		0.750		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	149.6	2.63	0.03	Not required
	AG1-Ant 4		0.599	1.35	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 10	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	145.7	2.51	0.03	Not required
	AG1-Ant 5		0.481	1.23	5mm	-14.80	76.80	-2.08				
	WLAN		0.750		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	149.6	2.51	0.03	Not required

	AG1-Ant 5		0.481	1.23	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 11	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	118.4	2.61	0.04	Not required
	AG1-Ant 8		0.584	1.33	5mm	-41.00	39.20	-1.86				
	WLAN		0.750		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	149.6	2.61	0.03	Not required
	AG1-Ant 8		0.584	1.33	5mm							
	WLAN		0.750		5mm	-35.80	75.20	-2.20				

<Body-worn>

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 12	AG0-Ant 0	Front	0.773	0.77	5mm	3.00	-82.60	-0.59	166.5	1.68	0.01	Not required
	AG1-Ant 4		0.457	0.91	5mm	-27.00	81.20	1.02				
	WLAN		0.453		5mm							
	AG0-Ant 0	Front	0.773	0.77	5mm	3.00	-82.60	-0.59	162.1	1.68	0.01	Not required
	AG1-Ant 4		0.457	0.91	5mm							
	WLAN		0.453		5mm	21.60	78.40	-1.44				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 13	AG0-Ant 0	Front	0.773	0.77	5mm	3.00	-82.60	-0.59	162.5	1.81	0.01	Not required
	AG1-Ant 5		0.580	1.03	5mm	8.85	79.80	-1.73				
	WLAN		0.453		5mm							
	AG0-Ant 0	Front	0.773	0.77	5mm	3.00	-82.60	-0.59	162.1	1.81	0.01	Not required
	AG1-Ant 5		0.580	1.03	5mm							
	WLAN		0.453		5mm	21.60	78.40	-1.44				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 14	AG0-Ant 1	Front	0.792	0.79	5mm	-32.20	-72.60	-1.70	153.9	1.70	0.01	Not required
	AG1-Ant 4		0.457	0.91	5mm	-27.00	81.20	1.02				
	WLAN		0.453		5mm							
	AG0-Ant 1	Front	0.792	0.79	5mm	-32.20	-72.60	-1.70	160.3	1.70	0.01	Not required
	AG1-Ant 4		0.457	0.91	5mm							
	WLAN		0.453		5mm	21.60	78.40	-1.44				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 15	AG0-Ant 1	Front	0.792	0.79	5mm	-32.20	-72.60	-1.70	157.8	1.83	0.02	Not required
	AG1-Ant 5		0.580	1.03	5mm	8.85	79.80	-1.73				
	WLAN		0.453		5mm							
	AG0-Ant 1	Front	0.792	0.79	5mm	-32.20	-72.60	-1.70	160.3	1.83	0.02	Not required
	AG1-Ant 5		0.580	1.03	5mm							
	WLAN		0.453		5mm	21.60	78.40	-1.44				

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 16	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	129.6	2.76	0.04	Not required
	AG1-Ant 2		0.712	1.47	5mm	25.20	53.40	-1.58				
	WLAN		0.757		5mm							
	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	149.1	2.76	0.03	Not required
	AG1-Ant 2		0.712	1.47	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 17	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	150.9	2.96	0.03	Not required
	AG1-Ant 4		0.917	1.67	5mm	19.80	76.40	1.15				
	WLAN		0.757		5mm							
	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	149.1	2.96	0.03	Not required
	AG1-Ant 4		0.917	1.67	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 18	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	148.6	2.77	0.03	Not required
	AG1-Ant 5		0.730	1.49	5mm	-18.80	76.20	-2.02				
	WLAN		0.757		5mm							
	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	149.1	2.77	0.03	Not required
	AG1-Ant 5		0.730	1.49	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 19	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	125.1	2.80	0.04	Not required
	AG1-Ant 8		0.756	1.51	5mm	-31.20	50.80	-2.86				
	WLAN		0.757		5mm							
	AG0-Ant 0	Back	1.286	1.29	5mm	-7.50	-72.00	-2.78	149.1	2.80	0.03	Not required
	AG1-Ant 8		0.756	1.51	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 20	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	120.2	2.75	0.04	Not required
	AG1-Ant 2		0.712	1.47	5mm	25.20	53.40	-1.58				
	WLAN		0.757		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	148.3	2.75	0.03	Not required
	AG1-Ant 2		0.712	1.47	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 21	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	142.8	2.95	0.04	Not required
	AG1-Ant 4		0.917	1.67	5mm	19.80	76.40	1.15				
	WLAN		0.757		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	148.3	2.95	0.03	Not required
	AG1-Ant 4		0.917	1.67	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case	Band	Position	SAR	SAR	Gap	SAR peak location (mm)			3D distance	Summed SAR	SPLSR	Simultaneous

No			(W/kg)	(W/kg)	(mm)	X	Y	Z	(mm)	(W/kg)	Results	SAR
Case 22	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	145.9	2.77	0.03	Not required
	AG1-Ant 5		0.730	1.49	5mm	-18.80	76.20	-2.02				
	WLAN		0.757		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	148.3	2.77	0.03	Not required
	AG1-Ant 5		0.730	1.49	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 23	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	125.1	2.79	0.04	Not required
	AG1-Ant 8		0.756	1.51	5mm	-31.20	50.80	-2.86				
	WLAN		0.757		5mm							
	AG0-Ant 1	Back	1.278	1.28	5mm	13.00	-66.20	-2.06	148.3	2.79	0.03	Not required
	AG1-Ant 8		0.756	1.51	5mm							
	WLAN		0.757		5mm	-32.40	75.00	-2.20				

<Extremity>

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 24	AG0-Ant 1	Front	2.706	2.71	0mm	-43.80	-73.80	-2.75	156.3	4.42	0.06	Not required
	AG1-Ant 4		1.014	1.72	0mm	-32.00	82.00	-1.51				
	WLAN		0.701		0mm							
	AG0-Ant 1	Front	2.706	2.71	0mm	-43.80	-73.80	-2.75	170.3	4.42	0.05	Not required
	AG1-Ant 4		1.014	1.72	0mm							
	WLAN		0.701		0mm	23.60	82.60	-1.54				
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 25	AG0-Ant 1	Front	2.706	2.71	0mm	-43.80	-73.80	-2.75	164.9	5.26	0.07	Not required
	AG1-Ant 5		1.852	2.55	0mm	9.60	82.20	-1.61				
	WLAN		0.701		0mm							
	AG0-Ant 1	Front	2.706	2.71	0mm	-43.80	-73.80	-2.75	170.3	5.26	0.07	Not required
	AG1-Ant 5		1.852	2.55	0mm							
	WLAN		0.701		0mm	23.60	82.60	-1.54				

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 26	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	134.0	4.40	0.07	Not required
	AG1-Ant 2		1.598	2.43	0mm	19.20	58.00	-1.66				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	163.1	4.40	0.06	Not required
	AG1-Ant 2		1.598	2.43	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				



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	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	123.0	4.40	0.07	Not required
	AG1-Ant 2		1.598	2.43	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 27	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	157.2	5.29	0.08	Not required
	AG1-Ant 4		2.487	3.32	0mm	18.40	81.40	-1.33				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	163.1	5.29	0.07	Not required
	AG1-Ant 4		2.487	3.32	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	123.0	5.29	0.10	Not required
	AG1-Ant 4		2.487	3.32	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 28	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	150.9	4.32	0.06	Not required
	AG1-Ant 5		1.518	2.35	0mm	-19.80	74.00	-1.71				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	163.1	4.32	0.05	Not required
	AG1-Ant 5		1.518	2.35	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	123.0	4.32	0.07	Not required
	AG1-Ant 5		1.518	2.35	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 29	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	121.8	4.38	0.08	Not required
	AG1-Ant 8		1.582	2.42	0mm	-39.00	39.00	-2.79				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	163.1	4.38	0.06	Not required
	AG1-Ant 8		1.582	2.42	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				



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	AG0-Ant 0	Back	1.963	1.96	0mm	3.50	-75.10	-1.25	123.0	4.38	0.07	Not required
	AG1-Ant 8		1.582	2.42	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 30	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	128.1	5.30	0.10	Not required
	AG1-Ant 2		1.598	2.43	0mm	19.20	58.00	-1.66				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	162.4	5.30	0.08	Not required
	AG1-Ant 2		1.598	2.43	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	117.6	5.30	0.10	Not required
	AG1-Ant 2		1.598	2.43	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 32	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	148.2	5.22	0.08	Not required
	AG1-Ant 5		1.518	2.35	0mm	-19.80	74.00	-1.71				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	162.4	5.22	0.07	Not required
	AG1-Ant 5		1.518	2.35	0mm							
	NFC		0.014		0mm							
	WLAN		0.821		0mm	-46.80	80.00	-1.98				
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	117.6	5.22	0.10	Not required
	AG1-Ant 5		1.518	2.35	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							
Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 33	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	121.8	5.28	0.10	Not required
	AG1-Ant 8		1.582	2.42	0mm	-39.00	39.00	-2.79				
	NFC		0.014		0mm							
	WLAN		0.821		0mm							
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	162.4	5.28	0.07	Not required
	AG1-Ant 8		1.582	2.42	0mm							
	NFC		0.014		0mm							

	WLAN		0.821		0mm	-46.80	80.00	-1.98				
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	117.6	5.28	0.10	Not required
	AG1-Ant 8		1.582	2.42	0mm							
	NFC		0.014		0mm	12.70	47.50	1.45				
	WLAN		0.821		0mm							

Case No	Band	Position	SAR (W/kg)	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR	Volume scan
					(mm)	X	Y	Z					
Case 31	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	151.4	6.19	0.10	Not required	Volume scan Case 1
	AG1-Ant 4		2.487	3.32	0mm	18.40	81.40	-1.33					
	NFC		0.014		0mm								
	WLAN		0.821		0mm								
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	162.4	6.19	0.09	Not required	
	AG1-Ant 4		2.487	3.32	0mm								
	NFC		0.014		0mm								
	WLAN		0.821		0mm	-46.80	80.00	-1.98					
	AG0-Ant 1	Back	2.866	2.87	0mm	15.40	-70.00	-2.20	117.6	6.19	0.13	Required	
	AG1-Ant 4		2.487	3.32	0mm								
	NFC		0.014		0mm	12.70	47.50	1.45					
	WLAN		0.821		0mm								

16.7 Maximum Reported SAR and SAR Peak Locations

General Note:

1. The maximum reported SAR and SAR Peak Locations corresponding to each position of each frequency band of each antenna in the below tables are as follows.
2. The unit of SAR evaluation is W/kg. The unit of x, y, z with Axis (x, y, z) evaluation is mm.

<Head>

Right Cheek										
Band		Ant0			Ant1			Ant4		
GSM850	SAR	0.307								
	Axis	39.87	56.74	-3.29						
GSM1900	SAR	0.121								
	Axis	43.87	62.3	-2.09						
WCDMA II	SAR	0.224								
	Axis	42.43	61.55	-2.5						
WCDMA IV	SAR	0.195								
	Axis	41.14	60.79	-2.62						
WCDMA V	SAR	0.367								
	Axis	39.87	56.74	-3.26						
LTE Band 7	SAR				0.323			0.687		
	Axis				51.95	-0.33	-1.86	1.44	-20.56	-2.35
LTE Band 12(17)	SAR	0.176						0.809		
	Axis	44.08	53.52	-1.84				3.77	-22.02	-2.2
LTE Band 13	SAR	0.273								
	Axis	45.86	47.29	-2.26						
LTE Band 25(2)	SAR	0.233								
	Axis	41.73	57.11	-1.6						
LTE Band 26(5)	SAR	0.220						0.837		
	Axis	43.75	47.94	-2.4				12.82	-22.38	-1.84
LTE Band 66(4)	SAR	0.178						0.470		
	Axis	41.73	57.11	-1.6				1.36	-13.09	-1.33
LTE Band 38	SAR				0.185					
	Axis				56.79	-2.23	-1.08			
LTE Band 41	SAR							0.610		
	Axis							5.35	-22.28	-1.41
LTE Band 42	SAR									
	Axis									
FR1 n2	SAR	0.157						0.615		
	Axis	49.3	59.95	-1.45				-0.721	-14.23	-1.36
FR1 n7	SAR				0.281			0.557		
	Axis				51.54	1.96	-2.18	5.25	-23.73	-1.4
FR1 n26(5)	SAR	0.216						0.870		
	Axis	39.9	56.68	-3.45				14.14	-21.66	-2.01
FR1 n66	SAR	0.168						0.654		
	Axis	43.8	56.72	-2.27				-0.59	-16.07	-1.06
FR1 n41(38)	SAR							0.615		
	Axis							1.98	-24.45	-1.09
FR1 n77(78)	SAR				0.001					
	Axis									
WLAN5GHz Ant6	SAR (W/kg)	0.291			BT Ant6	SAR (W/kg)		0.069		
	Axis	-19	13.51	3.85		Axis		-7.26	23.1	2.54
WLAN2.4GHz Ant6		SAR (W/kg)			0.260					
		Axis			-14.48		18.02		3.51	

Left Cheek													
Band		Ant 0			Ant 1			Ant 4			Ant 5		
GSM850	SAR	0.277											
	Axis	44.59	-39.7	-3.62									
GSM1900	SAR	0.092											
	Axis	44.48	-58.91	-1.52									
WCDMA II	SAR	0.151											
	Axis	42.25	-55.84	-2.3									
WCDMA IV	SAR	0.124											
	Axis	46.07	4.64	-2.47									
WCDMA V	SAR	0.329											
	Axis	45.64	-31.03	-3.6									
LTE Band 7	SAR				0.500			0.306					
	Axis				39.3	-53.67	-2.84	-25.63	-8.08	2.59			
LTE Band 12(17)	SAR	0.182						0.443					
	Axis	46.59	-45.87	-2.3				-8.5	-2.18	-0.84			
LTE Band 13	SAR	0.232											
	Axis	46.31	-40.16	-2.67									
LTE Band 25(2)	SAR	0.202											
	Axis	44.99	-64.19	-0.68									
LTE Band 26(5)	SAR	0.222						0.597					
	Axis	47.79	-38.01	-2.63				2.16	-11.72	-0.95			
LTE Band 66(4)	SAR	0.112						0.355					
	Axis	45.38	-60.88	-2.08				-14.98	-2.18	0.89			
LTE Band 38	SAR				0.356								
	Axis				47.63	-59.93	-1.92						
LTE Band 41(38)	SAR							0.213					
	Axis							-18.05	-12.03	2.84			
LTE Band 42	SAR										0.622		
	Axis										3.6	15.83	-2.25
FR1 n2	SAR	0.117						0.358					
	Axis	51.41	-66	-0.4				-21.72	-2.14	1.21			
FR1 n7	SAR				0.471			0.259					
	Axis				39.13	-56.37	-2.56	-19.16	-9.1	2.65			
FR1 n26(5)	SAR	0.211						0.600					
	Axis	45.65	-31.04	-3.59				-0.44	-10.17	-0.76			
FR1 n66	SAR	0.091						0.534					
	Axis	51.34	-0.41	-2.88				-12.12	-7.24	0.99			
FR1 n41(38)	SAR							0.289					
	Axis							-18.31	-13.93	3.17			
FR1 n77(78)	SAR				0.001						0.671		
	Axis										7.32	13.73	-1.91

WLAN5GHz Ant6	SAR (W/kg)	0.323			BT Ant6	SAR (W/kg)	0.194			WLAN2.4GHz Ant6	SAR (W/kg)	0.707		
	Axis	15.12	20.15	-2.9		Axis	1.82	24.06	-2.35		Axis	6.22	24.33	-2.45

<Hotspot>

Back																
Band		Ant 0			Ant 1			Ant 2			Ant 4			Ant 5		
GSM850	SAR	1.138														
	Axis	-8.6	-72.9	-2.83												
GSM1900	SAR	0.545														
	Axis	-0.2	-81.2	-2.13												
WCDMA II	SAR	0.629														
	Axis															
WCDMA IV	SAR	0.464														
	Axis	-12.5	-84	-2.22												
WCDMA V	SAR	1.222														
	Axis	-8	-75	-2.72												
LTE Band 7	SAR				1.278						0.594					
	Axis				24.8	-74.8	-1.34				5.8	82.2	-1.61			
LTE Band 12(17)	SAR	0.798									0.517					
	Axis	-9	-82.5	-1.62							20.9	91.8	-2.11			
LTE Band 13	SAR	1.153														
	Axis	-16.5	-82.4	-2.24												
LTE Band 25(2)	SAR	0.615														
	Axis	6.7	-83.2	-1.4												
LTE Band 26(5)	SAR	1.159									0.535					
	Axis	-7.5	-72	-2.78							19.4	80.3	-1.55			
LTE Band 66(4)	SAR	0.602									0.335					
	Axis	4.9	-82.5	-3.08							9	84.6	-1.53			
LTE Band 38	SAR				1.105											
	Axis				13	-66.20	-2.06									
LTE Band 41(38)	SAR										0.590					
	Axis										20.6	83	-3.12			
LTE Band 42	SAR													0.481		
	Axis													-14.8	76.8	-2.08
FR1 n2	SAR	0.747									0.369					
	Axis	4.5	-84	-2.04							10.4	82.5	1.17			
FR1 n7	SAR				1.224						0.538					
	Axis				21.8	-72.40	-2.47				5.6	79.6	-1.58			
FR1 n26(5)	SAR	1.067									0.536					
	Axis	-9.1	-81.8	-1.63							16.9	83.9	-2.24			
FR1 n66	SAR	0.659									0.291					
	Axis	7.7	-78.2	-1.57							1.6	88.9	-2.37			
FR1 n41(38)	SAR										0.599					
	Axis										20	88.8	-2.09			
FR1 n77(78)	SAR				0.900			0.522						0.428		
	Axis				8.6	-71.40	-2.59	26.6	55.2	-1.58				-19.8	80	-1.74
														-41	39.2	-1.86

WLAN5GHz Ant6	SAR (W/kg)	0.465			BT Ant6	SAR (W/kg)	0.121			WLAN2.4GHz Ant6	SAR (W/kg)	0.750		
	Axis	-39.4	85.8	-2.12		TW Axis	-31.4	83.4	-1.77		Axis	-35.8	75.2	-2.2

<Body-worn>

Front													
Band		Ant 0			Ant 1			Ant 4			Ant 5		
GSM850	SAR	0.773											
	Axis	3	-82.6	-0.59									
GSM1900	SAR	0.482											
	Axis	-13.5	-85.4	-2.23									
WCDMA II	SAR	0.519											
	Axis	-10.4	-87.3	-0.63									
WCDMA IV	SAR	0.472											
	Axis	9	-87	-0.56									
WCDMA V	SAR	0.570											
	Axis	7.5	-85.4	-2.5									
LTE Band 7	SAR				0.660			0.183					
	Axis				-30.1	-75.2	-1.69	-31.4	88	-2.54			
LTE Band 12(17)	SAR	0.406						0.340					
	Axis	4.6	-87.2	-2				-27	81.2	1.02			
LTE Band 13	SAR	0.637											
	Axis	4.6	-87.1	-2.02									
LTE Band 25(2)	SAR	0.665											
	Axis	-5.6	-85.5	-1.63									
LTE Band 26(5)	SAR	0.607						0.394					
	Axis	7.5	-83.9	-2.5				-31.4	81.8	91.77			
LTE Band 66(4)	SAR	0.432						0.364					
	Axis	7.9	-89.1	-1.98				-21	87.3	-1.75			
LTE Band 38	SAR				0.701								
	Axis				-39.4	-73.6	-2.38						
LTE Band 41(38)	SAR							0.116					
	Axis							-39.2	86.6	-2.12			
LTE Band 42	SAR										0.248		
	Axis										2.8	80.2	-1.84
FR1 n2	SAR	0.584						0.238					
	Axis	-10.2	-88.9	-1.6				-16.5	92.5	-1.84			
FR1 n7	SAR				0.792			0.189					
	Axis				-32.2	-72.6	-1.7	-37.2	84.4	-2.13			
FR1 n26(5)	SAR	0.566						0.457					
	Axis	6	-85.9	-1.51				-33.1	83.3	-2.76			
FR1 n66	SAR	0.524						0.186					
	Axis	7.5	-88.5	-1.93				-29.8	91.4	-2.05			
FR1 n41(38)	SAR							0.192					
	Axis							-32.6	88.6	-1.94			
FR1 n77(78)	SAR				0.103						0.580		
	Axis				-19.2	-82.2	-2.76				8.85	79.8	-1.73

WLAN5GHz Ant6	SAR (W/kg)	0.126			BT Ant6	SAR (W/kg)	0.092			WLAN2.4GHz Ant6	SAR (W/kg)	0.453		
	Axis	25	89	-1.43		Axis	21.6	79.2	-1.55		Axis	21.6	78.4	-1.44

Back																							
Band		Ant 0			Ant 1			Ant 2			Ant 4			Ant 5			Ant 8						
GSM850	SAR	1.138																					
	Axis	-8.6	-72.9	-2.83																			
GSM1900	SAR	1.076																					
	Axis	3.2	-84.2	-0.59																			
WCDMA II	SAR	1.221																					
	Axis																						
WCDMA IV	SAR	1.222																					
	Axis	4.4	-76.6	-2.63																			
WCDMA V	SAR	1.222																					
	Axis	-8	-75	-2.72																			
LTE Band 7	SAR				1.278						0.886												
	Axis				24.8	-74.8	-1.34				20.8	87	-2.12										
LTE Band 12(17)	SAR	0.798									0.760												
	Axis	-9	-82.5	-1.62							19.8	76.4	1.15										
LTE Band 13	SAR	1.153																					
	Axis	-16.5	-82.4	-2.24																			
LTE Band 25(2)	SAR	1.251																					
	Axis	1.8	-82.3	-2.07																			
LTE Band 26(5)	SAR	1.159									0.839												
	Axis	-7.5	-72	-2.78							21	86.8	-2.14										
LTE Band 66(4)	SAR	1.250									0.917												
	Axis	4.5	-82.9	-2.03							3.1	86.1	-1.61										
LTE Band 38	SAR				1.105																		
	Axis				13	-66.2	-2.06																
LTE Band 41(38)	SAR										0.655												
	Axis										16.8	85.2	-1.57										
LTE Band 42	SAR													0.656									
	Axis													-19.4	80.2	-2.22							
FR1 n2	SAR	1.184									0.733												
	Axis	6.5	-81.6	-1.52							1.3	85	-1.73										
FR1 n7	SAR				1.236						0.798												
	Axis				21.8	-72.4	-2.47				11	85.8	-2.32										
FR1 n26(5)	SAR	1.067									0.857												
	Axis	-9.1	-81.8	-1.63							10.6	83.5	-2.33										
FR1 n66	SAR	1.286									0.888												
	Axis	-13.5	-80.9	-2.21							7.7	80.9	-1.63										
FR1 n41(38)	SAR										0.768												
	Axis										15.8	79.2	-1.64										
FR1 n77(78)	SAR				0.900			0.712						0.730			0.756						
	Axis				8.6	-71.4	-2.59	25.2	53.4	-1.58				-18.8	76.2	-2.02	-31.2	50.8	-2.86				
WLAN5GHz Ant6		SAR (W/kg)			0.390			BT Ant6	SAR (W/kg)			0.180			WLAN2.4GHz Ant6			SAR (W/kg)			0.668		
		Axis			-64	80	-2.12		TW Axis			-31.4	83.4	-1.77				Axis			-32.4	75	-2.2

<Extremity>

Front									
Band		Ant 1			Ant 4			Ant 5	
LTE Band 7	SAR	2.216			0.964				
	Axis	-26.6	-79.6	-1.65	-25.4	85	-1.58		
LTE Band 38	SAR	2.706							
	Axis	-33	-79.6	-1.02					
LTE Band 41	SAR				0.209				
	Axis				-39.2	86.6	-2.12		
LTE Band 42	SAR							1.852	
	Axis							-2.6	82.8 -1.74
FR1 n2	SAR				0.922				
	Axis				-22.7	89.9	-2.6		
FR1 n7	SAR	1.495			1.014				
	Axis	-43.8	-73.8	-2.75	-32	82	-1.51		
FR1 n41(38)	SAR				0.915				
	Axis				-32	82	-1.51		
FR1 n77(78)	SAR							1.659	
	Axis							9.6	82.2 -1.61

WLAN5GHz Ant6	SAR (W/kg)	0.701		
	Axis	23.6	82.6	-1.54

Back																			
Band		Ant 0			Ant 1			Ant 2			Ant 4			Ant 5			Ant 8		
GSM850	SAR	1.963																	
	Axis	-19	-77	-1.86															
GSM1900	SAR	1.281																	
	Axis	-0.2	-78.2	-1.51															
WCDMA II	SAR	1.600																	
	Axis	4.5	-78.2	-1.51															
WCDMA IV	SAR	1.768																	
	Axis	3	-76.6	-1.54															
WCDMA V	SAR	1.534																	
	Axis	-17	-78.4	-1.48															
LTE Band 7	SAR				2.834						2.259								
	Axis				21	-72.2	-1.48							18.4	81.4	-1.33			
LTE Band 25(2)	SAR	1.601																	
	Axis	3	-76.6	-1.57															
LTE Band 26(5)	SAR																		
	Axis																		
LTE Band 66(4)	SAR	1.609									0.548								
	Axis	3.5	-75.1	-1.25										2.9	85.1	-1.99			
LTE Band 38	SAR				2.844														
	Axis				15.4	-70	-2.2												
LTE Band 41(38)	SAR										2.487								
	Axis													24.2	87	-1.15			
LTE Band 42	SAR													1.518					
	Axis																-13.8	81	-1.36
FR1 n2	SAR	1.695									0.830								
	Axis	5.8	-81.2	-1.52										5.9	91.4	-2.3			

FR1 n7	SAR				2.866						1.184					
	Axis				18.6	-74.8	-2.32				13.8	88.4	-2.22			
FR1 n26(5)	SAR										0.637					
	Axis										10.6	88.9	-1.49			
FR1 n66	SAR	1.953									0.747					
	Axis	-5.6	-78.1	-2.46							3	90	-1.69			
FR1 n41(38)	SAR										2.098					
	Axis										8.8	81.8	-1.82			
FR1 n77(78)	SAR							1.598						0.893		
	Axis							19.2	58	-1.66				-19.8	74	-1.71

WLAN5GHz Ant6	SAR (W/kg)	0.821			NFC	SAR (W/kg)	0.014		
	Axis	-46.8	80	-1.98		Axis	12.7	47.5	1.45

16.8 Volume Scan Test procedure and SAR Result

General Note:

- When simultaneous transmission SAR measurements are required in different frequency bands not covered by a single probe calibration point then separate tests for each frequency band are performed. The tests are performed using enlarged zoom scans which are processed, by means of superposition, using the DASY6 volume scan postprocessing procedures to determine the 1-g SAR for the aggregate SAR distribution.
- The following test procedure is based on KDB 865664 D01:
 - Other than a larger measurement volume to enclose all antennas and radiating structures of the test device, the measurement requirements of an enlarged zoom scan are the same as those required by a normal zoom scan.
 - All simultaneous transmitting antennas and radiating structures must be included in the enlarged zoom scan measurement region projected onto the phantom.
 - Grid setting is used finer resolution in all different frequency bands.
 - Scan range is capturing enough wide for both SAR distribution.
 - Perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR.
 - The SPLSR hotspot combination procedure (Hybrid SPLSR) allows for the aggregate SAR distribution of a collocated antenna pair—either obtained from a small enlarged zoom scan or through the algebraic summation of SAR values. This approach may also be considered for simultaneous transmission analysis.
- To extract and process measurements within different frequency bands, the SEMCAD X Post-processor performs the combination and subsequent superposition of these measurement data via DASY6= Combined Multi-TX zoom scan SAR.
- During multi-TX SAR combination, the SAR scaling factors were input into the SEMCAD X software to account for tune-up tolerance.
- The detailed small enlarged zoom scan SAR Result Plot is in the appendix B.

Case NO	Band	BW (MHz)	Modulation	RB Size	RB offset	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	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Summed 10g SAR (W/kg)	Multi-Band Combined 1g SAR (W/kg)
Case 1	LTE Band 41	20	QPSK	1	49		Back	0mm	4	39750	2506	21.10	22.00	1.230	62.9	1.006	2.010	2.487	6.17	2.96
	FR1 n7	50M	QPSK	135	68		Back	0mm	1	507000	2535	20.10	21.00	1.230	100	1.000	2.330	2.866		
	WLAN5GHz					802.11a 6Mbps	Back	0mm	6	36	5180	18.15	18.50	1.084	98.18	1.019	0.743	0.821		

Test Engineer : Ken Li and San Lin, Luke Li and John Fan

17. 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 $\leq 30\%$, 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 uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A 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)	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

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

(b) k 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%

18. 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
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- [14] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [15] IEC/IEEE 62209-1528:2020, "Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)", Oct. 2020

Appendixes

Please refer to separated files for the following appendixes

Appendix A. Plots of System Performance Check

Appendix B. Plots of High SAR Measurement

Appendix C. DASY Calibration Certificate

Appendix D. Test Setup Photos

Appendix E. Conducted RF Output Power Table

Appendix F. Power measurement connection diagram and CA Conducted RF Output Power Table

Appendix G. Power reduction mechanism verification

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