FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2317-1, XT2317-2, XT2317-3, XT2317DL
FCC ID	:	IHDT56AL4
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.02

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA2N1003	Rev. 01	1. Initial issue of report.	Jan. 20, 2023

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2317-1, XT2317-2, XT2317-3, XT2317DL,** 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	1.03	1.40	1.40	1.58
		GSM1900	1.07	1.24	1.26	
	WCDMA	Band II	1.05	1.41	1.35	
		Band IV	0.21	1.28	1.32	
		Band V	0.89	1.35	1.35	
	LTE	Band 7	0.68	**1.44**	**1.44**	
		Band 12/ Band 17	0.91	1.03	1.03	
		Band 13	0.94	1.39	1.39	
		Band 14	0.99	1.37	1.37	
		Band 25/ Band 2	1.04	1.42	1.34	
		Band 26/ Band 5	1.04	1.34	1.34	
		Band 30	0.51	1.33	1.33	
		Band 66/ Band 4	0.21	**1.44**	1.35	
		Band 71	0.59	1.28	1.28	
		Band 41/ Band 38	0.59	1.39	1.39	
DTS	WLAN	2.4GHz WLAN	**1.36**	0.32	0.87	1.58
NII		5GHz WLAN	1.18	0.31	1.19	1.58
DSS	Bluetooth	2.4GHz Bluetooth	0.13	<0.10	<0.10	1.58

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	3.17	3.90
		GSM1900	3.27	
	WCDMA	Band II	3.35	
		Band IV	3.28	
		Band V	2.69	
	LTE	Band 7	2.57	
		Band 13	2.16	
		Band 14	1.77	
		Band 25/ Band 2	2.99	
		Band 26/ Band 5	2.87	
		Band 30	3.40	
		Band 66/ Band 4	**3.54**	
		Band 71	2.14	
		Band 41/ Band 38	3.40	
NII	WLAN	5GHz WLAN	2.35	3.90
Date of Testing:			2022/12/21~ 2023/1/9	

Remark:

1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, 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 / B66 / B26 / B12 / B41.

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.

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. Administration Data

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR07-KS	CN1257	314309

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- 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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2317-1, XT2317-2, XT2317-3, XT2317DL
FCC ID	IHDT56AL4
IMEI Code	Sample 1: 355008320013794 Sample 2: 359026430023129
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 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 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
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM 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
HW Version	DVT2
SW Version	T1TH33.27
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 and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 2. This device 2.4GHz WLAN 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 does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. There are two samples. The difference between them could be referred to the XT2317-1, XT2317-2, XT2317-3, XT2317DL_Operational Description of Product Equality Declaration which is exhibited separately. According to the difference, we choose sample 1 for full testing and sample 2 for worst case verification.
6. The four model name XT2317-1, XT2317-2, XT2317-3, XT2317DL are the same product except model name different for market segment.
7. The device has two batteries. For battery 1/2 only suppliers are different, so we only choose battery 1 to perform full SAR testing.
8. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level, which 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.
9. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to Head. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated at body-worn and extremity exposure conditions.
10. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively.
11. This device supports HPUE for LTE Band 41 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56AL4
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 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R11, Cat13
CA Support	Supported, Uplink and Downlink
LTE MPR permanently built-in by design	**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
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 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 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. (2) This device supports maximum of 3 carriers in the downlink and 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					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 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 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 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		
M	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

LTE Band 30

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	27710	2310
M	27710	2310		
H	27735	2312.5		

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 71

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133247	675.5	133272	678	133297	680.5	133322	683
H	133447	695.5	133422	693	133397	690.5	133372	688

<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 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	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 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 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Head DSI2 Tune-up Limit	Body Worn DSI3 Tune-up Limit	Hotspot DSI7 Tune-up Limit	Extremely DSI6 Tune-up Limit	Sensor off DSI4 Tune-up Limit	Default
LTE Band 12	Ant 0	24	24	24	24	24	24
LTE Band 17	Ant 0	24	24	24	24	24	24
LTE Band 2	Ant 0	24	16	14	19.5	24	24
LTE Band 25	Ant 0	24	16	14	19.5	24	24
LTE Band 5	Ant 0	24	23	23	24	24	24
LTE Band 26	Ant 0	24	23	23	24	24	24
LTE Band 4	Ant 0	24	15.5	14.5	19	24	24
LTE Band 66	Ant 0	24	15.5	14.5	19	24	24
LTE Band 38	Ant 1	24	21	21	22.5	24	24
LTE Band 41	Ant 1	24	21	21	22.5	24	24

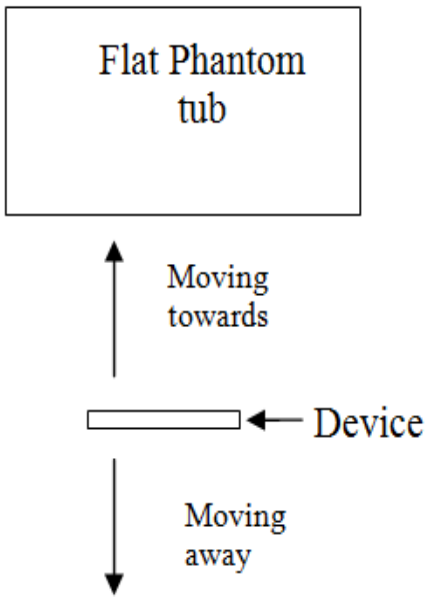
Band	Antenna	Head DSI2 Tune-up Limit	Body Worn DSI3 Tune-up Limit	Hotspot DSI7 Tune-up Limit	Extremely DSI6 Tune-up Limit	Sensor off DSI4 Tune-up Limit	Default
LTE Band 12	Ant 3	21.5	23	23	23	23	23
LTE Band 17	Ant 3	21.5	23	23	23	23	23
LTE Band 2	Ant 3	14	16	13.5	20	23	23
LTE Band 25	Ant 3	14	16	13.5	20	23	23
LTE Band 5	Ant 3	20.5	23	23	23	23	23
LTE Band 26	Ant 3	20.5	23	23	23	23	23

Note: This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, 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 / B66 / B26 / B12 / B41.

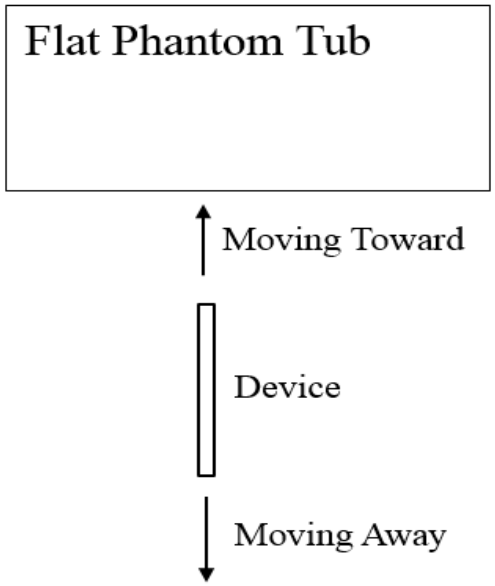
5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according 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 (5850MHz) and lowest (750MHz) 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.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. 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.
6. 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:



Sensor detection test set-up, front and back sides



Sensor detection test set-up, top, bottom, right and left sides

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	15	18	25	27

<Handheld for Ant0>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	9	13	18	13	16

<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	7	8	12	17	11	14	8	16

<Handheld for ANT 3>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	13	14	19	3	7	12	16

<Handheld for ANT 4>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	2	4	5	7	7	10

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:

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

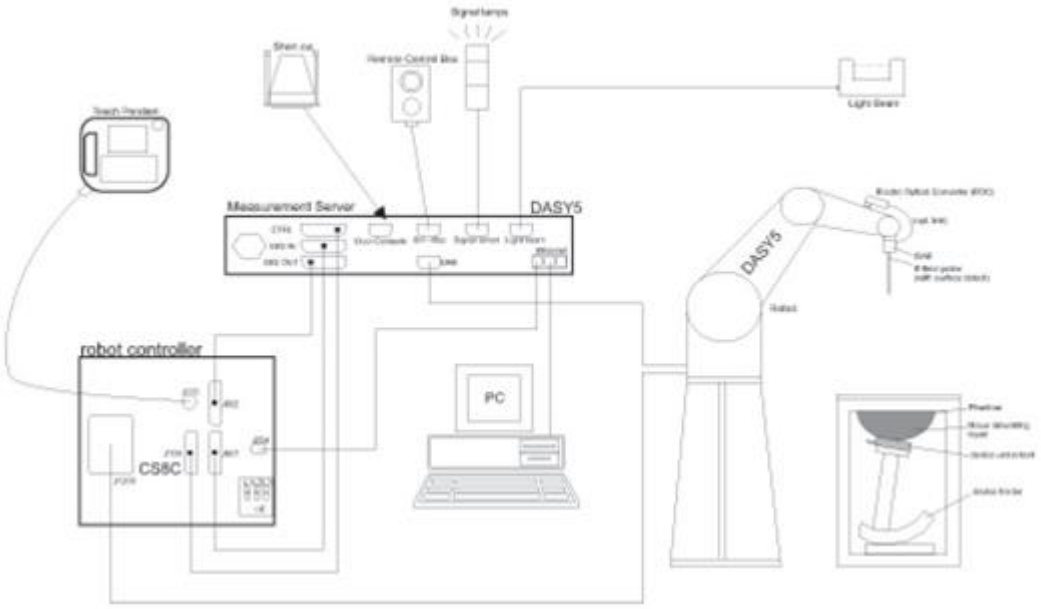
SAR is expressed in units of Watts per kilogram (W/kg)

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

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 DASY5 system used for performing compliance tests consists of the following items:



- 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 WinXP or Win10 and the DASY5 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 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	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

8.2 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.

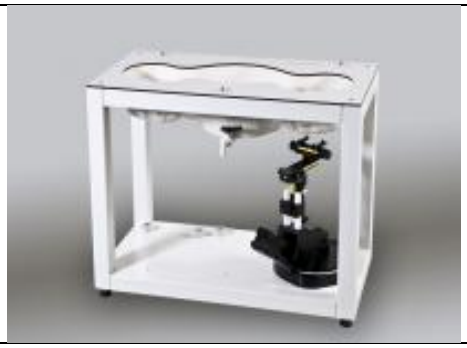
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

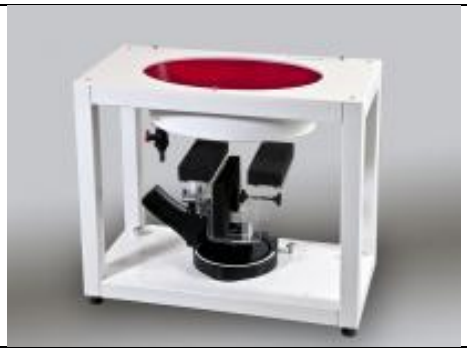
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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.

8.4 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 form 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 dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

Zoom scans are used 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 shoes 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: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of 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 for 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	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2022/2/24	2023/2/23
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2023/8/18
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2023/2/23
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	2021/12/20	2024/12/19
SPEAG	2300MHz System Validation Kit	D2300V2	1055	2020/9/15	2023/9/13
SPEAG	2450MHz System Validation Kit	D2450V2	1040	2020/5/6	2023/5/4
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2023/9/22
SPEAG	Data Acquisition Electronics	DAE4	1305	2022/4/27	2023/4/26
SPEAG	Dosimetric E-Field Probe	EX3DV4	7630	2022/3/4	2023/3/3
SPEAG	SAM Twin Phantom	SAM Twin	TP-2024	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332126	2022/7/20	2023/7/19
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2022/7/14	2023/7/13
Agilent	ENA Series Network Analyzer	E5071C	MY46104587	2022/5/24	2023/5/23
SPEAG	Dielectric Probe Kit	DAK-3.5	1071	2022/1/24	2023/1/23
Anritsu	Vector Signal Generator	MG3710A	6201682672	2023/1/5	2024/1/4
Anritsu	Vector Signal Generator	MG3710A	6201682672	2022/1/6	2023/1/5
Rohde & Schwarz	Power Meter	NRVD	102081	2022/7/14	2023/7/13
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2022/7/14	2023/7/13
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2022/7/14	2023/7/13
R&S	CBT BLUETOOTH TESTER	CBT	101246	2022/5/24	2023/5/23
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2022/10/12	2023/10/11
TES	DIGITAC THERMOMETER	1310	200505600	2022/7/12	2023/7/11
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	

Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.

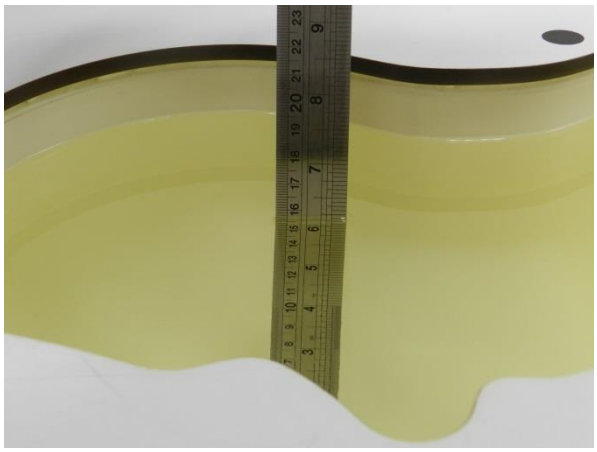


Fig 11.1 Photo of Liquid Height for Head SAR

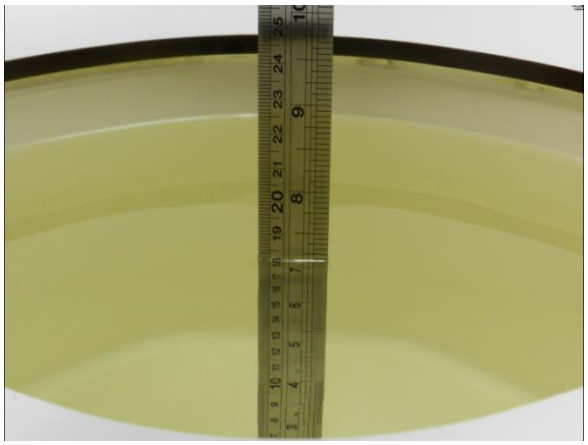


Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.9	0.895	41.699	0.89	41.90	0.56	-0.48	±5	2022/12/21
835	Head	22.8	0.929	40.902	0.90	41.50	3.22	-1.44	±5	2022/12/22
1750	Head	22.7	1.388	38.475	1.37	40.10	1.31	-4.05	±5	2022/12/23
1900	Head	22.6	1.460	40.080	1.40	40.00	4.29	0.20	±5	2022/12/24
2300	Head	22.9	1.732	39.227	1.67	39.50	3.71	-0.69	±5	2022/12/25
2450	Head	22.6	1.831	37.459	1.80	39.20	1.72	-4.44	±5	2022/12/26
2600	Head	22.7	1.981	39.059	1.96	39.00	1.07	0.15	±5	2022/12/27
5250	Head	22.9	4.675	36.678	4.71	35.90	-0.74	2.17	±5	2022/12/28
5600	Head	22.6	5.084	36.034	5.07	35.50	0.28	1.50	±5	2022/12/29
5750	Head	22.8	5.255	35.788	5.22	35.40	0.67	1.10	±5	2022/12/30
750	Head	22.6	0.924	42.065	0.89	41.90	3.82	0.39	±5	2022/12/31
835	Head	22.9	0.926	41.058	0.90	41.50	2.89	-1.07	±5	2023/1/1
1750	Head	22.8	1.351	40.380	1.37	40.10	-1.39	0.70	±5	2023/1/2
1900	Head	22.7	1.459	40.035	1.40	40.00	4.21	0.09	±5	2023/1/3
2300	Head	22.9	1.737	39.328	1.67	39.50	4.01	-0.44	±5	2023/1/4
2450	Head	22.8	1.856	39.103	1.80	39.20	3.11	-0.25	±5	2023/1/5
2600	Head	22.6	1.927	38.332	1.96	39.00	-1.68	-1.71	±5	2023/1/6
5250	Head	22.9	4.672	36.649	4.71	35.90	-0.81	2.09	±5	2023/1/7
5600	Head	22.8	5.078	36.004	5.07	35.50	0.16	1.42	±5	2023/1/8
5750	Head	22.7	5.250	35.755	5.22	35.40	0.57	1.00	±5	2023/1/9

11.3 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.

<1g SAR>

Date	Frequency (MHz)	Tissue Type	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 (%)
2022/12/21	750	Head	50	1087	7630	1305	0.458	8.58	9.16	6.76
2022/12/22	835	Head	50	4d091	7630	1305	0.509	9.45	10.18	7.72
2022/12/23	1750	Head	50	1090	7630	1305	1.970	37.00	39.4	6.49
2022/12/24	1900	Head	50	5d182	7630	1305	2.050	39.60	41	3.54
2022/12/25	2300	Head	50	1055	7630	1305	2.330	47.70	46.6	-2.31
2022/12/26	2450	Head	50	1040	7630	1305	2.720	51.80	54.4	5.02
2022/12/27	2600	Head	50	1061	7630	1305	2.690	56.60	53.8	-4.95
2022/12/28	5250	Head	50	1113	7630	1305	3.940	81.50	78.8	-3.31
2022/12/29	5600	Head	50	1113	7630	1305	4.370	82.60	87.4	5.81
2022/12/30	5750	Head	50	1113	7630	1305	3.820	80.80	76.4	-5.45
2022/12/31	750	Head	50	1087	7630	1305	0.451	8.58	9.02	5.13
2023/1/1	835	Head	50	4d091	7630	1305	0.498	9.45	9.96	5.40
2023/1/2	1750	Head	50	1090	7630	1305	1.920	37.00	38.4	3.78
2023/1/3	1900	Head	50	5d182	7630	1305	2.020	39.60	40.4	2.02
2023/1/4	2300	Head	50	1055	7630	1305	2.270	47.70	45.4	-4.82
2023/1/5	2450	Head	50	1040	7630	1305	2.520	51.80	50.4	-2.70
2023/1/6	2600	Head	50	1061	7630	1305	2.700	56.60	54	-4.59
2023/1/7	5250	Head	50	1113	7630	1305	3.990	81.50	79.8	-2.09
2023/1/8	5600	Head	50	1113	7630	1305	3.980	82.60	79.6	-3.63
2023/1/9	5750	Head	50	1113	7630	1305	3.850	80.80	77	-4.70

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2022/12/21	750	Head	50	1087	7630	1305	0.292	5.65	5.84	3.36
2022/12/22	835	Head	50	4d091	7630	1305	0.318	6.22	6.36	2.25
2022/12/23	1750	Head	50	1090	7630	1305	0.980	19.50	19.6	0.51
2022/12/24	1900	Head	50	5d182	7630	1305	1.070	20.20	21.4	5.94
2022/12/25	2300	Head	50	1055	7630	1305	1.120	22.90	22.4	-2.18
2022/12/26	2450	Head	50	1040	7630	1305	1.270	24.00	25.4	5.83
2022/12/27	2600	Head	50	1061	7630	1305	1.220	25.10	24.4	-2.79
2022/12/28	5250	Head	50	1113	7630	1305	1.150	23.30	23	-1.29
2022/12/29	5600	Head	50	1113	7630	1305	1.250	23.70	25	5.49
2022/12/30	5750	Head	50	1113	7630	1305	1.100	23.00	22	-4.35
2022/12/31	750	Head	50	1087	7630	1305	0.297	5.65	5.94	5.13
2023/1/1	835	Head	50	4d091	7630	1305	0.307	6.22	6.14	-1.29
2023/1/2	1750	Head	50	1090	7630	1305	1.050	19.50	21	7.69
2023/1/3	1900	Head	50	5d182	7630	1305	1.050	20.20	21	3.96
2023/1/4	2300	Head	50	1055	7630	1305	1.110	22.90	22.2	-3.06
2023/1/5	2450	Head	50	1040	7630	1305	1.170	24.00	23.4	-2.50
2023/1/6	2600	Head	50	1061	7630	1305	1.250	25.10	25	-0.40
2023/1/7	5250	Head	50	1113	7630	1305	1.130	23.30	22.6	-3.00
2023/1/8	5600	Head	50	1113	7630	1305	1.150	23.70	23	-2.95
2023/1/9	5750	Head	50	1113	7630	1305	1.110	23.00	22.2	-3.48

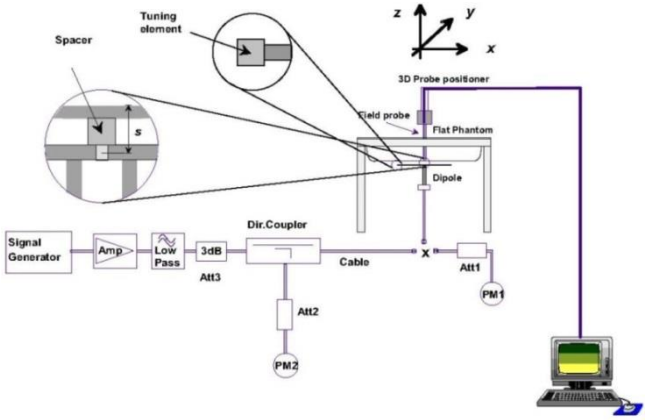


Fig 11.3.1 System Performance Check Setup

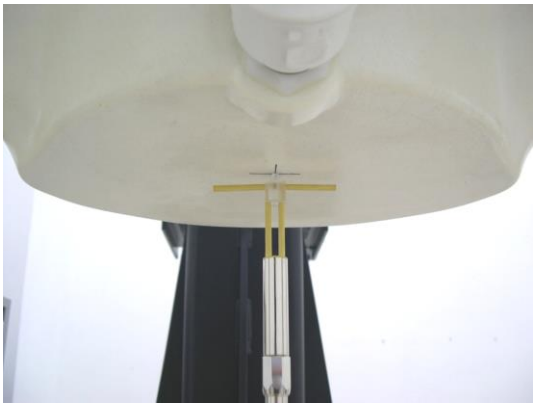


Fig 11.3.2 Setup Photo

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.

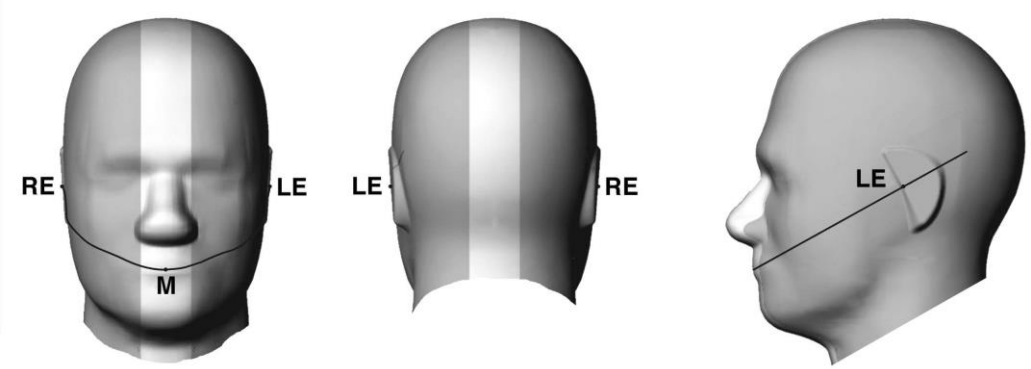


Fig 12.1.1 Front, back, and side views of SAM twin phantom

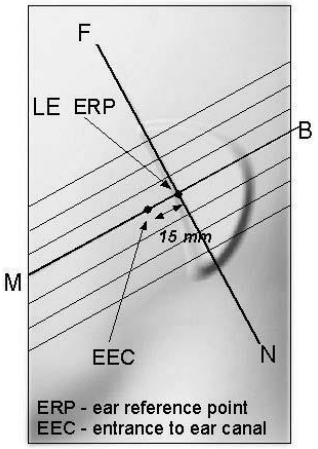


Fig 12.1.2 Close-up side view of phantom showing the ear region.

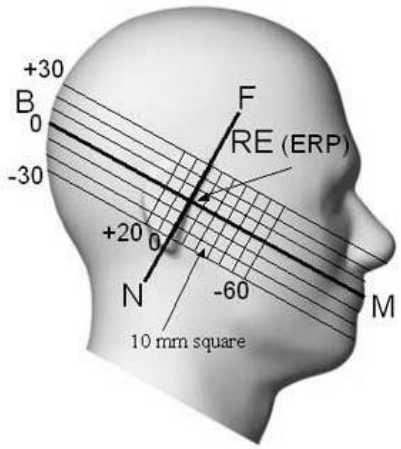


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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 wt 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 wb 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 horizontal line. 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.

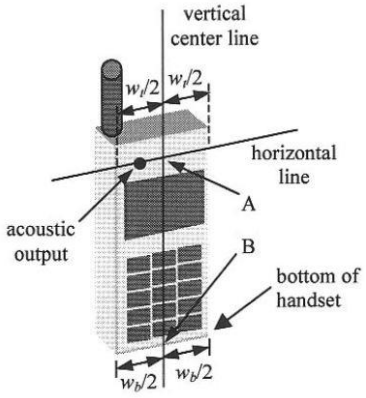


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

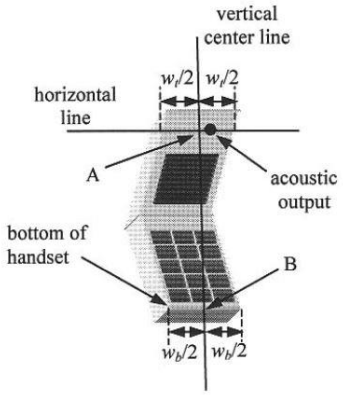


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

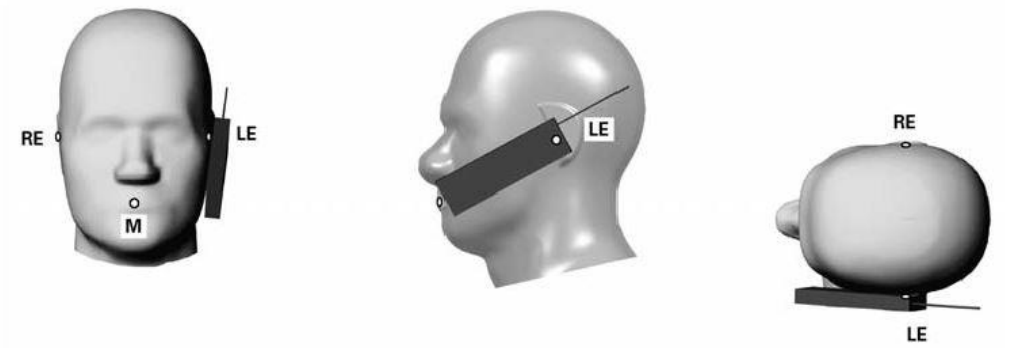


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

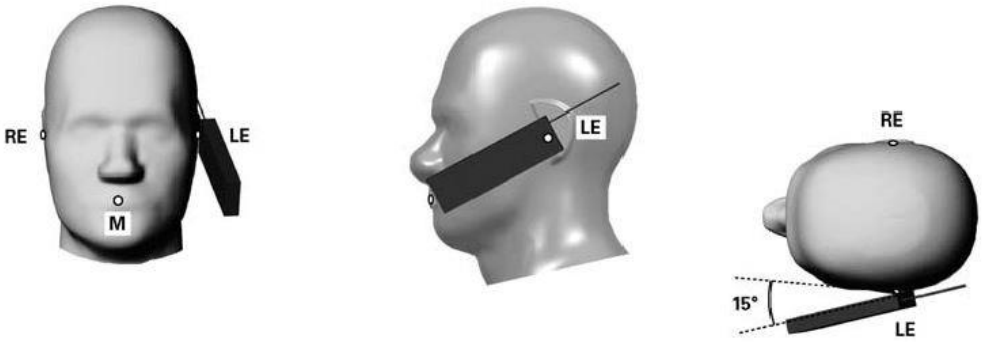


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 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-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

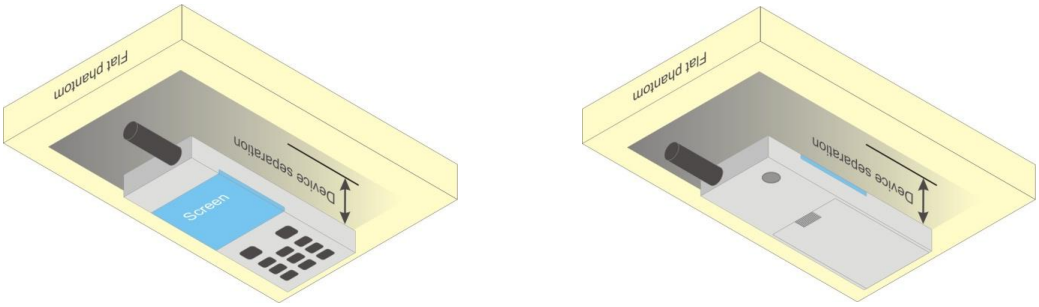


Fig 12.4 Body Worn Position

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 x W ≥ 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 form 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 ≤ ¼ 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 DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, 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 Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_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} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, 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 β_c = 10/15 and β_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 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: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_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	Proces ses	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.		

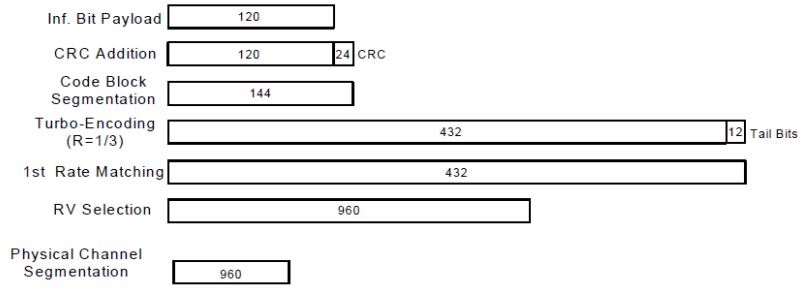


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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 Parms
   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 (Note3)	β_d	β_{HS} (Note1)	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_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 β_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>

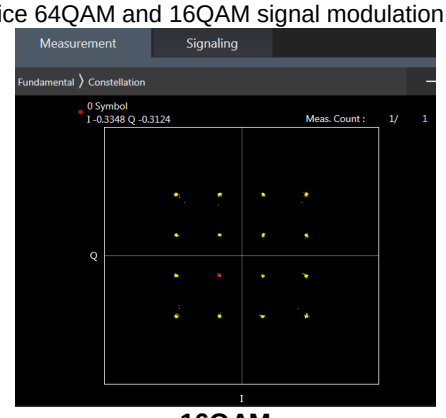
General Note:

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 ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / 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 ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

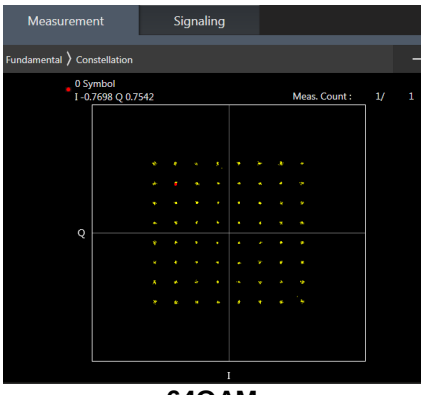
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ 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 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; 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 B2 / B4 / B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; 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 ≤ 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 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 64QAM and 16QAM signal modulation are correct.



16QAM



64QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

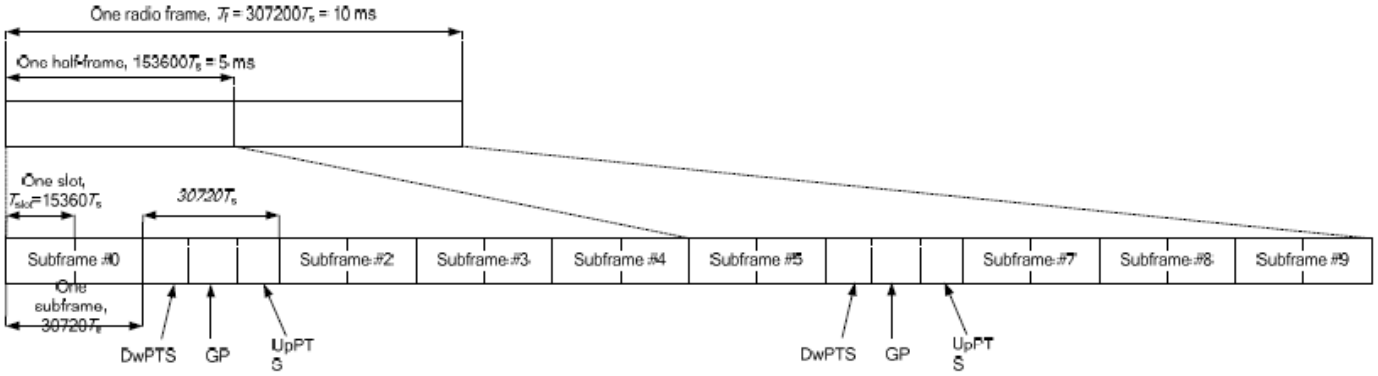


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subfames, uplink operation is in 2 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: (2+0.167)/5 = 43.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.143)/5 = 42.9%
v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 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.

For LTE TDD Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, 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.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.

2CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset
1	CA_2C	
2	CA_2A-2A	
3	CA_2A-5A	
4	CA_2A-7A	
5	CA_2A-12A	
6	CA_2A-13A	
7	CA_2A-14A	
8	CA_2A-30A	
9	CA_2A-71A	
10	CA_4A-4A	
11	CA_4A-5A	
12	CA_4A-12A	
13	CA_4A-13A	
14	CA_4A-17A	
15	CA_4A-71A	
16	CA_5B	
17	CA_5A-5A	
18	CA_5A-7A	
19	CA_5A-30A	
20	CA_5A-41A	
21	CA_5A-66A	
22	CA_7C	
23	CA_7A-7A	
24	CA_7A-12A	
25	CA_7A-13A	
26	CA_7A-25A	
27	CA_12B	
28	CA_12A-30A	
29	CA_12A-66A	
30	CA_13A-66A	
31	CA_14A-30A	
32	CA_14A-66A	
33	CA_25A-25A	
34	CA_25A-26A	
35	CA_25A-41A	
36	CA_26A-41A	
37	CA_38C	
38	CA_41C	
39	CA_41A-41A	
40	CA_66B	
41	CA_66C	
42	CA_66A-66A	
43	CA_66A-71A	
44	CA_2A-29A	
45	CA_4A-29A	

LTE Carrier Aggregation Conducted Power (Downlink)

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

LTE Carrier Aggregation Conducted Power (Uplink)

2CC Uplink Carrier Aggregation		
Number	Combination	Ant No.
1	CA_41C	Ant 1

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B41 with a maximum of two component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. The device supports uplink carrier aggregation with a maximum of two component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

iii. According 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.

iv. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<WLAN Conducted Power>

General Note:

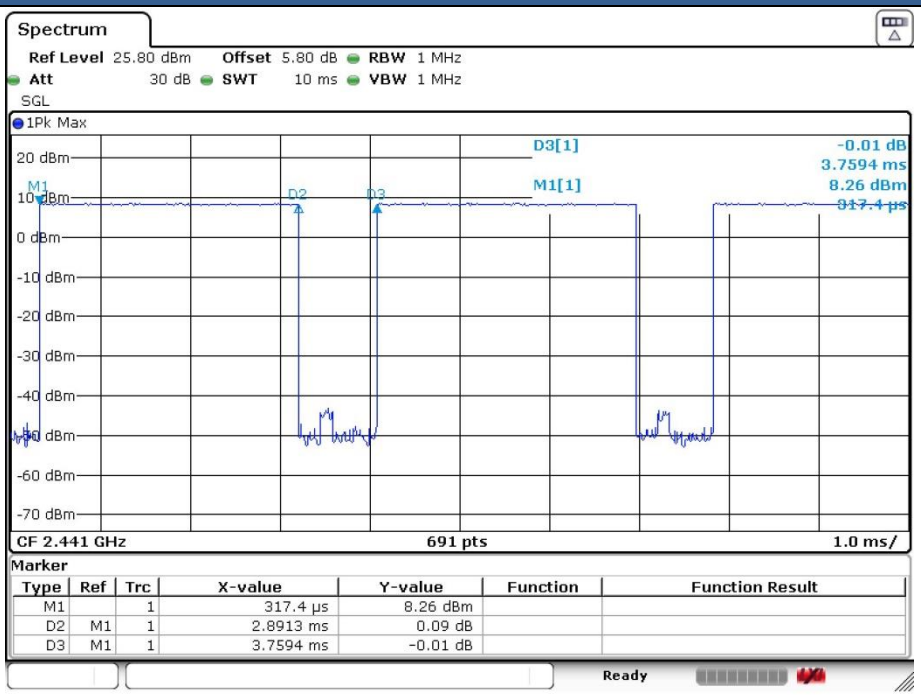
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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.
2. 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).
3. 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.
4. 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 and duty cycle is 76.91% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

Bluetooth time-domain plot



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.
   g. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 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 ≥ 0.8W/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 Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level, which 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.
5. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to body. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated at body-worn and extremity exposure conditions.
6. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively.
7. This device supports HPUE for LTE Band 41 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.
8. 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 2/4/5/7/13/14/25/26/30 /66/71/38/41, WLAN5.2/5.8GHz, 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.

9. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
10. Although the distance 1gSAR is greater than 0.8 W/kg at body-worn exposure conditions, the distance SAR verified the worst of the non-distance SAR and less than non-distance SAR, so there is no need to be tested other channels.

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. 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 ≤ ¼ dB higher than the primary mode, 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 ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / 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 ¼ 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 ½ 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 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; 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 B2 / B4 / B5 / B17 / B38 SAR test was covered by LTE B25 / B66 / B26 / B12 / B41; 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 ≤ 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

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. 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.
3. 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.
4. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

DSI status description：

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

Exposure Condition	DSI	
Head SAR	DSI 2	Receiver on
Body worn Mode SAR	DSI 3	Receiver off/Sensor On
Hotspot Mode SAR	DSI 7	Hotspot On
Extremity(Handheld) SAR	DSI 6	Receiver off/Sensor On
Sensor Off SAR	DSI 4	Receiver off/Sensor Off

15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	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)
750MHz																					
	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	133322	683	1	22.45	24.00	1.429	-	-	-0.07	0.259	0.370
	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	133222	673	1	22.41	24.00	1.442	-	-	0.04	0.231	0.333
	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	133372	688	1	22.38	24.00	1.452	-	-	0.11	0.244	0.354
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	133322	683	1	21.56	23.00	1.393	-	-	-0.15	0.217	0.302
	LTE Band 71	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	133322	683	1	22.45	24.00	1.429	-	-	-0.14	0.122	0.174
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	133322	683	1	21.56	23.00	1.393	-	-	0.08	0.102	0.142
	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	133322	683	1	22.45	24.00	1.429	-	-	0.1	0.241	0.344
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	133322	683	1	21.56	23.00	1.393	-	-	0.12	0.201	0.280
	LTE Band 71	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	133322	683	1	22.45	24.00	1.429	-	-	0.08	0.118	0.169
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	133322	683	1	21.56	23.00	1.393	-	-	-0.04	0.095	0.132
01	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	133322	683	1	21.43	23.00	1.435	-	-	0.08	0.409	**0.587**
	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	133222	673	1	21.38	23.00	1.452	-	-	0.04	0.391	0.568
	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	133372	688	1	21.26	23.00	1.493	-	-	0.11	0.377	0.563
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	133322	683	1	20.45	22.00	1.429	-	-	0.07	0.330	0.472
	LTE Band 71	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	133322	683	1	21.43	23.00	1.435	-	-	0.07	0.333	0.478
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	133322	683	1	20.45	22.00	1.429	-	-	-0.06	0.268	0.383
	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	133322	683	1	21.43	23.00	1.435	-	-	-0.17	0.313	0.449
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	133322	683	1	20.45	22.00	1.429	-	-	0.03	0.252	0.360
	LTE Band 71	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	133322	683	1	21.43	23.00	1.435	-	-	0.03	0.294	0.422
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 2	133322	683	1	20.45	22.00	1.429	-	-	0.07	0.238	0.340
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	1	22.39	24.00	1.449	-	-	-0.01	0.202	0.293
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23060	704	1	22.35	24.00	1.462	-	-	0.04	0.191	0.279
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23130	711	1	22.32	24.00	1.472	-	-	0.11	0.187	0.275
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	1	21.47	23.00	1.422	-	-	0.05	0.163	0.232
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	1	22.39	24.00	1.449	-	-	0.05	0.112	0.162
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	1	21.47	23.00	1.422	-	-	0.06	0.090	0.128
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	1	22.39	24.00	1.449	-	-	0.15	0.196	0.284
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	1	21.47	23.00	1.422	-	-	0.09	0.156	0.222
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	1	22.39	24.00	1.449	-	-	-0.14	0.115	0.167
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	1	21.47	23.00	1.422	-	-	-0.01	0.090	0.128
02	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23095	707.5	1	19.97	21.50	1.422	-	-	-0.16	0.642	**0.913**
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23060	704	1	19.90	21.50	1.445	-	-	0.03	0.623	0.901
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23130	711	1	19.87	21.50	1.455	-	-	0.05	0.616	0.897
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 3	DSI 2	23095	707.5	1	19.80	21.50	1.479	-	-	-0.1	0.476	0.704
	LTE Band 12	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	23095	707.5	1	19.79	21.50	1.483	-	-	0.03	0.475	0.704
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	23095	707.5	1	19.97	21.50	1.422	-	-	0.07	0.463	0.659
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 3	DSI 2	23095	707.5	1	19.80	21.50	1.479	-	-	0.15	0.364	0.538
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	23095	707.5	1	19.97	21.50	1.422	-	-	0.09	0.545	0.775
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 3	DSI 2	23095	707.5	1	19.80	21.50	1.479	-	-	0.11	0.432	0.639
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	23095	707.5	1	19.97	21.50	1.422	-	-	0.04	0.458	0.651
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 3	DSI 2	23095	707.5	1	19.80	21.50	1.479	-	-	0.03	0.373	0.552
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	1	22.27	24.00	1.489	-	-	-0.07	0.208	0.310
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	1	21.38	23.00	1.452	-	-	-0.05	0.166	0.241
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	1	22.27	24.00	1.489	-	-	-0.01	0.090	0.134
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	1	21.38	23.00	1.452	-	-	0.07	0.072	0.105
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	1	22.27	24.00	1.489	-	-	-0.08	0.151	0.225
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	1	21.38	23.00	1.452	-	-	0.07	0.131	0.190
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	1	22.27	24.00	1.489	-	-	0.07	0.083	0.124
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	1	21.38	23.00	1.452	-	-	0.14	0.068	0.099
03	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23230	782	1	19.85	21.50	1.462	-	-	0.01	0.644	**0.942**

	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 3	DSI 2	23230	782	1	19.77	21.50	1.489	-	-	0.08	0.522	0.777
	LTE Band 13	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	23230	782	1	19.75	21.50	1.496	-	-	0.06	0.503	0.753
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	23230	782	1	19.85	21.50	1.462	-	-	-0.01	0.406	0.594
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 3	DSI 2	23230	782	1	19.77	21.50	1.489	-	-	0.01	0.357	0.532
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	23230	782	1	19.85	21.50	1.462	-	-	-0.14	0.514	0.752
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 3	DSI 2	23230	782	1	19.77	21.50	1.489	-	-	-0.15	0.411	0.612
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	23230	782	1	19.85	21.50	1.462	-	-	-0.17	0.405	0.592
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 3	DSI 2	23230	782	1	19.77	21.50	1.489	-	-	-0.12	0.324	0.483
	LTE Band 14	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23330	793	1	22.23	24.00	1.503	-	-	-0.01	0.226	0.340
	LTE Band 14	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23330	793	1	21.29	23.00	1.483	-	-	0.14	0.182	0.270
	LTE Band 14	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23330	793	1	22.23	24.00	1.503	-	-	-0.02	0.098	0.147
	LTE Band 14	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23330	793	1	21.29	23.00	1.483	-	-	0.05	0.079	0.117
	LTE Band 14	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23330	793	1	22.23	24.00	1.503	-	-	0.08	0.192	0.289
	LTE Band 14	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23330	793	1	21.29	23.00	1.483	-	-	-0.02	0.147	0.218
	LTE Band 14	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23330	793	1	22.23	24.00	1.503	-	-	-0.18	0.099	0.149
	LTE Band 14	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23330	793	1	21.29	23.00	1.483	-	-	0.02	0.084	0.125
04	LTE Band 14	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.32	22.00	1.472	-	-	0.09	0.673	**0.991**
	LTE Band 14	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	23330	793	2	20.32	22.00	1.472	-	-	0.03	0.667	0.982
	LTE Band 14	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.20	22.00	1.514	-	-	-0.13	0.534	0.808
	LTE Band 14	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.13	22.00	1.538	-	-	0.14	0.522	0.803
	LTE Band 14	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	23330	793	1	20.32	22.00	1.472	-	-	0.07	0.466	0.686
	LTE Band 14	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 3	DSI 2	23330	793	1	20.20	22.00	1.514	-	-	0.03	0.395	0.598
	LTE Band 14	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.32	22.00	1.472	-	-	0.05	0.590	0.869
	LTE Band 14	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.20	22.00	1.514	-	-	0.02	0.466	0.705
	LTE Band 14	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	23330	793	1	20.13	22.00	1.538	-	-	-0.17	0.456	0.701
	LTE Band 14	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	23330	793	1	20.32	22.00	1.472	-	-	0.13	0.464	0.683
	LTE Band 14	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 3	DSI 2	23330	793	1	20.20	22.00	1.514	-	-	0.05	0.369	0.559
835MHz																					
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	1	28.16	29.50	1.361	-	-	-0.06	0.680	0.926
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	128	824.2	1	28.13	29.50	1.371	-	-	0.03	0.666	0.913
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	251	848.8	1	28.11	29.50	1.377	-	-	0.02	0.660	0.909
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	1	28.16	29.50	1.361	-	-	-0.01	0.266	0.362
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	1	28.16	29.50	1.361	-	-	0.01	0.469	0.639
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	1	28.16	29.50	1.361	-	-	0.02	0.257	0.350
05	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 2	189	836.4	1	24.10	25.50	1.380	-	-	-0.05	0.743	**1.026**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 2	128	824.2	1	23.95	25.50	1.429	-	-	0.02	0.662	0.946
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 2	251	848.8	1	23.90	25.50	1.445	-	-	0.06	0.634	0.916
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 2	189	836.4	1	24.10	25.50	1.380	-	-	0.08	0.517	0.714
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DSI 2	189	836.4	1	24.10	25.50	1.380	-	-	0.06	0.603	0.832
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DSI 2	128	824.2	1	23.95	25.50	1.429	-	-	0.01	0.592	0.846
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DSI 2	251	848.8	1	23.90	25.50	1.445	-	-	0.01	0.556	0.804
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 3	DSI 2	189	836.4	1	24.10	25.50	1.380	-	-	-0.09	0.483	0.667
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	1	22.88	24.00	1.294	-	-	-0.01	0.337	0.436
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4132	826.4	1	22.83	24.00	1.309	-	-	0.04	0.313	0.410
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4233	846.6	1	22.86	24.00	1.300	-	-	-0.01	0.298	0.387
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	1	22.88	24.00	1.294	-	-	-0.1	0.136	0.176
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	1	22.88	24.00	1.294	-	-	0.07	0.234	0.303
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	1	22.88	24.00	1.294	-	-	-0.03	0.129	0.167
06	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	4182	836.4	1	18.95	20.00	1.274	-	-	0.12	0.695	**0.885**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	4132	826.4	1	18.87	20.00	1.297	-	-	-0.17	0.651	0.844
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	4233	846.6	1	18.92	20.00	1.282	-	-	0.04	0.655	0.840
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 2	4182	836.4	1	18.95	20.00	1.274	-	-	0.1	0.514	0.655
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 2	4182	836.4	1	18.95	20.00	1.274	-	-	0.14	0.580	0.739
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DSI 2	4182	836.4	1	18.95	20.00	1.274	-	-	0.06	0.469	0.597
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	1	22.58	24.00	1.387	-	-	-0.01	0.262	0.363
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	1	21.57	23.00	1.390	-	-	0.04	0.208	0.289

	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	1	22.58	24.00	1.387	-	-	0.03	0.203	0.282
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	1	21.57	23.00	1.390	-	-	0.16	0.168	0.234
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	1	22.58	24.00	1.387	-	-	0.09	0.183	0.254
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	1	21.57	23.00	1.390	-	-	-0.06	0.143	0.199
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	1	22.58	24.00	1.387	-	-	-0.01	0.100	0.139
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	1	21.57	23.00	1.390	-	-	0.1	0.081	0.113
07	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.31	20.50	1.315	-	-	0.07	0.793	**1.043**
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26765	821.5	1	19.26	20.50	1.330	-	-	0.03	0.775	1.031
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26965	841.5	1	19.22	20.50	1.343	-	-	0.01	0.762	1.023
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.26	20.50	1.330	-	-	-0.14	0.736	0.979
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 3	DSI 2	26765	821.5	1	19.22	20.50	1.343	-	-	0.05	0.722	0.969
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 3	DSI 2	26965	841.5	1	19.12	20.50	1.374	-	-	0.06	0.735	1.010
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.19	20.50	1.352	-	-	0.18	0.736	0.995
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	26865	831.5	1	19.31	20.50	1.315	-	-	-0.1	0.591	0.777
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 3	DSI 2	26865	831.5	1	19.26	20.50	1.330	-	-	0.04	0.574	0.764
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.31	20.50	1.315	-	-	0.01	0.726	0.955
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	26765	821.5	1	19.26	20.50	1.330	-	-	0.04	0.715	0.951
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	26965	841.5	1	19.22	20.50	1.343	-	-	0.09	0.709	0.952
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.26	20.50	1.330	-	-	0.08	0.679	0.903
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 3	DSI 2	26765	821.5	1	19.22	20.50	1.343	-	-	0.03	0.688	0.924
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 3	DSI 2	26965	841.5	1	19.12	20.50	1.374	-	-	0.01	0.663	0.911
	LTE Band 26	15M	QPSK	75	0	-	Left Cheek	0mm	Ant 3	DSI 2	26865	831.5	1	19.19	20.50	1.352	-	-	0.05	0.685	0.926
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	26865	831.5	1	19.31	20.50	1.315	-	-	0.03	0.591	0.777
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 3	DSI 2	26865	831.5	1	19.26	20.50	1.330	-	-	0.04	0.578	0.769
1750MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1413	1732.6	1	22.84	24.00	1.306	-	-	0.09	0.135	0.176
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	1413	1732.6	1	22.84	24.00	1.306	-	-	0.04	0.081	0.106
08	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	1413	1732.6	1	22.84	24.00	1.306	-	-	0.09	0.159	**0.208**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	1312	1712.4	1	22.77	24.00	1.327	-	-	0.05	0.138	0.183
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	1513	1752.6	1	22.63	24.00	1.371	-	-	-0.01	0.144	0.197
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	1413	1732.6	1	22.84	24.00	1.306	-	-	-0.17	0.091	0.119
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	1	22.25	24.00	1.496	-	-	-0.17	0.115	0.172
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	1	21.39	23.00	1.449	-	-	0.15	0.092	0.133
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	1	22.25	24.00	1.496	-	-	0.11	0.084	0.126
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	1	21.39	23.00	1.449	-	-	0.05	0.068	0.099
09	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	1	22.25	24.00	1.496	-	-	0.04	0.138	**0.206**
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	132072	1720	1	22.20	24.00	1.514	-	-	0.01	0.121	0.183
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	132572	1770	1	22.18	24.00	1.521	-	-	-0.05	0.119	0.181
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	1	21.39	23.00	1.449	-	-	-0.05	0.111	0.161
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	1	22.25	24.00	1.496	-	-	0.05	0.081	0.121
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	1	21.39	23.00	1.449	-	-	0.12	0.063	0.091
1900MHz																					
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	661	1880	1	25.43	26.50	1.279	-	-	-0.03	0.120	0.154
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	661	1880	1	25.43	26.50	1.279	-	-	0.06	0.110	0.141
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	661	1880	1	25.43	26.50	1.279	-	-	-0.01	0.158	0.202
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	512	1850.2	1	25.35	26.50	1.303	-	-	0.05	0.144	0.188
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	810	1909.8	1	25.39	26.50	1.291	-	-	-0.07	0.148	0.191
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	661	1880	1	25.43	26.50	1.279	-	-	-0.19	0.116	0.148
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 3	DSI 2	661	1880	1	17.22	18.00	1.197	-	-	0.15	0.645	0.772
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 2	661	1880	1	17.22	18.00	1.197	-	-	0.04	0.749	0.896
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 2	512	1850.2	1	17.01	18.00	1.256	-	-	0.07	0.744	0.934
10	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 3	DSI 2	810	1909.8	1	17.11	18.00	1.227	-	-	-0.01	0.871	**1.069**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 3	DSI 2	661	1880	1	17.22	18.00	1.197	-	-	0.13	0.451	0.540
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 3	DSI 2	661	1880	1	17.22	18.00	1.197	-	-	0.04	0.539	0.645
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9400	1880	1	23.07	24.00	1.239	-	-	-0.09	0.105	0.130
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	9400	1880	1	23.07	24.00	1.239	-	-	-0.08	0.095	0.118

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9400	1880	1	23.07	24.00	1.239	-	-	-0.13	0.146	0.181
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9262	1852.4	1	22.90	24.00	1.288	-	-	0.08	0.137	0.176
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9538	1907.6	1	23.01	24.00	1.256	-	-	0.11	0.131	0.165
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	9400	1880	1	23.07	24.00	1.239	-	-	0.1	0.100	0.124
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	9400	1880	1	12.81	14.00	1.315	-	-	0.02	0.690	0.908
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	9262	1852.4	1	12.70	14.00	1.349	-	-	0.09	0.686	0.925
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 3	DSI 2	9538	1907.6	1	12.76	14.00	1.330	-	-	0.02	0.701	0.933
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 2	9400	1880	1	12.81	14.00	1.315	-	-	0.07	0.715	0.940
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 2	9262	1852.4	1	12.70	14.00	1.349	-	-	0.05	0.757	1.021
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 3	DSI 2	9538	1907.6	1	12.76	14.00	1.330	-	-	-0.09	0.787	**1.047**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 3	DSI 2	9400	1880	1	12.81	14.00	1.315	-	-	0.08	0.543	0.714
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 3	DSI 2	9400	1880	1	12.81	14.00	1.315	-	-	0.15	0.458	0.602
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	1	22.34	24.00	1.466	-	-	0.070	0.085	0.125
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	1	21.43	23.00	1.435	-	-	0.060	0.067	0.096
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	1	22.34	24.00	1.466	-	-	-0.040	0.078	0.114
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	1	21.43	23.00	1.435	-	-	0.070	0.061	0.088
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	1	22.34	24.00	1.466	-	-	0.130	0.126	0.185
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26140	1860	1	22.14	24.00	1.535	-	-	0.040	0.111	0.170
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26590	1905	1	22.22	24.00	1.507	-	-	-0.010	0.109	0.164
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	1	21.43	23.00	1.435	-	-	0.100	0.081	0.116
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	1	22.34	24.00	1.466	-	-	0.010	0.084	0.123
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	1	21.43	23.00	1.435	-	-	0.060	0.070	0.100
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	26340	1880	1	12.44	14.00	1.432	-	-	0.06	0.553	0.792
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	26340	1880	1	12.38	14.00	1.452	-	-	-0.06	0.530	0.770
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	26340	1880	1	12.44	14.00	1.432	-	-	0.06	0.662	0.948
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	26140	1860	1	12.31	14.00	1.476	-	-	0.05	0.694	1.024
12	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	26590	1905	1	12.39	14.00	1.449	-	-	-0.15	0.716	**1.037**
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	26340	1880	1	12.38	14.00	1.452	-	-	0.08	0.655	0.951
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	26140	1860	1	12.35	14.00	1.462	-	-	-0.08	0.665	0.972
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	26590	1905	1	12.26	14.00	1.493	-	-	-0.13	0.652	0.973
	LTE Band 25	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 3	DSI 2	26340	1880	1	12.37	14.00	1.455	-	-	0.05	0.681	0.991
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	26340	1880	1	12.44	14.00	1.432	-	-	0.05	0.407	0.583
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	26340	1880	1	12.38	14.00	1.452	-	-	0.08	0.389	0.565
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	26340	1880	1	12.44	14.00	1.432	-	-	0.03	0.493	0.706
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 2	26340	1880	1	12.38	14.00	1.452	-	-	0.07	0.475	0.690
2300MHz																					
	LTE Band 30	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	27710	2310	1	22.57	24.00	1.390	-	-	0.16	0.202	0.281
	LTE Band 30	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	27710	2310	1	21.61	23.00	1.377	-	-	0.04	0.161	0.222
	LTE Band 30	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	27710	2310	1	22.57	24.00	1.390	-	-	-0.18	0.230	0.320
	LTE Band 30	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	27710	2310	1	21.61	23.00	1.377	-	-	0.18	0.179	0.247
13	LTE Band 30	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	27710	2310	1	22.57	24.00	1.390	-	-	0.05	0.368	**0.512**
	LTE Band 30	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	27710	2310	1	21.61	23.00	1.377	-	-	0.16	0.293	0.404
	LTE Band 30	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	27710	2310	1	22.57	24.00	1.390	-	-	0.09	0.143	0.199
	LTE Band 30	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	27710	2310	1	21.61	23.00	1.377	-	-	0.13	0.113	0.156
2600MHz																					
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	1	21.45	23.00	1.429	-	-	0.01	0.267	0.382
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	1	21.41	23.00	1.442	-	-	0.05	0.210	0.303
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	1	21.45	23.00	1.429	-	-	-0.1	0.259	0.370
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	1	21.41	23.00	1.442	-	-	-0.08	0.203	0.293
14	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	1	21.45	23.00	1.429	-	-	-0.01	0.474	**0.677**
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	20850	2510	1	21.24	23.00	1.500	-	-	0.04	0.414	0.621
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	21350	2560	1	21.24	23.00	1.500	-	-	-0.06	0.433	0.649
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	1	21.41	23.00	1.442	-	-	0.09	0.378	0.545
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	1	21.45	23.00	1.429	-	-	-0.01	0.158	0.226
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	1	21.41	23.00	1.442	-	-	0.18	0.122	0.176
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	1	23.00	24.00	1.259	62.9	1.006	-0.03	0.204	0.258

	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	1	21.05	22.00	1.245	62.9	1.006	-0.13	0.128	0.160
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	1	23.00	24.00	1.259	62.9	1.006	0.15	0.179	0.227
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	1	21.05	22.00	1.245	62.9	1.006	0.02	0.112	0.140
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1	23.00	24.00	1.259	62.9	1.006	0.07	0.341	0.432
	LTE Band 41C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	DSI 2	40620+ 40818	2593+ 2612.8	1	22.36	24.00	1.459	62.9	1.006	0.01	0.288	0.423
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1	21.05	22.00	1.245	62.9	1.006	0.04	0.222	0.278
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	1	23.00	24.00	1.259	62.9	1.006	-0.03	0.108	0.137
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	1	21.05	22.00	1.245	62.9	1.006	0.08	0.064	0.080
15	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1	25.87	27.00	1.297	42.9	1.009	-0.05	0.453	**0.593**
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	DSI 2	40620+ 40818	2593+ 2612.8	1	25.28	27.00	1.486	42.9	1.009	0.06	0.385	0.577

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)
WLAN/BT																	
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	0.03	0.438	0.589
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	0.01	0.548	0.738
16	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	-0.03	1.010	**1.359**
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	6	2437	2	18.21	19.50	1.346	100	1.000	0.03	0.850	1.144
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	1	2412	1	18.16	19.50	1.361	100	1.000	0.05	0.754	1.027
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	11	2462	1	18.05	19.50	1.396	100	1.000	-0.03	0.703	0.982
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 5	Standalone	6	2437	1	18.19	19.50	1.352	100	1.000	0.06	0.880	1.190
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	0.03	0.754	1.015
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 5	Standalone	1	2412	1	18.16	19.50	1.361	100	1.000	-0.03	0.723	0.984
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 5	Standalone	11	2462	1	18.05	19.50	1.396	100	1.000	0.04	0.706	0.986
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Simultaneous	6	2437	1	14.63	16.00	1.371	100	1.000	0.03	0.261	0.358
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.03	0.061	0.090
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.01	0.050	0.074
17	Bluetooth	1Mbps	Left Cheek	0mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.09	0.090	**0.133**
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 5	Full power	0	2402	1	9.09	10.50	1.384	76.91	1.083	0.04	0.073	0.109
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 5	Full power	39	2441	1	9.08	10.50	1.387	76.91	1.083	-0.05	0.080	0.120
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.02	0.080	0.118
	WLAN5.2GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.03	0.250	0.344
	WLAN5.2GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.01	0.250	0.344
18	WLAN5.2GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.06	0.780	**1.074**
	WLAN5.2GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4	Full power	44	5220	2	18.61	20.00	1.377	100	1.000	0.01	0.613	0.844
	WLAN5.2GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4	Full power	48	5240	1	18.60	20.00	1.380	100	1.000	0.03	0.740	1.021
	WLAN5.2GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 4	Full power	36	5180	1	18.31	20.00	1.476	100	1.000	-0.01	0.653	0.964
	WLAN5.2GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.06	0.610	0.840
	WLAN5.2GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4	Full power	48	5240	1	18.60	20.00	1.380	100	1.000	0.05	0.590	0.814
	WLAN5.2GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 4	Full power	36	5180	1	18.31	20.00	1.476	100	1.000	0.04	0.515	0.760
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Simultaneous	42	5210	1	12.32	13.50	1.312	100	1.000	0.06	0.170	0.223
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Standalone	58	5290	1	16.74	18.50	1.500	100	1.000	0.06	0.250	0.375
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Standalone	58	5290	1	16.74	18.50	1.500	100	1.000	0.01	0.270	0.405
19	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	58	5290	1	16.74	18.50	1.500	100	1.000	-0.01	0.780	**1.170**
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	58	5290	2	16.74	18.50	1.500	100	1.000	0.06	0.655	0.982
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Standalone	58	5290	1	16.74	18.50	1.500	100	1.000	0.02	0.540	0.810
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Simultaneous	58	5290	1	9.87	11.50	1.455	100	1.000	0.01	0.163	0.237
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Standalone	138	5690	1	14.15	16.00	1.531	100	1.000	0.03	0.140	0.214
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Standalone	138	5690	1	14.15	16.00	1.531	100	1.000	0.01	0.170	0.260
20	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	138	5690	1	14.15	16.00	1.531	100	1.000	-0.06	0.770	**1.179**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	138	5690	2	14.15	16.00	1.531	100	1.000	0.01	0.624	0.955
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	106	5530	1	14.10	16.00	1.549	100	1.000	-0.02	0.750	1.162
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Standalone	138	5690	1	14.15	16.00	1.531	100	1.000	0.01	0.360	0.551
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Simultaneous	138	5690	1	7.18	9.00	1.521	100	1.000	0.06	0.166	0.252

	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.03	0.150	0.212
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.01	0.190	0.269
21	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.02	0.828	**1.172**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.02	0.440	0.623
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Simultaneous	155	5775	1	6.90	8.50	1.445	100	1.000	0.09	0.171	0.247

15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	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)
750MHz																			
	LTE Band 71	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	133322	683	1	22.45	24.00	1.429	0.09	0.525	0.750
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	133322	683	1	21.56	23.00	1.393	0.16	0.443	0.617
22	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	133322	683	1	22.45	24.00	1.429	-0.04	0.896	**1.280**
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	133222	673	1	22.41	24.00	1.442	0.06	0.856	1.234
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	133372	688	1	22.38	24.00	1.452	0.04	0.823	1.195
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	133322	683	1	21.56	23.00	1.393	-0.17	0.744	1.037
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	133222	673	1	21.55	23.00	1.396	0.02	0.723	1.010
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	133372	688	1	21.47	23.00	1.422	0.06	0.709	1.008
	LTE Band 71	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	133322	683	1	21.54	23.00	1.400	0.04	0.730	1.022
	LTE Band 71	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	133322	683	1	22.45	24.00	1.429	-0.09	0.130	0.186
	LTE Band 71	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	133322	683	1	21.56	23.00	1.393	-0.14	0.122	0.170
	LTE Band 71	20M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	133322	683	1	22.45	24.00	1.429	-0.01	0.087	0.124
	LTE Band 71	20M	QPSK	50	0	-	Right Side	5mm	Ant 0	DSI 7	133322	683	1	21.56	23.00	1.393	-0.1	0.081	0.113
	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	133322	683	1	22.45	24.00	1.429	0.11	0.477	0.682
	LTE Band 71	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	133322	683	1	21.56	23.00	1.393	0.11	0.466	0.649
	LTE Band 71	20M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	133322	683	1	21.43	23.00	1.435	0.06	0.114	0.164
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 3	DSI 7	133322	683	1	20.45	22.00	1.429	-0.01	0.091	0.130
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	133322	683	1	21.43	23.00	1.435	0.05	0.218	0.313
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	133222	673	1	21.38	23.00	1.452	0.06	0.189	0.274
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	133372	688	1	21.26	23.00	1.493	0.01	0.195	0.291
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 7	133322	683	1	20.45	22.00	1.429	-0.18	0.177	0.253
	LTE Band 71	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	133322	683	1	21.43	23.00	1.435	0.15	0.054	0.078
	LTE Band 71	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	DSI 7	133322	683	1	20.45	22.00	1.429	0.02	0.053	0.076
	LTE Band 71	20M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	133322	683	1	21.43	23.00	1.435	0.18	0.056	0.080
	LTE Band 71	20M	QPSK	50	0	-	Right Side	5mm	Ant 3	DSI 7	133322	683	1	20.45	22.00	1.429	0.06	0.054	0.077
	LTE Band 71	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	133322	683	1	21.43	23.00	1.435	-0.08	0.101	0.145
	LTE Band 71	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	133322	683	1	20.45	22.00	1.429	-0.11	0.085	0.121
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	1	22.39	24.00	1.449	0.12	0.423	0.613
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	1	21.47	23.00	1.422	-0.18	0.406	0.577
23	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	1	22.39	24.00	1.449	0.09	0.711	**1.030**
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23060	704	1	22.35	24.00	1.462	0.06	0.700	1.024
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23130	711	1	22.32	24.00	1.472	0.01	0.689	1.014
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	1	21.47	23.00	1.422	-0.13	0.620	0.882
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23060	704	1	21.43	23.00	1.435	0.05	0.615	0.883
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23130	711	1	21.40	23.00	1.445	0.03	0.603	0.872
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	1	21.43	23.00	1.435	0.08	0.606	0.870
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	1	22.39	24.00	1.449	-0.12	0.079	0.114
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	1	21.47	23.00	1.422	-0.15	0.070	0.100
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1	22.39	24.00	1.449	0.04	0.102	0.148
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1	21.47	23.00	1.422	0.02	0.081	0.115
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	1	22.39	24.00	1.449	0.04	0.579	0.839
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23060	704	1	22.35	24.00	1.462	0.09	0.566	0.828
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23130	711	1	22.32	24.00	1.472	0.02	0.545	0.802

	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	1	21.47	23.00	1.422	-0.08	0.512	0.728
	LTE Band 12	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	1	21.43	23.00	1.435	0.03	0.504	0.723
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	23095	707.5	1	21.33	23.00	1.469	0.15	0.379	0.557
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 3	DSI 7	23095	707.5	1	20.27	22.00	1.489	0.02	0.289	0.430
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	23095	707.5	1	21.33	23.00	1.469	-0.07	0.524	0.770
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	23060	704	1	21.26	23.00	1.493	0.06	0.502	0.749
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	23130	711	1	21.29	23.00	1.483	0.04	0.498	0.738
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 3	DSI 7	23095	707.5	1	20.27	22.00	1.489	-0.03	0.427	0.636
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	23095	707.5	1	21.33	23.00	1.469	0.11	0.135	0.198
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 3	DSI 7	23095	707.5	1	20.27	22.00	1.489	-0.03	0.119	0.177
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	23095	707.5	1	21.33	23.00	1.469	0.11	0.118	0.173
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 3	DSI 7	23095	707.5	1	20.27	22.00	1.489	-0.16	0.123	0.183
	LTE Band 12	10M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	23095	707.5	1	21.33	23.00	1.469	0.06	0.308	0.452
	LTE Band 12	10M	QPSK	25	0	-	Top Side	5mm	Ant 3	DSI 7	23095	707.5	1	20.27	22.00	1.489	0.14	0.268	0.399
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23230	782	1	21.91	23.50	1.442	0.08	0.626	0.903
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23230	782	1	21.40	23.00	1.445	0.05	0.553	0.799
	LTE Band 13	10M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	23230	782	1	21.35	23.00	1.462	-0.05	0.545	0.797
24	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23230	782	1	21.91	23.50	1.442	-0.06	0.964	**1.390**
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23230	782	1	21.40	23.00	1.445	-0.15	0.715	1.033
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23230	782	1	21.35	23.00	1.462	-0.12	0.756	1.105
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	1	21.91	23.50	1.442	0.16	0.048	0.069
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	1	21.40	23.00	1.445	0.07	0.043	0.062
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	1	21.91	23.50	1.442	0.08	0.105	0.151
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	1	21.40	23.00	1.445	0.08	0.098	0.142
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	1	21.91	23.50	1.442	0.12	0.602	0.868
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	1	21.40	23.00	1.445	0.05	0.528	0.763
	LTE Band 13	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	1	21.35	23.00	1.462	0.06	0.521	0.762
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	23230	782	1	21.21	23.00	1.510	0.08	0.418	0.631
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 3	DSI 7	23230	782	1	20.32	22.00	1.472	0.05	0.352	0.518
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	23230	782	1	21.21	23.00	1.510	-0.09	0.608	0.918
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 3	DSI 7	23230	782	1	20.32	22.00	1.472	0.08	0.505	0.744
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 7	23230	782	1	20.30	22.00	1.479	0.02	0.500	0.740
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	23230	782	1	21.21	23.00	1.510	0.07	0.179	0.270
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 3	DSI 7	23230	782	1	20.32	22.00	1.472	0.18	0.136	0.200
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	23230	782	1	21.21	23.00	1.510	0.06	0.210	0.317
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 3	DSI 7	23230	782	1	20.32	22.00	1.472	-0.03	0.150	0.221
	LTE Band 13	10M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	23230	782	1	21.21	23.00	1.510	0.17	0.373	0.563
	LTE Band 13	10M	QPSK	25	0	-	Top Side	5mm	Ant 3	DSI 7	23230	782	1	20.32	22.00	1.472	0.05	0.336	0.495
	LTE Band 14	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23330	793	1	21.48	23.00	1.419	-0.15	0.730	1.036
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23330	793	1	21.36	23.00	1.459	0.04	0.652	0.951
	LTE Band 14	10M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	23330	793	1	21.28	23.00	1.486	0.16	0.628	0.933
25	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23330	793	1	21.48	23.00	1.419	0.1	0.963	**1.367**
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23330	793	1	21.36	23.00	1.459	-0.09	0.844	1.231
	LTE Band 14	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23330	793	1	21.28	23.00	1.486	0.07	0.816	1.213
	LTE Band 14	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23330	793	1	21.48	23.00	1.419	0.04	0.098	0.139
	LTE Band 14	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23330	793	1	21.36	23.00	1.459	0.07	0.094	0.137
	LTE Band 14	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23330	793	1	21.48	23.00	1.419	0.04	0.105	0.149
	LTE Band 14	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23330	793	1	21.36	23.00	1.459	0.02	0.123	0.179
	LTE Band 14	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23330	793	1	21.48	23.00	1.419	0.02	0.707	1.003
	LTE Band 14	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23330	793	1	21.36	23.00	1.459	-0.19	0.564	0.823
	LTE Band 14	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	23330	793	1	21.28	23.00	1.486	-0.09	0.542	0.805
	LTE Band 14	10M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	23330	793	1	21.24	23.00	1.500	0.03	0.392	0.588
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 3	DSI 7	23330	793	1	20.34	22.00	1.466	0.07	0.324	0.475
	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	23330	793	1	21.24	23.00	1.500	-0.09	0.558	0.837
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 3	DSI 7	23330	793	1	20.34	22.00	1.466	-0.17	0.438	0.642
	LTE Band 14	10M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 7	23330	793	1	20.32	22.00	1.472	-0.17	0.430	0.633

	LTE Band 14	10M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	23330	793	1	21.24	23.00	1.500	0.08	0.156	0.234
	LTE Band 14	10M	QPSK	25	0	-	Left Side	5mm	Ant 3	DSI 7	23330	793	1	20.34	22.00	1.466	0.19	0.137	0.201
	LTE Band 14	10M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	23330	793	1	21.24	23.00	1.500	0.08	0.141	0.211
	LTE Band 14	10M	QPSK	25	0	-	Right Side	5mm	Ant 3	DSI 7	23330	793	1	20.34	22.00	1.466	-0.15	0.177	0.259
	LTE Band 14	10M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	23330	793	1	21.24	23.00	1.500	0.07	0.356	0.534
	LTE Band 14	10M	QPSK	25	0	-	Top Side	5mm	Ant 3	DSI 7	23330	793	1	20.34	22.00	1.466	-0.04	0.301	0.441
835MHz																			
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	189	836.4	1	25.37	26.50	1.297	0.13	0.894	1.160
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	128	824.2	1	25.26	26.50	1.330	-0.04	0.855	1.138
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	251	848.8	1	25.21	26.50	1.346	-0.11	0.820	1.104
26	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	189	836.4	1	25.37	26.50	1.297	-0.16	1.080	**1.401**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	128	824.2	1	25.26	26.50	1.330	0.13	1.030	1.370
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	251	848.8	1	25.21	26.50	1.346	0.06	1.020	1.373
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	DSI 7	189	836.4	1	25.37	26.50	1.297	0.03	0.550	0.713
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 0	DSI 7	189	836.4	1	25.37	26.50	1.297	-0.12	0.310	0.402
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	189	836.4	1	25.37	26.50	1.297	-0.17	1.030	1.336
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	128	824.2	1	25.26	26.50	1.330	0.08	0.908	1.208
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	251	848.8	1	25.21	26.50	1.346	0.17	0.918	1.235
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 3	DSI 7	189	836.4	1	24.10	25.50	1.380	0.07	0.513	0.708
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	DSI 7	189	836.4	1	24.10	25.50	1.380	-0.05	0.651	0.899
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	DSI 7	128	824.2	1	23.95	25.50	1.429	0.05	0.576	0.823
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	DSI 7	251	848.8	1	23.90	25.50	1.445	0.01	0.612	0.885
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 3	DSI 7	189	836.4	1	24.10	25.50	1.380	0.03	0.176	0.243
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 3	DSI 7	189	836.4	1	24.10	25.50	1.380	0.07	0.190	0.262
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 3	DSI 7	189	836.4	1	24.10	25.50	1.380	0.16	0.455	0.628
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	1	20.95	22.00	1.274	0.03	0.807	1.028
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4132	826.4	1	20.88	22.00	1.294	-0.1	0.860	1.113
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4233	846.6	1	20.90	22.00	1.288	0.03	0.886	1.141
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	1	20.95	22.00	1.274	0.04	1.030	1.312
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4132	826.4	1	20.88	22.00	1.294	0.07	1.020	1.320
27	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	1	20.90	22.00	1.288	0.01	1.050	**1.353**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4182	836.4	1	20.95	22.00	1.274	-0.15	0.130	0.166
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	4182	836.4	1	20.95	22.00	1.274	-0.15	0.280	0.357
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4182	836.4	1	20.95	22.00	1.274	0.01	0.864	1.100
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4132	826.4	1	20.88	22.00	1.294	-0.19	0.834	1.079
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4233	846.6	1	20.90	22.00	1.288	-0.05	0.879	1.132
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	DSI 7	4182	836.4	1	21.03	22.00	1.250	0.07	0.570	0.713
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	DSI 7	4182	836.4	1	21.03	22.00	1.250	-0.08	0.734	0.918
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	DSI 7	4132	826.4	1	20.93	22.00	1.279	-0.05	0.714	0.913
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	DSI 7	4233	846.6	1	21.01	22.00	1.256	-0.09	0.773	0.971
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 3	DSI 7	4182	836.4	1	21.03	22.00	1.250	0.18	0.165	0.206
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 3	DSI 7	4182	836.4	1	21.03	22.00	1.250	0.08	0.194	0.243
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	DSI 7	4182	836.4	1	21.03	22.00	1.250	0.04	0.535	0.669
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	1	21.60	23.00	1.380	0.05	0.717	0.990
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26765	821.5	1	21.46	23.00	1.426	0.03	0.698	0.995
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26965	841.5	1	21.52	23.00	1.406	0.11	0.685	0.963
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	1	21.58	23.00	1.387	-0.05	0.635	0.881
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 7	26765	821.5	1	21.49	23.00	1.416	0.06	0.613	0.868
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 7	26965	841.5	1	21.47	23.00	1.422	0.03	0.622	0.885
	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	1	21.56	23.00	1.393	-0.07	0.689	0.960
28	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	1	21.60	23.00	1.380	0.02	0.973	**1.343**
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26765	821.5	1	21.46	23.00	1.426	-0.1	0.933	1.330
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26965	841.5	1	21.52	23.00	1.406	0.03	0.915	1.287
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	1	21.58	23.00	1.387	0.03	0.813	1.127
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 7	26765	821.5	1	21.49	23.00	1.416	0.12	0.806	1.141
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 7	26965	841.5	1	21.47	23.00	1.422	-0.08	0.801	1.139

	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	1	21.56	23.00	1.393	-0.17	0.801	1.116
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.60	23.00	1.380	0.02	0.114	0.157
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.58	23.00	1.387	0.04	0.106	0.147
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.60	23.00	1.380	0.15	0.122	0.168
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.58	23.00	1.387	0.02	0.117	0.162
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.60	23.00	1.380	0.12	0.844	1.165
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26765	821.5	1	21.46	23.00	1.426	0.04	0.810	1.155
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26965	841.5	1	21.52	23.00	1.406	0.09	0.823	1.157
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.58	23.00	1.387	0.05	0.810	1.123
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	DSI 7	26765	821.5	1	21.49	23.00	1.416	0.02	0.807	1.143
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	DSI 7	26965	841.5	1	21.47	23.00	1.422	0.03	0.800	1.138
	LTE Band 26	15M	QPSK	75	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	1	21.56	23.00	1.393	0.01	0.811	1.130
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	26865	831.5	1	21.68	23.00	1.355	0.05	0.583	0.790
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 3	DSI 7	26865	831.5	1	20.76	22.00	1.330	0.02	0.519	0.691
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	26865	831.5	1	21.68	23.00	1.355	-0.03	0.813	1.102
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	26765	821.5	1	21.58	23.00	1.387	0.02	0.789	1.094
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	26965	841.5	1	21.61	23.00	1.377	0.04	0.795	1.095
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	DSI 7	26865	831.5	1	20.76	22.00	1.330	0.09	0.724	0.963
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	DSI 7	26765	821.5	1	20.72	22.00	1.343	-0.03	0.712	0.956
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	DSI 7	26965	841.5	1	20.74	22.00	1.337	0.01	0.706	0.944
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 3	DSI 7	26865	831.5	1	20.73	22.00	1.340	0.07	0.730	0.978
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	26865	831.5	1	21.68	23.00	1.355	0.03	0.184	0.249
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 3	DSI 7	26865	831.5	1	20.76	22.00	1.330	0.07	0.180	0.239
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	26865	831.5	1	21.68	23.00	1.355	0.1	0.172	0.233
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 3	DSI 7	26865	831.5	1	20.76	22.00	1.330	0.05	0.162	0.216
	LTE Band 26	15M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	26865	831.5	1	21.68	23.00	1.355	0.04	0.585	0.793
	LTE Band 26	15M	QPSK	36	0	-	Top Side	5mm	Ant 3	DSI 7	26865	831.5	1	20.76	22.00	1.330	0.06	0.435	0.579
1750MHz																			
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1413	1732.6	1	13.34	14.50	1.306	0.01	0.398	0.520
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1312	1712.4	1	13.22	14.50	1.343	0.07	0.365	0.490
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1513	1752.6	1	13.09	14.50	1.384	0.03	0.462	0.639
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1413	1732.6	1	13.34	14.50	1.306	0.07	0.521	0.681
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1312	1712.4	1	13.22	14.50	1.343	0.05	0.485	0.651
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1513	1752.6	1	13.09	14.50	1.384	0.01	0.579	0.801
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	1413	1732.6	1	13.34	14.50	1.306	0.03	0.041	0.054
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	1413	1732.6	1	13.34	14.50	1.306	0.03	0.029	0.038
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	1413	1732.6	1	13.34	14.50	1.306	0.02	0.863	1.127
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	1312	1712.4	1	13.22	14.50	1.343	0.02	0.859	1.153
29	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	1513	1752.6	1	13.09	14.50	1.384	-0.07	0.924	**1.278**
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	132322	1745	1	12.95	14.50	1.429	0.09	0.497	0.710
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	132322	1745	1	12.92	14.50	1.439	0.02	0.480	0.691
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	132322	1745	1	12.95	14.50	1.429	0.12	0.594	0.849
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	132072	1720	1	12.93	14.50	1.435	-0.08	0.582	0.835
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	132572	1770	1	12.86	14.50	1.459	0.05	0.604	0.881
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132322	1745	1	12.92	14.50	1.439	0.04	0.586	0.843
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132072	1720	1	12.87	14.50	1.455	-0.09	0.573	0.834
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132572	1770	1	12.75	14.50	1.496	0.03	0.610	0.913
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	132322	1745	1	12.84	14.50	1.466	0.14	0.572	0.838
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	132322	1745	1	12.95	14.50	1.429	0.07	0.049	0.070
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	132322	1745	1	12.92	14.50	1.439	-0.16	0.039	0.056
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	132322	1745	1	12.95	14.50	1.429	0.07	0.033	0.047
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 0	DSI 7	132322	1745	1	12.92	14.50	1.439	-0.11	0.024	0.035
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132322	1745	1	12.95	14.50	1.429	0.04	0.923	1.319
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132072	1720	1	12.93	14.50	1.435	-0.17	0.909	1.305
30	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132572	1770	1	12.86	14.50	1.459	-0.09	0.985	**1.437**
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132572	1770	2	12.86	14.50	1.459	0.01	0.888	1.295

	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	132322	1745	1	12.92	14.50	1.439	0.04	0.850	1.223
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	132072	1720	1	12.87	14.50	1.455	0.05	0.883	1.285
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	132572	1770	1	12.75	14.50	1.496	0.06	0.884	1.323
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 0	DSI 7	132322	1745	1	12.84	14.50	1.466	0.08	0.893	1.309
1900MHz																			
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	661	1880	1	15.34	16.50	1.306	-0.14	0.425	0.555
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	512	1850.2	1	15.16	16.50	1.361	-0.01	0.372	0.506
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	810	1909.8	1	15.26	16.50	1.330	-0.03	0.302	0.402
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	661	1880	1	15.34	16.50	1.306	0.09	0.518	0.677
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	512	1850.2	1	15.16	16.50	1.361	0.08	0.491	0.668
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	810	1909.8	1	15.26	16.50	1.330	-0.09	0.461	0.613
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	DSI 7	661	1880	1	15.34	16.50	1.306	0.05	0.035	0.046
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 0	DSI 7	661	1880	1	15.34	16.50	1.306	0.18	0.017	0.022
31	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	661	1880	1	15.34	16.50	1.306	-0.16	0.952	**1.243**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	512	1850.2	1	15.16	16.50	1.361	0.13	0.832	1.133
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	810	1909.8	1	15.26	16.50	1.330	0.06	0.864	1.150
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 3	DSI 7	661	1880	1	16.55	17.50	1.245	-0.05	0.349	0.434
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	DSI 7	661	1880	1	16.55	17.50	1.245	-0.12	0.470	0.585
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 3	DSI 7	661	1880	1	16.55	17.50	1.245	0.07	0.036	0.045
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 3	DSI 7	661	1880	1	16.55	17.50	1.245	0.09	0.009	0.011
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 3	DSI 7	661	1880	1	16.55	17.50	1.245	0.01	0.912	1.135
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 3	DSI 7	512	1850.2	1	16.47	17.50	1.268	0.19	0.889	1.127
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 3	DSI 7	810	1909.8	1	16.31	17.50	1.315	0.03	0.836	1.100
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	-0.11	0.460	0.586
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	0.08	0.589	0.750
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	0.12	0.040	0.051
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	0.05	0.022	0.028
32	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	-0.05	1.110	**1.414**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9400	1880	2	12.95	14.00	1.274	0.04	0.950	1.210
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9262	1852.4	1	12.80	14.00	1.318	0.15	0.993	1.309
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9538	1907.6	1	12.88	14.00	1.294	-0.03	1.030	1.333
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	DSI 7	9400	1880	1	12.42	13.50	1.282	0.07	0.374	0.480
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	DSI 7	9400	1880	1	12.42	13.50	1.282	-0.19	0.449	0.576
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 3	DSI 7	9400	1880	1	12.42	13.50	1.282	0.15	0.033	0.042
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 3	DSI 7	9400	1880	1	12.42	13.50	1.282	-0.18	0.009	0.012
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	DSI 7	9400	1880	1	12.42	13.50	1.282	0.02	0.887	1.137
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	DSI 7	9262	1852.4	1	12.32	13.50	1.312	0.18	0.879	1.153
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 3	DSI 7	9538	1907.6	1	12.36	13.50	1.300	-0.03	0.892	1.160
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26340	1880	1	12.52	14.00	1.406	0.09	0.496	0.697
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	26340	1880	1	12.48	14.00	1.419	0.09	0.490	0.695
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26340	1880	1	12.52	14.00	1.406	0.03	0.625	0.879
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26140	1860	1	12.50	14.00	1.413	0.07	0.570	0.805
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26590	1905	1	12.41	14.00	1.442	-0.15	0.599	0.864
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	26340	1880	1	12.48	14.00	1.419	0.11	0.593	0.842
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	26140	1860	1	12.45	14.00	1.429	0.05	0.586	0.837
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	26590	1905	1	12.47	14.00	1.422	0.01	0.577	0.821
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	26340	1880	1	12.46	14.00	1.426	0.04	0.580	0.827
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	26340	1880	1	12.52	14.00	1.406	-0.06	0.045	0.063
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	26340	1880	1	12.48	14.00	1.419	0.04	0.035	0.050
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	26340	1880	1	12.52	14.00	1.406	0.16	0.020	0.028
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 0	DSI 7	26340	1880	1	12.48	14.00	1.419	0.18	0.016	0.023
33	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26340	1880	1	12.52	14.00	1.406	-0.03	1.010	**1.420**
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26140	1860	1	12.50	14.00	1.413	0.01	0.907	1.281
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26590	1905	1	12.41	14.00	1.442	0.09	0.981	1.415
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	26340	1880	1	12.48	14.00	1.419	0.12	0.937	1.330
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	26140	1860	1	12.45	14.00	1.429	0.1	0.974	1.392

	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	26590	1905	1	12.47	14.00	1.422	0.16	0.935	1.330
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 0	DSI 7	26340	1880	1	12.46	14.00	1.426	0.07	0.977	1.393
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 3	DSI 7	26340	1880	1	12.01	13.50	1.409	0.07	0.331	0.466
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 3	DSI 7	26340	1880	1	11.90	13.50	1.445	0.02	0.275	0.397
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	DSI 7	26340	1880	1	12.01	13.50	1.409	-0.03	0.401	0.565
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 3	DSI 7	26340	1880	1	11.90	13.50	1.445	-0.04	0.324	0.468
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	DSI 7	26340	1880	1	12.01	13.50	1.409	0.09	0.031	0.044
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	DSI 7	26340	1880	1	11.90	13.50	1.445	-0.12	0.026	0.038
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 3	DSI 7	26340	1880	1	12.01	13.50	1.409	0.03	0.008	0.011
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 3	DSI 7	26340	1880	1	11.90	13.50	1.445	-0.12	0.006	0.009
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	26340	1880	1	12.01	13.50	1.409	-0.11	0.747	1.053
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	26140	1860	1	11.90	13.50	1.445	0.04	0.746	1.078
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	26590	1905	1	11.94	13.50	1.432	-0.08	0.821	1.176
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	DSI 7	26590	1905	2	11.94	13.50	1.432	0.09	0.741	1.061
	LTE Band 25	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	26340	1880	1	11.90	13.50	1.445	-0.19	0.717	1.036
	LTE Band 25	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	26140	1860	1	11.87	13.50	1.455	0.05	0.756	1.100
	LTE Band 25	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	DSI 7	26590	1905	1	11.88	13.50	1.452	0.07	0.763	1.108
	LTE Band 25	20M	QPSK	100	0	-	Top Side	5mm	Ant 3	DSI 7	26340	1880	1	11.91	13.50	1.442	0.07	0.760	1.096

Plot No.	Band	BW (MHz)	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)
2300MHz																				
	LTE Band 30	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	27710	2310	1	20.66	22.00	1.361	-	-	-0.18	0.774	1.054
	LTE Band 30	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 7	27710	2310	1	20.61	22.00	1.377	-	-	0.08	0.752	1.036
	LTE Band 30	10M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	27710	2310	1	20.55	22.00	1.396	-	-	-0.12	0.738	1.031
34	LTE Band 30	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	27710	2310	1	20.66	22.00	1.361	-	-	0.07	0.979	**1.333**
	LTE Band 30	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 7	27710	2310	1	20.61	22.00	1.377	-	-	0.08	0.966	1.330
	LTE Band 30	10M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	27710	2310	1	20.55	22.00	1.396	-	-	0.14	0.942	1.315
	LTE Band 30	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	27710	2310	1	20.66	22.00	1.361	-	-	-0.14	0.675	0.919
	LTE Band 30	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 7	27710	2310	1	20.61	22.00	1.377	-	-	-0.09	0.630	0.868
	LTE Band 30	10M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	27710	2310	1	20.55	22.00	1.396	-	-	0.17	0.626	0.874
	LTE Band 30	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	27710	2310	1	20.66	22.00	1.361	-	-	0.03	0.132	0.180
	LTE Band 30	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 7	27710	2310	1	20.61	22.00	1.377	-	-	0.04	0.111	0.153
	LTE Band 30	10M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	27710	2310	1	20.66	22.00	1.361	-	-	0.05	0.791	1.077
	LTE Band 30	10M	QPSK	25	0	Bottom Side	5mm	Ant 1	DSI 7	27710	2310	1	20.61	22.00	1.377	-	-	0.09	0.737	1.015
	LTE Band 30	10M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	27710	2310	1	20.55	22.00	1.396	-	-	-0.05	0.732	1.022
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	21100	2535	1	19.19	20.50	1.352	-	-	-0.17	0.748	1.011
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	20850	2510	1	19.06	20.50	1.393	-	-	0.04	0.739	1.030
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	21350	2560	1	19.10	20.50	1.380	-	-	-0.14	0.788	1.088
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	21100	2535	1	19.10	20.50	1.380	-	-	0.04	0.771	1.064
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	20850	2510	1	19.01	20.50	1.409	-	-	0.07	0.771	1.087
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	21350	2560	1	18.97	20.50	1.422	-	-	-0.15	0.763	1.085
	LTE Band 7	20M	QPSK	100	0	Front	5mm	Ant 1	DSI 7	21100	2535	1	19.11	20.50	1.377	-	-	0.02	0.767	1.056
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	21100	2535	1	19.19	20.50	1.352	-	-	-0.06	1.020	1.379
35	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	20850	2510	1	19.06	20.50	1.393	-	-	-0.02	1.030	**1.435**
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	21350	2560	1	19.10	20.50	1.380	-	-	0.06	1.010	1.394
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	21100	2535	1	19.10	20.50	1.380	-	-	0.16	0.923	1.274
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	20850	2510	1	19.01	20.50	1.409	-	-	0.07	0.927	1.306
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	21350	2560	1	18.97	20.50	1.422	-	-	0.01	0.966	1.374
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 7	21100	2535	1	19.11	20.50	1.377	-	-	0.07	0.910	1.253
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	21100	2535	1	19.19	20.50	1.352	-	-	-0.09	0.686	0.928
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	20850	2510	1	19.06	20.50	1.393	-	-	-0.02	0.659	0.918
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	21350	2560	1	19.10	20.50	1.380	-	-	0.09	0.639	0.882
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	21100	2535	1	19.10	20.50	1.380	-	-	-0.02	0.627	0.866

	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	20850	2510	1	19.01	20.50	1.409	-	-	-0.08	0.611	0.861
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	21350	2560	1	18.97	20.50	1.422	-	-	0.11	0.624	0.888
	LTE Band 7	20M	QPSK	100	0	Left Side	5mm	Ant 1	DSI 7	21100	2535	1	19.11	20.50	1.377	-	-	0.02	0.616	0.848
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	21100	2535	1	19.19	20.50	1.352	-	-	0.06	0.123	0.166
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 7	21100	2535	1	19.10	20.50	1.380	-	-	0.03	0.108	0.149
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	1	19.19	20.50	1.352	-	-	0.19	0.866	1.171
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	20850	2510	1	19.06	20.50	1.393	-	-	0.08	0.892	1.243
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	21350	2560	1	19.10	20.50	1.380	-	-	0.03	0.892	1.231
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	1	19.10	20.50	1.380	-	-	0.17	0.885	1.222
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	20850	2510	1	19.01	20.50	1.409	-	-	0.09	0.823	1.160
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	21350	2560	1	18.97	20.50	1.422	-	-	0.18	0.820	1.166
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	1	19.11	20.50	1.377	-	-	-0.04	0.816	1.124
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	40620	2593	1	20.01	21.00	1.256	62.9	1.006	0.17	0.743	0.939
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	39750	2506	1	19.99	21.00	1.262	62.9	1.006	0.07	0.690	0.876
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	40185	2549.5	1	19.88	21.00	1.294	62.9	1.006	0.09	0.684	0.891
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	41055	2636.5	1	19.96	21.00	1.271	62.9	1.006	0.13	0.758	0.969
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	41490	2680	1	19.98	21.00	1.265	62.9	1.006	0.12	0.694	0.883
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.1	0.674	0.878
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	39750	2506	1	19.82	21.00	1.312	62.9	1.006	0.06	0.712	0.940
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	40185	2549.5	1	19.85	21.00	1.303	62.9	1.006	0.08	0.711	0.932
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	41055	2636.5	1	19.84	21.00	1.306	62.9	1.006	0.11	0.681	0.895
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	41490	2680	1	19.86	21.00	1.300	62.9	1.006	-0.16	0.645	0.844
	LTE Band 41	20M	QPSK	100	0	Front	5mm	Ant 1	DSI 7	40620	2593	1	19.89	21.00	1.291	62.9	1.006	0.01	0.670	0.870
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	40620	2593	1	20.01	21.00	1.256	62.9	1.006	0.02	0.782	0.988
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	39750	2506	1	19.99	21.00	1.262	62.9	1.006	0.02	0.709	0.900
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	40185	2549.5	1	19.88	21.00	1.294	62.9	1.006	-0.06	0.738	0.961
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	41055	2636.5	1	19.96	21.00	1.271	62.9	1.006	0.02	0.743	0.950
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	41490	2680	1	19.98	21.00	1.265	62.9	1.006	0.05	0.755	0.961
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.17	0.699	0.910
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	39750	2506	1	19.82	21.00	1.312	62.9	1.006	0.01	0.732	0.966
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	40185	2549.5	1	19.85	21.00	1.303	62.9	1.006	0.12	0.696	0.912
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	41055	2636.5	1	19.84	21.00	1.306	62.9	1.006	0.01	0.671	0.882
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	41490	2680	1	19.86	21.00	1.300	62.9	1.006	-0.11	0.718	0.939
	LTE Band 41	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 7	40620	2593	1	19.89	21.00	1.291	62.9	1.006	0.08	0.694	0.901
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1	20.01	21.00	1.256	62.9	1.006	-0.06	0.443	0.560
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.06	0.381	0.496
	LTE Band 41	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	40620	2593	1	20.01	21.00	1.256	62.9	1.006	0.02	0.086	0.109
	LTE Band 41	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 7	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.03	0.074	0.096
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	1	20.01	21.00	1.256	62.9	1.006	-0.12	0.694	0.877
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	39750	2506	1	19.99	21.00	1.262	62.9	1.006	-0.1	0.650	0.825
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	40185	2549.5	1	19.88	21.00	1.294	62.9	1.006	0.14	0.660	0.859
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	41055	2636.5	1	19.96	21.00	1.271	62.9	1.006	0.07	0.684	0.874
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	1	19.98	21.00	1.265	62.9	1.006	-0.08	0.616	0.784
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.16	0.639	0.832
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	39750	2506	1	19.82	21.00	1.312	62.9	1.006	0.04	0.611	0.807
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	40185	2549.5	1	19.85	21.00	1.303	62.9	1.006	-0.16	0.615	0.806
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	41055	2636.5	1	19.84	21.00	1.306	62.9	1.006	0.05	0.634	0.833
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	1	19.86	21.00	1.300	62.9	1.006	0.02	0.630	0.824
	LTE Band 41	20M	QPSK	100	0	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	1	19.89	21.00	1.291	62.9	1.006	-0.1	0.638	0.829
	LTE Band 41C	20M	QPSK	1	99	Back	5mm	Ant 1	DSI 7	40620+ 40818	2593+ 2612.8	1	19.36	21.00	1.459	62.9	1.006	0.03	0.623	0.914
36	LTE Band 41 HPUE	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	40620	2593	1	22.96	24.00	1.271	42.9	1.009	-0.11	1.080	**1.385**
	LTE Band 41C HPUE	20M	QPSK	1	99	Back	5mm	Ant 1	DSI 7	40620+ 40818	2593+ 2612.8	1	22.41	24.00	1.442	42.9	1.009	0.01	0.942	1.371
	LTE Band 41C HPUE	20M	QPSK	1	99	Back	5mm	Ant 1	DSI 7	39750+ 39948	2506+ 2525.8	1	22.20	24.00	1.514	42.9	1.009	0.02	0.875	1.336
	LTE Band 41C HPUE	20M	QPSK	1	99	Back	5mm	Ant 1	DSI 7	40185+ 40383	2549.5+ 2569.3	1	22.15	24.00	1.531	42.9	1.009	-0.16	0.866	1.338

	LTE Band 41C HPUE	20M	QPSK	1	99	Back	5mm	Ant 1	DSI 7	41055+ 41253	2636.5+ 2656.3	1	22.20	24.00	1.514	42.9	1.009	-0.07	0.823	1.257
	LTE Band 41C HPUE	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	41490+ 41292	2680+ 2660.2	1	22.23	24.00	1.503	42.9	1.009	0.02	0.834	1.265

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)
WLAN/BT																	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5	Simultaneous	6	2437	1	15.25	16.50	1.334	100	1.000	0.03	0.153	0.204
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5	Simultaneous	6	2437	1	15.25	16.50	1.334	100	1.000	0.06	0.163	0.217
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 5	Simultaneous	6	2437	1	15.25	16.50	1.334	100	1.000	0.02	0.087	0.116
37	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 5	Simultaneous	6	2437	1	15.25	16.50	1.334	100	1.000	0.05	0.241	**0.321**
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 5	Simultaneous	1	2412	1	15.20	16.50	1.349	100	1.000	0.01	0.235	0.317
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 5	Simultaneous	11	2462	1	14.97	16.50	1.422	100	1.000	0.04	0.221	0.314
	Bluetooth	1Mbps	Front	5mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.06	0.021	0.031
	Bluetooth	1Mbps	Back	5mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.04	0.056	0.083
	Bluetooth	1Mbps	Right Side	5mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.05	0.040	0.059
38	Bluetooth	1Mbps	Top Side	5mm	Ant 5	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.07	0.058	**0.086**
	Bluetooth	1Mbps	Top Side	5mm	Ant 5	Full power	0	2402	1	9.09	10.50	1.384	76.91	1.083	0.06	0.051	0.076
	Bluetooth	1Mbps	Top Side	5mm	Ant 5	Full power	39	2441	1	9.08	10.50	1.387	76.91	1.083	0.01	0.046	0.069
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4	Simultaneous	42	5210	1	11.79	13.00	1.321	100	1.000	0.03	0.047	0.062
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	Simultaneous	42	5210	1	11.79	13.00	1.321	100	1.000	-0.07	0.098	0.129
39	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 4	Simultaneous	42	5210	1	11.79	13.00	1.321	100	1.000	0.07	0.231	**0.305**
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 4	Simultaneous	42	5210	1	11.79	13.00	1.321	100	1.000	0.02	0.081	0.107
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4	Simultaneous	155	5775	1	5.19	7.00	1.517	100	1.000	0.01	0.047	0.071
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	Simultaneous	155	5775	1	5.19	7.00	1.517	100	1.000	-0.05	0.086	0.130
40	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 4	Simultaneous	155	5775	1	5.19	7.00	1.517	100	1.000	-0.03	0.198	**0.300**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 4	Simultaneous	155	5775	1	5.19	7.00	1.517	100	1.000	0.06	0.051	0.077

15.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	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)
750MHz																						
	LTE Band 71	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	133322	683	1	22.45	24.00	1.429	-	-	0.09	0.525	0.750
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	133322	683	1	21.56	23.00	1.393	-	-	0.16	0.443	0.617
41	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	133322	683	1	22.45	24.00	1.429	-	-	-0.04	0.896	**1.280**
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	133222	673	1	22.41	24.00	1.442	-	-	0.06	0.856	1.234
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	133372	688	1	22.38	24.00	1.452	-	-	0.04	0.823	1.195
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	133322	683	1	21.56	23.00	1.393	-	-	-0.17	0.744	1.037
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	133222	673	1	21.55	23.00	1.396	-	-	0.02	0.723	1.010
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	133372	688	1	21.47	23.00	1.422	-	-	0.06	0.709	1.008
	LTE Band 71	20M	QPSK	100	0	-	Back	5mm	Ant 0	-	DSI 3	133322	683	1	21.54	23.00	1.400	-	-	0.04	0.730	1.022
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	133322	683	1	22.45	24.00	1.429	-	-	0.03	0.762	1.089
	LTE Band 71	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	133322	683	1	21.43	23.00	1.435	-	-	0.06	0.114	0.164
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 3	133322	683	1	20.45	22.00	1.429	-	-	-0.01	0.091	0.130
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	133322	683	1	21.43	23.00	1.435	-	-	0.05	0.218	0.313
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	133222	673	1	21.38	23.00	1.452	-	-	0.04	0.197	0.286
	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	133372	688	1	21.26	23.00	1.493	-	-	-0.01	0.188	0.281
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	133322	683	1	20.45	22.00	1.429	-	-	-0.18	0.177	0.253
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	23095	707.5	1	22.39	24.00	1.449	-	-	0.12	0.423	0.613
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	DSI 3	23095	707.5	1	21.47	23.00	1.422	-	-	-0.18	0.406	0.577
42	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	1	22.39	24.00	1.449	-	-	0.09	0.711	**1.030**
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23060	704	1	22.35	24.00	1.462	-	-	0.06	0.700	1.024
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23130	711	1	22.32	24.00	1.472	-	-	0.01	0.689	1.014
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	1	21.47	23.00	1.422	-	-	-0.13	0.620	0.882
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23060	704	1	21.43	23.00	1.435	-	-	0.05	0.615	0.883
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23130	711	1	21.40	23.00	1.445	-	-	0.03	0.603	0.872
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	1	21.43	23.00	1.435	-	-	0.08	0.606	0.870
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	23095	707.5	1	21.33	23.00	1.469	-	-	0.15	0.379	0.557
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 3	-	DSI 3	23095	707.5	1	20.27	22.00	1.489	-	-	0.02	0.289	0.430
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	23095	707.5	1	21.33	23.00	1.469	-	-	-0.07	0.524	0.770
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	23060	704	1	21.26	23.00	1.493	-	-	0.04	0.501	0.748
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	23130	711	1	21.29	23.00	1.483	-	-	-0.08	0.489	0.725
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 3	-	DSI 3	23095	707.5	1	20.27	22.00	1.489	-	-	-0.03	0.427	0.636
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	23230	782	1	21.91	23.50	1.442	-	-	0.08	0.626	0.903
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	DSI 3	23230	782	1	21.40	23.00	1.445	-	-	0.05	0.553	0.799
	LTE Band 13	10M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	23230	782	1	21.35	23.00	1.462	-	-	-0.05	0.545	0.797
43	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	1	21.91	23.50	1.442	-	-	-0.06	0.964	**1.390**
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	2	21.91	23.50	1.442	-	-	0.05	0.911	1.314
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	1	21.40	23.00	1.445	-	-	-0.15	0.715	1.033
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	1	21.35	23.00	1.462	-	-	-0.12	0.756	1.105
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	23230	782	1	21.91	23.50	1.442	-	-	0.03	0.788	1.136
	LTE Band 13	10M	QPSK	1	0	-	Front	14mm	Ant 0	-	DSI 4	23230	782	1	22.27	24.00	1.489	-	-	0.03	0.212	0.316
	LTE Band 13	10M	QPSK	1	0	-	Back	24mm	Ant 0	-	DSI 4	23230	782	1	22.27	24.00	1.489	-	-	0.08	0.181	0.270
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	23230	782	1	21.21	23.00	1.510	-	-	0.08	0.418	0.631
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 3	-	DSI 3	23230	782	1	20.32	22.00	1.472	-	-	0.05	0.352	0.518
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	23230	782	1	21.21	23.00	1.510	-	-	-0.09	0.608	0.918
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 3	-	DSI 3	23230	782	1	20.32	22.00	1.472	-	-	0.08	0.505	0.744
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	23230	782	1	20.30	22.00	1.479	-	-	0.02	0.500	0.740
	LTE Band 14	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	23330	793	1	21.48	23.00	1.419	-	-	-0.15	0.730	1.036
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	DSI 3	23330	793	1	21.36	23.00	1.459	-	-	0.04	0.652	0.951
	LTE Band 14	10M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	23330	793	1	21.28	23.00	1.486	-	-	0.16	0.628	0.933
44	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23330	793	1	21.48	23.00	1.419	-	-	0.1	0.963	**1.367**

	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23330	793	1	21.36	23.00	1.459	-	-	-0.09	0.844	1.231
	LTE Band 14	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	23330	793	1	21.28	23.00	1.486	-	-	0.07	0.816	1.213
	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	23330	793	1	21.48	23.00	1.419	-	-	0.05	0.782	1.110
	LTE Band 14	10M	QPSK	1	0	-	Front	14mm	Ant 0	-	DSI 4	23330	793	1	22.23	24.00	1.503	-	-	0.08	0.207	0.311
	LTE Band 14	10M	QPSK	1	0	-	Back	24mm	Ant 0	-	DSI 4	23330	793	1	22.23	24.00	1.503	-	-	0.05	0.189	0.284
	LTE Band 14	10M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	23330	793	1	21.24	23.00	1.500	-	-	0.03	0.392	0.588
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 3	-	DSI 3	23330	793	1	20.34	22.00	1.466	-	-	0.07	0.324	0.475
	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	23330	793	1	21.24	23.00	1.500	-	-	-0.09	0.558	0.837
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 3	-	DSI 3	23330	793	1	20.34	22.00	1.466	-	-	-0.17	0.438	0.642
	LTE Band 14	10M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	23330	793	1	20.32	22.00	1.472	-	-	-0.17	0.430	0.633
835MHz																						
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	189	836.4	1	25.37	26.50	1.297	-	-	0.13	0.894	1.160
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	128	824.2	1	25.26	26.50	1.330	-	-	-0.04	0.855	1.138
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	251	848.8	1	25.21	26.50	1.346	-	-	-0.11	0.820	1.104
45	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	189	836.4	1	25.37	26.50	1.297	-	-	-0.16	1.080	**1.401**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	189	836.4	2	25.37	26.50	1.297	-	-	0.05	0.991	1.286
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	128	824.2	1	25.26	26.50	1.330	-	-	0.13	1.030	1.370
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	251	848.8	1	25.21	26.50	1.346	-	-	0.06	1.020	1.373
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	Headset	DSI 3	189	836.4	1	25.37	26.50	1.297	-	-	0.03	0.850	1.103
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	14mm	Ant 0	-	DSI 4	189	836.4	1	28.16	29.50	1.361	-	-	0.08	0.339	0.462
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	24mm	Ant 0	-	DSI 4	189	836.4	1	28.16	29.50	1.361	-	-	0.05	0.256	0.349
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 3	-	DSI 3	189	836.4	1	24.10	25.50	1.380	-	-	0.07	0.513	0.708
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	189	836.4	1	24.10	25.50	1.380	-	-	-0.05	0.651	0.899
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	128	824.2	1	23.95	25.50	1.429	-	-	0.05	0.576	0.823
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	251	848.8	1	23.90	25.50	1.445	-	-	0.01	0.612	0.885
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	14mm	Ant 3	-	DSI 4	189	836.4	1	27.26	28.50	1.330	-	-	-0.1	0.291	0.387
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	24mm	Ant 3	-	DSI 4	189	836.4	1	27.26	28.50	1.330	-	-	0.03	0.191	0.254
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	4182	836.4	1	20.95	22.00	1.274	-	-	0.03	0.807	1.028
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	4132	826.4	1	20.88	22.00	1.294	-	-	-0.1	0.860	1.113
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	4233	846.6	1	20.90	22.00	1.288	-	-	0.03	0.886	1.141
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4182	836.4	1	20.95	22.00	1.274	-	-	0.04	1.030	1.312
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4132	826.4	1	20.88	22.00	1.294	-	-	0.07	1.020	1.320
46	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4233	846.6	1	20.90	22.00	1.288	-	-	0.01	1.050	**1.353**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	DSI 3	4233	846.6	1	20.90	22.00	1.288	-	-	0.06	0.842	1.085
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	14mm	Ant 0	-	DSI 4	4233	846.6	1	22.86	24.00	1.300	-	-	0.07	0.281	0.365
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant 0	-	DSI 4	4233	846.6	1	22.86	24.00	1.300	-	-	-0.09	0.193	0.251
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	-	DSI 3	4182	836.4	1	21.03	22.00	1.250	-	-	0.07	0.570	0.713
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	4182	836.4	1	21.03	22.00	1.250	-	-	-0.08	0.734	0.918
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	4132	826.4	1	20.93	22.00	1.279	-	-	-0.05	0.714	0.913
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	4233	846.6	1	21.01	22.00	1.256	-	-	-0.09	0.773	0.971
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.60	23.00	1.380	-	-	0.05	0.717	0.990
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26765	821.5	1	21.46	23.00	1.426	-	-	0.03	0.698	0.995
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26965	841.5	1	21.52	23.00	1.406	-	-	0.11	0.685	0.963
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.58	23.00	1.387	-	-	-0.05	0.635	0.881
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	DSI 3	26765	821.5	1	21.49	23.00	1.416	-	-	0.06	0.613	0.868
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	DSI 3	26965	841.5	1	21.47	23.00	1.422	-	-	0.03	0.622	0.885
	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.56	23.00	1.393	-	-	-0.07	0.689	0.960
47	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.60	23.00	1.380	-	-	0.02	0.973	**1.343**
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26765	821.5	1	21.46	23.00	1.426	-	-	-0.1	0.933	1.330
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26965	841.5	1	21.52	23.00	1.406	-	-	0.03	0.915	1.287
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.58	23.00	1.387	-	-	0.03	0.813	1.127
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	DSI 3	26765	821.5	1	21.49	23.00	1.416	-	-	0.12	0.806	1.141
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	DSI 3	26965	841.5	1	21.47	23.00	1.422	-	-	-0.08	0.801	1.139
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	1	21.56	23.00	1.393	-	-	-0.17	0.801	1.116
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	26865	831.5	1	21.60	23.00	1.380	-	-	0.01	0.785	1.084
	LTE Band 26	15M	QPSK	1	0	-	Front	14mm	Ant 0	-	DSI 4	26765	821.5	1	22.42	24.00	1.439	-	-	-0.07	0.194	0.279

	LTE Band 26	15M	QPSK	1	0	-	Back	24mm	Ant 0	-	DSI 4	26865	831.5	1	22.58	24.00	1.387	-	-	-0.05	0.169	0.234
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	26865	831.5	1	21.68	23.00	1.355	-	-	0.05	0.583	0.790
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 3	-	DSI 3	26865	831.5	1	20.76	22.00	1.330	-	-	0.02	0.519	0.691
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26865	831.5	1	21.68	23.00	1.355	-	-	-0.03	0.813	1.102
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26865	831.5	2	21.68	23.00	1.355	-	-	0.01	0.711	0.964
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26765	821.5	1	21.58	23.00	1.387	-	-	0.02	0.789	1.094
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26965	841.5	1	21.61	23.00	1.377	-	-	0.04	0.795	1.095
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	-	DSI 3	26865	831.5	1	20.76	22.00	1.330	-	-	0.09	0.724	0.963
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	-	DSI 3	26765	821.5	1	20.72	22.00	1.343	-	-	-0.03	0.712	0.956
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 3	-	DSI 3	26965	841.5	1	20.74	22.00	1.337	-	-	0.01	0.706	0.944
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 3	-	DSI 3	26865	831.5	1	20.73	22.00	1.340	-	-	0.07	0.730	0.978
1750MHz																						
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	1413	1732.6	1	14.79	16.00	1.321	-	-	-0.17	0.662	0.875
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	1312	1712.4	1	14.71	16.00	1.346	-	-	0.04	0.608	0.818
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	1513	1752.6	1	14.64	16.00	1.368	-	-	0.05	0.669	0.915
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	1413	1732.6	1	14.79	16.00	1.321	-	-	0.03	0.930	1.229
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	1312	1712.4	1	14.71	16.00	1.346	-	-	0.11	0.927	1.248
48	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	1513	1752.6	1	14.64	16.00	1.368	-	-	-0.07	0.963	**1.317**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	DSI 3	1513	1752.6	1	14.64	16.00	1.368	-	-	0.01	0.480	0.657
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	14mm	Ant 0	-	DSI 4	1513	1752.6	1	22.63	24.00	1.371	-	-	0.05	0.550	0.754
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant 0	-	DSI 4	1513	1752.6	1	22.63	24.00	1.371	-	-	0.02	0.621	0.851
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	132322	1745	1	13.88	15.50	1.452	-	-	0.09	0.702	1.019
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	132072	1720	1	13.83	15.50	1.469	-	-	0.16	0.634	0.931
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	132572	1770	1	13.77	15.50	1.489	-	-	-0.17	0.735	1.095
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	132322	1745	1	13.84	15.50	1.466	-	-	0.02	0.665	0.975
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	132072	1720	1	13.80	15.50	1.479	-	-	0.09	0.663	0.981
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	132572	1770	1	13.72	15.50	1.507	-	-	-0.1	0.684	1.031
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 0	-	DSI 3	132322	1745	1	13.73	15.50	1.503	-	-	0.03	0.658	0.989
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	132322	1745	1	13.88	15.50	1.452	-	-	0.12	0.839	1.218
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	132072	1720	1	13.83	15.50	1.469	-	-	-0.08	0.865	1.271
49	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	132572	1770	1	13.77	15.50	1.489	-	-	0.05	0.903	**1.345**
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	132322	1745	1	13.84	15.50	1.466	-	-	0.04	0.886	1.298
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	132072	1720	1	13.80	15.50	1.479	-	-	-0.09	0.810	1.198
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	132572	1770	1	13.72	15.50	1.507	-	-	0.03	0.821	1.237
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 0	-	DSI 3	132322	1745	1	13.73	15.50	1.503	-	-	0.14	0.867	1.303
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	132572	1770	1	13.77	15.50	1.489	-	-	0.05	0.766	1.141
	LTE Band 66	20M	QPSK	1	0	-	Front	14mm	Ant 0	-	DSI 4	132572	1770	1	22.18	24.00	1.521	-	-	0.03	0.523	0.795
	LTE Band 66	20M	QPSK	1	0	-	Back	24mm	Ant 0	-	DSI 4	132572	1770	1	22.18	24.00	1.521	-	-	0.12	0.531	0.807
1900MHz																						
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	661	1880	1	17.55	18.50	1.245	-	-	-0.03	0.829	1.032
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	512	1850.2	1	17.48	18.50	1.265	-	-	-0.03	0.766	0.969
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	810	1909.8	1	17.37	18.50	1.297	-	-	-0.03	0.789	1.023
50	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	661	1880	1	17.55	18.50	1.245	-	-	-0.03	1.010	**1.257**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	512	1850.2	1	17.48	18.50	1.265	-	-	0.09	0.957	1.210
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	810	1909.8	1	17.37	18.50	1.297	-	-	-0.13	0.966	1.253
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	Headset	DSI 3	661	1880	1	17.55	18.50	1.245	-	-	0.06	0.899	1.119
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	14mm	Ant 0	-	DSI 4	661	1880	1	25.43	26.50	1.279	-	-	0.03	0.391	0.500
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	24mm	Ant 0	-	DSI 4	661	1880	1	25.43	26.50	1.279	-	-	0.12	0.497	0.636
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 3	-	DSI 3	661	1880	1	17.22	18.00	1.197	-	-	-0.05	0.505	0.604
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	661	1880	1	17.22	18.00	1.197	-	-	-0.12	0.682	0.816
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	512	1850.2	1	17.01	18.00	1.256	-	-	0.15	0.655	0.823
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 3	-	DSI 3	810	1909.8	1	17.11	18.00	1.227	-	-	-0.07	0.761	0.934
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	14mm	Ant 3	-	DSI 4	661	1880	1	24.63	25.50	1.222	-	-	-0.04	0.444	0.542
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	24mm	Ant 3	-	DSI 4	810	1909.8	1	24.45	25.50	1.274	-	-	-0.19	0.251	0.320
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	9400	1880	1	14.92	16.00	1.282	-	-	-0.11	0.820	1.052
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	9262	1852.4	1	14.76	16.00	1.330	-	-	0.03	0.764	1.016

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	9538	1907.6	1	14.91	16.00	1.285	-	-	-0.03	0.753	0.968
51	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	9400	1880	1	14.92	16.00	1.282	-	-	0.08	1.050	**1.346**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	9262	1852.4	1	14.76	16.00	1.330	-	-	0.02	0.982	1.307
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	9538	1907.6	1	14.91	16.00	1.285	-	-	0.06	1.020	1.311
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	DSI 3	9400	1880	1	14.92	16.00	1.282	-	-	0.01	0.821	1.053
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	14mm	Ant 0	-	DSI 4	9400	1880	1	23.07	24.00	1.239	-	-	0.09	0.421	0.522
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant 0	-	DSI 4	9400	1880	1	23.07	24.00	1.239	-	-	-0.13	0.668	0.828
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 3	-	DSI 3	9400	1880	1	14.96	16.00	1.271	-	-	0.07	0.605	0.769
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	9400	1880	1	14.96	16.00	1.271	-	-	-0.19	0.727	0.924
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	9262	1852.4	1	14.95	16.00	1.274	-	-	-0.17	0.764	0.973
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 3	-	DSI 3	9538	1907.6	1	14.88	16.00	1.294	-	-	-0.07	0.832	1.077
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	14mm	Ant 3	-	DSI 4	9400	1880	1	21.95	23.00	1.274	-	-	-0.04	0.426	0.543
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant 3	-	DSI 4	9538	1907.6	1	21.94	23.00	1.276	-	-	-0.19	0.288	0.368
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26340	1880	1	14.54	16.00	1.400	-	-	0.09	0.757	1.059
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26140	1860	1	14.46	16.00	1.426	-	-	0.06	0.710	1.012
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26590	1905	1	14.40	16.00	1.445	-	-	-0.14	0.704	1.018
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	26340	1880	1	14.50	16.00	1.413	-	-	0.09	0.695	0.982
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	26140	1860	1	14.46	16.00	1.426	-	-	-0.16	0.661	0.942
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 0	-	DSI 3	26590	1905	1	14.40	16.00	1.445	-	-	-0.04	0.653	0.944
	LTE Band 25	20M	QPSK	100	0	-	Front	5mm	Ant 0	-	DSI 3	26340	1880	1	14.43	16.00	1.435	-	-	-0.19	0.692	0.993
52	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26340	1880	1	14.54	16.00	1.400	-	-	0.06	0.954	**1.335**
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26140	1860	1	14.46	16.00	1.426	-	-	0.07	0.869	1.239
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26590	1905	1	14.40	16.00	1.445	-	-	-0.15	0.914	1.321
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	26340	1880	1	14.50	16.00	1.413	-	-	0.11	0.852	1.203
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	26140	1860	1	14.46	16.00	1.426	-	-	0.05	0.895	1.276
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	26590	1905	1	14.40	16.00	1.445	-	-	0.01	0.827	1.195
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 0	-	DSI 3	26340	1880	1	14.43	16.00	1.435	-	-	0.04	0.832	1.194
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	26340	1880	1	14.54	16.00	1.400	-	-	0.03	0.788	1.103
	LTE Band 25	20M	QPSK	1	0	-	Front	14mm	Ant 0	-	DSI 4	26340	1880	1	22.34	24.00	1.466	-	-	0.02	0.382	0.560
	LTE Band 25	20M	QPSK	1	0	-	Back	24mm	Ant 0	-	DSI 4	26340	1880	1	22.34	24.00	1.466	-	-	0.06	0.475	0.696
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 3	-	DSI 3	26340	1880	1	14.46	16.00	1.426	-	-	0.07	0.546	0.778
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 3	-	DSI 3	26340	1880	1	14.36	16.00	1.459	-	-	0.02	0.523	0.763
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26340	1880	1	14.46	16.00	1.426	-	-	-0.03	0.661	0.942
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26140	1860	1	14.32	16.00	1.472	-	-	0.05	0.674	0.992
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 3	-	DSI 3	26590	1905	1	14.40	16.00	1.445	-	-	0.01	0.719	1.039
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	26340	1880	1	14.36	16.00	1.459	-	-	-0.04	0.685	0.999
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	26140	1860	1	14.27	16.00	1.489	-	-	0.13	0.619	0.922
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 3	-	DSI 3	26590	1905	1	14.32	16.00	1.472	-	-	0.17	0.636	0.936
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 3	-	DSI 3	26340	1880	1	14.33	16.00	1.469	-	-	-0.19	0.652	0.958
	LTE Band 25	20M	QPSK	1	0	-	Front	14mm	Ant 3	-	DSI 4	26340	1880	1	21.30	23.00	1.479	-	-	0.05	0.387	0.572
	LTE Band 25	20M	QPSK	1	0	-	Back	24mm	Ant 3	-	DSI 4	26590	1905	1	21.28	23.00	1.486	-	-	0.01	0.222	0.330
2300MHz																						
	LTE Band 30	10M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	27710	2310	1	20.66	22.00	1.361	-	-	-0.18	0.774	1.054
	LTE Band 30	10M	QPSK	25	0	-	Front	5mm	Ant 1	-	DSI 3	27710	2310	1	20.61	22.00	1.377	-	-	0.08	0.752	1.036
	LTE Band 30	10M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	27710	2310	1	20.55	22.00	1.396	-	-	-0.12	0.738	1.031
53	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	27710	2310	1	20.66	22.00	1.361	-	-	0.07	0.979	**1.333**
	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	27710	2310	2	20.66	22.00	1.361	-	-	0.03	0.890	1.212
	LTE Band 30	10M	QPSK	25	0	-	Back	5mm	Ant 1	-	DSI 3	27710	2310	1	20.61	22.00	1.377	-	-	0.08	0.966	1.330
	LTE Band 30	10M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	27710	2310	1	20.55	22.00	1.396	-	-	0.14	0.942	1.315
	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	27710	2310	1	20.66	22.00	1.361	-	-	0.04	0.482	0.656
	LTE Band 30	10M	QPSK	1	0	-	Front	14mm	Ant 1	-	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	0.05	0.317	0.441
	LTE Band 30	10M	QPSK	1	0	-	Back	24mm	Ant 1	-	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	0.01	0.153	0.213
2600MHz																						
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	1	19.19	20.50	1.352	-	-	-0.17	0.748	1.011
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	20850	2510	1	19.06	20.50	1.393	-	-	0.04	0.739	1.030
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	21350	2560	1	19.10	20.50	1.380	-	-	-0.14	0.788	1.088

	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	1	19.10	20.50	1.380	-	-	0.04	0.771	1.064
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	20850	2510	1	19.01	20.50	1.409	-	-	0.07	0.771	1.087
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	21350	2560	1	18.97	20.50	1.422	-	-	-0.15	0.763	1.085
	LTE Band 7	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	1	19.11	20.50	1.377	-	-	0.02	0.767	1.056
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	1	19.19	20.50	1.352	-	-	-0.06	1.020	1.379
54	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	20850	2510	1	19.06	20.50	1.393	-	-	-0.02	1.030	**1.435**
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	20850	2510	2	19.06	20.50	1.393	-	-	0.05	0.970	1.351
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21350	2560	1	19.10	20.50	1.380	-	-	0.06	1.010	1.394
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	1	19.10	20.50	1.380	-	-	0.16	0.923	1.274
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	20850	2510	1	19.01	20.50	1.409	-	-	0.07	0.927	1.306
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	21350	2560	1	18.97	20.50	1.422	-	-	0.01	0.966	1.374
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	1	19.11	20.50	1.377	-	-	0.07	0.910	1.253
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	20850	2510	1	19.06	20.50	1.393	-	-	0.03	0.820	1.142
	LTE Band 7	20M	QPSK	1	0	-	Front	14mm	Ant 1	-	DSI 4	21350	2560	1	22.60	24.00	1.380	-	-	0.02	0.334	0.461
	LTE Band 7	20M	QPSK	1	0	-	Back	24mm	Ant 1	-	DSI 4	20850	2510	1	22.62	24.00	1.374	-	-	-0.06	0.180	0.247
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	1	20.01	21.00	1.256	62.9	1.006	0.17	0.743	0.939
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	39750	2506	1	19.99	21.00	1.262	62.9	1.006	0.07	0.690	0.876
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	40185	2549.5	1	19.88	21.00	1.294	62.9	1.006	0.09	0.684	0.891
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	41055	2636.5	1	19.96	21.00	1.271	62.9	1.006	0.13	0.758	0.969
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	41490	2680	1	19.98	21.00	1.265	62.9	1.006	0.12	0.694	0.883
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.1	0.674	0.878
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	39750	2506	1	19.82	21.00	1.312	62.9	1.006	0.06	0.712	0.940
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	40185	2549.5	1	19.85	21.00	1.303	62.9	1.006	0.08	0.711	0.932
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	41055	2636.5	1	19.84	21.00	1.306	62.9	1.006	0.11	0.681	0.895
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	41490	2680	1	19.86	21.00	1.300	62.9	1.006	-0.16	0.645	0.844
	LTE Band 41	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	1	19.89	21.00	1.291	62.9	1.006	0.01	0.670	0.870
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	1	20.01	21.00	1.256	62.9	1.006	0.02	0.782	0.988
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	39750	2506	1	19.99	21.00	1.262	62.9	1.006	0.02	0.709	0.900
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40185	2549.5	1	19.88	21.00	1.294	62.9	1.006	-0.06	0.738	0.961
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	41055	2636.5	1	19.96	21.00	1.271	62.9	1.006	0.02	0.743	0.950
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	41490	2680	1	19.98	21.00	1.265	62.9	1.006	0.05	0.755	0.961
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	1	19.88	21.00	1.294	62.9	1.006	0.17	0.699	0.910
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	39750	2506	1	19.82	21.00	1.312	62.9	1.006	0.01	0.732	0.966
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	40185	2549.5	1	19.85	21.00	1.303	62.9	1.006	0.12	0.696	0.912
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	41055	2636.5	1	19.84	21.00	1.306	62.9	1.006	0.01	0.671	0.882
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	41490	2680	1	19.86	21.00	1.300	62.9	1.006	-0.11	0.718	0.939
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	1	19.89	21.00	1.291	62.9	1.006	0.08	0.694	0.901
	LTE Band 41C	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	40620+ 40818	2593+ 2612.8	1	19.36	21.00	1.459	62.9	1.006	0.03	0.623	0.914
55	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	1	22.96	24.00	1.271	42.9	1.009	-0.11	1.080	**1.385**
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	40620	2593	1	22.96	24.00	1.271	42.9	1.009	0.04	0.852	1.092
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	40620+ 40818	2593+ 2612.8	1	22.41	24.00	1.442	42.9	1.009	0.01	0.942	1.371
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	39750+ 39948	2506+ 2525.8	1	22.20	24.00	1.514	42.9	1.009	0.02	0.875	1.336
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	40185+ 40383	2549.5+ 2569.3	1	22.15	24.00	1.531	42.9	1.009	-0.16	0.866	1.338
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	41055+ 41253	2636.5+ 2656.3	1	22.20	24.00	1.514	42.9	1.009	-0.07	0.823	1.257
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	41490+ 41292	2680+ 2660.2	1	22.23	24.00	1.503	42.9	1.009	0.02	0.834	1.265
	LTE Band 41	20M	QPSK	1	0	-	Front	14mm	Ant 1	-	DSI 4	41055	2636.5	1	22.90	24.00	1.288	62.9	1.006	0.02	0.192	0.249
	LTE Band 41	20M	QPSK	1	0	-	Back	24mm	Ant 1	-	DSI 4	40620	2593	1	23.00	24.00	1.259	62.9	1.006	-0.06	0.099	0.125

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	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)
WLAN/BT																		
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 5	-	Full power	6	2437	1	20.95	22.00	1.274	100	1.000	0.03	0.618	0.787
56	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5	-	Full power	6	2437	1	20.95	22.00	1.274	100	1.000	0.06	0.683	**0.870**
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5	-	Full power	1	2412	1	20.61	22.00	1.377	100	1.000	0.09	0.622	0.857
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5	-	Full power	11	2462	1	19.04	20.50	1.400	100	1.000	0.01	0.423	0.592
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 5	-	Simultaneous	6	2437	1	16.70	18.00	1.349	100	1.000	0.02	0.271	0.366
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 5	-	Full power	6	2437	1	20.95	22.00	1.274	100	1.000	0.01	0.131	0.167
	WLAN2.4GHz	802.11b 1Mbps	Back	24mm	Ant 5	-	Full power	6	2437	1	20.95	22.00	1.274	100	1.000	0.02	0.088	0.112
	Bluetooth	1Mbps	Front	5mm	Ant 5	-	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.02	0.014	0.020
57	Bluetooth	1Mbps	Back	5mm	Ant 5	-	Full power	78	2480	1	9.16	10.50	1.361	76.91	1.083	0.07	0.036	**0.053**
	Bluetooth	1Mbps	Back	5mm	Ant 5	-	Full power	0	2402	1	9.09	10.50	1.384	76.91	1.083	0.01	0.031	0.046
	Bluetooth	1Mbps	Back	5mm	Ant 5	-	Full power	39	2441	1	9.08	10.50	1.387	76.91	1.083	0.02	0.022	0.033
	WLAN5.2GHz	802.11a 6Mbps	Front	5mm	Ant 4	-	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.03	0.261	0.359
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.01	0.509	0.701
58	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	48	5240	1	18.60	20.00	1.380	100	1.000	-0.07	0.521	**0.719**
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	36	5180	1	18.31	20.00	1.476	100	1.000	0.02	0.481	0.710
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Simultaneous	42	5210	1	15.83	17.00	1.309	100	1.000	0.01	0.228	0.298
	WLAN5.2GHz	802.11a 6Mbps	Front	14mm	Ant 4	-	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.01	0.199	0.274
	WLAN5.2GHz	802.11a 6Mbps	Back	24mm	Ant 4	-	Full power	48	5240	1	18.60	20.00	1.380	100	1.000	0.02	0.389	0.537
	WLAN5.3GHz	802.11a 6Mbps	Front	5mm	Ant 4	-	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.03	0.383	0.561
59	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.01	0.734	**1.076**
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	56	5280	1	17.83	19.50	1.469	100	1.000	0.04	0.591	0.868
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	52	5260	1	17.77	19.50	1.489	100	1.000	0.05	0.677	1.008
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	64	5320	1	17.62	19.50	1.542	100	1.000	0.03	0.643	0.991
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Simultaneous	58	5290	1	13.36	15.00	1.459	100	1.000	0.06	0.219	0.319
	WLAN5.3GHz	802.11a 6Mbps	Front	14mm	Ant 4	-	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.06	0.208	0.305
	WLAN5.3GHz	802.11a 6Mbps	Back	24mm	Ant 4	-	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.03	0.299	0.438
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4	-	Standalone	138	5690	1	16.13	18.00	1.538	100	1.000	0.03	0.402	0.618
60	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Standalone	138	5690	1	16.13	18.00	1.538	100	1.000	0.01	0.732	**1.126**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Standalone	106	5530	1	16.02	18.00	1.578	100	1.000	0.06	0.701	1.106
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Simultaneous	138	5690	1	11.96	13.50	1.426	100	1.000	0.01	0.214	0.305
	WLAN5.5GHz	802.11a 6Mbps	Front	14mm	Ant 4	-	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.07	0.488	0.688
	WLAN5.5GHz	802.11a 6Mbps	Back	24mm	Ant 4	-	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.11	0.510	0.719
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4	-	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.03	0.438	0.668
61	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	-0.09	0.779	**1.187**
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	149	5745	2	16.17	18.00	1.524	100	1.000	0.01	0.666	1.015
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	157	5785	1	16.12	18.00	1.542	100	1.000	0.05	0.755	1.164
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 4	-	Full power	165	5825	1	16.08	18.00	1.556	100	1.000	0.01	0.711	1.106
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4	-	Simultaneous	155	5775	1	11.48	13.00	1.419	100	1.000	0.02	0.236	0.335
	WLAN5.8GHz	802.11a 6Mbps	Front	14mm	Ant 4	-	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.01	0.451	0.687
	WLAN5.8GHz	802.11a 6Mbps	Back	24mm	Ant 4	-	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.03	0.469	0.715

15.4 Product specific 10g SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	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)
750MHz																					
62	LTE Band 71	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	133322	683	1	22.45	24.00	1.429	-	-	-0.09	1.500	**2.143**
	LTE Band 71	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	133222	673	1	22.41	24.00	1.442	-	-	0.03	1.420	2.048
	LTE Band 71	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	133372	688	1	22.38	24.00	1.452	-	-	0.1	1.400	2.033
	LTE Band 71	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	133322	683	1	21.56	23.00	1.393	-	-	0.07	1.450	2.020
	LTE Band 71	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	133222	673	1	21.55	23.00	1.396	-	-	0.02	1.420	1.983
	LTE Band 71	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	133372	688	1	21.47	23.00	1.422	-	-	-0.08	1.380	1.963
	LTE Band 71	20M	QPSK	100	0	-	Back	0mm	Ant 0	DSI 6	133322	683	1	21.54	23.00	1.400	-	-	-0.09	1.440	2.015
63	LTE Band 13	10M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	23230	782	1	22.27	24.00	1.489	-	-	0.11	1.450	**2.160**
	LTE Band 13	10M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	23230	782	2	22.27	24.00	1.489	-	-	0.06	1.320	1.966
	LTE Band 13	10M	QPSK	25	0	-	Back	0mm	Ant 0	DSI 6	23230	782	1	21.38	23.00	1.452	-	-	-0.07	1.160	1.684
	LTE Band 13	10M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	23230	782	1	21.34	23.00	1.466	-	-	0.11	1.150	1.685
	LTE Band 14	10M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	23330	793	1	22.23	24.00	1.503	-	-	0.03	0.856	1.287
	LTE Band 14	10M	QPSK	25	0	-	Front	0mm	Ant 0	DSI 6	23330	793	1	21.29	23.00	1.483	-	-	0.01	0.685	1.016
64	LTE Band 14	10M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	23330	793	1	22.23	24.00	1.503	-	-	-0.02	1.180	**1.774**
	LTE Band 14	10M	QPSK	25	0	-	Back	0mm	Ant 0	DSI 6	23330	793	1	21.29	23.00	1.483	-	-	-0.07	1.060	1.571
	LTE Band 14	10M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	23330	793	1	22.23	24.00	1.503	-	-	0.05	0.823	1.237
	LTE Band 14	10M	QPSK	25	0	-	Bottom Side	0mm	Ant 0	DSI 6	23330	793	1	21.29	23.00	1.483	-	-	0.03	0.666	0.987
835MHz																					
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	189	836.4	1	27.48	29.00	1.419	-	-	0.03	2.040	2.895
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	128	824.2	1	27.44	29.00	1.432	-	-	0.04	2.030	2.907
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	251	848.8	1	27.46	29.00	1.426	-	-	0.05	1.970	2.808
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	189	836.4	1	27.48	29.00	1.419	-	-	0.15	2.040	2.895
65	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	128	824.2	1	27.44	29.00	1.432	-	-	0.01	2.210	**3.165**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	128	824.2	2	27.44	29.00	1.432	-	-	0.05	2.010	2.879
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	251	848.8	1	27.46	29.00	1.426	-	-	-0.07	2.090	2.980
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	0mm	Ant 0	DSI 4	189	836.4	1	28.16	29.50	1.361	-	-	0.01	0.916	1.247
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	189	836.4	1	27.48	29.00	1.419	-	-	-0.03	1.430	2.029
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	128	824.2	1	27.44	29.00	1.432	-	-	0.05	1.420	2.034
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	251	848.8	1	27.46	29.00	1.426	-	-	0.05	1.400	1.996
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	7mm	Ant 0	DSI 4	128	824.2	1	28.13	29.50	1.371	-	-	0.04	0.940	1.289
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	12mm	Ant 0	DSI 4	128	824.2	1	28.13	29.50	1.371	-	-	0.01	0.559	0.766
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	12mm	Ant 0	DSI 4	128	824.2	1	28.13	29.50	1.371	-	-	0.05	0.364	0.499
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	189	836.4	1	27.26	28.50	1.330	-	-	0.04	1.900	2.528
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	189	836.4	2	27.26	28.50	1.330	-	-	0.05	1.750	2.328
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	128	824.2	1	27.21	28.50	1.346	-	-	0.03	1.850	2.490
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	251	848.8	1	27.15	28.50	1.365	-	-	0.01	1.830	2.497
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	189	836.4	1	27.26	28.50	1.330	-	-	0.07	1.890	2.515
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	128	824.2	1	27.21	28.50	1.346	-	-	0.02	1.820	2.449
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	251	848.8	1	27.15	28.50	1.365	-	-	0.04	1.800	2.456
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	0mm	Ant 3	DSI 6	189	836.4	1	27.26	28.50	1.330	-	-	-0.1	1.120	1.490
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	4182	836.4	1	22.88	24.00	1.294	-	-	0.09	1.950	2.524
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	4132	826.4	1	22.83	24.00	1.309	-	-	0.08	1.930	2.527
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	4233	846.6	1	22.86	24.00	1.300	-	-	0.19	1.890	2.457
66	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	1	22.88	24.00	1.294	-	-	0.09	2.080	**2.692**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4132	826.4	1	22.83	24.00	1.309	-	-	0.07	1.970	2.579
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4233	846.6	1	22.86	24.00	1.300	-	-	-0.09	1.960	2.548
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	4182	836.4	1	22.88	24.00	1.294	-	-	0.04	1.290	1.670
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 3	DSI 6	4182	836.4	1	22.03	23.00	1.250	-	-	-0.05	1.290	1.613
	LTE Band 26	15M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26865	831.5	1	22.58	24.00	1.387	-	-	0.03	1.590	2.205
	LTE Band 26	15M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26765	821.5	1	22.42	24.00	1.439	-	-	0.03	1.520	2.187

	LTE Band 26	15M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26965	841.5	1	22.40	24.00	1.445	-	-	0.02	1.500	2.168
	LTE Band 26	15M	QPSK	36	0	-	Front	0mm	Ant 0	DSI 6	26865	831.5	1	21.57	23.00	1.390	-	-	0.03	1.260	1.751
	LTE Band 26	15M	QPSK	75	0	-	Front	0mm	Ant 0	DSI 6	26865	831.5	1	21.52	23.00	1.406	-	-	-0.02	1.220	1.715
67	LTE Band 26	15M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	1	22.58	24.00	1.387	-	-	0.02	2.070	**2.871**
	LTE Band 26	15M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26765	821.5	1	22.42	24.00	1.439	-	-	0.16	1.950	2.806
	LTE Band 26	15M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26965	841.5	1	22.40	24.00	1.445	-	-	0.05	1.920	2.775
	LTE Band 26	15M	QPSK	36	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	1	21.57	23.00	1.390	-	-	0.04	1.710	2.377
	LTE Band 26	15M	QPSK	36	0	-	Back	0mm	Ant 0	DSI 6	26765	821.5	1	21.43	23.00	1.435	-	-	-0.09	1.660	2.383
	LTE Band 26	15M	QPSK	36	0	-	Back	0mm	Ant 0	DSI 6	26965	841.5	1	21.45	23.00	1.429	-	-	0.18	1.620	2.315
	LTE Band 26	15M	QPSK	75	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	1	21.52	23.00	1.406	-	-	-0.03	1.690	2.376
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26865	831.5	1	22.58	24.00	1.387	-	-	0.16	1.750	2.427
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26765	821.5	1	22.42	24.00	1.439	-	-	0.04	1.710	2.460
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26965	841.5	1	22.40	24.00	1.445	-	-	0.05	1.680	2.428
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	0mm	Ant 0	DSI 6	26865	831.5	1	21.57	23.00	1.390	-	-	0.01	1.370	1.904
	LTE Band 26	15M	QPSK	75	0	-	Bottom Side	0mm	Ant 0	DSI 6	26865	831.5	1	21.52	23.00	1.406	-	-	0.03	1.350	1.898
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	1413	1732.6	1	17.77	19.00	1.327	-	-	0.15	1.700	2.257
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	1312	1712.4	1	17.75	19.00	1.334	-	-	-0.16	1.720	2.294
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	1513	1752.6	1	17.61	19.00	1.377	-	-	0.08	1.810	2.493
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	1413	1732.6	1	17.77	19.00	1.327	-	-	0.19	1.800	2.389
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	1312	1712.4	1	17.75	19.00	1.334	-	-	-0.06	1.820	2.427
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	1513	1752.6	1	17.61	19.00	1.377	-	-	0.04	1.730	2.383
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	1413	1732.6	1	17.77	19.00	1.327	-	-	0.06	2.380	3.159
68	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	1312	1712.4	1	17.75	19.00	1.334	-	-	-0.09	2.460	**3.280**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	1513	1752.6	1	17.61	19.00	1.377	-	-	0.12	2.360	3.250
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	7mm	Ant 0	DSI 4	1513	1752.6	1	22.63	24.00	1.371	-	-	0.08	1.460	2.001
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	12mm	Ant 0	DSI 4	1312	1712.4	1	22.77	24.00	1.327	-	-	-0.06	0.918	1.219
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	12mm	Ant 0	DSI 4	1312	1712.4	1	22.77	24.00	1.327	-	-	-0.09	1.330	1.765
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	132322	1745	1	17.45	19.00	1.429	-	-	0.18	1.640	2.343
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	132072	1720	1	17.42	19.00	1.439	-	-	0.15	1.540	2.216
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	132572	1770	1	17.33	19.00	1.469	-	-	0.16	1.620	2.380
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	132322	1745	1	17.43	19.00	1.435	-	-	0.1	1.600	2.297
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	132072	1720	1	17.31	19.00	1.476	-	-	0.06	1.610	2.376
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	132572	1770	1	17.30	19.00	1.479	-	-	0.11	1.580	2.337
	LTE Band 66	20M	QPSK	100	0	-	Front	0mm	Ant 0	DSI 6	132322	1745	1	17.34	19.00	1.466	-	-	0.17	1.570	2.301
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	132322	1745	1	17.45	19.00	1.429	-	-	0.04	1.660	2.372
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	132072	1720	1	17.42	19.00	1.439	-	-	0.16	1.740	2.504
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	132572	1770	1	17.33	19.00	1.469	-	-	0.06	1.620	2.380
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	132322	1745	1	17.43	19.00	1.435	-	-	-0.14	1.630	2.340
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	132072	1720	1	17.31	19.00	1.476	-	-	-0.04	1.680	2.479
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	132572	1770	1	17.30	19.00	1.479	-	-	0.09	1.640	2.426
	LTE Band 66	20M	QPSK	100	0	-	Back	0mm	Ant 0	DSI 6	132322	1745	1	17.34	19.00	1.466	-	-	-0.01	1.610	2.360
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132322	1745	1	17.45	19.00	1.429	-	-	0.03	2.360	3.372
69	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132072	1720	1	17.42	19.00	1.439	-	-	-0.03	2.460	**3.539**
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132072	1720	2	17.42	19.00	1.439	-	-	0.09	2.210	3.180
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132572	1770	1	17.33	19.00	1.469	-	-	0.03	2.310	3.393
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	132322	1745	1	17.43	19.00	1.435	-	-	0.08	2.280	3.273
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	132072	1720	1	17.31	19.00	1.476	-	-	-0.09	2.200	3.247
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	132572	1770	1	17.30	19.00	1.479	-	-	-0.17	2.360	3.491
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 0	DSI 6	132322	1745	1	17.34	19.00	1.466	-	-	-0.07	2.270	3.327
	LTE Band 66	20M	QPSK	1	0	-	Front	7mm	Ant 0	DSI 4	132572	1770	1	22.18	24.00	1.521	-	-	0.16	1.370	2.083
	LTE Band 66	20M	QPSK	1	0	-	Back	12mm	Ant 0	DSI 4	132072	1720	1	22.20	24.00	1.514	-	-	0.16	0.874	1.323
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	12mm	Ant 0	DSI 4	132072	1720	1	22.20	24.00	1.514	-	-	-0.03	0.999	1.512
1900MHz																				
70	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	661	1880	1	22.26	23.50	1.330	-	-	0.07	2.460	**3.273**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	512	1850.2	1	22.24	23.50	1.337	-	-	0.03	2.400	3.208

	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 0	DSI 6	810	1909.8	1	21.99	23.50	1.416	-	-	0.08	2.300	3.256
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	661	1880	1	22.26	23.50	1.330	-	-	-0.16	1.660	2.209
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	512	1850.2	1	22.24	23.50	1.337	-	-	0.05	1.710	2.286
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	810	1909.8	1	21.99	23.50	1.416	-	-	0.08	1.670	2.364
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	661	1880	1	22.26	23.50	1.330	-	-	-0.03	2.190	2.914
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	512	1850.2	1	22.24	23.50	1.337	-	-	0.09	2.200	2.941
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 0	DSI 6	810	1909.8	1	21.99	23.50	1.416	-	-	-0.15	2.280	3.228
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	7mm	Ant 0	DSI 4	661	1880	1	25.43	26.50	1.279	-	-	0.07	1.230	1.574
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	12mm	Ant 0	DSI 4	810	1909.8	1	25.39	26.50	1.291	-	-	0.08	0.992	1.281
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	12mm	Ant 0	DSI 4	810	1909.8	1	25.39	26.50	1.291	-	-	-0.15	1.430	1.846
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	661	1880	1	21.94	23.00	1.276	-	-	0.03	1.910	2.438
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	512	1850.2	1	21.63	23.00	1.371	-	-	0.06	1.890	2.591
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 3	DSI 6	810	1909.8	1	21.81	23.00	1.315	-	-	0.02	1.930	2.538
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	661	1880	1	21.94	23.00	1.276	-	-	-0.01	1.680	2.144
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	512	1850.2	1	21.63	23.00	1.371	-	-	0.06	1.620	2.221
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 3	DSI 6	810	1909.8	1	21.81	23.00	1.315	-	-	0.08	1.740	2.288
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	0mm	Ant 3	DSI 6	661	1880	1	21.94	23.00	1.276	-	-	-0.08	2.340	2.987
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	0mm	Ant 3	DSI 6	661	1880	2	21.94	23.00	1.276	-	-	0.09	2.250	2.872
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	0mm	Ant 3	DSI 6	512	1850.2	1	21.63	23.00	1.371	-	-	-0.1	2.110	2.893
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	0mm	Ant 3	DSI 6	810	1909.8	1	21.81	23.00	1.315	-	-	0.14	2.210	2.907
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 3	DSI 4	512	1850.2	1	24.57	25.50	1.239	-	-	0.06	0.579	0.717
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	13mm	Ant 3	DSI 4	810	1909.8	1	24.45	25.50	1.274	-	-	0.08	0.509	0.648
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	11mm	Ant 3	DSI 4	661	1880	1	24.63	25.50	1.222	-	-	-0.08	0.811	0.991
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	9400	1880	1	18.87	20.00	1.297	-	-	-0.11	2.520	3.269
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	9262	1852.4	1	18.72	20.00	1.343	-	-	0.16	2.410	3.236
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 0	DSI 6	9538	1907.6	1	18.80	20.00	1.318	-	-	-0.09	2.190	2.887
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	9400	1880	1	18.87	20.00	1.297	-	-	0.16	1.810	2.348
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	9262	1852.4	1	18.72	20.00	1.343	-	-	-0.14	1.810	2.430
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	9538	1907.6	1	18.80	20.00	1.318	-	-	-0.06	1.770	2.333
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9400	1880	1	18.87	20.00	1.297	-	-	0.11	2.290	2.971
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9262	1852.4	1	18.72	20.00	1.343	-	-	0.05	2.440	3.276
71	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9538	1907.6	1	18.80	20.00	1.318	-	-	0.15	2.540	**3.348**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9538	1907.6	2	18.80	20.00	1.318	-	-	0.09	2.330	3.072
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	7mm	Ant 0	DSI 4	9400	1880	1	23.07	24.00	1.239	-	-	-0.11	1.330	1.648
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	12mm	Ant 0	DSI 4	9262	1852.4	1	22.90	24.00	1.288	-	-	-0.14	1.160	1.494
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	12mm	Ant 0	DSI 4	9538	1907.6	1	23.01	24.00	1.256	-	-	0.15	1.910	2.399
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 3	DSI 6	9400	1880	1	19.37	20.50	1.297	-	-	0.08	2.160	2.802
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 3	DSI 6	9262	1852.4	1	19.26	20.50	1.330	-	-	0.06	2.130	2.834
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 3	DSI 6	9538	1907.6	1	19.29	20.50	1.321	-	-	-0.09	2.240	2.960
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 3	DSI 6	9400	1880	1	19.37	20.50	1.297	-	-	-0.19	2.090	2.711
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 3	DSI 6	9262	1852.4	1	19.26	20.50	1.330	-	-	0.02	2.000	2.661
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 3	DSI 6	9538	1907.6	1	19.29	20.50	1.321	-	-	0.18	2.170	2.867
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	DSI 6	9400	1880	1	19.37	20.50	1.297	-	-	-0.11	2.200	2.854
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	DSI 6	9262	1852.4	1	19.26	20.50	1.330	-	-	0.09	2.160	2.874
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 3	DSI 6	9538	1907.6	1	19.29	20.50	1.321	-	-	-0.04	2.050	2.709
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 3	DSI 4	9538	1907.6	1	21.94	23.00	1.276	-	-	-0.09	0.541	0.691
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	13mm	Ant 3	DSI 4	9538	1907.6	1	21.94	23.00	1.276	-	-	0.18	0.462	0.590
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	11mm	Ant 3	DSI 4	9262	1852.4	1	21.89	23.00	1.291	-	-	0.09	0.992	1.281
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26340	1880	1	18.01	19.50	1.409	-	-	0.18	2.040	2.875
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26140	1860	1	17.93	19.50	1.435	-	-	-0.05	1.980	2.842
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 0	DSI 6	26590	1905	1	17.88	19.50	1.452	-	-	-0.17	1.930	2.803
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	26340	1880	1	17.97	19.50	1.422	-	-	-0.15	1.860	2.646
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	26140	1860	1	17.85	19.50	1.462	-	-	0.05	1.850	2.705
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 0	DSI 6	26590	1905	1	17.81	19.50	1.476	-	-	0.04	1.910	2.819
	LTE Band 25	20M	QPSK	100	0	-	Front	0mm	Ant 0	DSI 6	26340	1880	1	17.92	19.50	1.439	-	-	0.04	1.850	2.662
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26340	1880	1	18.01	19.50	1.409	-	-	0.1	1.300	1.832

	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 0	DSI 6	26340	1880	1	17.97	19.50	1.422	-	-	0.03	1.210	1.721
72	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26340	1880	1	18.01	19.50	1.409	-	-	-0.04	2.120	**2.988**
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26140	1860	1	17.93	19.50	1.435	-	-	0.14	2.040	2.928
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	26590	1905	1	17.88	19.50	1.452	-	-	0.12	2.020	2.933
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	26340	1880	1	17.97	19.50	1.422	-	-	0.05	1.920	2.731
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	26140	1860	1	17.85	19.50	1.462	-	-	0.18	1.950	2.851
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 0	DSI 6	26590	1905	1	17.81	19.50	1.476	-	-	0.02	1.990	2.937
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 0	DSI 6	26340	1880	1	17.92	19.50	1.439	-	-	0.07	1.900	2.734
	LTE Band 25	20M	QPSK	1	0	-	Front	7mm	Ant 0	DSI 4	26340	1880	1	22.34	24.00	1.466	-	-	0.18	1.410	2.066
	LTE Band 25	20M	QPSK	1	0	-	Back	12mm	Ant 0	DSI 4	26340	1880	1	22.34	24.00	1.466	-	-	0.1	0.942	1.381
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	12mm	Ant 0	DSI 4	26340	1880	1	22.34	24.00	1.466	-	-	0.02	1.580	2.316
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 6	26340	1880	1	19.02	20.00	1.253	-	-	0.17	2.200	2.757
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 6	26140	1860	1	18.87	20.00	1.297	-	-	0.09	2.090	2.711
	LTE Band 25	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 6	26590	1905	1	18.92	20.00	1.282	-	-	0.03	2.290	2.937
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 6	26340	1880	1	18.96	20.00	1.271	-	-	0.09	2.070	2.630
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 6	26140	1860	1	18.93	20.00	1.279	-	-	0.04	2.180	2.789
	LTE Band 25	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 6	26590	1905	1	18.87	20.00	1.297	-	-	-0.09	2.060	2.672
	LTE Band 25	20M	QPSK	100	0	-	Front	0mm	Ant 3	DSI 6	26340	1880	1	18.88	20.00	1.294	-	-	0.02	2.120	2.744
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 3	DSI 6	26340	1880	1	19.02	20.00	1.253	-	-	-0.07	1.990	2.494
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 3	DSI 6	26140	1860	1	18.87	20.00	1.297	-	-	0.02	1.960	2.542
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 3	DSI 6	26590	1905	1	18.92	20.00	1.282	-	-	0.07	2.160	2.770
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 3	DSI 6	26340	1880	1	18.96	20.00	1.271	-	-	0.01	2.040	2.592
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 3	DSI 6	26140	1860	1	18.93	20.00	1.279	-	-	0.07	2.120	2.712
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 3	DSI 6	26590	1905	1	18.87	20.00	1.297	-	-	0.06	1.990	2.581
	LTE Band 25	20M	QPSK	100	0	-	Back	0mm	Ant 3	DSI 6	26340	1880	1	18.88	20.00	1.294	-	-	-0.08	2.080	2.692
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 6	26340	1880	1	19.02	20.00	1.253	-	-	0.17	2.160	2.707
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 6	26140	1860	1	18.87	20.00	1.297	-	-	0.15	1.960	2.542
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 6	26590	1905	1	18.92	20.00	1.282	-	-	-0.17	2.200	2.821
	LTE Band 25	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 6	26340	1880	1	18.96	20.00	1.271	-	-	0.04	1.970	2.503
	LTE Band 25	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 6	26140	1860	1	18.93	20.00	1.279	-	-	0.04	2.110	2.699
	LTE Band 25	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 6	26590	1905	1	18.87	20.00	1.297	-	-	-0.08	2.010	2.607
	LTE Band 25	20M	QPSK	100	0	-	Top Side	0mm	Ant 3	DSI 6	26340	1880	1	18.88	20.00	1.294	-	-	0.07	2.060	2.666
	LTE Band 25	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 4	26590	1905	1	21.28	23.00	1.486	-	-	0.03	0.407	0.605
	LTE Band 25	20M	QPSK	1	0	-	Back	13mm	Ant 3	DSI 4	26590	1905	1	21.28	23.00	1.486	-	-	0.07	0.369	0.548
	LTE Band 25	20M	QPSK	1	0	-	Top Side	11mm	Ant 3	DSI 4	26590	1905	1	21.28	23.00	1.486	-	-	-0.17	0.727	1.080
2300MHz																					
	LTE Band 30	10M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	-0.1	2.400	3.321
	LTE Band 30	10M	QPSK	25	0	-	Front	0mm	Ant 1	DSI 6	27710	2310	1	20.48	22.00	1.419	-	-	-0.05	2.310	3.278
	LTE Band 30	10M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	27710	2310	1	20.50	22.00	1.413	-	-	0.07	2.280	3.221
73	LTE Band 30	10M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	-0.03	2.460	**3.404**
	LTE Band 30	10M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	2	20.59	22.00	1.384	-	-	0.09	2.290	3.168
	LTE Band 30	10M	QPSK	25	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	1	20.48	22.00	1.419	-	-	0.05	2.350	3.335
	LTE Band 30	10M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	1	20.50	22.00	1.413	-	-	0.04	2.220	3.136
	LTE Band 30	10M	QPSK	1	0	-	Left Side	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	0.02	2.090	2.892
	LTE Band 30	10M	QPSK	25	0	-	Left Side	0mm	Ant 1	DSI 6	27710	2310	1	20.48	22.00	1.419	-	-	0.03	2.040	2.895
	LTE Band 30	10M	QPSK	50	0	-	Left Side	0mm	Ant 1	DSI 6	27710	2310	1	20.50	22.00	1.413	-	-	0.07	1.930	2.726
	LTE Band 30	10M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	-0.1	2.090	2.892
	LTE Band 30	10M	QPSK	25	0	-	Bottom Side	0mm	Ant 1	DSI 6	27710	2310	1	20.48	22.00	1.419	-	-	-0.14	1.950	2.767
	LTE Band 30	10M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	27710	2310	1	20.50	22.00	1.413	-	-	-0.02	2.030	2.867
	LTE Band 30	10M	QPSK	1	0	-	Front	6mm	Ant 1	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	-0.1	0.677	0.941
	LTE Band 30	10M	QPSK	1	0	-	Back	11mm	Ant 1	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	-0.03	0.307	0.427
	LTE Band 30	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	0.06	0.295	0.410
	LTE Band 30	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 4	27710	2310	1	21.61	23.00	1.377	-	-	0.03	0.233	0.321
	LTE Band 30	10M	QPSK	1	0	-	Bottom Side	7mm	Ant 1	DSI 4	27710	2310	1	22.57	24.00	1.390	-	-	0.05	0.439	0.610
2600MHz																					
	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	21100	2535	1	20.18	21.50	1.355	-	-	0.04	1.620	2.195

	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	-0.14	1.680	2.324
	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	21350	2560	1	20.02	21.50	1.406	-	-	0.07	1.630	2.292
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	21100	2535	1	20.13	21.50	1.371	-	-	0.04	1.590	2.180
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	-0.05	1.580	2.186
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	21350	2560	1	20.00	21.50	1.413	-	-	-0.16	1.580	2.232
	LTE Band 7	20M	QPSK	100	0	-	Front	0mm	Ant 1	DSI 6	21100	2535	1	20.07	21.50	1.390	-	-	-0.14	1.570	2.182
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	21100	2535	1	20.18	21.50	1.355	-	-	-0.04	1.790	2.426
74	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	-0.02	1.860	**2.573**
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	21350	2560	1	20.02	21.50	1.406	-	-	0.03	1.780	2.503
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	21100	2535	1	20.13	21.50	1.371	-	-	0.19	1.730	2.372
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	-0.15	1.770	2.449
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	21350	2560	1	20.00	21.50	1.413	-	-	0.16	1.800	2.543
	LTE Band 7	20M	QPSK	100	0	-	Back	0mm	Ant 1	DSI 6	21100	2535	1	20.07	21.50	1.390	-	-	-0.11	1.720	2.391
	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 1	DSI 6	21100	2535	1	20.18	21.50	1.355	-	-	0.03	1.420	1.924
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 1	DSI 6	21100	2535	1	20.13	21.50	1.371	-	-	0.03	1.380	1.892
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	20.18	21.50	1.355	-	-	-0.18	1.650	2.236
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	0.07	1.630	2.255
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	21350	2560	1	20.02	21.50	1.406	-	-	0.02	1.540	2.165
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	20.13	21.50	1.371	-	-	0.04	1.560	2.139
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	20850	2510	1	20.09	21.50	1.384	-	-	0.03	1.530	2.117
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	21350	2560	1	20.00	21.50	1.413	-	-	0.01	1.540	2.175
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	20.07	21.50	1.390	-	-	0.1	1.550	2.154
	LTE Band 7	20M	QPSK	1	0	-	Front	6mm	Ant 1	DSI 4	20850	2510	1	22.62	24.00	1.374	-	-	-0.14	0.731	1.004
	LTE Band 7	20M	QPSK	1	0	-	Back	11mm	Ant 1	DSI 4	20850	2510	1	22.62	24.00	1.374	-	-	-0.02	0.369	0.507
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	21100	2535	1	22.66	24.00	1.361	-	-	0.03	0.211	0.287
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	7mm	Ant 1	DSI 4	20850	2510	1	22.62	24.00	1.374	-	-	0.07	0.491	0.675
	LTE Band 41	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	40620	2593	1	21.50	22.50	1.259	62.9	1.006	0.04	1.780	2.254
	LTE Band 41	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	39750	2506	1	21.42	22.50	1.282	62.9	1.006	0.01	1.710	2.206
	LTE Band 41	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	40185	2549.5	1	21.28	22.50	1.324	62.9	1.006	-0.19	1.750	2.332
	LTE Band 41	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	41055	2636.5	1	21.49	22.50	1.262	62.9	1.006	0.06	1.740	2.209
	LTE Band 41	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	41490	2680	1	21.42	22.50	1.282	62.9	1.006	0.06	1.690	2.180
	LTE Band 41	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	40620	2593	1	20.47	22.00	1.422	62.9	1.006	-0.16	1.170	1.674
	LTE Band 41	20M	QPSK	100	0	-	Front	0mm	Ant 1	DSI 6	40620	2593	1	20.41	22.00	1.442	62.9	1.006	-0.07	1.160	1.683
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	21.50	22.50	1.259	62.9	1.006	0.02	1.930	2.444
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	39750	2506	1	21.42	22.50	1.282	62.9	1.006	-0.17	1.830	2.361
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40185	2549.5	1	21.28	22.50	1.324	62.9	1.006	-0.05	1.800	2.398
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	41055	2636.5	1	21.49	22.50	1.262	62.9	1.006	-0.08	1.780	2.260
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	41490	2680	1	21.42	22.50	1.282	62.9	1.006	-0.17	1.860	2.399
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	20.47	22.00	1.422	62.9	1.006	-0.11	1.230	1.760
	LTE Band 41	20M	QPSK	100	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	20.41	22.00	1.442	62.9	1.006	0.01	1.210	1.755
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	1	21.50	22.50	1.259	62.9	1.006	-0.09	1.550	1.963
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	1	20.47	22.00	1.422	62.9	1.006	0.05	0.980	1.402
	LTE Band 41C	20M	QPSK	1	99	-	Back	0mm	Ant 1	DSI 6	40620+ 40818	2593+ 2612.8	1	20.93	22.50	1.435	62.9	1.006	0.08	1.600	2.311
75	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	24.54	25.50	1.247	42.9	1.009	0.01	2.700	**3.398**
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	0mm	Ant 1	DSI 6	40620+ 40818	2593+ 2612.8	1	23.85	25.50	1.462	42.9	1.009	0.01	2.300	3.393
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	0mm	Ant 1	DSI 6	39750+ 39948	2506+ 2525.8	1	23.65	25.50	1.531	42.9	1.009	0.05	2.110	3.260
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	0mm	Ant 1	DSI 6	40185+ 40383	2549.5+ 2569.3	1	23.69	25.50	1.517	42.9	1.009	0.07	2.200	3.368
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	0mm	Ant 1	DSI 6	41055+ 41253	2636.5+ 2656.3	1	23.68	25.50	1.521	42.9	1.009	0.06	2.120	3.253
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	41490+ 41292	2680+ 2660.2	1	23.77	25.50	1.489	42.9	1.009	0.04	2.210	3.321
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	2	24.54	25.50	1.247	42.9	1.009	-0.12	2.580	3.247
	LTE Band 41	20M	QPSK	1	0	-	Front	6mm	Ant 1	DSI 4	40185	2549.5	1	22.78	24.00	1.324	62.9	1.006	-0.19	0.475	0.633
	LTE Band 41	20M	QPSK	1	0	-	Back	11mm	Ant 1	DSI 4	40620	2593	1	23.00	24.00	1.259	62.9	1.006	0.02	0.188	0.238
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	7mm	Ant 1	DSI 4	40620	2593	1	23.00	24.00	1.259	62.9	1.006	-0.09	0.264	0.334

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)
WLAN																	
	WLAN5.2GHz	802.11a 6Mbps	Front	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.01	0.555	0.764
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.09	0.403	0.555
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.05	0.522	0.719
	WLAN5.2GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.06	1.050	1.446
76	WLAN5.2GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	48	5240	1	18.60	20.00	1.380	100	1.000	0.09	1.120	**1.546**
	WLAN5.2GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	48	5240	2	18.60	20.00	1.380	100	1.000	0.01	1.080	1.491
	WLAN5.2GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	36	5180	1	18.31	20.00	1.476	100	1.000	0.02	0.952	1.405
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4	Simultaneous	42	5210	1	15.35	16.50	1.303	100	1.000	0.05	0.224	0.292
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 4	Simultaneous	42	5210	1	15.35	16.50	1.303	100	1.000	0.01	0.196	0.255
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 4	Simultaneous	42	5210	1	15.35	16.50	1.303	100	1.000	0.09	0.552	0.719
	WLAN5.2GHz	802.11a 6Mbps	Front	1mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.03	0.477	0.657
	WLAN5.2GHz	802.11a 6Mbps	Back	4mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.11	0.255	0.351
	WLAN5.2GHz	802.11a 6Mbps	Right Side	6mm	Ant 4	Full power	44	5220	1	18.61	20.00	1.377	100	1.000	0.05	0.488	0.672
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 4	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.03	0.657	0.963
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 4	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	-0.02	0.550	0.806
77	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	-0.03	1.440	**2.110**
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	60	5300	2	17.84	19.50	1.466	100	1.000	0.02	1.260	1.847
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	56	5280	1	17.83	19.50	1.469	100	1.000	0.04	1.090	1.601
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	52	5260	1	17.77	19.50	1.489	100	1.000	0.05	1.090	1.623
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	64	5320	1	17.62	19.50	1.542	100	1.000	0.01	1.000	1.542
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 4	Full power	60	5300	1	17.84	19.50	1.466	100	1.000	0.08	0.541	0.793
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4	Simultaneous	58	5290	1	13.91	15.50	1.442	100	1.000	-0.05	0.237	0.342
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 4	Simultaneous	58	5290	1	13.91	15.50	1.442	100	1.000	-0.08	0.182	0.262
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 4	Simultaneous	58	5290	1	13.91	15.50	1.442	100	1.000	0.07	0.519	0.748
	WLAN5.3GHz	802.11a 6Mbps	Front	1mm	Ant 4	Standalone	60	5300	1	17.84	19.50	1.466	100	1.000	0.04	0.601	0.881
	WLAN5.3GHz	802.11a 6Mbps	Back	4mm	Ant 4	Standalone	60	5300	1	17.84	19.50	1.466	100	1.000	0.04	0.421	0.617
	WLAN5.3GHz	802.11a 6Mbps	Right Side	6mm	Ant 4	Standalone	60	5300	1	17.84	19.50	1.466	100	1.000	0.04	0.541	0.793
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.04	0.522	0.736
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	-0.17	0.497	0.700
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.06	1.230	1.733
79	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	144	5720	1	17.22	19.00	1.507	100	1.000	-0.09	1.560	**2.350**
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	144	5720	2	17.22	19.00	1.507	100	1.000	0.08	1.180	1.778
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	100	5500	1	16.90	18.50	1.445	100	1.000	0.01	1.020	1.474
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.01	0.611	0.861
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4	Simultaneous	138	5690	1	11.96	13.50	1.426	100	1.000	-0.03	0.177	0.252
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 4	Simultaneous	138	5690	1	11.96	13.50	1.426	100	1.000	0.02	0.174	0.248
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 4	Simultaneous	138	5690	1	11.96	13.50	1.426	100	1.000	0.05	0.529	0.754
	WLAN5.5GHz	802.11a 6Mbps	Front	1mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.04	0.497	0.700
	WLAN5.5GHz	802.11a 6Mbps	Back	4mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.1	0.400	0.564
	WLAN5.5GHz	802.11a 6Mbps	Right Side	6mm	Ant 4	Full power	132	5660	1	17.51	19.00	1.409	100	1.000	0.09	0.892	1.257
	WLAN5.8GHz	802.11a 6Mbps	Front	0mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.04	0.411	0.626
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.04	0.504	0.768
79	WLAN5.8GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	-0.06	1.380	**2.103**
	WLAN5.8GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	149	5745	2	16.17	18.00	1.524	100	1.000	0.07	1.260	1.920
	WLAN5.8GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	157	5785	1	16.12	18.00	1.542	100	1.000	0.01	1.060	1.634
	WLAN5.8GHz	802.11a 6Mbps	Right Side	0mm	Ant 4	Full power	165	5825	1	16.08	18.00	1.556	100	1.000	0.05	1.110	1.727
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.04	0.599	0.913
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4	Simultaneous	155	5775	1	10.79	12.50	1.483	100	1.000	0.09	0.171	0.254
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 4	Simultaneous	155	5775	1	10.79	12.50	1.483	100	1.000	0.05	0.205	0.304
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 4	Simultaneous	155	5775	1	10.79	12.50	1.483	100	1.000	0.06	0.502	0.744
	WLAN5.8GHz	802.11a 6Mbps	Front	1mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.04	0.381	0.581
	WLAN5.8GHz	802.11a 6Mbps	Back	4mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	0.04	0.364	0.555

	WLAN5.8GHz	802.11a 6Mbps	Right Side	6mm	Ant 4	Full power	149	5745	1	16.17	18.00	1.524	100	1.000	-0.05	0.784	1.195

15.5 Repeated SAR Measurement

<1g>

No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	-	-	-0.05	1.110	1	1.414
2st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	9400	1880	1	12.95	14.00	1.274	-	-	0.03	1.080	1.028	1.375
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	-0.03	1.010	1	1.359
2st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 5	Standalone	6	2437	1	18.21	19.50	1.346	100	1.000	0.02	0.988	1.022	1.330
1st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.02	0.828	1	1.172
2st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 4	Standalone	155	5775	1	14.49	16.00	1.416	100	1.000	0.05	0.823	1.006	1.165
1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132572	1770	1	12.86	14.50	1.459	-	-	-0.09	0.985	1	1.437
2st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	132572	1770	1	12.86	14.50	1.459	-	-	0.03	0.977	1.008	1.425
1st	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 3	23230	782	1	21.91	23.50	1.442	-	-	-0.06	0.964	1	1.390
2st	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 3	23230	782	1	21.91	23.50	1.442	-	-	0.03	0.955	1.009	1.377
1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 3	189	836.4	1	25.37	26.50	1.297	-	-	-0.16	1.080	1	1.401
2st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 3	189	836.4	1	25.37	26.50	1.297	-	-	0.03	1.050	1.029	1.362
1st	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 3	27710	2310	1	20.66	22.00	1.361	-	-	0.07	0.979	1	1.333
2st	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 3	27710	2310	1	20.66	22.00	1.361	-	-	0.01	0.960	1.020	1.307
1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 3	40620	2593	1	22.96	24.00	1.271	42.9	1.009	-0.11	1.080	1	1.385
2st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 3	40620	2593	1	22.96	24.00	1.271	42.9	1.009	0.03	1.060	1.019	1.359

<10g>

No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)	Ratio	Reported 10g SAR (W/kg)
1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	128	824.2	1	27.44	29.00	1.432	-	-	0.01	2.210	1	3.165
2st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 0	DSI 6	128	824.2	1	27.44	29.00	1.432	-	-	0.03	2.190	1.009	3.136
1st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132072	1720	1	17.42	19.00	1.439	-	-	-0.03	2.460	1	3.539
2st	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 0	DSI 6	132072	1720	1	17.42	19.00	1.439	-	-	0.01	2.430	1.012	3.496
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9538	1907.6	1	18.80	20.00	1.318	-	-	0.15	2.540	1	3.348
2st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 0	DSI 6	9538	1907.6	1	18.80	20.00	1.318	-	-	0.02	2.510	1.012	3.309
1st	LTE Band 30	10M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	-0.03	2.460	1	3.404
2st	LTE Band 30	10M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	27710	2310	1	20.59	22.00	1.384	-	-	0.01	2.420	1.017	3.348
1st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	24.54	25.50	1.247	42.9	1.009	0.01	2.700	1	3.398
2st	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	40620	2593	1	24.54	25.50	1.247	42.9	1.009	0.06	2.670	1.011	3.360

General Note:

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

15.6 TDD B41 Linearity Data Analysis

General Note:
This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg for 1g and < 3.5 W/kg for 10g, so separate SAR testing for Power Class 2 is not required.

LTE Band 41(HPUE) Ant 1-Linearity Data for Head		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.432	0.591
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	217.01
Linearity SAR (W/kg)	0.590	
% deviation from expected linearity		0.24%

LTE Band 41(HPUE) Ant 1-Linearity Data for Body-worn		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	21.00	24.00
Reported 1g SAR (W/kg)	0.988	1.385
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	79.69	108.76
Linearity SAR (W/kg)	1.348	
% deviation from expected linearity		2.71%

LTE Band 41(HPUE) Ant 1-Linearity Data for Hotspot		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	21.00	24.00
Reported 1g SAR (W/kg)	0.988	1.385
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	79.69	108.76
Linearity SAR (W/kg)	1.348	
% deviation from expected linearity		2.71%

LTE Band 41(HPUE) Ant 1-Linearity Data for Extremity SAR		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	22.50	25.50
Reported 10g SAR (W/kg)	2.455	3.398
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	172.38
Linearity SAR (W/kg)	3.352	
% deviation from expected linearity		1.41%

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
5.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. EUT will choose each GSM, WCDMA, LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
4. 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).
5. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
6. WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
7. According to the EUT characteristic, WLAN 5GHz and Bluetooth can transmit simultaneously.
8. According to the EUT characteristic, WLAN 5GHz and WLAN 2.4GHz can't transmit simultaneously.
9. The maximum SAR summation is calculated based on the same configuration and test position.
10. For Back/Back with headset, always chose higher SAR to do co-located analysis.
11. For distance SAR and non-distance SAR in body-worn, always chose higher SAR to do co-located analysis.
12. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
13. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR and SPLSR≤ 0.10 for 10g SAR , simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) The SPLSR calculated results please refer to section 16.5.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1 WWAN 1g SAR (W/kg)	2 WLAN2.4GHz Ant 5 1g SAR (W/kg)	3 WLAN5GHz Ant 4 1g SAR (W/kg)	4 Bluetooth Ant 5 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
GSM1900 Ant 0	Right Cheek	0.154	0.358	0.252	0.090	0.51	0.50
	Right Tilted	0.141	0.358	0.252	0.074	0.50	0.47
	Left Cheek	0.202	0.358	0.252	0.133	0.56	0.59
	Left Tilted	0.148	0.358	0.252	0.118	0.51	0.52
GSM1900 Ant 3	Right Cheek	0.772	0.358	0.252	0.090	1.13	1.11
	Right Tilted	1.069	0.358	0.252	0.074	1.43	1.40
	Left Cheek	0.540	0.358	0.252	0.133	0.90	0.93
	Left Tilted	0.645	0.358	0.252	0.118	1.00	1.02
GSM850 Ant 0	Right Cheek	0.926	0.358	0.252	0.090	1.28	1.27
	Right Tilted	0.362	0.358	0.252	0.074	0.72	0.69
	Left Cheek	0.639	0.358	0.252	0.133	1.00	1.02
	Left Tilted	0.350	0.358	0.252	0.118	0.71	0.72
GSM850 Ant 3	Right Cheek	1.026	0.358	0.252	0.090	1.38	1.37
	Right Tilted	0.714	0.358	0.252	0.074	1.07	1.04
	Left Cheek	0.846	0.358	0.252	0.133	1.20	1.23
	Left Tilted	0.667	0.358	0.252	0.118	1.03	1.04
WCDMA II Ant 0	Right Cheek	0.130	0.358	0.252	0.090	0.49	0.47
	Right Tilted	0.118	0.358	0.252	0.074	0.48	0.44
	Left Cheek	0.181	0.358	0.252	0.133	0.54	0.57
	Left Tilted	0.124	0.358	0.252	0.118	0.48	0.49
WCDMA II Ant 3	Right Cheek	0.933	0.358	0.252	0.090	1.29	1.28
	Right Tilted	1.047	0.358	0.252	0.074	1.41	1.37
	Left Cheek	0.714	0.358	0.252	0.133	1.07	1.10
	Left Tilted	0.602	0.358	0.252	0.118	0.96	0.97
WCDMA IV Ant 0	Right Cheek	0.176	0.358	0.252	0.090	0.53	0.52
	Right Tilted	0.106	0.358	0.252	0.074	0.46	0.43
	Left Cheek	0.208	0.358	0.252	0.133	0.57	0.59
	Left Tilted	0.119	0.358	0.252	0.118	0.48	0.49
WCDMA V Ant 0	Right Cheek	0.436	0.358	0.252	0.090	0.79	0.78
	Right Tilted	0.176	0.358	0.252	0.074	0.53	0.50
	Left Cheek	0.303	0.358	0.252	0.133	0.66	0.69
	Left Tilted	0.167	0.358	0.252	0.118	0.53	0.54
WCDMA V Ant 3	Right Cheek	0.885	0.358	0.252	0.090	1.24	1.23
	Right Tilted	0.655	0.358	0.252	0.074	1.01	0.98
	Left Cheek	0.739	0.358	0.252	0.133	1.10	1.12
	Left Tilted	0.597	0.358	0.252	0.118	0.96	0.97
LTE Band 7 Ant 1	Right Cheek	0.382	0.358	0.252	0.090	0.74	0.72
	Right Tilted	0.370	0.358	0.252	0.074	0.73	0.70
	Left Cheek	0.677	0.358	0.252	0.133	1.04	1.06
	Left Tilted	0.226	0.358	0.252	0.118	0.58	0.60
LTE Band 12 Ant 0	Right Cheek	0.293	0.358	0.252	0.090	0.65	0.64
	Right Tilted	0.162	0.358	0.252	0.074	0.52	0.49
	Left Cheek	0.284	0.358	0.252	0.133	0.64	0.67
	Left Tilted	0.167	0.358	0.252	0.118	0.53	0.54
LTE Band 12 Ant 3	Right Cheek	0.913	0.358	0.252	0.090	1.27	1.26
	Right Tilted	0.659	0.358	0.252	0.074	1.02	0.99
	Left Cheek	0.775	0.358	0.252	0.133	1.13	1.16
	Left Tilted	0.651	0.358	0.252	0.118	1.01	1.02
LTE Band 13 Ant 0	Right Cheek	0.310	0.358	0.252	0.090	0.67	0.65
	Right Tilted	0.134	0.358	0.252	0.074	0.49	0.46

	Left Cheek	0.225	0.358	0.252	0.133	0.58	0.61
	Left Tilted	0.124	0.358	0.252	0.118	0.48	0.49
LTE Band 13 Ant 3	Right Cheek	0.942	0.358	0.252	0.090	1.30	1.28
	Right Tilted	0.594	0.358	0.252	0.074	0.95	0.92
	Left Cheek	0.752	0.358	0.252	0.133	1.11	1.14
	Left Tilted	0.592	0.358	0.252	0.118	0.95	0.96
LTE Band 14 Ant 0	Right Cheek	0.340	0.358	0.252	0.090	0.70	0.68
	Right Tilted	0.147	0.358	0.252	0.074	0.51	0.47
	Left Cheek	0.289	0.358	0.252	0.133	0.65	0.67
	Left Tilted	0.149	0.358	0.252	0.118	0.51	0.52
LTE Band 14 Ant 3	Right Cheek	0.991	0.358	0.252	0.090	1.35	1.33
	Right Tilted	0.686	0.358	0.252	0.074	1.04	1.01
	Left Cheek	0.869	0.358	0.252	0.133	1.23	1.25
	Left Tilted	0.683	0.358	0.252	0.118	1.04	1.05
LTE Band 25 Ant 0	Right Cheek	0.125	0.358	0.252	0.090	0.48	0.47
	Right Tilted	0.114	0.358	0.252	0.074	0.47	0.44
	Left Cheek	0.185	0.358	0.252	0.133	0.54	0.57
	Left Tilted	0.123	0.358	0.252	0.118	0.48	0.49
LTE Band 26 Ant 3	Right Cheek	1.043	0.358	0.252	0.090	1.40	1.39
	Right Tilted	0.777	0.358	0.252	0.074	1.14	1.10
	Left Cheek	0.955	0.358	0.252	0.133	1.31	1.34
	Left Tilted	0.777	0.358	0.252	0.118	1.14	1.15
LTE Band 30 Ant 1	Right Cheek	0.281	0.358	0.252	0.090	0.64	0.62
	Right Tilted	0.320	0.358	0.252	0.074	0.68	0.65
	Left Cheek	0.512	0.358	0.252	0.133	0.87	0.90
	Left Tilted	0.199	0.358	0.252	0.118	0.56	0.57
LTE Band 66 Ant 0	Right Cheek	0.172	0.358	0.252	0.090	0.53	0.51
	Right Tilted	0.126	0.358	0.252	0.074	0.48	0.45
	Left Cheek	0.206	0.358	0.252	0.133	0.56	0.59
	Left Tilted	0.121	0.358	0.252	0.118	0.48	0.49
LTE Band 71 Ant 0	Right Cheek	0.370	0.358	0.252	0.090	0.73	0.71
	Right Tilted	0.174	0.358	0.252	0.074	0.53	0.50
	Left Cheek	0.344	0.358	0.252	0.133	0.70	0.73
	Left Tilted	0.169	0.358	0.252	0.118	0.53	0.54
LTE Band 71 Ant 3	Right Cheek	0.587	0.358	0.252	0.090	0.95	0.93
	Right Tilted	0.478	0.358	0.252	0.074	0.84	0.80
	Left Cheek	0.449	0.358	0.252	0.133	0.81	0.83
	Left Tilted	0.422	0.358	0.252	0.118	0.78	0.79
LTE Band 41 Ant 1	Right Cheek	0.258	0.358	0.252	0.090	0.62	0.60
	Right Tilted	0.227	0.358	0.252	0.074	0.59	0.55
	Left Cheek	0.432	0.358	0.252	0.133	0.79	0.82
	Left Tilted	0.137	0.358	0.252	0.118	0.50	0.51
LTE Band 25 Ant 3	Right Cheek	0.792	0.358	0.252	0.090	1.15	1.13
	Right Tilted	1.037	0.358	0.252	0.074	1.40	1.36
	Left Cheek	0.583	0.358	0.252	0.133	0.94	0.97
	Left Tilted	0.706	0.358	0.252	0.118	1.06	1.08
LTE Band 26 Ant 0	Right Cheek	0.363	0.358	0.252	0.090	0.72	0.71
	Right Tilted	0.282	0.358	0.252	0.074	0.64	0.61
	Left Cheek	0.254	0.358	0.252	0.133	0.61	0.64
	Left Tilted	0.139	0.358	0.252	0.118	0.50	0.51

16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1 WWAN 1g SAR (W/kg)	2 WLAN2.4GHz Ant 5 1g SAR (W/kg)	3 WLAN5GHz Ant 4 1g SAR (W/kg)	4 Bluetooth Ant 5 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	Case No
GSM1900 Ant 0	Front	0.555	0.204	0.071	0.031	0.76	0.66	
	Back	0.677	0.217	0.130	0.083	0.89	0.89	
	Left side	0.046				0.05	0.05	
	Right side	0.022	0.116	0.305	0.059	0.14	0.39	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.243				1.24	1.24	
GSM1900 Ant 3	Front	0.434	0.204	0.071	0.031	0.64	0.54	
	Back	0.585	0.217	0.130	0.083	0.80	0.80	
	Left side	0.045				0.05	0.05	
	Right side	0.011	0.116	0.305	0.059	0.13	0.38	
	Top side	1.135	0.321	0.107	0.086	1.46	1.33	
	Bottom side					0.00	0.00	
GSM850 Ant 0	Front	1.160	0.204	0.071	0.031	1.36	1.26	
	Back	1.401	0.217	0.130	0.083	**1.62**	**1.61**	**1/2**
	Left side	0.713				0.71	0.71	
	Right side	0.402	0.116	0.305	0.059	0.52	0.77	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.336				1.34	1.34	
GSM850 Ant 3	Front	0.708	0.204	0.071	0.031	0.91	0.81	
	Back	0.899	0.217	0.130	0.083	1.12	1.11	
	Left side	0.243				0.24	0.24	
	Right side	0.262	0.116	0.305	0.059	0.38	0.63	
	Top side	0.628	0.321	0.107	0.086	0.95	0.82	
	Bottom side					0.00	0.00	
WCDMA II Ant 0	Front	0.586	0.204	0.071	0.031	0.79	0.69	
	Back	0.750	0.217	0.130	0.083	0.97	0.96	
	Left side	0.051				0.05	0.05	
	Right side	0.028	0.116	0.305	0.059	0.14	0.39	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.414				1.41	1.41	
WCDMA II Ant 3	Front	0.480	0.204	0.071	0.031	0.68	0.58	
	Back	0.576	0.217	0.130	0.083	0.79	0.79	
	Left side	0.042				0.04	0.04	
	Right side	0.012	0.116	0.305	0.059	0.13	0.38	
	Top side	1.160	0.321	0.107	0.086	1.48	1.35	
	Bottom side					0.00	0.00	
WCDMA IV Ant 0	Front	0.639	0.204	0.071	0.031	0.84	0.74	
	Back	0.801	0.217	0.130	0.083	1.02	1.01	
	Left side	0.054				0.05	0.05	
	Right side	0.038	0.116	0.305	0.059	0.15	0.40	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.278				1.28	1.28	
WCDMA V Ant 0	Front	1.141	0.204	0.071	0.031	1.35	1.24	
	Back	1.353	0.217	0.130	0.083	1.57	1.57	
	Left side	0.166				0.17	0.17	
	Right side	0.357	0.116	0.305	0.059	0.47	0.72	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.132				1.13	1.13	
WCDMA V Ant	Front	0.713	0.204	0.071	0.031	0.92	0.82	

3	Back	0.971	0.217	0.130	0.083	1.19	1.18	
	Left side	0.206				0.21	0.21	
	Right side	0.243	0.116	0.305	0.059	0.36	0.61	
	Top side	0.669	0.321	0.107	0.086	0.99	0.86	
	Bottom side					0.00	0.00	
LTE Band 7 Ant 1	Front	1.088	0.204	0.071	0.031	1.29	1.19	
	Back	1.435	0.217	0.130	0.083	**1.65**	**1.65**	**3/4**
	Left side	0.928				0.93	0.93	
	Right side	0.166	0.116	0.305	0.059	0.28	0.53	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.243				1.24	1.24	
LTE Band 12 Ant 0	Front	0.613	0.204	0.071	0.031	0.82	0.72	
	Back	1.030	0.217	0.130	0.083	1.25	1.24	
	Left side	0.114				0.11	0.11	
	Right side	0.148	0.116	0.305	0.059	0.26	0.51	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	0.839				0.84	0.84	
LTE Band 12 Ant 3	Front	0.557	0.204	0.071	0.031	0.76	0.66	
	Back	0.770	0.217	0.130	0.083	0.99	0.98	
	Left side	0.198				0.20	0.20	
	Right side	0.183	0.116	0.305	0.059	0.30	0.55	
	Top side	0.452	0.321	0.107	0.086	0.77	0.65	
	Bottom side					0.00	0.00	
LTE Band 13 Ant 0	Front	0.903	0.204	0.071	0.031	1.11	1.01	
	Back	1.390	0.217	0.130	0.083	**1.61**	**1.60**	**5/6**
	Left side	0.069				0.07	0.07	
	Right side	0.151	0.116	0.305	0.059	0.27	0.52	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	0.868				0.87	0.87	
LTE Band 13 Ant 3	Front	0.631	0.204	0.071	0.031	0.84	0.73	
	Back	0.918	0.217	0.130	0.083	1.14	1.13	
	Left side	0.270				0.27	0.27	
	Right side	0.317	0.116	0.305	0.059	0.43	0.68	
	Top side	0.563	0.321	0.107	0.086	0.88	0.76	
	Bottom side					0.00	0.00	
LTE Band 14 Ant 0	Front	1.036	0.204	0.071	0.031	1.24	1.14	
	Back	1.367	0.217	0.130	0.083	**1.58**	**1.58**	
	Left side	0.139				0.14	0.14	
	Right side	0.179	0.116	0.305	0.059	0.30	0.54	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.003				1.00	1.00	
LTE Band 14 Ant 3	Front	0.588	0.204	0.071	0.031	0.79	0.69	
	Back	0.837	0.217	0.130	0.083	1.05	1.05	
	Left side	0.234				0.23	0.23	
	Right side	0.259	0.116	0.305	0.059	0.38	0.62	
	Top side	0.534	0.321	0.107	0.086	0.86	0.73	
	Bottom side					0.00	0.00	
LTE Band 25 Ant 0	Front	0.697	0.204	0.071	0.031	0.90	0.80	
	Back	0.879	0.217	0.130	0.083	1.10	1.09	
	Left side	0.063				0.06	0.06	
	Right side	0.028	0.116	0.305	0.059	0.14	0.39	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.420				1.42	1.42	
LTE Band 26 Ant 3	Front	0.790	0.204	0.071	0.031	0.99	0.89	
	Back	1.102	0.217	0.130	0.083	1.32	1.32	
	Left side	0.249				0.25	0.25	

	Right side	0.233	0.116	0.305	0.059	0.35	0.60	
	Top side	0.793	0.321	0.107	0.086	1.11	0.99	
	Bottom side					0.00	0.00	
LTE Band 30 Ant 1	Front	1.054	0.204	0.071	0.031	1.26	1.16	
	Back	1.333	0.217	0.130	0.083	1.55	1.55	
	Left side	0.919				0.92	0.92	
	Right side	0.180	0.116	0.305	0.059	0.30	0.54	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.077				1.08	1.08	
LTE Band 66 Ant 0	Front	0.710	0.204	0.071	0.031	0.91	0.81	
	Back	0.913	0.217	0.130	0.083	1.13	1.13	
	Left side	0.070				0.07	0.07	
	Right side	0.047	0.116	0.305	0.059	0.16	0.41	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.437				1.44	1.44	
LTE Band 71 Ant 0	Front	0.750	0.204	0.071	0.031	0.95	0.85	
	Back	1.280	0.217	0.130	0.083	1.50	1.49	
	Left side	0.186				0.19	0.19	
	Right side	0.124	0.116	0.305	0.059	0.24	0.49	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	0.682				0.68	0.68	
LTE Band 71 Ant 3	Front	0.164	0.204	0.071	0.031	0.37	0.27	
	Back	0.313	0.217	0.130	0.083	0.53	0.53	
	Left side	0.078				0.08	0.08	
	Right side	0.080	0.116	0.305	0.059	0.20	0.44	
	Top side	0.145	0.321	0.107	0.086	0.47	0.34	
	Bottom side					0.00	0.00	
LTE Band 41 Ant 1	Front	0.969	0.204	0.071	0.031	1.17	1.07	
	Back	1.385	0.217	0.130	0.083	**1.60**	**1.60**	**7/8**
	Left side	0.560				0.56	0.56	
	Right side	0.109	0.116	0.305	0.059	0.23	0.47	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	0.877				0.88	0.88	
LTE Band 25 Ant 3	Front	0.466	0.204	0.071	0.031	0.67	0.57	
	Back	0.565	0.217	0.130	0.083	0.78	0.78	
	Left side	0.044				0.04	0.04	
	Right side	0.011	0.116	0.305	0.059	0.13	0.38	
	Top side	1.176	0.321	0.107	0.086	1.50	1.37	
	Bottom side					0.00	0.00	
LTE Band 26 Ant 0	Front	0.995	0.204	0.071	0.031	1.20	1.10	
	Back	1.343	0.217	0.130	0.083	1.56	1.56	
	Left side	0.157				0.16	0.16	
	Right side	0.168	0.116	0.305	0.059	0.28	0.53	
	Top side		0.321	0.107	0.086	0.32	0.19	
	Bottom side	1.165				1.17	1.17	

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4	Case No
		WWAN	WLAN2.4GHz Ant 5	WLAN5GHz Ant 4	Bluetooth Ant 5	Summed	Summed	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM1900 Ant 0	Front	1.032	0.366	0.335	0.020	1.40	1.39	
	Back	1.257	0.366	0.335	0.053	**1.62**	**1.65**	**1/2**
GSM1900 Ant 3	Front	0.604	0.366	0.335	0.020	0.97	0.96	
	Back	0.934	0.366	0.335	0.053	1.30	1.32	
GSM850 Ant 0	Front	1.160	0.366	0.335	0.020	1.53	1.52	
	Back	1.401	0.366	0.335	0.053	**1.77**	**1.79**	**3/4**
GSM850 Ant 3	Front	0.708	0.366	0.335	0.020	1.07	1.06	
	Back	0.899	0.366	0.335	0.053	1.27	1.29	
WCDMA II Ant 0	Front	1.052	0.366	0.335	0.020	1.42	1.41	
	Back	1.346	0.366	0.335	0.053	**1.71**	**1.73**	**5/6**
WCDMA II Ant 3	Front	0.769	0.366	0.335	0.020	1.14	1.12	
	Back	1.077	0.366	0.335	0.053	1.44	1.47	
WCDMA IV Ant 0	Front	0.915	0.366	0.335	0.020	1.28	1.27	
	Back	1.317	0.366	0.335	0.053	**1.68**	**1.71**	**7/8**
WCDMA V Ant 0	Front	1.141	0.366	0.335	0.020	1.51	1.50	
	Back	1.353	0.366	0.335	0.053	**1.72**	**1.74**	**9/10**
WCDMA V Ant 3	Front	0.713	0.366	0.335	0.020	1.08	1.07	
	Back	0.971	0.366	0.335	0.053	1.34	1.36	
LTE Band 7 Ant 1	Front	1.088	0.366	0.335	0.020	1.45	1.44	
	Back	1.435	0.366	0.335	0.053	**1.80**	**1.82**	**11/12**
LTE Band 12 Ant 0	Front	0.613	0.366	0.335	0.020	0.98	0.97	
	Back	1.030	0.366	0.335	0.053	1.40	1.42	
LTE Band 12 Ant 3	Front	0.557	0.366	0.335	0.020	0.92	0.91	
	Back	0.770	0.366	0.335	0.053	1.14	1.16	
LTE Band 13 Ant 0	Front	0.903	0.366	0.335	0.020	1.27	1.26	
	Back	1.390	0.366	0.335	0.053	**1.76**	**1.78**	**13/14**
LTE Band 13 Ant 3	Front	0.631	0.366	0.335	0.020	1.00	0.99	
	Back	0.918	0.366	0.335	0.053	1.28	1.31	
LTE Band 14 Ant 0	Front	1.036	0.366	0.335	0.020	1.40	1.39	
	Back	1.367	0.366	0.335	0.053	**1.73**	**1.76**	**15/16**
LTE Band 14 Ant 3	Front	0.588	0.366	0.335	0.020	0.95	0.94	
	Back	0.837	0.366	0.335	0.053	1.20	1.23	
LTE Band 25 Ant 0	Front	1.059	0.366	0.335	0.020	1.43	1.41	
	Back	1.335	0.366	0.335	0.053	**1.70**	**1.72**	**17/18**
LTE Band 26 Ant 3	Front	0.790	0.366	0.335	0.020	1.16	1.15	
	Back	1.102	0.366	0.335	0.053	1.47	1.49	
LTE Band 30 Ant 1	Front	1.054	0.366	0.335	0.020	1.42	1.41	
	Back	1.333	0.366	0.335	0.053	**1.70**	**1.72**	**19/20**
LTE Band 66 Ant 0	Front	1.095	0.366	0.335	0.020	1.46	1.45	
	Back	1.345	0.366	0.335	0.053	**1.71**	**1.73**	**21/22**
LTE Band 71 Ant 0	Front	0.750	0.366	0.335	0.020	1.12	1.11	
	Back	1.280	0.366	0.335	0.053	**1.65**	**1.67**	**23/24**
LTE Band 71 Ant 3	Front	0.164	0.366	0.335	0.020	0.53	0.52	
	Back	0.313	0.366	0.335	0.053	0.68	0.70	
LTE Band 41 Ant 1	Front	0.969	0.366	0.335	0.020	1.34	1.32	
	Back	0.988	0.366	0.335	0.053	1.35	1.38	
LTE Band 25 Ant 3	Front	0.778	0.366	0.335	0.020	1.14	1.13	
	Back	1.039	0.366	0.335	0.053	1.41	1.43	
LTE Band 26 Ant 0	Front	0.995	0.366	0.335	0.020	1.36	1.35	
	Back	1.343	0.366	0.335	0.053	**1.71**	**1.73**	**25/26**

<Sensor off>

WWAN Band	Exposure Position	1	2	3	1+2	1+3
		WWAN	WLAN2.4GHz Ant 5	WLAN5GHz Ant 4	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM1900 Ant 0	Front	0.500	0.167	0.688	0.67	1.19
	Back	0.636	0.112	0.719	0.75	1.36
GSM1900 Ant 3	Front	0.542	0.167	0.688	0.71	1.23
	Back	0.320	0.112	0.719	0.43	1.04
GSM850 Ant 0	Front	0.462	0.167	0.688	0.63	1.15
	Back	0.349	0.112	0.719	0.46	1.07
GSM850 Ant 3	Front	0.387	0.167	0.688	0.55	1.08
	Back	0.254	0.112	0.719	0.37	0.97
WCDMA II Ant 0	Front	0.522	0.167	0.688	0.69	1.21
	Back	0.828	0.112	0.719	0.94	1.55
WCDMA II Ant 3	Front	0.543	0.167	0.688	0.71	1.23
	Back	0.368	0.112	0.719	0.48	1.09
WCDMA IV Ant 0	Front	0.754	0.167	0.688	0.92	1.44
	Back	0.851	0.112	0.719	0.96	1.57
WCDMA V Ant 0	Front	0.365	0.167	0.688	0.53	1.05
	Back	0.251	0.112	0.719	0.36	0.97
LTE Band 7 Ant 1	Front	0.461	0.167	0.688	0.63	1.15
	Back	0.247	0.112	0.719	0.36	0.97
LTE Band 13 Ant 0	Front	0.316	0.167	0.688	0.48	1.00
	Back	0.270	0.112	0.719	0.38	0.99
LTE Band 14 Ant 0	Front	0.311	0.167	0.688	0.48	1.00
	Back	0.284	0.112	0.719	0.40	1.00
LTE Band 25 Ant 3	Front	0.572	0.167	0.688	0.74	1.26
	Back	0.330	0.112	0.719	0.44	1.05
LTE Band 25 Ant 0	Front	0.560	0.167	0.688	0.73	1.25
	Back	0.696	0.112	0.719	0.81	1.42
LTE Band 26 Ant 0	Front	0.279	0.167	0.688	0.45	0.97
	Back	0.234	0.112	0.719	0.35	0.95
LTE Band 30 Ant 1	Front	0.443	0.167	0.688	0.61	1.13
	Back	0.214	0.112	0.719	0.33	0.93
LTE Band 66 Ant 0	Front	0.795	0.167	0.688	0.96	1.48
	Back	0.807	0.112	0.719	0.92	1.53
LTE Band 41 Ant 1	Front	0.249	0.167	0.688	0.42	0.94
	Back	0.125	0.112	0.719	0.24	0.84

16.4 Product specific 10g SAR Exposure Conditions

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

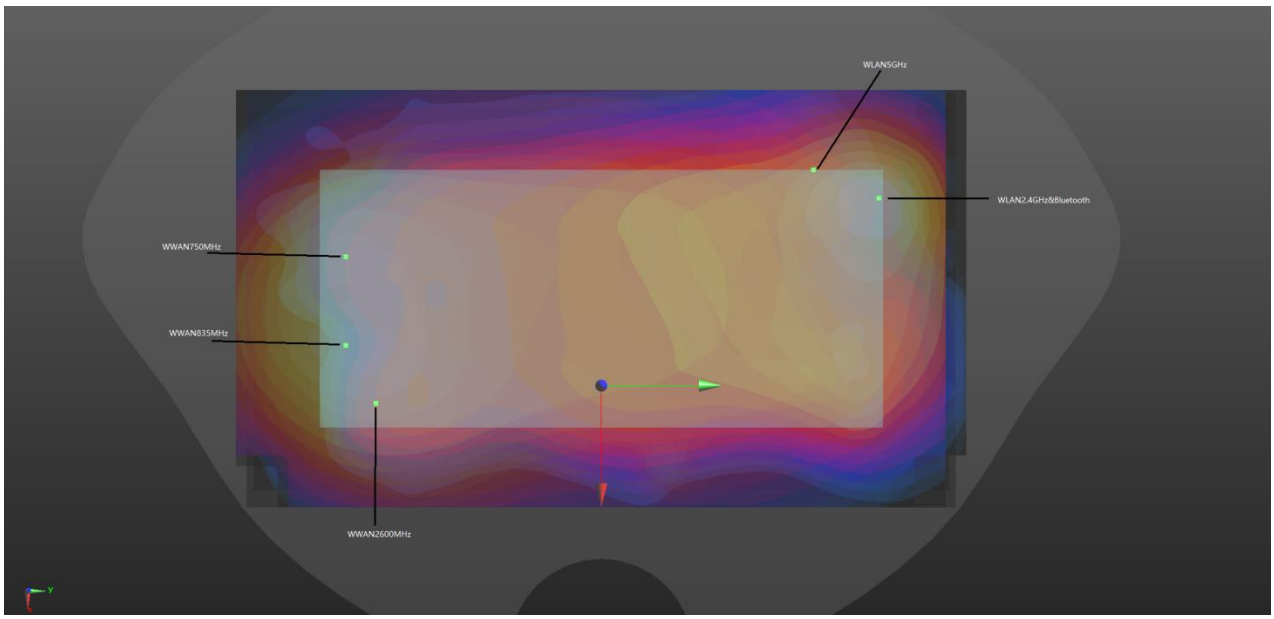
WWAN Band	Exposure Position	1	2	1+2
		WWAN	WLAN5GHz Ant 4	Summed
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
GSM1900 Ant 0	Front	3.273	0.342	3.62
	Back	2.364	0.304	2.67
	Bottom side	3.228		3.23
GSM1900 Ant 3	Front	2.591	0.342	2.93
	Back	2.288	0.304	2.59
	Top side	2.987	0.913	**3.90**
GSM850 Ant 0	Front	2.907	0.342	3.25
	Back	3.165	0.304	3.47
	Left side	1.247		1.25
	Bottom side	2.034		2.03
GSM850 Ant 3	Front	2.528	0.342	2.87
	Back	2.515	0.304	2.82
	Top side	1.490	0.913	2.40
WCDMA II Ant 0	Front	3.269	0.342	3.61
	Back	2.430	0.304	2.73
	Bottom side	3.348		3.35
WCDMA II Ant 3	Front	2.960	0.342	3.30
	Back	2.867	0.304	3.17
	Top side	2.874	0.913	3.79
WCDMA IV Ant 0	Front	2.493	0.342	2.84
	Back	2.427	0.304	2.73
	Bottom side	3.280		3.28
WCDMA V Ant 0	Front	2.527	0.342	2.87
	Back	2.692	0.304	3.00
	Bottom side	1.670		1.67
WCDMA V Ant 3	Back	1.613	0.304	1.92
LTE Band 7 Ant 1	Front	2.324	0.342	2.67
	Back	2.573	0.304	2.88
	Left side	1.924		1.92
	Bottom side	2.255		2.26
LTE Band 13 Ant 0	Back	2.160	0.304	2.46
LTE Band 14 Ant 0	Front	1.287	0.342	1.63
	Back	1.774	0.304	2.08
	Bottom side	1.237		1.24
LTE Band 25 Ant 0	Front	2.875	0.342	3.22
	Back	1.832	0.304	2.14
	Bottom side	2.988		2.99
LTE Band 30 Ant 1	Front	3.321	0.342	3.66
	Back	3.404	0.304	3.71
	Left side	2.895		2.90
	Bottom side	2.892		2.89
LTE Band 66 Ant 0	Front	2.380	0.342	2.72
	Back	2.504	0.304	2.81
	Bottom side	3.539		3.54
LTE Band 71 Ant 0	Back	2.143	0.304	2.45
LTE Band 41 Ant 1	Front	2.332	0.342	2.67

	Back	3.398	0.304	3.70
	Bottom side	1.963		1.96
LTE Band 26 Ant 0	Front	2.205	0.342	2.55
	Back	2.871	0.304	3.18
	Bottom side	2.460		2.46
LTE Band 25 Ant 3	Front	2.937	0.342	3.28
	Back	2.770	0.304	3.07
	Top side	2.821	0.913	3.73

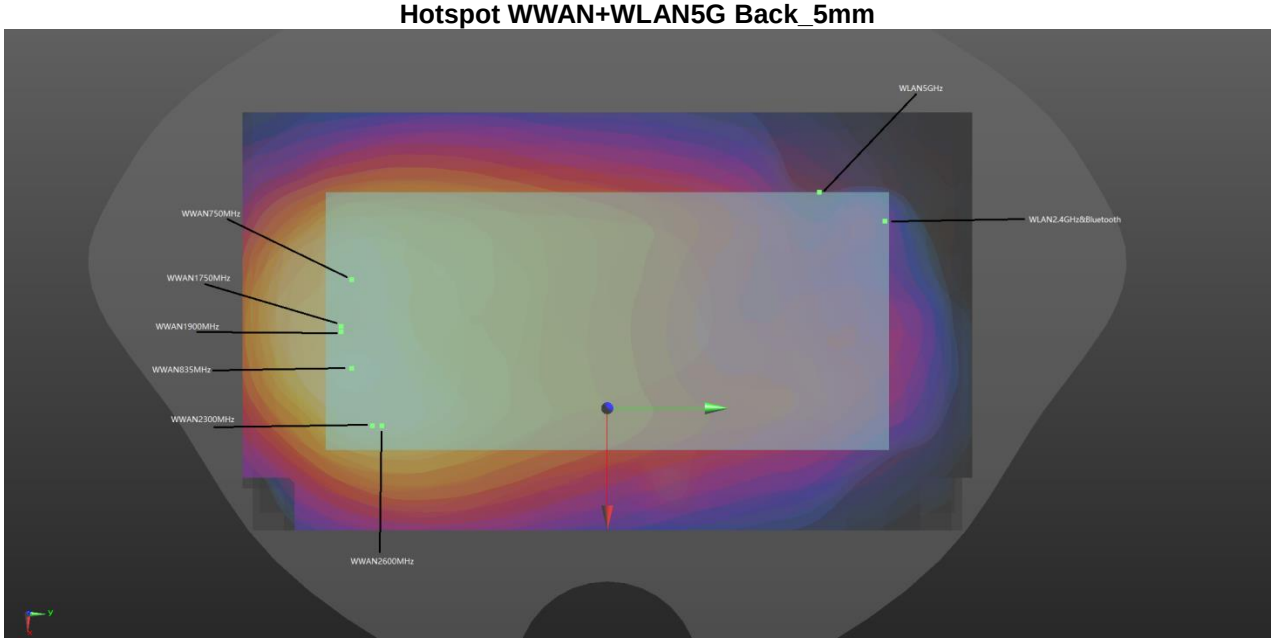
16.5 SPLSR Evaluation and Analysis

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 / (min. separation distance, mm). If SPLSR ≤ 0.04 for 1g SAR, simultaneously transmission SAR measurement is not necessary.
3. 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.



Hotspot WWAN+WLAN5G Back_5mm



Body-worn WWAN+WLAN5G Back_5mm

<Hotspot SAR>

Case 1	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Back	1.401		5mm	-12	-75.1	-0.26	150.7	1.62	0.01	Not required
	WLAN2.4GHz		0.217		5mm	-27.8	74.8	-0.51				

Case 2	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Back	1.401	1.40	5mm	-12	-75.1	-0.26	138.2	1.61	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm	-40	60.2	-0.66				
	Bluetooth		0.083		5mm							
	GSM850		1.401	1.40	5mm	-12	-75.1	-0.26	150.8	1.61	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm							
	Bluetooth		0.083		5mm	-27.1	74.9	-0.51				

Case 3	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back	1.435		5mm	29	-66.8	-0.28	152.6	1.65	0.01	Not required
	WLAN2.4GHz		0.217		5mm	-27.8	74.8	-0.51				

Case 4	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back	1.435	1.44	5mm	29	-66.8	-0.28	144.5	1.65	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm	-40	60.2	-0.66				
	Bluetooth		0.083		5mm							
	LTE Band 7		1.435	1.44	5mm	29	-66.8	-0.28	152.4	1.65	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm							
	Bluetooth		0.083		5mm	-27.1	74.9	-0.51				

Case 5	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Back	1.39		5mm	13.5	-79.9	-0.33	160.1	1.61	0.01	Not required
	WLAN2.4GHz		0.217		5mm	-27.8	74.8	-0.51				

Case 6	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Back	1.39	1.39	5mm	13.5	-79.9	-0.33	150.0	1.60	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm	-40	60.2	-0.66				
	Bluetooth		0.083		5mm							
	LTE Band 13		1.39	1.39	5mm	13.5	-79.9	-0.33	160.0	1.60	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm							
	Bluetooth		0.083		5mm	-27.1	74.9	-0.51				

Case 7	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41 HPUE	Back	1.385		5mm	29	-66.8	-0.28	152.6	1.60	0.01	Not required
	WLAN2.4GHz		0.217		5mm	-27.8	74.8	-0.51				

Case 8	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41 HPUE	Back	1.385	1.39	5mm	29	-66.8	-0.28	144.5	1.60	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm	-40	60.2	-0.66				
	Bluetooth		0.083		5mm							
	LTE Band 41 HPUE		1.385	1.39	5mm	29	-66.8	-0.28	152.4	1.60	0.01	Not required
	WLAN5GHz		0.13	0.21	5mm							
	Bluetooth		0.083		5mm	-27.1	74.9	-0.51				

<Body-worn SAR>

	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 1	GSM1900	Back	1.257		5mm	1.4	-78.1	-0.32	155.7	1.62	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 2	GSM1900	Back	1.257	1.26	5mm	1.4	-78.1	-0.32	144.4	1.65	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	GSM1900		1.257	1.26	5mm	1.4	-78.1	-0.32	155.6	1.65	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 3	GSM850	Back	1.401		5mm	-12	-75.1	-0.26	150.7	1.77	0.02	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 4	GSM850	Back	1.401	1.40	5mm	-12	-75.1	-0.26	138.2	1.79	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	GSM850		1.401	1.40	5mm	-12	-75.1	-0.26	150.8	1.79	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 5	WCDMAII	Back	1.346		5mm	-0.2	-79.6	-0.44	156.8	1.71	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 6	WCDMAII	Back	1.346	1.35	5mm	-0.2	-79.6	-0.44	145.4	1.73	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	WCDMAII		1.346	1.35	5mm	-0.2	-79.6	-0.44	156.8	1.73	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 7	WCDMA IV	Back	1.317		5mm	-0.1	-78.1	-0.42	155.4	1.68	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 8	WCDMA IV	Back	1.317	1.32	5mm	-0.1	-78.1	-0.42	143.9	1.71	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	WCDMA IV		1.317	1.32	5mm	-0.1	-78.1	-0.42	155.4	1.71	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 9	WCDMA V	Back	1.353		5mm	-12	-76.7	-0.4	152.3	1.72	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				

	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 10	WCDMA V	Back	1.353	1.35	5mm	-12	-76.7	-0.4	139.7	1.74	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	WCDMA V		1.353	1.35	5mm	-12	-76.7	-0.4	152.4	1.74	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 11	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 7	Back	1.435		5mm	29	-66.8	-0.28	152.6	1.80	0.02	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 12	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 7	Back	1.435	1.44	5mm	29	-66.8	-0.28	144.5	1.82	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 7		1.435	1.44	5mm	29	-66.8	-0.28	152.4	1.82	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 13	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 13	Back	1.39		5mm	13.5	-79.9	-0.33	160.1	1.76	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 14	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 13	Back	1.39	1.39	5mm	13.5	-79.9	-0.33	150.0	1.78	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 13		1.39	1.39	5mm	13.5	-79.9	-0.33	160.0	1.78	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 15	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 14	Back	1.367		5mm	13.4	-79.5	-0.33	159.7	1.73	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 16	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 14	Back	1.367	1.37	5mm	13.4	-79.5	-0.33	149.6	1.76	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 14		1.367	1.37	5mm	13.4	-79.5	-0.33	159.6	1.76	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 17	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 25	Back	1.335		5mm	2.8	-79.5	-0.45	157.3	1.70	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 18	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
	LTE Band 25	Back	1.335	1.34	5mm	2.8	-79.5	-0.45	146.1	1.72	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							

	LTE Band 25		1.335	1.34	5mm	2.8	-79.5	-0.45	157.3	1.72	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 19	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 30	Back	1.341		5mm	30.2	-66.6	-0.28	152.8	1.71	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 20	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 30	Back	1.341	1.34	5mm	30.2	-66.6	-0.28	144.9	1.73	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 30		1.341	1.34	5mm	30.2	-66.6	-0.28	152.7	1.73	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 21	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Back	1.345		5mm	2.8	-79.5	-0.45	157.3	1.71	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 22	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Back	1.345	1.35	5mm	2.8	-79.5	-0.45	146.1	1.73	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 66		1.345	1.35	5mm	2.8	-79.5	-0.45	157.3	1.73	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 23	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 71	Back	1.28		5mm	15.1	-76.8	-0.32	157.6	1.65	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 24	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 71	Back	1.28	1.28	5mm	15.1	-76.8	-0.32	147.7	1.67	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 71		1.28	1.28	5mm	15.1	-76.8	-0.32	157.5	1.67	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				
Case 25	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Back	1.343		5mm	15	-78.4	-0.41	159.1	1.71	0.01	Not required
	WLAN2.4GHz		0.366		5mm	-27.8	74.8	-0.51				
Case 26	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Back	1.343	1.34	5mm	15	-78.4	-0.41	149.1	1.73	0.02	Not required
	WLAN5GHz		0.335	0.39	5mm	-40	60.2	-0.66				
	Bluetooth		0.053		5mm							
	LTE Band 26		1.343	1.34	5mm	15	-78.4	-0.41	159.0	1.73	0.01	Not required
	WLAN5GHz		0.335	0.39	5mm							
	Bluetooth		0.053		5mm	-27.1	74.9	-0.51				

Test Engineer : Martin Li, Varus Wang, Ricky Gu, Light Wang

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 ≤ 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.

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

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[6] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

[7] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[8] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[9] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[10] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

[11] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[12] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[13] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[14] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

------THE END------

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/21

System Check_Head_750MHz

DUT: D750V3 - SN:1087

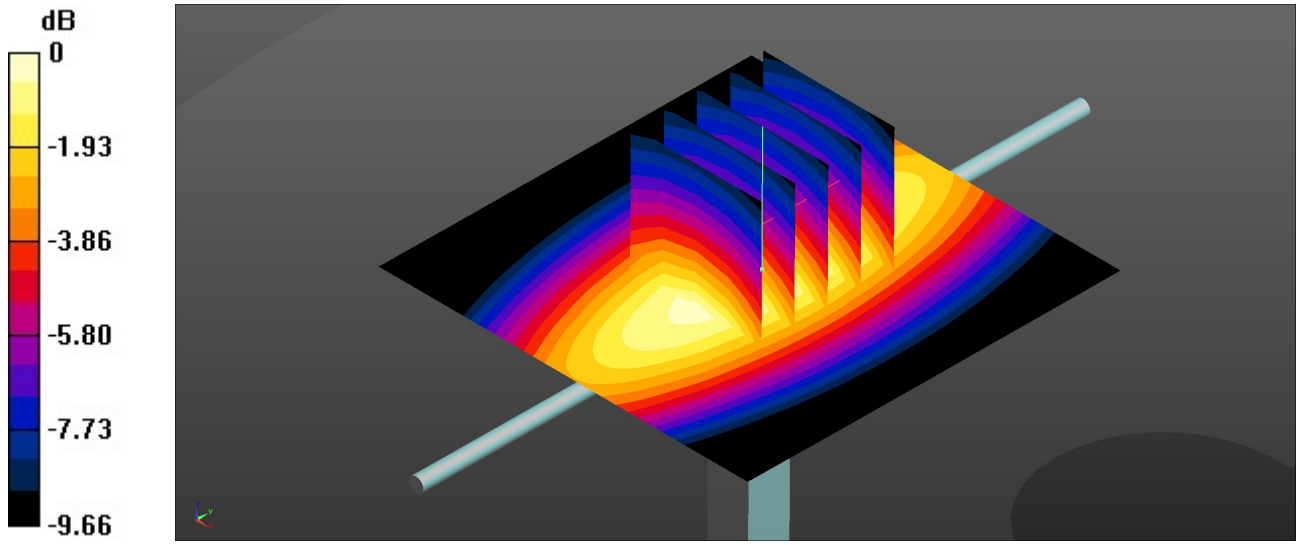
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.895 S/m; ε_r = 41.699; ρ = 1000 kg/m^3

Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(10.35, 10.35, 10.35); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.590 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.48 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.655 W/kg
SAR(1 g) = 0.458 W/kg; SAR(10 g) = 0.292 W/kg
Maximum value of SAR (measured) = 0.594 W/kg



0 dB = 0.594 W/kg = -2.26 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/22

System Check_Head_835MHz

DUT: D835V2 - SN:4d091

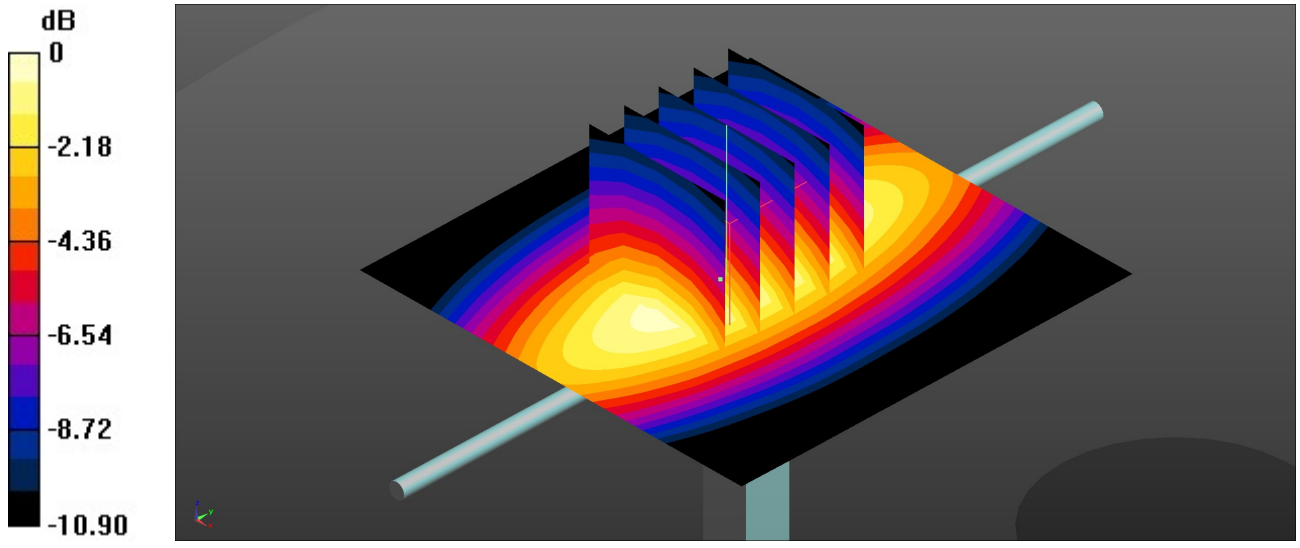
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.929 S/m; ε_r = 40.902; ρ = 1000 kg/m^3

Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(10.05, 10.05, 10.05); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.730 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.68 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.826 W/kg
SAR(1 g) = 0.509 W/kg; SAR(10 g) = 0.318 W/kg
Maximum value of SAR (measured) = 0.735 W/kg



0 dB = 0.735 W/kg = -1.34 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/23

System Check_Head_1750MHz

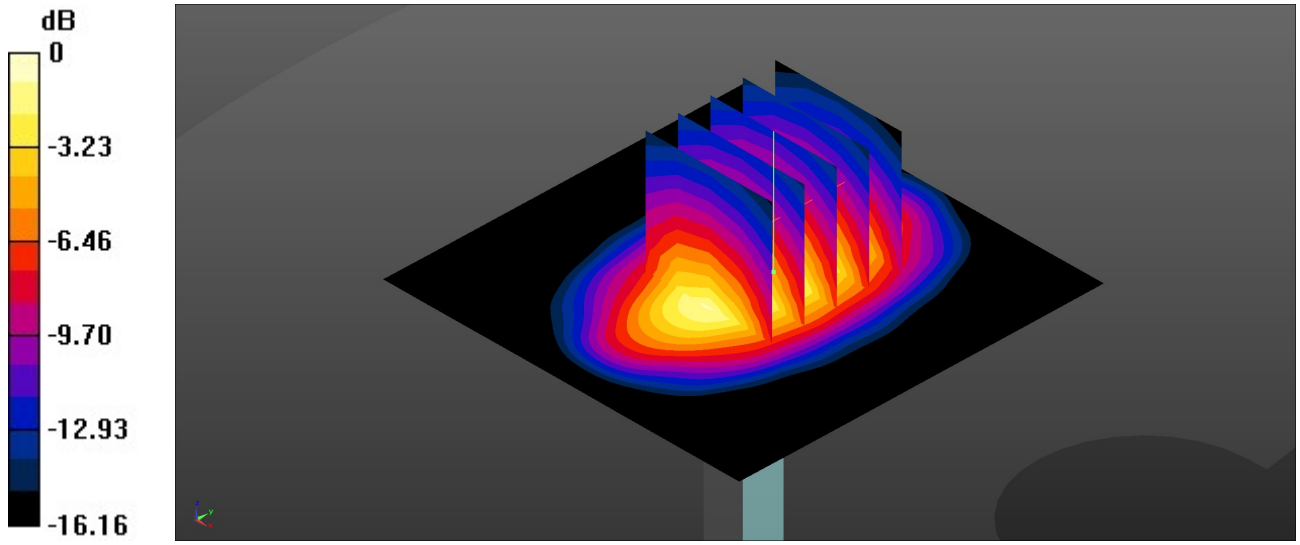
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.388 S/m; ε_r = 38.475; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(8.97, 8.97, 8.97); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.03 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.01 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 1.97 W/kg; SAR(10 g) = 0.98 W/kg
Maximum value of SAR (measured) = 2.96 W/kg



0 dB = 2.96 W/kg = 4.71 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/24

System Check_Head_1900MHz

DUT: D1900V2 - SN:5d182

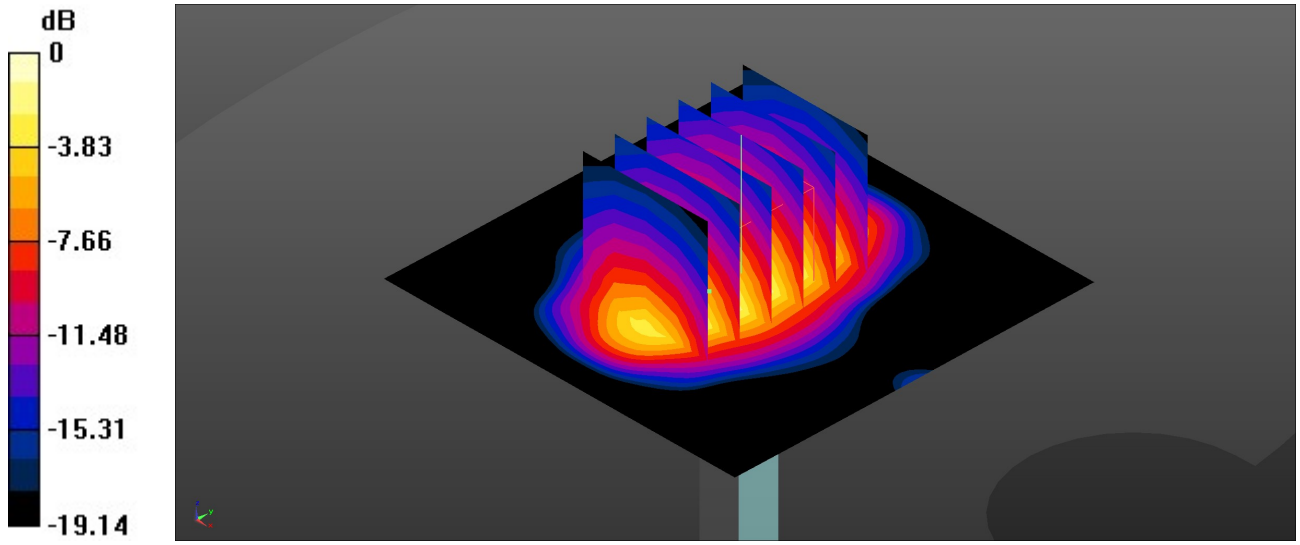
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.46 S/m; ε_r = 40.08; ρ = 1000 kg/m^3

Ambient Temperature：23.1 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(8.51, 8.51, 8.51); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.22 W/kg

Pin=50mW/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.77 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.83 W/kg
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.07 W/kg
Maximum value of SAR (measured) = 3.18 W/kg



0 dB = 3.18 W/kg = 5.02 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/25

System Check_Head_2300MHz

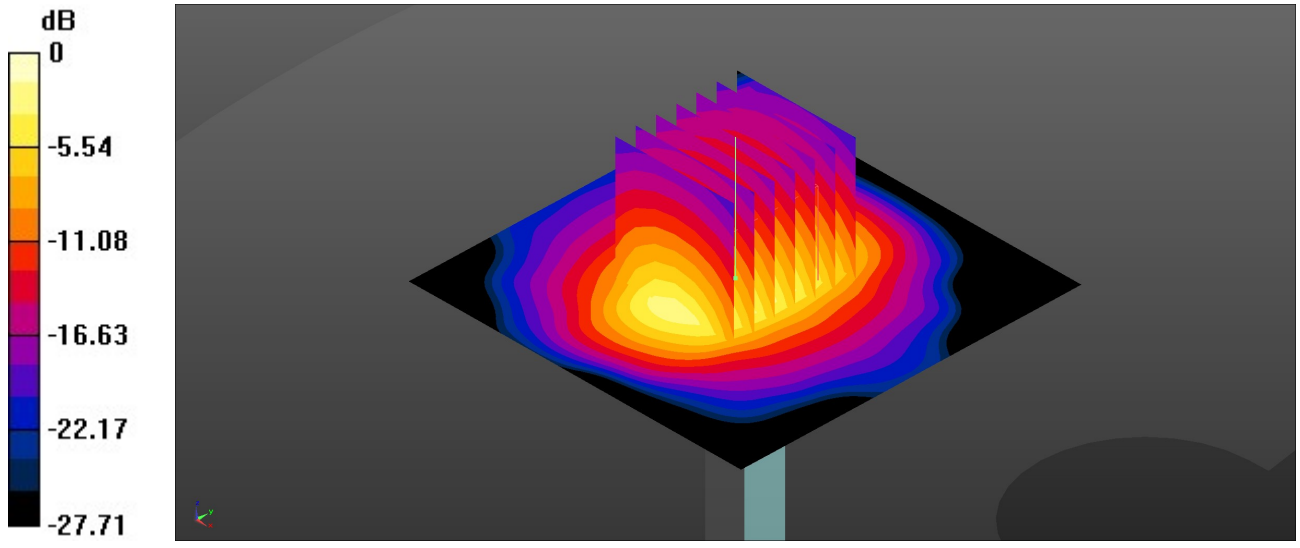
DUT: D2300V2 - SN:1055

Communication System: UID 0, CW (0); Frequency: 2300 MHz;Duty Cycle: 1:1
Medium: HSL_2300 Medium parameters used: f = 2300 MHz; σ = 1.732 S/m; ε_r = 39.227; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(8.37, 8.37, 8.37); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 3.76 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.72 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 4.70 W/kg
SAR(1 g) = 2.33 W/kg; SAR(10 g) = 1.12 W/kg
Maximum value of SAR (measured) = 3.84 W/kg



0 dB = 3.84 W/kg = 5.84 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2022/12/26

System Check_Head_2450MHz

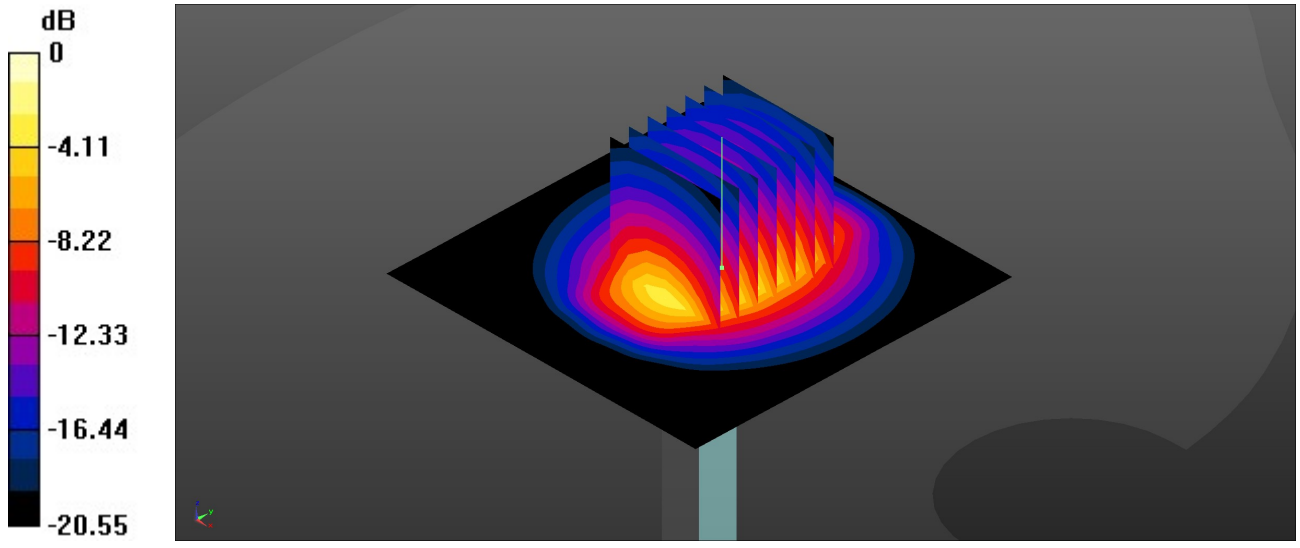
DUT: D2450V2 - SN:1040

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.831 S/m; ε_r = 37.459; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7630; ConvF(8.13, 8.13, 8.13); Calibrated: 2022/3/4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1305; Calibrated: 2022/4/27
- Phantom: Twin-SAM 1; Type: SAM Twin; Serial: 2024
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Pin=50mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.35 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.13 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 5.46 W/kg
SAR(1 g) = 2.72 W/kg; SAR(10 g) = 1.27 W/kg
Maximum value of SAR (measured) = 4.45 W/kg



0 dB = 4.45 W/kg = 6.48 dBW/kg