

FCC SAR Test Report

APPLICANT : VERTU Corporation Limited
EQUIPMENT : GSM 4 Band/CDMA/EVDO 2 Band/TD-SCDMA
2 Band/UMTS 5 Band/HSUPA/HSDPA/LTE 21
Band/WLAN/BT/NFC mobile phone
BRAND NAME : VERTU
MODEL NAME : CONSTELLATION X
TYPE NAME : VM-08
FCC ID : P7QVM-08
STANDARD : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.



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Approved by: Jones Tsai / Manager



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA672003	Rev. 01	Initial issue of report	Feb. 17, 2017
FA672003	Rev. 02	Added power level table for SAR testing on page 9.	Feb. 21, 2017

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **VERTU Corporation Limited, GSM 4 Band/CDMA/EVDO 2 Band/TD-SCDMA 2 Band/UMTS 5 Band/HSUPA/HSDPA/LTE 21 Band/WLAN/BT/NFC mobile phone, CONSTELLATION X** are as follows.

Equipment Class	Frequency Band		Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)
			Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.55	0.88	0.88	1.59
		GSM1900	0.16	0.80	1.16	
	WCDMA	Band V	0.42	0.67	0.67	
		Band IV	0.23	0.92	1.19	
		Band II	0.24	0.57	1.04	
	CDMA	CDMA2000 BC0	0.52	0.78	0.82	
		CDMA2000 BC1	0.26	0.72	1.14	
	LTE	Band 12	0.18	0.33	0.47	
		Band 13	0.31	0.49	0.52	
		Band 26	0.44	0.63	0.63	
		Band 4	0.18	1.12	1.19	
		Band 25	0.20	0.68	1.15	
		Band 30	0.10	1.08	1.08	
		Band 7	0.16	1.07	1.07	
		Band 41	<0.10	0.93	0.93	
DTS	WLAN	2.4GHz WLAN	1.13	0.63	1.10	1.59
NII		5GHz WLAN	0.68	1.00	1.11	1.59
DSS	2.4GHz Band	Bluetooth	0.16	<0.10		1.16
Date of Testing:			2016/12/04 ~ 2016/12/29			

Equipment Class	Frequency Band	Highest SAR Summary	Highest Simultaneous Transmission 10g SAR (W/kg)
		Extremity 10g SAR (W/kg) (Gap 0mm)	
PCE	GSM1900	3.32	3.88
	WCDMA Band IV	3.63	
	WCDMA Band II	2.72	
	CDMA2000 BC1	3.49	
	LTE Band 4	3.04	
	LTE Band 25	3.32	
	LTE Band 7	3.81	
NII	5.3GHz WLAN	2.15	3.85
	5.5GHz WLAN	1.99	
DSS	Bluetooth	0.11	3.88

Note:

1. The SAR value list above are all rounded to two decimal digits.
2.
 - a. According to section 15.2, the maximum simultaneous SAR for WWAN+WLAN is 2.19 W/kg
 - b. Per KDB 447498 D01, when the sum of SAR is larger than the limit(1.6W/Kg), SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by $(SAR1 + SAR2)^{1.5}/R_i$, rounded to two decimal digits, must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. For all configurations SPLSR is ≤ 0.04 and qualify for 1-g SAR test exclusion.
3.
 - a. According to section 15.4, the maximum simultaneous SAR for WWAN+WLAN is 5.78 W/kg
 - b. Per KDB 447498 D01, when the sum of SAR is larger than the limit(4.0W/Kg), SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by $(SAR1 + SAR2)^{1.5}/R_i$, rounded to two decimal digits, must be ≤ 0.10 for all antenna pairs in the configuration to qualify for 10-g SAR test exclusion. For all configurations SPLSR is ≤ 0.10 and qualify for 10-g SAR test exclusion.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; 4.0W/kg as averaged over any 10 gram of tissue for extremity 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

Testing Site	
Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958

Applicant	
Company Name	VERTU Corporation Limited
Address	Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom.

Manufacturer	
Company Name	VERTU Corporation Limited
Address	Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom.

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 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	GSM 4 Band/CDMA/EVDO 2 Band/TD-SCDMA 2 Band/UMTS 5 Band/HSUPA/HSDPA/LTE 21 Band/WLAN/BT/NFC mobile phone
Brand Name	VERTU
Model Name	CONSTELLATION X
TYPE NAME	VM-08
FCC ID	P7QVM-08
IMEI Code	SIM1: 004402550120095 SIM2: 004402550120103
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM900: 880.2 MHz ~ 914.8 MHz GSM1800: 1710.2 MHz ~ 1784.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band I: 1922.4 MHz ~ 1977.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band VIII: 882.4 MHz ~ 912.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz LTE Band 1: 1920 MHz ~ 1980 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 3: 1710MHz ~ 1785 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 8: 880 MHz ~ 915 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 19: 830 MHz ~ 845 MHz LTE Band 20: 832 MHz ~ 862 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 824 MHz ~ 849 MHz LTE Band 28: 703 MHz ~ 748 MHz LTE Band 29: NA LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 39: 1880 MHz ~ 1920 MHz LTE Band 40: 2300 MHz ~ 2400 MHz LTE Band 41: 2496 MHz ~ 2690 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 ~ 5710 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	· GSM/GPRS/EGPRS · RMC/AMR 12.2Kbps · HSDPA · HSUPA · DC-HSDPA · HSPA+ (16QAM uplink is not supported) · CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) · LTE: QPSK, 16QAM

	• 802.11b/g/n HT20 • 802.11a/ n HT20/HT40 • 802.11ac VHT20/VHT40/VHT80 • Bluetooth v3.0+EDR, Bluetooth 4.0 LE, Bluetooth 4.2 LE • NFC:ASK
HW Version	PIO2
SW Version	6.0.1_1.434.0.070
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. 802.11n-HT40 is not supported in 2.4GHz WLAN. 2. WLAN 5.5GHz 11a/n HT20/ac VHT20 doesn't support straddle channel as the client declared. 3. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), and LTE supports VoLTE operation. 4. This device supports GPRS/EGPRS mode up to multi-slot class 33. 5. This device does not support DTM operation. 6. This device 2.4GHz WLAN /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). 7. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately in WLAN 2.4GHz, but all WWAN band, WLAN 5GHz and Bluetooth are full power. 8. When the phone receiver is not worked, GSM1900, WCDMA Band II/IV, CDMA2000 BC1, LTE Band 2/4/7/25 with reduced power, others WWAN band, WLAN 2.4GHz, WLAN 5GHz and Bluetooth are full power. 9. This device has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose dual SIM1 card to perform all tests. 10. Manufacturer's declaration LTE band 40 disabled by software.	

4.2 Power level for SAR testing

Mode	head	Hotspot	Body Worn
	Power (dBm)	Power (dBm)	Power (dBm)
WLAN 2.4GHz Antenna 1	17	22	22
WLAN 2.4GHz Antenna 2	16.5	19.5	19.5
WLAN 2.4GHz Antenna 1+2	16	18.5	18.5
WLAN 5.2GHz Antenna 1	18.5	18.5	18.5
WLAN 5.2GHz Antenna 2	18	18	18
WLAN 5.2GHz Antenna 1+2	19.5	19.5	19.5
WLAN 5.3GHz Antenna 1	18.5	18.5	18.5
WLAN 5.3GHz Antenna 2	18	18	18
WLAN 5.3GHz Antenna 1+2	19.5	19.5	19.5
WLAN 5.5GHz Antenna 1	18.5	18.5	18.5
WLAN 5.5GHz Antenna 2	18	18	18
WLAN 5.5GHz Antenna 1+2	19	19	19
WLAN 5.8GHz Antenna 1	18	18	18
WLAN 5.8GHz Antenna 2	18.5	18.5	18.5
WLAN 5.8GHz Antenna 1+2	19	19	19
Bluetooth	10.5	10.5	10.5
GSM850	33.5	33.5	33.5
GSM1900	30.5	29.5	29.5
WCDMA Band V	24	24	24
WCDMA Band IV	24	21.5	21.5
WCDMA Band II	24	19.5	19.5
CDMA2000 BC0	24.5	24.5	24.5
CDMA2000 BC1	24.5	19.5	19.5
LTE Band 12/17	24	24	24
LTE Band 13	24	24	24
LTE Band 5/26	24	24	24
LTE Band 4	24.5	22	22
LTE Band 2/25	24.5	19.5	19.5
LTE Band 30	24	24	24
LTE Band 7	24.5	23	23
LTE Band 38/41	24.5	24.5	24.5

4.3 Accessories and Support Equipment

Specification of Accessory				
AC Adapter	Brand Name	VERTU	Model Name	AC-32V
	Power Rating	I/P: 100-240Vac, 450mA, O/P: 5Vdc, 2000mA		
Battery	Brand Name	VERTU	Model Name	VBL-04
	Power Rating	3.82Vdc, 3200mAh		
USB Cable	Brand Name	VERTU	Model Name	VC-02
	Signal Line Type	1.20m shielded cable, without ferrite core		
Earphone 1	Brand Name	VERTU	Model Name	WH5-V
	Signal Line Type	1.20m Unshielded cable, without ferrite core		
Earphone 2	Brand Name	VERTU	Model Name	HP-1V
	Signal Line Type	1.57m Unshielded cable, without ferrite core		
Earphone 3	Brand Name	VERTU	Model Name	HP-1V
	Signal Line Type	1.55m Unshielded cable, without ferrite core		
Wireless Charger Pad	Brand Name	VERTU	Model Name	AC-35V
	Power Rating	I/P: 5Vac, 1800mA		
Car Charger	Brand Name	VERTU	Model Name	DC-30V
	Power Rating	I/P: 12/24Vdc, 1.35A MAX, O/P: 5.15Vdc, 2.1AMAX		
Bluetooth Travel Speaker	Brand Name	VERTU	Model Name	SP-1V
	Power Rating	I/P: 5Vdc, 2Ah		
Portable Battery Charger	Brand Name	VERTU	Model Name	DC-10V
	Power Rating	I/P: 5Vdc, 2A, O/P: 5Vdc, 1.5/2.1A		

4.4 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																					
FCC ID	P7QVM-08																																																				
Equipment Name	GSM 4 Band/CDMA/EVDO 2 Band/TD-SCDMA 2 Band/UMTS 5 Band/HSUPA/HSDPA/LTE 21 Band/WLAN/BT/NFC mobile phone																																																				
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz																																																				
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 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																																																				
uplink modulations used	QPSK, and 16QAM																																																				
LTE Voice / Data requirements	Voice and Data																																																				
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr></table>							Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3								Modulation	Channel bandwidth / Transmission bandwidth (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
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3																																																					
Modulation	Channel bandwidth / Transmission bandwidth (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																																														
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 hotspot mode is enabled, GSM1900, WCDMA Band II/IV, CDMA2000 BC1, LTE Band 2/4/7/25 power reduction applied to satisfy SAR compliance.																																																				
LTE Release Version	R11, Cat 6																																																				
CA Support	Yes																																																				
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations as below page and the detail power verification please referred to page 83.																																																				
LTE Carrier Aggregation Additional Information	This device does not support full CA features on 3GPP Release 10. It supports a maximum of 2 carriers in the downlink only. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. Due to carrier capability, only the combinations listed above are supported. The following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																				

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	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)	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)	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 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)	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)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506		
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5		
M	40620	2593	40620	2593	40620	2593	40620	2593		
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5		
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680		



LTE Carrier Aggregation Combinations																													
Inter-Band Combinations																													
(PCC) B2	(SCC) B4	(PCC) B4	(SCC) B2	(PCC) B2	(SCC) B5	(PCC) B5	(SCC) B2	(PCC) B2	(SCC) B12	(PCC) B12	(SCC) B2	(PCC) B2	(SCC) B13	(PCC) B13	(SCC) B2	(PCC) B2	(SCC) B17	(PCC) B17	(SCC) B2	(PCC) B2	(SCC) B29								
20M+20M		20M+20M		20M+10M		10M+20M		20M+10M		10M+20M		20M+10M		10M+20M		10M+10M		10M+10M		20M+10M									
20M+15M		20M+15M		20M+5M		10M+15M		20M+5M		10M+15M		20M+5M		10M+15M		10M+5M		10M+5M		20M+5M									
20M+10M		20M+10M		15M+10M		10M+10M		20M+3M		10M+10M		15M+10M		10M+10M		5M+10M		5M+10M		20M+3M									
20M+5M		20M+5M		15M+5M		10M+5M		15M+10M		10M+5M		15M+5M		10M+5M		5M+5M		5M+5M		15M+10M									
15M+20M		20M+3M		10M+10M		5M+20M		15M+5M		5M+20M		10M+10M		5M+20M							15M+5M								
15M+15M		20M+1.4M		10M+5M		5M+15M		15M+3M		5M+15M		10M+5M		5M+15M							15M+3M								
15M+10M		15M+20M		5M+10M		5M+10M		10M+10M		5M+10M		5M+10M		5M+10M							10M+10M								
15M+5M		15M+15M		5M+5M		5M+5M		10M+5M		5M+5M		5M+5M		5M+5M							10M+5M								
10M+20M		15M+10M						10M+3M		3M+20M										10M+3M									
10M+15M		15M+5M						5M+10M		3M+15M										5M+10M									
10M+10M		15M+3M						5M+5M		3M+10M										5M+5M									
10M+5M		15M+1.4M						5M+3M		3M+5M										5M+3M									
5M+20M		10M+20M																											
5M+15M		10M+15M																											
5M+10M		10M+10M																											
5M+5M		10M+5M																											
3M+20M		10M+3M																											
3M+15M		10M+1.4M																											
3M+10M		5M+20M																											
3M+5M		5M+15M																											
1.4M+20M		5M+10M																											
1.4M+15M		5M+5M																											
1.4M+10M		5M+3M																											
1.4M+5M		5M+1.4M																											

LTE Carrier Aggregation Combinations																			
Inter-Band Combinations																		Intra-Band Non-Contiguous	
(PCC) B4	(SCC) B5	(PCC) B5	(SCC) B4	(PCC) B4	(SCC) B12	(PCC) B12	(SCC) B4	(PCC) B4	(SCC) B13	(PCC) B13	(SCC) B4	(PCC) B4	(SCC) B17	(PCC) B17	(SCC) B4	(PCC) B4	(SCC) B29	(PCC) B4	(SCC) B4
20M+10M		10M+20M		20M+10M		10M+20M		20M+10M		10M+20M		10M+10M		10M+10M		20M+10M		20M+20M	
20M+5M		10M+15M		20M+5M		10M+15M		15M+10M		10M+15M		10M+5M		10M+5M		20M+5M		20M+15M	
15M+10M		10M+10M		20M+3M		10M+10M		10M+10M		10M+10M		5M+10M		5M+10M		20M+3M		20M+10M	
15M+5M		10M+5M		15M+10M		10M+5M		5M+10M		10M+5M		5M+5M		5M+5M		15M+10M		20M+5M	
10M+10M		5M+20M		15M+5M		10M+3M										15M+5M		15M+20M	
10M+5M		5M+15M		15M+3M		10M+1.4M										15M+3M		15M+15M	
5M+10M		5M+10M		10M+10M		5M+20M										10M+10M		15M+10M	
5M+5M		5M+5M		10M+5M		5M+15M										10M+5M		15M+5M	
				10M+3M		5M+10M										10M+3M		10M+20M	
				5M+10M		5M+5M										5M+10M		10M+15M	
				5M+5M		5M+3M										5M+5M		10M+10M	
				5M+3M		5M+1.4M										5M+3M		10M+5M	
				3M+10M		3M+20M												5M+20M	
				3M+5M		3M+15M												5M+15M	
				3M+3M		3M+10M												5M+10M	
				1.4M+10M		3M+5M												5M+5M	
				1.4M+5M		3M+3M													
				1.4M+3M		3M+1.4M													



LTE Carrier Aggregation Combinations																							
Inter-Band Combinations														Intra-Band Combinations									
														Contiguous					Non-Contiguous				
(PCC) B5	(SCC) B30	(PCC) B30	(SCC) B5	(PCC) B12	(SCC) B30	(PCC) B30	(SCC) B12	(PCC) B25	(SCC) B26	(PCC) B26	(SCC) B25	(PCC) B30	(SCC) B29	(PCC) B7	(SCC) B7	(PCC) B38	(SCC) B38	(PCC) B41	(SCC) B41	(PCC) B41	(SCC) B41	(PCC) B7	(SCC) B7
10M+10M		10M+10M		10M+10M		10M+10M		20M+10M		10M+20M		10M+10M		20M+20M		20M+20M		20M+20M		20M+20M		20M+20M	
10M+5M		10M+5M		10M+5M		10M+5M		20M+5M		10M+15M		10M+5M		20M+15M		15M+15M		20M+15M		20M+15M		15M+20M	
5M+10M		5M+10M		5M+10M		5M+10M		15M+10M		10M+10M		5M+10M		20M+10M				20M+10M		20M+10M		15M+15M	
5M+5M		5M+5M		5M+5M		5M+5M		15M+5M		10M+5M		5M+5M		15M+20M				20M+5M		15M+20M		10M+15M	
								10M+10M		5M+20M				15M+15M				15M+20M		15M+15M		10M+10M	
								10M+5M		5M+15M				10M+20M				15M+15M		15M+10M		5M+15M	
								5M+10M		5M+10M								10M+20M		10M+20M		20M+15M	
								5M+5M		5M+5M								5M+20M		10M+15M		15M+10M	
																				10M+10M		15M+5M	

General Note: This device supports LTE Carrier Aggregation (CA) in the downlink only.

5. RF Exposure Limits

5.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

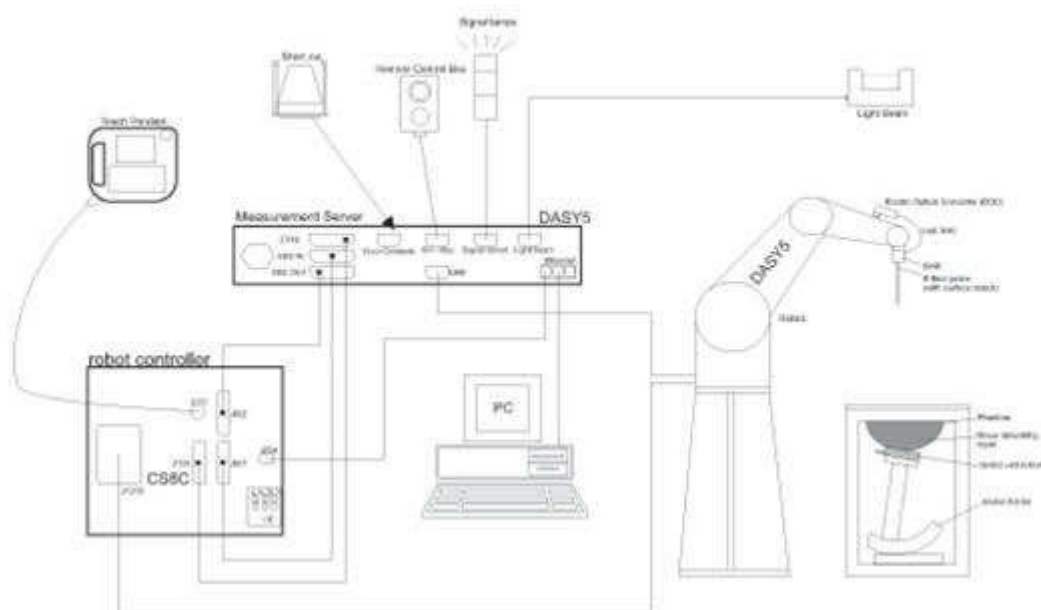
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



- 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 Win7 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.

7.1 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 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

7.2 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.



Fig 5.1 Photo of DAE

7.3 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 in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

7.4 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

8. 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

8.1 Spatial Peak SAR Evaluation

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

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

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

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

8.2 Power Reference Measurement

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

8.3 Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

8.5 Volume Scan Procedures

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

8.6 Power Drift Monitoring

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



9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1078	2016/6/22	2017/6/21
SPEAG	835MHz System Validation Kit	D835V2	4d151	2016/3/16	2017/3/15
SPEAG	1750MHz System Validation Kit	D1750V2	1137	2016/5/18	2017/5/17
SPEAG	1900MHz System Validation Kit	D1900V2	5d018	2016/6/21	2017/6/20
SPEAG	2300MHz System Validation Kit	D2300V2	1055	2016/8/31	2017/8/30
SPEAG	2450MHz System Validation Kit	D2450V2	924	2016/2/24	2017/2/23
SPEAG	2600MHz System Validation Kit	D2600V2	1008	2016/8/30	2017/8/29
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	2016/7/27	2017/7/26
SPEAG	Data Acquisition Electronics	DAE4	1210	2016/5/18	2017/5/17
SPEAG	Data Acquisition Electronics	DAE4	1279	2016/4/4	2017/4/3
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2016/5/25	2017/5/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3820	2016/6/27	2017/6/26
SPEAG	Dosimetric E-Field Probe	EX3DV4	3954	2016/11/28	2017/11/27
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1477	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1479	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1644	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1542	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201563814	2016/3/21	2017/3/20
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2016/4/22	2017/4/21
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2016/4/22	2017/4/21
Agilent	Dielectric Probe Kit	85070E	MY44300475	NCR	NCR
R&S	Signal Generator	SMBV100A	258305	2016/1/20	2017/1/19
Anritsu	Power Sensor	MA2411B	0917070	2016/1/20	2017/1/19
Anritsu	Power Meter	ML2495A	1005002	2016/1/20	2017/1/19
Anritsu	Power Sensor	MA2411B	1339163	2016/1/20	2017/1/19
Anritsu	Power Meter	ML2495A	1435004	2016/1/20	2017/1/19
R&S	CBT BLUETOOTH TESTER	CBT	101137	2016/8/9	2017/8/8
R&S	Spectrum Analyzer	FSV7	101631	2016/8/8	2017/8/7
ARRA	Power Divider	A3200-2	N/A	Note1	
AR	Amplifier	5S1G4	333096	Note1	
mini-circuits	Amplifier	ZVE-3W-83+	162601250	Note1	
MCL	Attenuation1	BW-S10W5+	N/A	Note1	
MCL	Attenuation2	BW-S10W5+	N/A	Note1	
MCL	Attenuation3	BW-S10W5+	N/A	Note1	
Agilent	Dual Directional Coupler	778D	50422	Note1	
PASTERNAK	Dual Directional Coupler	PE2214-10	N/A	Note1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

10. System Verification

10.1 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. 10.1. 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. 10.2.



Fig 10.1 Photo of Liquid Height for Head SAR



Fig 10.2 Photo of Liquid Height for Body SAR

10.2 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 (ϵ_r)
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
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

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. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	Head	22.8	0.884	42.927	0.89	41.9	-0.67	2.45	±5	2016/12/4
835	Head	22.8	0.925	41.58	0.9	41.5	2.78	0.19	±5	2016/12/4
1750	Head	22.7	1.402	40.922	1.37	40.1	2.34	2.05	±5	2016/12/5
1900	Head	22.8	1.425	39.073	1.4	40	1.79	-2.32	±5	2016/12/5
2300	Head	22.8	1.711	38.721	1.67	39.5	2.46	-1.97	±5	2016/12/7
2450	Head	22.7	1.854	38.961	1.8	39.2	3.00	-0.61	±5	2016/12/14
2600	Head	22.7	2.057	37.541	1.96	39	4.95	-3.74	±5	2016/12/7
5250	Head	22.6	4.626	36.396	4.71	35.9	-1.78	1.38	±5	2015/12/10
5600	Head	22.6	4.983	35.901	5.07	35.5	-1.72	1.13	±5	2016/12/11
5600	Head	22.7	5.003	36.058	5.07	35.5	-1.32	1.57	±5	2016/12/29
5750	Head	22.6	5.139	35.686	5.22	35.4	-1.55	0.81	±5	2016/12/12
750	Body	22.8	0.953	56.433	0.96	55.5	-0.73	1.68	±5	2016/12/5
835	Body	22.8	0.983	54.544	0.97	55.2	1.34	-1.19	±5	2016/12/5
1750	Body	22.9	1.508	54.535	1.49	53.4	1.21	2.13	±5	2016/12/6
1900	Body	22.7	1.563	54.638	1.52	53.3	2.83	2.51	±5	2016/12/8
2300	Body	22.7	1.869	52.124	1.81	52.9	3.26	-1.47	±5	2016/12/13
2450	Body	22.6	2.015	53.514	1.95	52.7	3.33	1.54	±5	2016/12/16
2450	Body	22.8	2.015	53.514	1.95	52.7	3.33	1.54	±5	2016/12/29
2600	Body	22.7	2.211	52.859	2.16	52.5	2.36	0.68	±5	2016/12/8
5250	Body	22.7	5.529	47.843	5.36	48.9	3.15	-2.16	±5	2016/12/12
5600	Body	22.7	5.989	47.257	5.77	48.5	3.80	-2.56	±5	2016/12/13
5750	Body	22.7	6.198	46.962	5.94	48.3	4.34	-2.77	±5	2016/12/14
5250	Body	22.9	5.354	48.459	5.36	48.9	-0.112	-0.902	±5	2016/12/12
5600	Body	22.9	5.849	47.666	5.77	48.5	1.369	-1.720	±5	2016/12/12
5600	Body	22.9	5.975	48.956	5.77	48.5	3.55	0.94	±5	2016/12/28
5750	Body	22.9	6.058	47.348	5.94	48.3	1.987	-1.971	±5	2016/12/13

10.3 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.

<For 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 (%)
2016/12/4	750	Head	250	1078	3820	1279	1.96	8.18	7.84	-4.16
2016/12/4	835	Head	250	4d151	3820	1279	2.25	9.26	9	-2.81
2016/12/5	1750	Head	250	1137	3857	1210	9.66	36.5	38.64	5.86
2016/12/5	1900	Head	250	5d018	3857	1210	9.81	40	39.24	-1.90
2016/12/7	2300	Head	250	1055	3857	1210	12.1	48.6	48.4	-0.41
2016/12/14	2450	Head	250	924	3820	1279	13.2	52.5	52.8	0.57
2016/12/7	2600	Head	250	1008	3857	1210	14.2	56.8	56.8	0.00
2015/12/10	5250	Head	100	1167	3820	1279	7.29	77.1	72.9	-5.45
2016/12/11	5600	Head	100	1167	3820	1279	7.72	81	77.2	-4.69
2016/12/29	5600	Head	100	1167	3954	1279	8.07	81	80.7	-0.37
2016/12/12	5750	Head	100	1167	3820	1279	7.64	78.4	76.4	-2.55
2016/12/5	750	Body	250	1078	3820	1279	2.07	8.63	8.28	-4.06
2016/12/5	835	Body	250	4d151	3820	1279	2.36	9.52	9.44	-0.84
2016/12/6	1750	Body	250	1137	3857	1210	9.42	37.4	37.68	0.75
2016/12/8	1900	Body	250	5d018	3857	1210	10.4	39.7	41.6	4.79
2016/12/13	2300	Body	250	1055	3857	1210	12.6	49.4	50.4	2.02
2016/12/16	2450	Body	250	924	3820	1279	12.4	51.4	49.6	-3.50
2016/12/29	2450	Body	250	924	3954	1279	12.6	51.4	50.4	-1.95
2016/12/8	2600	Body	250	1008	3820	1279	14.8	55.2	59.2	7.25
2016/12/12	5250	Body	100	1167	3820	1279	7.87	75.8	78.7	3.83
2016/12/13	5600	Body	100	1167	3820	1279	7.95	78.4	79.5	1.40
2016/12/14	5750	Body	100	1167	3820	1279	7.78	75.9	77.8	2.50
2016/12/12	5250	Body	100	1167	3857	1210	7.28	75.8	72.8	-3.96
2016/12/12	5600	Body	100	1167	3857	1210	8.23	78.4	82.3	4.97
2016/12/28	5600	Body	100	1167	3954	1279	7.42	78.4	74.2	-5.36
2016/12/13	5750	Body	100	1167	3857	1210	7.07	75.9	70.7	-6.85

<For 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 (%)
2016/12/6	1750	Body	250	1137	3857	1210	5.1	20	20.4	2.00
2016/12/8	1900	Body	250	5d018	3857	1210	5.39	21	21.56	2.67
2016/12/8	2600	Body	250	1008	3820	1279	6.59	25	26.36	5.44
2016/12/12	5250	Body	100	1167	3820	1279	2.22	21.1	22.2	5.21
2016/12/13	5600	Body	100	1167	3820	1279	2.3	21.9	23	5.02
2016/12/14	5750	Body	100	1167	3820	1279	2.21	21.1	22.1	4.74
2016/12/12	5250	Body	100	1167	3857	1210	2.03	21.1	20.3	-3.79
2016/12/12	5600	Body	100	1167	3857	1210	2.28	21.9	22.8	4.11
2016/12/28	5600	Body	100	1167	3954	1279	2.17	21.9	21.7	-0.91
2016/12/13	5750	Body	100	1167	3857	1210	2.11	21.1	21.1	0.00

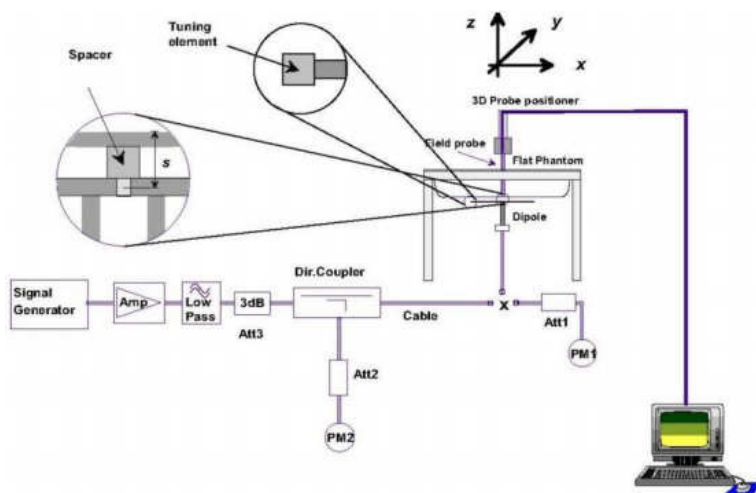

Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

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

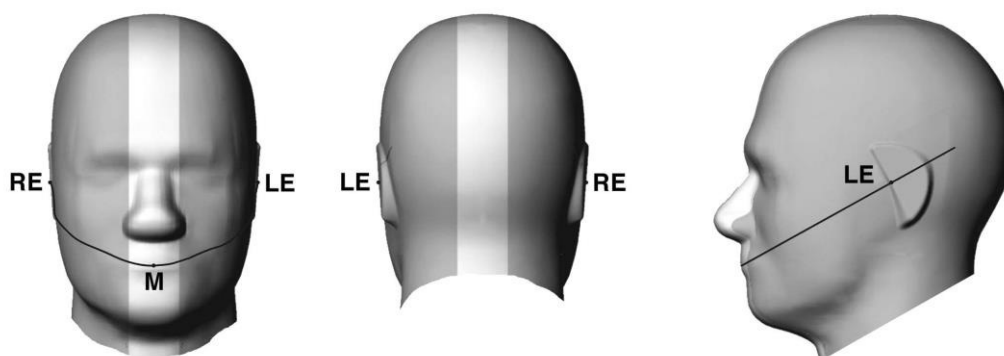


Fig 9.1.1 Front, back, and side views of SAM twin phantom

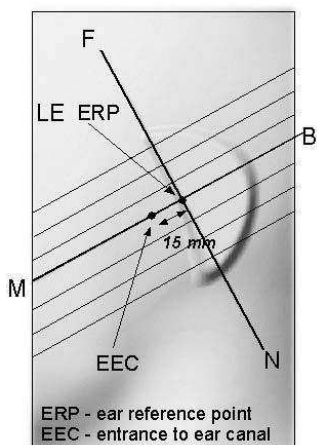


Fig 9.1.2 Close-up side view of phantom showing the ear region.

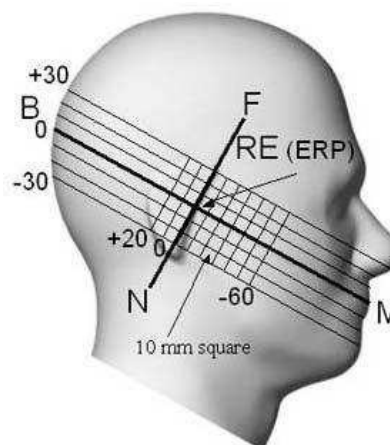


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

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

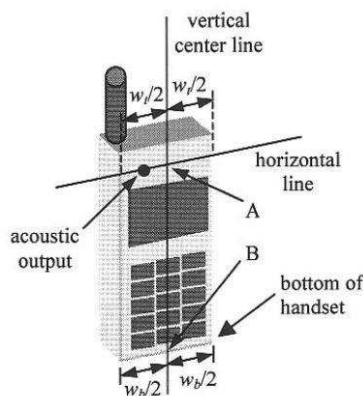


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case"

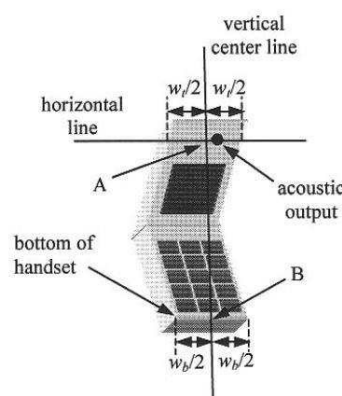


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

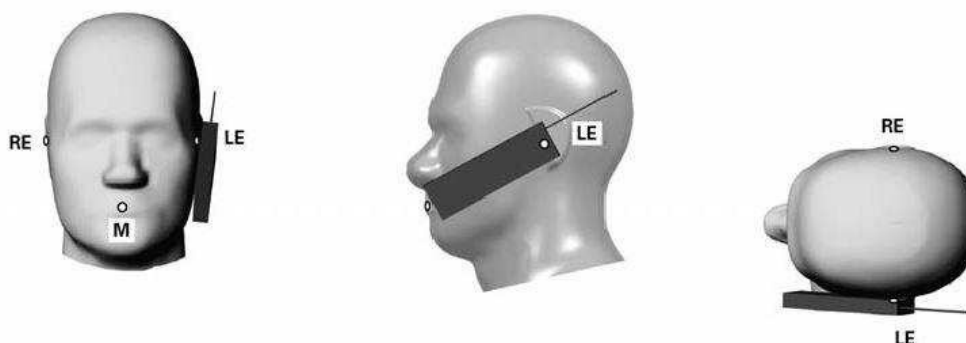


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

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



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

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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

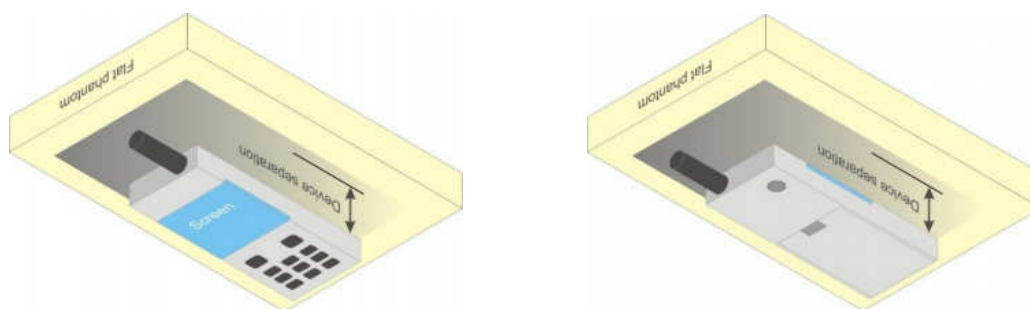


Fig 9.4 Body Worn Position

11.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension $> 15.0 \text{ cm}$ or an overall diagonal dimension $> 16.0 \text{ cm}$ that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at $\leq 25 \text{ mm}$ from that surface or edge, in direct contact with a flat phantom, for Product specific 10g 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 Product specific 10g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR $> 1.2 \text{ W/kg}$.



11.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

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

12. Conducted RF Output Power (Unit: dBm)

<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. Therefore, the GPRS (4Tx slots) for GSM850 and GPRS (3Tx slots) for GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode

<Full Power Mode>:

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	32.81	32.92	32.96	33.50	23.81	23.92	23.96	24.50
GPRS 1 Tx slot	32.80	32.90	32.94	33.50	23.80	23.90	23.94	24.50
GPRS 2 Tx slots	31.49	31.43	31.44	32.50	25.49	25.43	25.44	26.50
GPRS 3 Tx slots	30.30	30.33	30.30	30.50	26.04	26.07	26.04	26.24
GPRS 4 Tx slots	29.00	28.86	28.88	29.50	26.00	25.86	25.88	26.50
EDGE 1 Tx slot	27.29	27.22	27.23	27.50	18.29	18.22	18.23	18.50
EDGE 2 Tx slots	27.06	27.10	27.04	27.50	21.06	21.10	21.04	21.50
EDGE 3 Tx slots	26.99	26.91	26.93	27.50	22.73	22.65	22.67	23.24
EDGE 4 Tx slots	26.89	26.70	26.62	27.50	23.89	23.70	23.62	24.50

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.56	29.99	30.05	30.50	20.56	20.99	21.05	21.50
GPRS 1 Tx slot	29.56	29.98	30.04	30.50	20.56	20.98	21.04	21.50
GPRS 2 Tx slots	28.52	28.72	28.82	29.50	22.52	22.72	22.82	23.50
GPRS 3 Tx slots	27.32	27.56	27.67	28.00	23.06	23.30	23.41	23.74
GPRS 4 Tx slots	26.19	26.24	26.25	26.50	23.19	23.24	23.25	23.50
EDGE 1 Tx slot	26.01	26.20	26.28	26.50	17.01	17.20	17.28	17.50
EDGE 2 Tx slots	26.00	26.01	26.05	26.50	20.00	20.01	20.05	20.50
EDGE 3 Tx slots	25.85	26.07	26.02	26.50	21.59	21.81	21.76	22.24
EDGE 4 Tx slots	25.78	25.65	25.80	26.50	22.78	22.65	22.80	23.50

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<Reduced Power Mode>:

GSM1900 Tx Channel	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	28.89	28.81	29.19	29.50	19.89	19.81	20.19	20.50
GPRS 1 Tx slot	28.84	28.78	29.15	29.50	19.84	19.78	20.15	20.50
GPRS 2 Tx slots	25.62	25.69	25.72	26.00	19.62	19.69	19.72	20.00
GPRS 3 Tx slots	24.49	24.63	24.64	25.00	20.23	20.37	20.38	20.74
GPRS 4 Tx slots	23.32	23.34	23.31	23.50	20.32	20.34	20.31	20.50
EDGE 1 Tx slot	26.54	26.64	26.39	27.00	17.54	17.64	17.39	18.00
EDGE 2 Tx slots	24.93	24.88	24.76	25.50	18.93	18.88	18.76	19.50
EDGE 3 Tx slots	22.91	22.78	22.87	23.50	18.65	18.52	18.61	19.24
EDGE 4 Tx slots	22.63	22.44	22.57	23.00	19.63	19.44	19.57	20.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{hs} = 24/15 * \beta_c$. Note 3: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCCH, 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 $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	4 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 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

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

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

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

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$.

Note 5: 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 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

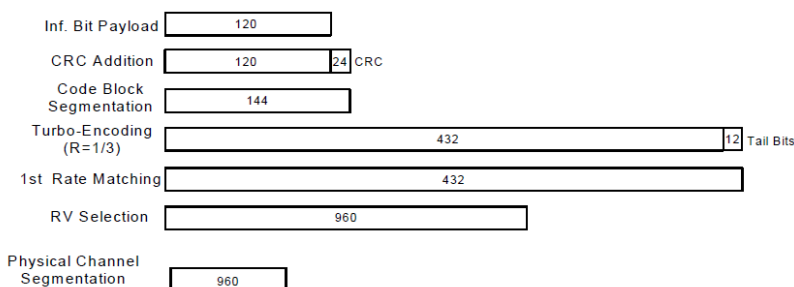


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



<WCDMA Conducted Power>

General Note:

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. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Full Power Mode>:

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	23.52	23.69	23.68	24.00	23.57	23.67	23.60	24.00	23.53	23.38	23.48	24.00
3GPP Rel 99	RMC 12.2Kbps	23.54	23.70	23.69	24.00	23.57	23.68	23.63	24.00	23.54	23.39	23.49	24.00
3GPP Rel 6	HSDPA Subtest-1	22.54	22.67	22.70	23.00	22.55	22.71	22.59	23.00	22.50	22.32	22.45	23.00
3GPP Rel 6	HSDPA Subtest-2	22.51	22.69	22.67	23.00	22.53	22.69	22.62	23.00	22.49	22.06	22.50	23.00
3GPP Rel 6	HSDPA Subtest-3	22.01	22.18	22.24	22.50	22.08	22.18	22.15	22.50	22.07	21.89	22.02	22.50
3GPP Rel 6	HSDPA Subtest-4	22.04	22.22	22.19	22.50	22.08	22.27	22.14	22.50	22.05	21.88	21.99	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.34	22.42	22.40	23.00	22.29	22.43	22.35	23.00	22.34	22.15	22.23	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.33	22.43	22.41	23.00	22.31	22.42	22.35	23.00	22.35	22.09	22.22	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.89	21.92	21.89	22.50	21.83	21.95	21.86	22.50	21.90	21.63	21.75	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.85	21.90	21.91	22.50	21.80	21.92	21.88	22.50	21.88	21.60	21.74	22.50
3GPP Rel 6	HSUPA Subtest-1	22.53	22.64	22.68	23.00	22.55	22.70	22.58	23.00	22.53	22.39	22.48	23.00
3GPP Rel 6	HSUPA Subtest-2	20.56	20.72	20.69	21.00	20.57	20.68	20.59	21.00	20.55	20.38	20.49	21.00
3GPP Rel 6	HSUPA Subtest-3	21.51	21.75	21.65	22.00	21.54	21.70	21.63	22.00	21.56	21.29	21.48	22.00
3GPP Rel 6	HSUPA Subtest-4	20.53	20.72	20.68	21.00	20.58	20.68	20.60	21.00	20.55	20.34	20.50	21.00
3GPP Rel 6	HSUPA Subtest-5	22.50	22.60	22.70	23.00	22.60	22.70	22.60	23.00	22.60	22.40	22.50	23.00

<Reduced Power Mode>:

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	18.89	18.99	18.93	19.50	21.00	21.04	20.99	21.50
3GPP Rel 99	RMC 12.2Kbps	18.90	19.00	18.95	19.50	21.00	21.06	21.00	21.50
3GPP Rel 6	HSDPA Subtest-1	17.81	17.97	17.95	18.50	19.96	20.03	20.01	20.50
3GPP Rel 6	HSDPA Subtest-2	17.84	17.97	17.97	18.50	19.95	19.99	20.01	20.50
3GPP Rel 6	HSDPA Subtest-3	17.39	17.52	17.48	18.00	19.51	19.56	19.54	20.00
3GPP Rel 6	HSDPA Subtest-4	17.38	17.49	17.47	18.00	19.49	19.55	19.51	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	18.01	18.17	18.15	18.50	19.73	19.90	19.84	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	18.04	18.17	18.17	18.50	19.72	19.87	19.82	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	17.59	17.72	17.68	18.00	19.27	19.42	19.35	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	17.58	17.69	17.67	18.00	19.21	19.37	19.35	20.00
3GPP Rel 6	HSUPA Subtest-1	17.83	18.01	17.95	18.50	19.95	20.05	19.98	20.50
3GPP Rel 6	HSUPA Subtest-2	15.86	15.99	15.99	16.50	18.00	18.05	18.03	18.50
3GPP Rel 6	HSUPA Subtest-3	16.86	17.00	16.95	17.50	18.94	19.08	18.98	19.50
3GPP Rel 6	HSUPA Subtest-4	15.84	16.01	16.00	16.50	17.98	18.04	18.02	18.50
3GPP Rel 6	HSUPA Subtest-5	17.90	18.10	17.90	18.50	20.00	20.00	20.00	20.50

<CDMA2000 Conducted Power>
General Note:

1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

<Full Power Mode>:

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
	Tx Channel	1013	384	777	25	600	1175	
Frequency (MHz)		824.7	836.52	848.31	1851.25	1880	1908.75	
RC1 SO55		24.01	23.96	24.16	24.50	24.06	24.11	24.34
RC3 SO55		24.07	24.01	24.11	24.50	23.81	23.88	24.09
RC3 SO32(F+SCH)		24.01	24.04	24.05	24.50	23.81	23.89	24.11
RC3 SO32(+SCH)		24.09	24.02	24.15	24.50	23.81	23.88	24.10
RTAP 153.6Kbps		24.10	24.03	24.13	24.50	23.82	23.89	24.10
RETAP 4096Bits		23.84	23.87	23.89	24.50	23.65	23.71	23.92

<Reduced Power Mode>:

Band	CDMA2000 BC1			Tune-up Limit (dBm)
	Tx Channel	25	600	1175
Frequency (MHz)		1851.25	1880	1908.75
RC1 SO55		19.27	19.34	19.43
RC3 SO55		19.09	19.17	19.37
RC3 SO32(F+SCH)		19.09	19.18	19.38
RC3 SO32(+SCH)		19.11	19.17	19.38
RTAP 153.6Kbps		19.15	19.21	19.41
RETAP 4096Bits		19.14	19.21	19.42

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

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / 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 band 17 / 2 / 5 / 38 SAR test was covered by Band 12 / 25 / 26 / 41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

<Full Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.92	24.00	24.03	24.50	0
20	QPSK	1	49	22.79	22.85	22.96		
20	QPSK	1	99	22.97	23.19	23.24		
20	QPSK	50	0	22.14	22.31	22.38	23.50	1
20	QPSK	50	24	21.94	22.00	22.11		
20	QPSK	50	50	21.90	21.96	22.15		
20	QPSK	100	0	22.08	22.16	22.32	23.50	1
20	16QAM	1	0	22.89	23.06	23.07		
20	16QAM	1	49	22.03	22.05	22.13		
20	16QAM	1	99	22.16	22.39	22.48	22.50	2
20	16QAM	50	0	21.17	21.28	21.36		
20	16QAM	50	24	20.93	20.99	21.07		
20	16QAM	50	50	20.85	20.94	21.14	22.50	2
20	16QAM	100	0	21.04	21.12	21.29		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.62	23.64	23.74	24.50	0
15	QPSK	1	37	22.66	22.86	23.22		
15	QPSK	1	74	22.88	22.98	23.13		
15	QPSK	36	0	22.14	22.23	22.22	23.50	1
15	QPSK	36	20	21.87	22.01	22.15		
15	QPSK	36	39	21.74	21.90	22.06		
15	QPSK	75	0	21.96	22.07	22.23	23.50	1
15	16QAM	1	0	22.58	22.60	22.71		
15	16QAM	1	37	21.92	22.03	22.16		
15	16QAM	1	74	22.03	22.15	22.37	22.50	2
15	16QAM	36	0	21.08	21.19	21.23		
15	16QAM	36	20	20.85	20.97	21.10		
15	16QAM	36	39	20.70	20.91	21.07	22.50	2
15	16QAM	75	0	20.91	21.01	21.20		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.22	23.26	23.37	24.50	0
10	QPSK	1	25	22.68	22.75	22.96		
10	QPSK	1	49	22.68	22.71	22.95		
10	QPSK	25	0	21.95	21.92	22.15	23.50	1
10	QPSK	25	12	21.79	21.89	22.07		
10	QPSK	25	25	21.74	21.81	22.02		
10	QPSK	50	0	21.79	21.87	22.09	23.50	1
10	16QAM	1	0	22.25	22.29	22.36		
10	16QAM	1	25	21.93	21.98	22.22		
10	16QAM	1	49	21.92	21.93	22.17	22.50	2
10	16QAM	25	0	20.92	20.90	21.12		
10	16QAM	25	12	20.77	20.87	21.07		
10	16QAM	25	25	20.74	20.80	21.01	22.50	2
10	16QAM	50	0	20.76	20.89	21.06		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.05	23.02	23.28	24.50	0
5	QPSK	1	12	22.73	22.77	22.98		
5	QPSK	1	24	22.73	22.75	22.94		
5	QPSK	12	0	21.83	21.85	22.06	23.50	1
5	QPSK	12	7	21.81	21.83	22.03		
5	QPSK	12	13	21.77	21.79	22.02		
5	QPSK	25	0	21.75	21.78	22.02	23.50	1
5	16QAM	1	0	22.05	22.04	22.29		
5	16QAM	1	12	21.95	22.01	22.24		
5	16QAM	1	24	21.93	21.93	22.12	22.50	2
5	16QAM	12	0	20.83	20.85	21.07		
5	16QAM	12	7	20.83	20.87	21.09		
5	16QAM	12	13	20.81	20.81	21.02	22.50	2
5	16QAM	25	0	20.75	20.85	21.03		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.76	22.98	23.17	24.50	0
3	QPSK	1	8	22.73	22.79	22.95		
3	QPSK	1	14	22.66	22.68	22.89		
3	QPSK	8	0	21.77	21.83	22.00	23.50	1
3	QPSK	8	4	21.80	21.84	22.02		
3	QPSK	8	7	21.75	21.77	22.00		
3	QPSK	15	0	21.76	21.80	22.00	23.50	1
3	16QAM	1	0	21.96	21.95	22.13		
3	16QAM	1	8	21.97	21.97	22.19		
3	16QAM	1	14	21.84	21.88	22.11	22.50	2
3	16QAM	8	0	20.83	20.87	21.09		
3	16QAM	8	4	20.85	20.92	21.10		
3	16QAM	8	7	20.79	20.86	21.07	22.50	2
3	16QAM	15	0	20.79	20.82	21.02		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.66	22.90	23.08	24.50	0
1.4	QPSK	1	3	22.73	22.77	22.98		
1.4	QPSK	1	5	22.65	22.68	22.89		
1.4	QPSK	3	0	22.75	22.74	22.95		
1.4	QPSK	3	1	22.74	22.79	23.01		
1.4	QPSK	3	3	22.73	22.79	22.98	23.50	1
1.4	QPSK	6	0	21.70	21.79	21.93		
1.4	16QAM	1	0	21.88	21.95	22.11	23.50	1
1.4	16QAM	1	3	22.01	22.00	22.20		
1.4	16QAM	1	5	21.87	21.88	22.09		
1.4	16QAM	3	0	21.69	21.75	21.96		
1.4	16QAM	3	1	21.80	21.84	22.01		
1.4	16QAM	3	3	21.76	21.80	22.00	22.50	2
1.4	16QAM	6	0	20.79	20.81	21.01		



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	24.35	24.43	24.41		
20	QPSK	1	49	23.19	23.27	23.21	24.50	0
20	QPSK	1	99	23.36	23.39	23.28		
20	QPSK	50	0	22.70	22.71	22.64		
20	QPSK	50	24	22.44	22.39	22.38	23.50	1
20	QPSK	50	50	22.38	22.39	22.29		
20	QPSK	100	0	22.61	22.62	22.46		
20	16QAM	1	0	23.44	23.46	23.43	23.50	1
20	16QAM	1	49	22.47	22.42	22.52		
20	16QAM	1	99	22.58	22.60	22.59		
20	16QAM	50	0	21.73	21.68	21.67	22.50	2
20	16QAM	50	24	21.43	21.31	21.43		
20	16QAM	50	50	21.31	21.25	21.27		
20	16QAM	100	0	21.60	21.39	21.41		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	24.18	24.12	24.20	24.50	0
15	QPSK	1	37	23.32	23.11	23.18		
15	QPSK	1	74	23.30	23.33	23.2		
15	QPSK	36	0	22.59	22.61	22.62	23.50	1
15	QPSK	36	20	22.33	22.32	22.34		
15	QPSK	36	39	22.31	22.28	22.28		
15	QPSK	75	0	22.46	22.33	22.44		
15	16QAM	1	0	23.10	23.05	23.07	23.50	1
15	16QAM	1	37	22.37	22.33	22.31		
15	16QAM	1	74	22.48	22.53	22.43		
15	16QAM	36	0	21.57	21.52	21.60	22.50	2
15	16QAM	36	20	21.35	21.27	21.34		
15	16QAM	36	39	21.29	21.27	21.26		
15	16QAM	75	0	21.39	21.31	21.41		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.53	23.72	23.70	24.50	0
10	QPSK	1	25	23.02	23.15	23.06		
10	QPSK	1	49	23.05	23.09	23.09		
10	QPSK	25	0	22.30	22.27	22.43	23.50	1
10	QPSK	25	12	22.15	22.19	22.24		
10	QPSK	25	25	22.15	22.16	22.18		
10	QPSK	50	0	22.26	22.20	22.26	23.50	1
10	16QAM	1	0	22.55	22.73	22.71		
10	16QAM	1	25	22.22	22.31	22.36		
10	16QAM	1	49	22.29	22.31	22.36	22.50	2
10	16QAM	25	0	21.33	21.24	21.44		
10	16QAM	25	12	21.19	21.17	21.23		
10	16QAM	25	25	21.17	21.16	21.18	22.50	2
10	16QAM	50	0	21.28	21.17	21.22		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.38	23.51	23.52	24.50	0
5	QPSK	1	12	23.05	23.15	23.13		
5	QPSK	1	24	23.01	23.14	23.00		
5	QPSK	12	0	22.14	22.14	22.25	23.50	1
5	QPSK	12	7	22.21	22.18	22.25		
5	QPSK	12	13	22.08	22.09	22.20		
5	QPSK	25	0	22.12	22.12	22.20	23.50	1
5	16QAM	1	0	22.33	22.38	22.49		
5	16QAM	1	12	22.35	22.36	22.43		
5	16QAM	1	24	22.17	22.31	22.23	22.50	2
5	16QAM	12	0	21.20	21.18	21.27		
5	16QAM	12	7	21.21	21.15	21.23		
5	16QAM	12	13	21.12	21.11	21.20	22.50	2
5	16QAM	25	0	21.18	21.13	21.25		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.30	23.45	23.43	24.50	0
3	QPSK	1	8	23.03	23.17	23.05		
3	QPSK	1	14	23.06	23.08	23.05		
3	QPSK	8	0	22.15	22.18	22.15	23.50	1
3	QPSK	8	4	22.11	22.13	22.16		
3	QPSK	8	7	22.15	22.09	22.15		
3	QPSK	15	0	22.10	22.14	22.11	23.50	1
3	16QAM	1	0	22.23	22.30	22.34		
3	16QAM	1	8	22.22	22.31	22.30		
3	16QAM	1	14	22.22	22.30	22.23	22.50	2
3	16QAM	8	0	21.27	21.21	21.25		
3	16QAM	8	4	21.24	21.19	21.21		
3	16QAM	8	7	21.23	21.13	21.22	22.50	2
3	16QAM	15	0	21.15	21.14	21.16		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.23	23.41	23.32	24.50	0
1.4	QPSK	1	3	23.06	23.13	23.13		
1.4	QPSK	1	5	23.01	23.08	23.03		
1.4	QPSK	3	0	23.00	23.15	23.10		
1.4	QPSK	3	1	23.00	23.14	23.15		
1.4	QPSK	3	3	23.08	23.14	23.15	23.50	1
1.4	QPSK	6	0	22.06	22.06	22.18		
1.4	16QAM	1	0	22.19	22.30	22.30	23.50	1
1.4	16QAM	1	3	22.22	22.35	22.34		
1.4	16QAM	1	5	22.18	22.27	22.26		
1.4	16QAM	3	0	22.04	22.12	22.12		
1.4	16QAM	3	1	22.09	22.16	22.23		
1.4	16QAM	3	3	22.16	22.15	22.19	22.50	2
1.4	16QAM	6	0	21.09	21.13	21.20		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.16	23.15	23.27	24.00	0
10	QPSK	1	25	23.23	23.22	23.39		
10	QPSK	1	49	23.05	23.11	23.20		
10	QPSK	25	0	22.26	22.25	22.39	23.00	1
10	QPSK	25	12	22.27	22.32	22.51		
10	QPSK	25	25	22.21	22.31	22.42		
10	QPSK	50	0	22.23	22.23	22.50	23.00	1
10	16QAM	1	0	22.36	22.45	22.49		
10	16QAM	1	25	22.41	22.35	22.67		
10	16QAM	1	49	22.29	22.32	22.53	22.00	2
10	16QAM	25	0	21.19	21.22	21.33		
10	16QAM	25	12	21.24	21.23	21.45		
10	16QAM	25	25	21.17	21.29	21.37	22.00	2
10	16QAM	50	0	21.22	21.21	21.40		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.24	23.22	23.38	24.00	0
5	QPSK	1	12	23.22	23.19	23.29		
5	QPSK	1	24	23.20	23.30	23.30		
5	QPSK	12	0	22.23	22.25	22.42	23.00	1
5	QPSK	12	7	22.29	22.28	22.47		
5	QPSK	12	13	22.25	22.24	22.44		
5	QPSK	25	0	22.25	22.20	22.39	23.00	1
5	16QAM	1	0	22.44	22.45	22.59		
5	16QAM	1	12	22.50	22.44	22.62		
5	16QAM	1	24	22.38	22.46	22.55	22.00	2
5	16QAM	12	0	21.28	21.24	21.41		
5	16QAM	12	7	21.29	21.27	21.43		
5	16QAM	12	13	21.27	21.26	21.37	22.00	2
5	16QAM	25	0	21.22	21.22	21.37		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.21	23.20	23.35	24.00	0
3	QPSK	1	8	23.26	23.24	23.33		
3	QPSK	1	14	23.19	23.18	23.23		
3	QPSK	8	0	22.24	22.27	22.43	23.00	1
3	QPSK	8	4	22.28	22.33	22.51		
3	QPSK	8	7	22.23	22.26	22.45		
3	QPSK	15	0	22.25	22.19	22.38		
3	16QAM	1	0	22.37	22.44	22.55	23.00	1
3	16QAM	1	8	22.42	22.47	22.67		
3	16QAM	1	14	22.39	22.41	22.54		
3	16QAM	8	0	21.26	21.29	21.49	22.00	2
3	16QAM	8	4	21.31	21.35	21.54		
3	16QAM	8	7	21.24	21.26	21.43		
3	16QAM	15	0	21.30	21.26	21.43		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.28	23.28	23.38	24.00	0
1.4	QPSK	1	3	23.35	23.33	23.41		
1.4	QPSK	1	5	23.28	23.24	23.34		
1.4	QPSK	3	0	23.29	23.28	23.4		
1.4	QPSK	3	1	23.34	23.29	23.43		
1.4	QPSK	3	3	23.32	23.35	23.42		
1.4	QPSK	6	0	22.26	22.22	22.46	23.00	1
1.4	16QAM	1	0	22.53	22.50	22.68	23.00	1
1.4	16QAM	1	3	22.60	22.53	22.66		
1.4	16QAM	1	5	22.42	22.48	22.65		
1.4	16QAM	3	0	22.27	22.26	22.46		
1.4	16QAM	3	1	22.34	22.31	22.49		
1.4	16QAM	3	3	22.32	22.40	22.47		
1.4	16QAM	6	0	21.34	21.30	21.43	22.00	2



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Measured Power			Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	24.01	24.10	23.89	24.50	0
20	QPSK	1	49	23.23	23.29	23.28		
20	QPSK	1	99	23.36	23.39	23.3		
20	QPSK	50	0	22.54	22.67	22.62	23.50	1
20	QPSK	50	24	22.44	22.44	22.50		
20	QPSK	50	50	22.34	22.45	22.38		
20	QPSK	100	0	22.53	22.58	22.56	23.50	1
20	16QAM	1	0	23.11	23.18	23.08		
20	16QAM	1	49	22.57	22.60	22.64		
20	16QAM	1	99	22.72	22.64	22.67	22.50	2
20	16QAM	50	0	21.58	21.72	21.62		
20	16QAM	50	24	21.48	21.46	21.51		
20	16QAM	50	50	21.38	21.45	21.40	22.50	2
20	16QAM	100	0	21.50	21.49	21.55		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	24.03	24.08	23.98		
15	QPSK	1	37	23.36	23.38	23.55	24.50	0
15	QPSK	1	74	23.36	23.38	23.41		
15	QPSK	36	0	22.57	22.55	22.57	23.50	1
15	QPSK	36	20	22.42	22.45	22.40		
15	QPSK	36	39	22.36	22.38	22.37		
15	QPSK	75	0	22.42	22.47	22.43	23.50	1
15	16QAM	1	0	22.85	23.07	22.85		
15	16QAM	1	37	22.54	22.59	22.49		
15	16QAM	1	74	22.52	22.58	22.59	22.50	2
15	16QAM	36	0	21.53	21.49	21.57		
15	16QAM	36	20	21.40	21.44	21.38		
15	16QAM	36	39	21.37	21.41	21.40	22.50	2
15	16QAM	75	0	21.40	21.44	21.42		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.53	23.74	23.69	24.50	0
10	QPSK	1	25	23.15	23.25	23.20		
10	QPSK	1	49	23.13	23.18	23.11		
10	QPSK	25	0	22.42	22.47	22.34	23.50	1
10	QPSK	25	12	22.30	22.38	22.32		
10	QPSK	25	25	22.30	22.34	22.29		
10	QPSK	50	0	22.32	22.38	22.31	23.50	1
10	16QAM	1	0	22.78	22.79	22.71		
10	16QAM	1	25	22.64	22.59	22.57		
10	16QAM	1	49	22.51	22.53	22.48	22.50	2
10	16QAM	25	0	21.41	21.39	21.34		
10	16QAM	25	12	21.32	21.38	21.36		
10	16QAM	25	25	21.30	21.34	21.29	21.32	
10	16QAM	50	0	21.29	21.36	21.32		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.55	23.60	23.53	24.50	0
5	QPSK	1	12	23.24	23.28	23.19		
5	QPSK	1	24	23.06	23.23	23.15		
5	QPSK	12	0	22.34	22.33	22.31	23.50	1
5	QPSK	12	7	22.36	22.37	22.34		
5	QPSK	12	13	22.34	22.36	22.31		
5	QPSK	25	0	22.32	22.33	22.27	23.50	1
5	16QAM	1	0	22.63	22.56	22.61		
5	16QAM	1	12	22.54	22.62	22.57		
5	16QAM	1	24	22.46	22.55	22.5	22.50	2
5	16QAM	12	0	21.39	21.39	21.37		
5	16QAM	12	7	21.39	21.41	21.37		
5	16QAM	12	13	21.35	21.37	21.35	21.34	
5	16QAM	25	0	21.35	21.36	21.34		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130	24.00	0
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.09	23.07	23.11		
10	QPSK	1	25	23.16	23.09	23.19	23.00	1
10	QPSK	1	49	23.09	23.04	23.12		
10	QPSK	25	0	22.25	22.31	22.26		
10	QPSK	25	12	22.29	22.36	22.39	23.00	1
10	QPSK	25	25	22.26	22.33	22.30		
10	QPSK	50	0	22.25	22.30	22.35		
10	16QAM	1	0	22.41	22.41	22.37	23.00	1
10	16QAM	1	25	22.44	22.45	22.48		
10	16QAM	1	49	22.36	22.34	22.47		
10	16QAM	25	0	21.21	21.30	21.21	22.00	2
10	16QAM	25	12	21.27	21.25	21.37		
10	16QAM	25	25	21.23	21.30	21.33		
10	16QAM	50	0	21.21	21.26	21.33	24.00	0
Channel				23035	23095	23155		
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.07	23.16	23.08	24.00	0
5	QPSK	1	12	23.15	23.17	23.21		
5	QPSK	1	24	23.15	23.17	23.23		
5	QPSK	12	0	22.23	22.29	22.32	23.00	1
5	QPSK	12	7	22.31	22.24	22.40		
5	QPSK	12	13	22.31	22.32	22.30		
5	QPSK	25	0	22.24	22.27	22.31	23.00	1
5	16QAM	1	0	22.37	22.49	22.36		
5	16QAM	1	12	22.44	22.48	22.49		
5	16QAM	1	24	22.43	22.47	22.46	22.00	2
5	16QAM	12	0	21.22	21.33	21.35		
5	16QAM	12	7	21.30	21.26	21.37		
5	16QAM	12	13	21.30	21.32	21.31	22.00	2
5	16QAM	25	0	21.24	21.31	21.34		

Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.09	23.05	23.17	24.00	0
3	QPSK	1	8	23.13	23.19	23.00		
3	QPSK	1	14	23.07	23.04	23.14		
3	QPSK	8	0	22.30	22.26	22.29	23.00	1
3	QPSK	8	4	22.23	22.31	22.33		
3	QPSK	8	7	22.30	22.21	22.30		
3	QPSK	15	0	22.23	22.26	22.32	23.00	1
3	16QAM	1	0	22.36	22.36	22.48		
3	16QAM	1	8	22.36	22.45	22.48		
3	16QAM	1	14	22.34	22.37	22.43	22.00	2
3	16QAM	8	0	21.38	21.34	21.42		
3	16QAM	8	4	21.33	21.40	21.42		
3	16QAM	8	7	21.34	21.29	21.40	22.00	2
3	16QAM	15	0	21.25	21.31	21.43		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.03	23.07	23.06	24.00	0
1.4	QPSK	1	3	23.21	23.10	23.19		
1.4	QPSK	1	5	23.06	23.03	23.13		
1.4	QPSK	3	0	23.12	23.10	23.25		
1.4	QPSK	3	1	23.25	23.14	23.27		
1.4	QPSK	3	3	23.23	23.22	23.28	23.00	1
1.4	QPSK	6	0	22.25	22.21	22.21		
1.4	16QAM	1	0	22.28	22.25	22.34	23.00	1
1.4	16QAM	1	3	22.45	22.30	22.42		
1.4	16QAM	1	5	22.28	22.33	22.38		
1.4	16QAM	3	0	22.14	22.18	22.25		
1.4	16QAM	3	1	22.29	22.19	22.28		
1.4	16QAM	3	3	22.25	22.23	22.27	22.00	2
1.4	16QAM	6	0	21.33	21.26	21.33		



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		23.18		24.00	0
10	QPSK	1	25		23.19			
10	QPSK	1	49		23.36			
10	QPSK	25	0		22.28		23.00	1
10	QPSK	25	12		22.33			
10	QPSK	25	25		22.30			
10	QPSK	50	0		22.38		23.00	1
10	16QAM	1	0		22.50			
10	16QAM	1	25		22.47			
10	16QAM	1	49		22.47		22.00	2
10	16QAM	25	0		21.27			
10	16QAM	25	12		21.34			
10	16QAM	25	25		21.28		22.00	2
10	16QAM	50	0		21.38			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.14	23.26	23.17	24.00	0
5	QPSK	1	12	23.21	23.19	23.29		
5	QPSK	1	24	23.20	23.20	23.34		
5	QPSK	12	0	22.35	22.37	22.28	23.00	1
5	QPSK	12	7	22.31	22.32	22.41		
5	QPSK	12	13	22.39	22.32	22.44		
5	QPSK	25	0	22.38	22.26	22.36	23.00	1
5	16QAM	1	0	22.47	22.50	22.38		
5	16QAM	1	12	22.49	22.48	22.49		
5	16QAM	1	24	22.47	22.41	22.50	22.00	2
5	16QAM	12	0	21.38	21.39	21.30		
5	16QAM	12	7	21.33	21.31	21.45		
5	16QAM	12	13	21.41	21.34	21.44	22.00	2
5	16QAM	25	0	21.43	21.30	21.41		



<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.02	23.04	23.06		
10	QPSK	1	25	23.16	23.15	23.17	24.00	0
10	QPSK	1	49	23.09	23.08	23.11		
10	QPSK	25	0	22.24	22.33	22.25		
10	QPSK	25	12	22.30	22.34	22.39	23.00	1
10	QPSK	25	25	22.29	22.32	22.38		
10	QPSK	50	0	22.23	22.30	22.31		
10	16QAM	1	0	22.32	22.33	22.34	23.00	1
10	16QAM	1	25	22.43	22.45	22.47		
10	16QAM	1	49	22.43	22.40	22.49		
10	16QAM	25	0	21.17	21.34	21.21	22.00	2
10	16QAM	25	12	21.30	21.30	21.36		
10	16QAM	25	25	21.26	21.30	21.34		
10	16QAM	50	0	21.25	21.31	21.30		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.17	23.13	23.16	24.00	0
5	QPSK	1	12	23.16	23.17	23.20		
5	QPSK	1	24	23.13	23.15	23.14		
5	QPSK	12	0	22.24	22.25	22.35	23.00	1
5	QPSK	12	7	22.32	22.31	22.41		
5	QPSK	12	13	22.35	22.35	22.41		
5	QPSK	25	0	22.27	22.23	22.31		
5	16QAM	1	0	22.45	22.40	22.50	23.00	1
5	16QAM	1	12	22.48	22.47	22.50		
5	16QAM	1	24	22.34	22.41	22.43		
5	16QAM	12	0	21.26	21.23	21.35	22.00	2
5	16QAM	12	7	21.31	21.34	21.39		
5	16QAM	12	13	21.34	21.34	21.38		
5	16QAM	25	0	21.30	21.27	21.37		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.94	24.01	24.03		
20	QPSK	1	49	22.61	22.76	22.81	24.50	0
20	QPSK	1	99	22.89	23.02	23.14		
20	QPSK	50	0	22.16	22.25	22.34		
20	QPSK	50	24	21.80	21.92	21.99	23.50	1
20	QPSK	50	50	21.84	21.96	22.03		
20	QPSK	100	0	22.07	22.04	22.30		
20	16QAM	1	0	22.94	22.99	22.97	23.50	1
20	16QAM	1	49	21.88	21.98	22.03		
20	16QAM	1	99	22.17	22.24	22.35		
20	16QAM	50	0	21.15	21.23	21.31	22.50	2
20	16QAM	50	24	20.78	20.92	20.96		
20	16QAM	50	50	20.79	20.93	21.00		
20	16QAM	100	0	20.99	21.02	21.25		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.71	23.68	23.73	24.50	0
15	QPSK	1	37	22.82	22.82	22.87		
15	QPSK	1	74	22.82	22.87	22.99		
15	QPSK	36	0	22.03	22.15	22.22	23.50	1
15	QPSK	36	20	21.87	21.91	22.00		
15	QPSK	36	39	21.72	21.88	21.88		
15	QPSK	75	0	21.95	21.96	22.10		
15	16QAM	1	0	22.58	22.58	22.74	23.50	1
15	16QAM	1	37	21.92	21.91	21.97		
15	16QAM	1	74	22.01	22.09	22.21		
15	16QAM	36	0	20.97	21.09	21.15	22.50	2
15	16QAM	36	20	20.83	20.87	20.95		
15	16QAM	36	39	20.68	20.83	20.86		
15	16QAM	75	0	20.85	20.92	21.00		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.28	23.30	23.46	24.50	0
10	QPSK	1	25	22.69	22.72	22.89		
10	QPSK	1	49	22.66	22.73	22.85		
10	QPSK	25	0	21.90	21.98	22.06	23.50	1
10	QPSK	25	12	21.85	21.77	22.00		
10	QPSK	25	25	21.69	21.83	22.00		
10	QPSK	50	0	21.85	21.82	22.04	23.50	1
10	16QAM	1	0	22.29	22.23	22.45		
10	16QAM	1	25	21.98	21.93	22.12		
10	16QAM	1	49	21.86	21.98	22.11	22.50	2
10	16QAM	25	0	20.83	20.90	21.01		
10	16QAM	25	12	20.78	20.76	21.00		
10	16QAM	25	25	20.66	20.76	20.98	22.50	2
10	16QAM	50	0	20.78	20.80	21.02		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.10	23.16	23.22	24.50	0
5	QPSK	1	12	22.69	22.68	22.90		
5	QPSK	1	24	22.67	22.70	22.85		
5	QPSK	12	0	21.85	21.75	22.03	23.50	1
5	QPSK	12	7	21.72	21.77	22.02		
5	QPSK	12	13	21.72	21.71	21.92		
5	QPSK	25	0	21.69	21.75	21.95	23.50	1
5	16QAM	1	0	22.05	22.09	22.18		
5	16QAM	1	12	21.90	21.95	22.18		
5	16QAM	1	24	21.86	21.92	22.12	22.50	2
5	16QAM	12	0	20.86	20.74	21.04		
5	16QAM	12	7	20.72	20.77	20.99		
5	16QAM	12	13	20.70	20.73	20.89	22.50	2
5	16QAM	25	0	20.68	20.75	20.97		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	23.00	23.00	23.19	24.50	0
3	QPSK	1	8	22.73	22.73	22.95		
3	QPSK	1	14	22.54	22.61	22.82		
3	QPSK	8	0	21.78	21.72	21.92	23.50	1
3	QPSK	8	4	21.80	21.75	22.03		
3	QPSK	8	7	21.77	21.72	21.97		
3	QPSK	15	0	21.78	21.73	21.90	23.50	1
3	16QAM	1	0	21.92	21.90	22.15		
3	16QAM	1	8	21.92	21.93	22.19		
3	16QAM	1	14	21.94	21.83	22.05	22.50	2
3	16QAM	8	0	20.81	20.79	20.96		
3	16QAM	8	4	20.83	20.82	21.07		
3	16QAM	8	7	20.80	20.77	21.04	22.50	2
3	16QAM	15	0	20.79	20.76	20.96		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.64	22.94	23.16	24.50	0
1.4	QPSK	1	3	22.75	22.71	22.91		
1.4	QPSK	1	5	22.65	22.61	22.80		
1.4	QPSK	3	0	22.71	22.69	22.92		
1.4	QPSK	3	1	22.74	22.74	22.93		
1.4	QPSK	3	3	22.75	22.71	22.93	23.50	1
1.4	QPSK	6	0	21.70	21.74	21.96		
1.4	16QAM	1	0	21.91	21.86	22.13	23.50	1
1.4	16QAM	1	3	21.98	21.96	22.16		
1.4	16QAM	1	5	21.92	21.88	22.08		
1.4	16QAM	3	0	21.76	21.66	21.97		
1.4	16QAM	3	1	21.77	21.72	21.98		
1.4	16QAM	3	3	21.77	21.73	22.00	22.50	2
1.4	16QAM	6	0	20.81	20.73	20.97		

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23.23	23.2	23.01		
15	QPSK	1	37	23.27	23.24	23.10	24.00	0
15	QPSK	1	74	23.04	23.01	22.88		
15	QPSK	36	0	22.34	22.31	22.15		
15	QPSK	36	20	22.45	22.42	22.21	23.00	1
15	QPSK	36	39	22.27	22.24	22.13		
15	QPSK	75	0	22.26	22.23	22.11		
15	16QAM	1	0	22.42	22.39	22.20	23.00	1
15	16QAM	1	37	22.47	22.44	22.31		
15	16QAM	1	74	22.28	22.25	22.10		
15	16QAM	36	0	21.26	21.23	21.06	22.00	2
15	16QAM	36	20	21.40	21.37	21.18		
15	16QAM	36	39	21.26	21.23	21.12		
15	16QAM	75	0	21.22	21.19	21.05		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.16	23.14	23.17	24.00	0
10	QPSK	1	25	23.27	23.16	23.26		
10	QPSK	1	49	23.11	23.03	23.05		
10	QPSK	25	0	22.28	22.26	22.31	23.00	1
10	QPSK	25	12	22.38	22.23	22.34		
10	QPSK	25	25	22.36	22.24	22.33		
10	QPSK	50	0	22.32	22.18	22.34		
10	16QAM	1	0	22.42	22.41	22.40	23.00	1
10	16QAM	1	25	22.46	22.41	22.49		
10	16QAM	1	49	22.35	22.30	22.37		
10	16QAM	25	0	21.25	21.23	21.29	22.00	2
10	16QAM	25	12	21.34	21.22	21.34		
10	16QAM	25	25	21.34	21.24	21.31		
10	16QAM	50	0	21.30	21.19	21.30		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.22	23.18	23.27	24.00	0
5	QPSK	1	12	23.19	23.13	23.26		
5	QPSK	1	24	23.23	23.19	23.15		
5	QPSK	12	0	22.31	22.25	22.37	23.00	1
5	QPSK	12	7	22.39	22.23	22.41		
5	QPSK	12	13	22.29	22.26	22.36		
5	QPSK	25	0	22.23	22.19	22.34	23.00	1
5	16QAM	1	0	22.45	22.39	22.44		
5	16QAM	1	12	22.45	22.43	22.50		
5	16QAM	1	24	22.44	22.41	22.46	22.00	2
5	16QAM	12	0	21.33	21.26	21.38		
5	16QAM	12	7	21.42	21.27	21.41		
5	16QAM	12	13	21.31	21.27	21.34	21.25	21.20
5	16QAM	25	0	21.25	21.20	21.35		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.18	23.19	23.27	24.00	0
3	QPSK	1	8	23.27	23.26	23.26		
3	QPSK	1	14	23.13	23.13	23.13		
3	QPSK	8	0	22.28	22.23	22.34	23.00	1
3	QPSK	8	4	22.33	22.32	22.37		
3	QPSK	8	7	22.34	22.24	22.34		
3	QPSK	15	0	22.31	22.19	22.31	23.00	1
3	16QAM	1	0	22.37	22.44	22.50		
3	16QAM	1	8	22.49	22.46	22.44		
3	16QAM	1	14	22.35	22.31	22.38	22.00	2
3	16QAM	8	0	21.35	21.28	21.39		
3	16QAM	8	4	21.39	21.36	21.40		
3	16QAM	8	7	21.38	21.29	21.33	21.35	21.23
3	16QAM	15	0	21.35	21.23	21.38		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.18	23.11	23.22	24.00	0
1.4	QPSK	1	3	23.27	23.22	23.29		
1.4	QPSK	1	5	23.19	23.16	23.19		
1.4	QPSK	3	0	23.20	23.18	23.25		
1.4	QPSK	3	1	23.26	23.22	23.30		
1.4	QPSK	3	3	23.25	23.27	23.27		
1.4	QPSK	6	0	22.21	22.13	22.29	23.00	1
1.4	16QAM	1	0	22.46	22.44	22.49	23.00	1
1.4	16QAM	1	3	22.48	22.43	22.50		
1.4	16QAM	1	5	22.41	22.46	22.50		
1.4	16QAM	3	0	22.24	22.13	22.29		
1.4	16QAM	3	1	22.31	22.23	22.36		
1.4	16QAM	3	3	22.29	22.30	22.26		
1.4	16QAM	6	0	21.31	21.17	21.36	22.00	2

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		23.54		24.00	0
10	QPSK	1	25		23.35			
10	QPSK	1	49		23.28			
10	QPSK	25	0		22.48		23.00	1
10	QPSK	25	12		22.52			
10	QPSK	25	25		22.36			
10	QPSK	50	0		22.46		23.00	1
10	16QAM	1	0		22.93			
10	16QAM	1	25		22.84			
10	16QAM	1	49		22.63		22.00	2
10	16QAM	25	0		21.49			
10	16QAM	25	12		21.53			
10	16QAM	25	25		21.35		22.00	2
10	16QAM	50	0		21.46			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	23.67	23.69	23.65	24.00	0
5	QPSK	1	12	23.31	23.35	23.33		
5	QPSK	1	24	23.28	23.35	23.29		
5	QPSK	12	0	22.40	22.44	22.50	23.00	1
5	QPSK	12	7	22.44	22.51	22.45		
5	QPSK	12	13	22.44	22.43	22.38		
5	QPSK	25	0	22.39	22.40	22.46	23.00	1
5	16QAM	1	0	22.71	22.87	22.75		
5	16QAM	1	12	22.69	22.73	22.73		
5	16QAM	1	24	22.64	22.75	22.62	22.00	2
5	16QAM	12	0	21.41	21.44	21.53		
5	16QAM	12	7	21.47	21.48	21.46		
5	16QAM	12	13	21.49	21.45	21.39	22.00	2
5	16QAM	25	0	21.43	21.46	21.52		

<Reduced Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100	19.50	0
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	18.87	18.87	18.95		
20	QPSK	1	49	17.71	17.71	17.71	19.50	0
20	QPSK	1	99	17.88	18.02	18.07		
20	QPSK	50	0	18.14	18.22	18.23		
20	QPSK	50	24	17.84	17.89	17.94	19.50	0
20	QPSK	50	50	17.78	17.82	18.02		
20	QPSK	100	0	18.02	18.06	18.16		
20	16QAM	1	0	18.84	18.90	18.89	19.50	0
20	16QAM	1	49	17.91	17.92	17.96		
20	16QAM	1	99	18.06	18.25	18.32		
20	16QAM	50	0	18.12	18.22	18.21	19.50	0
20	16QAM	50	24	17.86	17.87	17.91		
20	16QAM	50	50	17.77	17.82	17.98		
20	16QAM	100	0	17.97	17.99	18.16	19.50	0
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	18.54	18.50	18.58	19.50	0
15	QPSK	1	37	17.70	17.60	17.9		
15	QPSK	1	74	17.76	17.83	17.95		
15	QPSK	36	0	18.10	18.10	18.06	19.50	0
15	QPSK	36	20	17.83	17.88	17.98		
15	QPSK	36	39	17.70	17.78	17.92		
15	QPSK	75	0	17.89	17.93	18.07	19.50	0
15	16QAM	1	0	18.54	18.54	18.55		
15	16QAM	1	37	17.85	17.86	17.99		
15	16QAM	1	74	17.92	17.99	18.16	19.50	0
15	16QAM	36	0	18.03	18.07	18.06		
15	16QAM	36	20	17.79	17.85	17.95		
15	16QAM	36	39	17.66	17.76	17.87	19.50	0
15	16QAM	75	0	17.85	17.90	18.02		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.20	18.13	18.16	19.50	0
10	QPSK	1	25	17.63	17.64	17.82		
10	QPSK	1	49	17.64	17.59	17.78		
10	QPSK	25	0	17.91	17.82	18.01	19.50	0
10	QPSK	25	12	17.76	17.77	17.92		
10	QPSK	25	25	17.71	17.70	17.87		
10	QPSK	50	0	17.78	17.80	17.94		
10	16QAM	1	0	18.22	18.20	18.26	19.50	0
10	16QAM	1	25	17.86	17.87	18.04		
10	16QAM	1	49	17.89	17.84	18.03		
10	16QAM	25	0	17.92	17.80	17.99	19.50	0
10	16QAM	25	12	17.73	17.74	17.93		
10	16QAM	25	25	17.70	17.68	17.86		
10	16QAM	50	0	17.77	17.77	17.95		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	18.02	17.90	18.12	19.50	0
5	QPSK	1	12	17.68	17.64	17.81		
5	QPSK	1	24	17.68	17.59	17.81		
5	QPSK	12	0	17.81	17.73	17.92	19.50	0
5	QPSK	12	7	17.78	17.73	17.90		
5	QPSK	12	13	17.75	17.66	17.87		
5	QPSK	25	0	17.72	17.69	17.86		
5	16QAM	1	0	18.02	17.89	18.11	19.50	0
5	16QAM	1	12	17.94	17.87	18.04		
5	16QAM	1	24	17.88	17.79	17.96		
5	16QAM	12	0	17.84	17.74	17.9	19.50	0
5	16QAM	12	7	17.83	17.76	17.94		
5	16QAM	12	13	17.77	17.71	17.88		
5	16QAM	25	0	17.78	17.72	17.88		



Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	17.92	17.84	18.04	19.50	0
3	QPSK	1	8	17.84	17.72	17.92		
3	QPSK	1	14	17.61	17.57	17.75		
3	QPSK	8	0	17.79	17.71	17.84	19.50	0
3	QPSK	8	4	17.79	17.73	17.88		
3	QPSK	8	7	17.76	17.69	17.88		
3	QPSK	15	0	17.75	17.71	17.86	19.50	0
3	16QAM	1	0	17.98	17.84	18.06		
3	16QAM	1	8	18.04	17.97	18.14		
3	16QAM	1	14	17.87	17.80	17.99	19.50	0
3	16QAM	8	0	17.83	17.74	17.92		
3	16QAM	8	4	17.81	17.79	17.97		
3	16QAM	8	7	17.77	17.74	17.89	19.50	0
3	16QAM	15	0	17.76	17.75	17.90		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	17.65	17.77	17.94	19.50	0
1.4	QPSK	1	3	17.71	17.62	17.84		
1.4	QPSK	1	5	17.62	17.55	17.74		
1.4	QPSK	3	0	17.72	17.62	17.81		
1.4	QPSK	3	1	17.73	17.68	17.84		
1.4	QPSK	3	3	17.73	17.69	17.85		
1.4	QPSK	6	0	17.72	17.65	17.81	19.50	0
1.4	16QAM	1	0	17.91	17.85	17.96	19.50	0
1.4	16QAM	1	3	17.98	17.93	18.09		
1.4	16QAM	1	5	17.89	17.84	18.00		
1.4	16QAM	3	0	17.72	17.62	17.84		
1.4	16QAM	3	1	17.76	17.71	17.88		
1.4	16QAM	3	3	17.75	17.70	17.87		
1.4	16QAM	6	0	17.81	17.72	17.91	19.50	0



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	21.78	21.83	21.8		
20	QPSK	1	49	20.52	20.49	20.53	22.00	0
20	QPSK	1	99	20.71	20.72	20.68		
20	QPSK	50	0	21.04	21.06	20.97		
20	QPSK	50	24	20.79	20.67	20.74	22.00	0
20	QPSK	50	50	20.73	20.62	20.68		
20	QPSK	100	0	20.79	20.96	20.84		
20	16QAM	1	0	21.71	21.78	21.74	22.00	0
20	16QAM	1	49	20.77	20.76	20.83		
20	16QAM	1	99	20.92	20.94	20.90		
20	16QAM	50	0	20.97	20.95	20.91	22.00	0
20	16QAM	50	24	20.76	20.69	20.77		
20	16QAM	50	50	20.69	20.64	20.67		
20	16QAM	100	0	20.92	20.78	20.75		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	21.51	21.47	21.54	22.00	0
15	QPSK	1	37	20.41	20.37	20.44		
15	QPSK	1	74	20.64	20.65	20.63		
15	QPSK	36	0	20.93	20.98	21.00	22.00	0
15	QPSK	36	20	20.71	20.66	20.70		
15	QPSK	36	39	20.65	20.69	20.60		
15	QPSK	75	0	20.81	20.71	20.81	22.00	0
15	16QAM	1	0	21.41	21.33	21.36		
15	16QAM	1	37	20.69	20.62	20.70		
15	16QAM	1	74	20.88	20.83	20.79	22.00	0
15	16QAM	36	0	20.91	20.92	20.99		
15	16QAM	36	20	20.67	20.65	20.71		
15	16QAM	36	39	20.65	20.65	20.64	22.00	0
15	16QAM	75	0	20.77	20.70	20.74		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	20.95	21.05	21.10	22.00	0
10	QPSK	1	25	20.38	20.41	20.45		
10	QPSK	1	49	20.40	20.41	20.45		
10	QPSK	25	0	20.66	20.62	20.79	22.00	0
10	QPSK	25	12	20.52	20.53	20.6		
10	QPSK	25	25	20.50	20.54	20.56		
10	QPSK	50	0	20.63	20.56	20.62	22.00	0
10	16QAM	1	0	20.95	21.06	21.09		
10	16QAM	1	25	20.63	20.65	20.73		
10	16QAM	1	49	20.68	20.67	20.69	22.00	0
10	16QAM	25	0	20.64	20.58	20.78		
10	16QAM	25	12	20.52	20.54	20.60		
10	16QAM	25	25	20.51	20.52	20.55	22.00	0
10	16QAM	50	0	20.63	20.54	20.62		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	20.74	20.8	20.90	22.00	0
5	QPSK	1	12	20.42	20.41	20.52		
5	QPSK	1	24	20.34	20.45	20.36		
5	QPSK	12	0	20.52	20.51	20.61	22.00	0
5	QPSK	12	7	20.51	20.51	20.62		
5	QPSK	12	13	20.44	20.47	20.57		
5	QPSK	25	0	20.48	20.47	20.56	22.00	0
5	16QAM	1	0	20.70	20.71	20.81		
5	16QAM	1	12	20.72	20.70	20.77		
5	16QAM	1	24	20.53	20.63	20.56	22.00	0
5	16QAM	12	0	20.57	20.56	20.64		
5	16QAM	12	7	20.57	20.54	20.61		
5	16QAM	12	13	20.44	20.48	20.58	22.00	0
5	16QAM	25	0	20.50	20.47	20.62		



Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	20.67	20.71	20.79	22.00	0
3	QPSK	1	8	20.45	20.47	20.46		
3	QPSK	1	14	20.32	20.36	20.35		
3	QPSK	8	0	20.49	20.51	20.53	22.00	0
3	QPSK	8	4	20.46	20.49	20.46		
3	QPSK	8	7	20.50	20.42	20.53		
3	QPSK	15	0	20.46	20.46	20.44	22.00	0
3	16QAM	1	0	20.61	20.69	20.72		
3	16QAM	1	8	20.69	20.73	20.73		
3	16QAM	1	14	20.54	20.63	20.57	22.00	0
3	16QAM	8	0	20.61	20.59	20.60		
3	16QAM	8	4	20.55	20.58	20.60		
3	16QAM	8	7	20.55	20.45	20.59	22.00	0
3	16QAM	15	0	20.47	20.48	20.51		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	20.57	20.64	20.65	22.00	0
1.4	QPSK	1	3	20.33	20.40	20.47		
1.4	QPSK	1	5	20.28	20.35	20.28		
1.4	QPSK	3	0	20.35	20.42	20.46		
1.4	QPSK	3	1	20.35	20.45	20.50		
1.4	QPSK	3	3	20.43	20.42	20.53		
1.4	QPSK	6	0	20.32	20.37	20.44	22.00	0
1.4	16QAM	1	0	20.51	20.58	20.56	22.00	0
1.4	16QAM	1	3	20.58	20.62	20.70		
1.4	16QAM	1	5	20.51	20.55	20.52		
1.4	16QAM	3	0	20.37	20.46	20.49		
1.4	16QAM	3	1	20.41	20.46	20.55		
1.4	16QAM	3	3	20.47	20.48	20.55		
1.4	16QAM	6	0	20.40	20.44	20.55	22.00	0



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Measured Power			Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.84	22.87	22.77	23.00	0
20	QPSK	1	49	22.03	22.11	22.14		
20	QPSK	1	99	22.17	22.16	22.16		
20	QPSK	50	0	22.33	22.48	22.44	23.00	0
20	QPSK	50	24	22.18	22.24	22.31		
20	QPSK	50	50	22.14	22.23	22.21		
20	QPSK	100	0	22.29	22.37	22.29	23.00	0
20	16QAM	1	0	22.82	22.93	22.8		
20	16QAM	1	49	22.40	22.48	22.52		
20	16QAM	1	99	22.46	22.5	22.51	23.00	0
20	16QAM	50	0	21.88	21.98	21.95		
20	16QAM	50	24	21.75	21.76	21.82		
20	16QAM	50	50	21.65	21.76	21.73	23.00	0
20	16QAM	100	0	21.77	21.79	21.88		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.70	22.81	22.79		
15	QPSK	1	37	22.07	22.13	22.05	23.00	0
15	QPSK	1	74	22.08	22.14	22.20		
15	QPSK	36	0	22.33	22.29	22.35	23.00	0
15	QPSK	36	20	22.17	22.24	22.18		
15	QPSK	36	39	22.14	22.19	22.17		
15	QPSK	75	0	22.19	22.27	22.23	23.00	0
15	16QAM	1	0	22.65	22.75	22.67		
15	16QAM	1	37	22.34	22.36	22.28		
15	16QAM	1	74	22.27	22.40	22.43	23.00	0
15	16QAM	36	0	21.82	21.79	21.87		
15	16QAM	36	20	21.69	21.71	21.71		
15	16QAM	36	39	21.67	21.70	21.68	23.00	0
15	16QAM	75	0	21.68	21.72	21.70		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.38	22.56	22.49	23.00	0
10	QPSK	1	25	21.90	22.08	22.05		
10	QPSK	1	49	21.92	22.05	21.99		
10	QPSK	25	0	22.16	22.19	22.15	23.00	0
10	QPSK	25	12	22.06	22.15	22.16		
10	QPSK	25	25	22.06	22.17	22.11		
10	QPSK	50	0	22.06	22.16	22.15	23.00	0
10	16QAM	1	0	22.43	22.56	22.59		
10	16QAM	1	25	22.24	22.38	22.42		
10	16QAM	1	49	22.34	22.35	22.33	23.00	0
10	16QAM	25	0	21.69	21.67	21.68		
10	16QAM	25	12	21.56	21.66	21.64		
10	16QAM	25	25	21.59	21.62	21.60	23.00	0
10	16QAM	50	0	21.55	21.65	21.68		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.29	22.38	22.36	23.00	0
5	QPSK	1	12	21.95	22.04	22.06		
5	QPSK	1	24	21.87	22.03	22.01		
5	QPSK	12	0	22.06	22.12	22.14	23.00	0
5	QPSK	12	7	22.11	22.16	22.14		
5	QPSK	12	13	22.05	22.11	22.14		
5	QPSK	25	0	22.03	22.10	22.10	23.00	0
5	16QAM	1	0	22.35	22.40	22.43		
5	16QAM	1	12	22.29	22.39	22.39		
5	16QAM	1	24	22.24	22.39	22.33	23.00	0
5	16QAM	12	0	21.61	21.63	21.65		
5	16QAM	12	7	21.61	21.65	21.70		
5	16QAM	12	13	21.61	21.64	21.67	23.00	0
5	16QAM	25	0	21.57	21.63	21.65		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	18.92	18.90	18.93		
20	QPSK	1	49	17.59	17.64	17.61	19.50	0
20	QPSK	1	99	17.83	17.88	18.02		
20	QPSK	50	0	18.12	18.18	18.44		
20	QPSK	50	24	17.75	17.80	17.79	19.50	0
20	QPSK	50	50	17.77	17.86	17.82		
20	QPSK	100	0	18.00	17.97	18.10		
20	16QAM	1	0	18.88	18.80	18.82	19.50	0
20	16QAM	1	49	17.83	17.88	17.86		
20	16QAM	1	99	18.03	18.09	18.18		
20	16QAM	50	0	18.12	18.15	18.14	19.50	0
20	16QAM	50	24	17.76	17.83	17.80		
20	16QAM	50	50	17.76	17.84	17.80		
20	16QAM	100	0	17.98	17.96	18.07		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	18.63	18.58	18.60	19.50	0
15	QPSK	1	37	17.54	17.58	17.56		
15	QPSK	1	74	17.74	17.78	17.87		
15	QPSK	36	0	18.01	18.07	18.02	19.50	0
15	QPSK	36	20	17.79	17.79	17.81		
15	QPSK	36	39	17.67	17.71	17.7		
15	QPSK	75	0	17.86	17.89	17.92	19.50	0
15	16QAM	1	0	18.53	18.44	18.54		
15	16QAM	1	37	17.83	17.86	17.8		
15	16QAM	1	74	17.93	17.92	18.05	19.50	0
15	16QAM	36	0	17.95	18.03	17.97		
15	16QAM	36	20	17.79	17.79	17.77		
15	16QAM	36	39	17.65	17.72	17.70	19.50	0
15	16QAM	75	0	17.84	17.85	17.85		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	18.26	18.18	18.35	19.50	0
10	QPSK	1	25	17.66	17.56	17.67		
10	QPSK	1	49	17.59	17.62	17.72		
10	QPSK	25	0	17.82	17.87	17.87	19.50	0
10	QPSK	25	12	17.78	17.70	17.79		
10	QPSK	25	25	17.64	17.70	17.81		
10	QPSK	50	0	17.82	17.74	17.81	19.50	0
10	16QAM	1	0	18.28	18.12	18.24		
10	16QAM	1	25	17.89	17.79	17.90		
10	16QAM	1	49	17.85	17.85	17.94	19.50	0
10	16QAM	25	0	17.83	17.84	17.83		
10	16QAM	25	12	17.76	17.71	17.80		
10	16QAM	25	25	17.64	17.69	17.81	19.50	0
10	16QAM	50	0	17.78	17.69	17.81		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	18.06	18.05	18.14	19.50	0
5	QPSK	1	12	17.64	17.57	17.76		
5	QPSK	1	24	17.65	17.61	17.75		
5	QPSK	12	0	17.78	17.66	17.88	19.50	0
5	QPSK	12	7	17.71	17.67	17.87		
5	QPSK	12	13	17.69	17.63	17.77		
5	QPSK	25	0	17.70	17.64	17.82	19.50	0
5	16QAM	1	0	18.02	17.93	17.97		
5	16QAM	1	12	17.84	17.81	17.99		
5	16QAM	1	24	17.81	17.79	17.94	19.50	0
5	16QAM	12	0	17.82	17.69	17.92		
5	16QAM	12	7	17.74	17.69	17.84		
5	16QAM	12	13	17.69	17.64	17.78	19.50	0
5	16QAM	25	0	17.69	17.65	17.82		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	17.99	17.87	18.08	19.50	0
3	QPSK	1	8	17.79	17.67	17.81		
3	QPSK	1	14	17.55	17.51	17.69		
3	QPSK	8	0	17.74	17.66	17.79	19.50	0
3	QPSK	8	4	17.79	17.65	17.87		
3	QPSK	8	7	17.73	17.60	17.82		
3	QPSK	15	0	17.77	17.64	17.78	19.50	0
3	16QAM	1	0	17.91	17.80	17.97		
3	16QAM	1	8	18.00	17.89	18.01		
3	16QAM	1	14	17.77	17.68	17.89	19.50	0
3	16QAM	8	0	17.83	17.69	17.85		
3	16QAM	8	4	17.84	17.72	17.95		
3	16QAM	8	7	17.81	17.67	17.90	19.50	0
3	16QAM	15	0	17.80	17.67	17.83		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	17.89	17.81	18.02	19.50	0
1.4	QPSK	1	3	17.67	17.58	17.81		
1.4	QPSK	1	5	17.59	17.51	17.68		
1.4	QPSK	3	0	17.67	17.58	17.79		
1.4	QPSK	3	1	17.72	17.61	17.79		
1.4	QPSK	3	3	17.71	17.60	17.81	19.50	0
1.4	QPSK	6	0	17.69	17.56	17.78		
1.4	16QAM	1	0	17.85	17.77	17.96	19.50	0
1.4	16QAM	1	3	17.95	17.83	18.03		
1.4	16QAM	1	5	17.84	17.76	17.88		
1.4	16QAM	3	0	17.72	17.58	17.80		
1.4	16QAM	3	1	17.75	17.61	17.85		
1.4	16QAM	3	3	17.74	17.63	17.85	19.50	0
1.4	16QAM	6	0	17.78	17.64	17.85		

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

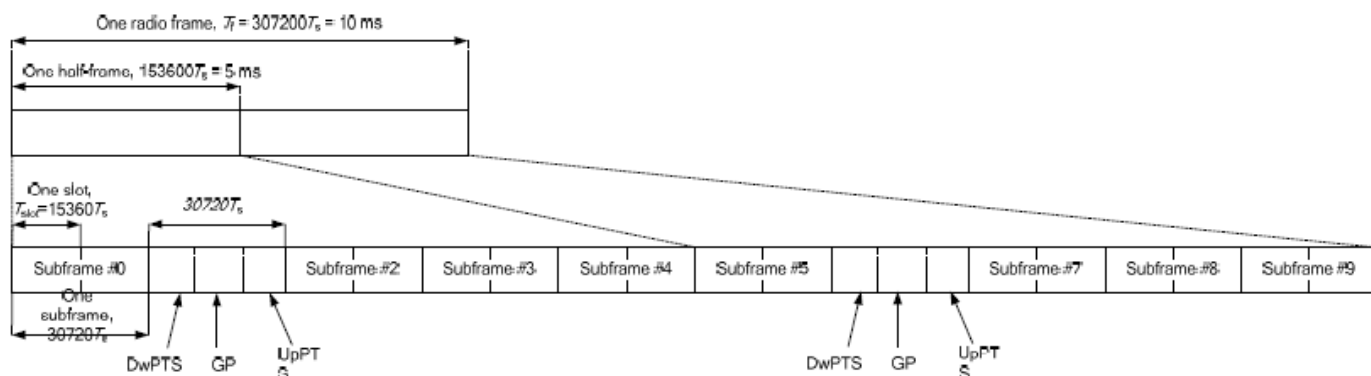


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

- Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:
 $(3+0.167)/5 = 63.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:
 $(3+0.143)/5 = 62.9\%$
- 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.

<Full Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	24.22	24.17	24.13		
20	QPSK	1	49	23.37	23.30	23.36	24.50	0
20	QPSK	1	99	23.45	23.33	23.44	23.50	1
20	QPSK	50	0	22.79	22.64	22.74		
20	QPSK	50	24	22.59	22.46	22.58		
20	QPSK	50	50	22.49	22.35	22.47	23.50	1
20	QPSK	100	0	22.61	22.44	22.60		
20	16QAM	1	0	23.01	23.00	23.04		
20	16QAM	1	49	22.60	22.52	22.52	23.50	1
20	16QAM	1	99	22.53	22.46	22.52	22.50	2
20	16QAM	50	0	21.72	21.65	21.70		
20	16QAM	50	24	21.52	21.42	21.51		
20	16QAM	50	50	21.46	21.36	21.45	22.50	2
20	16QAM	100	0	21.61	21.47	21.54		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	24.17	23.95	23.96	24.50	0
15	QPSK	1	37	23.12	23.04	23.24		
15	QPSK	1	74	23.39	23.28	23.42		
15	QPSK	36	0	22.62	22.52	22.67	23.50	1
15	QPSK	36	20	22.46	22.42	22.55		
15	QPSK	36	39	22.40	22.31	22.42		
15	QPSK	75	0	22.58	22.45	22.56	23.50	1
15	16QAM	1	0	22.92	22.84	22.89		
15	16QAM	1	37	22.39	22.36	22.45		
15	16QAM	1	74	22.58	22.50	22.53	22.50	2
15	16QAM	36	0	21.54	21.40	21.58		
15	16QAM	36	20	21.45	21.36	21.45		
15	16QAM	36	39	21.38	21.26	21.36	22.50	2
15	16QAM	75	0	21.54	21.35	21.47		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.83	23.80	23.86	24.50	0
10	QPSK	1	25	23.37	23.30	23.44		
10	QPSK	1	49	23.32	23.25	23.39		
10	QPSK	25	0	22.45	22.40	22.56	23.50	1
10	QPSK	25	12	22.47	22.38	22.52		
10	QPSK	25	25	22.33	22.30	22.46		
10	QPSK	50	0	22.49	22.36	22.56		
10	16QAM	1	0	22.67	22.68	22.71	23.50	1
10	16QAM	1	25	22.56	22.51	22.58		
10	16QAM	1	49	22.41	22.36	22.46		
10	16QAM	25	0	21.47	21.40	21.56	22.50	2
10	16QAM	25	12	21.50	21.40	21.52		
10	16QAM	25	25	21.38	21.29	21.46		
10	16QAM	50	0	21.49	21.37	21.52		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.72	23.65	23.73	24.50	0
5	QPSK	1	12	23.28	23.22	23.43		
5	QPSK	1	24	23.30	23.32	23.41		
5	QPSK	12	0	22.45	22.38	22.51	23.50	1
5	QPSK	12	7	22.39	22.39	22.55		
5	QPSK	12	13	22.38	22.30	22.49		
5	QPSK	25	0	22.36	22.30	22.49		
5	16QAM	1	0	22.54	22.56	22.68	23.50	1
5	16QAM	1	12	22.51	22.53	22.61		
5	16QAM	1	24	22.44	22.37	22.55		
5	16QAM	12	0	21.47	21.33	21.50	22.50	2
5	16QAM	12	7	21.40	21.32	21.52		
5	16QAM	12	13	21.34	21.22	21.46		
5	16QAM	25	0	21.43	21.38	21.50		



<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.93	24.15	23.95	23.91	24.16	24.50	0
20	QPSK	1	49	23.45	23.58	23.40	23.40	23.59		
20	QPSK	1	99	23.48	23.61	23.47	23.50	23.61		
20	QPSK	50	0	22.82	23.07	22.95	22.85	23.16	23.50	1
20	QPSK	50	24	22.74	22.92	22.75	22.78	22.93		
20	QPSK	50	50	22.74	22.79	22.69	22.72	22.85		
20	QPSK	100	0	22.8	22.86	22.73	22.74	22.94	23.50	1
20	16QAM	1	0	23.43	23.32	23.12	23.12	23.37		
20	16QAM	1	49	22.61	22.71	22.53	22.59	22.77		
20	16QAM	1	99	22.59	22.66	22.64	22.56	22.84	22.50	2
20	16QAM	50	0	21.94	22.11	22.06	22.02	22.21		
20	16QAM	50	24	21.83	21.98	21.81	21.81	21.97		
20	16QAM	50	50	21.80	21.83	21.74	21.74	21.89	22.50	2
20	16QAM	100	0	21.83	21.93	21.84	21.86	21.98		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.87	23.92	23.86	23.86	24.20	24.50	0
15	QPSK	1	37	23.37	23.47	23.22	23.32	23.49		
15	QPSK	1	74	23.58	23.42	23.50	23.55	23.70		
15	QPSK	36	0	22.90	22.95	22.87	22.96	23.04	23.50	1
15	QPSK	36	20	22.71	22.86	22.72	22.79	22.91		
15	QPSK	36	39	22.65	22.70	22.62	22.68	22.85		
15	QPSK	75	0	22.7	22.88	22.72	22.71	22.94	23.50	1
15	16QAM	1	0	23.00	23.11	23.05	22.94	23.36		
15	16QAM	1	37	22.49	22.71	22.46	22.58	22.72		
15	16QAM	1	74	22.67	22.39	22.60	22.66	22.84	22.50	2
15	16QAM	36	0	21.92	21.97	21.91	21.83	22.02		
15	16QAM	36	20	21.74	21.92	21.74	21.76	21.92		
15	16QAM	36	39	21.64	21.65	21.65	21.67	21.79	22.50	2
15	16QAM	75	0	21.74	21.92	21.74	21.76	21.91		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.56	23.66	23.52	23.54	23.81	24.50	0
10	QPSK	1	25	23.35	23.42	23.32	23.55	23.64		
10	QPSK	1	49	23.36	23.46	23.28	23.22	23.62		
10	QPSK	25	0	22.68	22.79	22.69	22.71	22.94	23.50	1
10	QPSK	25	12	22.49	22.69	22.55	22.76	22.90		
10	QPSK	25	25	22.51	22.65	22.48	22.67	22.82		
10	QPSK	50	0	22.52	22.70	22.53	22.75	22.89		
10	16QAM	1	0	22.74	22.85	22.73	22.73	22.98	23.50	1
10	16QAM	1	25	22.48	22.41	22.48	22.65	22.84		
10	16QAM	1	49	22.44	22.59	22.35	22.37	22.78		
10	16QAM	25	0	21.74	21.88	21.77	21.80	22.00	22.50	2
10	16QAM	25	12	21.67	21.66	21.66	21.78	21.98		
10	16QAM	25	25	21.60	21.73	21.56	21.74	21.89		
10	16QAM	50	0	21.61	21.73	21.65	21.75	21.91		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5		
5	QPSK	1	0	23.46	23.60	23.43	23.63	23.71	24.50	0
5	QPSK	1	12	23.38	23.51	23.29	23.43	23.63		
5	QPSK	1	24	23.26	23.34	23.22	23.36	23.55		
5	QPSK	12	0	22.58	22.76	22.56	22.74	22.92	23.50	1
5	QPSK	12	7	22.67	22.89	22.59	22.78	22.94		
5	QPSK	12	13	22.61	22.66	22.52	22.69	22.91		
5	QPSK	25	0	22.63	22.75	22.51	22.68	22.88		
5	16QAM	1	0	22.50	22.51	22.57	22.78	22.92	23.50	1
5	16QAM	1	12	22.58	22.51	22.37	22.71	22.88		
5	16QAM	1	24	22.43	22.46	22.39	22.59	22.75		
5	16QAM	12	0	21.61	21.80	21.59	21.73	21.92	22.50	2
5	16QAM	12	7	21.64	21.80	21.59	21.72	21.91		
5	16QAM	12	13	21.64	21.65	21.59	21.69	21.86		
5	16QAM	25	0	21.67	21.82	21.63	21.77	21.94		



LTE Carrier Aggregation Conducted Power

General Note:

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink carrier aggregation only. Uplink carrier aggregation is not supported. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. 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.

Configure	PCC						SCC				Measured Power	
	LTE Band	BW (MHz)	Freq. (MHz)	Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	Freq. (MHz)	Channel	LTE Rel 11 Tx. Power (dBm)	LTE Rel 8 Tx. Power (dBm)
Inter-Band (Full power)	Band 2	20M	1900	19100	1	0	Band 4	20M	2132.5	2175	24.01	24.03
	Band 4	20M	1732.5	20175	1	0	Band 2	20M	1960	900	24.42	24.43
	Band 2	20M	1900	19100	1	0	Band 5	10M	881.5	2525	24.01	24.03
	Band 5	10M	844	20600	1	25	Band 2	20M	1960	900	23.36	23.39
	Band 2	20M	1900	19100	1	0	Band 12	10M	737.5	5095	24.01	24.03
	Band 12	10M	711	23130	1	25	Band 2	20M	1960	900	23.16	23.19
	Band 2	20M	1900	19100	1	0	Band 13	10M	751	5230	24.01	24.03
	Band 13	10M	782	23230	1	49	Band 2	20M	1960	900	23.35	23.36
	Band 2	10M	1905	19150	1	0	Band 17	10M	739	5780	23.28	23.37
	Band 17	10M	711	23800	1	25	Band 2	10M	1960	900	23.13	23.17
	Band 2	20M	1900	19100	1	0	Band 29	10M	722.5	9715	24.01	24.03
	Band 4	20M	1732.5	20175	1	0	Band 5	10M	881.5	2525	24.42	24.43
	Band 5	10M	844	20600	1	25	Band 4	20M	2132.5	2175	23.36	23.39
	Band 4	20M	1732.5	20175	1	0	Band 12	10M	737.5	5095	24.35	24.43
	Band 12	10M	711	23130	1	25	Band 4	20M	2132.5	2175	23.12	23.19
	Band 4	20M	1732.5	20175	1	0	Band 13	10M	751	5230	24.42	24.43
	Band 13	10M	782	23230	1	49	Band 4	20M	2132.5	2175	23.35	23.36
	Band 4	10M	1732.5	20175	1	0	Band 17	10M	739	5780	23.69	23.72
	Band 17	10M	711	23800	1	25	Band 4	10M	2132.5	2175	23.13	23.17
	Band 4	20M	1732.5	20175	1	0	Band 29	10M	722.5	9715	24.42	24.43
	Band 5	10M	844	20600	1	25	Band 30	10M	2355	9820	23.37	23.39
	Band 30	10M	2310	27710	1	0	Band 5	10M	881.5	2525	23.51	23.54
	Band 26	15M	821.5	26765	1	37	Band 25	20M	1880	8365	23.25	23.27
	Band 25	20M	1905	26590	1	0	Band26	15M	831.5	8865	24.02	24.03
	Band 30	10M	2310	27710	1	0	Band 29	10M	722.5	9715	23.51	23.54
	Band 12	10M	711	23130	1	25	Band 30	10M	2355	9820	23.15	23.19
	Band 30	10M	2310	27710	1	0	Band 12	10M	737.5	5095	23.53	23.54
Inter-Band (Reduced power)	Band 2	20M	1900	19100	1	0	Band 4	20M	2132.5	2175	18.92	18.95
	Band 4	20M	1732.5	20175	1	0	Band 2	20M	1960	900	21.85	21.83
	Band 2	20M	1900	19100	1	0	Band 5	10M	881.5	2525	18.90	18.95
	Band 5	10M	844	20600	1	25	Band 2	20M	1960	900	23.35	23.39



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	Band 2	20M	1900	19100	1	0	Band 12	10M	737.5	5095	18.91	18.95
	Band 12	10M	711	23130	1	25	Band 2	20M	1960	900	23.15	23.19
	Band 2	20M	1900	19100	1	0	Band 13	10M	751	5230	18.91	18.95
	Band 13	10M	782	23230	1	49	Band 2	20M	1960	900	23.34	23.36
	Band 2	10M	1855	18650	1	0	Band 17	10M	739	5780	18.15	18.2
	Band 17	10M	711	23800	1	25	Band 2	10M	1960	900	23.15	23.17
	Band 2	20M	1900	19100	1	0	Band 29	10M	722.5	9715	18.92	18.95
	Band 4	20M	1732.5	20175	1	0	Band 5	10M	881.5	2525	21.85	21.83
	Band 5	10M	844	20600	1	25	Band 4	20M	2132.5	2175	23.35	23.39
	Band 4	20M	1732.5	20175	1	0	Band 12	10M	737.5	5095	21.85	21.83
	Band 12	10M	711	23130	1	25	Band 4	20M	2132.5	2175	23.15	23.19
	Band 4	20M	1732.5	20175	1	0	Band 13	10M	751	5230	21.85	21.83
	Band 13	10M	782	23230	1	49	Band 4	20M	2132.5	2175	23.34	23.36
	Band 4	10M	1750	20350	1	0	Band 17	10M	739	5780	21.05	21.1
	Band 17	10M	711	23800	1	25	Band 4	10M	2132.5	2175	23.15	23.17
	Band 4	20M	1732.5	20175	1	0	Band 29	10M	722.5	9715	21.85	21.83
	Band 25	20M	1905	26590	1	0	Band26	15M	831.5	8865	18.95	18.93
Intra-Band (Full power)-Contiguous	Band 7	20M	2510	20850	1	0	Band 7	20M	2650	3050	23.94	24.01
	Band 7	20M	2535	21100	1	0	Band 7	20M	2635	2900	23.98	24.1
	Band 7	20M	2535	21100	1	0	Band 7	20M	2675	3300	23.98	24.1
	Band 7	20M	2560	21350	1	0	Band 7	20M	2660	3150	23.87	23.89
	Band 38	20M	2580	37850	1	0	Band 38	20M	2600	38050	24.20	24.22
	Band 38	20M	2595	38000	1	0	Band 38	20M	2575	27800	24.10	24.17
	Band 38	20M	2595	38000	1	0	Band 38	20M	2615	38200	24.10	24.17
	Band 38	20M	2610	38150	1	0	Band 38	20M	2590	37950	24.05	24.13
	Band 41	20M	2506	39750	1	0	Band 41	20M	2526	39950	23.90	23.93
	Band 41	20M	2549.5	40185	1	0	Band 41	20M	2529.5	39985	24.11	24.15
	Band 41	20M	2549.5	40185	1	0	Band 41	20M	2569.5	40385	24.11	24.15
	Band 41	20M	2593	40620	1	0	Band 41	20M	2573	40420	23.93	23.95
	Band 41	20M	2593	40620	1	0	Band 41	20M	2613	40820	23.93	23.95
	Band 41	20M	2636.5	41055	1	0	Band 41	20M	2616.5	40855	23.90	23.91
	Band 41	20M	2636.5	41055	1	0	Band 41	20M	2656.5	41255	23.88	23.91
	Band 41	20M	2680	41490	1	0	Band 41	20M	2660	41290	24.10	24.16
	Band 7	20M	2510	20850	1	0	Band 7	20M	2650	3050	22.80	22.84
Intra-Band (Reduced power) Contiguous	Band 7	20M	2535	21100	1	0	Band 7	20M	2635	2900	22.84	22.87
	Band 7	20M	2535	21100	1	0	Band 7	20M	2675	3300	22.84	22.87
	Band 7	20M	2560	21350	1	0	Band 7	20M	2660	3150	22.74	22.77
	Band 7	20M	2560	21350	1	0	Band 7	20M	2660	3150	22.74	22.77
Intra-Band (Full power) Non-Contiguous	Band 4	20M	1720	20050	1	0	Band 4	20M	2145	2300	24.30	24.35
	Band 4	20M	1745	20300	1	0	Band 4	20M	2120	2050	24.35	24.41
	Band 7	20M	2510	20850	1	0	Band 7	20M	2680	3350	24.00	24.01
	Band 7	20M	2535	21100	1	0	Band 7	20M	2680	3350	23.95	24.10
	Band 7	20M	2560	21350	1	0	Band 7	20M	2630	2850	23.85	23.89
	Band 7	20M	2560	21350	1	0	Band 7	20M	2655	3100	23.85	23.89
	Band 41	20M	2506	39750	1	0	Band 41	20M	2680	41490	23.91	23.93
	Band 41	20M	2680	41490	1	0	Band 41	20M	2506	39750	24.13	24.16
Intra-Band (Reduced power) Non-Contiguous	Band 4	20M	1720	20050	1	0	Band 4	20M	2145	2300	21.73	21.78
	Band 4	20M	1745	20300	1	0	Band 4	20M	2120	2050	21.75	21.80
	Band 7	20M	2510	20850	1	0	Band 7	20M	2680	3350	22.83	22.84
	Band 7	20M	2535	21100	1	0	Band 7	20M	2680	3350	22.85	22.87
	Band 7	20M	2560	21350	1	0	Band 7	20M	2630	2850	22.74	22.77
	Band 7	20M	2560	21350	1	0	Band 7	20M	2655	3100	22.74	22.77

<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.

<Full Power Mode>

<2.4GHz WLAN ANT 1>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 1	802.11b	CH 1	2412	1Mbps	21.78	22.00	98.60
		CH 6	2437		21.71	22.00	
		CH 11	2462		21.91	22.00	
	802.11g	CH 1	2412	6Mbps	17.89	18.00	92.72
		CH 6	2437		17.80	18.00	
		CH 11	2462		17.85	18.00	
	802.11n-HT20	CH 1	2412	MCS0	17.96	18.50	92.25
		CH 6	2437		18.01	18.50	
		CH 11	2462		18.16	18.50	

<2.4GHz WLAN ANT 2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 2	802.11b	CH 1	2412	1Mbps	18.84	19.50	98.71
		CH 6	2437		18.69	19.50	
		CH 11	2462		18.89	19.50	
	802.11g	CH 1	2412	6Mbps	17.25	17.50	92.72
		CH 6	2437		17.00	17.50	
		CH 11	2462		17.22	17.50	
	802.11n-HT20	CH 1	2412	MCS0	15.85	16.50	92.25
		CH 6	2437		15.68	16.50	
		CH 11	2462		16.06	16.50	

<2.4GHz WLAN ANT 1+2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 1+2	802.11n-HT20	CH 1	2412	MCS0	18.32	18.50	92.25
		CH 6	2437		18.20	18.50	
		CH 11	2462		18.38	18.50	

<5GHz WLAN ANT1>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN ANT 1	802.11a	CH 36	5180	6Mbps	17.25	18.50	93.38
		CH 40	5200		17.09	18.50	
		CH 44	5220		17.47	18.50	
		CH 48	5240		17.55	18.50	
	802.11n-HT20	CH 36	5180	MCS0	16.90	18.00	92.37
		CH 40	5200		16.86	18.00	
		CH 44	5220		17.13	18.00	
		CH 48	5240		17.25	18.00	
	802.11n-HT40	CH 38	5190	MCS0	17.24	18.00	86.67
		CH 46	5230		17.53	18.00	
	802.11ac-VHT20	CH 36	5180	MCS0	16.87	18.00	92.29
		CH 40	5200		16.84	18.00	
		CH 44	5220		17.16	18.00	
		CH 48	5240		17.24	18.00	
	802.11ac-VHT40	CH 38	5190	MCS0	16.42	17.50	86.81
		CH 46	5230		16.73	17.50	
	802.11ac-VHT80	CH 42	5210	MCS0	15.42	16.00	76.42

5.3GHz WLAN ANT 1	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a	CH 52	5260	6Mbps	17.78	18.50	93.38
		CH 56	5280		17.88	18.50	
		CH 60	5300		17.76	18.50	
		CH 64	5320		17.85	18.50	
	802.11n-HT20	CH 52	5260	MCS0	17.46	18.00	92.37
		CH 56	5280		17.60	18.00	
		CH 60	5300		17.57	18.00	
		CH 64	5320		17.47	18.00	
	802.11n-HT40	CH 54	5270	MCS0	17.83	18.00	86.67
		CH 62	5310		17.85	18.00	
	802.11ac-VHT20	CH 52	5260	MCS0	17.47	18.00	92.29
		CH 56	5280		17.58	18.00	
		CH 60	5300		17.58	18.00	
		CH 64	5320		17.55	18.00	
	802.11ac-VHT40	CH 54	5270	MCS0	17.12	17.50	86.81
		CH 62	5310		17.16	17.50	
	802.11ac-VHT80	CH 58	5290	MCS0	16.06	16.50	76.42

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN ANT 1	802.11a	CH 100	5500	6Mbps	16.66	18.50	93.38
		CH 104	5520		16.81	18.50	
		CH 108	5540		16.75	18.50	
		CH 112	5560		17.09	18.50	
		CH 116	5580		17.48	18.50	
		CH 120	5600		17.78	18.50	
		CH 124	5620		17.83	18.50	
		CH 128	5640		17.85	18.50	
		CH 132	5660		17.98	18.50	
		CH 136	5680		17.88	18.50	
		CH 140	5700		17.49	18.50	
	802.11n-HT20	CH 100	5500	MCS0	16.46	18.00	92.37
		CH 104	5520		16.59	18.00	
		CH 108	5540		16.57	18.00	
		CH 112	5560		16.85	18.00	
		CH 116	5580		17.26	18.00	
		CH 120	5600		17.56	18.00	
		CH 124	5620		17.58	18.00	
		CH 128	5640		17.65	18.00	
		CH 132	5660		17.77	18.00	
		CH 136	5680		17.68	18.00	
		CH 140	5700		17.27	18.00	
	802.11n-HT40	CH 102	5510	MCS0	16.23	18.00	86.67
		CH 110	5550		16.27	18.00	
		CH 126	5630		17.23	18.00	
		CH 134	5670		17.25	18.00	
		CH 142	5710		16.71	18.00	
	802.11ac-VHT20	CH 100	5500	MCS0	16.48	18.00	92.29
		CH 104	5520		16.61	18.00	
		CH 108	5540		16.54	18.00	
		CH 112	5560		16.90	18.00	
		CH 116	5580		17.25	18.00	
		CH 120	5600		17.58	18.00	
		CH 124	5620		17.62	18.00	
		CH 128	5640		17.67	18.00	

		CH 132	5660		17.73	18.00	
		CH 136	5680		17.70	18.00	
		CH 140	5700		17.21	18.00	
	802.11ac-VHT40	CH 102	5510	MCS0	16.22	18.00	86.81
		CH 110	5550		16.26	18.00	
		CH 126	5630		17.18	18.00	
		CH 134	5670		17.22	18.00	
		CH 142	5710		16.67	18.00	
	802.11ac-VHT80	CH 106	5530	MCS0	14.88	16.00	76.42
		CH 122	5610		15.74	16.00	
		CH 138	5690		15.72	16.00	

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN ANT 1	802.11a	CH 149	5745	MCS0	17.28	18.00	93.38
		CH 153	5765		16.78	18.00	
		CH 157	5785		16.54	18.00	
		CH 161	5805		16.76	18.00	
		CH 165	5825		16.92	18.00	
	802.11n-HT20	CH 149	5745	MCS0	16.99	17.00	92.37
		CH 153	5765		16.59	17.00	
		CH 157	5785		16.36	17.00	
		CH 161	5805		16.42	17.00	
		CH 165	5825		16.69	17.00	
	802.11n-HT40	CH 151	5755	MCS0	17.24	17.50	86.67
		CH 159	5795		16.73	17.50	
	802.11ac-VHT20	CH 149	5745	MCS0	16.97	17.50	92.29
		CH 153	5765		16.60	17.50	
		CH 157	5785		16.36	17.50	
		CH 161	5805		16.43	17.50	
		CH 165	5825		16.70	17.50	
	802.11ac-VHT40	CH 151	5755	MCS0	16.50	17.50	86.81
		CH 159	5795		16.03	17.50	
	802.11ac-VHT80	CH 155	5775	MCS0	16.03	17.50	76.42

<5GHz WLAN ANT2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN ANT 2	802.11a	CH 36	5180	6Mbps	17.33	18.00	92.98
		CH 40	5200		17.47	18.00	
		CH 44	5220		16.96	18.00	
		CH 48	5240		17.18	18.00	
	802.11n-HT20	CH 36	5180	MCS0	17.01	17.50	92.25
		CH 40	5200		17.14	17.50	
		CH 44	5220		16.70	17.50	
		CH 48	5240		16.80	17.50	
	802.11n-HT40	CH 38	5190	MCS0	17.37	17.50	86.67
		CH 46	5230		17.15	17.50	
	802.11ac-VHT20	CH 36	5180	MCS0	17.00	17.50	93.62
		CH 40	5200		17.05	17.50	
		CH 44	5220		16.74	17.50	
		CH 48	5240		16.77	17.50	
	802.11ac-VHT40	CH 38	5190	MCS0	16.72	17.50	86.91
		CH 46	5230		16.76	17.50	
	802.11ac-VHT80	CH 42	5210	MCS0	16.15	16.50	76.89

5.3GHz WLAN ANT 2	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a	CH 52	5260	6Mbps	17.07	18.00	92.98
		CH 56	5280		16.88	18.00	
		CH 60	5300		16.80	18.00	
		CH 64	5320		16.94	18.00	
	802.11n-HT20	CH 52	5260	MCS0	16.78	17.50	92.25
		CH 56	5280		16.73	17.50	
		CH 60	5300		16.60	17.50	
		CH 64	5320		16.58	17.50	
	802.11n-HT40	CH 54	5270	MCS0	17.04	17.50	86.67
		CH 62	5310		16.91	17.50	
	802.11ac-VHT20	CH 52	5260	MCS0	16.70	17.50	93.62
		CH 56	5280		16.67	17.50	
		CH 60	5300		16.54	17.50	
		CH 64	5320		16.52	17.50	
	802.11ac-VHT40	CH 54	5270	MCS0	17.03	17.50	86.91
		CH 62	5310		16.88	17.50	
	802.11ac-VHT80	CH 58	5290	MCS0	15.66	16.00	76.89

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN ANT 2	802.11a	CH 100	5500	6Mbps	16.47	17.00	92.98
		CH 104	5520		16.07	17.00	
		CH 108	5540		15.98	17.00	
		CH 112	5560		16.39	17.00	
		CH 116	5580		16.11	17.00	
		CH 120	5600		15.83	17.00	
		CH 124	5620		15.65	17.00	
		CH 128	5640		16.14	17.00	
		CH 132	5660		15.38	17.00	
		CH 136	5680		15.37	17.00	
		CH 140	5700		15.48	17.00	
	802.11n-HT20	CH 100	5500	MCS0	17.72	18.00	92.25
		CH 104	5520		16.24	18.00	
		CH 108	5540		16.43	18.00	
		CH 112	5560		16.40	18.00	
		CH 116	5580		16.87	18.00	
		CH 120	5600		16.50	18.00	
		CH 124	5620		16.70	18.00	
		CH 128	5640		16.80	18.00	
		CH 132	5660		16.24	18.00	
		CH 136	5680		16.14	18.00	
		CH 140	5700		16.37	18.00	
	802.11n-HT40	CH 102	5510	MCS0	17.01	17.50	86.67
		CH 110	5550		17.00	17.50	
		CH 126	5630		16.27	17.50	
		CH 134	5670		15.67	17.50	
		CH 142	5710		15.96	17.50	
	802.11ac-VHT20	CH 100	5500	MCS0	17.62	18.00	93.62
		CH 104	5520		17.21	18.00	
		CH 108	5540		17.34	18.00	
		CH 112	5560		17.41	18.00	
		CH 116	5580		16.84	18.00	
		CH 120	5600		16.42	18.00	
		CH 124	5620		16.70	18.00	
		CH 128	5640		16.73	18.00	

		CH 132	5660		16.20	18.00	
		CH 136	5680		16.08	18.00	
		CH 140	5700		16.34	18.00	
	802.11ac-VHT40	CH 102	5510	MCS0	16.99	17.50	86.91
		CH 110	5550		16.96	17.50	
		CH 126	5630		16.19	17.50	
		CH 134	5670		15.59	17.50	
		CH 142	5710		15.92	17.50	
	802.11ac-VHT80	CH 106	5530	MCS0	15.31	16.00	76.89
		CH 122	5610		14.66	16.00	
		CH 138	5690		14.36	16.00	

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN ANT 2	802.11a	CH 149	5745	MCS0	17.60	18.50	92.98
		CH 153	5785		17.53	18.50	
		CH 157	5785		17.99	18.50	
		CH 161	5785		17.95	18.50	
		CH 165	5825		17.04	18.50	
	802.11n-HT20	CH 149	5745	MCS0	17.09	18.00	92.25
		CH 153	5765		17.43	18.00	
		CH 157	5785		17.80	18.00	
		CH 161	5805		17.78	18.00	
		CH 165	5825		16.86	18.00	
	802.11n-HT40	CH 151	5755	MCS0	16.67	18.00	86.67
		CH 159	5795		17.23	18.00	
	802.11ac-VHT20	CH 149	5745	MCS0	17.05	18.00	93.62
		CH 153	5765		17.44	18.00	
		CH 157	5785		17.71	18.00	
		CH 161	5805		17.74	18.00	
		CH 165	5825		16.82	18.00	
	802.11ac-VHT40	CH 151	5755	MCS0	15.86	17.00	86.91
		CH 159	5795		16.55	17.00	
	802.11ac-VHT80	CH 155	5775	MCS0	15.76	17.00	76.89

<5GHz WLAN ANT1+2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN ANT 1+2	802.11n-HT20	CH 36	5180	MCS0	18.95	19.50	93.75
		CH 40	5200		19.10	19.50	
		CH 44	5220		19.05	19.50	
		CH 48	5240		19.13	19.50	
	802.11n-HT40	CH 38	5190	MCS0	17.32	18.00	86.67
		CH 46	5230		17.54	18.00	
	802.11ac-VHT20	CH 36	5180	MCS0	18.91	19.50	87.28
		CH 40	5200		19.04	19.50	
		CH 44	5220		19.01	19.50	
		CH 48	5240		19.09	19.50	
	802.11ac-VHT40	CH 38	5190	MCS0	17.42	18.00	78.07
		CH 46	5230		17.67	18.00	
	802.11ac-VHT80	CH 42	5210	MCS0	16.38	17.00	65.73

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN ANT 1+2	802.11n-HT20	CH 52	5260	MCS0	19.22	19.50	93.75
		CH 56	5280		19.24	19.50	
		CH 60	5300		19.21	19.50	
		CH 64	5320		19.15	19.50	
	802.11n-HT40	CH 54	5270	MCS0	18.86	19.00	86.67
		CH 62	5310		18.71	19.00	
	802.11ac-VHT20	CH 52	5260	MCS0	19.15	19.50	87.28
		CH 56	5280		19.19	19.50	
		CH 60	5300		19.19	19.50	
		CH 64	5320		19.11	19.50	
	802.11ac-VHT40	CH 54	5270	MCS0	18.85	19.00	78.07
		CH 62	5310		18.83	19.00	
	802.11ac-VHT80	CH 58	5290	MCS0	17.45	18.00	65.73

5.5GHz WLAN ANT 1+2	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11n-HT20	CH 100	5500	MCS0	18.63	19.00	93.75
		CH 104	5520		18.49	19.00	
		CH 108	5540		18.60	19.00	
		CH 112	5560		18.74	19.00	
		CH 116	5580		18.94	19.00	
		CH 120	5600		18.78	19.00	
		CH 124	5620		18.82	19.00	
		CH 128	5640		18.88	19.00	
		CH 132	5660		18.78	19.00	
		CH 136	5680		18.74	19.00	
		CH 140	5700		18.53	19.00	
	802.11n-HT40	CH 102	5510	MCS0	16.89	18.00	86.67
		CH 110	5550		16.87	18.00	
		CH 126	5630		17.50	18.00	
		CH 134	5670		17.22	18.00	
		CH 142	5710		17.09	18.00	
	802.11ac-VHT20	CH 100	5500	MCS0	18.62	19.00	87.28
		CH 104	5520		18.47	19.00	
		CH 108	5540		18.58	19.00	
		CH 112	5560		18.72	19.00	
		CH 116	5580		18.79	19.00	
		CH 120	5600		18.75	19.00	
		CH 124	5620		18.86	19.00	
		CH 128	5640		18.92	19.00	
		CH 132	5660		18.77	19.00	
		CH 136	5680		18.73	19.00	
		CH 140	5700		18.51	19.00	
	802.11ac-VHT40	CH 102	5510	MCS0	17.09	18.00	78.07
		CH 110	5550		17.08	18.00	
		CH 126	5630		17.59	18.00	
		CH 134	5670		17.33	18.00	
		CH 142	5710		17.23	18.00	
	802.11ac-VHT80	CH 106	5530	MCS0	15.67	16.50	65.73
		CH 122	5610		16.17	16.50	
		CH 138	5690		15.99	16.50	

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN ANT 1+2	802.11n-HT20	CH 149	5745	MCS0	18.47	19.00	93.75
		CH 153	5765		18.27	19.00	
		CH 157	5785		18.26	19.00	
		CH 161	5805		18.20	19.00	
		CH 165	5825		18.14	19.00	
	802.11n-HT40	CH 151	5755	MCS0	17.88	18.00	86.67
		CH 159	5795		17.98	18.00	
	802.11ac-VHT20	CH 149	5745	MCS0	18.27	18.50	87.28
		CH 153	5765		18.25	18.50	
		CH 157	5785		18.36	18.50	
		CH 161	5805		18.37	18.50	
		CH 165	5825		18.12	18.50	
	802.11ac-VHT40	CH 151	5755	MCS0	17.94	18.50	78.07
		CH 159	5795		17.91	18.50	
	802.11ac-VHT80	CH 155	5775	MCS0	17.66	18.50	65.73

<Reduced Power Mode>

<2.4GHz WLAN ANT1>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 1	802.11b	CH 1	2412	1Mbps	16.64	17.00	98.60
		CH 6	2437		16.68	17.00	
		CH 11	2462		16.75	17.00	
	802.11g	CH 1	2412	6Mbps	16.47	16.50	92.72
		CH 6	2437		16.37	16.50	
		CH 11	2462		16.48	16.50	
	802.11n-HT20	CH 1	2412	MCS0	16.16	16.50	92.25
		CH 6	2437		16.24	16.50	
		CH 11	2462		16.27	16.50	

<2.4GHz WLAN ANT2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 2	802.11b	CH 1	2412	1Mbps	15.71	16.50	98.71
		CH 6	2437		15.62	16.50	
		CH 11	2462		15.87	16.50	
	802.11g	CH 1	2412	6Mbps	15.22	16.00	92.72
		CH 6	2437		15.51	16.00	
		CH 11	2462		15.69	16.00	
	802.11n-HT20	CH 1	2412	MCS0	15.93	16.00	92.25
		CH 6	2437		15.98	16.00	
		CH 11	2462		15.98	16.00	

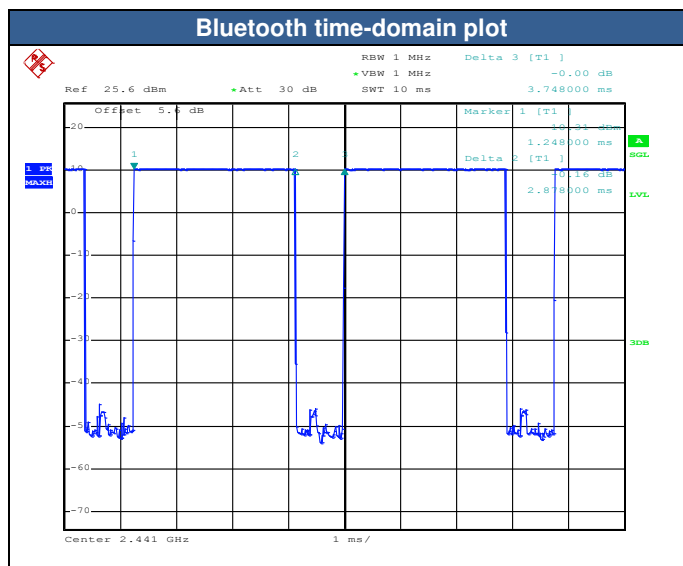
<2.4GHz WLAN ANT1+2>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN ANT 1+2	802.11n-HT20	CH 1	2412	MCS0	15.83	16.00	92.25
		CH 6	2437		15.84	16.00	
		CH 11	2462		15.87	16.00	

<2.4GHz Bluetooth>

General Note:

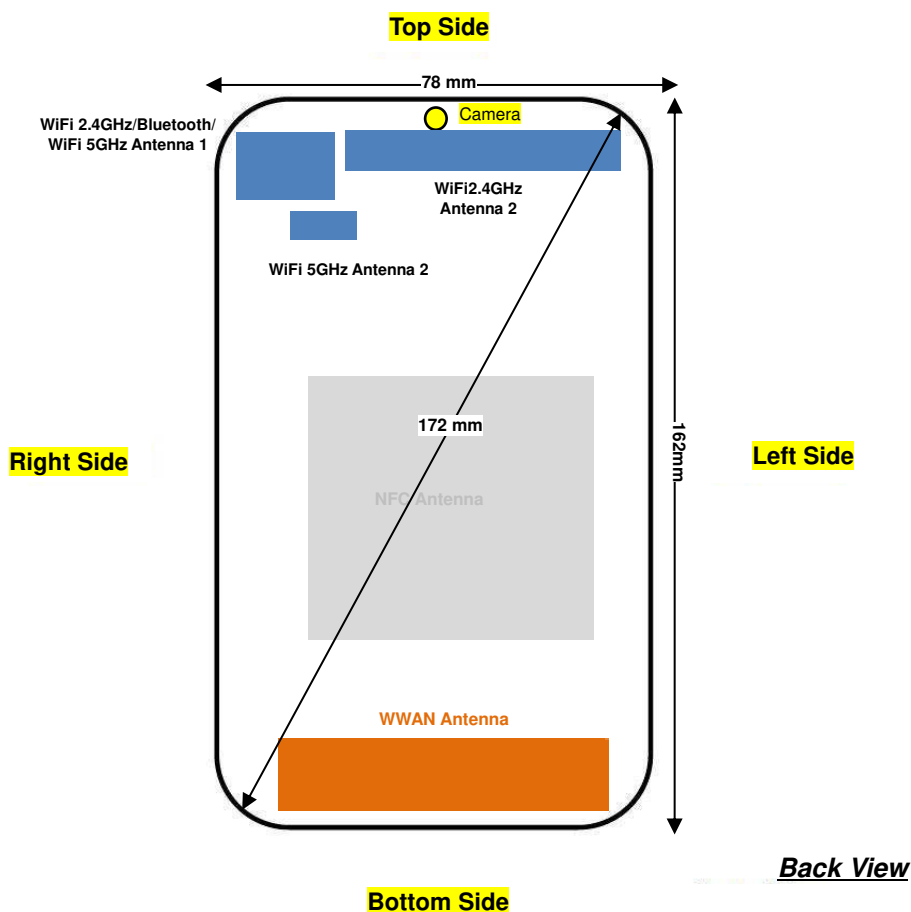
1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.8% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation



Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
Bluetooth 3.0+EDR	CH 00	2402	9.91
	CH 39	2441	9.98
	CH 78	2480	8.98
Tune-up Limit			10.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
Bluetooth v4.0/4.2 with LE	CH 00	2402	0.85
	CH 19	2440	1.60
	CH 39	2480	0.58
Tune-up Limit			2.00

13. Antenna Location



Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm	≤ 25mm
Bluetooth & 2.4G/5GHz WLAN Ant.1	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	> 25mm
2.4GHz WLAN Ant.2	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	≤ 25mm
5GHz WLAN Ant.2	≤ 25mm	≤ 25mm	≤ 25mm	> 25mm	≤ 25mm	> 25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN	Yes	Yes	No	Yes	Yes	Yes
Bluetooth & 2.4G/5GHz WLAN Ant.1	Yes	Yes	Yes	No	Yes	No
2.4GHz WLAN Ant.2	Yes	Yes	Yes	No	Yes	Yes
5GHz WLAN Ant.2	Yes	Yes	Yes	No	Yes	No

General Note:

Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/BT: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg) * Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g 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. When the phone receiver is not worked, GSM1900, WCDMA Band II/IV, CDMA2000 BC1, LTE Band 2/4/7/25 power reduction applied to satisfy SAR compliance. Since the 1g reported SAR > 1.2 W/kg under full power, so we need verify product specific 10g SAR with full power.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. Bluetooth verified the product specific 10g SAR due to simultaneous analysis.
 - d. 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.

GSM Note:

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

UMTS Note:

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

**CDMA Note:**

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / 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 band 17 / 2 / 5 / 38 SAR test was covered by Band 12 / 25 / 26 / 41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

**WLAN Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. 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.
6. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

**14.1 Head SAR****<GSM SAR>**

Plot No.	Band	Mode	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	GSM850	GPRS 4 Tx slots	Right Cheek	ON	Off	128	824.2	29	29.5	1.122	0.18	0.494	0.554
	GSM850	GPRS 4 Tx slots	Right Tilted	ON	Off	128	824.2	29	29.5	1.122	0.15	0.225	0.252
	GSM850	GPRS 4 Tx slots	Left Cheek	ON	Off	128	824.2	29	29.5	1.122	0.12	0.342	0.384
	GSM850	GPRS 4 Tx slots	Left Tilted	ON	Off	128	824.2	29	29.5	1.122	0.1	0.234	0.263
	GSM850	GPRS 4 Tx slots	Right Cheek	ON	Off	189	836.4	28.86	29.5	1.159	0.18	0.471	0.546
	GSM850	GPRS 4 Tx slots	Right Cheek	ON	Off	251	848.8	28.88	29.5	1.153	0.05	0.444	0.512
	GSM1900	GPRS 3 Tx slots	Right Cheek	ON	Off	810	1909.8	27.67	28	1.079	0.08	0.052	0.056
	GSM1900	GPRS 3 Tx slots	Right Tilted	ON	Off	810	1909.8	27.67	28	1.079	-0.15	0.046	0.050
	GSM1900	GPRS 3 Tx slots	Left Cheek	ON	Off	810	1909.8	27.67	28	1.079	0.14	0.091	0.098
	GSM1900	GPRS 3 Tx slots	Left Tilted	ON	Off	810	1909.8	27.67	28	1.079	-0.05	0.031	0.033
02	GSM1900	GPRS 3 Tx slots	Left Cheek	ON	Off	512	1850.2	27.32	28	1.169	0.01	0.133	0.156
	GSM1900	GPRS 3 Tx slots	Left Cheek	ON	Off	661	1880	27.56	28	1.107	0.04	0.099	0.110



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	ON	Off	4132	826.4	23.54	24	1.112	0.14	0.355	0.395
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	ON	Off	4132	826.4	23.54	24	1.112	0.11	0.176	0.196
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	ON	Off	4132	826.4	23.54	24	1.112	0.04	0.241	0.268
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	ON	Off	4132	826.4	23.54	24	1.112	0.15	0.170	0.189
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	ON	Off	4182	836.4	23.39	24	1.151	0.1	0.365	0.420
03	WCDMA Band V	RMC 12.2Kbps	Right Cheek	ON	Off	4233	846.6	23.49	24	1.125	0.12	0.375	0.422
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	ON	Off	1413	1732.6	23.68	24	1.076	0.07	0.072	0.078
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	ON	Off	1413	1732.6	23.68	24	1.076	0.13	0.070	0.075
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	ON	Off	1413	1732.6	23.68	24	1.076	0.09	0.153	0.165
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	ON	Off	1413	1732.6	23.68	24	1.076	0.18	0.047	0.051
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	ON	Off	1312	1712.4	23.57	24	1.104	-0.17	0.163	0.180
04	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	ON	Off	1513	1752.6	23.63	24	1.089	0.07	0.210	0.229
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	ON	Off	9400	1880	23.7	24	1.072	0.18	0.089	0.095
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	ON	Off	9400	1880	23.7	24	1.072	0.03	0.080	0.086
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	ON	Off	9400	1880	23.7	24	1.072	0.17	0.182	0.195
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	ON	Off	9400	1880	23.7	24	1.072	0.07	0.042	0.045
05	WCDMA Band II	RMC 12.2Kbps	Left Cheek	ON	Off	9262	1852.4	23.54	24	1.112	0.09	0.212	0.236
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	ON	Off	9538	1907.6	23.69	24	1.074	0.02	0.155	0.166

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	CDMA2000 BC0	RC3 SO55	Right Cheek	ON	Off	777	848.31	24.11	24.5	1.094	0.12	0.478	0.523
	CDMA2000 BC0	RC3 SO55	Right Tilted	ON	Off	777	848.31	24.11	24.5	1.094	0.06	0.276	0.302
	CDMA2000 BC0	RC3 SO55	Left Cheek	ON	Off	777	848.31	24.11	24.5	1.094	0.12	0.300	0.328
	CDMA2000 BC0	RC3 SO55	Left Tilted	ON	Off	777	848.31	24.11	24.5	1.094	0.01	0.200	0.219
	CDMA2000 BC0	RC3 SO55	Right Cheek	ON	Off	1013	824.7	24.07	24.5	1.104	0.01	0.440	0.486
	CDMA2000 BC0	RC3 SO55	Right Cheek	ON	Off	384	836.52	24.01	24.5	1.119	0.18	0.444	0.497
	CDMA2000 BC1	RC3 SO55	Right Cheek	ON	Off	1175	1908.75	24.09	24.5	1.099	0.15	0.116	0.127
	CDMA2000 BC1	RC3 SO55	Right Tilted	ON	Off	1175	1908.75	24.09	24.5	1.099	0.14	0.142	0.156
	CDMA2000 BC1	RC3 SO55	Left Cheek	ON	Off	1175	1908.75	24.09	24.5	1.099	-0.07	0.179	0.197
	CDMA2000 BC1	RC3 SO55	Left Tilted	ON	Off	1175	1908.75	24.09	24.5	1.099	-0.07	0.080	0.088
07	CDMA2000 BC1	RC3 SO55	Left Cheek	ON	Off	25	1851.25	23.81	24.5	1.172	0.01	0.224	0.263
	CDMA2000 BC1	RC3 SO55	Left Cheek	ON	Off	600	1880	23.88	24.5	1.153	-0.03	0.208	0.240



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
08	LTE Band 12	10M	QPSK	1RB	25Offset	Right Cheek	ON	Off	23095	707.5	23.09	24	1.233	-0.08	0.149	0.184
	LTE Band 12	10M	QPSK	25RB	12Offset	Right Cheek	ON	Off	23095	707.5	22.36	23	1.159	0.12	0.124	0.144
	LTE Band 12	10M	QPSK	1RB	25Offset	Right Tilted	ON	Off	23095	707.5	23.09	24	1.233	0.19	0.071	0.088
	LTE Band 12	10M	QPSK	25RB	12Offset	Right Tilted	ON	Off	23095	707.5	22.36	23	1.159	0.02	0.061	0.071
	LTE Band 12	10M	QPSK	1RB	25Offset	Left Cheek	ON	Off	23095	707.5	23.09	24	1.233	0.12	0.114	0.141
	LTE Band 12	10M	QPSK	25RB	12Offset	Left Cheek	ON	Off	23095	707.5	22.36	23	1.159	0.15	0.097	0.112
	LTE Band 12	10M	QPSK	1RB	25Offset	Left Tilted	ON	Off	23095	707.5	23.09	24	1.233	0.12	0.069	0.085
	LTE Band 12	10M	QPSK	25RB	12Offset	Left Tilted	ON	Off	23095	707.5	22.36	23	1.159	0.07	0.058	0.067
09	LTE Band 13	10M	QPSK	1RB	49Offset	Right Cheek	ON	Off	23230	782	23.36	24	1.159	0.05	0.267	0.309
	LTE Band 13	10M	QPSK	25RB	12Offset	Right Cheek	ON	Off	23230	782	22.33	23	1.167	0.16	0.218	0.254
	LTE Band 13	10M	QPSK	1RB	49Offset	Right Tilted	ON	Off	23230	782	23.36	24	1.159	0.1	0.143	0.166
	LTE Band 13	10M	QPSK	25RB	12Offset	Right Tilted	ON	Off	23230	782	22.33	23	1.167	0.11	0.117	0.137
	LTE Band 13	10M	QPSK	1RB	49Offset	Left Cheek	ON	Off	23230	782	23.36	24	1.159	0.12	0.199	0.231
	LTE Band 13	10M	QPSK	25RB	12Offset	Left Cheek	ON	Off	23230	782	22.33	23	1.167	0.11	0.165	0.193
	LTE Band 13	10M	QPSK	1RB	49Offset	Left Tilted	ON	Off	23230	782	23.36	24	1.159	0.07	0.122	0.141
	LTE Band 13	10M	QPSK	25RB	12Offset	Left Tilted	ON	Off	23230	782	22.33	23	1.167	0.11	0.098	0.114
10	LTE Band 26	15M	QPSK	1RB	37Offset	Right Cheek	ON	Off	26865	831.5	23.24	24	1.191	0.01	0.371	0.442
	LTE Band 26	15M	QPSK	36RB	20Offset	Right Cheek	ON	Off	26865	831.5	22.42	23	1.143	0.12	0.298	0.341
	LTE Band 26	15M	QPSK	1RB	37Offset	Right Tilted	ON	Off	26865	831.5	23.24	24	1.191	0.04	0.178	0.212
	LTE Band 26	15M	QPSK	36RB	20Offset	Right Tilted	ON	Off	26865	831.5	22.42	23	1.143	0.08	0.143	0.163
	LTE Band 26	15M	QPSK	1RB	37Offset	Left Cheek	ON	Off	26865	831.5	23.24	24	1.191	0.05	0.218	0.260
	LTE Band 26	15M	QPSK	36RB	20Offset	Left Cheek	ON	Off	26865	831.5	22.42	23	1.143	0.17	0.183	0.209
	LTE Band 26	15M	QPSK	1RB	37Offset	Left Tilted	ON	Off	26865	831.5	23.24	24	1.191	0.1	0.146	0.174
	LTE Band 26	15M	QPSK	36RB	20Offset	Left Tilted	ON	Off	26865	831.5	22.42	23	1.143	0.07	0.121	0.138
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	20175	1732.5	24.43	24.5	1.016	0.13	0.090	0.091
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Cheek	ON	Off	20175	1732.5	22.71	23.5	1.199	0.04	0.066	0.079
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Tilted	ON	Off	20175	1732.5	24.43	24.5	1.016	0.07	0.073	0.074
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Tilted	ON	Off	20175	1732.5	22.71	23.5	1.199	0.14	0.069	0.083
11	LTE Band 4	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	20175	1732.5	24.43	24.5	1.016	0.05	0.177	0.180
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Cheek	ON	Off	20175	1732.5	22.71	23.5	1.199	0.14	0.128	0.154
	LTE Band 4	20M	QPSK	1RB	0Offset	Left Tilted	ON	Off	20175	1732.5	24.43	24.5	1.016	-0.16	0.048	0.049
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Tilted	ON	Off	20175	1732.5	22.71	23.5	1.199	0.11	0.035	0.042



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	26590	1905	24.03	24.5	1.114	0.03	0.101	0.113
	LTE Band 25	20M	QPSK	50RB	0Offset	Right Cheek	ON	Off	26590	1905	22.34	23.5	1.306	0.17	0.069	0.090
	LTE Band 25	20M	QPSK	1RB	0Offset	Right Tilted	ON	Off	26590	1905	24.03	24.5	1.114	0.07	0.082	0.091
	LTE Band 25	20M	QPSK	50RB	0Offset	Right Tilted	ON	Off	26590	1905	22.34	23.5	1.306	0.03	0.056	0.073
	LTE Band 25	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	26590	1905	24.03	24.5	1.114	0.13	0.145	0.162
	LTE Band 25	20M	QPSK	50RB	0Offset	Left Cheek	ON	Off	26590	1905	22.34	23.5	1.306	0.18	0.099	0.129
	LTE Band 25	20M	QPSK	1RB	0Offset	Left Tilted	ON	Off	26590	1905	24.03	24.5	1.114	-0.01	0.048	0.053
	LTE Band 25	20M	QPSK	50RB	0Offset	Left Tilted	ON	Off	26590	1905	22.34	23.5	1.306	0.06	0.033	0.043
12	LTE Band 25	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	26140	1860	23.94	24.5	1.138	0.11	0.178	0.202
	LTE Band 25	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	26340	1880	24.01	24.5	1.119	0.16	0.161	0.180
	LTE Band 30	10M	QPSK	1RB	0Offset	Right Cheek	ON	Off	27710	2310	23.54	24	1.112	0.09	0.054	0.060
	LTE Band 30	10M	QPSK	25RB	12Offset	Right Cheek	ON	Off	27710	2310	22.52	23	1.117	0.19	0.043	0.048
	LTE Band 30	10M	QPSK	1RB	0Offset	Right Tilted	ON	Off	27710	2310	23.54	24	1.112	0.06	0.038	0.042
	LTE Band 30	10M	QPSK	25RB	12Offset	Right Tilted	ON	Off	27710	2310	22.52	23	1.117	0.01	0.029	0.032
13	LTE Band 30	10M	QPSK	1RB	0Offset	Left Cheek	ON	Off	27710	2310	23.54	24	1.112	-0.04	0.091	0.101
	LTE Band 30	10M	QPSK	25RB	12Offset	Left Cheek	ON	Off	27710	2310	22.52	23	1.117	0.07	0.072	0.080
	LTE Band 30	10M	QPSK	1RB	0Offset	Left Tilted	ON	Off	27710	2310	23.54	24	1.112	-0.13	0.024	0.027
	LTE Band 30	10M	QPSK	25RB	12Offset	Left Tilted	ON	Off	27710	2310	22.52	23	1.117	0.04	0.019	0.021
	LTE Band 7	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	21100	2535	24.1	24.5	1.096	0.01	0.131	0.144
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Cheek	ON	Off	21100	2535	22.67	23.5	1.211	0.09	0.094	0.114
	LTE Band 7	20M	QPSK	1RB	0Offset	Right Tilted	ON	Off	21100	2535	24.1	24.5	1.096	0.15	0.048	0.053
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Tilted	ON	Off	21100	2535	22.67	23.5	1.211	0.09	0.048	0.058
	LTE Band 7	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	21100	2535	24.1	24.5	1.096	0.03	0.124	0.136
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Cheek	ON	Off	21100	2535	22.67	23.5	1.211	0.12	0.096	0.116
	LTE Band 7	20M	QPSK	1RB	0Offset	Left Tilted	ON	Off	21100	2535	24.1	24.5	1.096	0.15	0.051	0.056
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Tilted	ON	Off	21100	2535	22.67	23.5	1.211	0.07	0.039	0.047
14	LTE Band 7	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	20850	2510	24.01	24.5	1.119	0.01	0.144	0.161
	LTE Band 7	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	21350	2560	23.89	24.5	1.151	0.06	0.124	0.143



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1RB	0Offset	Right Cheek	ON	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.01	0.033	0.036
	LTE Band 41	20M	QPSK	50RB	0Offset	Right Cheek	ON	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.15	0.024	0.026
	LTE Band 41	20M	QPSK	1RB	0Offset	Right Tilted	ON	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.19	0.017	0.018
	LTE Band 41	20M	QPSK	50RB	0Offset	Right Tilted	ON	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.06	0.014	0.015
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.09	0.035	0.038
	LTE Band 41	20M	QPSK	50RB	0Offset	Left Cheek	ON	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.19	0.026	0.028
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Tilted	ON	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.14	0.019	0.021
	LTE Band 41	20M	QPSK	50RB	0Offset	Left Tilted	ON	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.03	0.013	0.014
15	LTE Band 41	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	39750	2506	23.93	24.5	1.140	62.9	1.006	0.03	0.082	0.094
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	40185	2549.5	24.15	24.5	1.084	62.9	1.006	0.1	0.062	0.068
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	40620	2593	23.95	24.5	1.135	62.9	1.006	0.18	0.044	0.050
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Cheek	ON	Off	41055	2636.5	23.91	24.5	1.146	62.9	1.006	0.03	0.030	0.035

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 2.4GHz	802.11b 1Mbps	Right Cheek	Ant 1	ON	On	11	2462	16.75	17	1.059	98.6	1.014	0.03	0.952	1.023
	WLAN 2.4GHz	802.11b 1Mbps	Right Cheek	Ant 1	ON	On	6	2437	16.68	17	1.076	98.6	1.014	0.04	0.747	0.815
16	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	Ant 1	ON	On	11	2462	16.75	17	1.059	98.6	1.014	-0.02	0.995	1.069
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	Ant 1	ON	On	11	2462	16.75	17	1.059	98.6	1.014	0.12	0.620	0.666
	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	Ant 1	ON	On	11	2462	16.75	17	1.059	98.6	1.014	0.18	0.613	0.658
	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	Ant 1	ON	On	1	2412	16.64	17	1.086	98.6	1.014	0.11	0.845	0.931
	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	Ant 1	ON	On	6	2437	16.68	17	1.076	98.6	1.014	0.05	0.812	0.886
	WLAN 2.4GHz	802.11b 1Mbps	Right Cheek	Ant 2	ON	On	11	2462	15.87	16.5	1.156	98.71	1.013	0.15	0.677	0.793
	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	Ant 2	ON	On	11	2462	15.87	16.5	1.156	98.71	1.013	0.11	0.679	0.795
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	Ant 2	ON	On	11	2462	15.87	16.5	1.156	98.71	1.013	0.06	0.819	0.959
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	Ant 2	ON	On	1	2412	15.71	16.5	1.199	98.71	1.013	0.05	0.873	1.061
	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	Ant 2	ON	On	11	2462	15.87	16.5	1.156	98.71	1.013	0.03	0.901	1.055
	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	Ant 2	ON	On	1	2412	15.71	16.5	1.199	98.71	1.013	0.05	0.874	1.062
17	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	Ant 2	ON	On	6	2437	15.62	16.5	1.225	98.71	1.013	0.1	0.914	1.134
18	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	On	11	2462	15.87	16	1.030	92.25	1.084	-0.08	0.925	1.033
	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Tilted	Ant 1+2	ON	On	11	2462	15.87	16	1.030	92.25	1.084	-0.17	0.835	0.933
	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Tilted	Ant 1+2	ON	On	6	2437	15.84	16	1.038	92.25	1.084	0.14	0.862	0.969
	WLAN 2.4GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	On	11	2462	15.87	16	1.030	92.25	1.084	-0.12	0.834	0.932
	WLAN 2.4GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	On	6	2437	15.84	16	1.038	92.25	1.084	0.03	0.739	0.831
	WLAN 2.4GHz	802.11n-HT20 MCS0	Left Tilted	Ant 1+2	ON	On	11	2462	15.87	16	1.030	92.25	1.084	0.06	0.864	0.965
	WLAN 2.4GHz	802.11n-HT20 MCS0	Left Tilted	Ant 1+2	ON	On	6	2437	15.84	16	1.038	92.25	1.084	-0.12	0.812	0.913
	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	On	1	2412	15.83	16	1.040	92.25	1.084	0.06	0.786	0.886
	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	On	6	2437	15.84	16	1.038	92.25	1.084	0.05	0.859	0.966



Plot No.	Band	Mode	Test Position	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
19	WLAN 5.3GHz	802.11a 6Mbps	Right Cheek	Ant 1	ON	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.01	0.238	0.294
	WLAN 5.3GHz	802.11a 6Mbps	Right Tilted	Ant 1	ON	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.01	0.221	0.273
	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.09	0.527	0.651
	WLAN 5.3GHz	802.11a 6Mbps	Left Tilted	Ant 1	ON	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.07	0.476	0.588
	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	52	5260	17.78	18.5	1.180	93.38	1.071	0.1	0.487	0.616
	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	64	5320	17.85	18.5	1.161	93.38	1.071	0.01	0.549	0.683
	WLAN 5.3GHz	802.11a 6Mbps	Right Cheek	Ant 2	ON	Off	52	5260	17.07	18	1.239	92.98	1.076	0.01	0.042	0.056
	WLAN 5.3GHz	802.11a 6Mbps	Right Tilted	Ant 2	ON	Off	52	5260	17.07	18	1.239	92.98	1.076	0.01	0.051	0.067
	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	52	5260	17.07	18	1.239	92.98	1.076	0.02	0.157	0.209
	WLAN 5.3GHz	802.11a 6Mbps	Left Tilted	Ant 2	ON	Off	52	5260	17.07	18	1.239	92.98	1.076	0.01	0.059	0.078
20	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	56	5280	16.88	18	1.294	92.98	1.076	0.04	0.149	0.207
	WLAN 5.3GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	64	5320	16.94	18	1.276	92.98	1.076	0.15	0.141	0.194
	WLAN 5.3GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.01	0.178	0.202
	WLAN 5.3GHz	802.11n-HT20 MCS0	Right Tilted	Ant 1+2	ON	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.02	0.203	0.230
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.09	0.395	0.447
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Tilted	Ant 1+2	ON	Off	56	5280	19.24	19.5	1.062	93.75	1.067	-0.19	0.293	0.332
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	52	5260	19.22	19.5	1.067	93.75	1.067	0.02	0.491	0.559
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	64	5320	19.15	19.5	1.084	93.75	1.067	0.13	0.551	0.637
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	64	5320	19.15	19.5	1.084	93.75	1.067	0.13	0.551	0.637
	WLAN 5.3GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	64	5320	19.15	19.5	1.084	93.75	1.067	0.13	0.551	0.637

Plot No.	Band	Mode	Test Position	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
22	WLAN 5.5GHz	802.11a 6Mbps	Right Cheek	Ant 1	ON	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.01	0.164	0.198
	WLAN 5.5GHz	802.11a 6Mbps	Right Tilted	Ant 1	ON	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.05	0.117	0.141
	WLAN 5.5GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.12	0.260	0.314
	WLAN 5.5GHz	802.11a 6Mbps	Left Tilted	Ant 1	ON	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.01	0.195	0.235
	WLAN 5.5GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	100	5500	16.66	18.5	1.528	93.38	1.071	0.08	0.280	0.458
	WLAN 5.5GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	140	5700	17.49	18.5	1.262	93.38	1.071	0.05	0.261	0.353
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Cheek	Ant 2	ON	Off	100	5500	17.72	18	1.067	92.25	1.084	0.01	0.0657	0.076
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Tilted	Ant 2	ON	Off	100	5500	17.72	18	1.067	92.25	1.084	0.01	0.0731	0.085
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 2	ON	Off	100	5500	17.72	18	1.067	92.25	1.084	0.14	0.145	0.168
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Tilted	Ant 2	ON	Off	100	5500	17.72	18	1.067	92.25	1.084	0.01	0.0813	0.094
23	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 2	ON	Off	116	5580	16.87	18	1.297	92.25	1.084	0.03	0.112	0.157
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 2	ON	Off	140	5700	16.37	18	1.455	92.25	1.084	0.09	0.106	0.167
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	Off	116	5580	18.94	19	1.014	93.75	1.067	0.01	0.109	0.118
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Tilted	Ant 1+2	ON	Off	116	5580	18.94	19	1.014	93.75	1.067	0	0.126	0.136
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	116	5580	18.94	19	1.014	93.75	1.067	0.11	0.209	0.226
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Tilted	Ant 1+2	ON	Off	116	5580	18.94	19	1.014	93.75	1.067	0.01	0.181	0.196
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	100	5500	18.63	19	1.089	93.75	1.067	0.03	0.288	0.335
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	140	5700	18.53	19	1.114	93.75	1.067	0.06	0.186	0.221
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	140	5700	18.53	19	1.114	93.75	1.067	0.06	0.186	0.221
	WLAN 5.5GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	140	5700	18.53	19	1.114	93.75	1.067	0.06	0.186	0.221



Plot No.	Band	Mode	Test Position	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Ant 1	ON	Off	149	5745	17.28	18	1.180	93.38	1.071	0.01	0.171	0.216
	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Ant 1	ON	Off	149	5745	17.28	18	1.180	93.38	1.071	0.01	0.089	0.112
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	149	5745	17.28	18	1.180	93.38	1.071	0.15	0.241	0.305
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Ant 1	ON	Off	149	5745	17.28	18	1.180	93.38	1.071	0.01	0.124	0.157
25	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	157	5785	16.54	18	1.400	93.38	1.071	0.1	0.232	0.348
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 1	ON	Off	165	5825	16.92	18	1.282	93.38	1.071	0.02	0.246	0.338
	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Ant 2	ON	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.02	0.072	0.087
	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Ant 2	ON	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.13	0.075	0.090
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.14	0.256	0.310
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Ant 2	ON	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.01	0.109	0.132
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	149	5745	17.6	18.5	1.230	92.98	1.076	0.06	0.184	0.244
26	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Ant 2	ON	Off	165	5825	17.04	18.5	1.400	92.98	1.076	0.16	0.247	0.372
	WLAN 5.8GHz	802.11n-HT20 MCS0	Right Cheek	Ant 1+2	ON	Off	149	5745	18.47	19	1.130	93.75	1.067	0.1	0.113	0.136
	WLAN 5.8GHz	802.11n-HT20 MCS0	Right Tilted	Ant 1+2	ON	Off	149	5745	18.47	19	1.130	93.75	1.067	0.01	0.096	0.116
	WLAN 5.8GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	149	5745	18.47	19	1.130	93.75	1.067	0.14	0.166	0.200
	WLAN 5.8GHz	802.11n-HT20 MCS0	Left Tilted	Ant 1+2	ON	Off	149	5745	18.47	19	1.130	93.75	1.067	0.01	0.113	0.136
	WLAN 5.8GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	157	5785	18.26	19	1.186	93.75	1.067	-0.09	0.234	0.296
27	WLAN 5.8GHz	802.11n-HT20 MCS0	Left Cheek	Ant 1+2	ON	Off	165	5825	18.14	19	1.219	93.75	1.067	0.04	0.270	0.351

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	Ant 1	ON	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.19	0.089	0.109
	Bluetooth	1Mbps	Right Tilted	Ant 1	ON	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.16	0.101	0.124
	Bluetooth	1Mbps	Left Cheek	Ant 1	ON	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.12	0.086	0.105
	Bluetooth	1Mbps	Left Tilted	Ant 1	ON	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.15	0.09	0.110
	Bluetooth	1Mbps	Right Tilted	Ant 1	ON	Off	0	2402	9.91	10.5	1.146	76.8	1.085	0.1	0.096	0.119
28	Bluetooth	1Mbps	Right Tilted	Ant 1	ON	Off	78	2480	8.98	10.5	1.419	76.8	1.085	-0.14	0.104	0.160



14.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
29	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	128	824.2	29	29.5	1.122	-0.03	0.788	0.884
	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	189	836.4	28.86	29.5	1.159	-0.03	0.731	0.847
	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	251	848.8	28.88	29.5	1.153	0.1	0.736	0.849
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	128	824.2	29	29.5	1.122	0.11	0.725	0.813
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	189	836.4	28.86	29.5	1.159	-0.01	0.722	0.837
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	251	848.8	28.88	29.5	1.153	0.15	0.744	0.858
	GSM850	GPRS 4 Tx slots	Left Side	10	OFF	Off	128	824.2	29	29.5	1.122	-0.06	0.142	0.159
	GSM850	GPRS 4 Tx slots	Right Side	10	OFF	Off	128	824.2	29	29.5	1.122	0.15	0.662	0.743
	GSM850	GPRS 4 Tx slots	Bottom Side	10	OFF	Off	128	824.2	29	29.5	1.122	0.06	0.450	0.505
	GSM1900	GPRS 3 Tx slots	Front	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.13	0.432	0.469
	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.02	0.502	0.545
	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	512	1850.2	24.49	25	1.125	0.01	0.712	0.801
	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	661	1880	24.63	25	1.089	-0.08	0.614	0.669
	GSM1900	GPRS 3 Tx slots	Left Side	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.1	0.056	0.061
	GSM1900	GPRS 3 Tx slots	Right Side	10	OFF	ON	810	1909.8	24.64	25	1.086	0.16	0.014	0.015
	GSM1900	GPRS 3 Tx slots	Bottom Side	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.06	0.797	0.866
30	GSM1900	GPRS 3 Tx slots	Bottom Side	10	OFF	ON	512	1850.2	24.49	25	1.125	0.03	1.030	1.158
	GSM1900	GPRS 3 Tx slots	Bottom Side	10	OFF	ON	661	1880	24.63	25	1.089	-0.17	0.923	1.005



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4132	826.4	23.54	24	1.112	-0.02	0.521	0.579
	WCDMA Band V	RMC 12.2Kbps	Back	10	OFF	Off	4132	826.4	23.54	24	1.112	-0.03	0.508	0.565
	WCDMA Band V	RMC 12.2Kbps	Left Side	10	OFF	Off	4132	826.4	23.54	24	1.112	0.02	0.110	0.122
	WCDMA Band V	RMC 12.2Kbps	Right Side	10	OFF	Off	4132	826.4	23.54	24	1.112	0.05	0.456	0.507
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	10	OFF	Off	4132	826.4	23.54	24	1.112	0.03	0.383	0.426
	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4182	836.4	23.39	24	1.151	0.02	0.562	0.647
31	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4233	846.6	23.49	24	1.125	-0.01	0.593	0.667
	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	0.06	0.725	0.802
	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1312	1712.4	21	21.5	1.122	0.01	0.658	0.738
	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1513	1752.6	21	21.5	1.122	0.12	0.821	0.921
	WCDMA Band IV	RMC 12.2Kbps	Back	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	-0.03	0.714	0.790
	WCDMA Band IV	RMC 12.2Kbps	Left Side	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	-0.06	0.076	0.084
	WCDMA Band IV	RMC 12.2Kbps	Right Side	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	0.14	0.085	0.094
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	0.19	0.930	1.029
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	OFF	ON	1312	1712.4	21	21.5	1.122	0.19	0.843	0.946
32	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	OFF	ON	1513	1752.6	21	21.5	1.122	0.15	1.060	1.189
	WCDMA Band II	RMC 12.2Kbps	Front	10	OFF	ON	9400	1880	19	19.5	1.122	0.03	0.374	0.420
	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9400	1880	19	19.5	1.122	-0.1	0.425	0.477
	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9262	1852.4	18.9	19.5	1.148	-0.15	0.495	0.568
	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9538	1907.6	18.95	19.5	1.135	-0.01	0.336	0.381
	WCDMA Band II	RMC 12.2Kbps	Left Side	10	OFF	ON	9400	1880	19	19.5	1.122	0.03	0.052	0.058
	WCDMA Band II	RMC 12.2Kbps	Right Side	10	OFF	ON	9400	1880	19	19.5	1.122	-0.13	0.018	0.020
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	OFF	ON	9400	1880	19	19.5	1.122	0.18	0.748	0.839
33	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	OFF	ON	9262	1852.4	18.9	19.5	1.148	0.19	0.904	1.038
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	OFF	ON	9538	1907.6	18.95	19.5	1.135	0.16	0.617	0.700



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	OFF	Off	777	848.31	24.13	24.5	1.089	-0.03	0.708	0.771
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	OFF	Off	777	848.31	24.13	24.5	1.089	0.02	0.663	0.722
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	10	OFF	Off	777	848.31	24.13	24.5	1.089	-0.03	0.177	0.193
34	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	OFF	Off	777	848.31	24.13	24.5	1.089	0.02	0.749	0.816
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	10	OFF	Off	777	848.31	24.13	24.5	1.089	0.06	0.433	0.472
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	OFF	Off	1013	824.7	24.1	24.5	1.096	0.01	0.599	0.657
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	OFF	Off	384	836.52	24.03	24.5	1.114	0.01	0.643	0.716
	CDMA2000 BC1	RTAP 153.6Kbps	Front	10	OFF	ON	1175	1908.75	19.41	19.5	1.021	-0.02	0.431	0.440
	CDMA2000 BC1	RTAP 153.6Kbps	Back	10	OFF	ON	1175	1908.75	19.41	19.5	1.021	-0.18	0.46	0.470
	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	10	OFF	ON	1175	1908.75	19.41	19.5	1.021	-0.06	0.056	0.057
	CDMA2000 BC1	RTAP 153.6Kbps	Right Side	10	OFF	ON	1175	1908.75	19.41	19.5	1.021	0.01	0.016	0.016
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	OFF	ON	1175	1908.75	19.41	19.5	1.021	-0.09	0.836	0.854
35	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	OFF	ON	25	1851.25	19.15	19.5	1.084	0.15	1.050	1.138
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	OFF	ON	600	1880	19.21	19.5	1.069	-0.04	0.967	1.034



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1RB	25Offset	Front	10	OFF	Off	23095	707.5	23.09	24	1.233	-0.02	0.265	0.327
	LTE Band 12	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	23095	707.5	22.36	23	1.159	-0.02	0.221	0.256
	LTE Band 12	10M	QPSK	1RB	25Offset	Back	10	OFF	Off	23095	707.5	23.09	24	1.233	-0.02	0.261	0.322
	LTE Band 12	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	23095	707.5	22.36	23	1.159	0.02	0.243	0.282
	LTE Band 12	10M	QPSK	1RB	25Offset	Left Side	10	OFF	Off	23095	707.5	23.09	24	1.233	0.07	0.185	0.228
	LTE Band 12	10M	QPSK	25RB	12Offset	Left Side	10	OFF	Off	23095	707.5	22.36	23	1.159	0.05	0.151	0.175
36	LTE Band 12	10M	QPSK	1RB	25Offset	Right Side	10	OFF	Off	23095	707.5	23.09	24	1.233	0.03	0.383	0.472
	LTE Band 12	10M	QPSK	25RB	12Offset	Right Side	10	OFF	Off	23095	707.5	22.36	23	1.159	-0.01	0.324	0.375
	LTE Band 12	10M	QPSK	1RB	25Offset	Bottom Side	10	OFF	Off	23095	707.5	23.09	24	1.233	0.08	0.144	0.178
	LTE Band 12	10M	QPSK	25RB	12Offset	Bottom Side	10	OFF	Off	23095	707.5	22.36	23	1.159	0.1	0.12	0.139
	LTE Band 13	10M	QPSK	1RB	49Offset	Front	10	OFF	Off	23230	782	23.36	24	1.159	-0.01	0.426	0.494
	LTE Band 13	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	23230	782	22.33	23	1.167	-0.01	0.348	0.406
	LTE Band 13	10M	QPSK	1RB	49Offset	Back	10	OFF	Off	23230	782	23.36	24	1.159	0.01	0.409	0.474
	LTE Band 13	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	23230	782	22.33	23	1.167	-0.02	0.303	0.354
	LTE Band 13	10M	QPSK	1RB	49Offset	Left Side	10	OFF	Off	23230	782	23.36	24	1.159	0.12	0.143	0.166
	LTE Band 13	10M	QPSK	25RB	12Offset	Left Side	10	OFF	Off	23230	782	22.33	23	1.167	0.1	0.126	0.147
37	LTE Band 13	10M	QPSK	1RB	49Offset	Right Side	10	OFF	Off	23230	782	23.36	24	1.159	0.03	0.449	0.520
	LTE Band 13	10M	QPSK	25RB	12Offset	Right Side	10	OFF	Off	23230	782	22.33	23	1.167	0.01	0.384	0.448
	LTE Band 13	10M	QPSK	1RB	49Offset	Bottom Side	10	OFF	Off	23230	782	23.36	24	1.159	0.11	0.297	0.344
	LTE Band 13	10M	QPSK	25RB	12Offset	Bottom Side	10	OFF	Off	23230	782	22.33	23	1.167	0.06	0.243	0.284
38	LTE Band 26	15M	QPSK	1RB	37Offset	Front	10	OFF	Off	26865	831.5	23.24	24	1.191	0.02	0.531	0.633
	LTE Band 26	15M	QPSK	36RB	20Offset	Front	10	OFF	Off	26865	831.5	22.42	23	1.143	0.01	0.436	0.498
	LTE Band 26	15M	QPSK	1RB	37Offset	Back	10	OFF	Off	26865	831.5	23.24	24	1.191	-0.05	0.509	0.606
	LTE Band 26	15M	QPSK	36RB	20Offset	Back	10	OFF	Off	26865	831.5	22.42	23	1.143	-0.01	0.393	0.449
	LTE Band 26	15M	QPSK	1RB	37Offset	Left Side	10	OFF	Off	26865	831.5	23.24	24	1.191	0.1	0.079	0.094
	LTE Band 26	15M	QPSK	36RB	20Offset	Left Side	10	OFF	Off	26865	831.5	22.42	23	1.143	0.15	0.065	0.074
	LTE Band 26	15M	QPSK	1RB	37Offset	Right Side	10	OFF	Off	26865	831.5	23.24	24	1.191	0.11	0.437	0.521
	LTE Band 26	15M	QPSK	36RB	20Offset	Right Side	10	OFF	Off	26865	831.5	22.42	23	1.143	0.01	0.357	0.408
	LTE Band 26	15M	QPSK	1RB	37Offset	Bottom Side	10	OFF	Off	26865	831.5	23.24	24	1.191	0.06	0.349	0.416
	LTE Band 26	15M	QPSK	36RB	20Offset	Bottom Side	10	OFF	Off	26865	831.5	22.42	23	1.143	0.05	0.285	0.326



FCC SAR Test Report

Report No. : FA672003

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	20175	1732.5	21.83	22	1.040	0.11	0.922	0.959
	LTE Band 4	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.07	0.875	1.086
	LTE Band 4	20M	QPSK	100RB	0Offset	Front	10	OFF	ON	20175	1732.5	20.96	22	1.271	-0.05	0.884	1.123
	LTE Band 4	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	20175	1732.5	21.83	22	1.040	-0.07	0.801	0.833
	LTE Band 4	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.02	0.749	0.930
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	10	OFF	ON	20175	1732.5	20.96	22	1.271	0.03	0.746	0.948
	LTE Band 4	20M	QPSK	1RB	0Offset	Left Side	10	OFF	ON	20175	1732.5	21.83	22	1.040	0.17	0.091	0.095
	LTE Band 4	20M	QPSK	50RB	0Offset	Left Side	10	OFF	ON	20175	1732.5	21.06	22	1.242	0	0.086	0.107
	LTE Band 4	20M	QPSK	1RB	0Offset	Right Side	10	OFF	ON	20175	1732.5	21.83	22	1.040	-0.13	0.091	0.095
	LTE Band 4	20M	QPSK	50RB	0Offset	Right Side	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.15	0.083	0.103
	LTE Band 4	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	ON	20175	1732.5	21.83	22	1.040	0.16	1.030	1.071
	LTE Band 4	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.09	0.960	1.192
39	LTE Band 4	20M	QPSK	100RB	0Offset	Bottom Side	10	OFF	ON	20175	1732.5	20.96	22	1.271	0.13	0.940	1.194
	LTE Band 25	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	26590	1905	18.93	19.5	1.140	-0.11	0.418	0.477
	LTE Band 25	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	26590	1905	18.44	19.5	1.276	-0.08	0.37	0.472
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26590	1905	18.93	19.5	1.140	0.07	0.433	0.494
	LTE Band 25	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	26590	1905	18.44	19.5	1.276	0.15	0.384	0.490
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26140	1860	18.92	19.5	1.143	0.06	0.595	0.680
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26340	1880	18.9	19.5	1.148	-0.02	0.543	0.623
	LTE Band 25	20M	QPSK	1RB	0Offset	Left Side	10	OFF	ON	26590	1905	18.93	19.5	1.140	-0.04	0.057	0.065
	LTE Band 25	20M	QPSK	50RB	0Offset	Left Side	10	OFF	ON	26590	1905	18.44	19.5	1.276	-0.15	0.05	0.064
	LTE Band 25	20M	QPSK	1RB	0Offset	Right Side	10	OFF	ON	26590	1905	18.93	19.5	1.140	-0.11	0.015	0.017
	LTE Band 25	20M	QPSK	50RB	0Offset	Right Side	10	OFF	ON	26590	1905	18.44	19.5	1.276	-0.08	0.013	0.017
	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	ON	26590	1905	18.93	19.5	1.140	0.05	0.855	0.975
40	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	ON	26140	1860	18.92	19.5	1.143	0.02	1.01	1.154
	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	ON	26340	1880	18.9	19.5	1.148	0.04	0.951	1.092
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	ON	26590	1905	18.44	19.5	1.276	0.16	0.742	0.947
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	ON	26140	1860	18.12	19.5	1.374	0.09	0.839	1.153
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	ON	26340	1880	18.18	19.5	1.355	0.03	0.826	1.119
	LTE Band 25	20M	QPSK	100RB	0Offset	Bottom Side	10	OFF	ON	26590	1905	18.1	19.5	1.380	0.14	0.556	0.767
	LTE Band 30	10M	QPSK	1RB	0Offset	Front	10	OFF	Off	27710	2310	23.54	24	1.112	-0.13	0.837	0.931
	LTE Band 30	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	27710	2310	22.52	23	1.117	-0.03	0.805	0.899
	LTE Band 30	10M	QPSK	50RB	0Offset	Front	10	OFF	Off	27710	2310	22.46	23	1.132	0.01	0.806	0.913
41	LTE Band 30	10M	QPSK	1RB	0Offset	Back	10	OFF	Off	27710	2310	23.54	24	1.112	-0.05	0.967	1.075
	LTE Band 30	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	27710	2310	22.52	23	1.117	-0.13	0.735	0.821
	LTE Band 30	10M	QPSK	50RB	0Offset	Back	10	OFF	Off	27710	2310	22.46	23	1.132	-0.1	0.734	0.831
	LTE Band 30	10M	QPSK	1RB	0Offset	Left Side	10	OFF	Off	27710	2310	23.54	24	1.112	-0.07	0.429	0.477
	LTE Band 30	10M	QPSK	25RB	12Offset	Left Side	10	OFF	Off	27710	2310	22.52	23	1.117	-0.12	0.345	0.385
	LTE Band 30	10M	QPSK	1RB	0Offset	Right Side	10	OFF	Off	27710	2310	23.54	24	1.112	0.09	0.136	0.151
	LTE Band 30	10M	QPSK	25RB	12Offset	Right Side	10	OFF	Off	27710	2310	22.52	23	1.117	-0.04	0.109	0.122
	LTE Band 30	10M	QPSK	1RB	0Offset	Bottom Side	10	OFF	Off	27710	2310	23.54	24	1.112	-0.12	0.862	0.958
	LTE Band 30	10M	QPSK	25RB	12Offset	Bottom Side	10	OFF	Off	27710	2310	22.52	23	1.117	-0.09	0.660	0.737
	LTE Band 30	10M	QPSK	50RB	0Offset	Bottom Side	10	OFF	Off	27710	2310	22.46	23	1.132	-0.15	0.693	0.785

SPORTON INTERNATIONAL (KUNSHAN) INC.

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FCC ID : P7QVM-08

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Form version. : 160427



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	21100	2535	22.87	23	1.030	-0.06	0.778	0.802
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	20850	2510	22.84	23	1.038	0.06	0.917	0.951
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	21350	2560	22.77	23	1.054	0.03	0.720	0.759
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	21100	2535	22.48	23	1.127	0.01	0.815	0.919
42	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	20850	2510	22.33	23	1.167	0.02	0.918	1.071
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	21350	2560	22.44	23	1.138	0.01	0.777	0.884
	LTE Band 7	20M	QPSK	100RB	0Offset	Front	10	OFF	ON	21100	2535	22.37	23	1.156	0.01	0.865	1.000
	LTE Band 7	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	21100	2535	22.87	23	1.030	0.13	0.569	0.586
	LTE Band 7	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	21100	2535	22.48	23	1.127	0.1	0.517	0.583
	LTE Band 7	20M	QPSK	1RB	0Offset	Left Side	10	OFF	ON	21100	2535	22.87	23	1.030	-0.16	0.376	0.387
	LTE Band 7	20M	QPSK	50RB	0Offset	Left Side	10	OFF	ON	21100	2535	22.48	23	1.127	0.02	0.346	0.390
	LTE Band 7	20M	QPSK	1RB	0Offset	Right Side	10	OFF	ON	21100	2535	22.87	23	1.030	0.01	0.180	0.185
	LTE Band 7	20M	QPSK	50RB	0Offset	Right Side	10	OFF	ON	21100	2535	22.48	23	1.127	-0.06	0.168	0.189
	LTE Band 7	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	ON	21100	2535	22.87	23	1.030	0.11	0.452	0.466
	LTE Band 7	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	ON	21100	2535	22.48	23	1.127	0.09	0.421	0.475

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.01	0.356	0.387
43	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	39750	2506	23.93	24.5	1.140	62.9	1.006	0.12	0.813	0.933
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	40185	2549.5	24.15	24.5	1.084	62.9	1.006	0.19	0.704	0.768
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	40620	2593	23.95	24.5	1.135	62.9	1.006	0.12	0.527	0.602
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	41055	2636.5	23.91	24.5	1.146	62.9	1.006	0.1	0.398	0.459
	LTE Band 41	20M	QPSK	50RB	0Offset	Front	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.18	0.272	0.296
	LTE Band 41	20M	QPSK	100RB	0Offset	Front	10	OFF	Off	41490	2680	22.94	23.5	1.138	62.9	1.006	0.13	0.264	0.302
	LTE Band 41	20M	QPSK	1RB	0Offset	Back	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.02	0.224	0.244
	LTE Band 41	20M	QPSK	50RB	0Offset	Back	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.02	0.171	0.186
	LTE Band 41	20M	QPSK	1RB	0Offset	Left Side	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.01	0.115	0.125
	LTE Band 41	20M	QPSK	50RB	0Offset	Left Side	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.15	0.073	0.079
	LTE Band 41	20M	QPSK	1RB	0Offset	Right Side	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.01	0.050	0.054
	LTE Band 41	20M	QPSK	50RB	0Offset	Right Side	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.14	0.010	0.011
	LTE Band 41	20M	QPSK	1RB	0Offset	Bottom Side	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.17	0.262	0.285
	LTE Band 41	20M	QPSK	50RB	0Offset	Bottom Side	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.12	0.205	0.223



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	-0.04	0.580	0.600
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	1	2412	21.78	22	1.052	98.6	1.014	0.06	0.411	0.438
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	6	2437	21.71	22	1.069	98.6	1.014	0.18	0.405	0.439
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	0.1	0.427	0.442
	WLAN 2.4GHz	802.11b 1Mbps	Right Side	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	0.01	0.061	0.063
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	0.12	0.998	1.033
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 1	OFF	Off	1	2412	21.78	22	1.052	98.6	1.014	0.11	0.930	0.992
44	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 1	OFF	Off	6	2437	21.71	22	1.069	98.6	1.014	0.07	1.010	1.095
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.1	0.367	0.428
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.02	0.541	0.631
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	1	2412	18.84	19.5	1.164	98.71	1.013	0.04	0.409	0.482
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	6	2437	18.69	19.5	1.205	98.71	1.013	0.01	0.468	0.571
	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.01	0.033	0.039
	WLAN 2.4GHz	802.11b 1Mbps	Right Side	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.01	0.030	0.035
45	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.16	0.807	0.941
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 2	OFF	Off	1	2412	18.84	19.5	1.164	98.71	1.013	0.11	0.601	0.709
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Ant 2	OFF	Off	6	2437	18.69	19.5	1.205	98.71	1.013	0.16	0.683	0.834
	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.1	0.354	0.394
	WLAN 2.4GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.11	0.271	0.302
	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	1	2412	18.32	18.5	1.042	92.25	1.084	0.16	0.326	0.368
	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	6	2437	18.20	18.5	1.072	92.25	1.084	0.12	0.348	0.404
	WLAN 2.4GHz	802.11n-HT20 MCS0	Left Side	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.01	0.058	0.065
	WLAN 2.4GHz	802.11n-HT20 MCS0	Right Side	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.15	0.035	0.039
46	WLAN 2.4GHz	802.11n-HT20 MCS0	Top Side	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.08	0.437	0.487
	WLAN 2.4GHz	802.11n-HT20 MCS0	Top Side	10	Ant 1+2	OFF	Off	1	2412	18.32	18.5	1.042	92.25	1.084	0.15	0.346	0.391
	WLAN 2.4GHz	802.11n-HT20 MCS0	Top Side	10	Ant 1+2	OFF	Off	6	2437	18.20	18.5	1.072	92.25	1.084	0.14	0.383	0.445



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 5.2GHz	802.11a 6Mbps	Front	10	Ant 1	OFF	Off	48	5240	17.55	18.5	1.245	93.38	1.071	0.11	0.102	0.136
	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	48	5240	17.55	18.5	1.245	93.38	1.071	0.07	0.725	0.966
	WLAN 5.2GHz	802.11a 6Mbps	Right Side	10	Ant 1	OFF	Off	48	5240	17.55	18.5	1.245	93.38	1.071	0.09	0.089	0.119
	WLAN 5.2GHz	802.11a 6Mbps	Top Side	10	Ant 1	OFF	Off	48	5240	17.55	18.5	1.245	93.38	1.071	0.04	0.106	0.141
	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	36	5180	17.25	18.5	1.334	93.38	1.071	0.05	0.645	0.921
47	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	44	5220	17.47	18.5	1.268	93.38	1.071	-0.11	0.720	0.978
	WLAN 5.2GHz	802.11a 6Mbps	Front	10	Ant 2	OFF	Off	40	5200	17.47	18	1.130	92.98	1.076	0.05	0.028	0.034
	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	40	5200	17.47	18	1.130	92.98	1.076	0.06	0.791	0.962
	WLAN 5.2GHz	802.11a 6Mbps	Right Side	10	Ant 2	OFF	Off	40	5200	17.47	18	1.130	92.98	1.076	-0.16	0.060	0.073
	WLAN 5.2GHz	802.11a 6Mbps	Top Side	10	Ant 2	OFF	Off	40	5200	17.47	18	1.130	92.98	1.076	0.12	0.057	0.069
48	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	36	5180	17.33	18	1.167	92.98	1.076	0.01	0.775	0.973
	WLAN 5.2GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	48	5240	17.18	18	1.208	92.98	1.076	0.02	0.703	0.914
	WLAN 5.2GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	48	5240	19.13	19.5	1.089	93.75	1.067	0.01	0.010	0.011
	WLAN 5.2GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	48	5240	19.13	19.5	1.089	93.75	1.067	0.13	0.932	1.083
	WLAN 5.2GHz	802.11n-HT20 MCS0	Right Side	10	Ant 1+2	OFF	Off	48	5240	19.13	19.5	1.089	93.75	1.067	0.1	0.100	0.116
	WLAN 5.2GHz	802.11n-HT20 MCS0	Top Side	10	Ant 1+2	OFF	Off	48	5240	19.13	19.5	1.089	93.75	1.067	0.1	0.099	0.115
49	WLAN 5.2GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	36	5180	18.95	19.5	1.135	93.75	1.067	0.04	0.918	1.112
	WLAN 5.2GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	40	5200	19.1	19.5	1.096	93.75	1.067	0.08	0.936	1.095
	WLAN 5.8GHz	802.11a 6Mbps	Front	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	0.1	0.021	0.027
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	0.13	0.359	0.454
	WLAN 5.8GHz	802.11a 6Mbps	Right Side	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	0.06	0.045	0.057
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	-0.14	0.062	0.078
50	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	157	5785	16.54	18	1.400	93.38	1.071	-0.09	0.307	0.460
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	165	5825	16.92	18	1.282	93.38	1.071	0.06	0.314	0.431
	WLAN 5.8GHz	802.11a 6Mbps	Front	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.09	0.024	0.029
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.13	0.658	0.796
	WLAN 5.8GHz	802.11a 6Mbps	Right Side	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.07	0.138	0.167
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.15	0.175	0.212
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	149	5745	17.6	18.5	1.230	92.98	1.076	-0.16	0.613	0.811
51	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	165	5825	17.04	18.5	1.400	92.98	1.076	0.07	0.656	0.988
	WLAN 5.8GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.12	0.031	0.037
	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.03	0.623	0.751
	WLAN 5.8GHz	802.11n-HT20 MCS0	Right Side	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.01	0.086	0.103
	WLAN 5.8GHz	802.11n-HT20 MCS0	Top Side	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.01	0.121	0.146
	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	157	5785	18.26	19	1.186	93.75	1.067	-0.12	0.710	0.898
52	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	165	5825	18.14	19	1.219	93.75	1.067	0.12	0.692	0.900



14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
29	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	128	824.2	29	29.5	1.122	-0.03	0.788	0.884
	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	189	836.4	28.86	29.5	1.159	-0.03	0.731	0.847
	GSM850	GPRS 4 Tx slots	Front	10	OFF	Off	251	848.8	28.88	29.5	1.153	0.1	0.736	0.849
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	128	824.2	29	29.5	1.122	0.11	0.725	0.813
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	189	836.4	28.86	29.5	1.159	-0.01	0.722	0.837
	GSM850	GPRS 4 Tx slots	Back	10	OFF	Off	251	848.8	28.88	29.5	1.153	0.15	0.744	0.858
	GSM1900	GPRS 3 Tx slots	Front	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.13	0.432	0.469
	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	810	1909.8	24.64	25	1.086	-0.02	0.502	0.545
53	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	512	1850.2	24.49	25	1.125	0.01	0.712	0.801
	GSM1900	GPRS 3 Tx slots	Back	10	OFF	ON	661	1880	24.63	25	1.089	-0.08	0.614	0.669

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4132	826.4	23.54	24	1.112	-0.02	0.521	0.579
	WCDMA Band V	RMC 12.2Kbps	Back	10	OFF	Off	4132	826.4	23.54	24	1.112	-0.03	0.508	0.565
	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4182	836.4	23.39	24	1.151	0.02	0.562	0.647
31	WCDMA Band V	RMC 12.2Kbps	Front	10	OFF	Off	4233	846.6	23.49	24	1.125	-0.01	0.593	0.667
	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	0.06	0.725	0.802
	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1312	1712.4	21	21.5	1.122	0.01	0.658	0.738
54	WCDMA Band IV	RMC 12.2Kbps	Front	10	OFF	ON	1513	1752.6	21	21.5	1.122	0.12	0.821	0.921
	WCDMA Band IV	RMC 12.2Kbps	Back	10	OFF	ON	1413	1732.6	21.06	21.5	1.107	-0.03	0.714	0.790
	WCDMA Band II	RMC 12.2Kbps	Front	10	OFF	ON	9400	1880	19	19.5	1.122	0.03	0.374	0.420
	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9400	1880	19	19.5	1.122	-0.1	0.425	0.477
55	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9262	1852.4	18.9	19.5	1.148	-0.15	0.495	0.568
	WCDMA Band II	RMC 12.2Kbps	Back	10	OFF	ON	9538	1907.6	18.95	19.5	1.135	-0.01	0.336	0.381

**<CDMA SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
56	CDMA2000 BC0	RC3 SO32	Front	10	OFF	Off	777	848.31	24.05	24.5	1.109	0.02	0.706	0.783
	CDMA2000 BC0	RC3 SO32	Back	10	OFF	Off	777	848.31	24.05	24.5	1.109	0.01	0.686	0.761
	CDMA2000 BC0	RC3 SO32	Front	10	OFF	Off	1013	824.7	24.01	24.5	1.119	0.01	0.683	0.765
	CDMA2000 BC0	RC3 SO32	Front	10	OFF	Off	384	836.52	24.04	24.5	1.112	0.03	0.701	0.779
	CDMA2000 BC1	RC3 SO32	Front	10	OFF	ON	1175	1908.75	19.38	19.5	1.028	0.06	0.437	0.449
	CDMA2000 BC1	RC3 SO32	Back	10	OFF	ON	1175	1908.75	19.38	19.5	1.028	-0.14	0.466	0.479
57	CDMA2000 BC1	RC3 SO32	Back	10	OFF	ON	25	1851.25	19.09	19.5	1.099	-0.12	0.653	0.718
	CDMA2000 BC1	RC3 SO32	Back	10	OFF	ON	600	1880	19.18	19.5	1.076	-0.12	0.577	0.621

**<LTE SAR>**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
58	LTE Band 12	10M	QPSK	1RB	25Offset	Front	10	OFF	Off	23095	707.5	23.09	24	1.233	-0.02	0.265	0.327
	LTE Band 12	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	23095	707.5	22.36	23	1.159	-0.02	0.221	0.256
	LTE Band 12	10M	QPSK	1RB	25Offset	Back	10	OFF	Off	23095	707.5	23.09	24	1.233	-0.02	0.261	0.322
	LTE Band 12	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	23095	707.5	22.36	23	1.159	0.02	0.243	0.282
59	LTE Band 13	10M	QPSK	1RB	49Offset	Front	10	OFF	Off	23230	782	23.36	24	1.159	-0.01	0.426	0.494
	LTE Band 13	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	23230	782	22.33	23	1.167	-0.01	0.348	0.406
	LTE Band 13	10M	QPSK	1RB	49Offset	Back	10	OFF	Off	23230	782	23.36	24	1.159	0.01	0.409	0.474
	LTE Band 13	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	23230	782	22.33	23	1.167	-0.02	0.303	0.354
38	LTE Band 26	15M	QPSK	1RB	37Offset	Front	10	OFF	Off	26865	831.5	23.24	24	1.191	0.02	0.531	0.633
	LTE Band 26	15M	QPSK	36RB	20Offset	Front	10	OFF	Off	26865	831.5	22.42	23	1.143	0.01	0.436	0.498
	LTE Band 26	15M	QPSK	1RB	37Offset	Back	10	OFF	Off	26865	831.5	23.24	24	1.191	-0.05	0.509	0.606
	LTE Band 26	15M	QPSK	36RB	20Offset	Back	10	OFF	Off	26865	831.5	22.42	23	1.143	-0.01	0.393	0.449
	LTE Band 4	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	20175	1732.5	21.83	22	1.040	0.11	0.922	0.959
	LTE Band 4	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.07	0.875	1.086
60	LTE Band 4	20M	QPSK	100RB	0Offset	Front	10	OFF	ON	20175	1732.5	20.96	22	1.271	-0.05	0.884	1.123
	LTE Band 4	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	20175	1732.5	21.83	22	1.040	-0.07	0.801	0.833
	LTE Band 4	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	20175	1732.5	21.06	22	1.242	-0.02	0.749	0.930
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	10	OFF	ON	20175	1732.5	20.96	22	1.271	0.03	0.746	0.948
	LTE Band 25	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	26590	1905	18.93	19.5	1.140	-0.11	0.418	0.477
	LTE Band 25	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	26590	1905	18.44	19.5	1.276	-0.08	0.37	0.472
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26590	1905	18.93	19.5	1.140	0.07	0.433	0.494
	LTE Band 25	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	26590	1905	18.44	19.5	1.276	0.15	0.384	0.490
61	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26140	1860	18.92	19.5	1.143	0.06	0.595	0.680
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	26340	1880	18.9	19.5	1.148	-0.02	0.543	0.623
	LTE Band 30	10M	QPSK	1RB	0Offset	Front	10	OFF	Off	27710	2310	23.54	24	1.112	-0.13	0.837	0.931
	LTE Band 30	10M	QPSK	25RB	12Offset	Front	10	OFF	Off	27710	2310	22.52	23	1.117	-0.03	0.805	0.899
	LTE Band 30	10M	QPSK	50RB	0Offset	Front	10	OFF	Off	27710	2310	22.46	23	1.132	0.01	0.806	0.913
41	LTE Band 30	10M	QPSK	1RB	0Offset	Back	10	OFF	Off	27710	2310	23.54	24	1.112	-0.05	0.967	1.075
	LTE Band 30	10M	QPSK	25RB	12Offset	Back	10	OFF	Off	27710	2310	22.52	23	1.117	-0.13	0.735	0.821
	LTE Band 30	10M	QPSK	50RB	0Offset	Back	10	OFF	Off	27710	2310	22.46	23	1.132	-0.1	0.734	0.831
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	21100	2535	22.87	23	1.030	-0.06	0.778	0.802
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	20850	2510	22.84	23	1.038	0.06	0.917	0.951
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	10	OFF	ON	21350	2560	22.77	23	1.054	0.03	0.720	0.759
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	21100	2535	22.48	23	1.127	0.01	0.815	0.919
42	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	20850	2510	22.33	23	1.167	0.02	0.918	1.071
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	10	OFF	ON	21350	2560	22.44	23	1.138	0.01	0.777	0.884
	LTE Band 7	20M	QPSK	100RB	0Offset	Front	10	OFF	ON	21100	2535	22.37	23	1.156	0.01	0.865	1.000
	LTE Band 7	20M	QPSK	1RB	0Offset	Back	10	OFF	ON	21100	2535	22.87	23	1.030	0.13	0.569	0.586
	LTE Band 7	20M	QPSK	50RB	0Offset	Back	10	OFF	ON	21100	2535	22.48	23	1.127	0.1	0.517	0.583



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.01	0.356	0.387
43	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	39750	2506	23.93	24.5	1.140	62.9	1.006	0.12	0.813	0.933
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	40185	2549.5	24.15	24.5	1.084	62.9	1.006	0.19	0.704	0.768
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	40620	2593	23.95	24.5	1.135	62.9	1.006	0.12	0.527	0.602
	LTE Band 41	20M	QPSK	1RB	0Offset	Front	10	OFF	Off	41055	2636.5	23.91	24.5	1.146	62.9	1.006	0.1	0.398	0.459
	LTE Band 41	20M	QPSK	50RB	0Offset	Front	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.18	0.272	0.296
	LTE Band 41	20M	QPSK	100RB	0Offset	Front	10	OFF	Off	41490	2680	22.94	23.5	1.138	62.9	1.006	0.13	0.264	0.302
	LTE Band 41	20M	QPSK	1RB	0Offset	Back	10	OFF	Off	41490	2680	24.16	24.5	1.081	62.9	1.006	0.02	0.224	0.244
	LTE Band 41	20M	QPSK	50RB	0Offset	Back	10	OFF	Off	41490	2680	23.16	23.5	1.081	62.9	1.006	0.02	0.171	0.186

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
62	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	-0.04	0.580	0.600
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	1	2412	21.78	22	1.052	98.6	1.014	0.06	0.411	0.438
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 1	OFF	Off	6	2437	21.71	22	1.069	98.6	1.014	0.18	0.405	0.439
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 1	OFF	Off	11	2462	21.91	22	1.021	98.6	1.014	0.1	0.427	0.442
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.1	0.367	0.428
63	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	11	2462	18.89	19.5	1.151	98.71	1.013	0.02	0.541	0.631
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	1	2412	18.84	19.5	1.164	98.71	1.013	0.04	0.409	0.482
	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Ant 2	OFF	Off	6	2437	18.69	19.5	1.205	98.71	1.013	0.01	0.468	0.571
	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.1	0.354	0.394
	WLAN 2.4GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	11	2462	18.38	18.5	1.028	92.25	1.084	0.11	0.271	0.302
	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	1	2412	18.32	18.5	1.042	92.25	1.084	0.16	0.326	0.368
64	WLAN 2.4GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	6	2437	18.20	18.5	1.072	92.25	1.084	0.12	0.348	0.404

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 5.3GHz	802.11a 6Mbps	Front	10	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.05	0.096	0.119
	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	-0.17	0.709	0.876
65	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	52	5260	17.78	18.5	1.180	93.38	1.071	-0.07	0.708	0.895
	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	64	5320	17.85	18.5	1.161	93.38	1.071	-0.16	0.699	0.869
	WLAN 5.3GHz	802.11a 6Mbps	Front	10	Ant 2	OFF	Off	52	5260	17.07	17.5	1.104	92.98	1.076	-0.10	< 0.001	< 0.001
	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	52	5260	17.07	17.5	1.104	92.98	1.076	-0.14	0.485	0.576
66	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	56	5280	16.88	17.5	1.153	92.98	1.076	-0.12	0.627	0.778
	WLAN 5.3GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	64	5320	16.94	17.5	1.138	92.98	1.076	-0.09	0.618	0.756
	WLAN 5.3GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.06	0.018	0.020
	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	-0.12	0.763	0.864
67	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	52	5260	19.22	19.5	1.067	93.75	1.067	0.03	0.880	1.001
	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	64	5320	19.15	19.5	1.084	93.75	1.067	0.09	0.721	0.834



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 5.5GHz	802.11a 6Mbps	Front	10	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.05	0.015	0.018
	WLAN 5.5GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.01	0.465	0.561
	WLAN 5.5GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	100	5500	16.66	18.5	1.528	93.38	1.071	0.07	0.216	0.353
68	WLAN 5.5GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	140	5700	17.49	18.5	1.262	93.38	1.071	-0.19	0.461	0.623
	WLAN 5.5GHz	802.11n-HT20 MCS0	Front	10	Ant 2	OFF	Off	100	5500	17.72	18	1.067	92.25	1.084	0.01	0.01	0.012
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 2	OFF	Off	100	5500	17.72	18	1.067	92.25	1.084	0.16	0.394	0.456
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 2	OFF	Off	116	5580	16.87	18	1.297	92.25	1.084	0.03	0.422	0.593
69	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 2	OFF	Off	140	5700	16.37	18	1.455	92.25	1.084	-0.13	0.614	0.969
	WLAN 5.5GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	0.12	0.021	0.023
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	0.16	0.661	0.715
70	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	100	5500	18.63	19	1.089	93.75	1.067	0.03	0.712	0.827
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	140	5700	18.53	19	1.114	93.75	1.067	0.05	0.652	0.775
	WLAN 5.8GHz	802.11a 6Mbps	Front	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	0.1	0.021	0.027
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	149	5745	17.28	18	1.180	93.38	1.071	0.13	0.359	0.454
50	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	157	5785	16.54	18	1.400	93.38	1.071	-0.09	0.307	0.460
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 1	OFF	Off	165	5825	16.92	18	1.282	93.38	1.071	0.06	0.314	0.431
	WLAN 5.8GHz	802.11a 6Mbps	Front	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.09	0.024	0.029
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	157	5785	17.99	18.5	1.125	92.98	1.076	0.13	0.658	0.796
	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	149	5745	17.6	18.5	1.230	92.98	1.076	-0.16	0.613	0.811
51	WLAN 5.8GHz	802.11a 6Mbps	Back	10	Ant 2	OFF	Off	165	5825	17.04	18.5	1.400	92.98	1.076	0.07	0.656	0.988
	WLAN 5.8GHz	802.11n-HT20 MCS0	Front	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.12	0.031	0.037
	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	149	5745	18.47	19	1.130	93.75	1.067	0.03	0.623	0.751
	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	157	5785	18.26	19	1.186	93.75	1.067	-0.12	0.710	0.898
52	WLAN 5.8GHz	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	165	5825	18.14	19	1.219	93.75	1.067	0.12	0.692	0.900

<Bluetooth SAR>

Plot No.	Band	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	Front	10	OFF	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.14	0.001	0.001
	Bluetooth	Back	10	OFF	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.09	< 0.001	<0.001
	Bluetooth	Front	10	OFF	Off	0	2402	9.91	10.5	1.146	76.8	1.085	0.04	0.022	0.027
71	Bluetooth	Front	10	OFF	Off	78	2480	8.98	10.5	1.419	76.8	1.085	0.06	0.025	0.038



14.4 Product specific 10g SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	GSM1900	GPRS 3 Tx slots	Back	0	OFF	Off	810	1909.8	27.67	28	1.079	0.02	2.620	2.827
72	GSM1900	GPRS 3 Tx slots	Back	0	OFF	Off	512	1850.2	27.32	28	1.169	-0.02	2.840	3.321
	GSM1900	GPRS 3 Tx slots	Back	0	OFF	Off	661	1880	27.56	28	1.107	-0.11	2.770	3.065
	GSM1900	GPRS 3 Tx slots	Bottom Side	0	OFF	Off	810	1909.8	27.67	28	1.079	-0.15	2.330	2.514
	GSM1900	GPRS 3 Tx slots	Bottom Side	0	OFF	Off	512	1850.2	27.32	28	1.169	-0.09	2.100	2.456
	GSM1900	GPRS 3 Tx slots	Bottom Side	0	OFF	Off	661	1880	27.56	28	1.107	-0.1	2.370	2.623

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA Band IV	RMC 12.2Kbps	Front	0	OFF	Off	1413	1752.6	23.68	24	1.076	0.16	2.400	2.584
	WCDMA Band IV	RMC 12.2Kbps	Front	0	OFF	Off	1312	1712.4	23.57	24	1.104	0.14	2.460	2.716
	WCDMA Band IV	RMC 12.2Kbps	Front	0	OFF	Off	1513	1752.6	23.63	24	1.089	0.11	2.190	2.385
	WCDMA Band IV	RMC 12.2Kbps	Back	0	OFF	Off	1413	1732.6	23.68	24	1.076	-0.14	3.300	3.552
	WCDMA Band IV	RMC 12.2Kbps	Back	0	OFF	Off	1312	1712.4	23.57	24	1.104	-0.04	3.130	3.456
73	WCDMA Band IV	RMC 12.2Kbps	Back	0	OFF	Off	1513	1752.6	23.63	24	1.089	0.05	3.330	3.626
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	OFF	Off	1413	1732.6	23.68	24	1.076	-0.13	2.280	2.454
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	OFF	Off	1312	1712.4	23.57	24	1.104	-0.05	2.170	2.396
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	OFF	Off	1513	1752.6	23.63	24	1.089	0.04	2.330	2.537
	WCDMA Band II	RMC 12.2Kbps	Back	0	OFF	Off	9400	1880	23.7	24	1.072	0.11	2.120	2.272
74	WCDMA Band II	RMC 12.2Kbps	Back	0	OFF	Off	9262	1852.4	23.54	24	1.112	0.02	2.450	2.724
	WCDMA Band II	RMC 12.2Kbps	Back	0	OFF	Off	9538	1907.6	23.69	24	1.074	-0.09	1.870	2.008
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	OFF	Off	9400	1880	23.7	24	1.072	0.11	2.160	2.314
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	OFF	Off	9262	1852.4	23.54	24	1.112	0.09	2.390	2.657
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	OFF	Off	9538	1907.6	23.69	24	1.074	0.05	2.040	2.191

**<CDMA SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	OFF	Off	1175	1908.75	24.1	24.5	1.096	-0.18	2.000	2.193
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	OFF	Off	25	1851.25	23.82	24.5	1.169	-0.09	2.050	2.397
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	OFF	Off	600	1880	23.89	24.5	1.151	0.09	2.030	2.336
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	OFF	Off	1175	1908.75	24.1	24.5	1.096	0.08	2.340	2.566
75	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	OFF	Off	25	1851.25	23.82	24.5	1.169	0.06	2.980	3.485
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	OFF	Off	600	1880	23.89	24.5	1.151	0.19	2.630	3.027
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	OFF	Off	1175	1908.75	24.1	24.5	1.096	-0.18	2.550	2.796
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	OFF	Off	25	1851.25	23.82	24.5	1.169	0.03	2.870	3.356
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	OFF	Off	600	1880	23.89	24.5	1.151	0.06	2.780	3.199



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 4	20M	QPSK	1RB	0Offset	Front	0	OFF	Off	20175	1732.5	24.43	24.5	1.016	-0.11	2.310	2.348
	LTE Band 4	20M	QPSK	50RB	0Offset	Front	0	OFF	Off	20175	1732.5	22.71	23.5	1.199	0.06	1.730	2.075
	LTE Band 4	20M	QPSK	100RB	0Offset	Front	0	OFF	Off	20175	1732.5	22.62	23.5	1.225	0.09	1.610	1.972
76	LTE Band 4	20M	QPSK	1RB	0Offset	Back	0	OFF	Off	20175	1732.5	24.43	24.5	1.016	-0.06	2.990	3.039
	LTE Band 4	20M	QPSK	50RB	0Offset	Back	0	OFF	Off	20175	1732.5	22.71	23.5	1.199	-0.06	2.200	2.639
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	0	OFF	Off	20175	1732.5	22.62	23.5	1.225	0.09	2.210	2.706
	LTE Band 4	20M	QPSK	1RB	0Offset	Bottom Side	0	OFF	Off	20175	1732.5	24.43	24.5	1.016	0.11	2.180	2.215
	LTE Band 4	20M	QPSK	50RB	0Offset	Bottom Side	0	OFF	Off	20175	1732.5	22.71	23.5	1.199	0.12	1.570	1.883
	LTE Band 4	20M	QPSK	100RB	0Offset	Bottom Side	0	OFF	Off	20175	1732.5	22.62	23.5	1.225	0.02	1.500	1.837
	LTE Band 25	20M	QPSK	1RB	0Offset	Front	0	OFF	Off	26590	1905	24.03	24.5	1.114	0.13	1.770	1.972
	LTE Band 25	20M	QPSK	50RB	0Offset	Front	0	OFF	Off	26590	1905	22.34	23.5	1.306	-0.12	1.280	1.672
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	0	OFF	Off	26590	1905	24.03	24.5	1.114	-0.07	2.340	2.607
77	LTE Band 25	20M	QPSK	1RB	0Offset	Back	0	OFF	Off	26140	1860	23.94	24.5	1.138	-0.14	2.920	3.322
	LTE Band 25	20M	QPSK	1RB	0Offset	Back	0	OFF	Off	26340	1880	24.01	24.5	1.119	-0.19	2.630	2.944
	LTE Band 25	20M	QPSK	50RB	0Offset	Back	0	OFF	Off	26590	1905	22.34	23.5	1.306	-0.15	1.660	2.168
	LTE Band 25	20M	QPSK	50RB	0Offset	Back	0	OFF	Off	26140	1860	22.16	23.5	1.361	-0.01	2.060	2.805
	LTE Band 25	20M	QPSK	50RB	0Offset	Back	0	OFF	Off	26340	1880	22.25	23.5	1.334	-0.04	1.750	2.334
	LTE Band 25	20M	QPSK	100RB	0Offset	Back	0	OFF	Off	26590	1905	22.3	23.5	1.318	-0.13	1.930	2.544
	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	0	OFF	Off	26590	1905	24.03	24.5	1.114	-0.17	2.290	2.552
	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	0	OFF	Off	26140	1860	23.94	24.5	1.138	-0.15	2.570	2.924
	LTE Band 25	20M	QPSK	1RB	0Offset	Bottom Side	0	OFF	Off	26340	1880	24.01	24.5	1.119	-0.08	2.420	2.709
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	0	OFF	Off	26590	1905	22.34	23.5	1.306	-0.17	1.640	2.142
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	0	OFF	Off	26140	1860	22.16	23.5	1.361	-0.02	1.820	2.478
	LTE Band 25	20M	QPSK	50RB	0Offset	Bottom Side	0	OFF	Off	26340	1880	22.25	23.5	1.334	0.07	1.850	2.467
	LTE Band 25	20M	QPSK	100RB	0Offset	Bottom Side	0	OFF	Off	26590	1880	22.3	23.5	1.318	0.09	2.220	2.927
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	0	OFF	Off	21100	2535	24.1	24.5	1.096	-0.1	3.270	3.585
78	LTE Band 7	20M	QPSK	1RB	0Offset	Front	0	OFF	Off	20850	2510	24.01	24.5	1.119	-0.03	3.400	3.806
	LTE Band 7	20M	QPSK	1RB	0Offset	Front	0	OFF	Off	21350	2560	23.89	24.5	1.151	-0.16	3.050	3.510
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	0	OFF	Off	21100	2535	22.67	23.5	1.211	-0.03	2.520	3.051
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	0	OFF	Off	20850	2510	22.54	23.5	1.247	0.13	2.660	3.318
	LTE Band 7	20M	QPSK	50RB	0Offset	Front	0	OFF	Off	21350	2560	22.62	23.5	1.225	0.11	2.340	2.866
	LTE Band 7	20M	QPSK	100RB	0Offset	Front	0	OFF	Off	21100	2535	22.58	24.5	1.556	0.04	2.160	3.361



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Peak SAR	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN 5.3GHz	802.11a 6Mbps	Front	0	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	-0.11	2.08	0.258	0.319
	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	-0.1	13.6	1.330	1.643
	WLAN 5.3GHz	802.11a 6Mbps	Right Side	0	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.01	1.39		
	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0	Ant 1	OFF	Off	56	5280	17.88	18.5	1.153	93.38	1.071	0.01	1.602		
79	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	52	5260	17.78	18.5	1.180	93.38	1.071	-0.13		1.330	1.681
	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	64	5320	17.85	18.5	1.161	93.38	1.071	0.03		1.150	1.430
	WLAN 5.3GHz	802.11a 6Mbps	Front	0	Ant 2	OFF	Off	52	5260	17.07	18	1.239	92.98	1.076	0.05	0.306	0.035	0.047
	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 2	OFF	Off	52	5260	17.07	18	1.239	92.98	1.076	0.19	12.392	1.080	1.440
	WLAN 5.3GHz	802.11a 6Mbps	Right Side	0	Ant 2	OFF	Off	52	5260	17.07	18	1.239	92.98	1.076	0.05	0.848	0.056	0.075
	WLAN 5.3GHz	802.11a 6Mbps	Top Side	0	Ant 2	OFF	Off	52	5260	17.07	18	1.239	92.98	1.076	0.05	0.553		
80	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 2	OFF	Off	56	5280	16.88	18	1.294	92.98	1.076	0.03		1.140	1.588
	WLAN 5.3GHz	802.11a 6Mbps	Back	0	Ant 2	OFF	Off	64	5320	16.94	18	1.276	92.98	1.076	0.05		1.090	1.497
	WLAN 5.3GHz	802.11n-HT20 MCS0	Front	0	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.1	1.480	0.195	0.221
	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	-0.11	17.715	1.860	2.107
	WLAN 5.3GHz	802.11n-HT20 MCS0	Right Side	0	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.05	1.18		
	WLAN 5.3GHz	802.11n-HT20 MCS0	Top Side	0	Ant 1+2	OFF	Off	56	5280	19.24	19.5	1.062	93.75	1.067	0.05	1.329		
81	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	52	5260	19.22	19.5	1.067	93.75	1.067	-0.02		1.890	2.151
	WLAN 5.3GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	64	5320	19.15	19.5	1.084	93.75	1.067	-0.14		1.85	2.140
	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.05	1.221	0.143	0.173
	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.05	7.786	0.918	1.108
	WLAN 5.5GHz	802.11a 6Mbps	Right Side	0	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.03	1.913	0.072	0.087
	WLAN 5.5GHz	802.11a 6Mbps	Top Side	0	Ant 1	OFF	Off	132	5660	17.98	18.5	1.127	93.38	1.071	0.05	1.589		
82	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	100	5500	16.66	18.5	1.528	93.38	1.071	0.15		0.826	1.351
	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Ant 1	OFF	Off	140	5700	17.49	18.5	1.262	93.38	1.071	-0.16		0.776	1.049
	WLAN 5.5GHz	802.11n-HT20 MCS0	Front	0	Ant 2	OFF	Off	100	5500	17.72	18	1.047	92.25	1.084	0.01	0.21	0.030	0.034
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 2	OFF	Off	100	5500	17.72	18	1.047	92.25	1.084	-0.18	16.93	1.460	1.657
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Side	0	Ant 2	OFF	Off	100	5500	17.72	18	1.047	92.25	1.084	0.01	0.902	0.132	0.150
	WLAN 5.5GHz	802.11n-HT20 MCS0	Top Side	0	Ant 2	OFF	Off	100	5500	17.72	18	1.047	92.25	1.084	0.01	0.706	0.115	0.131
83	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 2	OFF	Off	116	5580	16.87	18	1.047	92.25	1.084	-0.07		1.560	1.771
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 2	OFF	Off	140	5700	16.37	18	1.047	92.25	1.084	-0.09		1.290	1.464
	WLAN 5.5GHz	802.11n-HT20 MCS0	Front	0	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	0.05	1.38	0.174	0.188
84	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	-0.18	16.5	1.840	1.991
	WLAN 5.5GHz	802.11n-HT20 MCS0	Right Side	0	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	0.05	1.43		
	WLAN 5.5GHz	802.11n-HT20 MCS0	Top Side	0	Ant 1+2	OFF	Off	116	5580	18.94	19	1.014	93.75	1.067	0.16	2.92	0.296	0.320
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	100	5500	18.63	19	1.089	93.75	1.067	-0.17		1.450	1.685
	WLAN 5.5GHz	802.11n-HT20 MCS0	Back	0	Ant 1+2	OFF	Off	140	5700	18.53	19	1.114	93.75	1.067	0.12		1.200	1.427

**<Bluetooth SAR>**

Plot No.	Band	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	Bluetooth	Front	0	OFF	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.14	0.062	0.076
85	Bluetooth	Back	0	OFF	Off	39	2441	9.98	10.5	1.127	76.8	1.085	0.09	0.089	0.109
	Bluetooth	Back	0	OFF	Off	0	2402	9.91	10.5	1.146	76.8	1.085	0.04	0.066	0.082
	Bluetooth	Back	0	OFF	Off	78	2480	8.98	10.5	1.419	76.8	1.085	0.06	0.061	0.094

14.5 Repeated SAR Measurement

<1g SAR>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10	-	OFF	ON	1513	1752.6	21	21.5	1.122	-	-	0.15	1.060	1	1.189
2nd	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10	-	OFF	ON	1513	1752.6	21	21.5	1.122	-	-	0.11	1.030	1.029	1.156
1st	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	10	-	OFF	ON	25	1851.25	19.15	19.5	1.084	-	-	0.15	1.050	1	1.138
2nd	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	10	-	OFF	ON	25	1851.25	19.15	19.5	1.084	-	-	0.03	1.030	1.019	1.116
1st	LTE Band 30	10M	QPSK	1RB	0Offset	-	Back	10	-	OFF	Off	27710	2310	23.54	24	1.112	-	-	-0.05	0.967	1	1.075
2nd	LTE Band 30	10M	QPSK	1RB	0Offset	-	Back	10	-	OFF	Off	27710	2310	23.54	24	1.112	-	-	-0.1	0.959	1.008	1.066
1st	LTE Band 7	20M	QPSK	50RB	0Offset	-	Front	10	-	OFF	ON	20850	2510	22.33	23	1.167	-	-	0.02	0.918	1	1.071
2nd	LTE Band 7	20M	QPSK	50RB	0Offset	-	Front	10	-	OFF	ON	20850	2510	22.33	23	1.167	-	-	0.06	0.910	1.009	1.062
1st	WLAN 2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	10	Ant 1	OFF	Off	6	2437	21.71	22	1.069	98.6	1.014	0.07	1.010	1	1.095
2nd	WLAN 2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	10	Ant 1	OFF	Off	6	2437	21.71	22	1.069	98.6	1.014	0.12	0.972	1.039	1.054
1st	WLAN 5.2GHz	-	-	-	-	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	40	5200	19.1	19.5	1.096	93.75	1.067	0.08	0.936	1	1.095
2nd	WLAN 5.2GHz	-	-	-	-	802.11n-HT20 MCS0	Back	10	Ant 1+2	OFF	Off	40	5200	19.1	19.5	1.096	93.75	1.067	0.18	0.928	1.009	1.086

<10g SAR>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Receiver	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Back	0	OFF	Off	1513	1752.6	23.63	24	1.089	0.05	3.330	1	3.626
2nd	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Back	0	OFF	Off	1513	1752.6	23.63	24	1.089	0.08	3.120	1.067	3.397
1st	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Back	0	OFF	Off	25	1851.25	23.82	24.5	1.169	0.06	2.980	1	3.485
2nd	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Back	0	OFF	Off	25	1851.25	23.82	24.50	1.169	0.09	2.910	1.024	3.403
1st	LTE Band 7	20M	QPSK	1RB	0Offset	-	Front	0	OFF	Off	20850	2510	24.01	24.5	1.119	-0.03	3.400	1	3.806
2nd	LTE Band 7	20M	QPSK	1RB	0Offset	-	Front	0	OFF	Off	20850	2510	24.01	24.5	1.119	-0.12	3.340	1.018	3.739

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
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. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			Note
		Head	Body-worn	Hotspot	
1.	GSM Voice + WLAN2.4GHz(SISO)	Yes	Yes		
2.	GPRS/EDGE + WLAN2.4GHz(SISO)	Yes	Yes	Yes	Hotspot
3.	WCDMA + WLAN2.4GHz(SISO)	Yes	Yes	Yes	Hotspot
4.	CDMA + WLAN2.4GHz(SISO)	Yes	Yes	Yes	Hotspot
5.	LTE + WLAN2.4GHz(SISO)	Yes	Yes	Yes	Hotspot
6.	GSM Voice + WLAN2.4GHz(MIMO)	Yes	Yes		
7.	GPRS/EDGE + WLAN2.4GHz(MIMO)	Yes	Yes	Yes	Hotspot
8.	WCDMA + WLAN2.4GHz(MIMO)	Yes	Yes	Yes	Hotspot
9.	CDMA + WLAN2.4GHz(MIMO)	Yes	Yes	Yes	Hotspot
10.	LTE + WLAN2.4GHz(MIMO)	Yes	Yes	Yes	Hotspot
11.	GSM Voice + Bluetooth	Yes	Yes		
12.	GPRS/EDGE + Bluetooth	Yes	Yes		WWAN VoIP
13.	WCDMA+ Bluetooth	Yes	Yes		WWAN VoIP
14.	CDMA+ Bluetooth	Yes	Yes		WWAN VoIP
15.	LTE + Bluetooth	Yes	Yes		WWAN VoIP
16.	GSM Voice + WLAN5.3/5.5GHz(SISO)	Yes	Yes		
17.	GPRS/EDGE + WLAN5.3/5.5GHz(SISO)	Yes	Yes		WWAN VoIP
18.	WCDMA + WLAN5.3/5.5GHz(SISO)	Yes	Yes		WWAN VoIP
19.	CDMA + WLAN5.3/5.5GHz(SISO)	Yes	Yes		WWAN VoIP
20.	LTE + WLAN5.3/5.5GHz(SISO)	Yes	Yes		WWAN VoIP
21.	GSM Voice + WLAN5.3/5.5GHz(MIMO)	Yes	Yes		
22.	GPRS/EDGE + WLAN5.3/5.5GHz(MIMO)	Yes	Yes		WWAN VoIP
23.	WCDMA + WLAN5.3/5.5GHz(MIMO)	Yes	Yes		WWAN VoIP
24.	CDMA + WLAN5.3/5.5GHz(MIMO)	Yes	Yes		WWAN VoIP
25.	LTE + WLAN5.3/5.5GHz(MIMO)	Yes	Yes		WWAN VoIP
26.	GSM Voice + WLAN5.2/5.8GHz(SISO)	Yes	Yes		
27.	GPRS/EDGE + WLAN5.2/5.8GHz(SISO)	Yes	Yes	Yes	WWAN VoIP
28.	WCDMA + WLAN5.2/5.8GHz(SISO)	Yes	Yes	Yes	WWAN VoIP
29.	CDMA + WLAN5.2/5.8GHz(SISO)	Yes	Yes	Yes	WWAN VoIP
30.	LTE + WLAN5.2/5.8GHz(SISO)	Yes	Yes	Yes	WWAN VoIP
31.	GSM Voice + WLAN5.2/5.8GHz (MIMO)	Yes	Yes		
32.	GPRS/EDGE + WLAN5.2/5.8GHz (MIMO)	Yes	Yes	Yes	WWAN VoIP
33.	WCDMA + WLAN5.2/5.8GHz (MIMO)	Yes	Yes	Yes	WWAN VoIP
34.	CDMA + WLAN5.2/5.8GHz (MIMO)	Yes	Yes	Yes	WWAN VoIP
35.	LTE + WLAN5.2/5.8GHz (MIMO)	Yes	Yes	Yes	WWAN VoIP

General Note:

1. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN/ 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).
3. EUT will choose each GSM, WCDMA, CDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
4. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
5. WLAN Ant.1 and Bluetooth share the same antenna, so can't transmit simultaneously.
6. According to EUT character, Bluetooth cannot transmit simultaneously with WLAN 2.4GHz Ant.2 and WLAN 5GHz Ant.2.
7. Chose the worse zoom scan SAR of WLAN2.4GHz and WLAN 5GHz SAR for co-located with WWAN analysis.
8. The reported SAR summation is calculated based on the same configuration and test position.
9. 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) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$ for 1g SAR, $SPLSR \leq 0.10$ for 10g SAR simultaneously transmission SAR measurement is not necessary.

15.1 Head Exposure Conditions
<WWAN+2.4GHz Ant 1>

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	1.023	1.58		
		Right Tilted	0.252	1.069	1.32		
		Left Cheek	0.384	0.666	1.05		
		Left Tilted	0.263	0.658	0.92		
	GSM1900	Right Cheek	0.056	1.023	1.08		
		Right Tilted	0.050	1.069	1.12		
		Left Cheek	0.156	0.666	0.82		
		Left Tilted	0.033	0.658	0.69		
WCDMA	Band V	Right Cheek	0.422	1.023	1.45		
		Right Tilted	0.196	1.069	1.27		
		Left Cheek	0.268	0.666	0.93		
		Left Tilted	0.189	0.658	0.85		
	Band IV	Right Cheek	0.078	1.023	1.10		
		Right Tilted	0.075	1.069	1.14		
		Left Cheek	0.229	0.666	0.90		
		Left Tilted	0.051	0.658	0.71		
	Band II	Right Cheek	0.095	1.023	1.12		
		Right Tilted	0.086	1.069	1.16		
		Left Cheek	0.236	0.666	0.90		
		Left Tilted	0.045	0.658	0.70		
CDMA2000	BC0	Right Cheek	0.523	1.023	1.55		
		Right Tilted	0.302	1.069	1.37		
		Left Cheek	0.328	0.666	0.99		
		Left Tilted	0.219	0.658	0.88		
	BC1	Right Cheek	0.127	1.023	1.15		
		Right Tilted	0.156	1.069	1.23		
		Left Cheek	0.263	0.666	0.93		
		Left Tilted	0.088	0.658	0.75		

LTE	Band 12	Right Cheek	0.184	1.023	1.21		
		Right Tilted	0.088	1.069	1.16		
		Left Cheek	0.141	0.666	0.81		
		Left Tilted	0.085	0.658	0.74		
	Band 13	Right Cheek	0.309	1.023	1.33		
		Right Tilted	0.166	1.069	1.24		
		Left Cheek	0.231	0.666	0.90		
		Left Tilted	0.141	0.658	0.80		
	Band 26	Right Cheek	0.442	1.023	1.47		
		Right Tilted	0.212	1.069	1.28		
		Left Cheek	0.260	0.666	0.93		
		Left Tilted	0.174	0.658	0.83		
	Band 4	Right Cheek	0.091	1.023	1.11		
		Right Tilted	0.083	1.069	1.15		
		Left Cheek	0.180	0.666	0.85		
		Left Tilted	0.049	0.658	0.71		
	Band 25	Right Cheek	0.113	1.023	1.14		
		Right Tilted	0.091	1.069	1.16		
		Left Cheek	0.202	0.666	0.87		
		Left Tilted	0.053	0.658	0.71		
	Band 30	Right Cheek	0.060	1.023	1.08		
		Right Tilted	0.042	1.069	1.11		
		Left Cheek	0.101	0.666	0.77		
		Left Tilted	0.027	0.658	0.69		
	Band 7	Right Cheek	0.161	1.023	1.18		
		Right Tilted	0.058	1.069	1.13		
		Left Cheek	0.136	0.666	0.80		
		Left Tilted	0.056	0.658	0.71		
	Band 41	Right Cheek	0.036	1.023	1.06		
		Right Tilted	0.018	1.069	1.09		
		Left Cheek	0.094	0.666	0.76		
		Left Tilted	0.021	0.658	0.68		



<WWAN+2.4GHz Ant 2>

WWAN Band		Exposure Position	1	3	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	0.793	1.35		
		Right Tilted	0.252	0.795	1.05		
		Left Cheek	0.384	1.061	1.45		
		Left Tilted	0.263	1.134	1.40		
	GSM1900	Right Cheek	0.056	0.793	0.85		
		Right Tilted	0.050	0.795	0.85		
		Left Cheek	0.156	1.061	1.22		
		Left Tilted	0.033	1.134	1.17		
WCDMA	Band V	Right Cheek	0.422	0.793	1.22		
		Right Tilted	0.196	0.795	0.99		
		Left Cheek	0.268	1.061	1.33		
		Left Tilted	0.189	1.134	1.32		
	Band IV	Right Cheek	0.078	0.793	0.87		
		Right Tilted	0.075	0.795	0.87		
		Left Cheek	0.229	1.061	1.29		
		Left Tilted	0.051	1.134	1.19		
	Band II	Right Cheek	0.095	0.793	0.89		
		Right Tilted	0.086	0.795	0.88		
		Left Cheek	0.236	1.061	1.30		
		Left Tilted	0.045	1.134	1.18		
CDMA2000	BC0	Right Cheek	0.523	0.793	1.32		
		Right Tilted	0.302	0.795	1.10		
		Left Cheek	0.328	1.061	1.39		
		Left Tilted	0.219	1.134	1.35		
	BC1	Right Cheek	0.127	0.793	0.92		
		Right Tilted	0.156	0.795	0.95		
		Left Cheek	0.263	1.061	1.32		
		Left Tilted	0.088	1.134	1.22		

LTE	Band 12	Right Cheek	0.184	0.793	0.98		
		Right Tilted	0.088	0.795	0.88		
		Left Cheek	0.141	1.061	1.20		
		Left Tilted	0.085	1.134	1.22		
	Band 13	Right Cheek	0.309	0.793	1.10		
		Right Tilted	0.166	0.795	0.96		
		Left Cheek	0.231	1.061	1.29		
		Left Tilted	0.141	1.134	1.28		
	Band 26	Right Cheek	0.442	0.793	1.24		
		Right Tilted	0.212	0.795	1.01		
		Left Cheek	0.260	1.061	1.32		
		Left Tilted	0.174	1.134	1.31		
	Band 4	Right Cheek	0.091	0.793	0.88		
		Right Tilted	0.083	0.795	0.88		
		Left Cheek	0.180	1.061	1.24		
		Left Tilted	0.049	1.134	1.18		
	Band 25	Right Cheek	0.113	0.793	0.91		
		Right Tilted	0.091	0.795	0.89		
		Left Cheek	0.202	1.061	1.26		
		Left Tilted	0.053	1.134	1.19		
	Band 30	Right Cheek	0.060	0.793	0.85		
		Right Tilted	0.042	0.795	0.84		
		Left Cheek	0.101	1.061	1.16		
		Left Tilted	0.027	1.134	1.16		
	Band 7	Right Cheek	0.161	0.793	0.95		
		Right Tilted	0.058	0.795	0.85		
		Left Cheek	0.136	1.061	1.20		
		Left Tilted	0.056	1.134	1.19		
	Band 41	Right Cheek	0.036	0.793	0.83		
		Right Tilted	0.018	0.795	0.81		
		Left Cheek	0.094	1.061	1.16		
		Left Tilted	0.021	1.134	1.16		



<WWAN+2.4GHz Ant 1+2>

WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	1.033	1.59		
		Right Tilted	0.252	0.969	1.22		
		Left Cheek	0.384	0.932	1.32		
		Left Tilted	0.263	0.965	1.23		
	GSM1900	Right Cheek	0.056	1.033	1.09		
		Right Tilted	0.050	0.969	1.02		
		Left Cheek	0.156	0.932	1.09		
		Left Tilted	0.033	0.965	1.00		
WCDMA	Band V	Right Cheek	0.422	1.033	1.46		
		Right Tilted	0.196	0.969	1.17		
		Left Cheek	0.268	0.932	1.20		
		Left Tilted	0.189	0.965	1.15		
	Band IV	Right Cheek	0.078	1.033	1.11		
		Right Tilted	0.075	0.969	1.04		
		Left Cheek	0.229	0.932	1.16		
		Left Tilted	0.051	0.965	1.02		
	Band II	Right Cheek	0.095	1.033	1.13		
		Right Tilted	0.086	0.969	1.06		
		Left Cheek	0.236	0.932	1.17		
		Left Tilted	0.045	0.965	1.01		
CDMA2000	BC0	Right Cheek	0.523	1.033	1.56		
		Right Tilted	0.302	0.969	1.27		
		Left Cheek	0.328	0.932	1.26		
		Left Tilted	0.219	0.965	1.18		
	BC1	Right Cheek	0.127	1.033	1.16		
		Right Tilted	0.156	0.969	1.13		
		Left Cheek	0.263	0.932	1.20		
		Left Tilted	0.088	0.965	1.05		

LTE	Band 12	Right Cheek	0.184	1.033	1.22		
		Right Tilted	0.088	0.969	1.06		
		Left Cheek	0.141	0.932	1.07		
		Left Tilted	0.085	0.965	1.05		
	Band 13	Right Cheek	0.309	1.033	1.34		
		Right Tilted	0.166	0.969	1.14		
		Left Cheek	0.231	0.932	1.16		
		Left Tilted	0.141	0.965	1.11		
	Band 26	Right Cheek	0.442	1.033	1.48		
		Right Tilted	0.212	0.969	1.18		
		Left Cheek	0.260	0.932	1.19		
		Left Tilted	0.174	0.965	1.14		
	Band 4	Right Cheek	0.091	1.033	1.12		
		Right Tilted	0.083	0.969	1.05		
		Left Cheek	0.180	0.932	1.11		
		Left Tilted	0.049	0.965	1.01		
	Band 25	Right Cheek	0.113	1.033	1.15		
		Right Tilted	0.091	0.969	1.06		
		Left Cheek	0.202	0.932	1.13		
		Left Tilted	0.053	0.965	1.02		
	Band 30	Right Cheek	0.060	1.033	1.09		
		Right Tilted	0.042	0.969	1.01		
		Left Cheek	0.101	0.932	1.03		
		Left Tilted	0.027	0.965	0.99		
	Band 7	Right Cheek	0.161	1.033	1.19		
		Right Tilted	0.058	0.969	1.03		
		Left Cheek	0.136	0.932	1.07		
		Left Tilted	0.056	0.965	1.02		
	Band 41	Right Cheek	0.036	1.033	1.07		
		Right Tilted	0.018	0.969	0.99		
		Left Cheek	0.094	0.932	1.03		
		Left Tilted	0.021	0.965	0.99		

<WWAN+5GHz Ant 1>

WWAN Band		Exposure Position	1	5	1+5 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	0.294	0.85		
		Right Tilted	0.252	0.273	0.53		
		Left Cheek	0.384	0.683	1.07		
		Left Tilted	0.263	0.588	0.85		
	GSM1900	Right Cheek	0.056	0.294	0.35		
		Right Tilted	0.05	0.273	0.32		
		Left Cheek	0.156	0.683	0.84		
		Left Tilted	0.033	0.588	0.62		
WCDMA	Band V	Right Cheek	0.422	0.294	0.72		
		Right Tilted	0.196	0.273	0.47		
		Left Cheek	0.268	0.683	0.95		
		Left Tilted	0.189	0.588	0.78		
	Band IV	Right Cheek	0.078	0.294	0.37		
		Right Tilted	0.075	0.273	0.35		
		Left Cheek	0.229	0.683	0.91		
		Left Tilted	0.051	0.588	0.64		
	Band II	Right Cheek	0.095	0.294	0.39		
		Right Tilted	0.086	0.273	0.36		
		Left Cheek	0.236	0.683	0.92		
		Left Tilted	0.045	0.588	0.63		
CDMA2000	BC0	Right Cheek	0.523	0.294	0.82		
		Right Tilted	0.302	0.273	0.58		
		Left Cheek	0.328	0.683	1.01		
		Left Tilted	0.219	0.588	0.81		
	BC1	Right Cheek	0.127	0.294	0.42		
		Right Tilted	0.156	0.273	0.43		
		Left Cheek	0.263	0.683	0.95		
		Left Tilted	0.088	0.588	0.68		

LTE	Band 12	Right Cheek	0.184	0.294	0.48		
		Right Tilted	0.088	0.273	0.36		
		Left Cheek	0.141	0.683	0.82		
		Left Tilted	0.085	0.588	0.67		
	Band 13	Right Cheek	0.309	0.294	0.60		
		Right Tilted	0.166	0.273	0.44		
		Left Cheek	0.231	0.683	0.91		
		Left Tilted	0.141	0.588	0.73		
	Band 26	Right Cheek	0.442	0.294	0.74		
		Right Tilted	0.212	0.273	0.49		
		Left Cheek	0.260	0.683	0.94		
		Left Tilted	0.174	0.588	0.76		
	Band 4	Right Cheek	0.091	0.294	0.39		
		Right Tilted	0.083	0.273	0.36		
		Left Cheek	0.180	0.683	0.86		
		Left Tilted	0.049	0.588	0.64		
	Band 25	Right Cheek	0.113	0.294	0.41		
		Right Tilted	0.091	0.273	0.36		
		Left Cheek	0.202	0.683	0.89		
		Left Tilted	0.053	0.588	0.64		
	Band 30	Right Cheek	0.060	0.294	0.35		
		Right Tilted	0.042	0.273	0.32		
		Left Cheek	0.101	0.683	0.78		
		Left Tilted	0.027	0.588	0.62		
	Band 7	Right Cheek	0.161	0.294	0.46		
		Right Tilted	0.058	0.273	0.33		
		Left Cheek	0.136	0.683	0.82		
		Left Tilted	0.056	0.588	0.64		
	Band 41	Right Cheek	0.036	0.294	0.33		
		Right Tilted	0.018	0.273	0.29		
		Left Cheek	0.094	0.683	0.78		
		Left Tilted	0.021	0.588	0.61		



<WWAN+5GHz Ant 2>

WWAN Band		Exposure Position	1	6	1+6 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	0.087	0.64		
		Right Tilted	0.252	0.090	0.34		
		Left Cheek	0.384	0.372	0.76		
		Left Tilted	0.263	0.132	0.40		
	GSM1900	Right Cheek	0.056	0.087	0.14		
		Right Tilted	0.05	0.090	0.14		
		Left Cheek	0.156	0.372	0.53		
		Left Tilted	0.033	0.132	0.17		
WCDMA	Band V	Right Cheek	0.422	0.087	0.51		
		Right Tilted	0.196	0.090	0.29		
		Left Cheek	0.268	0.372	0.64		
		Left Tilted	0.189	0.132	0.32		
	Band IV	Right Cheek	0.078	0.087	0.17		
		Right Tilted	0.075	0.090	0.17		
		Left Cheek	0.229	0.372	0.60		
		Left Tilted	0.051	0.132	0.18		
	Band II	Right Cheek	0.095	0.087	0.18		
		Right Tilted	0.086	0.090	0.18		
		Left Cheek	0.236	0.372	0.61		
		Left Tilted	0.045	0.132	0.18		
CDMA2000	BC0	Right Cheek	0.523	0.087	0.61		
		Right Tilted	0.302	0.090	0.39		
		Left Cheek	0.328	0.372	0.70		
		Left Tilted	0.219	0.132	0.35		
	BC1	Right Cheek	0.127	0.087	0.21		
		Right Tilted	0.156	0.090	0.25		
		Left Cheek	0.263	0.372	0.64		
		Left Tilted	0.088	0.132	0.22		

LTE	Band 12	Right Cheek	0.184	0.087	0.27		
		Right Tilted	0.088	0.090	0.18		
		Left Cheek	0.141	0.372	0.51		
		Left Tilted	0.085	0.132	0.22		
	Band 13	Right Cheek	0.309	0.087	0.40		
		Right Tilted	0.166	0.090	0.26		
		Left Cheek	0.231	0.372	0.60		
		Left Tilted	0.141	0.132	0.27		
	Band 26	Right Cheek	0.442	0.087	0.53		
		Right Tilted	0.212	0.090	0.30		
		Left Cheek	0.26	0.372	0.63		
		Left Tilted	0.174	0.132	0.31		
	Band 4	Right Cheek	0.091	0.087	0.18		
		Right Tilted	0.083	0.090	0.17		
		Left Cheek	0.18	0.372	0.55		
		Left Tilted	0.049	0.132	0.18		
	Band 25	Right Cheek	0.113	0.087	0.20		
		Right Tilted	0.091	0.090	0.18		
		Left Cheek	0.202	0.372	0.57		
		Left Tilted	0.053	0.132	0.19		
	Band 30	Right Cheek	0.06	0.087	0.15		
		Right Tilted	0.042	0.090	0.13		
		Left Cheek	0.101	0.372	0.47		
		Left Tilted	0.027	0.132	0.16		
	Band 7	Right Cheek	0.161	0.087	0.25		
		Right Tilted	0.058	0.090	0.15		
		Left Cheek	0.136	0.372	0.51		
		Left Tilted	0.056	0.132	0.19		
	Band 41	Right Cheek	0.036	0.087	0.12		
		Right Tilted	0.018	0.090	0.11		
		Left Cheek	0.094	0.372	0.47		
		Left Tilted	0.021	0.132	0.15		



<WWAN+5GHz Ant 1+2>

WWAN Band		Exposure Position	1	7	1+7 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	0.202	0.76		
		Right Tilted	0.252	0.230	0.48		
		Left Cheek	0.384	0.637	1.02		
		Left Tilted	0.263	0.332	0.60		
	GSM1900	Right Cheek	0.056	0.202	0.26		
		Right Tilted	0.050	0.230	0.28		
		Left Cheek	0.156	0.637	0.79		
		Left Tilted	0.033	0.332	0.37		
WCDMA	Band V	Right Cheek	0.422	0.202	0.62		
		Right Tilted	0.196	0.230	0.43		
		Left Cheek	0.268	0.637	0.91		
		Left Tilted	0.189	0.332	0.52		
	Band IV	Right Cheek	0.078	0.202	0.28		
		Right Tilted	0.075	0.230	0.31		
		Left Cheek	0.229	0.637	0.87		
		Left Tilted	0.051	0.332	0.38		
	Band II	Right Cheek	0.095	0.202	0.30		
		Right Tilted	0.086	0.230	0.32		
		Left Cheek	0.236	0.637	0.87		
		Left Tilted	0.045	0.332	0.38		
CDMA2000	BC0	Right Cheek	0.523	0.202	0.73		
		Right Tilted	0.302	0.230	0.53		
		Left Cheek	0.328	0.637	0.97		
		Left Tilted	0.219	0.332	0.55		
	BC1	Right Cheek	0.127	0.202	0.33		
		Right Tilted	0.156	0.230	0.39		
		Left Cheek	0.263	0.637	0.90		
		Left Tilted	0.088	0.332	0.42		

LTE	Band 12	Right Cheek	0.184	0.202	0.39		
		Right Tilted	0.088	0.230	0.32		
		Left Cheek	0.141	0.637	0.78		
		Left Tilted	0.085	0.332	0.42		
	Band 13	Right Cheek	0.309	0.202	0.51		
		Right Tilted	0.166	0.230	0.40		
		Left Cheek	0.231	0.637	0.87		
		Left Tilted	0.141	0.332	0.47		
	Band 26	Right Cheek	0.442	0.202	0.64		
		Right Tilted	0.212	0.230	0.44		
		Left Cheek	0.260	0.637	0.90		
		Left Tilted	0.174	0.332	0.51		
	Band 4	Right Cheek	0.091	0.202	0.29		
		Right Tilted	0.083	0.230	0.31		
		Left Cheek	0.180	0.637	0.82		
		Left Tilted	0.049	0.332	0.38		
	Band 25	Right Cheek	0.113	0.202	0.32		
		Right Tilted	0.091	0.230	0.32		
		Left Cheek	0.202	0.637	0.84		
		Left Tilted	0.053	0.332	0.39		
	Band 30	Right Cheek	0.060	0.202	0.26		
		Right Tilted	0.042	0.230	0.27		
		Left Cheek	0.101	0.637	0.74		
		Left Tilted	0.027	0.332	0.36		
	Band 7	Right Cheek	0.161	0.202	0.36		
		Right Tilted	0.058	0.230	0.29		
		Left Cheek	0.136	0.637	0.77		
		Left Tilted	0.056	0.332	0.39		
	Band 41	Right Cheek	0.036	0.202	0.24		
		Right Tilted	0.018	0.230	0.25		
		Left Cheek	0.094	0.637	0.73		
		Left Tilted	0.021	0.332	0.35		



<WWAN + Bluetooth>

WWAN Band		Exposure Position	1	8	1+8 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	Bluetooth Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.554	0.109	0.66		
		Right Tilted	0.252	0.160	0.41		
		Left Cheek	0.384	0.105	0.49		
		Left Tilted	0.263	0.110	0.37		
	GSM1900	Right Cheek	0.056	0.109	0.17		
		Right Tilted	0.050	0.160	0.21		
		Left Cheek	0.156	0.105	0.26		
		Left Tilted	0.033	0.110	0.14		
WCDMA	Band V	Right Cheek	0.422	0.109	0.53		
		Right Tilted	0.196	0.160	0.36		
		Left Cheek	0.268	0.105	0.37		
		Left Tilted	0.189	0.110	0.30		
	Band IV	Right Cheek	0.078	0.109	0.19		
		Right Tilted	0.075	0.160	0.24		
		Left Cheek	0.229	0.105	0.33		
		Left Tilted	0.051	0.110	0.16		
	Band II	Right Cheek	0.095	0.109	0.20		
		Right Tilted	0.086	0.160	0.25		
		Left Cheek	0.236	0.105	0.34		
		Left Tilted	0.045	0.110	0.16		
CDMA2000	BC0	Right Cheek	0.523	0.109	0.63		
		Right Tilted	0.302	0.160	0.46		
		Left Cheek	0.328	0.105	0.43		
		Left Tilted	0.219	0.110	0.33		
	BC1	Right Cheek	0.127	0.109	0.24		
		Right Tilted	0.156	0.160	0.32		
		Left Cheek	0.263	0.105	0.37		
		Left Tilted	0.088	0.110	0.20		
LTE	Band 12	Right Cheek	0.184	0.109	0.29		
		Right Tilted	0.088	0.160	0.25		
		Left Cheek	0.141	0.105	0.25		
		Left Tilted	0.085	0.110	0.20		
	Band 13	Right Cheek	0.309	0.109	0.42		
		Right Tilted	0.166	0.160	0.33		
		Left Cheek	0.231	0.105	0.34		
		Left Tilted	0.141	0.110	0.25		
	Band 26	Right Cheek	0.442	0.109	0.55		
		Right Tilted	0.212	0.160	0.37		

		Left Cheek	0.260	0.105	0.37		
		Left Tilted	0.174	0.110	0.28		
	Band 4	Right Cheek	0.091	0.109	0.20		
		Right Tilted	0.083	0.160	0.24		
		Left Cheek	0.180	0.105	0.29		
		Left Tilted	0.049	0.110	0.16		
	Band 25	Right Cheek	0.113	0.109	0.22		
		Right Tilted	0.091	0.160	0.25		
		Left Cheek	0.202	0.105	0.31		
		Left Tilted	0.053	0.110	0.16		
	Band 30	Right Cheek	0.060	0.109	0.17		
		Right Tilted	0.042	0.160	0.20		
		Left Cheek	0.101	0.105	0.21		
		Left Tilted	0.027	0.110	0.14		
	Band 7	Right Cheek	0.161	0.109	0.27		
		Right Tilted	0.058	0.160	0.22		
		Left Cheek	0.136	0.105	0.24		
		Left Tilted	0.056	0.110	0.17		
	Band 41	Right Cheek	0.036	0.109	0.15		
		Right Tilted	0.018	0.160	0.18		
		Left Cheek	0.094	0.105	0.20		
		Left Tilted	0.021	0.110	0.13		



15.2 Hotspot Exposure Conditions

<WWAN+2.4GHz Ant 1>

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.600	1.48		
		Back	0.858	0.442	1.30		
		Left side	0.159		0.16		
		Right side	0.743	0.063	0.81		
		Top side		1.095	1.10		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.600	1.07		
		Back	0.801	0.442	1.24		
		Left side	0.061		0.06		
		Right side	0.015	0.063	0.08		
		Top side		1.095	1.10		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.600	1.27		
		Back	0.565	0.442	1.01		
		Left side	0.122		0.12		
		Right side	0.507	0.063	0.57		
		Top side		1.095	1.10		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.600	1.52		
		Back	0.790	0.442	1.23		
		Left side	0.084		0.08		
		Right side	0.094	0.063	0.16		
		Top side		1.095	1.10		
		Bottom side	1.189		1.19		
	Band II	Front	0.420	0.600	1.02		
		Back	0.568	0.442	1.01		
		Left side	0.058		0.06		
		Right side	0.020	0.063	0.08		
		Top side		1.095	1.10		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.600	1.37		
		Back	0.722	0.442	1.16		
		Left side	0.193		0.19		
		Right side	0.816	0.063	0.88		
		Top side		1.095	1.10		
		Bottom side	0.472		0.47		
	BC1	Front	0.440	0.600	1.04		



		Back	0.470	0.442	0.91		
		Left side	0.057		0.06		
		Right side	0.016	0.063	0.08		
		Top side		1.095	1.10		
		Bottom side	1.138		1.14		
		Front	0.327	0.600	0.93		
		Back	0.322	0.442	0.76		
		Left side	0.228		0.23		
		Right side	0.472	0.063	0.54		
		Top side		1.095	1.10		
		Bottom side	0.178		0.18		
		Front	0.494	0.600	1.09		
		Back	0.474	0.442	0.92		
		Left side	0.166		0.17		
		Right side	0.520	0.063	0.58		
		Top side		1.095	1.10		
		Bottom side	0.344		0.34		
		Front	0.633	0.600	1.23		
		Back	0.606	0.442	1.05		
		Left side	0.094		0.09		
		Right side	0.521	0.063	0.58		
		Top side		1.095	1.10		
		Bottom side	0.416		0.42		
		Front	1.123	0.600	1.72	0.01	#1
		Back	0.948	0.442	1.39		
		Left side	0.107		0.11		
		Right side	0.103	0.063	0.17		
		Top side		1.095	1.10		
		Bottom side	1.194		1.19		
		Front	0.477	0.600	1.08		
		Back	0.680	0.442	1.12		
		Left side	0.065		0.07		
		Right side	0.017	0.063	0.08		
		Top side		1.095	1.10		
		Bottom side	1.154		1.15		
		Front	0.931	0.600	1.53		
		Back	1.075	0.442	1.52		
		Left side	0.477		0.48		
		Right side	0.151	0.063	0.21		
		Top side		1.095	1.10		
		Bottom side	0.958		0.96		
		Front	1.071	0.600	1.67	0.02	#2
		Back	0.586	0.442	1.03		



		Left side	0.390		0.39		
		Right side	0.189	0.063	0.25		
		Top side		1.095	1.10		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.600	1.53		
		Back	0.244	0.442	0.69		
		Left side	0.125		0.13		
		Right side	0.054	0.063	0.12		
		Top side		1.095	1.10		
		Bottom side	0.285		0.29		



<WWAN+2.4GHz Ant 2>

WWAN Band		Exposure Position	1	3	1+3 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.428	1.31		
		Back	0.858	0.631	1.49		
		Left side	0.159	0.039	0.20		
		Right side	0.743	0.035	0.78		
		Top side		0.941	0.94		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.428	0.90		
		Back	0.801	0.631	1.43		
		Left side	0.061	0.039	0.10		
		Right side	0.015	0.035	0.05		
		Top side		0.941	0.94		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.428	1.10		
		Back	0.565	0.631	1.20		
		Left side	0.122	0.039	0.16		
		Right side	0.507	0.035	0.54		
		Top side		0.941	0.94		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.428	1.35		
		Back	0.79	0.631	1.42		
		Left side	0.084	0.039	0.12		
		Right side	0.094	0.035	0.13		
		Top side		0.941	0.94		
		Bottom side	1.189		1.19		
	Band II	Front	0.42	0.428	0.85		
		Back	0.568	0.631	1.20		
		Left side	0.058	0.039	0.10		
		Right side	0.02	0.035	0.06		
		Top side		0.941	0.94		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.428	1.20		
		Back	0.722	0.631	1.35		
		Left side	0.193	0.039	0.23		
		Right side	0.816	0.035	0.85		
		Top side		0.941	0.94		
		Bottom side	0.472		0.47		
	BC1	Front	0.44	0.428	0.87		
		Back	0.47	0.631	1.10		



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		Left side	0.057	0.039	0.10		
		Right side	0.016	0.035	0.05		
		Top side		0.941	0.94		
		Bottom side	1.138		1.14		
LTE	Band 12	Front	0.327	0.428	0.76		
		Back	0.322	0.631	0.95		
		Left side	0.228	0.039	0.27		
		Right side	0.472	0.035	0.51		
		Top side		0.941	0.94		
		Bottom side	0.178		0.18		
	Band 13	Front	0.494	0.428	0.92		
		Back	0.474	0.631	1.11		
		Left side	0.166	0.039	0.21		
		Right side	0.52	0.035	0.56		
		Top side		0.941	0.94		
		Bottom side	0.344		0.34		
	Band 26	Front	0.633	0.428	1.06		
		Back	0.606	0.631	1.24		
		Left side	0.094	0.039	0.13		
		Right side	0.521	0.035	0.56		
		Top side		0.941	0.94		
		Bottom side	0.416		0.42		
	Band 4	Front	1.123	0.428	1.55		
		Back	0.948	0.631	1.58		
		Left side	0.107	0.039	0.15		
		Right side	0.103	0.035	0.14		
		Top side		0.941	0.94		
		Bottom side	1.194		1.19		
	Band 25	Front	0.477	0.428	0.91		
		Back	0.68	0.631	1.31		
		Left side	0.065	0.039	0.10		
		Right side	0.017	0.035	0.05		
		Top side		0.941	0.94		
		Bottom side	1.154		1.15		
	Band 30	Front	0.931	0.428	1.36		
		Back	1.075	0.631	1.71	0.01	#3
		Left side	0.477	0.039	0.52		
		Right side	0.151	0.035	0.19		
		Top side		0.941	0.94		
		Bottom side	0.958		0.96		
	Band 7	Front	1.071	0.428	1.50		
		Back	0.586	0.631	1.22		
		Left side	0.39	0.039	0.43		

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		Right side	0.189	0.035	0.22		
		Top side		0.941	0.94		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.428	1.36		
		Back	0.244	0.631	0.88		
		Left side	0.125	0.039	0.16		
		Right side	0.054	0.035	0.09		
		Top side		0.941	0.94		
		Bottom side	0.285		0.29		



<WWAN+2.4GHz Ant 1+2>

WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.404	1.29		
		Back	0.858	0.302	1.16		
		Left side	0.159	0.065	0.22		
		Right side	0.743	0.039	0.78		
		Top side		0.487	0.49		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.404	0.87		
		Back	0.801	0.302	1.10		
		Left side	0.061	0.065	0.13		
		Right side	0.015	0.039	0.05		
		Top side		0.487	0.49		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.404	1.07		
		Back	0.565	0.302	0.87		
		Left side	0.122	0.065	0.19		
		Right side	0.507	0.039	0.55		
		Top side		0.487	0.49		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.404	1.33		
		Back	0.79	0.302	1.09		
		Left side	0.084	0.065	0.15		
		Right side	0.094	0.039	0.13		
		Top side		0.487	0.49		
		Bottom side	1.189		1.19		
	Band II	Front	0.42	0.404	0.82		
		Back	0.568	0.302	0.87		
		Left side	0.058	0.065	0.12		
		Right side	0.02	0.039	0.06		
		Top side		0.487	0.49		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.404	1.18		
		Back	0.722	0.302	1.02		
		Left side	0.193	0.065	0.26		
		Right side	0.816	0.039	0.86		
		Top side		0.487	0.49		
		Bottom side	0.472		0.47		
	BC1	Front	0.44	0.404	0.84		
		Back	0.47	0.302	0.77		



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		Left side	0.057	0.065	0.12		
		Right side	0.016	0.039	0.06		
		Top side		0.487	0.49		
		Bottom side	1.138		1.14		
LTE	Band 12	Front	0.327	0.404	0.73		
		Back	0.322	0.302	0.62		
		Left side	0.228	0.065	0.29		
		Right side	0.472	0.039	0.51		
		Top side		0.487	0.49		
		Bottom side	0.178		0.18		
	Band 13	Front	0.494	0.404	0.90		
		Back	0.474	0.302	0.78		
		Left side	0.166	0.065	0.23		
		Right side	0.52	0.039	0.56		
		Top side		0.487	0.49		
		Bottom side	0.344		0.34		
	Band 26	Front	0.633	0.404	1.04		
		Back	0.606	0.302	0.91		
		Left side	0.094	0.065	0.16		
		Right side	0.521	0.039	0.56		
		Top side		0.487	0.49		
		Bottom side	0.416		0.42		
	Band 4	Front	1.123	0.404	1.53		
		Back	0.948	0.302	1.25		
		Left side	0.107	0.065	0.17		
		Right side	0.103	0.039	0.14		
		Top side		0.487	0.49		
		Bottom side	1.194		1.19		
	Band 25	Front	0.477	0.404	0.88		
		Back	0.68	0.302	0.98		
		Left side	0.065	0.065	0.13		
		Right side	0.017	0.039	0.06		
		Top side		0.487	0.49		
		Bottom side	1.154		1.15		
	Band 30	Front	0.931	0.404	1.34		
		Back	1.075	0.302	1.38		
		Left side	0.477	0.065	0.54		
		Right side	0.151	0.039	0.19		
		Top side		0.487	0.49		
		Bottom side	0.958		0.96		
	Band 7	Front	1.071	0.404	1.48		
		Back	0.586	0.302	0.89		
		Left side	0.39	0.065	0.46		

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		Right side	0.189	0.039	0.23		
		Top side		0.487	0.49		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.404	1.34		
		Back	0.244	0.302	0.55		
		Left side	0.125	0.065	0.19		
		Right side	0.054	0.039	0.09		
		Top side		0.487	0.49		
		Bottom side	0.285		0.29		



<WWAN+5GHz Ant 1>

WWAN Band		Exposure Position	1	5	1+5 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.136	1.02		
		Back	0.858	0.978	1.84	0.02	#5
		Left side	0.159		0.16		
		Right side	0.743	0.119	0.86		
		Top side		0.141	0.14		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.136	0.61		
		Back	0.801	0.978	1.78	0.02	#6
		Left side	0.061		0.06		
		Right side	0.015	0.119	0.13		
		Top side		0.141	0.14		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.136	0.80		
		Back	0.565	0.978	1.54		
		Left side	0.122		0.12		
		Right side	0.507	0.119	0.63		
		Top side		0.141	0.14		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.136	1.06		
		Back	0.79	0.978	1.77	0.02	#7
		Left side	0.084		0.08		
		Right side	0.094	0.119	0.21		
		Top side		0.141	0.14		
		Bottom side	1.189		1.19		
	Band II	Front	0.42	0.136	0.56		
		Back	0.568	0.978	1.55		
		Left side	0.058		0.06		
		Right side	0.02	0.119	0.14		
		Top side		0.141	0.14		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.136	0.91		
		Back	0.722	0.978	1.70	0.02	#8
		Left side	0.193		0.19		
		Right side	0.816	0.119	0.94		
		Top side		0.141	0.14		
		Bottom side	0.472		0.47		
	BC1	Front	0.44	0.136	0.58		
		Back	0.47	0.978	1.45		



		Left side	0.057		0.06		
		Right side	0.016	0.119	0.14		
		Top side		0.141	0.14		
		Bottom side	1.138		1.14		
LTE	Band 12	Front	0.327	0.136	0.46		
		Back	0.322	0.978	1.30		
		Left side	0.228		0.23		
		Right side	0.472	0.119	0.59		
		Top side		0.141	0.14		
		Bottom side	0.178		0.18		
	Band 13	Front	0.494	0.136	0.63		
		Back	0.474	0.978	1.45		
		Left side	0.166		0.17		
		Right side	0.52	0.119	0.64		
		Top side		0.141	0.14		
		Bottom side	0.344		0.34		
	Band 26	Front	0.633	0.136	0.77		
		Back	0.606	0.978	1.58		
		Left side	0.094		0.09		
		Right side	0.521	0.119	0.64		
		Top side		0.141	0.14		
		Bottom side	0.416		0.42		
	Band 4	Front	1.123	0.136	1.26		
		Back	0.948	0.978	1.93	0.02	#9
		Left side	0.107		0.11		
		Right side	0.103	0.119	0.22		
		Top side		0.141	0.14		
		Bottom side	1.194		1.19		
	Band 25	Front	0.477	0.136	0.61		
		Back	0.68	0.978	1.66	0.02	#10
		Left side	0.065		0.07		
		Right side	0.017	0.119	0.14		
		Top side		0.141	0.14		
		Bottom side	1.154		1.15		
	Band 30	Front	0.931	0.136	1.07		
		Back	1.075	0.978	2.05	0.02	#11
		Left side	0.477		0.48		
		Right side	0.151	0.119	0.27		
		Top side		0.141	0.14		
		Bottom side	0.958		0.96		
	Band 7	Front	1.071	0.136	1.21		
		Back	0.586	0.978	1.56		
		Left side	0.39		0.39		



		Right side	0.189	0.119	0.31		
		Top side		0.141	0.14		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.136	1.07		
		Back	0.244	0.978	1.22		
		Left side	0.125		0.13		
		Right side	0.054	0.119	0.17		
		Top side		0.141	0.14		
		Bottom side	0.285		0.29		



<WWAN+5GHz Ant 2>

WWAN Band		Exposure Position	1	6	1+6 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.034	0.92		
		Back	0.858	0.988	1.85	0.02	#12
		Left side	0.159		0.16		
		Right side	0.743	0.167	0.91		
		Top side		0.212	0.21		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.034	0.50		
		Back	0.801	0.988	1.79	0.02	#13
		Left side	0.061		0.06		
		Right side	0.015	0.167	0.18		
		Top side		0.212	0.21		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.034	0.70		
		Back	0.565	0.988	1.55		
		Left side	0.122		0.12		
		Right side	0.507	0.167	0.67		
		Top side		0.212	0.21		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.034	0.96		
		Back	0.79	0.988	1.78	0.02	#14
		Left side	0.084		0.08		
		Right side	0.094	0.167	0.26		
		Top side		0.212	0.21		
		Bottom side	1.189		1.19		
	Band II	Front	0.42	0.034	0.45		
		Back	0.568	0.988	1.56		
		Left side	0.058		0.06		
		Right side	0.02	0.167	0.19		
		Top side		0.212	0.21		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.034	0.81		
		Back	0.722	0.988	1.71	0.02	#15
		Left side	0.193		0.19		
		Right side	0.816	0.167	0.98		
		Top side		0.212	0.21		
		Bottom side	0.472		0.47		
	BC1	Front	0.44	0.034	0.47		
		Back	0.47	0.988	1.46		



LTE		Left side	0.057		0.06		
		Right side	0.016	0.167	0.18		
		Top side		0.212	0.21		
		Bottom side	1.138		1.14		
	Band 12	Front	0.327	0.034	0.36		
		Back	0.322	0.988	1.31		
		Left side	0.228		0.23		
		Right side	0.472	0.167	0.64		
		Top side		0.212	0.21		
		Bottom side	0.178		0.18		
	Band 13	Front	0.494	0.034	0.53		
		Back	0.474	0.988	1.46		
		Left side	0.166		0.17		
		Right side	0.52	0.167	0.69		
		Top side		0.212	0.21		
		Bottom side	0.344		0.34		
	Band 26	Front	0.633	0.034	0.67		
		Back	0.606	0.988	1.59		
		Left side	0.094		0.09		
		Right side	0.521	0.167	0.69		
		Top side		0.212	0.21		
		Bottom side	0.416		0.42		
	Band 4	Front	1.123	0.034	1.16		
		Back	0.948	0.988	1.94	0.02	#16
		Left side	0.107		0.11		
		Right side	0.103	0.167	0.27		
		Top side		0.212	0.21		
		Bottom side	1.194		1.19		
	Band 25	Front	0.477	0.034	0.51		
		Back	0.68	0.988	1.67	0.02	#17
		Left side	0.065		0.07		
		Right side	0.017	0.167	0.18		
		Top side		0.212	0.21		
		Bottom side	1.154		1.15		
	Band 30	Front	0.931	0.034	0.97		
		Back	1.075	0.988	2.06	0.02	#18
		Left side	0.477		0.48		
		Right side	0.151	0.167	0.32		
		Top side		0.212	0.21		
		Bottom side	0.958		0.96		
	Band 7	Front	1.071	0.034	1.11		
		Back	0.586	0.988	1.57		
		Left side	0.39		0.39		



		Right side	0.189	0.167	0.36		
		Top side		0.212	0.21		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.034	0.97		
		Back	0.244	0.988	1.23		
		Left side	0.125		0.13		
		Right side	0.054	0.167	0.22		
		Top side		0.212	0.21		
		Bottom side	0.285		0.29		

<WWAN+5GHz Ant 1+2>

WWAN Band		Exposure Position	1	7	1+7 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.037	0.92		
		Back	0.858	1.112	1.97	0.02	#19
		Left side	0.159		0.16		
		Right side	0.743	0.116	0.86		
		Top side		0.146	0.15		
		Bottom side	0.505		0.51		
	GSM1900	Front	0.469	0.037	0.51		
		Back	0.801	1.112	1.91	0.02	#20
		Left side	0.061		0.06		
		Right side	0.015	0.116	0.13		
		Top side		0.146	0.15		
		Bottom side	1.158		1.16		
WCDMA	Band V	Front	0.667	0.037	0.70		
		Back	0.565	1.112	1.68	0.01	#21
		Left side	0.122		0.12		
		Right side	0.507	0.116	0.62		
		Top side		0.146	0.15		
		Bottom side	0.426		0.43		
	Band IV	Front	0.921	0.037	0.96		
		Back	0.79	1.112	1.90	0.02	#22
		Left side	0.084		0.08		
		Right side	0.094	0.116	0.21		
		Top side		0.146	0.15		
		Bottom side	1.189		1.19		
	Band II	Front	0.42	0.037	0.46		
		Back	0.568	1.112	1.68	0.02	#23
		Left side	0.058		0.06		
		Right side	0.02	0.116	0.14		
		Top side		0.146	0.15		
		Bottom side	1.038		1.04		
CDMA2000	BC0	Front	0.771	0.037	0.81		
		Back	0.722	1.112	1.83	0.02	#24
		Left side	0.193		0.19		
		Right side	0.816	0.116	0.93		
		Top side		0.146	0.15		
		Bottom side	0.472		0.47		
	BC1	Front	0.44	0.037	0.48		
		Back	0.47	1.112	1.58		



LTE		Left side	0.057		0.06		
		Right side	0.016	0.116	0.13		
		Top side		0.146	0.15		
		Bottom side	1.138		1.14		
	Band 12	Front	0.327	0.037	0.36		
		Back	0.322	1.112	1.43		
		Left side	0.228		0.23		
		Right side	0.472	0.116	0.59		
		Top side		0.146	0.15		
		Bottom side	0.178		0.18		
	Band 13	Front	0.494	0.037	0.53		
		Back	0.474	1.112	1.59		
		Left side	0.166		0.17		
		Right side	0.52	0.116	0.64		
		Top side		0.146	0.15		
		Bottom side	0.344		0.34		
	Band 26	Front	0.633	0.037	0.67		
		Back	0.606	1.112	1.72	0.01	#25
		Left side	0.094		0.09		
		Right side	0.521	0.116	0.64		
		Top side		0.146	0.15		
		Bottom side	0.416		0.42		
	Band 4	Front	1.123	0.037	1.16		
		Back	0.948	1.112	2.06	0.02	#26
		Left side	0.107		0.11		
		Right side	0.103	0.116	0.22		
		Top side		0.146	0.15		
		Bottom side	1.194		1.19		
	Band 25	Front	0.477	0.037	0.51		
		Back	0.68	1.112	1.79	0.02	#27
		Left side	0.065		0.07		
		Right side	0.017	0.116	0.13		
		Top side		0.146	0.15		
		Bottom side	1.154		1.15		
	Band 30	Front	0.931	0.037	0.97		
		Back	1.075	1.112	2.19	0.02	#28
		Left side	0.477		0.48		
		Right side	0.151	0.116	0.27		
		Top side		0.146	0.15		
		Bottom side	0.958		0.96		
	Band 7	Front	1.071	0.037	1.11		
		Back	0.586	1.112	1.70	0.02	#29
		Left side	0.39		0.39		



		Right side	0.189	0.116	0.31		
		Top side		0.146	0.15		
		Bottom side	0.475		0.48		
	Band 41	Front	0.933	0.037	0.97		
		Back	0.244	1.12	1.36		
		Left side	0.125		0.13		
		Right side	0.054	0.116	0.17		
		Top side		0.146	0.15		
		Bottom side	0.285		0.29		



15.3 Body-Worn Accessory Exposure Conditions

<WWAN+2.4GHz Ant 1>

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.600	1.48		
		Back	0.858	0.442	1.30		
	GSM1900	Front	0.469	0.600	1.07		
		Back	0.801	0.442	1.24		
WCDMA	Band V	Front	0.667	0.600	1.27		
		Back	0.565	0.442	1.01		
	Band IV	Front	0.921	0.600	1.52		
		Back	0.790	0.442	1.23		
	Band II	Front	0.420	0.600	1.02		
		Back	0.568	0.442	1.01		
CDMA	BC0	Front	0.783	0.600	1.38		
		Back	0.761	0.442	1.20		
	BC1	Front	0.449	0.600	1.05		
		Back	0.718	0.442	1.16		
LTE	Band 12	Front	0.327	0.600	0.93		
		Back	0.322	0.442	0.76		
	Band 13	Front	0.494	0.600	1.09		
		Back	0.474	0.442	0.92		
	Band 26	Front	0.633	0.600	1.23		
		Back	0.606	0.442	1.05		
	Band 4	Front	1.123	0.600	1.72	0.01	#1
		Back	0.948	0.442	1.39		
	Band 25	Front	0.477	0.600	1.08		
		Back	0.680	0.442	1.12		
	Band 30	Front	0.931	0.600	1.53		
		Back	1.075	0.442	1.52		
	Band 7	Front	1.071	0.600	1.67	0.02	#2
		Back	0.586	0.442	1.03		
	Band 41	Front	0.933	0.600	1.53		
		Back	0.244	0.442	0.69		



<WWAN+2.4GHz Ant 2>

WWAN Band		Exposure Position	1	3	1+3	SPLSR	Case No
			WWAN	2.4GHz WLAN	Summed		
				Ant 2	1g SAR (W/kg)		
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.428	1.31		
		Back	0.858	0.631	1.49		
	GSM1900	Front	0.469	0.428	0.90		
		Back	0.801	0.631	1.43		
WCDMA	Band V	Front	0.667	0.428	1.10		
		Back	0.565	0.631	1.20		
	Band IV	Front	0.921	0.428	1.35		
		Back	0.790	0.631	1.42		
	Band II	Front	0.420	0.428	0.85		
		Back	0.568	0.631	1.20		
CDMA2000	BC0	Front	0.783	0.428	1.21		
		Back	0.761	0.631	1.39		
	BC1	Front	0.449	0.428	0.88		
		Back	0.718	0.631	1.35		
LTE	Band 12	Front	0.327	0.428	0.76		
		Back	0.322	0.631	0.95		
	Band 13	Front	0.494	0.428	0.92		
		Back	0.474	0.631	1.11		
	Band 26	Front	0.633	0.428	1.06		
		Back	0.606	0.631	1.24		
	Band 4	Front	1.123	0.428	1.55		
		Back	0.948	0.631	1.58		
	Band 25	Front	0.477	0.428	0.91		
		Back	0.680	0.631	1.31		
	Band 30	Front	0.931	0.428	1.36		
		Back	1.075	0.631	1.71	0.01	#3
	Band 7	Front	1.071	0.428	1.50		
		Back	0.586	0.631	1.22		
	Band 41	Front	0.933	0.428	1.36		
		Back	0.244	0.631	0.88		



<WWAN+2.4GHz Ant 1+2>

WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.404	1.29		
		Back	0.858	0.302	1.16		
	GSM1900	Front	0.469	0.404	0.87		
		Back	0.801	0.302	1.10		
WCDMA	Band V	Front	0.667	0.404	1.07		
		Back	0.565	0.302	0.87		
	Band IV	Front	0.921	0.404	1.33		
		Back	0.790	0.302	1.09		
	Band II	Front	0.420	0.404	0.82		
		Back	0.568	0.302	0.87		
CDMA2000	BC0	Front	0.783	0.404	1.19		
		Back	0.761	0.302	1.06		
	BC1	Front	0.449	0.404	0.85		
		Back	0.718	0.302	1.02		
LTE	Band 12	Front	0.327	0.404	0.73		
		Back	0.322	0.302	0.62		
	Band 13	Front	0.494	0.404	0.90		
		Back	0.474	0.302	0.78		
	Band 26	Front	0.633	0.404	1.04		
		Back	0.606	0.302	0.91		
	Band 4	Front	1.123	0.404	1.53		
		Back	0.948	0.302	1.25		
	Band 25	Front	0.477	0.404	0.88		
		Back	0.680	0.302	0.98		
	Band 30	Front	0.931	0.404	1.34		
		Back	1.075	0.302	1.38		
	Band 7	Front	1.071	0.404	1.48		
		Back	0.586	0.302	0.89		
	Band 41	Front	0.933	0.404	1.34		
		Back	0.244	0.302	0.55		



<WWAN+5GHz Ant 1>

WWAN Band		Exposure Position	1	5	1+5 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.119	1.00		
		Back	0.858	0.895	1.75	0.02	#30
	GSM1900	Front	0.469	0.119	0.59		
		Back	0.801	0.895	1.70	0.02	#31
WCDMA	Band V	Front	0.667	0.119	0.79		
		Back	0.565	0.895	1.46		
	Band IV	Front	0.921	0.119	1.04		
		Back	0.790	0.895	1.69	0.01	#32
	Band II	Front	0.420	0.119	0.54		
		Back	0.568	0.895	1.46		
CDMA2000	BC0	Front	0.783	0.119	0.90		
		Back	0.761	0.895	1.66	0.01	#33
	BC1	Front	0.449	0.119	0.57		
		Back	0.718	0.895	1.61	0.01	#34
LTE	Band 12	Front	0.327	0.119	0.45		
		Back	0.322	0.895	1.22		
	Band 13	Front	0.494	0.119	0.61		
		Back	0.474	0.895	1.37		
	Band 26	Front	0.633	0.119	0.75		
		Back	0.606	0.895	1.50		
	Band 4	Front	1.123	0.119	1.24		
		Back	0.948	0.895	1.84	0.02	#35
	Band 25	Front	0.477	0.119	0.60		
		Back	0.680	0.895	1.58		
	Band 30	Front	0.931	0.119	1.05		
		Back	1.075	0.895	1.97	0.02	#36
	Band 7	Front	1.071	0.119	1.19		
		Back	0.586	0.895	1.48		
	Band 41	Front	0.933	0.119	1.05		
		Back	0.244	0.895	1.14		



<WWAN+5GHz Ant 2>

WWAN Band		Exposure Position	1	6	1+6 Summed 1g SAR (W/kg)	SPLSR	
			WWAN	5GHz WLAN Ant 2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.029	0.91		
		Back	0.858	0.988	1.85	0.02	#37
	GSM1900	Front	0.469	0.029	0.50		
		Back	0.801	0.988	1.79	0.02	#38
WCDMA	Band V	Front	0.667	0.029	0.70		
		Back	0.565	0.988	1.55		
	Band IV	Front	0.921	0.029	0.95		
		Back	0.790	0.988	1.78	0.02	#40
	Band II	Front	0.420	0.029	0.45		
		Back	0.568	0.988	1.56		
CDMA2000	BC0	Front	0.783	0.029	0.81		
		Back	0.761	0.988	1.75	0.02	#42
	BC1	Front	0.449	0.029	0.48		
		Back	0.718	0.988	1.71	0.02	#43
LTE	Band 12	Front	0.327	0.029	0.36		
		Back	0.322	0.988	1.31		
	Band 13	Front	0.494	0.029	0.52		
		Back	0.474	0.988	1.46		
	Band 26	Front	0.633	0.029	0.66		
		Back	0.606	0.988	1.59		
	Band 4	Front	1.123	0.029	1.15		
		Back	0.948	0.988	1.94	0.02	#45
	Band 25	Front	0.477	0.029	0.51		
		Back	0.680	0.988	1.67	0.02	#46
	Band 30	Front	0.931	0.029	0.96		
		Back	1.075	0.988	2.06	0.02	#47
	Band 7	Front	1.071	0.029	1.10		
		Back	0.586	0.988	1.57		
	Band 41	Front	0.933	0.029	0.96		
		Back	0.244	0.988	1.23		



<WWAN+5GHz Ant 1+2>

WWAN Band		Exposure Position	1	7	1+7 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1+2			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.037	0.92		
		Back	0.858	1.001	1.86	0.02	#49
	GSM1900	Front	0.469	0.037	0.51		
		Back	0.801	1.001	1.80	0.02	#50
WCDMA	Band V	Front	0.667	0.037	0.70		
		Back	0.565	1.001	1.57		
	Band IV	Front	0.921	0.037	0.96		
		Back	0.790	1.001	1.79	0.02	#51
	Band II	Front	0.420	0.037	0.46		
		Back	0.568	1.001	1.57		
CDMA2000	BC0	Front	0.783	0.037	0.82		
		Back	0.761	1.001	1.76	0.02	#52
	BC1	Front	0.449	0.037	0.49		
		Back	0.718	1.001	1.72	0.02	#53
LTE	Band 12	Front	0.327	0.037	0.36		
		Back	0.322	1.001	1.32		
	Band 13	Front	0.494	0.037	0.53		
		Back	0.474	1.001	1.48		
	Band 26	Front	0.633	0.037	0.67		
		Back	0.606	1.001	1.61	0.01	#54
	Band 4	Front	1.123	0.037	1.16		
		Back	0.948	1.001	1.95	0.02	#55
	Band 25	Front	0.477	0.037	0.51		
		Back	0.680	1.001	1.68	0.02	#56
	Band 30	Front	0.931	0.037	0.97		
		Back	1.075	1.001	2.08	0.02	#57
	Band 7	Front	1.071	0.037	1.11		
		Back	0.586	1.001	1.59		
	Band 41	Front	0.933	0.037	0.97		
		Back	0.244	1.001	1.25		



<WWAN+ Bluetooth>

WWAN Band		Exposure Position	1	8	1+8 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN	Bluetooth			
			1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Front	0.884	0.038	0.92		
		Back	0.858	< 0.001	0.86		
	GSM1900	Front	0.469	0.038	0.51		
		Back	0.801	< 0.001	0.80		
WCDMA	Band V	Front	0.667	0.038	0.71		
		Back	0.565	< 0.001	0.57		
	Band IV	Front	0.921	0.038	0.96		
		Back	0.790	< 0.001	0.79		
	Band II	Front	0.420	0.038	0.46		
		Back	0.568	< 0.001	0.57		
CDMA2000	BC0	Front	0.783	0.038	0.82		
		Back	0.761	< 0.001	0.76		
	BC1	Front	0.449	0.038	0.49		
		Back	0.718	< 0.001	0.72		
LTE	Band 12	Front	0.327	0.038	0.37		
		Back	0.322	< 0.001	0.32		
	Band 13	Front	0.494	0.038	0.53		
		Back	0.474	< 0.001	0.48		
	Band 26	Front	0.633	0.038	0.67		
		Back	0.606	< 0.001	0.61		
	Band 4	Front	1.123	0.038	1.16		
		Back	0.948	< 0.001	0.95		
	Band 25	Front	0.477	0.038	0.52		
		Back	0.680	< 0.001	0.68		
	Band 30	Front	0.931	0.038	0.97		
		Back	1.075	< 0.001	1.08		
	Band 7	Front	1.071	0.038	1.11		
		Back	0.586	< 0.001	0.59		
	Band 41	Front	0.933	0.038	0.97		
		Back	0.244	< 0.001	0.25		

15.4 Product specific 10g SAR Exposure Conditions
<WWAN+5GHz Ant 1>

WWAN Band		Exposure Position	1	2	1+2 Summed 10g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1			
			10g SAR	10g SAR			
GSM	GSM1900	Front		0.319	0.32		
		Back	3.321	1.681	5.00	0.07	#58
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	2.623		2.62		
WCDMA	Band IV	Front	2.716	0.319	3.04		
		Back	3.626	1.681	5.31	0.08	#59
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	2.537		2.54		
	Band II	Front		0.319	0.32		
		Back	2.724	1.681	4.41	0.06	#60
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	2.657		2.66		
CDMA2000	BC1	Front	2.397	0.319	2.72		
		Back	3.485	1.681	5.17	0.08	#61
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	3.356		3.36		
LTE	Band 4	Front	2.348	0.319	2.67		
		Back	3.039	1.681	4.72	0.07	#62
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	2.215		2.22		
	Band 25	Front	1.972	0.319	2.29		
		Back	3.322	1.681	5.00	0.07	#63
		Right side		0.087	0.09		
		Top side		1.681	1.68		
		Bottom side	2.927		2.93		
	Band 7	Front	3.806	0.319	4.13	0.06	#64
		Back		1.681	1.68		
		Right side		0.087	0.09		
		Top side		1.681	1.68		



<WWAN+5GHz Ant 2>

WWAN Band		Exposure Position	1	3	1+3 Summed 10g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 2			
			10g SAR	10g SAR			
GSM	GSM1900	Front		0.047	0.05		
		Back	3.321	1.771	5.09	0.08	#65
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	2.623		2.62		
WCDMA	Band IV	Front	2.716	0.047	2.76		
		Back	3.626	1.771	5.40	0.09	#66
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	2.537		2.54		
	Band II	Front		0.047	0.05		
		Back	2.724	1.771	4.50	0.07	#67
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	2.657		2.66		
CDMA2000	BC1	Front	2.397	0.047	2.44		
		Back	3.485	1.771	5.26	0.08	#68
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	3.356		3.36		
LTE	Band 4	Front	2.348	0.047	2.40		
		Back	3.039	1.771	4.81	0.07	#69
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	2.215		2.22		
	Band 25	Front	1.972	0.047	2.02		
		Back	3.322	1.771	5.09	0.08	#70
		Right side		0.150	0.15		
		Top side		0.131	0.13		
		Bottom side	2.927		2.93		
	Band 7	Front	3.806	0.047	3.85		
		Back		1.771	1.77		
		Right side		0.150	0.15		
		Top side		0.131	0.13		



<WWAN+5GHz Ant 1+2>

WWAN Band		Exposure Position	1	4	1+4 Summed 10g SAR (W/kg)	SPLSR	Case No
			WWAN	5GHz WLAN Ant 1+2			
			10g SAR	10g SAR			
GSM	GSM1900	Front		0.221	0.22		
		Back	3.321	2.151	5.47	0.08	#71
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	2.623		2.62		
WCDMA	Band IV	Front	2.716	0.221	2.94		
		Back	3.626	2.151	5.78	0.10	#72
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	2.537		2.54		
	Band II	Front		0.221	0.22		
		Back	2.724	2.151	4.88	0.08	#73
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	2.657		2.66		
CDMA2000	BC1	Front	2.397	0.221	2.62		
		Back	3.485	2.151	5.64	0.09	#74
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	3.356		3.36		
LTE	Band 4	Front	2.348	0.221	2.57		
		Back	3.039	2.151	5.19	0.08	#75
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	2.215		2.22		
	Band 25	Front	1.972	0.221	2.19		
		Back	3.322	2.151	5.47	0.09	#76
		Right side		2.151	2.15		
		Top side		0.320	0.32		
		Bottom side	2.927		2.93		
	Band 7	Front	3.806	0.221	4.03	0.06	#77
		Back		2.151	2.15		
		Right side		2.151	2.15		
		Top side		0.320	0.32		



<WWAN+ Bluetooth>

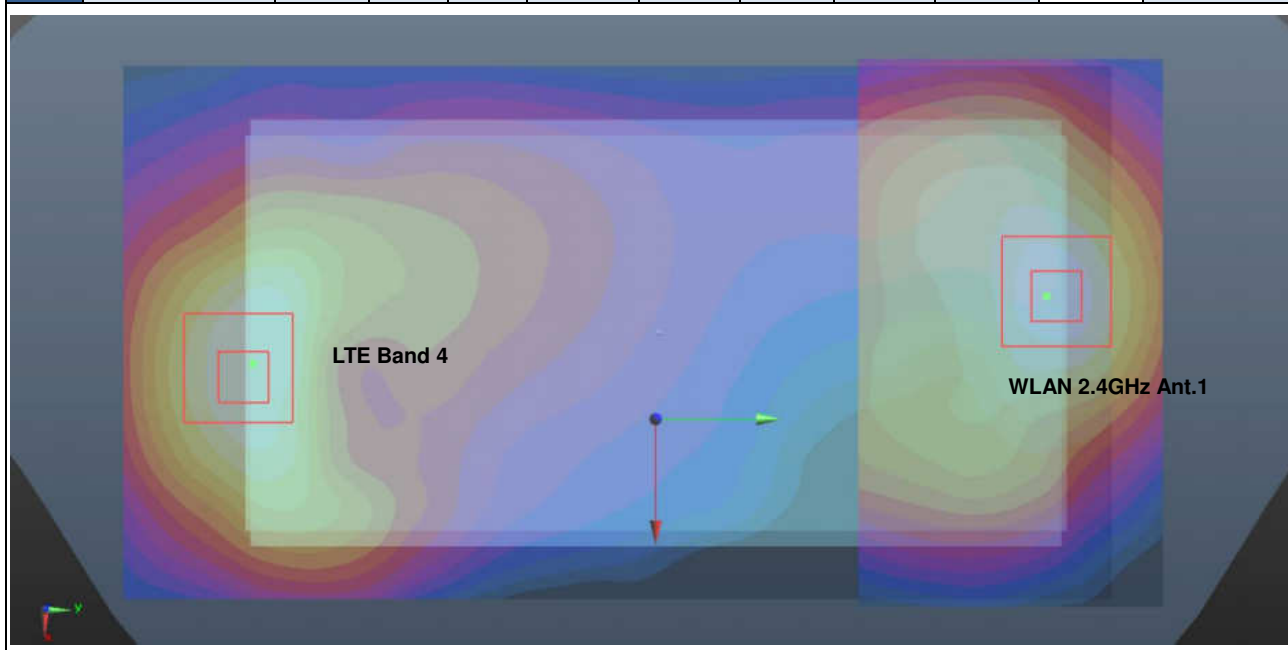
WWAN Band		Exposure Position	1	5	1+5 Summed 10g SAR (W/kg)	SPLSR	Case No
			WWAN	Bluetooth			
			10g SAR	10g SAR			
GSM	GSM1900	Front		0.076	0.08		
		Back	3.321	0.109	3.43		
		Bottom side	2.623		2.62		
WCDMA	Band IV	Front	2.716	0.076	2.79		
		Back	3.626	0.109	3.74		
		Bottom side	2.537		2.54		
	Band II	Front		0.076	0.08		
		Back	2.724	0.109	2.83		
		Bottom side	2.657		2.66		
CDMA2000	BC1	Front	2.397	0.076	2.47		
		Back	3.485	0.109	3.59		
		Bottom side	3.356		3.36		
LTE	Band 4	Front	2.348	0.076	2.42		
		Back	3.039	0.109	3.15		
		Bottom side	2.215		2.22		
	Band 25	Front	1.972	0.076	2.05		
		Back	3.322	0.109	3.43		
		Bottom side	2.927		2.93		
	Band 7	Front	3.806	0.076	3.88		
		Back		0.109	0.11		

15.5 SPLSR Evaluation and Analysis

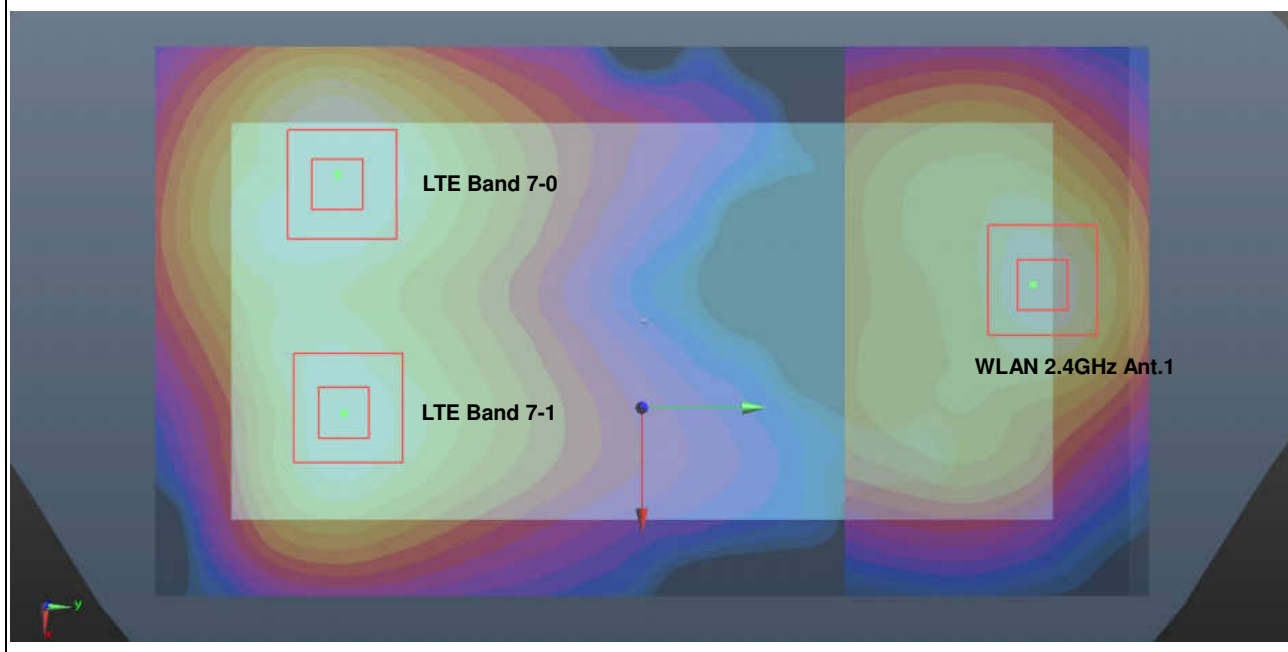
General Note:

1. For SPLSR calculation Bluetooth SAR peak position is estimated using WLAN peak location, due to the WLAN and Bluetooth shares the same RF trace to the same antenna, and the operational frequency range is the same.
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.

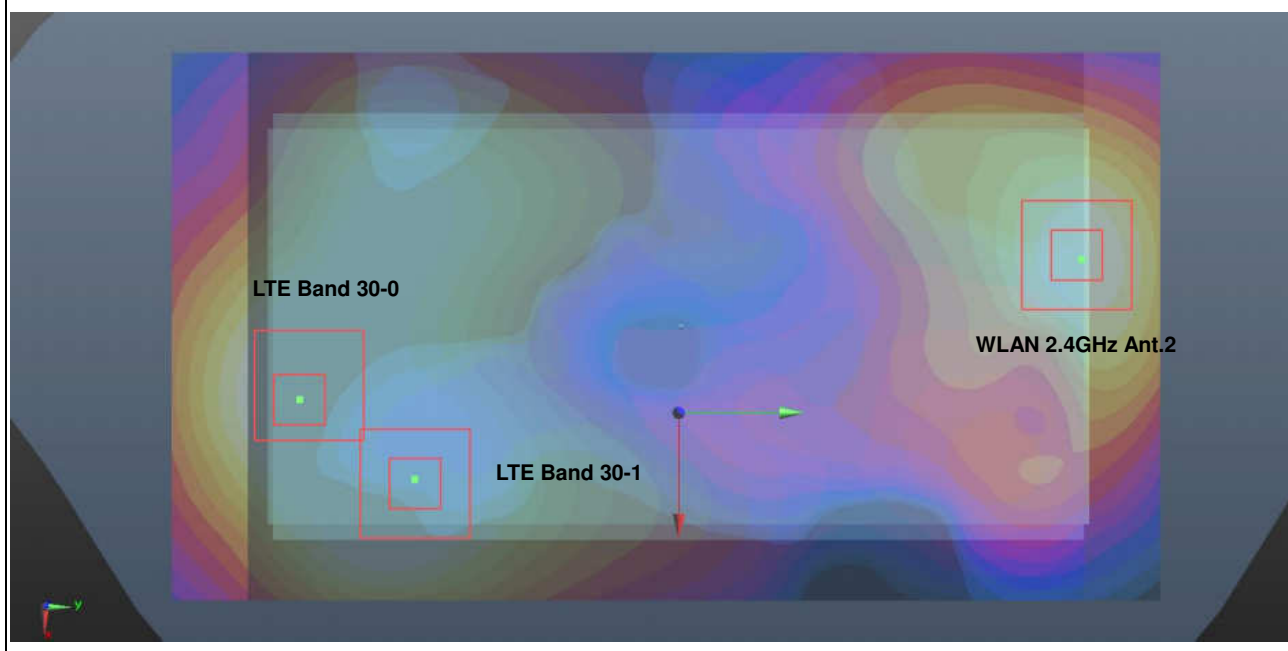
Case #1	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Front	1.123	10	0.0355	-0.324	-0.172	406.96	1.72	0.01	Not required
	WLAN 2.4GHz Ant.1		0.600	10	-0.0242	0.0772	-0.205				



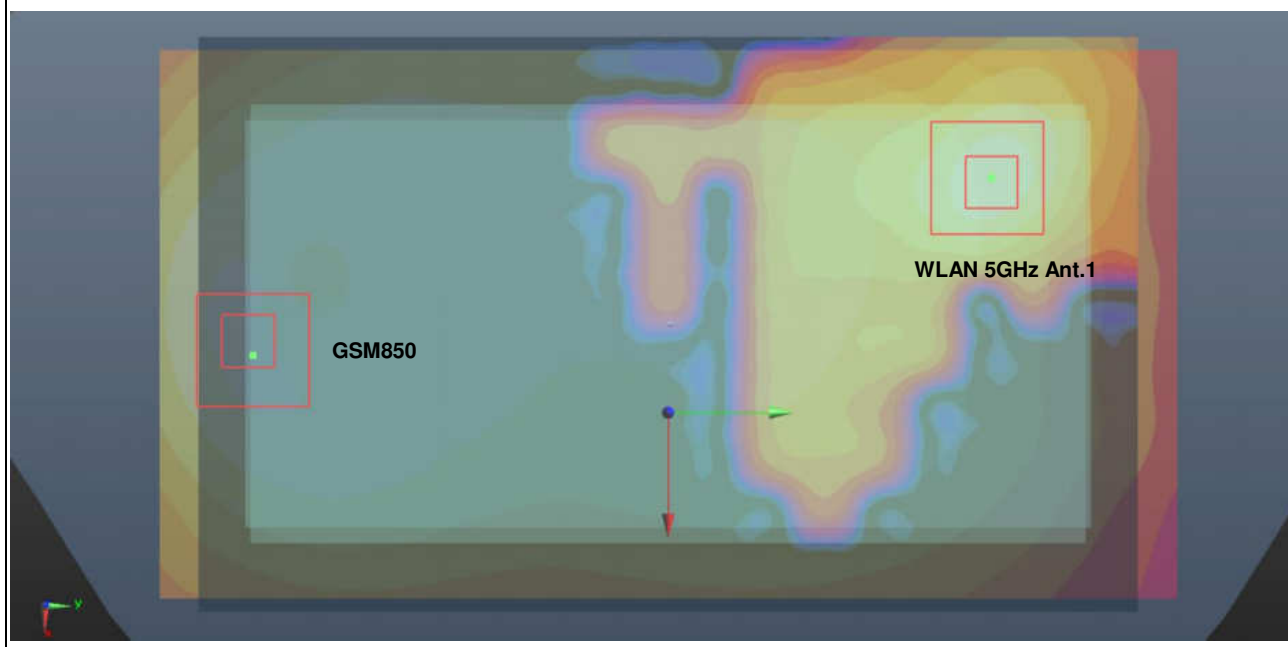
Case #2	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7-0	Front	1.071	10	-0.0458	-0.06	-0.205	138.89	1.67	0.02	Not required
	WLAN 2.4GHz Ant.1		0.600	10	-0.0242	0.0772	-0.205				
	LTE Band 7-1		0.890	10	0.001	-0.0588	-0.205	138.32	1.49	0.01	Not required
	WLAN 2.4GHz Ant.1		0.600	10	-0.0242	0.0772	-0.205				



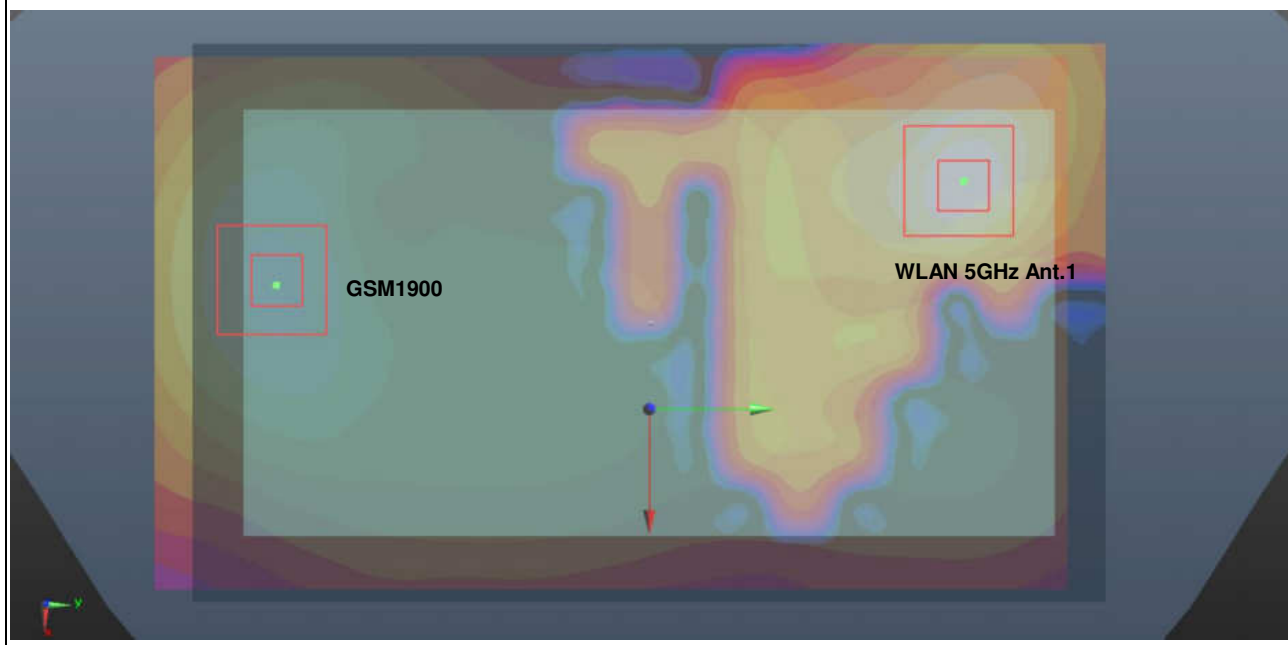
Case #3	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30-0	Back	1.075	10	-0.0026	-0.0748	-0.205	156.65	1.71	0.01	Not required
	WLAN 2.4GHz Ant.2		0.631	10	-0.0302	0.0794	-0.205				
	LTE Band 30-1		0.892	10	0.013	-0.052	-0.205	138.32	1.52	0.01	Not required
	WLAN 2.4GHz Ant.2		0.631	10	-0.0302	0.0794	-0.205				



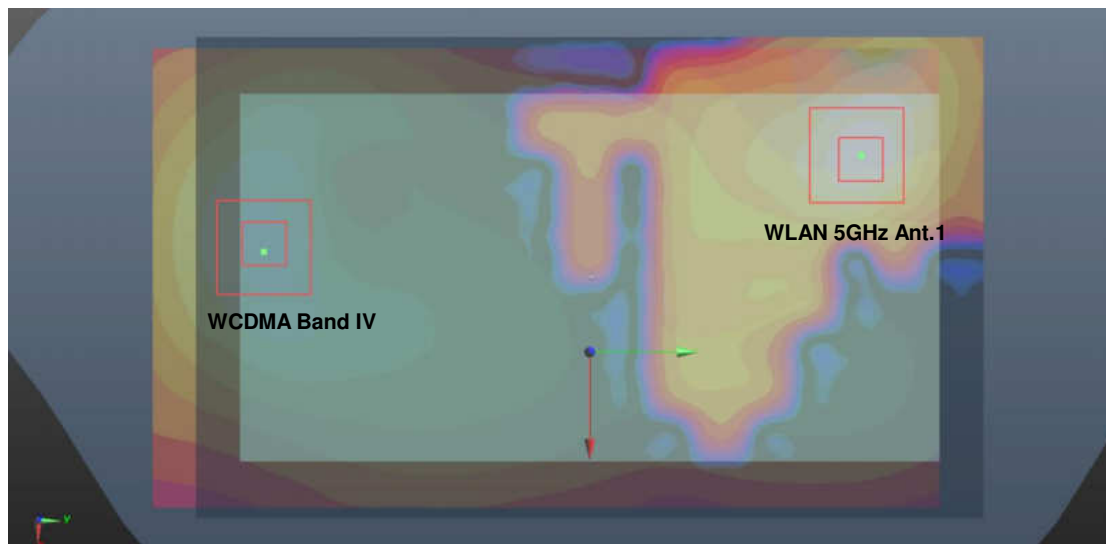
Case #5	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Back	0.858	10	-0.011	-0.0795	-0.205	147.03	1.84	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



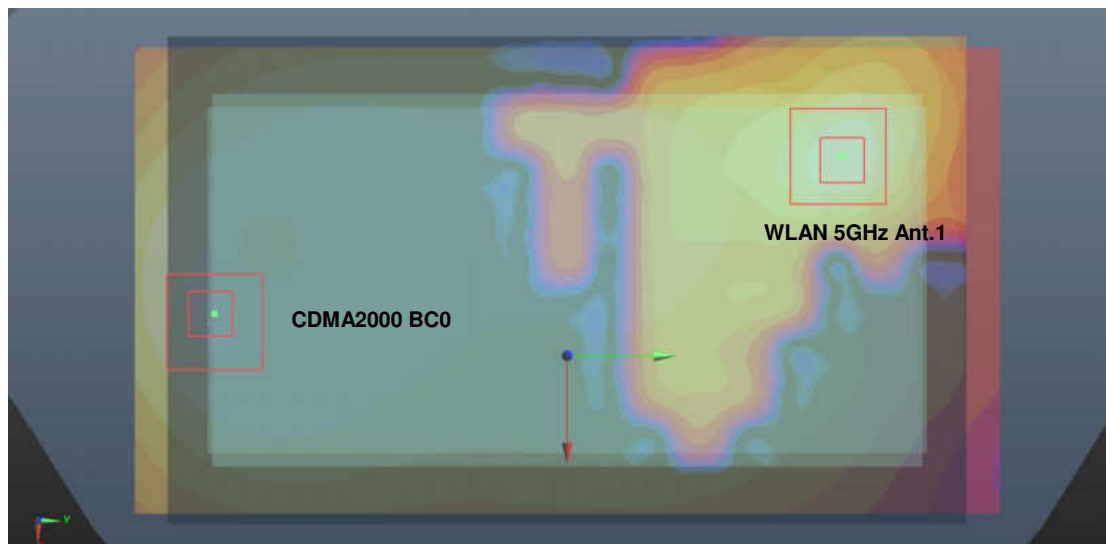
Case #6	Band	Position	1g SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	GSM1900	Back	0.801	10	-0.0245	-0.0735	-0.205	138.74	1.78	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



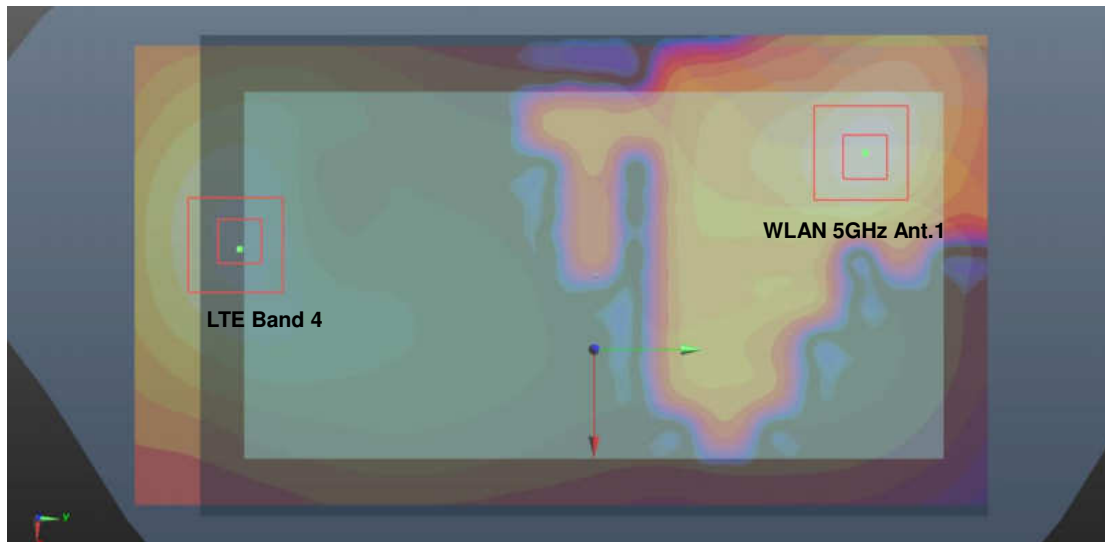
Case #7	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Back	0.790	10	-0.023	-0.0745	-0.205	139.94	1.77	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



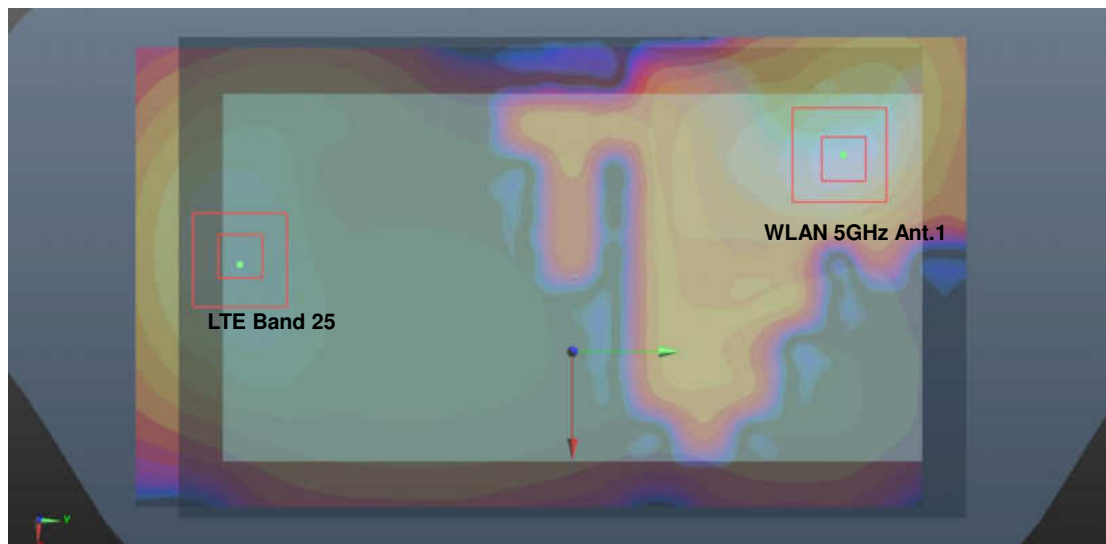
Case #8	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC0	Back	0.722	10	-0.0095	-0.0795	-0.205	147.36	1.70	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



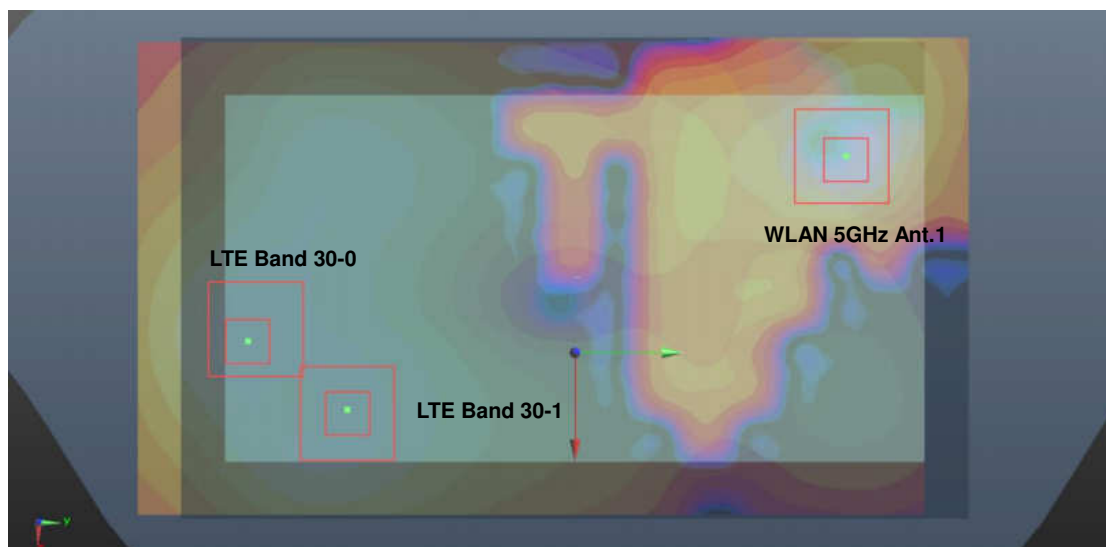
Case #9	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Back	0.948	10	-0.023	-0.081	-0.205	146.38	1.93	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



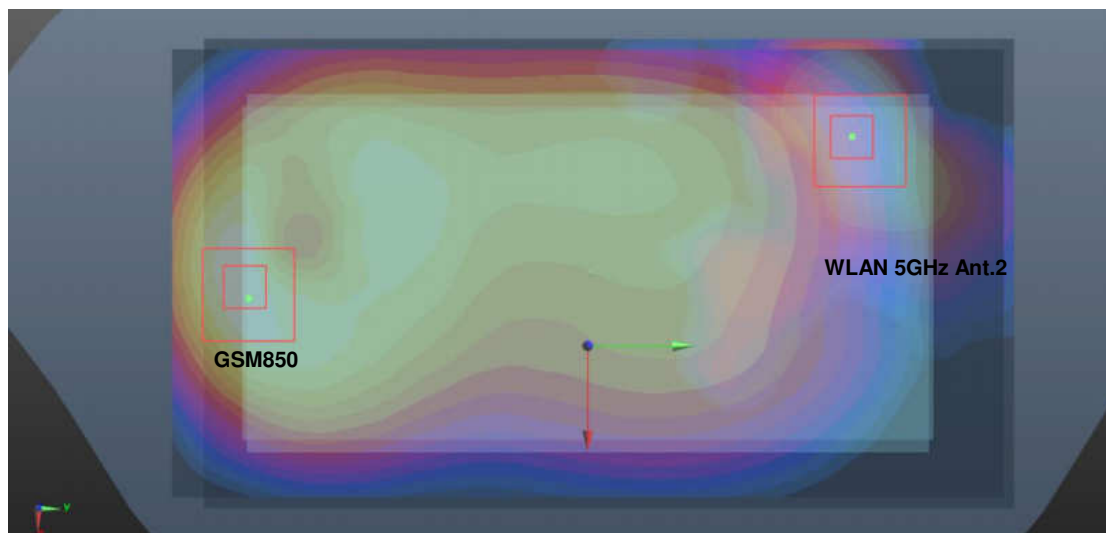
Case #10	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Back	0.680	10	-0.02	-0.076	-0.205	141.88	1.66	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	-0.043	0.064	-0.206				



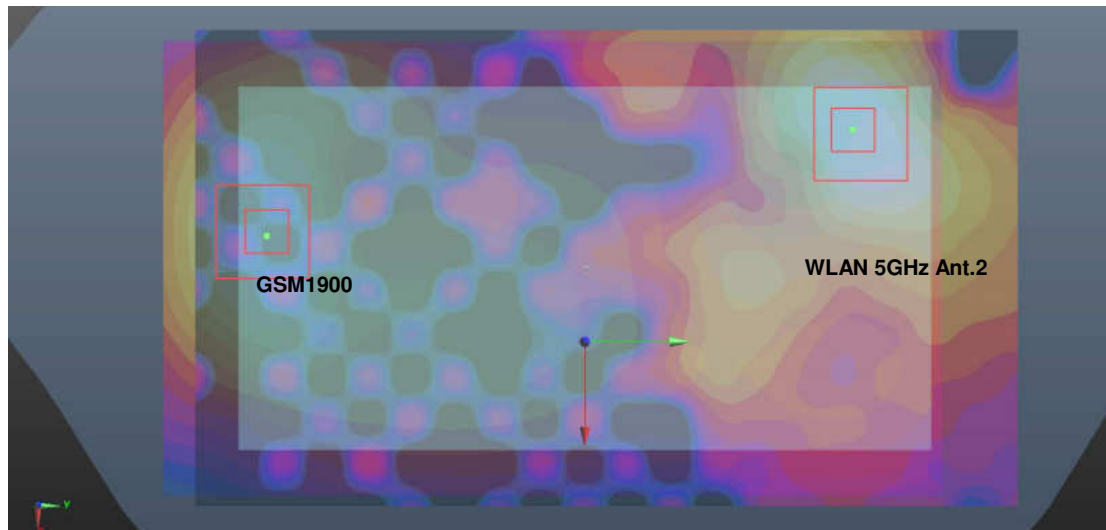
Case #11	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #11	LTE Band 30-0	Back	1.075	10	-0.0748	-0.205	-0.0026	144.56	2.05	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	0.064	-0.206	-0.043				
	LTE Band 30-1		0.892	10	-0.052	-0.205	0.013	128.81	1.87	0.02	Not required
	WLAN 5GHz Ant.1		0.978	10	0.064	-0.206	-0.043				



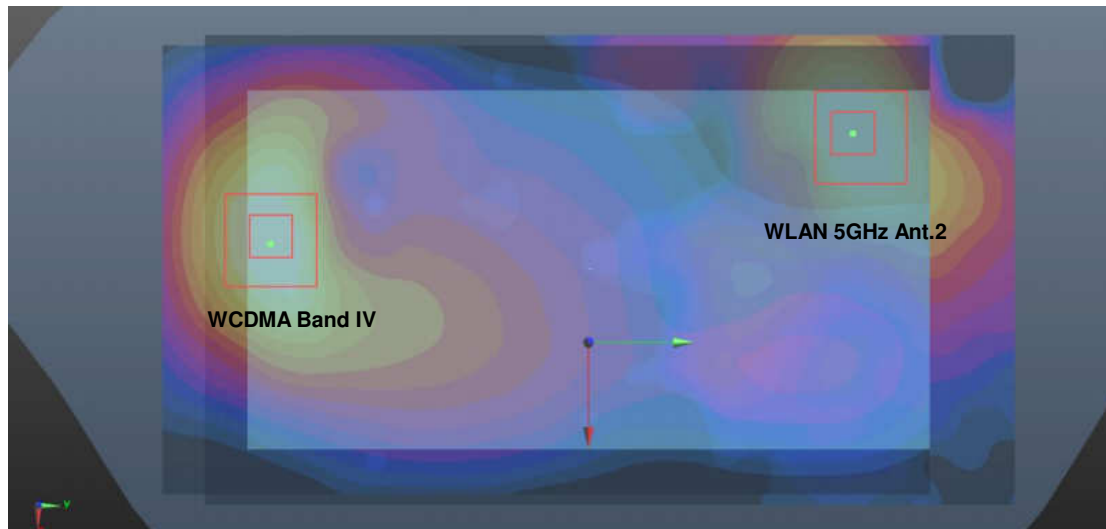
Case #12	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Back	0.858	10	-0.011	-0.0795	-0.205	147.95	1.85	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



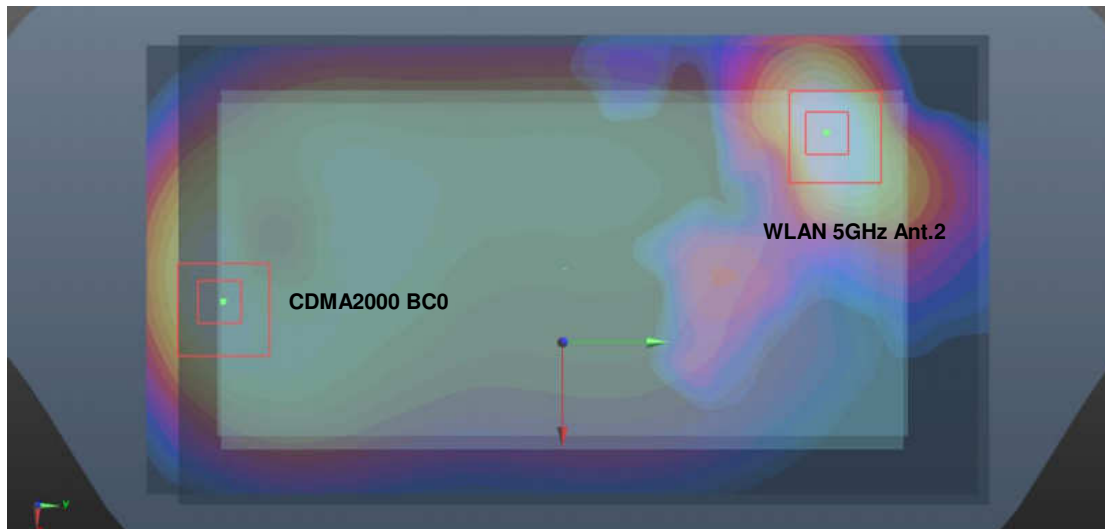
Case #13	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	0.801	10	-0.0245	-0.0735	-0.205	139.33	1.79	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



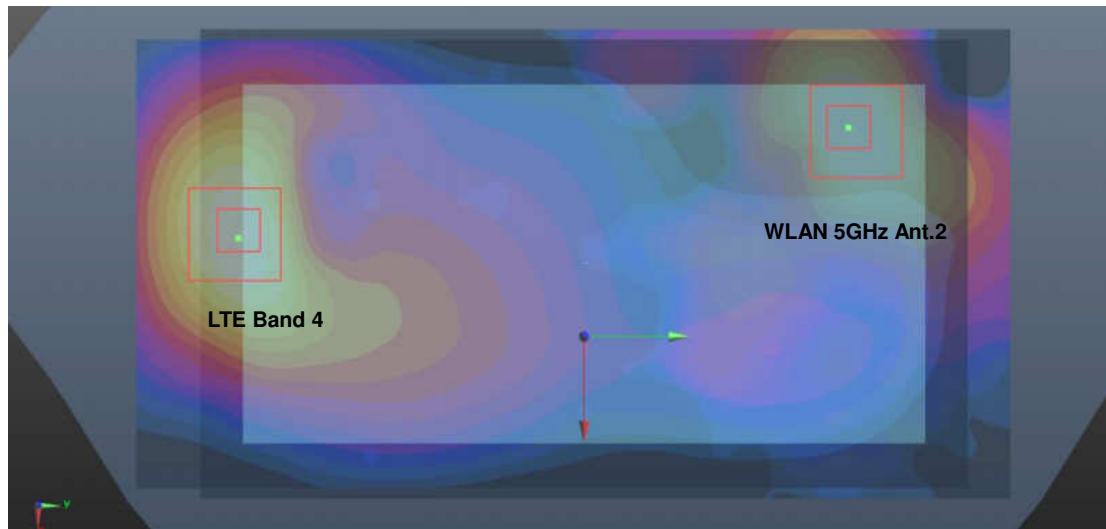
Case #14	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Back	0.790	10	-0.023	-0.0745	-0.205	140.57	1.78	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



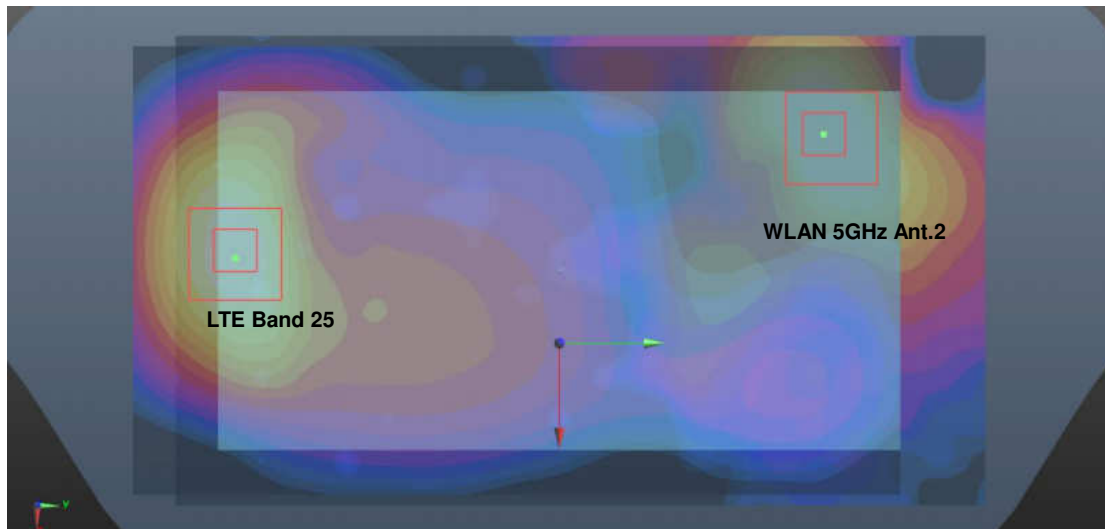
Case #15	Band	Position	1g SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	CDMA2000 BC0	Back	0.722	10	-0.0095	-0.0795	-0.205	148.32	1.71	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



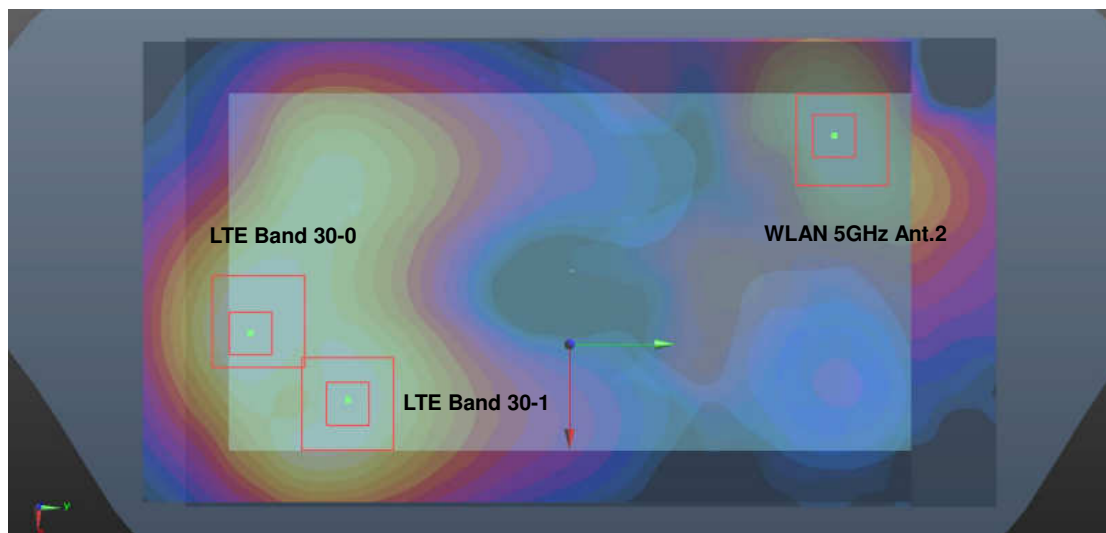
Case #16	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Back	0.948	10	-0.023	-0.081	-0.205	146.98	1.94	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



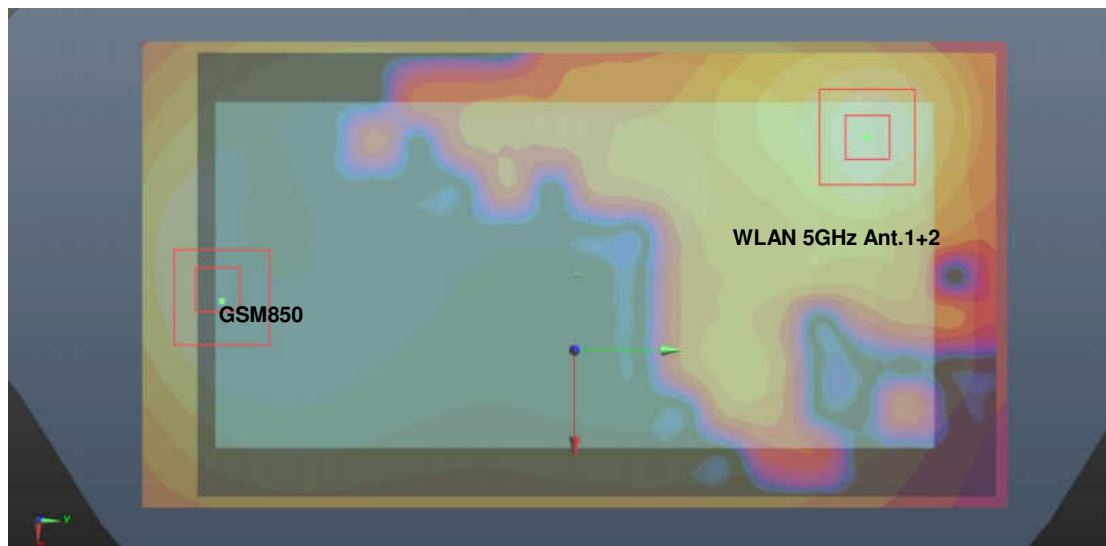
Case #17	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Back	0.680	10	-0.02	-0.076	-0.205	142.58	1.67	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	-0.047	0.064	-0.206				



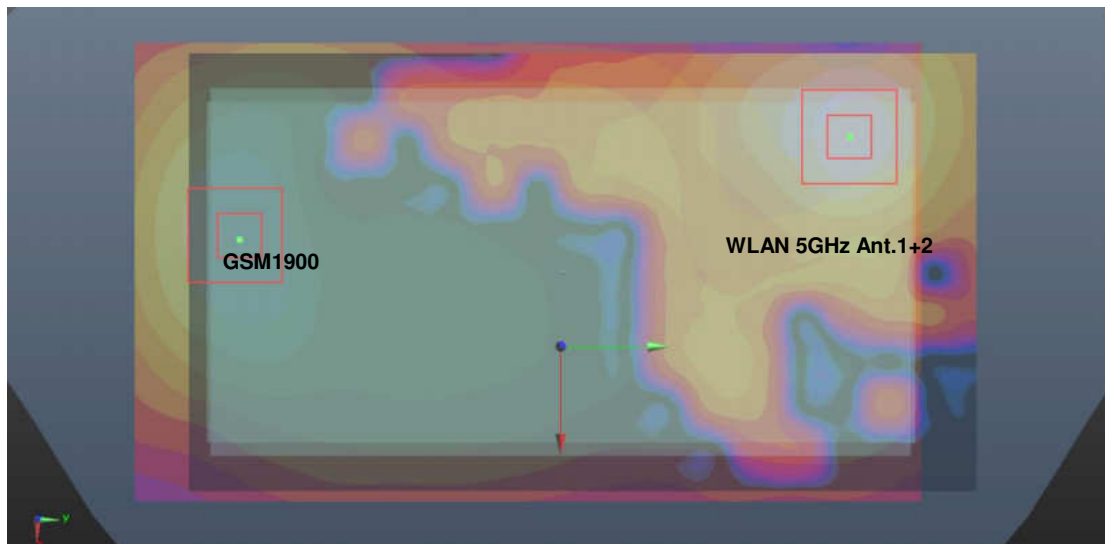
Case #18	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30-0	Back	1.075	10	-0.0748	-0.205	-0.0026	145.73	2.06	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	0.064	-0.206	-0.047				
	LTE Band 30-1		0.892	10	-0.052	-0.205	0.013	130.60	1.88	0.02	Not required
	WLAN 5GHz Ant.2		0.988	10	0.064	-0.206	-0.047				



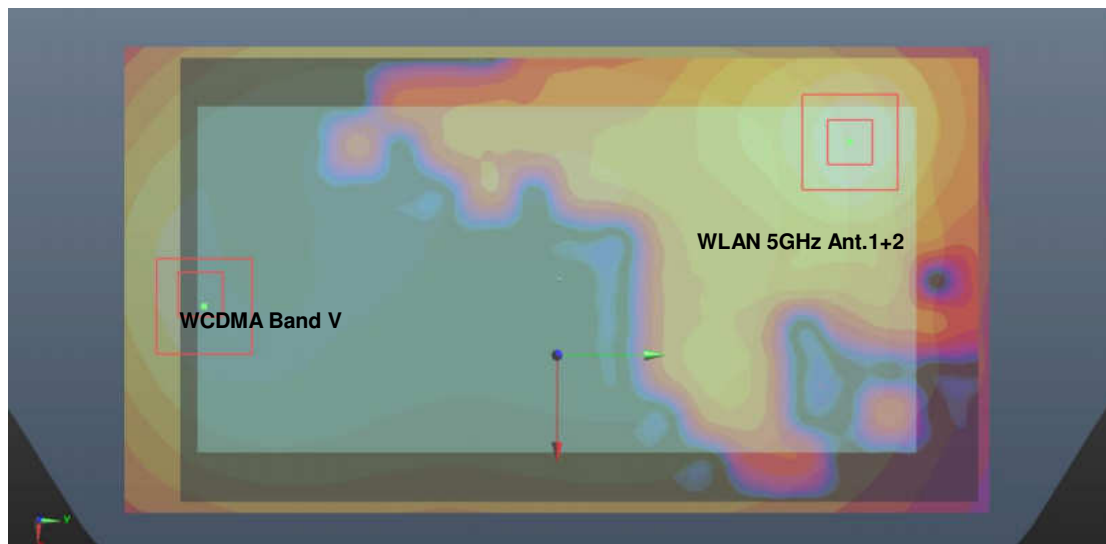
Case #19	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Back	0.858	10	-0.011	-0.0795	-0.205	151.60	1.97	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



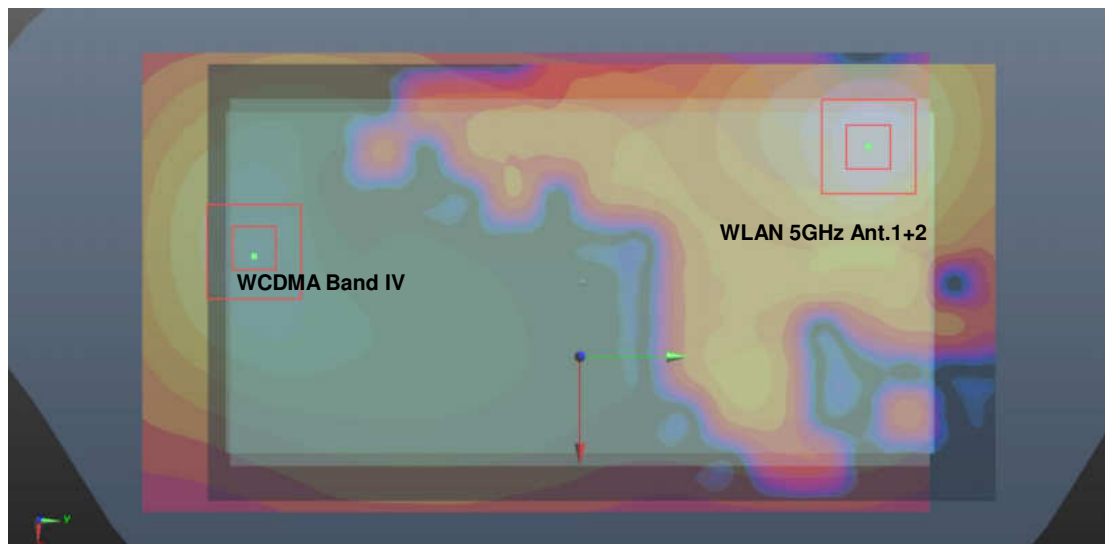
Case #20	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	0.801	10	-0.0245	-0.0735	-0.205	143.12	1.91	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



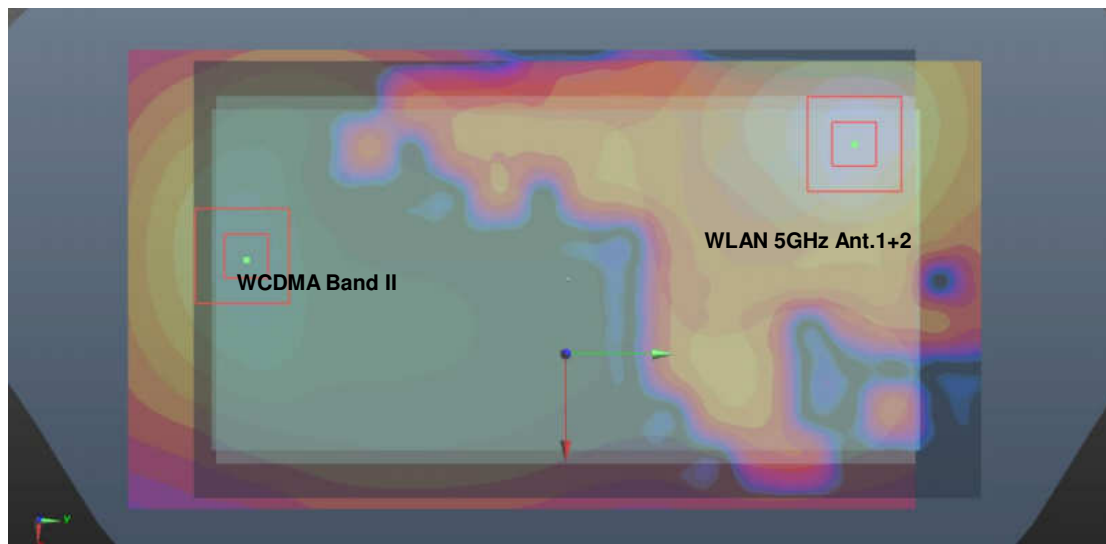
Case #21	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band V	Back	0.565	10	-0.011	-0.0795	-0.205	151.60	1.68	0.01	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



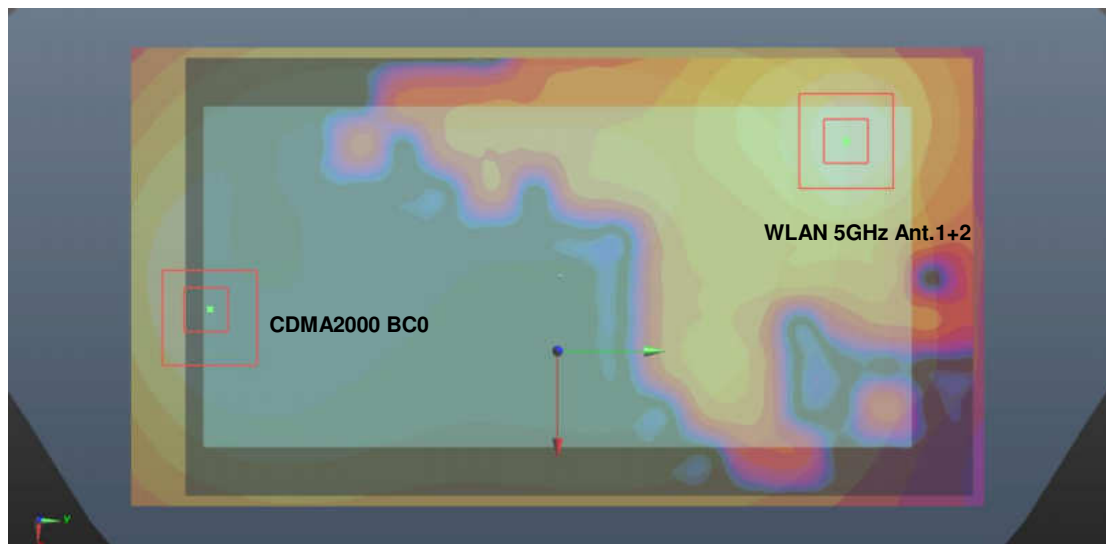
Case #22	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Back	0.790	10	-0.023	-0.0745	-0.205	144.34	1.90	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



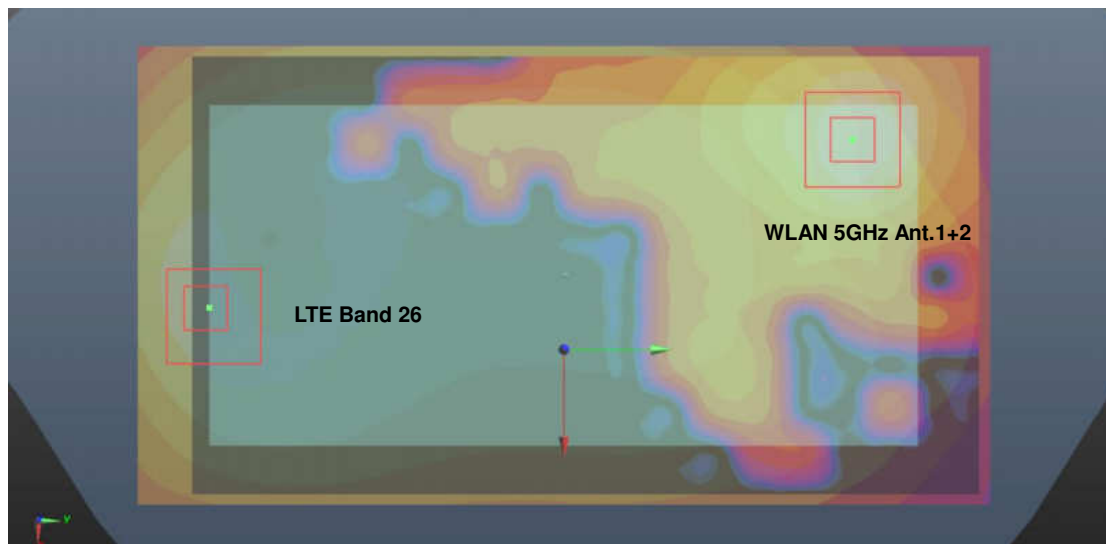
Case #23	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Back	0.568	10	-0.0215	-0.073	-0.205	143.11	1.68	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



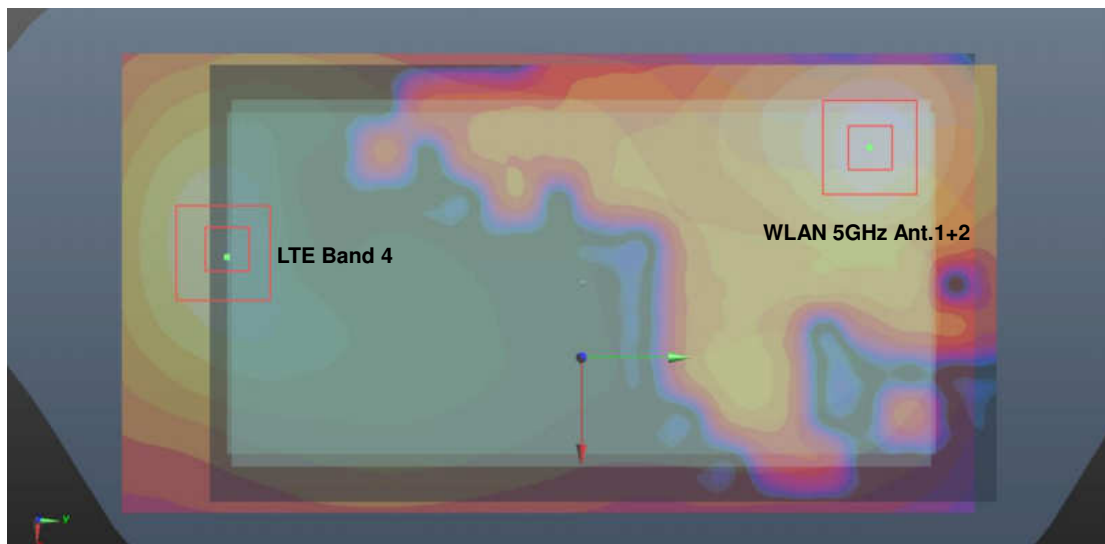
Case #24	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC0	Back	0.722	10	-0.0095	-0.0795	-0.205	151.95	1.83	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



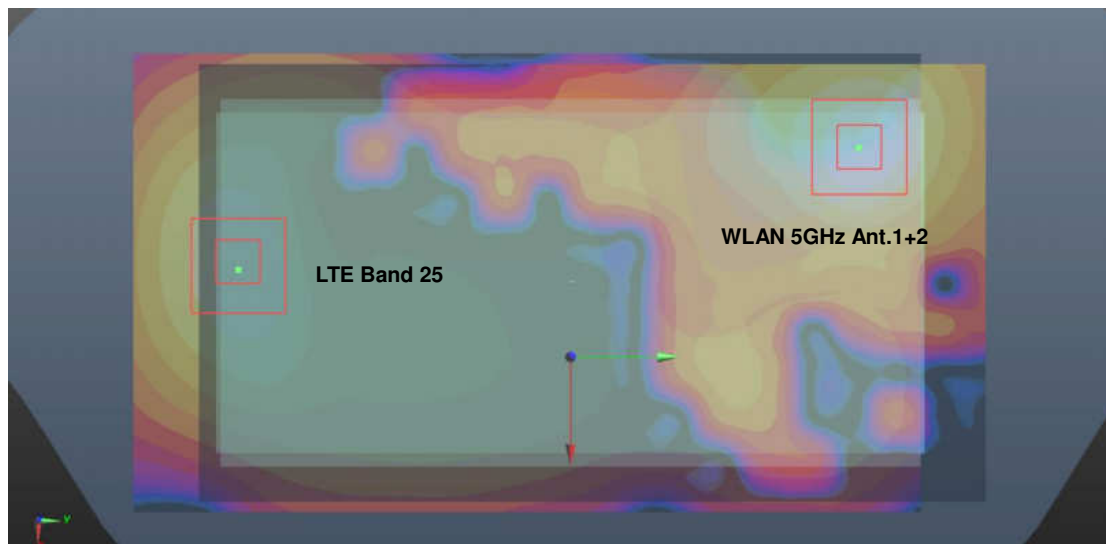
Case #25	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 26	Back	0.606	10	-0.0095	-0.081	-0.205	153.41	1.72	0.01	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



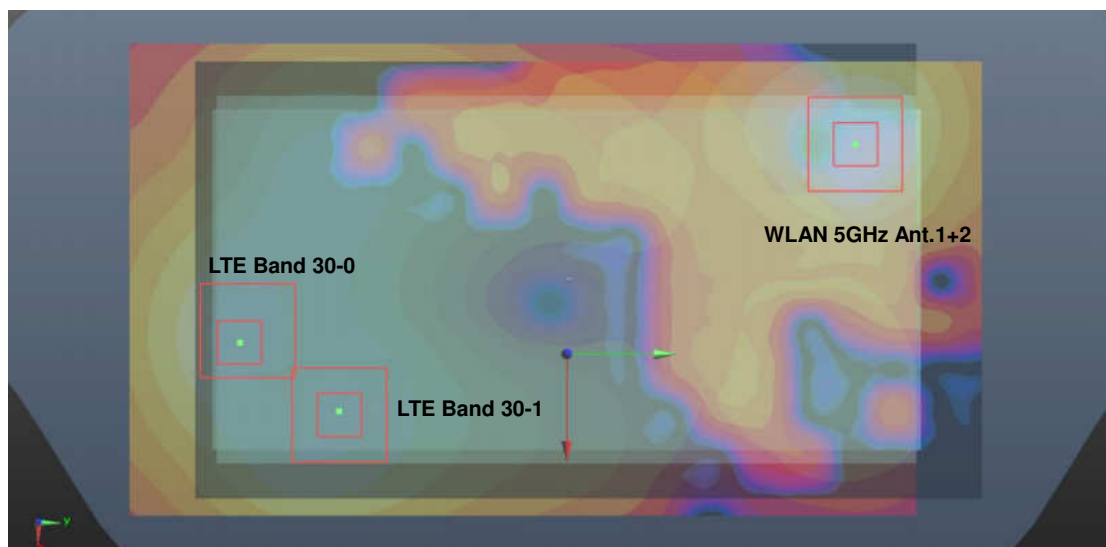
Case #26	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Back	0.948	10	-0.023	-0.081	-0.205	150.76	2.06	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



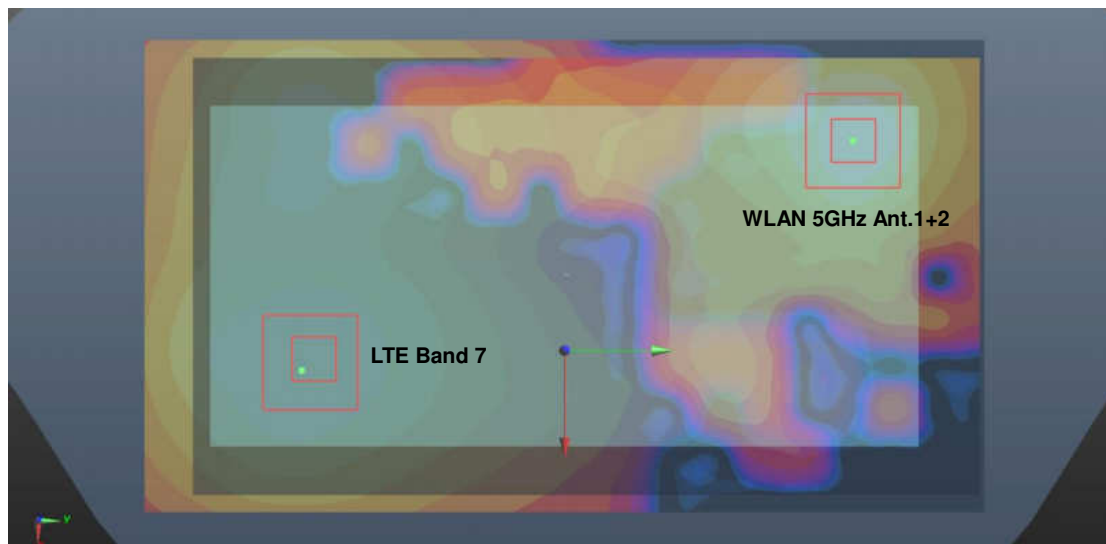
Case #27	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Back	0.680	10	-0.02	-0.076	-0.205	146.33	1.79	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



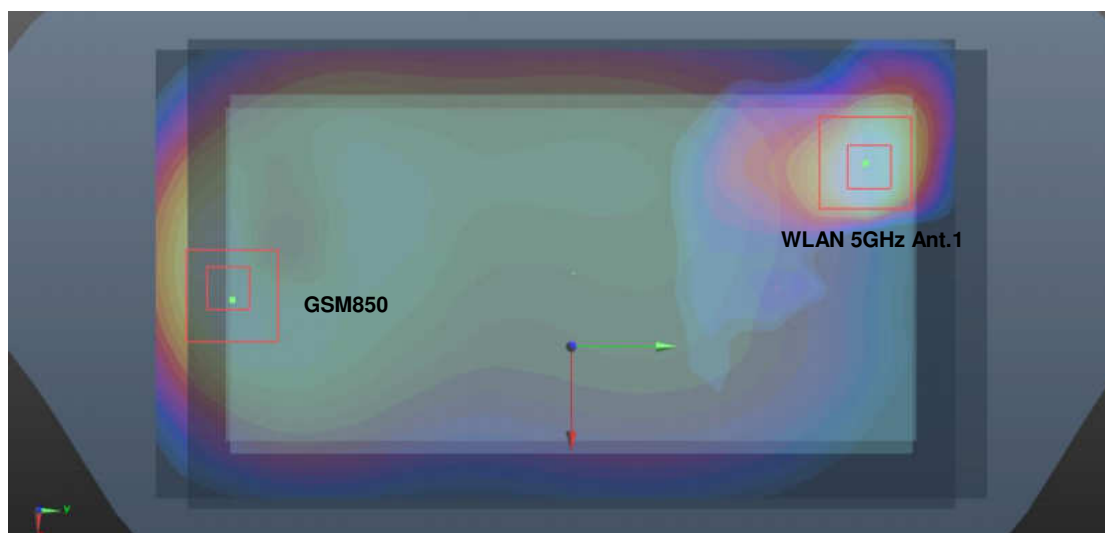
Case #28	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30-0	Back	1.075	10	-0.0026	-0.0748	-0.205	149.25	2.19	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				
	LTE Band 30-1		0.892	10	0.013	-0.052	-0.205	133.72	2.00	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



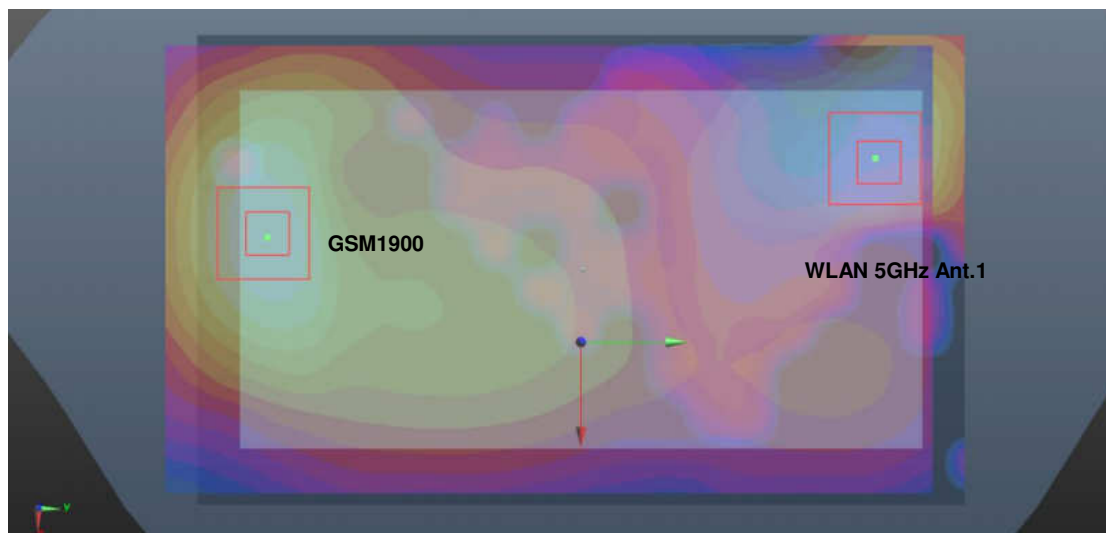
Case #29	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Back	0.586	10	-0.0004	-0.06	-0.205	135.88	1.70	0.02	Not required
	WLAN 5GHz Ant.1+2		1.112	10	-0.046	0.068	-0.205				



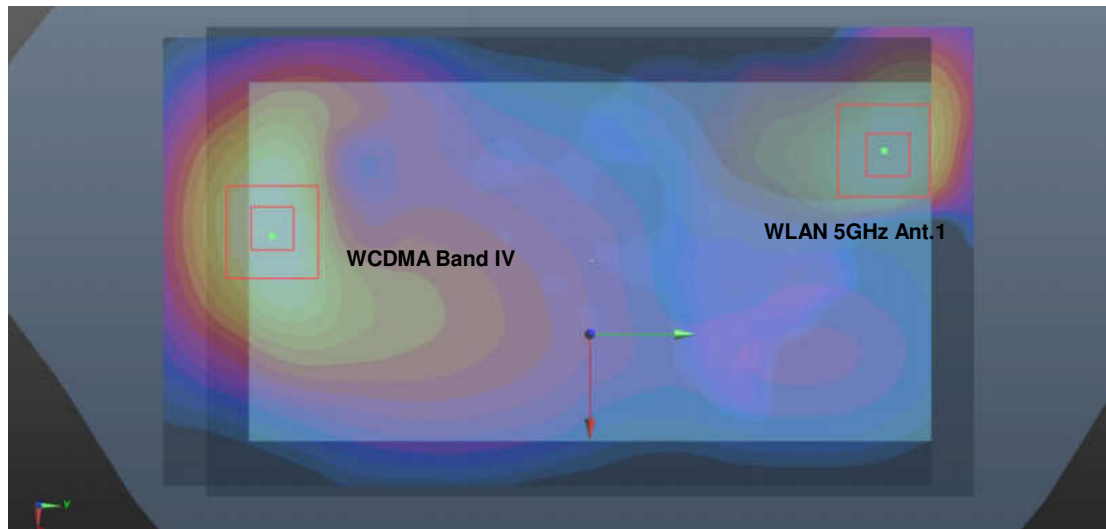
Case #30	Band	Position	1g SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	GSM850	Back	0.858	10	-0.011	-0.0795	-0.205	153.46	1.75	0.02	Not required
	WLAN 5GHz Ant.1		0.895	10	-0.041	0.071	-0.206				



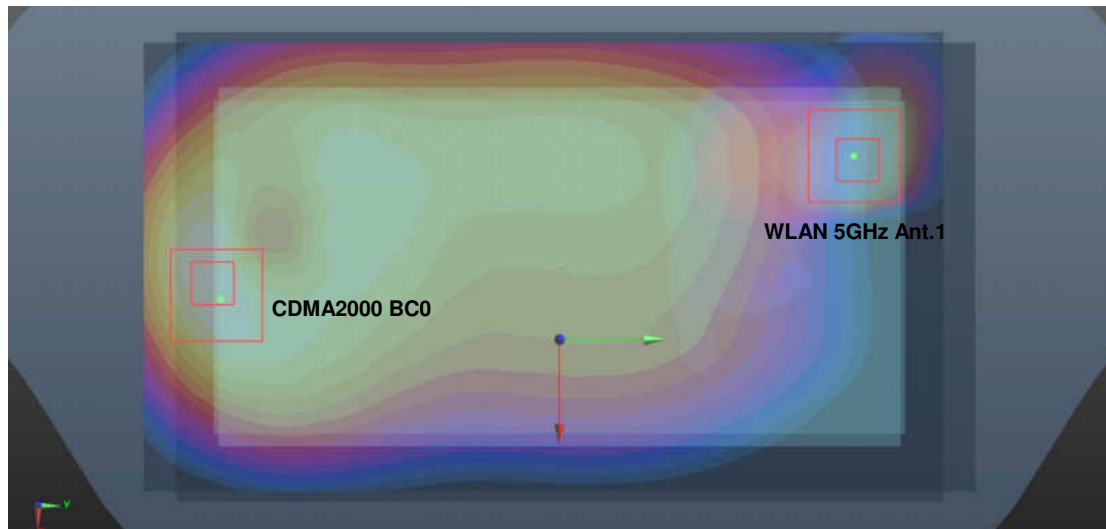
Case #31	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	0.801	10	-0.0245	-0.0735	-0.205	145.44	1.70	0.02	Not required
	WLAN 5GHz Ant.1		0.895	10	-0.041	0.071	-0.206				



Case #32	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Back	0.790	10	-0.023	-0.0745	-0.205	146.61	1.69	0.01	Not required
	WLAN 5GHz Ant.1		0.895	10	-0.041	0.071	-0.206				



Case #33	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC0	Back	0.761	10	-0.0095	-0.0795	-0.205	153.76	1.66	0.01	Not required
	WLAN 5GHz Ant.1		0.895	10	-0.041	0.071	-0.206				



Case #34	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC1	Back	0.718	10	-0.0185	-0.0735	-0.205	146.24	1.61	0.01	Not required
	WLAN 5GHz Ant.1		0.895	10	-0.041	0.071	-0.206				

