

# TEST REPORT



**DT&C Co., Ltd.**

42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042  
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRRFCC2007-0053
2. Customer
  - Name : LG Electronics USA, Inc.
  - Address : 111 Sylvan Avenue, North Building Englewood Cliffs, NJ 07632
3. Use of Report : FCC Original Grant
4. Product Name / Model Name : Mobile Phone / LM-G910EMW  
FCC ID : ZNFG910EMW
5. Test Method Used : IEEE 1528-2013, FCC SAR KDB Publications (Details in test report)  
Test Specification : CFR 47 Part 2 subpart 2.1093
6. Date of Test : 2020.06.12 ~ 2020.06.30
7. Location of Test :  Permanent Testing Lab       On Site Testing
8. Testing Environment : Refer to appended test report.
9. Test Result : Refer to attached test report.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

Affirmation	Tested by Name : BumJun Park 	Reviewed by Name : HakMin Kim 
-------------	---	--

2020 . 07 . 03 .

**DT&C Co., Ltd.**

Not abided by KS Q ISO / IEC 17025 and KOLAS accreditation.

If this report is required to confirmation of authenticity, please contact to [report@dtnc.net](mailto:report@dtnc.net)

## Test Report Version

Test Report No.	Date	Description	Tested by	Reviewed by
DRRFCC2007-0053	Jul. 3, 2020	Initial issue	BumJun Park	HakMin Kim

**Table of Contents**

<b>1. DESCRIPTION OF DEVICE .....</b>	<b>5</b>
1.1 General Information .....	5
1.2 Power Reduction for SAR .....	7
1.3 Nominal and Maximum Output Power Specifications .....	7
1.4 DUT Antenna Locations .....	7
1.5 Simultaneous Transmission Capabilities .....	7
1.6 Miscellaneous SAR Test Considerations .....	8
1.7 Guidance Applied .....	9
1.8 Device Serial Numbers .....	9
<b>2. LTE INFORMATION .....</b>	<b>10</b>
<b>3. INTROCUCTION .....</b>	<b>11</b>
<b>4. DOSIMETRIC ASSESSMENT .....</b>	<b>12</b>
4.1 Measurement Procedure .....	12
<b>5. DEFINITION OF REFERENCE POINTS .....</b>	<b>14</b>
5.1 Ear Reference Point .....	14
5.2 Handset Reference Points .....	14
<b>6. TEST CONFIGURATION POSITIONS FOR HANDSETS .....</b>	<b>15</b>
6.1 Device Holder .....	15
6.2 Positioning for Cheek/Touch .....	15
6.3 Positioning for Ear / 15 ° Tilt .....	15
6.4 Body-Worn Accessory Configurations .....	16
6.5 Extremity Exposure Configurations .....	16
6.6 Wireless Router Configurations .....	17
6.7 Phablet Configurations .....	17
6.8 Proximity Sensor Configurations .....	17
<b>7. RF EXPOSURE LIMITS .....</b>	<b>18</b>
<b>8. FCC MEASUREMENT PROCEDURES .....</b>	<b>19</b>
8.1 Measured and Reported SAR .....	19
8.2 Procedures Used to Establish RF Signal for SAR .....	19
8.3 SAR Measurement Conditions for WCDMA (UMTS) .....	19
8.3.1 Output Power Verification .....	19
8.3.2 Head SAR Measurements for Handsets .....	19
8.3.3 Body SAR Measurements .....	20
8.3.4 Release 5 HSDPA Data Devices .....	20
8.3.5 Release 6 HSUPA Data Devices .....	20
8.3.6 SAR Measurement Conditions for DC-HSDPA .....	21
8.4 SAR Measurement Conditions for LTE .....	22
8.4.1 Spectrum Plots for RB Configurations .....	22
8.4.2 MPR .....	22
8.4.3 A-MPR .....	22
8.4.4 Required RB Size and RB Offsets for SAR Testing .....	22
8.4.5 64QAM uplink .....	22
8.4.6 LTE TDD Consideration setup for SAR measurement .....	23
8.4.7 Downlink Only Carrier Aggregation and Downlink Only MIMO .....	24
8.4.8 May 2017 TCB Workshop notes (LTE Downlink 4x4 MIMO) .....	24
8.5 SAR Testing with 802.11 Transmitters .....	24
8.5.1 General Device Setup .....	24
8.5.2 U-NII and U-NII-2A .....	25
8.5.3 U-NII-2C and U-NII-3 .....	25
8.5.4 Initial Test Position Procedure .....	25
8.5.5 2.4 GHz SAR Test Requirements .....	25
8.5.6 OFDM Transmission Mode and SAR Test Channel Selection .....	26
8.5.7 Initial Test Configuration Procedure .....	26
8.5.8 Subsequent Test Configuration Procedures .....	26
8.5.9 MIMO SAR Considerations .....	26

<b>9. RF CONDUCTED POWERS</b> .....	<b>27</b>
9.1 GSM Nominal and Maximum Output Power Spec and Conducted Powers .....	27
9.2 WCDMA Nominal and Maximum Output Power Spec and Conducted Powers .....	28
9.3 LTE Nominal and Maximum Output Power Spec and Conducted Powers .....	30
9.4 WLAN Nominal and Maximum Output Power Spec and Conducted Powers .....	49
9.5 Bluetooth Conducted Powers .....	51
<b>10. SYSTEM VERIFICATION</b> .....	<b>53</b>
10.1 Tissue Verification.....	53
10.2 Test System Verification.....	56
<b>11. SAR TEST RESULTS</b> .....	<b>57</b>
11.1 Head SAR Results .....	57
11.2 Standalone Body-Worn SAR Worn SAR Results .....	62
11.3 Standalone Hotspot SAR Results .....	64
11.4 Standalone Phablet SAR Results .....	68
11.5 SAR Test Notes.....	71
<b>12. FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS</b> .....	<b>74</b>
12.1 Introduction .....	74
12.2 Simultaneous Transmission Procedures .....	74
12.3 Simultaneous Transmission Capabilities .....	74
12.4 Head SAR Simultaneous Transmission Analysis .....	76
12.5 Body-Worn Simultaneous Transmission Analysis .....	89
12.6 Hotspot SAR Simultaneous Transmission Analysis.....	98
12.7 Phablet SAR Simultaneous Transmission Analysis with proximity sensor enabled .....	117
12.8 Simultaneous Transmission Conclusion .....	120
<b>13. SAR MEASUREMENT VARIABILITY</b> .....	<b>121</b>
13.1 Measurement Variability .....	121
13.2 Measurement Uncertainty .....	121
<b>14. EQUIPMENT LIST</b> .....	<b>122</b>
<b>15. MEASUREMENT UNCERTAINTIES</b> .....	<b>123</b>
<b>16. CONCLUSION</b> .....	<b>144</b>
<b>17. REFERENCES</b> .....	<b>145</b>
<b>APPENDIX A. – Probe Calibration Data</b> .....	<b>147</b>
<b>APPENDIX B. – Dipole Calibration Data</b> .....	<b>233</b>
<b>APPENDIX C. – SAR Tissue Specifications</b> .....	<b>298</b>
<b>APPENDIX D. – SAR SYSTEM VALIDATION</b> .....	<b>301</b>
<b>APPENDIX E. – Downlink LTE CA RF Conducted Powers</b> .....	<b>303</b>
<b>APPENDIX F. – Description of Test Equipment</b> .....	<b>315</b>
<b>APPENDIX G. – Power reduction verification with proximity sensor enabled</b> .....	<b>323</b>

# 1. DESCRIPTION OF DEVICE

## 1.1 General Information

EUT type	Mobile Phone					
FCC ID	ZNFG910EMW					
Equipment model name	LM-G910EMW					
Equipment add model name	LMG910EMW, G910EMW					
Equipment serial no.	Identical prototype					
Mode(s) of Operation	GSM 850, GSM 1900, WCDMA 850, WCDMA 1700, WCDMA 1900, LTE Band 12, 17, 13, 5, 66, 4, 2, 7, 41, 2.4 G W-LAN (802.11b/g/n-HT20/ac-VHT20), 5 G W-LAN (802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80), Bluetooth					
TX Frequency Range	<b>Band</b>	<b>Mode</b>	<b>Operating Modes</b>	<b>Bandwidth</b>	<b>Frequency</b>	
	GSM 850	GSM/GPRS/EDGE	Voice/Data	-	824.2 MHz ~ 848.8 MHz	
	GSM 1900	GSM/GPRS/EDGE	Voice/Data	-	1 850.2 MHz ~ 1 909.8 MHz	
	WCDMA 850	WCDMA	Voice/Data	-	826.4 MHz ~ 846.6 MHz	
	WCDMA 1700	WCDMA	Voice/Data	-	1 712.4 MHz ~ 1 752.6 MHz	
	WCDMA 1900	WCDMA	Voice/Data	-	1 852.4 MHz ~ 1 907.6 MHz	
	LTE Band 12	LTE	Voice/Data	1.4/3/5/10MHz	699.7 MHz ~ 715.3 MHz	
	LTE Band 17	LTE	Voice/Data	5/10MHz	706.5 MHz ~ 713.5 MHz	
	LTE Band 13	LTE	Voice/Data	5/10MHz	779.5 MHz ~ 784.5 MHz	
	LTE Band 5	LTE	Voice/Data	1.4/3/5/10MHz	824.7 MHz ~ 848.3 MHz	
	LTE Band 66	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 710.7 MHz ~ 1 779.3 MHz	
	LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 710.7 MHz ~ 1 754.3 MHz	
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 850.7 MHz ~ 1 909.3 MHz	
	LTE Band 7	LTE	Voice/Data	5/10/15/20MHz	2 502.5 MHz ~ 2 567.5 MHz	
	LTE Band 41	LTE	Voice/Data	5/10/15/20MHz	2 498.5 MHz ~ 2 687.5 MHz	
	2.4 GHz W-LAN	802.11b/g/n/ac	Voice/Data	HT20/VHT20	2 412 MHz ~ 2 472 MHz	
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 180 MHz ~ 5 240 MHz	
		802.11ac	Voice/Data	HT40/VHT40 VHT80	5 190 MHz ~ 5 230 MHz 5 210 MHz	
	5.3 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 260 MHz ~ 5 320 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40 VHT80	5 270 MHz ~ 5 310 MHz 5 290 MHz	
	5.6 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 500 MHz ~ 5 720 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40 VHT80	5 510 MHz ~ 5 710 MHz 5 530 MHz ~ 5 690 MHz	
	5.8 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 745 MHz ~ 5 825 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40 VHT80	5 755 MHz ~ 5 795 MHz 5 775 MHz	
	Bluetooth	-	Data	-	2 402 MHz ~ 2 480 MHz	
	RX Frequency Range	GSM 850	GSM/GPRS/EDGE	Voice/Data	-	869.2 MHz ~ 893.8 MHz
		GSM 1900	GSM/GPRS/EDGE	Voice/Data	-	1 930.2 MHz ~ 1 989.8 MHz
		WCDMA 850	WCDMA	Voice/Data	-	871.4 MHz ~ 891.6 MHz
		WCDMA 1700	WCDMA	Voice/Data	-	2 112.4 MHz ~ 2 152.6 MHz
		WCDMA 1900	WCDMA	Voice/Data	-	1 932.4 MHz ~ 1 987.6 MHz
		LTE Band 12	LTE	Voice/Data	1.4/3/5/10MHz	729.7 MHz ~ 745.3 MHz
		LTE Band 17	LTE	Voice/Data	5/10MHz	736.5 MHz ~ 743.5 MHz
		LTE Band 13	LTE	Voice/Data	5/10MHz	748.5 MHz ~ 753.5 MHz
		LTE Band 5	LTE	Voice/Data	1.4/3/5/10MHz	869.7 MHz ~ 893.3 MHz
		LTE Band 66	LTE	Voice/Data	1.4/3/5/10/15/20MHz	2 110.7 MHz ~ 2 179.3 MHz
		LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	2 110.7 MHz ~ 2 154.3 MHz
		LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 930.7 MHz ~ 1 989.3 MHz
		LTE Band 7	LTE	Voice/Data	5/10/15/20MHz	2 622.5 MHz ~ 2 687.5 MHz
		LTE Band 41	LTE	Voice/Data	5/10/15/20MHz	2 498.5 MHz ~ 2 687.5 MHz
		2.4 GHz W-LAN	802.11b/g/n/ac	Voice/Data	HT20/VHT20	2 412 MHz ~ 2 472 MHz
		5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 180 MHz ~ 5 240 MHz
			802.11ac	Voice/Data	HT40/VHT40 VHT80	5 190 MHz ~ 5 230 MHz 5 210 MHz
		5.3 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT200	5 260 MHz ~ 5 320 MHz
			802.11n/ac	Voice/Data	HT40/VHT40 VHT80	5 270 MHz ~ 5 310 MHz 5 290 MHz
		5.6 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 500 MHz ~ 5 720 MHz
			802.11n/ac	Voice/Data	HT40/VHT40 VHT80	5 510 MHz ~ 5 710 MHz 5 530 MHz ~ 5 690 MHz
		5.8 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 745 MHz ~ 5 825 MHz
802.11n/ac			Voice/Data	HT40/VHT40 VHT80	5 755 MHz ~ 5 795 MHz 5 775 MHz	
Bluetooth		-	Data	-	2 402 MHz ~ 2 480 MHz	

**SAR Summary Table**

Equipment Class	Band	Reported SAR			
		1g SAR (W/kg)			10g SAR (W/kg)
		Head	Body-Worn	Hotspot	Phablet
PCE	GSM 850	< 0.1	0.38	-	-
PCE	GPRS 850	0.11	0.45	0.45	-
PCE	GSM 1900	< 0.1	0.44	-	-
PCE	GPRS 1900	< 0.1	0.47	0.64	-
PCE	WCDMA 850	<b>0.17</b>	0.61	0.61	-
PCE	WCDMA 1700	0.12	0.62	1.00	2.15
PCE	WCDMA 1900	0.11	0.79	<b>1.10</b>	1.88
PCE	LTE Band 12	< 0.1	0.48	0.48	-
PCE	LTE Band 17	-	-	-	-
PCE	LTE Band 13	0.11	0.72	0.72	-
PCE	LTE Band 5	0.16	<b>0.81</b>	0.81	-
PCE	LTE Band 66	0.11	0.65	0.91	1.93
PCE	LTE Band 4	-	-	-	-
PCE	LTE Band 2	0.10	0.59	1.07	1.79
PCE	LTE Band 7	0.12	0.53	0.84	<b>2.32</b>
PCE	LTE Band 41	0.10	0.47	0.79	-
DTS(SISO)	2.4 GHz W-LAN	0.91	0.18	0.26	-
DTS(MIMO)	2.4 GHz W-LAN	<b>1.12</b>	0.20	0.32	-
U-NII-1(SISO)	5.2 GHz W-LAN	-	-	0.14	-
U-NII-1(MIMO)	5.2 GHz W-LAN	-	-	0.24	-
U-NII-2A(SISO)	5.3 GHz W-LAN	0.56	0.22	-	0.80
U-NII-2A(MIMO)	5.3 GHz W-LAN	0.59	0.31	-	1.25
U-NII-2C(SISO)	5.6 GHz W-LAN	0.32	0.36	-	0.92
U-NII-2C(MIMO)	5.6 GHz W-LAN	0.48	0.44	-	1.39
U-NII-3(SISO)	5.8 GHz W-LAN	0.33	0.30	0.22	0.84
U-NII-3(MIMO)	5.8 GHz W-LAN	0.59	0.39	0.37	0.93
DSS	Bluetooth	0.19	< 0.1	< 0.1	-
Simultaneous SAR per KDB 690783 D01v01r03		<b>1.25</b>	<b>1.29</b>	<b>1.21</b>	<b>3.20</b>
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter(DSS) Digital Transmission System(DTS) Unlicensed National Information Infrastructure (UNII)				
Date(s) of Tests	2020.06.12 ~ 2020.06.30				
Antenna Type	Internal Antenna				
Functions	<ul style="list-style-type: none"> <li>● GSM/GPRS/EDGE (GPRS/EDGE Class: 33) supported.</li> <li>* DTM not supported.</li> <li>● No simultaneous transmission between BT &amp; 2.4GHz WLAN</li> <li>● Simultaneous transmission between [GSM, WCDMA voice &amp; WLAN], [GPRS, WCDMA &amp; WLAN], [LTE &amp; WLAN].</li> <li>● VoIP is supported.</li> <li>● W-LAN 2.4GHz is supported Hotspot.</li> <li>● W-LAN 5 GHz is supported Hotspot in UNII B1, B3.</li> </ul>				

## 1.2 Power Reduction for SAR

This device uses a power reduction mechanism for SAR compliance. The power reduction mechanism (WCDMA 1700, WCDMA 1900, LTE B66, LTE B4, LTE B25, LTE B2, LTE B7) is activated when the device is used in close proximity to the user's body. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device. Detailed descriptions of the power reduction mechanism are included in the operational description.

## 1.3 Nominal and Maximum Output Power Specifications

The Nominal and Maximum Output Power Specifications are in section 9 of this test report.

## 1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device of the device antenna can be found in ZNFG910EMW\_Antenna Location. Since the diagonal dimension of this device is > 160 mm and < 200 mm. it is considered a "phablet".

Mode	Device Sides for SAR Testing					
	Top	Bottom	Front	Rear	Right	Left
GSM/GPRS/EDGE 850	X	O	O	O	O	X
GSM/GPRS/EDGE 1900	X	O	O	O	X	O
WCDMA 850	X	O	O	O	O	X
WCDMA 1700	X	O	O	O	X	O
WCDMA 1900	X	O	O	O	X	O
LTE Band 12	X	O	O	O	O	X
LTE Band 17	X	O	O	O	O	X
LTE Band 13	X	O	O	O	O	X
LTE Band 5	X	O	O	O	O	X
LTE Band 66	X	O	O	O	X	O
LTE Band 4	X	O	O	O	X	O
LTE Band 2	X	O	O	O	X	O
LTE Band 7	X	X	O	O	X	O
LTE Band 41	X	X	O	O	X	O
2.4G W-LAN Ant.1	O	X	O	O	X	O
2.4G W-LAN Ant.2	O	X	O	O	X	O
2.4G W-LAN MIMO	O	X	O	O	X	O
5G W-LAN Ant.1	O Note 2	X	O	O	X	O Note 2
5G W-LAN Ant.2	O Note 2	X	O	O	X	O Note 2
5G W-LAN MIMO	O Note 2	X	O	O	X	O Note 2
Bluetooth	O	X	O	O	X	O

Note 1: Particular DUT edges were not required to be evaluated for Hotspot SAR or Phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 648474 D04v01r03. The antenna document shows the distances between the transmit antennas and the edges of the device.

Note 2: WLAN Hotspot UNII-1, 3 supported.

Note 3: O - Test / X - Not test.

Note 4: This DUT has NFC operations. The NFC antenna is integrated into the back side.

The SAR tests were performed with NFC antenna already incorporated.

A diagram showing the location of the device antenna can be found in ZNFG910EMW\_Antenna Location.

## 1.5 Simultaneous Transmission Capabilities

The Simultaneous Transmission Capabilities are in section 12 of this test report.

## 1.6 Miscellaneous SAR Test Considerations

### (A) WIFI/BT

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

Since Wireless Router operations are not allowed by the chipset firmware using U-NII-2A & U-NII-2C WIFI, only 2.4GHz, U-NII-1, U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01.

Per FCC KDB 447498 D01v06, the 1g SAR exclusion threshold for distances < 50 mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency(GHz)}} \leq 3.0$$

Based on the maximum conducted power of Bluetooth (rounded to the nearest mW) and the antenna to user separation distance, body-worn and hotspot **Bluetooth SAR were not required; [(14/10)\*√2.480] = 2.2 (< 3.0)**. Per KDB Publication 447498 D01 v06, the maximum power of the channel was rounded to the nearest mW before calculation.

Per FCC KDB 447498 D01v06, the 10g SAR exclusion threshold for distance < 50 mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency(GHz)}} \leq 7.5$$

Based on the maximum conducted power of Bluetooth (rounded to the nearest mW) and the antenna to user separation distance, phablet **Bluetooth SAR was not required; [(14/5)\*√2.480] = 4.4 (< 7.5)**. Per KDB Publication 447498 D01v06, the maximum power of the channel was rounded to the nearest mW before calculation.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160 mm and less than 200 mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported for U-NII-2A & U-NII-2C & U-NII-3 WLAN(CH 165), phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

## (B) Licensed Transmitter(s)

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

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.

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

Per FCC KDB Publication 648474 D04 v01r03, this device is considered a “phablet” since the diagonal dimension is greater than 160 mm and less than 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.

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

### 1.7 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01 (3G SAR Procedures)
- FCC KDB Publication 941225 D05v02r05 (SAR for LTE Devices)
- FCC KDB Publication 941225 D05Av01r02 (LTE Rel.10 KDB Inquiry Sheet)
- FCC KDB Publication 941225 D06v02r01 (Hotspot Mode)
- FCC KDB Publication 248227 D01v02r02 (802.11 Wi-Fi SAR)
- FCC KDB Publication 447498 D01v06 (General RF Exposure Guidance)
- FCC KDB Publication 648474 D04v01r03 (Handset SAR)
- FCC KDB Publication 690783 D01v01r03 (SAR Listings on Grants)
- FCC KDB Publication 865664 D01v01r04 (SAR Measurement 100 MHz to 6 GHz)
- FCC KDB Publication 865664 D02v01r02 (RF Exposure Reporting)
- October 2013 TCB Workshop Notes (GPRS testing criteria)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- FCC KDB Inquiry (Tracking No. 372568)

### 1.8 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 11.

## 2. LTE INFORMATION

LTE Information					
FCC ID	ZNFG910EMW				
Form Factor	Mobile Phone				
Frequency Range of each LTE transmission Band	LTE Band 12 (699.7 ~ 715.3 MHz) LTE Band 17 (706.5 ~ 713.5 MHz) LTE Band 13 (779.5 ~ 784.5 MHz) LTE Band 5 (Cell) (824.7 ~ 848.3 MHz) LTE Band 66 (AWS) (1710.7 ~ 1779.3 MHz) LTE Band 4 (AWS) (1710.7 ~ 1754.3 MHz) LTE Band 2 (PCS) (1850.7 ~ 1909.3 MHz) LTE Band 7 (2502.5 ~ 2567.5 MHz) LTE Band 41 (2498.5 ~ 2687.5 MHz)				
Channel Bandwidths	LTE Band 12 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz LTE Band 17 : 5 MHz, 10 MHz LTE Band 13 : 5 MHz, 10 MHz LTE Band 5 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz LTE Band 66 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 4 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 2 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 7 : 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 41 : 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Number and Frequencies(MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 12: 1.4 MHz	699.7 (23017)	N/A	707.5 (23095)	N/A	715.3 (23173)
LTE Band 12: 3 MHz	700.5 (23025)	N/A	707.5 (23095)	N/A	714.5 (23165)
LTE Band 12: 5 MHz	701.5 (23035)	N/A	707.5 (23095)	N/A	713.5 (23155)
LTE Band 12: 10 MHz	704.0 (23060)	N/A	707.5 (23095) <sup>Note1</sup>	N/A	711.0 (23130)
LTE Band 17: 5 MHz	706.5(23755)	N/A	710.0(23790)	N/A	713.5(23825)
LTE Band 17: 10 MHz	709.0(23780)	N/A	710.0(23790)	N/A	711.0(23800)
LTE Band 13: 5 MHz	779.5(23205)	N/A	782.0(23230) <sup>Note2</sup>	N/A	784.5(23255)
LTE Band 13: 10 MHz	N/A	N/A	782.0(23230)	N/A	N/A
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)	N/A	836.5 (20525)	N/A	848.3 (20643)
LTE Band 5 (Cell): 3 MHz	825.5 (20415)	N/A	836.5 (20525)	N/A	847.5 (20635)
LTE Band 5 (Cell): 5 MHz	826.5 (20425)	N/A	836.5 (20525)	N/A	846.5 (20625)
LTE Band 5 (Cell): 10 MHz	829.0 (20450)	N/A	836.5 (20525) <sup>Note3</sup>	N/A	844.0 (20600)
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)	N/A	1745.0 (132322)	N/A	1779.3 (132665)
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)	N/A	1745.0 (132322)	N/A	1778.5 (132657)
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)	N/A	1745.0 (132322)	N/A	1777.5 (132647)
LTE Band 66 (AWS): 10 MHz	1715.0 (132022)	N/A	1745.0 (132322)	N/A	1775.0 (132622)
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)	N/A	1745.0 (132322)	N/A	1772.5 (132597)
LTE Band 66 (AWS): 20 MHz	1720.0 (132072)	N/A	1745.0 (132322)	N/A	1770.0 (132572)
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)	N/A	1732.5 (20175)	N/A	1754.3 (20393)
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)	N/A	1732.5 (20175)	N/A	1753.5 (20385)
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)	N/A	1732.5 (20175)	N/A	1752.5 (20375)
LTE Band 4 (AWS): 10 MHz	1715.0 (20000)	N/A	1732.5 (20175)	N/A	1750.0 (20350)
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)	N/A	1732.5 (20175)	N/A	1747.5 (20325)
LTE Band 4 (AWS): 20 MHz	1720.0 (20050)	N/A	1732.5 (20175) <sup>Note4</sup>	N/A	1745.0 (20300)
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)	N/A	1880.0 (18900)	N/A	1909.3 (19193)
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)	N/A	1880.0 (18900)	N/A	1908.5 (19185)
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)	N/A	1880.0 (18900)	N/A	1907.5 (19175)
LTE Band 2 (PCS): 10 MHz	1855.0 (18650)	N/A	1880.0 (18900)	N/A	1905.0 (19150)
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)	N/A	1880.0 (18900)	N/A	1902.5 (19125)
LTE Band 2 (PCS): 20 MHz	1860.0 (18700)	N/A	1880.0 (18900)	N/A	1900.0 (19100)
LTE Band 7: 5 MHz	2502.5 (20775)	N/A	2535.0 (21100)	N/A	2567.5 (21425)
LTE Band 7: 10 MHz	2505.0 (20800)	N/A	2535.0 (21100)	N/A	2565.0 (21400)
LTE Band 7: 15 MHz	2507.5 (20825)	N/A	2535.0 (21100)	N/A	2562.5 (21375)
LTE Band 7: 20 MHz	2510.0 (20850)	N/A	2535.0 (21100)	N/A	2560.0 (21350)
LTE Band 41: 5 MHz	2498.5 (39675)	2545.8 (40148)	2593.0 (40620)	2640.3 (41093)	2687.5 (41565)
LTE Band 41: 10 MHz	2501.0 (39700)	2547.0 (40160)	2593.0 (40620)	2639.0 (41080)	2685.0 (41540)
LTE Band 41: 15 MHz	2503.5 (39725)	2548.3 (40173)	2593.0 (40620)	2637.8 (41068)	2682.5 (41515)
LTE Band 41: 20 MHz	2506.0 (39750)	2549.5 (40185)	2593.0 (40620)	2636.5 (41055)	2680.0 (41490)
UE Category	LTE Rel.12 DL UE Cat 18, UL UE Cat 5				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (manufacturer attestation to be provided)	Yes				
A-MPR (Additional MPR) disabled for SAR Testing?	Yes				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations This device does not support full CA features on 3GPP Release 12. It supports only downlink carrier aggregation. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC.				
LTE Additional Information	The following LTE Release 12 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WiFi Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

Note(s)  
 1. LTE B12 can not contain three non-overlapping channels of 10 MHz bandwidth.  
 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.  
 2. LTE B13 can not contain three non-overlapping channels of 5 MHz bandwidth.  
 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.  
 3. LTE B5 (Cell) can not contain three non-overlapping channels of 10 MHz bandwidth.  
 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.  
 4. LTE B4 (AWS) can not contain three non-overlapping channels of 20 MHz bandwidth.  
 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.

### 3. INTROCUCTION

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

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

#### SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density ( $\rho$ ) It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Fig. 3.1)

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

Fig. 3.1 SAR Mathematical Equation

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

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

where:

- $\sigma$  = conductivity of the tissue-simulating material (S/m)
- $\rho$  = mass density of the tissue-simulating material (kg/m<sup>3</sup>)
- E = Total RMS electric field strength (V/m)

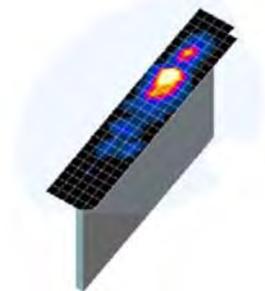
NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces,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

## 4. DOSIMETRIC ASSESSMENT

### 4.1 Measurement Procedure

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

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4.1) and IEEE1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4.1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
  - a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4.1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
  - b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.



**Figure 4.1**  
**Sample SAR Area Scan**

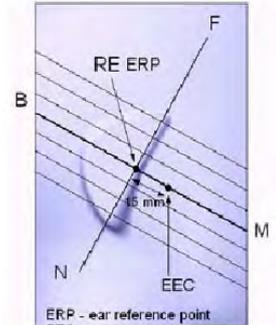
		$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		$5 \text{ mm} \pm 1 \text{ mm}$	$\frac{1}{2} \cdot \delta \cdot \ln(2) \text{ mm} \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location		$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$		$\leq 2$ GHz: $\leq 15 \text{ mm}$ 2 – 3 GHz: $\leq 12 \text{ mm}$	3 – 4 GHz: $\leq 12 \text{ mm}$ 4 – 6 GHz: $\leq 10 \text{ mm}$
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8 \text{ mm}$ 2 – 3 GHz: $\leq 5 \text{ mm}^*$	3 – 4 GHz: $\leq 5 \text{ mm}^*$ 4 – 6 GHz: $\leq 4 \text{ mm}^*$
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5 \text{ mm}$	3 – 4 GHz: $\leq 4 \text{ mm}$ 4 – 5 GHz: $\leq 3 \text{ mm}$ 5 – 6 GHz: $\leq 2 \text{ mm}$
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4 \text{ mm}$
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1) \text{ mm}$
Minimum zoom scan volume	x, y, z	$\geq 30 \text{ mm}$	3 – 4 GHz: $\geq 28 \text{ mm}$ 4 – 5 GHz: $\geq 25 \text{ mm}$ 5 – 6 GHz: $\geq 22 \text{ mm}$
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 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 Publication 447498 is $\leq 1.4 \text{ W/kg}$ , $\leq 8 \text{ mm}$ , $\leq 7 \text{ mm}$ and $\leq 5 \text{ mm}$ zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.			

Table 4.1 Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04\*

## 5. DEFINITION OF REFERENCE POINTS

### 5.1 Ear Reference Point

Figure 5.1 shows the front, back and side views of the SAM Twin Phantom. The point “M” is the reference point for the center of the mouth, “LE” is the left ear reference point(ERP), and “RE” is the right ERP. The ERPs are 15 mm posterior to the entrance to the Ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 5.1. The plane Passing, through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck- Front) is perpendicular to the reference plane and passing through the RE (or LE) is called the Reference Pivoting Line (see Figure 5.1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.



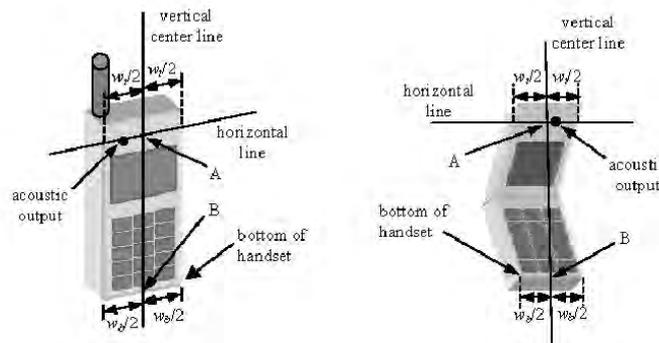
**Figure 5.1**  
Close-up side view of ERP

### 5.2 Handset Reference Points

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Fig. 5.3). The “test device reference point” was then located at the same level as the center of the ear reference point. The test device was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



**Figure 5.2** Front, back and side view SAM Twin Phantom



**Figure 5.3** Handset Vertical Center & Horizontal Line Reference Points

## 6. TEST CONFIGURATION POSITIONS FOR HANDSETS

### 6.1 Device Holder

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

### 6.2 Positioning for Cheek/Touch

1. The test device was positioned with 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 6.1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.



Figure 6.1 Front, Side and Top View of Cheek/Touch Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the ear.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the plane normal to MB-NF including the line MB (reference plane).
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical with respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the phone contact with the ear, the handset was rotated about the line NF until any point on the handset made contact with a phantom point below the ear (cheek). (See Figure 6.2)

### 6.3 Positioning for Ear / 15 ° Tilt

With the test device aligned in the “Cheek/Touch Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15 degree.
2. The phone was then rotated around the horizontal line by 15 degree.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the phone touches the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. The tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 6.3).

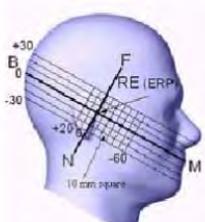


Figure 6.2 Side view w/relevant markings



Figure 6.3 Front, Side and Top View of Ear/15° Position

## 6.4 Body-Worn Accessory Configurations

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 6.4). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. 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 a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2 \text{ W/kg}$ , the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

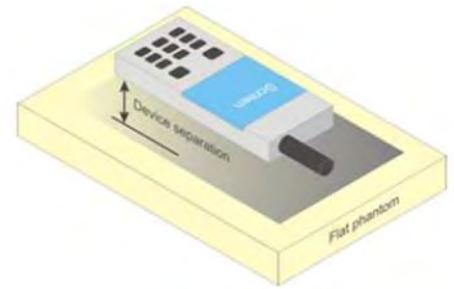


Figure 6.4 Sample Body-Worn Diagram

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

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

## 6.5 Extremity Exposure Configurations

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

Per KDB Publication 447498 D01v06, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

## 6.6 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets ( $L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$ ) are based on a composite test separation distance of 10 mm from the front, rear and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative test separation distance configuration may be used to support both SAR conditions.

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 transmitter 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 KDB Publication 447498 D01v06 procedures. The "Portable Hotspot" feature on the handset was not activated during SAR assessment, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

## 6.7 Phablet Configurations

For smart phones with a display diagonal  $> 150 \text{ mm}$  or an overall diagonal dimension  $> 160 \text{ mm}$  that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D04v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna  $\leq 25 \text{ mm}$  from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR  $> 1.2 \text{ W/kg}$ .

## 6.8 Proximity Sensor Configurations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close the user's body.

When the device's antenna is within a certain distance of the user. The sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a selecting SAR test distances for this device at these additional test positions. Sensor triggering distance summary data is included in Appendix G.

## 7. RF EXPOSURE LIMITS

### 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.

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

**Table 8.1.SAR Human Exposure Specified in ANSI/IEEE C95.1-1992**

	HUMAN EXPOSURE LIMITS	
	General Public Exposure (W/kg) or (mW/g)	Occupational Exposure (W/kg) or (mW/g)
SPATIAL PEAK SAR * (Brain)	1.60	8.00
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.40
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.00	20.0

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

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).

## 8. FCC MEASUREMENT PROCEDURES

---

Power measurements were performed using a base station simulator under digital average power.

### 8.1 Measured and Reported SAR

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

### 8.2 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01.

The device was placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test were evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device was tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviated by more than 5%, the SAR test and drift measurements were repeated.

### 8.3 SAR Measurement Conditions for WCDMA (UMTS)

#### 8.3.1 Output Power Verification

Maximum output power is measured on the High, Middle and Low channels for each applicable transmission band according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1s”.

Maximum output power is verified on the High, Middle and Low channels according to the general, descriptions in section 5.2 of 3GPP TS 34.121 (release 5), using the appropriate RMC with TPC,(transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

#### 8.3.2 Head SAR Measurements for Handsets

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all “1s”. SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than 0.25 dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a 3.4 kbps SRB (signaling radio bearer) using the exposure configuration that resulted in the highest SAR for that RF channel in the 12.2 kbps RMC mode.

### 8.3.3 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s".

### 8.3.4 Release 5 HSDPA Data Devices

The following procedures are applicable to HSDPA data devices operating under 3GPP Release 5. SAR is required for devices in body-worn accessory and other body exposure conditions, including handsets and data modems operating in various electronic devices. HSDPA operates in conjunction with WCDMA and requires an active DPCCH. The default test configuration is to measure SAR in WCDMA with HSDPA remain inactive, to establish a radio link between the test device and a communication test set using a 12.2 kbps RMC configured in Test Loop Mode 1. SAR for HSDPA is selectively measured using the highest reported SAR configuration in WCDMA, with an FRC in H-set 1 and a 12.2 kbps RMC. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCHn) according to exposure conditions, device operating capabilities and maximum output power specified for production units, including tune-up tolerance by applying the 3G SAR test reduction procedures. Maximum output power is verified according to the applicable versions of 3GPP TS 34.121. SAR must be measured based on these maximum output conditions and requirements in KDB Publication 447498, with respect to the UE Categories, and explained in the SAR report. When Maximum Power Reduction (MPR) applies, the implementations must be clearly identified in the SAR report to support test results according to Cubic Metric (CM) and, as appropriate, Enhanced MPR (E-MPR) requirements.

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}^{(1)}$	CM (dB) <sup>(2)</sup>
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	12/15 <sup>(3)</sup>	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$   
 Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .  
 Note 3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

Figure 9.1 Table 1

### 8.3.5 Release 6 HSUPA Data Devices

The following procedures are applicable to HSPA (HSUPA/HSDPA) data devices operating under 3GPP Release 6. SAR is required for devices in body-worn accessory and other body exposure conditions, including handsets and data modems operating in various electronic devices. HSUPA operates in conjunction with WCDMA and HSDPA. SAR is initially measured in WCDMA test configurations with HSPA remain inactive. The default test configuration is to establish a radio link between the test device and a communication test set to configure a 12.2 kbps RMC in Test Loop Mode 1. SAR for HSPA is selectively measured with HS-DPCCH, E-DPCCH and E-DPDCH, all enabled, along with a 12.2 kbps RMC using the highest reported SAR configuration in WCDMA with 12.2 kbps RMC only.

An FRC is configured according to HS-DPCCH Sub-test 1 using H-set 1 and QPSK. HSPA is configured according to E-DCH Sub-test 5 requirements. SAR for other HSPA sub-test configurations is confirmed selectively according to exposure conditions, E-DCH UE Category and maximum output power of production units, including tune-up tolerance by applying the 3G SAR test reduction procedure. Maximum output power is verified according to procedures in applicable versions of 3GPP TS 34.121. SAR must be measured based on these maximum output conditions and requirements in KDB Publication 447498, with respect to the UE Categories for HS-DPCCH and HSPA, and explained in the SAR report. When Maximum Power Reduction (MPR) applies, the implementations must be clearly identified in the SAR report to support test results according to Cubic Metric (CM) and, as appropriate, Enhanced MPR (E-MPR) requirements.

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}^{(1)}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (codes)	CM <sup>(2)</sup> (dB)	MPR (dB)	AG <sup>(4)</sup> Index	E-TFCI
1	11/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	11/15 <sup>(3)</sup>	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}: 47/15$ $\beta_{ed}: 47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 <sup>(4)</sup>	15/15 <sup>(4)</sup>	64	15/15 <sup>(4)</sup>	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

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

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

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

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.

Note 6:  $\beta_{ed}$  cannot be set directly; it is set by Absolute Grant Value.

Figure 9.2 Table 2

### 8.3.6 SAR Measurement Conditions for DC-HSDPA

In the following DB 941225 D01v03r01 procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. 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 or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as "otherwise" in the applicable procedures; SAR measurement is required for the secondary mode.

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

## 8.4 SAR Measurement Conditions for LTE

LTE modes were tested according to FCC KDB 941225 D05v02r05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The call simulator was used for LTE output power measurement and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

### 8.4.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

### 8.4.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

### 8.4.3 A-MPR

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

### 8.4.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r05:

- a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
  - i. The required channel and offset combination with the highest maximum output power is required for SAR.
  - ii. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channel is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
  - iii. When the reported SAR for a required test channel is  $> 1.45$  W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is  $< 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to 0.5 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is  $< 1.45$  W/kg.

### 8.4.5 64QAM uplink

(1) Per KDB 941225 D05 V02r05, we'll measure conducted powers per Section 5.1 for all uplink modulations (QPSK, 16QAM, 64QAM) and include in the test report.

(2) From these power measurements, we will apply the procedures in Section 5.2.4 ("Higher Order Modulations") to determine SAR test reduction for 16QAM and 64QAM test cases.

### 8.4.6 LTE TDD Consideration setup for SAR measurement

According to KDB 941225 D05 SAR for LTE Devices v02r05 for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special subframe configuration 6.

LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configuration and Table 4.2-1 for Special subframe configurations.

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

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal 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	$21952 \cdot T_s$			-		
8	$24144 \cdot T_s$			-		

**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

Calculated Duty Cycle = Extended cyclic prefix in uplink \* (Ts) \* # of S + # of U

$T_s = 1/(15000 * 2048)$  seconds

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

Calculated Duty Cycle =  $5120 * [1/(15000 * 2048)] * 2 + 6 \text{ ms} = 63.33 \%$

### 8.4.7 Downlink Only Carrier Aggregation and Downlink Only MIMO

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02, April 2018 TCB Workshop notes (LTE Carrier Aggregation) and May 2017 TCB Workshop (LTE 4x4 Downlink MIMO). The RCC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, additional conducted output powers are measured with the downlink carrier aggregation active for configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

### 8.4.8 May 2017 TCB Workshop notes (LTE Downlink 4x4 MIMO)

This device supports LTE DL 4X4 MIMO. So the SAR test exclusion for LTE DL 4X4 MIMO was determined by using May 2017 TCB Workshop notes (LTE Downlink MIMO).

- 1) SAR test exclusion for LTE DL 4x4 MIMO should be determined by
  - i) UL power measurements with and without DL MIMO
  - ii) Using the highest UL output power configuration without DL MIMO to confirm that UL output with DL MIMO is <math>\frac{1}{4}</math> dB higher
  - iii) for DL MIMO with carrier aggregation, the same SAR test exclusion procedure should be considered

## 8.5 SAR Testing with 802.11 Transmitters

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

### 8.5.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

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

### 8.5.2 U-NII and U-NII-2A

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following, with respect to the highest reported SAR and maximum output power specified for production units. The procedures are applied independently to each exposure configuration; for example, head, body, hotspot mode etc.

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

### 8.5.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements.

When Terminal Doppler Weather Rader (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification.

Unless band gap channels are permanently disabled, SAR must be considered for these channels. When band gap channels are disabled, each band is tested independently according to the normally required OFDM SAR measurements and probe calibration frequency points requirements.

### 8.5.4 Initial Test Position Procedure

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

#### 8.5.5 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is  $> 0.8$  W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is  $> 1.2$  W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power is  $> 1.2$  W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

### 8.5.6 OFDM Transmission Mode and SAR Test Channel Selection

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

### 8.5.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is  $\leq 0.8$  W/kg, no additional measurements on other test channels are required.

Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is  $\leq 1.2$  W/kg or all channels are measured.

### 8.5.8 Subsequent Test Configuration Procedures

For OFDM configurations, in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure, when applicable. When the highest reported SAR for the initial test configuration, adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power is  $\leq 1.2$  W/kg, no additional SAR testing for the subsequent test configurations is required.

### 8.5.9 MIMO SAR Considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is  $< 1.6$  W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

## 9. RF CONDUCTED POWERS

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

### 9.1 GSM Nominal and Maximum Output Power Spec and Conducted Powers

Band & Mode		Voice[dBm]	Burst Average GMSK [dBm]				Burst Average GMSK [dBm]			
		1 TX Slot	1 TX Slot	2 TX Slot	3 TX Slot	4 TX Slot	1 TX Slot	2 TX Slot	3 TX Slot	4 TX Slot
GSM/GPRS/EDGE 850	Maximum	33.70	33.70	31.70	27.20	25.70	27.20	26.70	25.70	24.70
	Nominal	33.20	33.20	31.20	26.70	25.20	26.70	26.20	25.20	24.20
GSM/GPRS/EDGE 1900	Maximum	30.70	30.70	28.70	27.20	25.70	26.20	25.70	24.70	23.70
	Nominal	30.20	30.20	28.20	26.70	25.20	25.70	25.20	24.20	23.20

Table 9.1.1 GSM Nominal and Maximum Output Power Spec

Band	Channel	Maximum Burst-Averaged Output Power(dBm)									
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)				
		GSM CS 1 Slot	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
GSM850	128	33.50	33.50	31.40	27.00	24.80	27.10	25.80	25.30	24.10	
	190	33.60	33.60	31.50	27.00	24.90	27.00	26.10	25.40	24.50	
	251	33.50	33.50	31.30	26.90	25.00	26.90	26.30	25.50	24.40	
PCS 1900	512	30.50	30.50	28.50	27.00	25.50	26.10	25.50	24.40	23.10	
	661	30.60	30.60	28.60	27.10	25.60	26.20	25.60	24.50	23.30	
	810	30.40	30.40	28.40	26.90	25.40	26.00	25.50	24.30	23.20	
Band	Channel	Calculated Maximum Frame-Averaged Output Power(dBm)									
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)				
		GSM CS 1 Slot	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
GSM850	128	24.47	24.47	25.38	22.74	21.79	18.07	19.78	21.04	21.09	
	190	24.57	24.57	25.48	22.74	21.89	17.97	20.08	21.14	21.49	
	251	24.47	24.47	25.28	22.64	21.99	17.87	20.28	21.24	21.39	
PCS 1900	512	21.47	21.47	22.48	22.74	22.49	17.07	19.48	20.14	20.09	
	661	21.57	21.57	22.58	22.84	22.59	17.17	19.58	20.24	20.29	
	810	21.37	21.37	22.38	22.64	22.39	16.97	19.48	20.04	20.19	
<b>GSM850</b>	Frame Avg. Targets:	24.17	24.17	25.18	22.44	22.19	17.67	20.18	20.94	21.19	
<b>PCS 1900</b>		21.17	21.17	22.18	22.44	22.19	16.67	19.18	19.94	20.19	

Table 9.1.2 GSM Conducted Power

Note:

- Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- GPRS (GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.
- EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation. It has been shown that MCS levels that produce 8PSK modulation do not have an impact on output power.

GPRS Multislot class: 33 (max 4 TX Uplink slots)  
 EDGE Multislot class: 33 (max 4 TX Uplink slots)  
 DTM Multislot Class: N/A

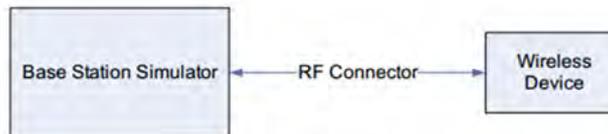


Figure 9.1 Power Measurement Setup

## 9.2 WCDMA Nominal and Maximum Output Power Spec and Conducted Powers

3GPP Release Version	Mode		Cellular Band (dBm)		AWS Band (dBm)			PCS Band (dBm)			3GPP MPR (dB)
			Maximum	Nominal	1312	1412	1513	9262	9400	9538	
99	WCDMA	Voice	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	-
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	-
5	HSDPA	Subtest 1	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
5		Subtest 2	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
5		Subtest 3	Maximum	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0.5
			Nominal	24.2	24.2	24.2	24.2	24.2	24.2	24.2	0.5
5		Subtest 4	Maximum	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0.5
			Nominal	24.2	24.2	24.2	24.2	24.2	24.2	24.2	0.5
6	HSUPA	Subtest 1	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
6		Subtest 2	Maximum	23.2	23.2	23.2	23.2	23.2	23.2	23.2	2
			Nominal	22.7	22.7	22.7	22.7	22.7	22.7	22.7	2
6		Subtest 3	Maximum	24.2	24.2	24.2	24.2	24.2	24.2	24.2	1
			Nominal	23.7	23.7	23.7	23.7	23.7	23.7	23.7	1
6		Subtest 4	Maximum	23.2	23.2	23.2	23.2	23.2	23.2	23.2	2
			Nominal	22.7	22.7	22.7	22.7	22.7	22.7	22.7	2
6		Subtest 5	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
8	DC-HSDPA	Subtest 1	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
8		Subtest 2	Maximum	25.2	25.2	25.2	25.2	25.2	25.2	25.2	0
			Nominal	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0
8		Subtest 3	Maximum	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0.5
			Nominal	24.2	24.2	24.2	24.2	24.2	24.2	24.2	0.5
8		Subtest 4	Maximum	24.7	24.7	24.7	24.7	24.7	24.7	24.7	0.5
			Nominal	24.2	24.2	24.2	24.2	24.2	24.2	24.2	0.5

Table 9.2.1 WCDMA Nominal and Maximum Output Power Spec

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band (dBm)			AWS Band (dBm)			PCS Band (dBm)			3GPP MPR (dB)
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.42	24.55	24.53	24.50	24.49	24.58	24.63	24.64	24.59	-
99		12.2 kbps AMR	24.41	24.52	24.52	24.48	24.49	24.55	24.63	24.63	24.58	-
5	HSDPA	Subtest 1	24.42	24.51	24.50	24.45	24.45	24.56	24.61	24.62	24.59	0
5		Subtest 2	24.44	24.51	24.53	24.50	24.48	24.57	24.59	24.59	24.58	0
5		Subtest 3	23.96	24.04	24.04	23.98	23.95	24.08	24.11	24.14	24.12	0.5
5		Subtest 4	23.95	24.05	24.04	23.96	23.94	24.06	24.14	24.14	24.11	0.5
6	HSUPA	Subtest 1	23.42	23.51	23.52	23.51	23.49	23.57	23.60	23.59	23.54	0
6		Subtest 2	22.43	22.51	21.71	22.47	22.47	22.57	22.61	22.61	22.57	2
6		Subtest 3	23.46	23.52	22.96	23.52	23.44	23.58	23.61	23.62	23.58	1
6		Subtest 4	22.42	22.51	22.50	22.49	22.46	22.57	22.60	22.64	22.57	2
6		Subtest 5	24.42	24.53	24.51	24.48	24.45	24.55	24.60	24.62	24.56	0
8	DC-HSDPA	Subtest 1	24.41	24.50	24.48	24.44	24.43	24.47	24.56	24.54	24.57	0
8		Subtest 2	24.41	24.50	24.52	24.46	24.43	24.46	24.54	24.52	24.56	0
8		Subtest 3	23.95	24.02	24.00	23.92	23.93	24.01	24.01	24.14	24.10	0.5
8		Subtest 4	23.95	24.01	24.00	23.92	23.89	24.00	24.03	24.12	24.09	0.5

Table 9.2.2 WCDMA Conducted Power

3GPP Release Version	Mode		AWS Band (dBm)		PCS Band (dBm)		3GPP MPR (dB)
			Maximum	Nominal	Maximum	Nominal	
99	WCDMA	Voice	Maximum	23.7	Maximum	23.7	-
			Nominal	23.2	Nominal	23.2	
5	HSDPA	Subtest 1	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
5		Subtest 2	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
5		Subtest 3	Maximum	23.2	Maximum	23.2	0.5
			Nominal	22.7	Nominal	22.7	
5		Subtest 4	Maximum	23.2	Maximum	23.2	0.5
			Nominal	22.7	Nominal	22.7	
6	HSUPA	Subtest 1	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
6		Subtest 2	Maximum	21.7	Maximum	21.7	2
			Nominal	21.2	Nominal	21.2	
6		Subtest 3	Maximum	22.7	Maximum	22.7	1
			Nominal	22.2	Nominal	22.2	
6		Subtest 4	Maximum	21.7	Maximum	21.7	2
			Nominal	21.2	Nominal	21.2	
6		Subtest 5	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
8	DC-HSDPA	Subtest 1	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
8		Subtest 2	Maximum	23.7	Maximum	23.7	0
			Nominal	23.2	Nominal	23.2	
8		Subtest 3	Maximum	23.2	Maximum	23.2	0.5
			Nominal	22.7	Nominal	22.7	
8		Subtest 4	Maximum	23.2	Maximum	23.2	0.5
			Nominal	22.7	Nominal	22.7	

Table 9.2.3 Reduced WCDMA Nominal and Maximum Output Power Spec

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band (dBm)			PCS Band (dBm)			3GPP MPR (dB)
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	23.06	23.04	23.30	23.16	23.26	23.17	-
99		12.2 kbps AMR	23.05	23.02	23.28	23.13	23.24	23.17	-
5	HSDPA	Subtest 1	23.07	22.99	23.21	23.13	23.20	23.14	0
5		Subtest 2	22.97	23.08	23.26	23.11	23.18	23.12	0
5		Subtest 3	22.66	22.59	22.79	22.74	22.65	22.59	0.5
5		Subtest 4	22.49	22.63	22.65	22.61	22.78	22.64	0.5
6	HSUPA	Subtest 1	22.47	22.52	22.58	22.60	22.62	22.63	0
6		Subtest 2	21.12	21.05	21.28	21.17	21.18	21.10	2
6		Subtest 3	22.00	22.10	22.16	22.20	22.27	22.06	1
6		Subtest 4	21.11	20.94	21.12	21.10	21.22	21.19	2
6		Subtest 5	23.02	23.11	23.17	23.08	23.23	23.20	0
8	DC-HSDPA	Subtest 1	23.03	23.02	23.03	23.22	23.10	23.13	0
8		Subtest 2	23.01	23.04	23.04	23.19	23.12	23.11	0
8		Subtest 3	22.48	22.59	22.70	22.69	22.76	22.63	0.5
8		Subtest 4	22.50	22.52	22.78	22.74	22.65	22.67	0.5

Table 9.2.4 Reduced WCDMA Conducted Power

WCDMA SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

The manufacturer declares that the HSDPA, HSUPA and DC-HSDPA transmitter's power will not exceed the R99 maximum transmit power in devices based on Qualcomm's HSPA chipset solutions.

#### DC-HSDPA considerations

- 3GPP Specification 34.121-1 Release 8 Ver 8.10.0 was used for DC-HSDPA guidance.
- H-Set 12 (QPSK) was confirmed to be used during DC-HSDPA measurements.
- The DUT supports UE category 24 for HSDPA.

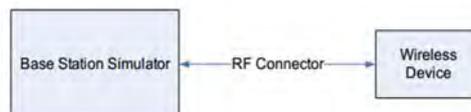


Figure 9.2 Power Measurement Setup

### 9.3 LTE Nominal and Maximum Output Power Spec and Conducted Powers

Band & Mode	Modulated Average[dBm]	
	LTE Band 12	Maximum
	Nominal	25.0

**Table 9.3.1.1 Nominal and Maximum Output Power Spec**

#### 1) LTE Band 12

LTE Band 12 Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Mid Channel		MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23095 (707.5 MHz)	Conducted Power (dBm)			
QPSK	1	0		24.96	≤ 1	0	
	1	25		25.07			
	1	49		25.01			
	25	0		23.98		1	
	25	12		24.06			
	25	25		24.01			
16QAM	50	0		23.97	≤ 1	1	
	1	0		24.07			
	1	25		24.10			
	1	49		24.09		≤ 2	
	25	0		23.04			
	25	12		23.12			
64QAM	25	25		23.05	≤ 2	2	
	50	0		23.07			
	1	0		22.92			≤ 2
	1	25		23.03			
	1	49		22.98		≤ 3	
	25	0		22.02			
25	12		22.13				
	25	25		22.03	≤ 3	3	
	50	0		22.04			

**Table 9.3.1.2 LTE Conducted Power**

Note : LTE B12 can not contain three non-overlapping channels of 10 MHz bandwidth.

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.

LTE Band 12 Conducted Power– 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.89	24.96	24.91	≤ 1	0	
	1	12	24.95	25.01	25.04			
	1	24	24.93	24.93	24.93			
	12	0	23.91	23.99	23.97		1	
	12	6	23.98	24.00	24.05			
	12	13	23.93	23.96	23.96			
16QAM	25	0	23.95	23.99	24.03	≤ 1	1	
	1	0	24.03	24.01	24.05			
	1	12	24.10	24.13	24.21			
	1	24	24.05	24.03	24.00		≤ 2	
	12	0	23.00	23.06	23.03			
	12	6	23.09	23.12	23.06			
64QAM	12	13	22.99	23.06	23.05	≤ 2	2	
	25	0	23.00	23.04	23.07			
	1	0	22.91	22.99	22.93			≤ 2
	1	12	22.99	23.03	23.14			
	1	24	22.95	22.91	23.02		≤ 3	
	12	0	22.06	22.02	22.02			
12	6	22.10	22.10	22.04				
64QAM	12	13	22.03	22.05	22.02	≤ 3	3	
	15	0	22.02	22.03	22.04			
								≤ 3

**Table 9.3.1.3 LTE Conducted Power**

LTE Band 12 Conducted Power– 3 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.82	24.88	24.86	≤ 1	0	
	1	7	24.86	24.93	24.96			
	1	14	24.84	24.91	24.86			
	8	0	23.89	23.90	23.85		1	
	8	4	23.91	23.94	24.00			
	8	7	23.89	23.93	23.98			
16QAM	15	0	23.86	23.89	23.91	≤ 1	1	
	1	0	23.95	24.03	24.00			
	1	7	24.04	24.11	24.11			
	1	14	23.96	24.04	24.02			
	8	0	22.98	23.05	23.03		≤ 2	2
	8	4	23.05	23.13	23.13			
64QAM	8	7	23.00	23.11	23.09	≤ 2	2	
	15	0	22.99	23.02	23.04			
	1	0	22.83	22.90	22.89		≤ 2	2
	1	7	22.88	22.99	22.99			
	1	14	22.86	22.98	22.96			
	8	0	21.97	22.04	21.96			≤ 3
8	4	22.07	22.08	22.08				
8	7	21.99	22.06	22.05				
	15	0	21.97	21.98	22.01		3	

Table 9.3.1.4 LTE Conducted Power

LTE Band 12 Conducted Power– 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.81	24.86	24.81	≤ 1	0	
	1	2	24.86	24.90	24.98			
	1	5	24.83	24.88	24.83			
	3	0	24.80	24.82	24.88		0	
	3	2	24.82	24.87	24.92			
	3	3	24.81	24.84	24.91			
16QAM	6	0	23.86	23.85	23.88	≤ 1	1	
	1	0	23.95	24.02	23.97			
	1	2	24.00	24.05	24.13			
	1	5	23.94	24.00	23.97		≤ 1	1
	3	0	23.90	23.98	23.95			
	3	2	23.97	24.02	24.02			
64QAM	3	3	23.91	24.00	23.98	≤ 2	1	
	6	0	23.02	23.04	23.05			
	1	0	22.86	22.91	22.92			≤ 2
	1	2	22.89	22.96	22.95			
	1	5	22.83	22.86	22.93			
	3	0	22.83	22.89	22.87		≤ 2	
3	2	22.87	22.92	22.93				
3	3	22.84	22.84	22.84				
	6	0	21.91	21.94	21.96	≤ 3	3	

Table 9.3.1.5 LTE Conducted Power

Band & Mode	Modulated Average[dBm]
LTE Band 13	Maximum
	Nominal
	25.5
	25.0

Table 9.3.2.1 Nominal and Maximum Output Power Spec

## 2) LTE Band 13

LTE Band 13 Conducted Power– 10 MHz Bandwidth						
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23230 (782.0 MHz)			
			Conducted Power (dBm)			
QPSK	1	0	24.88	≤ 1	0	
	1	25	24.96			
	1	49	24.87			
	25	0	23.89		1	
	25	12	24.00			
	25	25	23.93			
16QAM	50	0	23.99	≤ 1	1	
	1	0	23.89			
	1	25	24.12		≤ 2	2
	1	49	23.81			
	25	0	22.88			
	25	12	22.98		2	
25	25	22.93				
50	0	22.96				
64QAM	1	0	22.83	≤ 2	2	
	1	25	22.99			
	1	49	22.88			
	25	0	21.82		≤ 3	3
	25	12	21.87			
	25	25	21.82			
	50	0	21.85	3		

Table 9.3.2.2 LTE Conducted Power

LTE Band 13 Conducted Power– 5 MHz Bandwidth						
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			23230 (782.0 MHz)			
			Conducted Power (dBm)			
QPSK	1	0	24.85	≤ 1	0	
	1	12	24.91			
	1	24	24.87			
	12	0	23.91		1	
	12	6	23.96			
	12	13	23.92			
16QAM	25	0	23.88	≤ 1	1	
	1	0	23.83			
	1	12	24.05		≤ 2	2
	1	24	23.95			
	12	0	22.81			
	12	6	22.89		2	
12	13	22.83				
25	0	22.85				
64QAM	1	0	22.87	≤ 2	2	
	1	12	22.97			
	1	24	22.89			
	12	0	21.84		≤ 3	3
	12	6	21.89			
	12	13	21.85			
	15	0	21.87	3		

Table 9.3.2.3 LTE Conducted Power

Note : LTE B13 can not contain three non-overlapping channels of 5 MHz bandwidth.

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.

Band & Mode	Modulated Average[dBm]
LTE Band 5 (Cell)	Maximum
	Nominal

Table 9.3.3.1 Nominal and Maximum Output Power Spec

### 3) LTE Band 5 (Cell)

LTE Band 5 (Cell) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Mid Channel		MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20525 (836.5 MHz)				
			Conducted Power (dBm)				
QPSK	1	0	24.80		≤ 1	0	
	1	25	24.85				
	1	49	24.81				
	25	0	23.82			1	
	25	12	23.94				
	25	25	23.84				
16QAM	1	0	23.83		≤ 1	1	
	1	25	23.90				
	1	49	24.03				
	25	0	23.87			≤ 2	2
	25	12	22.94				
	25	25	23.01				
64QAM	1	0	22.91		≤ 2	2	
	1	25	22.90				
	1	49	22.92				
	25	0	22.97			≤ 3	3
	25	12	21.86				
	25	25	21.97				
	50	0	21.88		≤ 3	3	
	50	0	21.94				

Table 9.3.2.2 LTE Conducted Power

Note : LTE B5(Cell) can not contain three non-overlapping channels of 10 MHz bandwidth.

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.

LTE Band 5 (Cell) Conducted Power– 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.80	24.84	24.85	≤ 1	0	
	1	12	24.82	24.87	24.89			
	1	24	24.81	24.80	24.88			
	12	0	23.82	23.84	23.86		1	
	12	6	23.89	23.92	23.96			
	12	13	23.87	23.88	23.91			
16QAM	25	0	23.89	23.90	23.92	≤ 1	1	
	1	0	23.90	23.82	23.99			
	1	12	23.98	23.99	24.04			
	1	24	23.96	23.95	24.00		≤ 2	2
	12	0	22.88	22.93	22.96			
	12	6	22.95	22.99	23.03			
64QAM	12	13	22.93	22.94	23.01	≤ 2	2	
	25	0	22.90	22.93	23.00			
	1	0	22.86	22.97	22.96			
	1	12	22.93	23.02	23.08		≤ 3	3
	1	24	22.91	22.91	23.05			
	12	0	21.90	21.94	22.02			
64QAM	12	6	22.01	21.98	22.04	≤ 3	3	
	12	13	21.92	21.92	22.03			
	25	0	21.91	21.95	21.99			
	25	0	21.91	21.95	21.99			

Table 9.3.2.3 LTE Conducted Power

LTE Band 5 (Cell) Conducted Power– 3 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.83	24.81	24.80	≤ 1	0	
	1	7	24.86	24.88	24.89			
	1	14	24.85	24.82	24.82			
	8	0	23.81	23.82	23.87		1	
	8	4	23.83	23.91	23.97			
	8	7	23.82	23.85	23.89			
16QAM	15	0	23.83	23.87	23.89	≤ 1	1	
	1	0	23.86	23.93	23.93			
	1	7	23.92	24.03	24.02			
	1	14	23.88	23.95	23.99			
	8	0	22.90	22.95	23.01		≤ 2	2
	8	4	22.92	23.00	23.04			
64QAM	8	7	22.88	22.99	22.98	≤ 2	2	
	15	0	22.86	22.93	22.94			
	1	0	22.87	22.96	22.93			
	1	7	22.87	23.00	22.99			
	1	14	22.83	22.91	22.96		≤ 3	3
	8	0	21.87	21.92	21.97			
8	4	21.89	21.95	22.02				
64QAM	8	7	21.88	21.94	21.98	≤ 3	3	
	15	0	21.84	21.95	21.93			

Table 9.3.2.4 LTE Conducted Power

LTE Band 5 (Cell) Conducted Power– 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.81	24.82	24.80	≤ 1	0	
	1	2	24.86	24.87	24.88			
	1	5	24.82	24.85	24.86			
	3	0	24.81	24.80	24.80		0	
	3	2	24.84	24.86	24.87			
	3	3	24.83	24.81	24.81			
16QAM	6	0	23.81	23.82	23.85	≤ 1	1	
	1	0	23.84	23.91	23.90			
	1	2	23.88	23.96	24.04			
	1	5	23.86	23.93	23.91			
	3	0	23.82	23.88	23.90		≤ 2	2
	3	2	23.84	23.94	23.95			
3	3	23.83	23.86	23.88				
64QAM	6	0	22.85	22.96	22.93	≤ 2	2	
	1	0	22.80	22.91	22.93			
	1	2	22.92	22.98	23.02			
	1	5	22.83	22.94	22.92			
	3	0	22.86	22.85	22.89		≤ 3	3
	3	2	22.90	22.96	22.99			
3	3	22.86	22.89	22.97				
64QAM	6	0	21.83	21.88	21.88	≤ 3	3	

Table 9.3.2.5 LTE Conducted Power

Band & Mode	Modulated Average[dBm]	
	LTE Band 66 (AWS)	Maximum
	Nominal	24.7

**Table 9.3.4.1 Nominal and Maximum Output Power Spec**

**4) LTE Band 66 (AWS)**

LTE Band 66 (AWS) Conducted Power– 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			132072 (1 720.0 MHz)	132322 (1 745.0 MHz)	132572 (1 770.0 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.88	24.81	25.08	≤ 1	0	
	1	50	24.78	24.72	24.84			
	1	99	24.67	24.69	24.72			
	50	0	23.94	23.91	23.98		1	
	50	25	23.80	23.78	23.88			
	50	50	23.78	23.73	23.77			
	100	0	23.83	23.81	23.87			
16QAM	1	0	24.07	23.96	24.11	≤ 1	1	
	1	50	23.73	23.92	23.99			
	1	99	23.81	23.84	23.88			
	50	0	22.82	22.81	22.82		≤ 2	2
	50	25	22.75	22.67	22.80			
	50	50	22.69	22.66	22.69			
	100	0	22.74	22.72	22.81			
64QAM	1	0	23.06	22.98	23.08	≤ 2	2	
	1	50	22.86	22.85	22.86			
	1	99	22.77	22.78	22.77			
	50	0	21.85	21.78	21.79		≤ 3	3
	50	25	21.79	21.74	21.77			
	50	50	21.69	21.67	21.75			
	100	0	21.73	21.71	21.75			

**Table 9.3.4.2 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power– 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			132047 (1 717.5 MHz)	132322 (1 745.0 MHz)	132597 (1 772.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	25.02	24.87	25.06	≤ 1	0	
	1	36	24.76	24.64	24.81			
	1	74	24.74	24.71	24.74			
	36	0	23.90	23.82	23.91		1	
	36	18	23.84	23.79	23.89			
	36	37	23.75	23.77	23.77			
	75	0	23.82	23.81	23.84			
16QAM	1	0	24.02	24.05	24.08	≤ 1	1	
	1	36	23.91	23.79	23.96			
	1	74	23.88	23.89	23.88			
	36	0	22.78	22.71	22.82		≤ 2	2
	36	18	22.72	22.68	22.77			
	36	37	22.62	22.63	22.69			
	75	0	22.70	22.72	22.76			
64QAM	1	0	23.04	22.95	23.08	≤ 2	2	
	1	36	22.80	22.76	22.90			
	1	74	22.85	22.78	22.85			
	36	0	21.85	21.75	21.87		≤ 3	3
	36	18	21.71	21.70	21.81			
	36	37	21.65	21.65	21.70			
	75	0	21.75	21.67	21.76			

**Table 9.3.4.3 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power– 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			132022 (1 715.0 MHz)	132322 (1 745.0 MHz)	132622 (1 775.0 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.88	24.74	24.91	≤ 1	0	
	1	25	24.75	24.64	24.79			
	1	49	24.68	24.68	24.73			
	25	0	23.82	23.71	23.85		1	
	25	12	23.79	23.70	23.82			
	25	25	23.73	23.69	23.75			
	50	0	23.81	23.77	23.86			
16QAM	1	0	24.00	23.90	24.06	≤ 1	1	
	1	25	23.90	23.76	23.95			
	1	49	23.86	23.85	23.89			
	25	0	22.72	22.59	22.81		≤ 2	2
	25	12	22.65	22.56	22.73			
	25	25	22.68	22.52	22.70			
	50	0	22.67	22.62	22.75			
64QAM	1	0	22.97	22.82	22.99	≤ 2	2	
	1	25	22.85	22.73	22.88			
	1	49	22.78	22.76	22.87			
	25	0	21.75	21.59	21.81		≤ 3	3
	25	12	21.70	21.58	21.73			
	25	25	21.67	21.57	21.70			
	50	0	21.74	21.69	21.77			

**Table 9.3.4.4 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131997 (1 712.5 MHz)	132322 (1 745.0 MHz)	132647 (1 777.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.87	24.72	24.88	≤ 1	0
	1	12	24.81	24.68	24.82		
	1	24	24.75	24.59	24.78		
	12	0	23.82	23.72	23.85		1
	12	6	23.78	23.68	23.84		
	12	13	23.76	23.66	23.80		
	25	0	23.76	23.63	23.80		
16QAM	1	0	24.02	23.88	24.02	≤ 1	1
	1	12	23.95	23.84	24.00		
	1	24	23.95	23.78	23.95		
	12	0	22.70	22.56	22.71	≤ 2	2
	12	6	22.69	22.55	22.70		
	12	13	22.67	22.50	22.64		
	25	0	22.68	22.57	22.69		
64QAM	1	0	22.91	22.82	22.98	≤ 2	2
	1	12	22.87	22.81	22.94		
	1	24	22.83	22.67	22.86		
	12	0	21.71	21.64	21.79	≤ 3	3
	12	6	21.70	21.63	21.76		
	12	13	21.69	21.59	21.70		
	25	0	21.68	21.54	21.70		

Table 9.3.4.5 LTE Conducted Power

LTE Band 66 (AWS) Conducted Power- 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131987 (1 711.5 MHz)	132322 (1 745.0 MHz)	132657 (1 778.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.78	24.67	24.80	≤ 1	0
	1	7	24.75	24.62	24.77		
	1	14	24.71	24.61	24.72		
	8	0	23.76	23.69	23.79		1
	8	4	23.73	23.64	23.76		
	8	7	23.76	23.64	23.74		
	15	0	23.73	23.62	23.77		
16QAM	1	0	23.90	23.87	23.96	≤ 1	1
	1	7	23.88	23.78	23.95		
	1	14	23.84	23.75	23.90		
	8	0	22.74	22.63	22.75	≤ 2	2
	8	4	22.69	22.60	22.70		
	8	7	22.69	22.57	22.71		
	15	0	22.67	22.58	22.67		
64QAM	1	0	22.81	22.75	22.85	≤ 2	2
	1	7	22.79	22.66	22.84		
	1	14	22.77	22.64	22.80		
	8	0	21.74	21.63	21.75	≤ 3	3
	8	4	21.68	21.62	21.70		
	8	7	21.72	21.60	21.67		
	15	0	21.66	21.59	21.69		

Table 9.3.4.6 LTE Conducted Power

LTE Band 66 (AWS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131979 (1 710.7 MHz)	132322 (1 745.0 MHz)	132665 (1 779.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.77	24.65	24.79	≤ 1	0
	1	2	24.72	24.60	24.71		
	1	5	24.65	24.56	24.69		
	3	0	24.73	24.63	24.74		0
	3	2	24.69	24.58	24.70		
	3	3	24.66	24.58	24.67		
	6	0	23.69	23.55	23.70		
16QAM	1	0	23.92	23.82	23.92	≤ 1	1
	1	2	23.83	23.78	23.87		
	1	5	23.84	23.75	23.84		
	3	0	23.62	23.55	23.71		1
	3	2	23.61	23.53	23.64		
	3	3	23.61	23.55	23.61		
	6	0	22.64	22.55	22.66		
64QAM	1	0	22.78	22.72	22.83	≤ 2	2
	1	2	22.78	22.64	22.75		
	1	5	22.76	22.59	22.78		
	3	0	22.77	22.68	22.81	≤ 2	2
	3	2	22.72	22.62	22.75		
	3	3	22.75	22.65	22.75		
	6	0	21.62	21.56	21.59		

Table 9.3.4.7 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 66 (AWS)	Maximum	23.7
	Nominal	23.2

**Table 9.3.5.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)**

**5) LTE Band 66 (AWS)**

LTE Band 66 (AWS) Conducted Power– 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			132072 (1 720.0 MHz)	132322 (1 745.0 MHz)	132572 (1 770.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.37	23.27	23.63	≤ 1	0
	1	50	23.19	23.09	23.25		
	1	99	23.18	23.12	23.37		
	50	0	23.35	23.24	23.55		
	50	25	23.23	23.20	23.35		
	50	50	23.25	23.21	23.51		
16QAM	1	0	23.22	23.20	23.54	≤ 1	0
	1	50	23.51	23.41	23.68		
	1	99	23.34	23.25	23.37		
	50	0	23.30	23.28	23.53		
	50	25	22.37	22.34	22.66		
	50	50	22.25	22.12	22.26		
64QAM	1	0	22.31	22.27	22.47	≤ 2	1
	1	50	22.30	22.13	22.53		
	1	99	22.56	22.46	22.69		
	50	0	22.38	22.20	22.44		
	50	25	22.35	22.29	22.55		
	50	50	21.40	21.38	21.58		
64QAM	1	0	21.34	21.32	21.45	≤ 3	2
	1	50	21.35	21.33	21.53		
	1	99	21.32	21.25	21.47		
	50	0	21.32	21.25	21.47		
	50	25	21.35	21.33	21.53		
	50	50	21.32	21.25	21.47		

**Table 9.3.5.2 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			132047 (1 717.5 MHz)	132322 (1 745.0 MHz)	132597 (1 772.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.32	23.30	23.44	≤ 1	0
	1	36	23.21	23.19	23.28		
	1	74	23.28	23.25	23.33		
	36	0	23.30	23.24	23.31		
	36	18	23.19	23.15	23.27		
	36	37	23.22	23.20	23.30		
16QAM	1	0	23.27	23.11	23.30	≤ 1	0
	1	36	23.50	23.44	23.61		
	1	74	23.36	23.18	23.45		
	36	0	23.39	23.26	23.52		
	36	18	22.38	22.27	22.47		
	36	37	22.23	22.13	22.45		
64QAM	1	0	22.31	22.25	22.39	≤ 2	1
	1	36	22.29	22.28	22.52		
	1	74	22.28	22.15	22.35		
	36	0	22.29	22.24	22.37		
	36	18	21.42	21.23	21.50		
	36	37	21.19	21.15	21.41		
64QAM	1	0	21.31	21.22	21.46	≤ 3	2
	1	36	21.27	21.12	21.38		
	1	74	21.27	21.12	21.38		
	36	0	21.27	21.12	21.38		
	36	18	21.27	21.12	21.38		
	36	37	21.27	21.12	21.38		

**Table 9.3.5.3 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			132022 (1 715.0 MHz)	132322 (1 745.0 MHz)	132622 (1 775.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.34	23.22	23.55	≤ 1	0
	1	25	23.15	23.03	23.17		
	1	49	23.16	23.10	23.24		
	25	0	23.25	23.17	23.42		
	25	12	23.08	23.04	23.30		
	25	25	23.12	23.11	23.33		
16QAM	1	0	23.17	23.01	23.38	≤ 1	0
	1	25	23.39	23.25	23.57		
	1	49	23.13	23.12	23.24		
	25	0	23.24	23.15	23.43		
	25	12	22.25	22.22	22.45		
	25	25	22.05	22.03	22.33		
64QAM	1	0	22.08	22.07	22.35	≤ 2	1
	1	25	22.13	22.04	22.23		
	1	49	22.27	22.20	22.46		
	25	0	22.21	22.02	22.25		
	25	12	22.23	22.07	22.37		
	25	25	21.28	21.24	21.41		
64QAM	1	0	21.13	21.10	21.14	≤ 3	2
	1	25	21.13	21.10	21.14		
	1	49	21.25	21.18	21.34		
	25	0	21.11	21.08	21.19		
	25	12	21.11	21.08	21.19		
	25	25	21.11	21.08	21.19		

**Table 9.3.5.4 LTE Conducted Power**

LTE Band 66 (AWS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131997 (1 712.5 MHz)	132322 (1 745.0 MHz)	132647 (1 777.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.25	23.24	23.58	≤ 1	0
	1	12	23.18	23.13	23.43		
	1	24	23.23	23.19	23.45		
	12	0	23.24	23.22	23.43		
	12	6	23.11	23.09	23.26		
	12	13	23.20	23.15	23.27		
16QAM	1	0	23.17	23.13	23.41	≤ 1	0
	1	0	23.44	23.34	23.65		
	1	12	23.30	23.29	23.44		
	1	24	23.33	23.32	23.46		
	12	0	22.24	22.21	22.45		
	12	6	22.15	22.06	22.33		
64QAM	12	13	22.20	22.18	22.38	≤ 2	1
	25	0	22.12	22.06	22.41		
	1	0	22.38	22.27	22.60		
	1	12	22.28	22.11	22.34		
	1	24	22.33	22.19	22.50		
	12	0	21.28	21.15	21.39		
64QAM	12	6	21.23	21.04	21.24	≤ 3	2
	12	13	21.25	21.06	21.34		
	25	0	21.21	21.12	21.25		

Table 9.3.5.5 LTE Conducted Power

LTE Band 66 (AWS) Conducted Power- 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131987 (1 711.5 MHz)	132322 (1 745.0 MHz)	132657 (1 778.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.30	23.27	23.53	≤ 1	0
	1	7	23.11	23.09	23.18		
	1	14	23.23	23.22	23.34		
	8	0	23.27	23.24	23.51		
	8	4	23.10	23.04	23.30		
	8	7	23.21	23.17	23.42		
16QAM	15	0	23.19	23.15	23.35	≤ 1	0
	1	0	23.38	23.37	23.51		
	1	7	23.26	23.24	23.35		
	1	14	23.31	23.29	23.42		
	8	0	22.30	22.27	22.50		
	8	4	22.18	22.14	22.28		
64QAM	8	7	22.21	22.20	22.43	≤ 2	1
	15	0	22.21	22.14	22.36		
	1	0	22.42	22.20	22.58		
	1	7	22.26	22.14	22.36		
	1	14	22.32	22.17	22.50		
	8	0	21.35	21.21	21.45		
64QAM	8	4	21.16	21.11	21.36	≤ 3	2
	8	7	21.22	21.19	21.44		
	15	0	21.20	21.18	21.41		

Table 9.3.5.6 LTE Conducted Power

LTE Band 66 (AWS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			131979 (1 710.7 MHz)	132322 (1 745.0 MHz)	132665 (1 779.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.34	23.33	23.55	≤ 1	0
	1	2	23.24	23.18	23.25		
	1	5	23.30	23.25	23.33		
	3	0	23.27	23.18	23.53		
	3	2	23.18	23.11	23.32		
	3	3	23.19	23.16	23.44		
16QAM	6	0	23.20	23.16	23.50	≤ 1	0
	1	0	23.35	23.34	23.61		
	1	2	23.29	23.27	23.38		
	1	5	23.33	23.32	23.43		
	3	0	23.22	23.13	23.37		
	3	2	23.05	23.02	23.24		
64QAM	3	3	23.10	23.06	23.26	≤ 2	1
	6	0	22.29	22.24	22.45		
	1	0	22.49	22.39	22.65		
	1	2	22.28	22.17	22.30		
	1	5	22.29	22.23	22.39		
	3	0	22.35	22.30	22.54		
64QAM	3	2	22.25	22.21	22.42	≤ 3	2
	3	3	22.28	22.22	22.45		
	6	0	21.27	21.21	21.40		

Table 9.3.5.7 LTE Conducted Power

Band & Mode	Modulated Average(dBm)
LTE Band 2 (PCS)	Maximum
	Nominal

Table 9.3.6.1 Nominal and Maximum Output Power Spec

**6) LTE Band 2 (PCS)**

LTE Band 2 (PCS) Conducted Power- 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18700 (1 860.0 MHz)	18900 (1 880.0 MHz)	19100 (1 900.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.72	24.71	25.06	≤ 1	0
	1	50	24.68	24.65	24.85		
	1	99	24.66	24.63	24.73		
	50	0	23.71	23.72	24.07		1
	50	25	23.64	23.69	23.91		
	50	50	23.66	23.71	23.81		
	100	0	23.80	23.78	23.94		
16QAM	1	0	23.89	23.82	24.14	≤ 1	1
	1	50	23.80	23.75	23.94		
	1	99	23.66	23.66	23.90		
	50	0	22.73	22.71	22.89		≤ 2
	50	25	22.67	22.61	22.79		
	50	50	22.60	22.64	22.76		
	100	0	22.71	22.76	22.87		
64QAM	1	0	22.82	22.81	23.06	≤ 2	2
	1	50	22.72	22.76	23.01		
	1	99	22.73	22.64	22.89		
	50	0	21.72	21.72	21.93		≤ 3
	50	25	21.63	21.62	21.82		
	50	50	21.61	21.71	21.89		
	100	0	21.66	21.64	21.79		

Table 9.3.6.2 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18675 (1 857.5 MHz)	18900 (1 880.0 MHz)	19125 (1 902.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.75	24.73	24.91	≤ 1	0
	1	36	24.65	24.62	24.83		
	1	74	24.61	24.61	24.85		
	36	0	23.73	23.71	23.99		1
	36	18	23.68	23.64	23.84		
	36	37	23.65	23.58	23.93		
	75	0	23.70	23.69	23.83		
16QAM	1	0	23.94	23.88	24.07	≤ 1	1
	1	36	23.84	23.69	23.96		
	1	74	23.72	23.66	23.90		
	36	0	22.62	22.60	22.85		≤ 2
	36	18	22.62	22.59	22.80		
	36	37	22.54	22.55	22.78		
	75	0	22.62	22.64	22.65		
64QAM	1	0	22.87	22.89	23.06	≤ 2	2
	1	36	22.73	22.69	23.00		
	1	74	22.72	22.69	23.02		
	36	0	21.76	21.69	22.00		≤ 3
	36	18	21.67	21.59	21.80		
	36	37	21.66	21.56	21.92		
	75	0	21.60	21.62	21.75		

Table 9.3.6.3 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18650 (1 855.0 MHz)	18900 (1 880.0 MHz)	19150 (1 905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.64	24.61	24.98	≤ 1	0
	1	25	24.63	24.60	24.92		
	1	49	24.58	24.57	24.81		
	25	0	23.74	23.64	24.01		1
	25	12	23.71	23.56	23.90		
	25	25	23.66	23.62	23.87		
	50	0	23.66	23.62	23.92		
16QAM	1	0	23.84	23.77	24.07	≤ 1	1
	1	25	23.77	23.71	24.01		
	1	49	23.70	23.61	24.00		
	25	0	22.61	22.60	22.91		≤ 2
	25	12	22.54	22.58	22.89		
	25	25	22.59	22.56	22.76		
	50	0	22.59	22.53	22.81		
64QAM	1	0	22.81	22.78	23.08	≤ 2	2
	1	25	22.74	22.71	22.95		
	1	49	22.65	22.67	22.97		
	25	0	21.68	21.66	21.95		≤ 3
	25	12	21.64	21.62	21.91		
	25	25	21.53	21.56	21.87		
	50	0	21.56	21.58	21.92		

Table 9.3.6.4 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			18625 (1 852.5 MHz)	18900 (1 880.0 MHz)	19175 (1 907.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.63	24.61	24.87	≤ 1	0	
	1	12	24.62	24.60	24.85			
	1	24	24.61	24.60	24.80			
	12	0	23.89	23.65	23.86		1	
	12	6	23.60	23.64	23.84			
	12	13	23.64	23.63	23.82			
	25	0	23.59	23.58	23.87			
16QAM	1	0	23.81	23.76	24.01	≤ 1	1	
	1	12	23.74	23.69	23.99			
	1	24	23.74	23.66	23.96			
	12	0	22.56	22.61	22.81		≤ 2	2
	12	6	22.52	22.53	22.71			
	12	13	22.55	22.59	22.72			
	25	0	22.55	22.57	22.74			
64QAM	1	0	22.78	22.73	22.99	≤ 2	2	
	1	12	22.73	22.72	22.96			
	1	24	22.66	22.63	22.87			
	12	0	21.67	21.65	21.94		≤ 3	3
	12	6	21.61	21.57	21.93			
	12	13	21.65	21.60	21.88			
	25	0	21.56	21.59	21.81			

Table 9.3.6.5 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 3 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			18615 (1 851.5 MHz)	18900 (1 880.0 MHz)	19185 (1 908.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	24.68	24.65	24.86	≤ 1	0	
	1	7	24.61	24.63	24.82			
	1	14	24.60	24.61	24.77			
	8	0	23.63	23.59	23.90		1	
	8	4	23.55	23.57	23.85			
	8	7	23.59	23.55	23.87			
	15	0	23.66	23.56	23.85			
16QAM	1	0	23.77	23.73	24.00	≤ 1	1	
	1	7	23.75	23.72	23.93			
	1	14	23.63	23.63	23.96			
	8	0	22.68	22.59	22.81		≤ 2	2
	8	4	22.59	22.52	22.70			
	8	7	22.60	22.57	22.80			
	15	0	22.58	22.57	22.72			
64QAM	1	0	22.71	22.71	22.95	≤ 2	2	
	1	7	22.68	22.69	22.92			
	1	14	22.68	22.70	22.87			
	8	0	21.67	21.66	21.82		≤ 3	3
	8	4	21.59	21.62	21.81			
	8	7	21.66	21.60	21.80			
	15	0	21.58	21.55	21.79			

Table 9.3.6.6 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18607 (1 850.7 MHz)	18900 (1 880.0 MHz)	19193 (1 909.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.63	24.62	24.82	≤ 1	0
	1	2	24.61	24.59	24.78		
	1	5	24.60	24.56	24.71		
	3	0	24.62	24.61	24.81		0
	3	2	24.56	24.59	24.78		
	3	3	24.54	24.57	24.79		
	6	0	23.58	23.52	23.75		
16QAM	1	0	23.69	23.67	23.91	≤ 1	1
	1	2	23.66	23.63	23.85		
	1	5	23.58	23.62	23.83		
	3	0	23.64	23.61	23.74		1
	3	2	23.59	23.52	23.60		
	3	3	23.63	23.55	23.65		
	6	0	22.55	22.58	22.71		
64QAM	1	0	22.69	22.67	22.94	≤ 2	2
	1	2	22.61	22.63	22.87		
	1	5	22.65	22.53	22.83		
	3	0	22.63	22.66	22.89		2
	3	2	22.57	22.60	22.80		
	3	3	22.60	22.55	22.83		
	6	0	21.55	21.60	21.78		

Table 9.3.6.7 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 2 (PCS)	Maximum
	Nominal	23.2

**Table 9.3.7.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)**

**7) LTE Band 2 (PCS)**

LTE Band 2 (PCS) Conducted Power– 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18700 (1 860.0 MHz)	18900 (1 880.0 MHz)	19100 (1 900.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.28	23.21	23.48	≤ 1	0
	1	50	23.20	23.18	23.27		
	1	99	23.17	23.16	23.26		
	50	0	23.23	23.20	23.41		1
	50	25	23.20	23.18	23.35		
	50	50	23.19	23.16	23.31		
16QAM	100	0	23.16	23.14	23.35	≤ 1	1
	1	0	23.46	23.28	23.51		
	1	50	23.30	23.21	23.40		
	1	99	23.31	23.17	23.39		≤ 2
	50	0	22.38	22.28	22.41		
	50	25	22.33	22.22	22.38		
64QAM	50	50	22.26	22.19	22.28	≤ 2	2
	100	0	22.21	22.18	22.36		
	1	0	22.44	22.22	22.62		
	1	50	22.31	22.18	22.45		
	1	99	22.27	22.16	22.39		
	64QAM	50	0	21.30	21.28		21.46
50		25	21.25	21.23	21.38		
50		50	21.19	21.16	21.34		
100		0	21.27	21.22	21.37	≤ 3	
1		0	22.44	22.22	22.62		
1		50	22.31	22.18	22.45		

**Table 9.3.7.2 LTE Conducted Power**

LTE Band 2 (PCS) Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18675 (1 857.5 MHz)	18900 (1 880.0 MHz)	19125 (1 902.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.15	23.13	23.17	≤ 1	0
	1	36	23.11	23.10	23.14		
	1	74	23.10	23.09	23.11		
	36	0	23.14	23.12	23.16		1
	36	18	23.11	23.10	23.15		
	36	37	23.10	23.09	23.13		
16QAM	75	0	23.13	23.05	23.14	≤ 1	1
	1	0	23.33	23.31	23.35		
	1	36	23.23	23.19	23.25		
	1	74	23.12	23.11	23.14		≤ 2
	36	0	22.23	22.15	22.24		
	36	18	22.19	22.14	22.22		
64QAM	36	37	22.13	22.07	22.15	≤ 2	2
	75	0	22.14	22.13	22.15		
	1	0	22.30	22.28	22.37		
	1	36	22.21	22.14	22.25		≤ 2
	1	74	22.18	22.09	22.19		
	36	0	21.22	21.21	21.34		
64QAM	36	18	21.21	21.15	21.31	≤ 3	2
	36	37	21.09	21.06	21.28		
	75	0	21.17	21.12	21.23		
	1	0	22.44	22.22	22.62		≤ 3
	1	50	22.31	22.18	22.45		
	1	99	22.27	22.16	22.39		

**Table 9.3.7.3 LTE Conducted Power**

LTE Band 2 (PCS) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18650 (1 855.0 MHz)	18900 (1 880.0 MHz)	19150 (1 905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.15	23.08	23.29	≤ 1	0
	1	25	23.14	23.07	23.21		
	1	49	23.12	23.04	23.18		
	25	0	23.14	23.07	23.28		1
	25	12	23.13	23.06	23.27		
	25	25	23.07	23.04	23.19		
16QAM	50	0	23.07	23.04	23.26	≤ 1	1
	1	0	23.24	23.20	23.45		
	1	25	23.21	23.19	23.38		
	1	49	23.14	23.06	23.35		≤ 2
	25	0	22.18	22.07	22.25		
	25	12	22.16	22.05	22.21		
64QAM	25	25	22.13	22.04	22.15	≤ 2	2
	50	0	22.11	22.04	22.16		
	1	0	22.16	22.06	22.43		
	1	25	22.12	22.04	22.36		≤ 2
	1	49	22.14	22.03	22.30		
	25	0	21.10	21.06	21.27		
64QAM	25	12	21.09	21.05	21.26	≤ 3	2
	25	25	21.06	21.04	21.21		
	50	0	21.08	21.04	21.26		
	1	0	22.44	22.22	22.62		≤ 3
	1	50	22.31	22.18	22.45		
	1	99	22.27	22.16	22.39		

**Table 9.3.7.4 LTE Conducted Power**

LTE Band 2 (PCS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18625 (1 852.5 MHz)	18900 (1 880.0 MHz)	19175 (1 907.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.20	23.14	23.28	≤ 1	0
	1	12	23.18	23.13	23.25		
	1	24	23.14	23.10	23.18		
	12	0	23.15	23.09	23.27		1
	12	6	23.13	23.07	23.24		
	12	13	23.11	23.08	23.18		
	25	0	23.09	23.06	23.24		
16QAM	1	0	23.28	23.21	23.30	≤ 1	1
	1	12	23.24	23.18	23.26		
	1	24	23.21	23.14	23.24		
	12	0	22.11	22.06	22.26	≤ 2	2
	12	6	22.10	22.05	22.24		
	12	13	22.08	22.04	22.21		
	25	0	22.09	22.04	22.22		
64QAM	1	0	22.19	22.11	22.36	≤ 2	2
	1	12	22.12	22.07	22.32		
	1	24	22.11	22.06	22.26		
	12	0	21.11	21.08	21.26	≤ 3	3
	12	6	21.10	21.07	21.25		
	12	13	21.08	21.04	21.20		
	25	0	21.07	21.06	21.16		

Table 9.3.7.5 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18615 (1 851.5 MHz)	18900 (1 880.0 MHz)	19185 (1 908.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.21	23.18	23.26	≤ 1	0
	1	7	23.19	23.16	23.12		
	1	14	23.18	23.14	23.09		
	8	0	23.14	23.05	23.21		1
	8	4	23.20	23.09	23.23		
	8	7	23.11	23.04	23.18		
	15	0	23.17	23.03	23.18		
16QAM	1	0	23.36	23.28	23.37	≤ 1	1
	1	7	23.31	23.24	23.25		
	1	14	23.28	23.23	23.19		
	8	0	22.12	22.08	22.13	≤ 2	2
	8	4	22.13	22.11	22.14		
	8	7	22.07	22.06	22.10		
	15	0	22.11	22.09	22.12		
64QAM	1	0	22.24	22.20	22.29	≤ 2	2
	1	7	22.23	22.16	22.26		
	1	14	22.20	22.14	22.25		
	8	0	21.09	21.08	21.17	≤ 3	3
	8	4	21.11	21.10	21.18		
	8	7	21.08	21.07	21.14		
	15	0	21.10	21.06	21.15		

Table 9.3.7.6 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18607 (1 850.7 MHz)	18900 (1 880.0 MHz)	19193 (1 909.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.21	23.14	23.31	≤ 1	0
	1	2	23.19	23.11	23.24		
	1	5	23.09	23.05	23.21		
	3	0	23.17	23.10	23.27		0
	3	2	23.18	23.13	23.30		
	3	3	23.16	23.09	23.26		
	6	0	23.17	23.06	23.29		
16QAM	1	0	23.28	23.28	23.36	≤ 1	1
	1	2	23.25	23.26	23.34		
	1	5	23.16	23.11	23.33		
	3	0	23.08	23.07	23.21	≤ 1	1
	3	2	23.14	23.13	23.24		
	3	3	23.06	23.06	23.18		
	6	0	22.13	22.10	22.14		
64QAM	1	0	22.19	22.11	22.37	≤ 2	2
	1	2	22.18	22.06	22.35		
	1	5	22.10	22.04	22.28		
	3	0	22.12	22.09	22.33	≤ 2	2
	3	2	22.14	22.10	22.36		
	3	3	22.07	22.06	22.27		
	6	0	21.13	21.06	21.22		

Table 9.3.7.7 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 7	Maximum
	Nominal	24.7

Table 9.3.8.1 Nominal and Maximum Output Power Spec

### 8) LTE Band 7

LTE Band 7 Conducted Power- 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20850 (2 510.0 MHz)	21100 (2 535.0 MHz)	21350 (2 560.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.87	24.85	24.83	≤ 1	0
	1	50	24.81	24.76	24.65		
	1	99	24.79	24.75	24.58		
	50	0	23.92	23.89	23.83		1
	50	25	23.82	23.84	23.74		
	50	50	23.81	23.78	23.69		
16QAM	100	0	23.89	23.86	23.73	≤ 1	1
	1	0	23.96	23.97	23.93		
	1	50	23.87	23.82	23.75		
	1	99	23.86	23.81	23.54		≤ 2
	50	0	22.94	22.91	22.81		
	50	25	22.82	22.84	22.76		
64QAM	50	50	22.78	22.80	22.69	≤ 2	2
	100	0	22.94	22.83	22.76		
	1	0	22.78	22.82	22.84		
	1	50	22.76	22.65	22.66		≤ 3
	1	99	22.75	22.67	22.59		
	50	0	21.90	21.92	21.82		
64QAM	50	25	21.80	21.85	21.73	≤ 3	3
	50	50	21.81	21.78	21.68		
	100	0	21.87	21.84	21.73		

Table 9.3.8.2 LTE Conducted Power

LTE Band 7 Conducted Power- 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20825 (2 507.5 MHz)	21100 (2 535.0 MHz)	21375 (2 562.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.83	24.80	24.78	≤ 1	0
	1	36	24.78	24.78	24.64		
	1	74	24.75	24.74	24.62		
	36	0	23.90	23.88	23.74		1
	36	18	23.78	23.86	23.72		
	36	37	23.76	23.76	23.71		
16QAM	75	0	23.82	23.79	23.67	≤ 1	1
	1	0	23.93	23.88	23.87		
	1	36	23.87	23.82	23.71		
	1	74	23.81	23.81	23.68		≤ 2
	36	0	22.92	22.94	22.78		
	36	18	22.85	22.90	22.77		
64QAM	36	37	22.80	22.78	22.75	≤ 2	2
	75	0	22.93	22.84	22.73		
	1	0	22.80	22.77	22.76		
	1	36	22.72	22.72	22.60		≤ 3
	1	74	22.70	22.68	22.55		
	36	0	21.92	21.88	21.80		
64QAM	36	18	21.80	21.87	21.76	≤ 3	3
	36	37	21.74	21.79	21.76		
	75	0	21.85	21.79	21.71		

Table 9.3.8.3 LTE Conducted Power

LTE Band 7 Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20800 (2 505.0 MHz)	21100 (2 535.0 MHz)	21400 (2 565.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.85	24.84	24.77	≤ 1	0
	1	25	24.58	24.82	24.71		
	1	49	24.57	24.68	24.67		
	25	0	23.87	23.83	23.69		1
	25	12	23.69	23.80	23.64		
	25	25	23.65	23.75	23.59		
16QAM	50	0	23.83	23.81	23.66	≤ 1	1
	1	0	23.93	23.92	23.78		
	1	25	23.72	23.89	23.77		
	1	49	23.71	23.78	23.72		≤ 2
	25	0	22.96	22.93	22.77		
	25	12	22.85	22.88	22.73		
64QAM	25	25	22.84	22.79	22.68	≤ 2	2
	50	0	22.91	22.88	22.79		
	1	0	22.70	22.80	22.70		
	1	25	22.61	22.73	22.62		
	1	49	22.59	22.72	22.55		≤ 3
	25	0	21.90	21.89	21.70		
25	12	21.84	21.89	21.67			
64QAM	25	25	21.77	21.79	21.66	≤ 3	3
	50	0	21.87	21.84	21.84		

Table 9.3.8.4 LTE Conducted Power

LTE Band 7 Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20775 (2 502.5 MHz)	21100 (2 535.0 MHz)	21425 (2 567.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.84	24.80	24.74	≤ 1	0
	1	12	24.65	24.76	24.72		
	1	24	24.62	24.69	24.55		
	12	0	23.79	23.76	23.66		1
	12	6	23.66	23.73	23.61		
	12	13	23.62	23.72	23.60		
16QAM	25	0	23.78	23.76	23.72	≤ 1	1
	1	0	23.93	23.89	23.80		
	1	12	23.77	23.87	23.73		
	1	24	23.75	23.83	23.64		≤ 2
	12	0	22.75	22.73	22.64		
	12	6	22.60	22.70	22.63		
64QAM	12	13	22.53	22.64	22.58	≤ 2	2
	25	0	22.65	22.66	22.63		
	1	0	22.83	22.83	22.74		
	1	12	22.63	22.80	22.68		
	1	24	22.55	22.73	22.51		≤ 3
	12	0	21.71	21.69	21.66		
12	6	21.56	21.67	21.63			
64QAM	12	13	21.53	21.65	21.58	≤ 3	3
	25	0	21.66	21.64	21.58		

Table 9.3.8.5 LTE Conducted Power

Band & Mode	Modulated Average(dBm)
LTE Band 7	23.7
	23.2

**Table 9.3.9.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)**

**9) LTE Band 7**

LTE Band 7 Conducted Power– 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20850 (2 510.0 MHz)	21100 (2 535.0 MHz)	21350 (2 560.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.46	23.41	23.35	≤ 1	0
	1	50	23.35	23.26	23.21		
	1	99	23.33	23.22	23.18		
	50	0	23.45	23.35	23.33		0
	50	25	23.31	23.24	23.23		
	50	50	23.24	23.22	23.18		
16QAM	100	0	23.43	23.33	23.31	≤ 1	0
	1	0	23.49	23.44	23.37		
	1	50	23.37	23.33	23.31		
	1	99	23.35	23.31	23.22		1
	50	0	22.37	22.35	22.34		
	50	25	22.31	22.28	22.25		
64QAM	50	50	22.17	22.12	22.10	≤ 1	1
	100	0	22.29	22.25	22.21		
	1	0	22.49	22.47	22.46		
	1	50	22.39	22.36	22.28		≤ 2
	1	99	22.38	22.24	22.20		
	50	0	21.51	21.44	21.42		
64QAM	50	25	21.39	21.33	21.31	≤ 2	2
	50	50	21.35	21.28	21.22		
	100	0	21.49	21.43	21.38		

**Table 9.3.9.2 LTE Conducted Power**

LTE Band 7 Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20825 (2 507.5 MHz)	21100 (2 535.0 MHz)	21375 (2 562.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.40	23.35	23.31	≤ 1	0
	1	36	23.21	23.18	23.15		
	1	74	23.18	23.09	23.07		
	36	0	23.35	23.34	23.27		0
	36	18	23.31	23.30	23.21		
	36	37	23.27	23.21	23.15		
16QAM	75	0	23.28	23.27	23.24	≤ 1	0
	1	0	23.40	23.36	23.30		
	1	36	23.32	23.24	23.22		
	1	74	23.28	23.22	23.08		1
	36	0	22.36	22.33	22.28		
	36	18	22.34	22.22	22.19		
64QAM	36	37	22.30	22.18	22.15	≤ 1	1
	75	0	22.25	22.20	22.20		
	1	0	22.45	22.41	22.36		
	1	36	22.38	22.33	22.31		≤ 2
	1	74	22.30	22.18	22.08		
	36	0	21.49	21.41	21.39		
64QAM	36	18	21.34	21.33	21.30	≤ 2	2
	36	37	21.29	21.27	21.25		
	75	0	21.36	21.32	21.30		

**Table 9.3.9.3 LTE Conducted Power**

LTE Band 7 Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20800 (2 505.0 MHz)	21100 (2 535.0 MHz)	21400 (2 565.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.45	23.36	23.22	≤ 1	0
	1	25	23.37	23.28	23.15		
	1	49	23.27	23.24	23.14		
	25	0	23.43	23.26	23.20		0
	25	12	23.36	23.21	23.18		
	25	25	23.31	23.19	23.11		
16QAM	50	0	23.33	23.20	23.17	≤ 1	0
	1	0	23.47	23.35	23.27		0
	1	25	23.43	23.29	23.16		
	1	49	23.41	23.25	23.15		
	25	0	22.36	22.27	22.26		1
	25	12	22.32	22.24	22.22		
25	25	22.29	22.21	22.17			
64QAM	50	0	22.30	22.24	22.22	≤ 1	1
	1	0	22.51	22.43	22.39		1
	1	25	22.49	22.42	22.31		
	1	49	22.41	22.41	22.22		
	25	0	21.54	21.34	21.25		2
	25	12	21.50	21.33	21.19		
25	25	21.43	21.30	21.18			
	50	0	21.51	21.32	21.16		2

Table 9.3.9.4 LTE Conducted Power

LTE Band 7 Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20775 (2 502.5 MHz)	21100 (2 535.0 MHz)	21425 (2 567.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.41	23.35	23.25	≤ 1	0
	1	12	23.32	23.26	23.20		
	1	24	23.28	23.20	23.15		
	12	0	23.39	23.33	23.22		0
	12	6	23.37	23.31	23.18		
	12	13	23.34	23.30	23.15		
16QAM	25	0	23.33	23.30	23.04	≤ 1	0
	1	0	23.43	23.37	23.27		0
	1	12	23.40	23.32	23.25		
	1	24	23.35	23.22	23.18		
	12	0	22.35	22.26	22.21		1
	12	6	22.34	22.21	22.18		
12	13	22.30	22.17	22.08			
64QAM	25	0	22.27	22.25	22.08	≤ 1	1
	1	0	22.47	22.42	22.17		1
	1	12	22.44	22.33	22.16		
	1	24	22.38	22.30	22.13		
	12	0	21.50	21.48	21.36		2
	12	6	21.46	21.43	21.12		
12	13	21.45	21.42	21.05			
	25	0	21.43	21.43	21.17		2

Table 9.3.9.5 LTE Conducted Power

Band & Mode	Modulated Average[dBm]
LTE Band 41	Maximum
	Nominal

Table 9.3.10.1 Nominal and Maximum Output Power Spec

**10) LTE Band 41**

LTE Band 41 Conducted Power– 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39750 (2 506.0 MHz)	40185 (2 549.5 MHz)	40620 (2 593.0 MHz)	41055 (2 636.5 MHz)	41490 (2 680.0 MHz)			
Conducted Power (dBm)										
QPSK	1	0	24.79	24.82	24.84	24.78	24.75	≤ 1	0	
	1	50	24.58	24.64	24.63	24.57	24.58			
	1	99	24.56	24.61	24.63	24.55	24.57			
	50	0	23.72	23.75	23.80	23.71	23.74		1	
	50	25	23.68	23.70	23.68	23.65	23.64			
	50	50	23.60	23.56	23.60	23.53	23.51			
16QAM	100	0	23.68	23.70	23.72	23.67	23.65	≤ 1	1	
	1	0	23.89	23.90	23.95	23.85	23.82			
	1	50	23.66	23.69	23.69	23.64	23.56			
	1	99	23.57	23.65	23.67	23.57	23.52			
	50	0	22.84	22.84	22.87	22.81	22.81		≤ 2	2
	50	25	22.78	22.79	22.79	22.80	22.72			
50	50	22.74	22.71	22.70	22.62	22.55				
64QAM	100	0	22.76	22.76	22.79	22.70	22.68	≤ 2	2	
	1	0	22.93	22.98	23.02	22.94	22.91			
	1	50	22.73	22.77	22.80	22.70	22.66			
	1	99	22.71	22.76	22.74	22.65	22.63			
	50	0	21.81	21.86	21.91	21.80	21.77		≤ 3	3
	50	25	21.77	21.75	21.77	21.72	21.72			
50	50	21.72	21.66	21.69	21.66	21.63				
100	0	21.74	21.76	21.78	21.73	21.70	21.70	3		

Table 9.3.10.2 LTE Conducted Power

LTE Band 41 Conducted Power– 15 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39725 (2 503.5 MHz)	40173 (2 548.3 MHz)	40620 (2 593.0 MHz)	41068 (2 637.8 MHz)	41515 (2 682.5 MHz)			
Conducted Power (dBm)										
QPSK	1	0	24.80	24.81	24.83	24.75	24.70	≤ 1	0	
	1	36	24.60	24.61	24.65	24.55	24.53			
	1	74	24.57	24.59	24.60	24.52	24.51			
	36	0	23.70	23.74	23.79	23.71	23.67		1	
	36	18	23.70	23.67	23.71	23.60	23.56			
	36	37	23.63	23.63	23.62	23.52	23.52			
16QAM	75	0	23.69	23.70	23.71	23.61	23.59	≤ 1	1	
	1	0	23.83	23.88	23.89	23.82	23.78			
	1	36	23.68	23.68	23.69	23.66	23.58			
	1	74	23.65	23.69	23.62	23.51	23.50		≤ 2	2
	36	0	22.72	22.79	22.79	22.73	22.66			
	36	18	22.71	22.74	22.75	22.64	22.60			
64QAM	36	37	22.69	22.71	22.68	22.52	22.51	≤ 2	2	
	75	0	22.73	22.72	22.79	22.69	22.67			
	1	0	22.92	22.93	22.96	22.91	22.85			≤ 2
	1	36	22.79	22.75	22.76	22.73	22.66			
	1	74	22.70	22.74	22.68	22.58	22.56			
	64QAM	36	0	21.79	21.79	21.82	21.76		21.74	≤ 3
36		18	21.71	21.73	21.76	21.68	21.67			
36		37	21.68	21.70	21.68	21.61	21.61			
75		0	21.75	21.71	21.75	21.69	21.69			

Table 9.3.10.3 LTE Conducted Power

LTE Band 41 Conducted Power– 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39700 (2 501.0 MHz)	40160 (2 547.0 MHz)	40620 (2 593.0 MHz)	41080 (2 639.0 MHz)	41540 (2 685.0 MHz)		
Conducted Power (dBm)									
QPSK	1	0	24.72	24.74	24.76	24.71	24.67	≤ 1	0
	1	25	24.68	24.68	24.66	24.61	24.58		
	1	49	24.58	24.53	24.58	24.52	24.53		
	25	0	23.67	23.74	23.75	23.64	23.62		1
	25	12	23.66	23.69	23.74	23.64	23.60		
	25	25	23.62	23.61	23.62	23.58	23.53		
16QAM	1	0	23.82	23.85	23.86	23.77	23.77	≤ 1	1
	1	25	23.71	23.71	23.74	23.66	23.60		
	1	49	23.64	23.63	23.66	23.56	23.56		
	25	0	22.82	22.83	22.85	22.72	22.77		≤ 2
	25	12	22.79	22.79	22.78	22.71	22.67		
	25	25	22.69	22.71	22.74	22.68	22.66		
64QAM	1	0	22.80	22.83	22.91	22.79	22.84	≤ 2	2
	1	25	22.79	22.78	22.82	22.71	22.62		
	1	49	22.70	22.69	22.72	22.67	22.61		
	25	0	21.86	21.87	21.88	21.80	21.81		≤ 3
	25	12	21.79	21.77	21.79	21.78	21.72		
	25	25	21.78	21.73	21.72	21.72	21.71		
50	0	21.73	21.71	21.73	21.72	21.66	3		

Table 9.3.10.4 LTE Conducted Power

LTE Band 41 Conducted Power– 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39675 (2 498.5 MHz)	40148 (2 545.8 MHz)	40620 (2 593.0 MHz)	41093 (2 640.3 MHz)	41565 (2 687.5 MHz)		
Conducted Power (dBm)									
QPSK	1	0	24.65	24.67	24.69	24.63	24.57	≤ 1	0
	1	12	24.63	24.66	24.67	24.62	24.55		
	1	24	24.63	24.54	24.54	24.54	24.52		
	12	0	23.68	23.70	23.73	23.64	23.57		1
	12	6	23.65	23.70	23.72	23.61	23.57		
	12	13	23.64	23.65	23.63	23.58	23.54		
16QAM	25	0	23.66	23.68	23.69	23.59	23.53	≤ 2	2
	1	0	23.80	23.82	23.83	23.75	23.63		
	1	12	23.72	23.73	23.75	23.74	23.56		
	1	24	23.67	23.71	23.71	23.66	23.51		≤ 1
	12	0	22.79	22.80	22.81	22.75	22.68		
	12	6	22.81	22.77	22.77	22.71	22.66		
64QAM	12	13	22.77	22.76	22.77	22.68	22.57	≤ 2	2
	25	0	22.77	22.74	22.81	22.72	22.62		
	1	0	22.84	22.84	22.85	22.82	22.69		
	1	12	22.75	22.74	22.75	22.72	22.61		
	1	24	22.71	22.72	22.70	22.68	22.59		
	12	0	21.77	21.79	21.80	21.75	21.69		≤ 3
12	6	21.71	21.77	21.80	21.72	21.67			
12	13	21.73	21.74	21.75	21.67	21.62			
25	0	21.79	21.76	21.80	21.71	21.65	3		

Table 9.3.10.5 LTE Conducted Power

### 9.4 WLAN Nominal and Maximum Output Power Spec and Conducted Powers

Band (GHz)	Mode	Ch	Modulated Average[dBm]					
			Ant.1		Ant.2		MIMO(CDD/SDM)	
			Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
2.4	802.11b	1-11	16.5	15.5	16.5	15.5	-	-
		12-13	2.0	1.0	2.0	1.0	-	-
	802.11g	1-11	16.0	15.0	16.0	15.0	19.0	18.0
		12-13	4.0	3.0	4.0	3.0	7.0	6.0
	802.11n	1-11	15.0	14.0	15.0	14.0	18.0	17.0
		12-13	4.0	3.0	4.0	3.0	7.0	6.0
	802.11ac	1-11	15.0	14.0	15.0	14.0	18.0	17.0
		12-13	4.0	3.0	4.0	3.0	7.0	6.0

Table 9.4.1 Nominal and Maximum Output Power Spec

Mode	Freq. (MHz)	Channel	IEEE 802.11 (2.4 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11b	2 412	1	15.41	15.39	-	-
	2 437	6	15.76	15.05	-	-
	2 462	11	15.72	15.17	-	-
	2 467	12	0.83	0.61	-	-
	2 472	13	1.36	0.65	-	-
802.11g	2 412	1	14.72	14.82	17.78	-
	2 437	6	15.08	14.40	17.76	-
	2 462	11	15.07	14.57	17.84	-
	2 467	12	2.51	2.08	5.31	-
	2 472	13	2.58	2.55	5.57	-
802.11n (HT-20)	2 412	1	13.70	13.37	16.55	16.77
	2 437	6	13.87	13.47	16.68	16.74
	2 462	11	13.83	13.29	16.58	16.60
	2 467	12	2.50	2.37	5.45	5.37
	2 472	13	2.56	2.72	5.65	5.55
802.11ac (VHT-20)	2 412	1	13.86	13.58	16.73	16.78
	2 437	6	13.84	13.46	16.66	16.76
	2 462	11	13.73	13.30	16.53	16.64
	2 467	12	2.50	2.12	5.32	5.47
	2 472	13	2.41	2.36	5.39	5.51

Table 9.4.2 IEEE 802.11 Average RF Power

Band (GHz)	Mode	Ch	Modulated Average[dBm]					
			Ant.1		Ant.2		MIMO(CDD/SDM)	
			Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
5 (UNII)	802.11a	36-165	16.0	15.0	16.0	15.0	19.0	18.0
	802.11n/ac (20MHz)	36-165	15.0	14.0	15.0	14.0	18.0	17.0
	802.11n/ac (40MHz)	38-159	15.0	14.0	15.0	14.0	18.0	17.0
	802.11ac (80MHz)	42-155	15.0	14.0	15.0	14.0	18.0	17.0

Table 9.4.5 Nominal and Maximum Output Power Spec

Mode	Freq. (MHz)	Channel	IEEE 802.11a (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11a	5 180	36	15.79	15.95	18.88	-
	5 200	40	15.38	15.66	18.53	-
	5 220	44	15.29	15.60	18.46	-
	5 240	48	15.48	15.84	18.68	-
	5 260	52	15.85	15.91	18.99	-
	5 280	56	15.28	15.40	18.35	-
	5 300	60	15.33	15.58	18.47	-
	5 320	64	15.44	15.93	18.70	-
	5 500	100	15.43	15.76	18.61	-
	5 600	120	15.97	15.92	18.96	-
	5 660	132	14.95	15.84	18.43	-
	5 720	144	14.00	15.76	17.98	-
	5 745	149	14.18	15.61	17.96	-
	5 785	157	14.91	15.53	18.24	-
	5 825	165	15.31	15.73	18.53	-

Table 9.4.6 IEEE 802.11a Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11n HT20 (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11n (HT-20)	5 180	36	14.53	14.88	17.72	17.74
	5 200	40	14.01	14.36	17.20	17.33
	5 220	44	14.03	14.55	17.31	17.39
	5 240	48	14.06	14.53	17.31	17.43
	5 260	52	14.47	14.92	17.71	17.67
	5 280	56	13.89	14.13	17.02	17.15
	5 300	60	14.02	14.30	17.17	17.27
	5 320	64	14.19	14.87	17.55	17.56
	5 500	100	14.19	14.49	17.35	17.43
	5 600	120	14.88	14.87	17.89	17.89
	5 660	132	13.82	14.77	17.33	17.32
	5 720	144	13.27	14.57	16.98	16.97
	5 745	149	13.19	14.47	16.89	16.94
	5 785	157	13.81	14.44	17.14	17.31
	5 825	165	14.19	14.73	17.48	17.55

Table 9.4.7 IEEE 802.11n HT20 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11ac VHT20 (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11ac (VHT-20)	5 180	36	14.44	14.82	17.64	17.83
	5 200	40	13.90	14.68	17.32	17.44
	5 220	44	13.87	14.80	17.37	17.55
	5 240	48	13.96	14.85	17.44	17.59
	5 260	52	14.47	14.64	17.57	17.86
	5 280	56	13.84	14.16	17.01	17.26
	5 300	60	14.04	14.27	17.17	17.41
	5 320	64	14.20	14.81	17.52	17.68
	5 500	100	14.21	14.51	17.37	17.57
	5 600	120	14.75	14.90	17.83	17.97
	5 660	132	13.95	14.63	17.31	17.32
	5 720	144	13.10	14.57	16.91	17.00
	5 745	149	13.09	14.48	16.85	16.87
	5 785	157	13.71	14.51	17.14	17.21
	5 825	165	14.29	14.61	17.46	17.50

Table 9.4.8 IEEE 802.11ac VHT20 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11n HT40 (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11n (HT-40)	5 190	38	14.60	14.79	17.70	17.73
	5 230	46	14.21	14.91	17.59	17.60
	5 270	54	14.46	14.82	17.65	17.72
	5 310	62	14.28	14.98	17.65	17.65
	5 510	102	14.27	14.77	17.54	17.61
	5 590	118	14.69	14.96	17.84	17.87
	5 670	134	13.70	14.90	17.35	17.44
	5 710	142	13.09	14.81	17.04	17.12
	5 755	151	13.61	14.60	17.14	17.20
	5 795	159	14.43	14.71	17.58	17.63

Table 9.4.9 IEEE 802.11n HT40 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11ac VHT40 (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11ac (VHT-40)	5 190	38	14.72	14.84	17.79	17.84
	5 230	46	14.37	14.75	17.57	17.62
	5 270	54	14.56	14.87	17.73	17.87
	5 310	62	14.46	14.81	17.65	17.76
	5 510	102	14.41	14.79	17.62	17.59
	5 590	118	14.77	14.90	17.85	17.87
	5 670	134	13.73	14.96	17.40	17.39
	5 710	142	13.15	14.83	17.08	17.16
	5 755	151	13.62	14.64	17.17	17.11
	5 795	159	14.01	14.77	17.42	17.54

Table 9.4.10 IEEE 802.11ac VHT40 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11ac VHT80 (5 GHz) Conducted Power[dBm]			
			Ant.1	Ant.2	MIMO(CDD)	MIMO(SDM)
802.11ac (VHT-80)	5 210	42	13.72	14.63	17.20	17.22
	5 290	58	13.85	14.10	16.99	16.98
	5 530	106	13.56	14.31	16.96	16.97
	5 610	122	13.08	14.82	17.05	17.62
	5 690	138	13.40	14.72	17.12	16.94
	5 775	155	13.30	14.22	16.79	16.81

Table 9.4.11 IEEE 802.11ac VHT80 Average RF Power

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, duo to an even number of channels, both channels were measured.
- Output Power and SAR is not required for 802.11 g/n HT20/ac VHT20 channels when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjust SAR is  $\leq 1.2$  W/kg.
- The underlined data rate and channel above were tested for SAR.

The average output powers of this device were tested by below configuration.

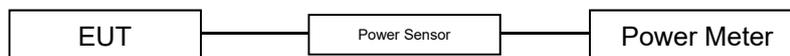


Figure 9.4 Power Measurement Setup

9.5 Bluetooth Conducted Powers

Burst Modulated Average[dBm]		
Bluetooth 1 Mbps	Maximum	12.5
	Nominal	11.5
Bluetooth 2 Mbps	Maximum	11.5
	Nominal	10.5
Bluetooth 3 Mbps	Maximum	11.5
	Nominal	10.5
Bluetooth LE	Maximum	7.0
	Nominal	6.0

Table 9.5.1 Nominal and Maximum Output Power Spec (Burst)

Frame Modulated Average[dBm]		
Bluetooth 1 Mbps	Maximum	11.35
	Nominal	10.35
Bluetooth 2 Mbps	Maximum	10.35
	Nominal	9.35
Bluetooth 3 Mbps	Maximum	10.35
	Nominal	9.35
Bluetooth (LE / 1Mbps)	Maximum	6.33
	Nominal	5.33
Bluetooth (LE / 2Mbps)	Maximum	4.62
	Nominal	3.62

Table 9.5.2 Nominal and Maximum Output Power Spec (Frame)

Channel	Frequency	Burst AVG Output Power (1Mbps)	Frame AVG Output Power (1Mbps)	Burst AVG Output Power (2Mbps)	Frame AVG Output Power (2Mbps)	Burst AVG Output Power (3Mbps)	Frame AVG Output Power (3Mbps)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
Low	2 402	11.86	10.71	10.62	9.47	10.62	9.47
Mid	2 441	11.56	10.41	10.18	9.03	9.98	8.83
High	2 480	10.77	9.62	9.56	8.41	9.57	8.42

Table 9.5.3 Bluetooth Burst and Frame Average RF Power

Channel	Frequency	Burst AVG Output Power(LE / 1Mbps)	Frame AVG Output Power(LE / 1Mbps)	Burst AVG Output Power(LE / 2Mbps)	Frame AVG Output Power(LE / 2Mbps)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
Low	2 402	6.56	5.89	6.54	4.16
Mid	2 440	6.19	5.52	6.17	3.79
High	2 480	5.20	4.53	5.03	2.65

Table 9.5.4 Bluetooth LE Burst and Frame Average RF Power

Bluetooth Conducted Powers procedures

1. Bluetooth (BDR, EDR)

- 1) Enter DUT mode in EUT and operate it.  
When it operating, The EUT is transmitting at maximum power level and duty cycle fixed.
- 2) Instruments and EUT were connected like Figure 9.5.1(A).
- 3) The maximum output powers of BDR(1 Mbps), EDR(2, 3 Mbps) and each frequency were set by a Bluetooth Tester.
- 4) Power levels were measured by a Power Meter.

2. Bluetooth (LE)

- 1) Enter LE mode in EUT and operate it.  
When it operating, The EUT is transmitting at maximum Burst power level and duty cycle fixed.
- 2) Instruments and EUT were connected like Figure 9.5.1(B).
- 3) The average conducted output powers of LE and each frequency can measurement according to setting program in EUT.
- 4) Power levels were measured by a Power Meter.

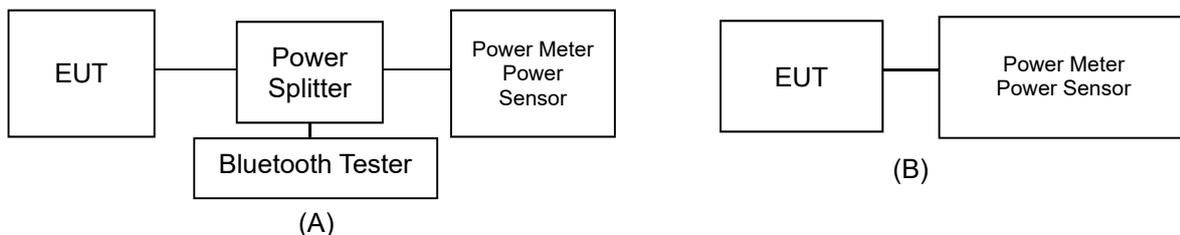


Figure 9.5.1 Average Power Measurement Setup

Bluetooth Transmission Plot

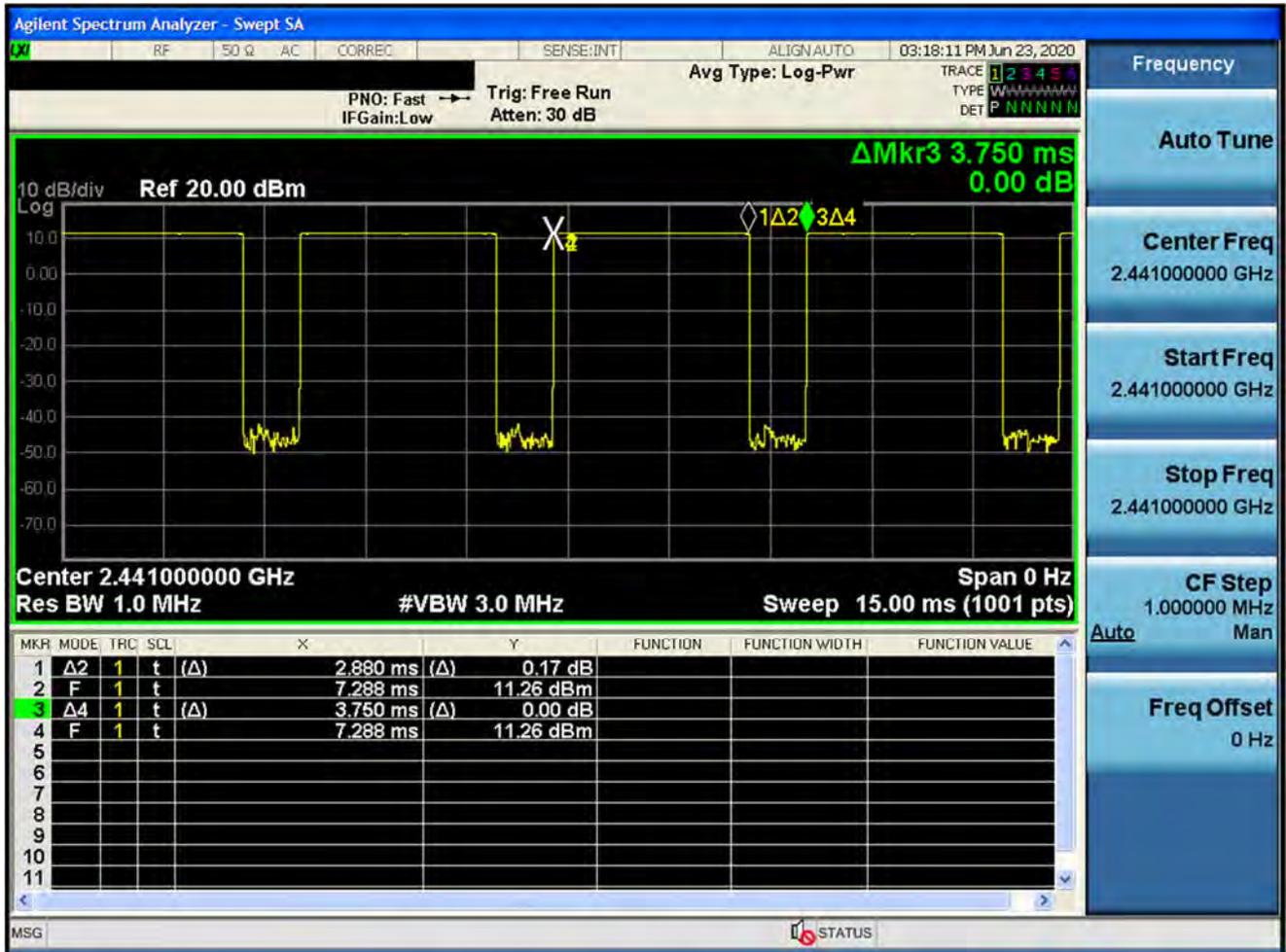


Figure 9.5.2 Bluetooth Transmission Plot

Bluetooth Duty Cycle Calculation

$$\text{Duty Cycle} = \text{Pulse/Period} * 100\% = (2.880/3.750) * 100 = 76.8\%$$

# 10. SYSTEM VERIFICATION

## 10.1 Tissue Verification

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	Er Deviation [%]	$\sigma$ Deviation [%]
Jun. 13. 2020	750 Head	21.1	20.9	707.5	42.129	0.887	42.274	0.862	0.34	-2.82
				750.0	41.900	0.890	41.798	0.898	-0.24	0.90
				782.0	41.749	0.894	41.316	0.928	-1.04	3.80
Jun. 14. 2020	750 Body	21.0	20.8	707.5	55.672	0.957	57.703	0.924	3.65	-3.45
				750.0	55.500	0.960	57.282	0.962	3.21	0.21
				782.0	55.387	0.964	56.967	0.991	2.85	2.80
Jun. 15. 2020	835 Head	21.3	21.2	821.5	41.566	0.898	43.033	0.908	3.53	1.11
				824.2	41.552	0.899	43.003	0.910	3.49	1.22
				826.4	41.542	0.899	42.976	0.913	3.45	1.56
				829.0	41.528	0.899	42.949	0.915	3.42	1.78
				831.5	41.519	0.900	42.921	0.917	3.38	1.89
				835.0	41.500	0.900	42.885	0.921	3.34	2.33
				836.5	41.500	0.901	42.870	0.922	3.30	2.33
				836.6	41.500	0.901	42.868	0.922	3.30	2.33
				841.5	41.500	0.906	42.823	0.927	3.19	2.32
				844.0	41.500	0.910	42.802	0.929	3.14	2.09
				846.6	41.500	0.912	42.772	0.932	3.07	2.19
848.8	41.500	0.914	42.752	0.934	3.02	2.19				
Jun. 12. 2020	835 Body	21.2	21.0	821.5	55.255	0.969	55.712	0.971	0.83	0.21
				824.2	55.243	0.969	55.689	0.974	0.81	0.52
				826.4	55.235	0.969	55.598	0.977	0.66	0.83
				829.0	55.223	0.970	55.567	0.979	0.62	0.93
				831.5	55.216	0.970	55.556	0.982	0.62	1.24
				835.0	55.200	0.970	55.535	0.986	0.61	1.65
				836.5	55.197	0.971	55.530	0.988	0.60	1.75
				836.6	55.197	0.971	55.522	0.988	0.59	1.75
				841.5	55.182	0.977	55.444	0.994	0.47	1.74
				844.0	55.172	0.981	55.372	0.995	0.36	1.43
				846.6	55.166	0.984	55.279	0.998	0.20	1.42
848.8	55.160	0.986	55.219	1.001	0.11	1.52				
Jun. 22. 2020	1800 Head	20.5	20.6	1712.4	40.126	1.350	39.726	1.362	-1.00	0.89
				1720.0	40.114	1.354	39.722	1.368	-0.98	1.03
				1732.4	40.097	1.361	39.714	1.380	-0.96	1.40
				1732.5	40.097	1.361	39.713	1.380	-0.96	1.40
				1745.0	40.079	1.369	39.691	1.391	-0.97	1.61
				1752.6	40.069	1.373	39.674	1.398	-0.99	1.82
				1770.0	40.043	1.383	39.627	1.413	-1.04	2.17
				1800.0	40.000	1.400	39.542	1.441	-1.15	2.93
				Jun. 23. 2020	1800 Body	20.4	20.3	1712.4	53.596	1.464
1720.0	53.580	1.469	51.539					1.474	-3.81	0.34
1732.4	53.556	1.477	51.480					1.490	-3.88	0.88
1732.5	53.556	1.477	51.480					1.490	-3.88	0.88
1745.0	53.530	1.485	51.419					1.504	-3.94	1.28
1752.6	53.516	1.489	51.399					1.513	-3.96	1.61
1770.0	53.480	1.501	51.384					1.534	-3.92	2.20
1800.0	53.300	1.520	51.379					1.566	-3.60	3.03
Jun. 23. 2020	1900 Head	20.9	20.4					1850.2	40.000	1.400
				1852.4	40.000	1.400	40.738	1.385	1.85	-1.07
				1860.0	40.000	1.400	40.719	1.393	1.80	-0.50
				1880.0	40.000	1.400	40.652	1.413	1.63	0.93
				1900.0	40.000	1.400	40.573	1.432	1.43	2.29
				1907.6	40.000	1.400	40.542	1.439	1.36	2.79
				1909.8	40.000	1.400	40.536	1.442	1.34	3.00
Jun. 22. 2020	1900 Body	20.7	21.1	1850.2	53.300	1.520	53.922	1.476	1.17	-2.89
				1852.4	53.300	1.520	53.919	1.478	1.16	-2.76
				1860.0	53.300	1.520	53.908	1.485	1.14	-2.30
				1880.0	53.300	1.520	53.860	1.504	1.05	-1.05
				1900.0	53.300	1.520	53.793	1.523	0.92	0.20
				1907.6	53.300	1.520	53.765	1.530	0.87	0.66
				1909.8	53.300	1.520	53.757	1.532	0.86	0.79
Jun. 14. 2020	2450 Head	21.4	21.2	2402.0	39.282	1.757	39.523	1.805	0.61	2.73
				2412.0	39.265	1.766	39.492	1.816	0.58	2.83
				2437.0	39.222	1.788	39.416	1.846	0.49	3.24
				2441.0	39.215	1.792	39.403	1.850	0.48	3.24
				2450.0	39.200	1.800	39.376	1.861	0.45	3.39
				2462.0	39.184	1.813	39.342	1.874	0.40	3.36
				2467.0	39.177	1.818	39.325	1.879	0.38	3.36
				2472.0	39.171	1.823	39.306	1.884	0.34	3.35
				2480.0	39.160	1.832	39.277	1.894	0.30	3.38
Jun. 16. 2020	2450 Body	20.4	20.3	2402.0	52.764	1.904	52.209	1.930	-1.05	1.37
				2412.0	52.751	1.914	52.183	1.942	-1.08	1.46
				2437.0	52.717	1.938	52.124	1.972	-1.12	1.75
				2441.0	52.712	1.941	52.114	1.977	-1.13	1.85
				2450.0	52.700	1.950	52.093	1.988	-1.15	1.95
				2462.0	52.685	1.967	52.071	2.002	-1.17	1.78
				2467.0	52.679	1.974	52.056	2.007	-1.18	1.67
				2472.0	52.672	1.981	52.044	2.013	-1.19	1.62
				2480.0	52.662	1.993	52.020	2.022	-1.22	1.46

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	Er Deviation [%]	$\sigma$ Deviation [%]
Jun. 13. 2020	2600 Head	21.9	21.8	2 506.0	39.125	1.860	39.274	1.826	0.38	-1.83
				2 510.0	39.120	1.864	39.252	1.828	0.34	-1.93
				2 535.0	39.087	1.891	39.103	1.867	0.04	-1.27
				2 549.5	39.068	1.906	39.034	1.900	-0.09	-0.31
				2 560.0	39.053	1.917	39.004	1.921	-0.13	0.21
				2 593.0	39.009	1.953	38.979	1.951	-0.08	-0.10
				2 600.0	39.000	1.960	38.967	1.952	-0.08	-0.41
				2 636.5	38.955	2.000	38.797	1.970	-0.41	-1.50
				2 680.0	38.900	2.048	38.603	2.060	-0.76	0.59
Jun. 17. 2020	2600 Body	20.9	20.7	2 510.0	52.624	2.035	51.243	2.021	-2.62	-0.69
				2 535.0	52.592	2.071	51.217	2.058	-2.61	-0.63
				2 560.0	52.560	2.106	51.151	2.077	-2.68	-1.38
				2 600.0	52.509	2.163	51.033	2.109	-2.81	-2.50
Jun. 18. 2020	2600 Body	20.4	20.3	2 506.0	52.629	2.029	52.012	2.050	-1.17	1.03
				2 549.5	52.574	2.090	51.883	2.105	-1.31	0.72
				2 593.0	52.518	2.153	51.762	2.156	-1.44	0.14
				2 600.0	52.509	2.163	51.740	2.164	-1.46	0.05
				2 636.5	52.463	2.214	51.618	2.209	-1.61	-0.23
				2 680.0	52.407	2.276	51.505	2.265	-1.72	-0.48
Jun. 25. 2020	5200 Body	20.9	20.7	5 180.0	49.041	5.276	48.739	5.171	-0.62	-1.99
				5 190.0	49.028	5.288	48.717	5.179	-0.63	-2.06
				5 200.0	49.014	5.299	48.685	5.192	-0.67	-2.02
				5 210.0	49.001	5.311	48.659	5.205	-0.70	-2.00
				5 220.0	48.987	5.323	48.637	5.220	-0.71	-1.93
				5 230.0	48.974	5.334	48.617	5.234	-0.73	-1.87
				5 240.0	48.960	5.346	48.597	5.249	-0.74	-1.81
Jun. 23. 2020	5300 Head	20.2	20.1	5 260.0	35.940	4.720	35.285	4.817	-1.82	2.06
				5 270.0	35.930	4.730	35.273	4.829	-1.83	2.09
				5 280.0	35.920	4.740	35.264	4.838	-1.83	2.07
				5 290.0	35.910	4.750	35.247	4.846	-1.85	2.02
				5 300.0	35.900	4.760	35.222	4.858	-1.89	2.06
				5 310.0	35.890	4.770	35.198	4.871	-1.93	2.12
				5 320.0	35.880	4.780	35.183	4.884	-1.94	2.18
								5 260.0	48.933	5.369
Jun. 26. 2020	5300 Body	20.7	20.5	5 270.0	48.919	5.381	47.161	5.513	-3.59	2.45
				5 280.0	48.906	5.393	47.148	5.524	-3.59	2.43
				5 290.0	48.892	5.404	47.126	5.535	-3.61	2.42
				5 300.0	48.879	5.416	47.095	5.548	-3.65	2.44
				5 310.0	48.865	5.428	47.070	5.564	-3.67	2.51
				5 320.0	48.851	5.439	47.051	5.579	-3.68	2.57
								5 500.0	35.650	4.965
Jun. 24. 2020	5600 Head	20.2	20.0	5 510.0	35.635	4.976	35.220	5.114	-1.16	2.77
				5 530.0	35.605	4.997	35.173	5.140	-1.21	2.86
				5 550.0	35.575	5.018	35.144	5.161	-1.21	2.85
				5 580.0	35.530	5.049	35.080	5.199	-1.27	2.97
				5 600.0	35.500	5.070	35.059	5.224	-1.24	3.04
				5 660.0	35.440	5.130	34.947	5.288	-1.39	3.08
				5 670.0	35.430	5.140	34.924	5.299	-1.43	3.09
				5 690.0	35.410	5.160	34.881	5.327	-1.49	3.24
				5 710.0	35.390	5.180	34.861	5.351	-1.49	3.30
				5 720.0	35.380	5.190	34.847	5.359	-1.51	3.26
Jun. 29. 2020	5600 Body	20.3	20.1	5 500.0	48.607	5.650	47.192	5.732	-2.91	1.45
				5 510.0	48.594	5.661	47.171	5.743	-2.93	1.45
				5 530.0	48.566	5.685	47.124	5.774	-2.97	1.57
				5 550.0	48.539	5.708	47.091	5.801	-2.98	1.63
				5 580.0	48.499	5.743	47.028	5.846	-3.03	1.79
				5 600.0	48.471	5.766	47.001	5.873	-3.03	1.86
				5 660.0	48.390	5.836	46.881	5.954	-3.12	2.02
				5 670.0	48.376	5.848	46.859	5.968	-3.14	2.05
				5 690.0	48.349	5.872	46.823	6.001	-3.16	2.20
				5 710.0	48.322	5.895	46.802	6.027	-3.15	2.24
				5 720.0	48.309	5.907	46.783	6.037	-3.16	2.20

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	Er Deviation [%]	$\sigma$ Deviation [%]
Jun. 25. 2020	5800 Head	20.3	20.1	5 745.0	35.355	5.215	34.946	5.408	-1.16	3.70
				5 755.0	35.345	5.225	34.934	5.420	-1.16	3.73
				5 775.0	35.325	5.245	34.898	5.439	-1.21	3.70
				5 785.0	35.315	5.255	34.873	5.452	-1.25	3.75
				5 795.0	35.305	5.265	34.851	5.466	-1.29	3.82
				5 800.0	35.300	5.270	34.842	5.474	-1.30	3.87
Jun. 30. 2020	5800 Body	20.8	20.5	5 825.0	35.275	5.296	34.814	5.500	-1.31	3.85
				5 745.0	48.275	5.936	49.111	6.105	1.73	2.85
				5 755.0	48.261	5.947	49.096	6.121	1.73	2.93
				5 775.0	48.234	5.971	49.078	6.148	1.75	2.96
				5 785.0	48.220	5.982	49.062	6.162	1.75	3.01
				5 795.0	48.207	5.994	49.047	6.178	1.74	3.07
				5 800.0	48.200	6.000	49.038	6.186	1.74	3.10
				5 825.0	48.166	6.029	49.009	6.226	1.75	3.27

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB 865664 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

#### Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the sample which was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity, for example from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r'(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

## 10.2 Test System Verification

Prior to assessment, the system is verified to the  $\pm 10\%$  of the specifications at using the SAR Dipole kit(s). (Graphic Plots Attached)

**Table 10.2.1 System Verification Results (1g)**

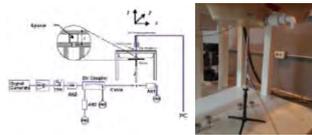
SYSTEM DIPOLE VERIFICATION TARGET & MEASURED												
SAR System #	Freq. [MHz]	SAR Dipole kits	Date(s)	Tissue Type	Ambient Temp. [°C]	Liquid Temp. [°C]	Probe S/N	Input Power (mW)	1 W Target SAR <sub>1g</sub> (W/kg)	Measured SAR <sub>1g</sub> (W/kg)	1 W Normalized SAR <sub>1g</sub> (W/kg)	Deviation [%]
E	750	D750V3, SN:1049	Jun. 13. 2020	Head	21.1	20.9	3327	250	8.47	2.25	9.00	6.26
E	750	D750V3, SN:1049	Jun. 14. 2020	Body	21.0	20.8	3327	250	8.43	2.12	8.48	0.59
E	835	D835V2, SN:464	Jun. 15. 2020	Head	21.3	21.2	7337	250	9.59	2.32	9.28	-3.23
E	835	D835V2, SN:464	Jun. 12. 2020	Body	21.2	21.0	7337	250	9.68	2.36	9.44	-2.48
C	1 800	D1800V2, SN:2d202	Jun. 22. 2020	Head	20.5	20.6	3328	100	39.6	3.87	38.70	-2.27
C	1 800	D1800V2, SN:2d202	Jun. 23. 2020	Body	20.4	20.3	3328	100	39.0	3.94	39.40	1.03
D	1 900	D1900V2, SN:5d029	Jun. 23. 2020	Head	20.9	20.4	3933	100	40.4	4.16	41.60	2.97
D	1 900	D1900V2, SN:5d029	Jun. 22. 2020	Body	20.7	21.1	3933	100	39.9	4.11	41.10	3.01
F	2 450	D2450V2, SN: 726	Jun. 14. 2020	Head	21.4	21.2	3866	100	51.2	5.30	53.00	3.52
F	2 450	D2450V2, SN: 726	Jun. 16. 2020	Body	20.4	20.3	3866	100	52.0	5.49	54.90	5.58
F	2 600	D2600V2, SN: 1103	Jun. 13. 2020	Head	21.9	21.8	3866	100	57.8	5.42	54.20	-6.23
F	2 600	D2600V2, SN: 1103	Jun. 17. 2020	Body	20.9	20.7	3866	100	55.8	5.91	59.10	5.91
F	2 600	D2600V2, SN: 1103	Jun. 18. 2020	Body	20.4	20.3	3866	100	55.8	5.46	54.60	-2.15
B	5 200	D5GH2V2, SN:1212	Jun. 25. 2020	Body	20.9	20.7	3916	100	72.8	7.03	70.30	-3.43
F	5 300	D5GH2V2, SN:1212	Jun. 23. 2020	Head	20.2	20.1	3866	100	81.3	7.95	79.50	-2.21
B	5 300	D5GH2V2, SN:1212	Jun. 26. 2020	Body	20.7	20.5	3916	100	72.8	7.61	76.10	4.53
F	5 600	D5GH2V2, SN:1212	Jun. 24. 2020	Head	20.2	20.0	3866	100	83.3	8.32	83.20	-0.12
B	5 600	D5GH2V2, SN:1212	Jun. 29. 2020	Body	20.3	20.1	3916	100	77.6	7.48	74.80	-3.61
F	5 800	D5GH2V2, SN:1212	Jun. 25. 2020	Head	20.3	20.1	3866	100	81.5	8.31	83.10	1.96
B	5 800	D5GH2V2, SN:1212	Jun. 30. 2020	Body	20.8	20.5	3916	100	73.7	7.29	72.90	-1.09

**Table 10.2.2 System Verification Results (10g)**

SYSTEM DIPOLE VERIFICATION TARGET & MEASURED												
SAR System #	Freq. [MHz]	SAR Dipole kits	Date(s)	Tissue Type	Ambient Temp. [°C]	Liquid Temp. [°C]	Probe S/N	Input Power (mW)	1 W Target SAR <sub>10g</sub> (W/kg)	Measured SAR <sub>10g</sub> (W/kg)	1 W Normalized SAR <sub>10g</sub> (W/kg)	Deviation [%]
C	1 800	D1800V2, SN:2d202	Jun. 23. 2020	Body	20.4	20.3	3328	100	20.4	2.07	20.70	1.47
D	1 900	D1900V2, SN:5d029	Jun. 22. 2020	Body	20.7	21.1	3933	100	21.0	2.15	21.50	2.38
F	2 600	D2600V2, SN: 1103	Jun. 17. 2020	Body	20.9	20.7	3866	100	24.9	2.58	25.80	3.61
F	5 300	D5GH2V2, SN:1212	Jun. 26. 2020	Body	20.7	20.5	3916	100	20.2	2.15	21.50	6.44
F	5 600	D5GH2V2, SN:1212	Jun. 29. 2020	Body	20.3	20.1	3916	100	21.4	2.11	21.10	-1.40
F	5 800	D5GH2V2, SN:1212	Jun. 30. 2020	Body	20.8	20.5	3916	100	20.2	2.09	20.90	3.47

Note1 : System Verification was measured with input 250 mW, 100 mW and normalized to 1W.

Note2 : Full system validation status and results can be found in Appendix D.



**Figure 10.1 Dipole Verification Test Setup Diagram & Photo**

# 11. SAR TEST RESULTS

## 11.1 Head SAR Results

**Table 11.1.1 GSM/GPRS 850 Head SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
836.6	190	GSM850	GSM	33.70	33.60	0.190	Left Touch	FCC #1	1	1:8.3	0.088	1.023	0.090	A1
836.6	190	GSM850	GSM	33.70	33.60	0.110	Right Touch	FCC #1	1	1:8.3	0.063	1.023	0.064	
836.6	190	GSM850	GSM	33.70	33.60	0.120	Left Tilt	FCC #1	1	1:8.3	0.027	1.023	0.028	
836.6	190	GSM850	GSM	33.70	33.60	0.040	Right Tilt	FCC #1	1	1:8.3	0.037	1.023	0.038	
836.6	190	GSM850	GPRS	31.70	31.50	0.050	Left Touch	FCC #1	2	1:4.15	0.105	1.047	0.110	A2
836.6	190	GSM850	GPRS	31.70	31.50	-0.160	Right Touch	FCC #1	2	1:4.15	0.073	1.047	0.076	
836.6	190	GSM850	GPRS	31.70	31.50	-0.020	Left Tilt	FCC #1	2	1:4.15	0.030	1.047	0.031	
836.6	190	GSM850	GPRS	31.70	31.50	0.160	Right Tilt	FCC #1	2	1:4.15	0.044	1.047	0.046	
836.6	190	GSM850	GPRS	31.70	31.50	-0.020	Left Touch	FCC #1	2	1:4.15	0.100	1.047	0.105	
836.6	190	GSM850	GPRS	31.70	31.50	0.040	Left Touch	FCC #1	2	1:4.15	0.099	1.047	0.104	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Head 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.2 PCS/GPRS 1900 Head SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
1880.0	661	PCS1900	PCS	30.70	30.60	-0.030	Left Touch	FCC #1	1	1:8.3	0.056	1.023	0.057	A3
1880.0	661	PCS1900	PCS	30.70	30.60	0.080	Right Touch	FCC #1	1	1:8.3	0.049	1.023	0.050	
1880.0	661	PCS1900	PCS	30.70	30.60	0.030	Left Tilt	FCC #1	1	1:8.3	0.036	1.023	0.037	
1880.0	661	PCS1900	PCS	30.70	30.60	0.000	Right Tilt	FCC #1	1	1:8.3	0.025	1.023	0.026	
1880.0	661	PCS1900	GPRS	25.70	25.60	0.000	Left Touch	FCC #1	4	1:2.075	0.063	1.023	0.064	A4
1880.0	661	PCS1900	GPRS	25.70	25.60	-0.190	Right Touch	FCC #1	4	1:2.075	0.054	1.023	0.055	
1880.0	661	PCS1900	GPRS	25.70	25.60	-0.070	Left Tilt	FCC #1	4	1:2.075	0.037	1.023	0.038	
1880.0	661	PCS1900	GPRS	25.70	25.60	0.000	Right Tilt	FCC #1	4	1:2.075	0.022	1.023	0.023	
1880.0	661	PCS1900	GPRS	25.70	25.60	0.100	Left Touch	FCC #1	4	1:2.075	0.062	1.023	0.063	
1880.0	661	PCS1900	GPRS	25.70	25.60	-0.100	Left Touch	FCC #1	4	1:2.075	0.060	1.023	0.061	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Head 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.3 WCDMA 850 Head SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	0.170	Left Touch	FCC #1	1:1	0.142	1.161	0.165	A5
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.030	Right Touch	FCC #1	1:1	0.112	1.161	0.130	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.050	Left Tilt	FCC #1	1:1	0.048	1.161	0.056	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	0.020	Right Tilt	FCC #1	1:1	0.062	1.161	0.072	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	0.090	Left Touch	FCC #1	1:1	0.136	1.161	0.158	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	0.100	Left Touch	FCC #1	1:1	0.118	1.161	0.137	
836.6	4183	WCDMA 850	#1	RMC	25.20	24.55	0.140	Left Touch	FCC #1	1:1	0.034	1.161	0.039	
836.6	4183	WCDMA 850	#2	RMC	25.20	24.55	0.010	Left Touch	FCC #1	1:1	0.100	1.161	0.116	
836.6	4183	WCDMA 850	#3	RMC	25.20	24.55	-0.040	Left Touch	FCC #1	1:1	0.116	1.161	0.135	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Head 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.  
 3. Blue entries represent additional Head SAR Test Position (#1: DD angle: 0 degree) with the worst case position.  
 4. Green entries represent additional Head SAR Test Position (#2: DD angle: 180 degree) with the worst case position.  
 5. Orange entries represent additional Head SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

**Table 11.1.4 WCDMA 1700 Head SAR**

MEASUREMENT RESULTS													
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch												
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.030	Left Touch	FCC #1	1:1	0.070	1.178	0.082	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.140	Right Touch	FCC #1	1:1	0.102	1.178	0.120	A6
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.110	Left Tilt	FCC #1	1:1	0.062	1.178	0.073	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	-0.100	Right Tilt	FCC #1	1:1	0.045	1.178	0.053	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.190	Right Touch	FCC #1	1:1	0.100	1.178	0.118	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	-0.080	Right Touch	FCC #1	1:1	0.098	1.178	0.115	
ANSI / IEEE C95.1-2005- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Head 1.6 W/kg (mW/g) averaged over 1 gram		

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.5 WCDMA 1900 Head SAR**

MEASUREMENT RESULTS													
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch												
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.080	Left Touch	FCC #1	1:1	0.078	1.138	0.089	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	-0.030	Right Touch	FCC #1	1:1	0.098	1.138	0.112	A7
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.120	Left Tilt	FCC #1	1:1	0.057	1.138	0.065	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.000	Right Tilt	FCC #1	1:1	0.040	1.138	0.046	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.000	Right Touch	FCC #1	1:1	0.092	1.138	0.105	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.000	Right Touch	FCC #1	1:1	0.088	1.138	0.100	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									Head 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.6 LTE Band 12 Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
707.5	23095	LTE B12	10	25.50	25.07	0.190	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.044	1.104	0.049	
707.5	23095	LTE B12	10	24.50	24.06	-0.100	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.030	1.107	0.033	
707.5	23095	LTE B12	10	25.50	25.07	0.140	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.051	1.104	0.056	A8
707.5	23095	LTE B12	10	24.50	24.06	0.150	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.029	1.107	0.032	
707.5	23095	LTE B12	10	25.50	25.07	-0.050	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.017	1.104	0.019	
707.5	23095	LTE B12	10	24.50	24.06	0.090	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.010	1.107	0.011	
707.5	23095	LTE B12	10	25.50	25.07	0.140	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.017	1.104	0.019	
707.5	23095	LTE B12	10	24.50	24.06	-0.170	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.011	1.107	0.012	
707.5	23095	LTE B12	10	25.50	25.07	0.150	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.047	1.104	0.052	
707.5	23095	LTE B12	10	25.50	25.07	-0.190	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.032	1.104	0.035	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									Head 1.6 W/kg (mW/g) averaged over 1 gram								

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.7 LTE Band 13 Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
782.0	23230	LTE B13	10	25.50	24.96	0.120	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.086	1.132	0.097	
782.0	23230	LTE B13	10	24.50	24.00	-0.070	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.049	1.122	0.055	
782.0	23230	LTE B13	10	25.50	24.96	0.120	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.093	1.132	0.105	A9
782.0	23230	LTE B13	10	24.50	24.00	-0.120	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.055	1.122	0.062	
782.0	23230	LTE B13	10	25.50	24.96	-0.020	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.025	1.132	0.028	
782.0	23230	LTE B13	10	24.50	24.00	-0.080	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.033	1.122	0.037	
782.0	23230	LTE B13	10	25.50	24.96	0.110	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.044	1.132	0.050	
782.0	23230	LTE B13	10	24.50	24.00	0.140	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.027	1.122	0.030	
782.0	23230	LTE B13	10	25.50	24.96	-0.130	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.071	1.132	0.080	
782.0	23230	LTE B13	10	25.50	24.96	-0.080	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.069	1.132	0.078	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									Head 1.6 W/kg (mW/g) averaged over 1 gram								

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.8 LTE Band 5 (Cell) Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
836.5	20525	LTE B5	10	25.50	24.85	0.150	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.139	1.161	0.161	A10
836.5	20525	LTE B5	10	24.50	23.94	-0.040	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.086	1.138	0.098	
836.5	20525	LTE B5	10	25.50	24.85	0.120	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.105	1.161	0.122	
836.5	20525	LTE B5	10	24.50	23.94	0.120	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.072	1.138	0.082	
836.5	20525	LTE B5	10	25.50	24.85	-0.030	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.040	1.161	0.046	
836.5	20525	LTE B5	10	24.50	23.94	0.170	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.028	1.138	0.032	
836.5	20525	LTE B5	10	25.50	24.85	0.100	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.093	1.161	0.108	
836.5	20525	LTE B5	10	24.50	23.94	0.010	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.055	1.138	0.063	
836.5	20525	LTE B5	10	25.50	24.85	0.100	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.138	1.161	0.160	
836.5	20525	LTE B5	10	25.50	24.85	-0.060	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.122	1.161	0.142	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									Head 1.6 W/kg (mW/g) averaged over 1 gram								

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.9 LTE Band 66 (AWS) Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1770.0	132572	LTE B66	20	25.20	25.08	-0.080	0	Left Touch	FCC #1	QPSK	1	0	1:1	0.088	1.028	0.090	
1770.0	132572	LTE B66	20	24.20	23.98	0.050	1	Left Touch	FCC #1	QPSK	50	0	1:1	0.066	1.052	0.069	
1770.0	132572	LTE B66	20	25.20	25.08	0.150	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.102	1.028	0.105	A11
1770.0	132572	LTE B66	20	24.20	23.98	0.170	1	Right Touch	FCC #1	QPSK	50	0	1:1	0.084	1.052	0.088	
1770.0	132572	LTE B66	20	25.20	25.08	0.050	0	Left Tilt	FCC #1	QPSK	1	0	1:1	0.077	1.028	0.079	
1770.0	132572	LTE B66	20	24.20	23.98	0.020	1	Left Tilt	FCC #1	QPSK	50	0	1:1	0.057	1.052	0.060	
1770.0	132572	LTE B66	20	25.20	25.08	0.090	0	Right Tilt	FCC #1	QPSK	1	0	1:1	0.049	1.028	0.050	
1770.0	132572	LTE B66	20	24.20	23.98	0.150	1	Right Tilt	FCC #1	QPSK	50	0	1:1	0.034	1.052	0.036	
1770.0	132572	LTE B66	20	25.20	25.08	-0.110	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.098	1.028	0.101	
1770.0	132572	LTE B66	20	25.20	25.08	-0.170	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.095	1.028	0.098	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Head 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.10 LTE Band 2 (PCS) Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1900.0	19100	LTE B2	20	25.20	25.06	0.010	0	Left Touch	FCC #1	QPSK	1	0	1:1	0.068	1.033	0.070	
1900.0	19100	LTE B2	20	24.20	24.07	0.030	1	Left Touch	FCC #1	QPSK	50	0	1:1	0.066	1.030	0.068	
1900.0	19100	LTE B2	20	25.20	25.06	-0.120	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.098	1.033	0.101	A12
1900.0	19100	LTE B2	20	24.20	24.07	0.100	1	Right Touch	FCC #1	QPSK	50	0	1:1	0.090	1.030	0.093	
1900.0	19100	LTE B2	20	25.20	25.06	0.140	0	Left Tilt	FCC #1	QPSK	1	0	1:1	0.055	1.033	0.057	
1900.0	19100	LTE B2	20	24.20	24.07	-0.190	1	Left Tilt	FCC #1	QPSK	50	0	1:1	0.053	1.030	0.055	
1900.0	19100	LTE B2	20	25.20	25.06	-0.180	0	Right Tilt	FCC #1	QPSK	1	0	1:1	0.034	1.033	0.035	
1900.0	19100	LTE B2	20	24.20	24.07	0.190	1	Right Tilt	FCC #1	QPSK	50	0	1:1	0.030	1.030	0.031	
1900.0	19100	LTE B2	20	25.20	25.06	0.000	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.096	1.033	0.099	
1900.0	19100	LTE B2	20	25.20	25.06	0.090	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.094	1.033	0.097	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Head 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.11 LTE Band 7 Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2510.0	20850	LTE B7	20	25.20	24.87	-0.120	0	Left Touch	FCC #1	QPSK	1	0	1:1	0.111	1.079	0.120	A13
2510.0	20850	LTE B7	20	24.20	23.92	0.180	1	Left Touch	FCC #1	QPSK	50	0	1:1	0.076	1.067	0.081	
2510.0	20850	LTE B7	20	25.20	24.87	0.010	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.081	1.079	0.087	
2510.0	20850	LTE B7	20	24.20	23.92	-0.010	1	Right Touch	FCC #1	QPSK	50	0	1:1	0.077	1.067	0.082	
2510.0	20850	LTE B7	20	25.20	24.87	0.100	0	Left Tilt	FCC #1	QPSK	1	0	1:1	0.031	1.079	0.033	
2510.0	20850	LTE B7	20	24.20	23.92	-0.050	1	Left Tilt	FCC #1	QPSK	50	0	1:1	0.030	1.067	0.032	
2510.0	20850	LTE B7	20	25.20	24.87	-0.020	0	Right Tilt	FCC #1	QPSK	1	0	1:1	0.051	1.079	0.055	
2510.0	20850	LTE B7	20	24.20	23.92	0.050	1	Right Tilt	FCC #1	QPSK	50	0	1:1	0.048	1.067	0.051	
2510.0	20850	LTE B7	20	25.20	24.87	0.030	0	Left Touch	FCC #1	QPSK	1	0	1:1	0.106	1.079	0.114	
2510.0	20850	LTE B7	20	25.20	24.87	-0.150	0	Left Touch	FCC #1	QPSK	1	0	1:1	0.095	1.079	0.103	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Head 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.12 LTE Band 41 Head SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2593.0	40620	LTE B41	20	25.20	24.84	0.100	0	Left Touch	FCC #1	QPSK	1	0	1:1.58	0.093	1.086	0.101	A14
2593.0	40620	LTE B41	20	24.20	23.80	0.190	1	Left Touch	FCC #1	QPSK	50	0	1:1.58	0.073	1.096	0.080	
2593.0	40620	LTE B41	20	25.20	24.84	-0.010	0	Right Touch	FCC #1	QPSK	1	0	1:1.58	0.075	1.086	0.081	
2593.0	40620	LTE B41	20	24.20	23.80	0.020	1	Right Touch	FCC #1	QPSK	50	0	1:1.58	0.054	1.096	0.059	
2593.0	40620	LTE B41	20	25.20	24.84	-0.060	0	Left Tilt	FCC #1	QPSK	1	0	1:1.58	0.023	1.086	0.025	
2593.0	40620	LTE B41	20	24.20	23.80	0.160	1	Left Tilt	FCC #1	QPSK	50	0	1:1.58	0.019	1.096	0.021	
2593.0	40620	LTE B41	20	25.20	24.84	0.160	0	Right Tilt	FCC #1	QPSK	1	0	1:1.58	0.046	1.086	0.050	
2593.0	40620	LTE B41	20	24.20	23.80	-0.050	1	Right Tilt	FCC #1	QPSK	50	0	1:1.58	0.035	1.096	0.038	
2593.0	40620	LTE B41	20	25.20	24.84	-0.030	0	Left Touch	FCC #1	QPSK	1	0	1:1.58	0.092	1.086	0.100	
2593.0	40620	LTE B41	20	25.20	24.84	0.050	0	Left Touch	FCC #1	QPSK	1	0	1:1.58	0.082	1.086	0.089	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Head 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.1.13 DTS Head SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode (Antenna)	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch															
2.437.0	6	802.11b (Ant.1)	-	16.50	15.76	0.050	Left Touch	FCC #2	0.144	1	99.2	0.139	1.186	1.008	0.166	
2.437.0	6	802.11b (Ant.1)	-	16.50	15.76	0.160	Right Touch	FCC #2	0.381	1	99.2	0.428	1.186	1.008	0.512	A15
2.437.0	6	802.11b (Ant.1)	-	16.50	15.76	-0.020	Left Tilt	FCC #2	0.106	1	99.2	0.102	1.186	1.008	0.122	
2.437.0	6	802.11b (Ant.1)	-	16.50	15.76	0.140	Right Tilt	FCC #2	0.284	1	99.2	0.289	1.186	1.008	0.322	
2.437.0	6	802.11b (Ant.1)	-	16.50	15.76	0.060	Right Touch	FCC #2	0.381	1	99.2	0.365	1.186	1.008	0.436	
2.412.0	1	802.11b (Ant.2)	-	16.50	15.39	-0.000	Left Touch	FCC #2	0.446	1	99.2	0.433	1.291	1.008	0.564	
2.412.0	1	802.11b (Ant.2)	-	16.50	15.39	0.140	Right Touch	FCC #2	0.700	1	99.2	0.689	1.291	1.008	0.871	
2.462.0	11	802.11b (Ant.2)	-	16.50	15.17	0.040	Right Touch	FCC #2	0.788	1	99.2	0.664	1.358	1.008	0.909	A16
2.412.0	1	802.11b (Ant.2)	-	16.50	15.39	-0.000	Left Tilt	FCC #2	0.453	1	99.2	0.420	1.291	1.008	0.547	
2.412.0	1	802.11b (Ant.2)	-	16.50	15.39	-0.010	Right Tilt	FCC #2	0.746	1	99.2	0.648	1.291	1.008	0.843	
2.462.0	11	802.11b (Ant.2)	-	16.50	15.17	0.110	Right Tilt	FCC #2	0.670	1	99.2	0.638	1.358	1.008	0.873	
2.462.0	11	802.11b (Ant.2)	-	16.50	15.17	0.030	Right Touch	FCC #2	0.730	1	99.2	0.638	1.358	1.008	0.873	
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	0.140	Left Touch	FCC #2	0.511	1	97.9	0.482	1.358	1.021	0.669	
2.412.0	1	802.11g (MIMO)	-	19.00	17.78	0.020	Right Touch	FCC #2	0.776	1	97.9	0.718	1.358	1.021	0.996	
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	0.130	Right Touch	FCC #2	0.887	1	97.9	0.808	1.358	1.021	1.121	A17
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	0.180	Left Tilt	FCC #2	0.470	1	97.9	0.457	1.358	1.021	0.634	
2.412.0	1	802.11g (MIMO)	-	19.00	17.78	-0.100	Right Tilt	FCC #2	0.781	1	97.9	0.714	1.358	1.021	0.990	
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	0.160	Right Tilt	FCC #2	0.745	1	97.9	0.758	1.358	1.021	1.051	
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	0.140	Right Touch	FCC #2	0.833	1	97.9	0.776	1.358	1.021	1.076	
2.462.0	11	802.11g (MIMO)	-	19.00	17.84	-0.070	Right Touch	FCC #2	0.901	1	97.9	0.796	1.358	1.021	1.104	
2.462.0	11	802.11g (MIMO)	#1	19.00	17.84	0.080	Right Touch	FCC #2	0.490	1	97.9	0.570	1.358	1.021	0.791	
2.462.0	11	802.11g (MIMO)	#2	19.00	17.84	-0.070	Right Touch	FCC #2	0.756	1	97.9	0.727	1.358	1.021	1.008	
2.462.0	11	802.11g (MIMO)	#3	19.00	17.84	0.170	Right Touch	FCC #2	0.738	1	97.9	0.736	1.358	1.021	1.021	
ANSI / IEEE C95.1-1992- SAFETY LIMIT										Head						
Spatial Peak										1.6 W/kg (mW/g)						
Uncontrolled Exposure/General Population Exposure										averaged over 1 gram						

- Note(s):
- Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements
  - Yellow entries represent variability measurements.
  - Blue entries represent additional Head SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
  - Green entries represent additional Head SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
  - Orange entries represent additional Head SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Adjusted SAR results for OFDM SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2.437	6	802.11b (Ant.1)	DSSS	16.5	0.512	2.437	802.11g	OFDM	16.0	0.891	0.456	X
2.437	6	802.11b (Ant.1)	DSSS	16.5	0.512	2.437	802.11n	OFDM	15.0	0.708	0.362	X
2.437	6	802.11b (Ant.1)	DSSS	16.5	0.512	2.437	802.11ac	OFDM	15.0	0.708	0.362	X
2.437	6	802.11b (Ant.2)	DSSS	16.5	0.909	2.437	802.11g	OFDM	16.0	0.891	0.810	X
2.437	6	802.11b (Ant.2)	DSSS	16.5	0.909	2.437	802.11n	OFDM	15.0	0.708	0.644	X
2.437	6	802.11b (Ant.2)	DSSS	16.5	0.909	2.437	802.11ac	OFDM	15.0	0.708	0.644	X
2.437	6	802.11g (MIMO)	OFDM	19.0	1.121	2.437	802.11n	OFDM	18.0	0.794	0.890	X
2.437	6	802.11g (MIMO)	OFDM	19.0	1.121	2.437	802.11ac	OFDM	18.0	0.794	0.890	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT										Head		
Spatial Peak										1.6 W/kg (mW/g)		
Uncontrolled Exposure/General Population Exposure										averaged over 1 gram		

Note: SAR is not required for the following 2.4 GHz OFDM conditions. 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.

**Table 11.1.14 UNII Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode (Antenna)	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5.260.0	52	802.11a (Ant.1)	16.00	15.85	0.000	Left Touch	FCC #2	0.066	6	97.7	0.048	1.035	1.024	0.051	
5.260.0	52	802.11a (Ant.1)	16.00	15.85	0.130	Right Touch	FCC #2	0.069	6	97.7	0.052	1.035	1.024	0.055	A18
5.260.0	52	802.11a (Ant.1)	16.00	15.85	0.000	Left Tilt	FCC #2	0.037	6	97.7	0.037	1.035	1.024	0.039	
5.260.0	52	802.11a (Ant.1)	16.00	15.85	0.140	Right Tilt	FCC #2	0.060	6	97.7	0.043	1.035	1.024	0.046	
5.260.0	52	802.11a (Ant.1)	16.00	15.85	-0.020	Right Touch	FCC #2	0.055	6	97.7	0.051	1.035	1.024	0.054	
5.320.0	64	802.11a (Ant.2)	16.00	15.93	0.050	Left Touch	FCC #2	0.116	6	97.7	0.115	1.016	1.024	0.120	
5.320.0	64	802.11a (Ant.2)	16.00	15.93	0.130	Right Touch	FCC #2	0.522	6	97.7	0.537	1.016	1.024	0.558	A19
5.320.0	64	802.11a (Ant.2)	16.00	15.93	0.060	Left Tilt	FCC #2	0.102	6	97.7	0.098	1.016	1.024	0.102	
5.320.0	64	802.11a (Ant.2)	16.00	15.93	0.160	Right Tilt	FCC #2	0.292	6	97.7	0.325	1.016	1.024	0.338	
5.320.0	64	802.11a (Ant.2)	16.00	15.93	-0.150	Right Touch	FCC #2	0.495	6	97.7	0.506	1.016	1.024	0.526	
5.260.0	52	802.11a (MIMO)	19.00	18.89	-0.120	Left Touch	FCC #2	0.141	6	97.9	0.135	1.035	1.021	0.143	
5.260.0	52	802.11a (MIMO)	19.00	18.89	0.130	Right Touch	FCC #2	0.566	6	97.9	0.554	1.035	1.021	0.586	A20
5.260.0	52	802.11a (MIMO)	19.00	18.89	0.090	Left Tilt	FCC #2	0.134	6	97.9	0.122	1.035	1.021	0.129	
5.260.0	52	802.11a (MIMO)	19.00	18.89	0.010	Right Tilt	FCC #2	0.468	6	97.9	0.459	1.035	1.021	0.485	
5.260.0	52	802.11a (MIMO)	19.00	18.89	0.040	Right Touch	FCC #2	0.582	6	97.9	0.544	1.035	1.021	0.575	
ANSI / IEEE C95.1-1992- SAFETY LIMIT										Head					
Spatial Peak										1.6 W/kg (mW/g)					
Uncontrolled Exposure/General Population Exposure										averaged over 1 gram					

- Note(s):
- Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

Adjusted SAR results for UNII-1 and UNII-2A SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5.260.0	52	802.11a (Ant.1)	OFDM	16.00	0.055	5.180	802.11a	OFDM	16.00	1.000	0.055	X
5.300.0	60	802.11a (Ant.2)	OFDM	16.00	0.558	5.180	802.11a	OFDM	16.00	1.000	0.558	X
5.300.0	60	802.11a (MIMO)	OFDM	19.00	0.586	5.180	802.11a	OFDM	19.00	1.000	0.586	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT										Head		
Spatial Peak										1.6 W/kg (mW/g)		
Uncontrolled Exposure/General Population Exposure										averaged over 1 gram		

Note(s):

- U-NII-1 and U-NII-2A Bands: When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration.

**Table 11.15 UNII Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode (Antenna)	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.000	Left Touch	FCC #2	0.079	6	97.7	0.060	1.007	1.024	0.062	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.000	Right Touch	FCC #2	0.184	6	97.7	0.178	1.007	1.024	0.183	A21
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.000	Left Tilt	FCC #2	0.084	6	97.7	0.050	1.007	1.024	0.052	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	-0.020	Right Tilt	FCC #2	0.146	6	97.7	0.142	1.007	1.024	0.146	
5 600.0	120	802.11a (Ant.2)	16.00	15.97	-0.060	Right Touch	FCC #2	0.181	6	97.7	0.170	1.007	1.024	0.175	
5 800.0	120	802.11a (Ant.2)	16.00	15.92	-0.150	Left Touch	FCC #2	0.118	6	97.7	0.111	1.019	1.024	0.116	
5 800.0	120	802.11a (Ant.2)	16.00	15.92	0.140	Right Touch	FCC #2	0.307	6	97.7	0.302	1.019	1.024	0.315	A22
5 800.0	120	802.11a (Ant.2)	16.00	15.92	0.050	Left Tilt	FCC #2	0.095	6	97.7	0.083	1.019	1.024	0.087	
5 800.0	120	802.11a (Ant.2)	16.00	15.92	-0.140	Right Tilt	FCC #2	0.201	6	97.7	0.203	1.019	1.024	0.212	
5 800.0	120	802.11a (Ant.2)	16.00	15.92	0.110	Right Touch	FCC #2	0.311	6	97.7	0.301	1.019	1.024	0.314	
5 800.0	120	802.11a (MIMO)	19.00	18.96	0.000	Left Touch	FCC #2	0.147	6	97.9	0.135	1.019	1.021	0.141	
5 800.0	120	802.11a (MIMO)	19.00	18.96	0.100	Right Touch	FCC #2	0.479	6	97.9	0.462	1.019	1.021	0.481	A23
5 800.0	120	802.11a (MIMO)	19.00	18.96	0.130	Left Tilt	FCC #2	0.128	6	97.9	0.122	1.019	1.021	0.127	
5 800.0	120	802.11a (MIMO)	19.00	18.96	-0.060	Right Tilt	FCC #2	0.258	6	97.9	0.266	1.019	1.021	0.277	
5 800.0	120	802.11a (MIMO)	19.00	18.96	0.050	Right Touch	FCC #2	0.469	6	97.9	0.459	1.019	1.021	0.478	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.000	Left Touch	FCC #2	0.025	6	97.7	0.031	1.172	1.024	0.037	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.090	Right Touch	FCC #2	0.108	6	97.7	0.091	1.172	1.024	0.109	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.000	Left Tilt	FCC #2	0.055	6	97.7	0.044	1.172	1.024	0.053	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.140	Right Tilt	FCC #2	0.098	6	97.7	0.103	1.172	1.024	0.124	A24
5 825.0	165	802.11a (Ant.1)	16.00	15.31	-0.090	Right Tilt	FCC #2	0.095	6	97.7	0.099	1.172	1.024	0.119	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.020	Left Touch	FCC #2	0.123	6	97.7	0.123	1.064	1.024	0.134	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.120	Right Touch	FCC #2	0.337	6	97.7	0.305	1.064	1.024	0.332	A25
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.020	Left Tilt	FCC #2	0.133	6	97.7	0.122	1.064	1.024	0.133	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.080	Right Tilt	FCC #2	0.246	6	97.7	0.216	1.064	1.024	0.235	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.030	Right Touch	FCC #2	0.317	6	97.7	0.285	1.064	1.024	0.310	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.090	Left Touch	FCC #2	0.176	6	97.9	0.167	1.172	1.021	0.200	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.140	Right Touch	FCC #2	0.552	6	97.9	0.493	1.172	1.021	0.590	A26
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.020	Left Tilt	FCC #2	0.165	6	97.9	0.142	1.172	1.021	0.170	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.040	Right Tilt	FCC #2	0.357	6	97.9	0.390	1.172	1.021	0.467	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.130	Right Touch	FCC #2	0.543	6	97.9	0.488	1.172	1.021	0.584	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.16 Bluetooth Head SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
2 441.0	39	Bluetooth	11.35	10.41	-0.050	Left Touch	FCC #2	1	76.8	0.027	1.242	1.302	0.044	
2 441.0	39	Bluetooth	11.35	10.41	0.160	Right Touch	FCC #2	1	76.8	0.120	1.242	1.302	0.194	A27
2 441.0	39	Bluetooth	11.35	10.41	0.180	Left Tilt	FCC #2	1	76.8	0.018	1.242	1.302	0.029	
2 441.0	39	Bluetooth	11.35	10.41	-0.020	Right Tilt	FCC #2	1	76.8	0.066	1.242	1.302	0.107	
2 441.0	39	Bluetooth	11.35	10.41	0.150	Right Touch	FCC #2	1	76.8	0.117	1.242	1.302	0.189	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Head 1.6 W/kg (mW/g) averaged over 1 gram						

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

## 11.2 Standalone Body-Worn SAR Worn SAR Results

**Table 11.2.1 GSM/PCS/GPRS/WCDMA Body-Worn SAR**

FREQUENCY		MEASUREMENT RESULTS												
MHz	Ch	Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
836.6	190	GSM850	GSM	33.70	33.60	0.020	10 mm [Front]	FCC #1	1	1:8.3	0.285	1.023	0.292	
836.6	190	GSM850	GSM	33.70	33.60	-0.070	10 mm [Rear]	FCC #1	1	1:8.3	0.375	1.023	0.384	A28
836.6	190	GSM850	GPRS	31.70	31.50	-0.010	10 mm [Front]	FCC #1	2	1:4.15	0.334	1.047	0.350	
836.6	190	GSM850	GPRS	31.70	31.50	-0.030	10 mm [Rear]	FCC #1	2	1:4.15	0.427	1.047	0.447	A29
836.6	190	GSM850	GPRS	31.70	31.50	0.020	10 mm [Rear]	FCC #1	2	1:4.15	0.423	1.047	0.443	
836.6	190	GSM850	GPRS	31.70	31.50	-0.150	10 mm [Rear]	FCC #1	2	1:4.15	0.404	1.047	0.423	
1880.0	661	PCS1900	PCS	30.70	30.60	0.100	10 mm [Front]	FCC #1	1	1:8.3	0.286	1.023	0.293	
1880.0	661	PCS1900	PCS	30.70	30.60	-0.100	10 mm [Rear]	FCC #1	1	1:8.3	0.427	1.023	0.437	A30
1880.0	661	PCS1900	GPRS	25.70	25.60	0.180	10 mm [Front]	FCC #1	4	1:2.075	0.376	1.023	0.385	
1880.0	661	PCS1900	GPRS	25.70	25.60	-0.170	10 mm [Rear]	FCC #1	4	1:2.075	0.455	1.023	0.465	A31
836.6	4183	WCDMA 850	RMC	25.20	24.55	-0.020	10 mm [Front]	FCC #1	N/A	1:1	0.484	1.161	0.562	
836.6	4183	WCDMA 850	RMC	25.20	24.55	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.523	1.161	0.607	A32
836.6	4183	WCDMA 850	RMC	25.20	24.55	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.522	1.161	0.606	
836.6	4183	WCDMA 850	RMC	25.20	24.55	0.010	10 mm [Rear]	FCC #1	N/A	1:1	0.496	1.161	0.576	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.457	1.178	0.538	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.060	10 mm [Rear]	FCC #1	N/A	1:1	0.526	1.178	0.620	A33
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.100	10 mm [Front]	FCC #1	N/A	1:1	0.587	1.138	0.668	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	-0.020	10 mm [Rear]	FCC #1	N/A	1:1	0.697	1.138	0.793	A34

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Body  
1.6 W/kg (mW/g)  
averaged over 1 gram

Note(s):  
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.2.2 LTE B12, B13, B5, B66 Body-Worn SAR**

FREQUENCY		MEASUREMENT RESULTS																
MHz	Ch	Mode/ Band	Dual Display Accessory Configuration	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
707.5	23095	LTE B12	-	10	25.50	25.07	-0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.307	1.104	0.339	
707.5	23095	LTE B12	-	10	24.50	24.06	-0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.240	1.107	0.266	
707.5	23095	LTE B12	-	10	25.50	25.07	-0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.436	1.104	0.481	A35
707.5	23095	LTE B12	-	10	24.50	24.06	0.030	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.322	1.107	0.356	
707.5	23095	LTE B12	-	10	25.50	25.07	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.433	1.104	0.478	
707.5	23095	LTE B12	-	10	25.50	25.07	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.393	1.104	0.434	
782.0	23230	LTE B13	-	10	25.50	24.96	0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.478	1.132	0.541	
782.0	23230	LTE B13	-	10	24.50	24.00	-0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.345	1.122	0.387	
782.0	23230	LTE B13	-	10	25.50	24.96	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.637	1.132	0.721	A36
782.0	23230	LTE B13	-	10	24.50	24.00	-0.050	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.566	1.122	0.635	
782.0	23230	LTE B13	-	10	25.50	24.96	0.000	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.636	1.132	0.720	
782.0	23230	LTE B13	-	10	25.50	24.96	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.635	1.132	0.719	
836.5	20525	LTE B5	-	10	25.50	24.85	0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.622	1.161	0.722	
836.5	20525	LTE B5	-	10	24.50	23.94	-0.050	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.397	1.138	0.452	
836.5	20525	LTE B5	-	10	25.50	24.85	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.699	1.161	0.812	A37
836.5	20525	LTE B5	-	10	24.50	23.94	0.040	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.445	1.138	0.506	
836.5	20525	LTE B5	-	10	25.50	24.85	0.040	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.698	1.161	0.810	
836.5	20525	LTE B5	-	10	25.50	24.85	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.653	1.161	0.758	
836.5	20525	LTE B5	#1	10	25.50	24.85	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.556	1.161	0.646	
836.5	20525	LTE B5	#2	10	25.50	24.85	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.386	1.161	0.448	
836.5	20525	LTE B5	#3	10	25.50	24.85	0.000	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.186	1.161	0.216	
1770.0	132572	LTE B66	-	20	25.20	25.08	-0.000	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1	0.510	1.028	0.524	
1770.0	132572	LTE B66	-	20	24.20	23.98	0.010	1	10 mm [Front]	FCC #1	QPSK	50	0	1:1	0.413	1.052	0.434	
1770.0	132572	LTE B66	-	20	25.20	25.08	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1	0.634	1.028	0.652	A38
1770.0	132572	LTE B66	-	20	24.20	23.98	-0.170	1	10 mm [Rear]	FCC #1	QPSK	50	0	1:1	0.513	1.052	0.540	

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Body  
1.6 W/kg (mW/g)  
averaged over 1 gram

Note(s):  
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.  
3. Blue entries represent additional Body-Worn SAR Test Position (#1: DD angle: 0 degree) with the worst case position.  
4. Green entries represent additional Body-Worn SAR Test Position (#2: DD angle: 180 degree) with the worst case position.  
5. Orange entries represent additional Body-Worn SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

**Table 11.2.3 LTE B2, B7, B41 Body-Worn SAR**

FREQUENCY		MEASUREMENT RESULTS																
MHz	Ch	Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #	
1900.0	19100	LTE B2	20	25.20	25.06	-0.010	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1	0.487	1.033	0.503		
1900.0	19100	LTE B2	20	24.20	24.07	-0.000	1	10 mm [Front]	FCC #1	QPSK	50	0	1:1	0.464	1.030	0.478		
1900.0	19100	LTE B2	20	25.20	25.06	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1	0.567	1.033	0.586	A39	
1900.0	19100	LTE B2	20	24.20	24.07	-0.010	1	10 mm [Rear]	FCC #1	QPSK	50	0	1:1	0.544	1.030	0.560		
2510.0	20850	LTE B7	20	25.20	24.87	0.020	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1	0.381	1.079	0.411		
2510.0	20850	LTE B7	20	24.20	23.92	0.000	1	10 mm [Front]	FCC #1	QPSK	50	0	1:1	0.365	1.067	0.389		
2510.0	20850	LTE B7	20	25.20	24.87	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1	0.488	1.079	0.527	A40	
2510.0	20850	LTE B7	20	24.20	23.92	-0.070	1	10 mm [Rear]	FCC #1	QPSK	50	0	1:1	0.482	1.067	0.514		
2593.0	40620	LTE B41	20	25.20	24.84	-0.030	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1.58	0.345	1.086	0.375		
2593.0	40620	LTE B41	20	24.20	23.80	-0.030	1	10 mm [Front]	FCC #1	QPSK	50	0	1:1.58	0.284	1.096	0.311		
2593.0	40620	LTE B41	20	25.20	24.84	0.040	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.436	1.086	0.473	A41	
2593.0	40620	LTE B41	20	24.20	23.80	0.070	1	10 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.340	1.096	0.373		

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Body  
1.6 W/kg (mW/g)  
averaged over 1 gram

**Table 11.2.4 DTS Body-Worn SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	SAR (W/kg)	Plots #
MHz	Ch														
2 437.0	6	802.11b (Ant.1)	16.50	15.76	0.070	10 mm [Front]	FCC #2	0.092	1	99.2	0.093	1.186	1.008	0.111	
2 437.0	6	802.11b (Ant.1)	16.50	15.76	-0.010	10 mm [Rear]	FCC #2	0.120	1	99.2	0.118	1.186	1.008	0.141	A42
2 412.0	1	802.11b (Ant.2)	16.50	15.39	0.050	10 mm [Front]	FCC #2	0.081	1	99.2	0.077	1.291	1.008	0.100	
2 412.0	1	802.11b (Ant.2)	16.50	15.39	0.050	10 mm [Rear]	FCC #2	0.150	1	99.2	0.136	1.291	1.008	0.177	A43
2 462.0	11	802.11g (MIMO)	19.00	17.84	0.090	10 mm [Front]	FCC #2	0.102	1	97.9	0.101	1.306	1.021	0.135	
2 462.0	11	802.11g (MIMO)	19.00	17.84	0.160	10 mm [Rear]	FCC #2	0.142	1	97.9	0.148	1.306	1.021	0.197	A44
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram				

Adjusted SAR results for OFDM SAR												
FREQUENCY		Mode/Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2 437	6	802.11b (Ant.1)	DSSS	16.5	0.141	2 437	802.11g	OFDM	16.0	0.891	0.125	X
2 437	6	802.11b (Ant.1)	DSSS	16.5	0.141	2 437	802.11n	OFDM	15.0	0.708	0.100	X
2 437	6	802.11b (Ant.1)	DSSS	16.5	0.141	2 437	802.11ac	OFDM	15.0	0.708	0.100	X
2 437	6	802.11b (Ant.2)	DSSS	16.5	0.177	2 437	802.11g	OFDM	16.0	0.891	0.158	X
2 437	6	802.11b (Ant.2)	DSSS	16.5	0.177	2 437	802.11n	OFDM	15.0	0.708	0.125	X
2 437	6	802.11b (Ant.2)	DSSS	16.5	0.177	2 437	802.11ac	OFDM	15.0	0.708	0.125	X
2 437	6	802.11g (MIMO)	OFDM	19.0	0.197	2 437	802.11n	OFDM	18.0	0.794	0.156	X
2 437	6	802.11g (MIMO)	OFDM	19.0	0.197	2 437	802.11ac	OFDM	18.0	0.794	0.156	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram	

Note: SAR is not required for the following 2.4 GHz OFDM conditions. 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.

**Table 11.2.5 UNII Body-Worn SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 260.0	52	802.11a (Ant.1)	16.00	15.85	0.050	10 mm [Front]	FCC #2	0.028	6	97.7	0.021	1.035	1.024	0.022	
5 260.0	52	802.11a (Ant.1)	16.00	15.85	0.080	10 mm [Rear]	FCC #2	0.193	6	97.7	0.208	1.035	1.024	0.220	A45
5 260.0	52	802.11a (Ant.1)	16.00	15.85	0.070	10 mm [Rear]	FCC #2	0.195	6	97.7	0.203	1.035	1.024	0.215	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	0.010	10 mm [Front]	FCC #2	0.093	6	97.7	0.096	1.016	1.024	0.100	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	-0.040	10 mm [Rear]	FCC #2	0.128	6	97.7	0.124	1.016	1.024	0.129	A46
5 320.0	64	802.11a (Ant.2)	16.00	15.93	-0.150	10 mm [Rear]	FCC #2	0.099	6	97.7	0.087	1.016	1.024	0.090	
5 260.0	52	802.11a (MIMO)	19.00	18.89	0.020	10 mm [Front]	FCC #2	0.106	6	97.9	0.108	1.035	1.021	0.114	
5 260.0	52	802.11a (MIMO)	19.00	18.89	0.100	10 mm [Rear]	FCC #2	0.271	6	97.9	0.296	1.035	1.021	0.313	A47
5 260.0	52	802.11a (MIMO)	19.00	18.89	0.020	10 mm [Rear]	FCC #2	0.264	6	97.9	0.271	1.035	1.021	0.287	
ANSI / IEEE C95.1-2005- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

Adjusted SAR results for UNII-1 and UNII-2A SAR												
FREQUENCY		Mode/Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5 260.0	52	802.11a (Ant.1)	OFDM	16.00	0.220	5 180	802.11a	OFDM	16.00	1.000	0.220	X
5 300.0	60	802.11a (Ant.2)	OFDM	16.00	0.129	5 180	802.11a	OFDM	16.00	1.000	0.129	X
5 300.0	60	802.11a (MIMO)	OFDM	19.00	0.313	5 180	802.11a	OFDM	19.00	1.000	0.313	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram	

Note(s):  
1. U-NII-1 and U-NII-2A Bands: When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration.

**Table 11.2.6 UNII Body-Worn SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.030	10 mm [Front]	FCC #2	0.033	6	97.7	0.019	1.007	1.024	0.020	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	-0.140	10 mm [Rear]	FCC #2	0.306	6	97.7	0.347	1.007	1.024	0.358	A48
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.100	10 mm [Rear]	FCC #2	0.320	6	97.7	0.340	1.007	1.024	0.350	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	-0.100	10 mm [Front]	FCC #2	0.060	6	97.7	0.057	1.019	1.024	0.059	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	-0.090	10 mm [Rear]	FCC #2	0.311	6	97.7	0.318	1.019	1.024	0.332	A49
5 600.0	120	802.11a (Ant.2)	16.00	15.92	-0.110	10 mm [Rear]	FCC #2	0.305	6	97.7	0.302	1.019	1.024	0.315	
5 600.0	120	802.11a (MIMO)	19.00	18.96	-0.030	10 mm [Front]	FCC #2	0.077	6	97.9	0.071	1.019	1.021	0.074	
5 600.0	120	802.11a (MIMO)	19.00	18.96	0.030	10 mm [Rear]	FCC #2	0.387	6	97.9	0.424	1.019	1.021	0.441	A50
5 600.0	120	802.11a (MIMO)	19.00	18.96	0.050	10 mm [Rear]	FCC #2	0.371	6	97.9	0.411	1.019	1.021	0.428	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.010	10 mm [Front]	FCC #2	0.031	6	97.7	0.025	1.172	1.024	0.030	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.070	10 mm [Rear]	FCC #2	0.218	6	97.7	0.251	1.172	1.024	0.301	A51
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.070	10 mm [Rear]	FCC #2	0.219	6	97.7	0.245	1.172	1.024	0.294	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.010	10 mm [Front]	FCC #2	0.102	6	97.7	0.112	1.064	1.024	0.122	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.040	10 mm [Rear]	FCC #2	0.141	6	97.7	0.145	1.064	1.024	0.158	A52
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.150	10 mm [Rear]	FCC #2	0.109	6	97.7	0.101	1.064	1.024	0.110	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.100	10 mm [Front]	FCC #2	0.119	6	97.9	0.131	1.172	1.021	0.157	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.020	10 mm [Rear]	FCC #2	0.297	6	97.9	0.328	1.172	1.021	0.393	A53
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.030	10 mm [Rear]	FCC #2	0.305	6	97.9	0.326	1.172	1.021	0.390	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.2.7 Bluetooth Body-Worn SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
2 441.0	39	Bluetooth	11.35	10.41	-0.120	10 mm [Front]	FCC #2	1	76.8	0.013	1.242	1.302	0.021	
2 441.0	39	Bluetooth	11.35	10.41	-0.040	10 mm [Rear]	FCC #2	1	76.8	0.017	1.242	1.302	0.027	A54
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram			

### 11.3 Standalone Hotspot SAR Results

**Table 11.3.1 GPRS/WCDMA Hotspot SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
836.6	190	GSM850	-	GPRS	31.70	31.50	-0.060	10 mm [Bottom]	FCC #1	2	1:4.15	0.293	1.047	0.307	
836.6	190	GSM850	-	GPRS	31.70	31.50	-0.010	10 mm [Front]	FCC #1	2	1:4.15	0.334	1.047	0.350	
836.6	190	GSM850	-	GPRS	31.70	31.50	-0.030	10 mm [Rear]	FCC #1	2	1:4.15	0.427	1.047	0.447	A29
836.6	190	GSM850	-	GPRS	31.70	31.50	-0.010	10 mm [Right]	FCC #1	2	1:4.15	0.193	1.047	0.202	
836.6	190	GSM850	-	GPRS	31.70	31.50	0.020	10 mm [Rear]	FCC #1	2	1:4.15	0.423	1.047	0.443	
836.6	190	GSM850	-	GPRS	31.70	31.50	-0.150	10 mm [Rear]	FCC #1	2	1:4.15	0.404	1.047	0.423	
1880.0	661	PCS1900	-	GPRS	25.70	25.60	-0.020	10 mm [Bottom]	FCC #1	4	1:2.075	0.625	1.023	0.639	A55
1880.0	661	PCS1900	-	GPRS	25.70	25.60	0.180	10 mm [Front]	FCC #1	4	1:2.075	0.376	1.023	0.385	
1880.0	661	PCS1900	-	GPRS	25.70	25.60	-0.170	10 mm [Rear]	FCC #1	4	1:2.075	0.455	1.023	0.465	
1880.0	661	PCS1900	-	GPRS	25.70	25.60	-0.030	10 mm [Left]	FCC #1	4	1:2.075	0.114	1.023	0.117	
1880.0	661	PCS1900	-	GPRS	27.20	25.60	0.100	10 mm [Bottom]	FCC #1	3	1:2.77	0.613	1.445	0.886	
1880.0	661	PCS1900	-	GPRS	25.70	25.60	-0.060	10 mm [Bottom]	FCC #1	4	1:2.075	0.599	1.023	0.613	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.180	10 mm [Bottom]	FCC #1	N/A	1:1	0.397	1.161	0.461	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.020	10 mm [Front]	FCC #1	N/A	1:1	0.484	1.161	0.562	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.523	1.161	0.607	A32
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.000	10 mm [Right]	FCC #1	N/A	1:1	0.293	1.161	0.340	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.522	1.161	0.606	
836.6	4183	WCDMA 850	-	RMC	25.20	24.55	0.010	10 mm [Rear]	FCC #1	N/A	1:1	0.496	1.161	0.576	
1732.4	1312	WCDMA 1700	-	RMC	25.20	24.50	-0.120	10 mm [Bottom]	FCC #1	N/A	1:1	0.821	1.175	0.965	
1732.4	1412	WCDMA 1700	-	RMC	25.20	24.49	-0.100	10 mm [Bottom]	FCC #1	N/A	1:1	0.814	1.178	0.959	
1752.6	1513	WCDMA 1700	-	RMC	25.20	24.58	-0.120	10 mm [Bottom]	FCC #1	N/A	1:1	0.864	1.153	0.996	A56
1732.4	1412	WCDMA 1700	-	RMC	25.20	24.49	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.457	1.178	0.538	
1732.4	1412	WCDMA 1700	-	RMC	25.20	24.49	0.060	10 mm [Rear]	FCC #1	N/A	1:1	0.526	1.178	0.620	
1732.4	1412	WCDMA 1700	-	RMC	25.20	24.49	-0.120	10 mm [Left]	FCC #1	N/A	1:1	0.258	1.178	0.304	
1752.6	1513	WCDMA 1700	-	RMC	25.20	24.58	-0.120	10 mm [Bottom]	FCC #1	N/A	1:1	0.862	1.153	0.994	
1752.6	1513	WCDMA 1700	-	RMC	25.20	24.58	0.170	10 mm [Bottom]	FCC #1	N/A	1:1	0.850	1.153	0.980	
1752.6	1513	WCDMA 1700	-	RMC	25.20	24.58	-0.050	10 mm [Bottom]	FCC #1	N/A	1:1	0.830	1.153	0.957	
1852.4	9262	WCDMA 1900	-	RMC	25.20	24.63	-0.080	10 mm [Bottom]	FCC #1	N/A	1:1	0.962	1.140	1.097	A57
1880.0	9400	WCDMA 1900	-	RMC	25.20	24.64	-0.090	10 mm [Bottom]	FCC #1	N/A	1:1	0.878	1.138	0.999	
1907.6	9538	WCDMA 1900	-	RMC	25.20	24.59	-0.090	10 mm [Bottom]	FCC #1	N/A	1:1	0.865	1.151	0.996	
1880.0	9400	WCDMA 1900	-	RMC	25.20	24.64	0.100	10 mm [Front]	FCC #1	N/A	1:1	0.587	1.138	0.668	
1880.0	9400	WCDMA 1900	-	RMC	25.20	24.64	-0.020	10 mm [Rear]	FCC #1	N/A	1:1	0.697	1.138	0.793	
1880.0	9400	WCDMA 1900	-	RMC	25.20	24.64	-0.020	10 mm [Left]	FCC #1	N/A	1:1	0.207	1.138	0.236	
1852.4	9262	WCDMA 1900	-	RMC	25.20	24.63	0.020	10 mm [Bottom]	FCC #1	N/A	1:1	0.961	1.140	1.096	
1852.4	9262	WCDMA 1900	-	RMC	25.20	24.63	-0.080	10 mm [Bottom]	FCC #1	N/A	1:1	0.956	1.140	1.090	
1852.4	9262	WCDMA 1900	-	RMC	25.20	24.63	-0.110	10 mm [Bottom]	FCC #1	N/A	1:1	0.947	1.140	1.080	
1852.4	9262	WCDMA 1900	#1	RMC	25.20	24.63	0.070	10 mm [Bottom]	FCC #1	N/A	1:1	0.908	1.140	1.035	
1852.4	9262	WCDMA 1900	#2	RMC	25.20	24.63	0.060	10 mm [Bottom]	FCC #1	N/A	1:1	0.898	1.140	1.035	
1852.4	9262	WCDMA 1900	#3	RMC	25.20	24.63	0.170	10 mm [Bottom]	FCC #1	N/A	1:1	0.903	1.140	1.029	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram				

- Note(s):
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.
  2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.
  3. Yellow entries represent variability measurements.
  4. Blue entries represent additional Hotspot SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
  5. Green entries represent additional Hotspot SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
  6. Orange entries represent additional Hotspot SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

**Table 11.3.2 LTE B12, B13, B5 Hotspot SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
707.5	23095	LTE B12	10	25.50	25.07	0.050	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.204	1.104	0.225	
707.5	23095	LTE B12	10	24.50	24.06	0.020	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.152	1.107	0.168	
707.5	23095	LTE B12	10	25.50	25.07	-0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.307	1.104	0.339	
707.5	23095	LTE B12	10	24.50	24.06	-0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.240	1.107	0.266	
707.5	23095	LTE B12	10	25.50	25.07	-0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.436	1.104	0.481	A35
707.5	23095	LTE B12	10	24.50	24.06	0.030	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.322	1.107	0.356	
707.5	23095	LTE B12	10	25.50	25.07	0.070	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.168	1.104	0.185	
707.5	23095	LTE B12	10	24.50	24.06	0.050	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.133	1.107	0.147	
707.5	23095	LTE B12	10	25.50	25.07	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.433	1.104	0.478	
707.5	23095	LTE B12	10	25.50	25.07	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.393	1.104	0.434	
782.0	23230	LTE B13	10	25.50	24.96	0.090	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.166	1.132	0.188	
782.0	23230	LTE B13	10	24.50	24.00	-0.020	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.149	1.122	0.167	
782.0	23230	LTE B13	10	25.50	24.96	0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.478	1.132	0.541	
782.0	23230	LTE B13	10	24.50	24.00	-0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.345	1.122	0.387	
782.0	23230	LTE B13	10	25.50	24.96	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.637	1.132	0.721	A36
782.0	23230	LTE B13	10	24.50	24.00	-0.050	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.566	1.122	0.635	
782.0	23230	LTE B13	10	25.50	24.96	-0.010	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.114	1.132	0.129	
782.0	23230	LTE B13	10	24.50	24.00	0.000	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.102	1.122	0.114	
782.0	23230	LTE B13	10	25.50	24.96	0.000	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.636	1.132	0.720	
782.0	23230	LTE B13	10	24.50	24.96	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.635	1.132	0.719	
836.5	20525	LTE B5	10	25.50	24.85	-0.010	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.385	1.161	0.447	
836.5	20525	LTE B5	10	24.50	23.94	-0.100	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.248	1.138	0.282	
836.5	20525	LTE B5	10	25.50	24.85	0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.622	1.161	0.722	
836.5	20525	LTE B5	10	24.50	23.94	-0.050	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.397	1.138	0.452	
836.5	20525	LTE B5	10	25.50	24.85	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.699	1.161	0.812	A37
836.5	20525	LTE B5	10	24.50	23.94	0.040	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.445	1.138	0.506	
836.5	20525	LTE B5	10	25.50	24.85	-0.140	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.308	1.161	0.358	
836.5	20525	LTE B5	10	24.50	23.94	-0.080	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.192	1.138	0.218	
836.5	20525	LTE B5	10	25.50	24.85	0.040	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.698	1.161	0.810	
836.5	20525	LTE B5	10	25.50	24.85	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.653	1.161	0.758	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram						

- Note(s):
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.
  2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.3.3 LTE B66 Hotspot SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1720.0	132072	LTE B66	20	25.20	24.88	-0.090	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.777	1.076	0.836	
1745.0	132322	LTE B66	20	25.20	24.81	-0.080	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.789	1.094	0.863	
1770.0	132572	LTE B66	20	25.20	25.08	-0.080	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.887	1.028	0.912	A58
1770.0	132572	LTE B66	20	24.20	23.98	-0.070	1	10 mm (Bottom)	FCC #1	QPSK	50	0	1:1	0.737	1.052	0.775	
1770.0	132572	LTE B66	20	24.20	23.87	-0.030	1	10 mm (Bottom)	FCC #1	QPSK	100	0	1:1	0.726	1.079	0.783	
1770.0	132572	LTE B66	20	25.20	25.08	-0.000	0	10 mm (Front)	FCC #1	QPSK	1	0	1:1	0.510	1.028	0.524	
1770.0	132572	LTE B66	20	24.20	23.98	0.010	1	10 mm (Front)	FCC #1	QPSK	50	0	1:1	0.413	1.052	0.434	
1770.0	132572	LTE B66	20	25.20	25.08	0.010	0	10 mm (Rear)	FCC #1	QPSK	1	0	1:1	0.634	1.028	0.652	
1770.0	132572	LTE B66	20	24.20	23.98	-0.170	1	10 mm (Rear)	FCC #1	QPSK	50	0	1:1	0.513	1.052	0.540	
1770.0	132572	LTE B66	20	25.20	25.08	-0.100	0	10 mm (Left)	FCC #1	QPSK	1	0	1:1	0.265	1.028	0.272	
1770.0	132572	LTE B66	20	24.20	23.98	-0.140	1	10 mm (Left)	FCC #1	QPSK	50	0	1:1	0.199	1.052	0.209	
1770.0	132572	LTE B66	20	25.20	24.88	-0.080	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.805	1.076	0.866	
1770.0	132572	LTE B66	20	25.20	24.88	-0.100	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.870	1.076	0.936	
1770.0	132572	LTE B66	20	25.20	24.88	0.120	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.850	1.076	0.915	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.  
 3. Yellow entries represent variability measurements.

**Table 11.3.4 LTE B2 Hotspot SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1860.0	18700	LTE B2	20	25.20	24.72	-0.160	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.960	1.117	1.072	
1880.0	18900	LTE B2	20	25.20	24.71	-0.020	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.915	1.119	1.024	
1900.0	19100	LTE B2	20	25.20	25.06	-0.010	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	1.040	1.033	1.074	A59
1900.0	19100	LTE B2	20	24.20	24.07	-0.020	1	10 mm (Bottom)	FCC #1	QPSK	50	0	1:1	0.921	1.030	0.949	
1900.0	19100	LTE B2	20	24.20	23.94	0.070	1	10 mm (Bottom)	FCC #1	QPSK	100	0	1:1	0.920	1.062	0.977	
1900.0	19100	LTE B2	20	25.20	25.06	-0.010	0	10 mm (Front)	FCC #1	QPSK	1	0	1:1	0.487	1.033	0.503	
1900.0	19100	LTE B2	20	24.20	24.07	-0.000	1	10 mm (Front)	FCC #1	QPSK	50	0	1:1	0.464	1.030	0.478	
1900.0	19100	LTE B2	20	25.20	25.06	-0.010	0	10 mm (Rear)	FCC #1	QPSK	1	0	1:1	0.567	1.033	0.586	
1900.0	19100	LTE B2	20	24.20	24.07	-0.010	1	10 mm (Rear)	FCC #1	QPSK	50	0	1:1	0.544	1.030	0.560	
1900.0	19100	LTE B2	20	25.20	25.06	-0.100	0	10 mm (Left)	FCC #1	QPSK	1	0	1:1	0.118	1.033	0.122	
1900.0	19100	LTE B2	20	24.20	24.07	-0.120	1	10 mm (Left)	FCC #1	QPSK	50	0	1:1	0.100	1.030	0.103	
1900.0	19100	LTE B2	20	25.20	25.06	0.050	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	1.020	1.033	1.054	
1900.0	19100	LTE B2	20	25.20	25.06	0.010	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	1.010	1.033	1.043	
1900.0	19100	LTE B2	20	25.20	25.06	0.080	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	1.010	1.033	1.043	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.  
 3. Yellow entries represent variability measurements.

**Table 11.3.5 LTE B7 Hotspot SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2510.0	20850	LTE B7	20	25.20	24.87	-0.050	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.778	1.079	0.839	A60
2510.0	20850	LTE B7	20	24.20	23.92	-0.120	1	10 mm (Bottom)	FCC #1	QPSK	50	0	1:1	0.762	1.067	0.813	
2510.0	20850	LTE B7	20	24.20	23.89	-0.090	1	10 mm (Bottom)	FCC #1	QPSK	100	0	1:1	0.733	1.074	0.787	
2535.0	21100	LTE B7	20	25.20	24.85	-0.110	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.755	1.084	0.818	
2535.0	21100	LTE B7	20	24.20	23.89	-0.100	1	10 mm (Bottom)	FCC #1	QPSK	50	0	1:1	0.743	1.074	0.798	
2560.0	21350	LTE B7	20	25.20	24.83	-0.080	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.725	1.089	0.790	
2560.0	21350	LTE B7	20	24.20	23.83	-0.090	1	10 mm (Bottom)	FCC #1	QPSK	50	0	1:1	0.711	1.089	0.774	
2510.0	20850	LTE B7	20	25.20	24.87	0.020	0	10 mm (Front)	FCC #1	QPSK	1	0	1:1	0.381	1.079	0.411	
2510.0	20850	LTE B7	20	24.20	23.92	0.000	1	10 mm (Front)	FCC #1	QPSK	50	0	1:1	0.365	1.067	0.389	
2510.0	20850	LTE B7	20	25.20	24.87	0.010	0	10 mm (Rear)	FCC #1	QPSK	1	0	1:1	0.488	1.079	0.527	
2510.0	20850	LTE B7	20	24.20	23.92	-0.070	1	10 mm (Rear)	FCC #1	QPSK	50	0	1:1	0.482	1.067	0.514	
2510.0	20850	LTE B7	20	25.20	24.87	0.030	0	10 mm (Left)	FCC #1	QPSK	1	0	1:1	0.118	1.079	0.127	
2510.0	20850	LTE B7	20	24.20	23.92	-0.030	1	10 mm (Left)	FCC #1	QPSK	50	0	1:1	0.109	1.067	0.116	
2510.0	20850	LTE B7	20	25.20	24.87	-0.090	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.775	1.079	0.836	
2510.0	20850	LTE B7	20	25.20	24.87	-0.110	0	10 mm (Bottom)	FCC #1	QPSK	1	0	1:1	0.771	1.079	0.832	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

Note(s):  
 1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
 2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.3.6 LTE B41 Hotspot SAR**

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
Mhz	Ch																
2506.0	39750	LTE B41	20	25.20	24.79	0.180	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.593	1.099	0.652	
2506.0	39750	LTE B41	20	24.20	23.72	0.190	1	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.511	1.117	0.571	
2549.5	40185	LTE B41	20	25.20	24.82	0.190	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.693	1.091	0.756	
2549.5	40185	LTE B41	20	24.20	23.75	0.190	1	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.557	1.109	0.618	
2593.0	40620	LTE B41	20	25.20	24.84	-0.140	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.729	1.086	0.792	A61
2593.0	40620	LTE B41	20	24.20	23.80	0.040	1	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.561	1.096	0.615	
2593.0	40620	LTE B41	20	24.20	23.72	0.030	1	10 mm [Bottom]	FCC #1	QPSK	100	0	1:1.58	0.544	1.117	0.608	
2636.5	41055	LTE B41	20	25.20	24.78	0.190	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.893	1.102	0.764	
2636.5	41055	LTE B41	20	24.20	23.71	0.190	1	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.529	1.119	0.592	
2680.0	41490	LTE B41	20	25.20	24.75	0.160	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.577	1.109	0.640	
2680.0	41490	LTE B41	20	24.20	23.74	0.170	1	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.404	1.112	0.449	
2593.0	40620	LTE B41	20	25.20	24.84	-0.030	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1.58	0.345	1.086	0.375	
2593.0	40620	LTE B41	20	24.20	23.80	-0.030	1	10 mm [Front]	FCC #1	QPSK	50	0	1:1.58	0.284	1.096	0.311	
2593.0	40620	LTE B41	20	25.20	24.84	0.044	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.436	1.086	0.473	
2593.0	40620	LTE B41	20	24.20	23.80	0.070	1	10 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.340	1.096	0.373	
2593.0	40620	LTE B41	20	25.20	24.84	0.080	0	10 mm [Left]	FCC #1	QPSK	1	0	1:1.58	0.092	1.086	0.100	
2593.0	40620	LTE B41	20	24.20	23.80	0.030	1	10 mm [Left]	FCC #1	QPSK	50	0	1:1.58	0.062	1.096	0.068	
2593.0	40620	LTE B41	20	25.20	24.84	-0.060	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.719	1.086	0.781	
2593.0	40620	LTE B41	20	25.20	24.84	0.180	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.717	1.086	0.779	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Body 1.6 W/kg (mW/g) averaged over 1 gram				

Note(s):  
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.  
2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.3.7 DTS Hotspot SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	SAR (W/kg)	Plots #	
Mhz	Ch															
2437.0	6	802.11b (Ant.1)	16.50	15.76	0.090	10 mm [Top]	FCC #2	0.053	1	99.2	0.053	1.186	1.008	0.063		
2437.0	6	802.11b (Ant.1)	16.50	15.76	0.070	10 mm [Front]	FCC #2	0.092	1	99.2	0.093	1.186	1.008	0.111		
2437.0	6	802.11b (Ant.1)	16.50	15.76	-0.010	10 mm [Rear]	FCC #2	0.120	1	99.2	0.118	1.186	1.008	0.141		
2437.0	6	802.11b (Ant.1)	16.50	15.76	-0.190	10 mm [Left]	FCC #2	0.208	1	99.2	0.219	1.186	1.008	0.262	A62	
2437.0	6	802.11b (Ant.1)	16.50	15.76	-0.130	10 mm [Left]	FCC #2	0.180	1	99.2	0.192	1.186	1.008	0.230		
2412.0	1	802.11b (Ant.2)	16.50	15.39	0.010	10 mm [Top]	FCC #2	0.162	1	99.2	0.157	1.291	1.008	0.204	A63	
2412.0	1	802.11b (Ant.2)	16.50	15.39	0.050	10 mm [Front]	FCC #2	0.081	1	99.2	0.077	1.291	1.008	0.100		
2412.0	1	802.11b (Ant.2)	16.50	15.39	0.050	10 mm [Rear]	FCC #2	0.150	1	99.2	0.136	1.291	1.008	0.177		
2412.0	1	802.11b (Ant.2)	16.50	15.39	0.000	10 mm [Left]	FCC #2	0.011	1	99.2	0.005	1.291	1.008	0.007		
2412.0	1	802.11b (Ant.2)	4.00	15.39	0.000	10 mm [Top]	FCC #2	0.157	1	99.2	0.152	0.073	1.008	0.011		
2462.0	11	802.11g (MIMO)	19.00	17.84	-0.040	10 mm [Top]	FCC #2	0.185	1	97.9	0.185	1.306	1.021	0.247		
2462.0	11	802.11g (MIMO)	19.00	17.84	0.090	10 mm [Front]	FCC #2	0.102	1	97.9	0.101	1.306	1.021	0.135		
2462.0	11	802.11g (MIMO)	19.00	17.84	0.160	10 mm [Rear]	FCC #2	0.142	1	97.9	0.148	1.306	1.021	0.197		
2462.0	11	802.11g (MIMO)	19.00	17.84	-0.080	10 mm [Left]	FCC #2	0.238	1	97.9	0.238	1.306	1.021	0.317	A64	
2462.0	11	802.11g (MIMO)	19.00	17.84	0.010	10 mm [Left]	FCC #2	0.215	1	97.9	0.216	1.306	1.021	0.288		
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Body 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

Adjusted SAR results for OFDM SAR													
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR	
Mhz	Ch												
2437	6	802.11b (Ant.1)	DSSS	16.5	0.262	2437	802.11g	OFDM	16.0	0.891	0.233	X	
2437	6	802.11b (Ant.1)	DSSS	16.5	0.262	2437	802.11n	OFDM	15.0	0.708	0.185	X	
2437	6	802.11b (Ant.1)	DSSS	16.5	0.262	2437	802.11ac	OFDM	15.0	0.708	0.185	X	
2437	6	802.11b (Ant.2)	DSSS	16.5	0.204	2437	802.11g	OFDM	16.0	0.891	0.182	X	
2437	6	802.11b (Ant.2)	DSSS	16.5	0.204	2437	802.11n	OFDM	15.0	0.708	0.144	X	
2437	6	802.11b (Ant.2)	DSSS	16.5	0.204	2437	802.11ac	OFDM	15.0	0.708	0.144	X	
2437	6	802.11g (MIMO)	OFDM	19.0	0.317	2437	802.11n	OFDM	18.0	0.794	0.252	X	
2437	6	802.11g (MIMO)	OFDM	19.0	0.317	2437	802.11ac	OFDM	18.0	0.794	0.252	X	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure										Body 1.6 W/kg (mW/g) averaged over 1 gram			

Note: SAR is not required for the following 2.4 GHz OFDM conditions. 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.

**Table 11.3.8 UNII Hotspot SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
Mhz	Ch															
5180.0	36	802.11a (Ant.1)	16.00	15.79	0.090	10 mm [Top]	FCC #2	0.042	6	97.7	0.038	1.050	1.024	0.041		
5180.0	36	802.11a (Ant.1)	16.00	15.79	0.070	10 mm [Front]	FCC #2	0.017	6	97.7	0.008	1.050	1.024	0.009		
5180.0	36	802.11a (Ant.1)	16.00	15.79	0.040	10 mm [Rear]	FCC #2	0.118	6	97.7	0.128	1.050	1.024	0.138	A65	
5180.0	36	802.11a (Ant.1)	16.00	15.79	-0.010	10 mm [Left]	FCC #2	0.053	6	97.7	0.059	1.050	1.024	0.063		
5180.0	36	802.11a (Ant.1)	16.00	15.79	0.000	10 mm [Rear]	FCC #2	0.119	6	97.7	0.126	1.050	1.024	0.135		
5180.0	36	802.11a (Ant.2)	16.00	15.95	-0.060	10 mm [Top]	FCC #2	0.066	6	97.7	0.068	1.012	1.024	0.070		
5180.0	36	802.11a (Ant.2)	16.00	15.95	0.050	10 mm [Front]	FCC #2	0.064	6	97.7	0.063	1.012	1.024	0.065		
5180.0	36	802.11a (Ant.2)	16.00	15.95	-0.050	10 mm [Rear]	FCC #2	0.102	6	97.7	0.108	1.012	1.024	0.112	A66	
5180.0	36	802.11a (Ant.2)	16.00	15.95	-0.150	10 mm [Left]	FCC #2	0.059	6	97.7	0.058	1.012	1.024	0.060		
5180.0	36	802.11a (Ant.2)	16.00	15.95	-0.070	10 mm [Rear]	FCC #2	0.104	6	97.7	0.103	1.012	1.024	0.107		
5180.0	36	802.11a (MIMO)	19.00	18.88	-0.080	10 mm [Top]	FCC #2	0.109	6	97.9	0.107	1.050	1.021	0.115		
5180.0	36	802.11a (MIMO)	19.00	18.88	-0.150	10 mm [Front]	FCC #2	0.076	6	97.9	0.080	1.050	1.021	0.086		
5180.0	36	802.11a (MIMO)	19.00	18.88	0.020	10 mm [Rear]	FCC #2	0.213	6	97.9	0.221	1.050	1.021	0.237	A67	
5180.0	36	802.11a (MIMO)	19.00	18.88	-0.110	10 mm [Left]	FCC #2	0.115	6	97.9	0.121	1.050	1.021	0.130		
5180.0	36	802.11a (MIMO)	19.00	18.88	0.070	10 mm [Rear]	FCC #2	0.203	6	97.9	0.210	1.050	1.021	0.225		
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Body 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):  
1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

**Table 11.3.11 UNII Hotspot SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5785.0	157	802.11a (Ant.1)	16.00	14.91	0.030	10 mm [Top]	FCC #2	0.050	6	97.7	0.050	1.285	1.024	0.066	
5785.0	157	802.11a (Ant.1)	16.00	14.91	0.060	10 mm [Front]	FCC #2	0.020	6	97.7	0.011	1.285	1.024	0.014	
5785.0	157	802.11a (Ant.1)	16.00	14.91	-0.010	10 mm [Rear]	FCC #2	0.141	6	97.7	0.165	1.285	1.024	0.217	A68
5785.0	157	802.11a (Ant.1)	16.00	14.91	0.020	10 mm [Left]	FCC #2	0.063	6	97.7	0.076	1.285	1.024	0.100	
5785.0	157	802.11a (Ant.1)	16.00	14.91	-0.010	10 mm [Rear]	FCC #2	0.141	6	97.7	0.162	1.285	1.024	0.213	
5745.0	149	802.11a (Ant.2)	16.00	15.61	0.010	10 mm [Top]	FCC #2	0.077	6	97.7	0.085	1.094	1.024	0.095	
5745.0	149	802.11a (Ant.2)	16.00	15.61	-0.050	10 mm [Front]	FCC #2	0.075	6	97.7	0.080	1.094	1.024	0.090	
5745.0	149	802.11a (Ant.2)	16.00	15.61	-0.070	10 mm [Rear]	FCC #2	0.119	6	97.7	0.136	1.094	1.024	0.152	A69
5745.0	149	802.11a (Ant.2)	16.00	15.61	-0.110	10 mm [Left]	FCC #2	0.069	6	97.7	0.073	1.094	1.024	0.082	
5745.0	149	802.11a (Ant.2)	16.00	15.61	-0.100	10 mm [Rear]	FCC #2	0.122	6	97.7	0.129	1.094	1.024	0.144	
5785.0	157	802.11a (MIMO)	19.00	18.24	0.110	10 mm [Top]	FCC #2	0.130	6	97.9	0.138	1.285	1.021	0.181	
5785.0	157	802.11a (MIMO)	19.00	18.24	-0.100	10 mm [Front]	FCC #2	0.090	6	97.9	0.103	1.285	1.021	0.135	
5785.0	157	802.11a (MIMO)	19.00	18.24	0.010	10 mm [Rear]	FCC #2	0.254	6	97.9	0.285	1.285	1.021	0.374	A70
5785.0	157	802.11a (MIMO)	19.00	18.24	-0.110	10 mm [Left]	FCC #2	0.137	6	97.9	0.156	1.285	1.021	0.205	
5785.0	157	802.11a (MIMO)	19.00	18.24	0.130	10 mm [Rear]	FCC #2	0.242	6	97.9	0.270	1.285	1.021	0.354	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak										Body 1.6 W/kg (mW/g) averaged over 1 gram					
Uncontrolled Exposure/General Population Exposure															

- Note(s):
- Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.
  - UNII-3 Band CH 165(5825 MHz) is not support Hotspot mode as described on operational description, so other required CHs are tested.

**Table 11.3.13 Bluetooth Hotspot SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
MHz	Ch														
2441.0	39	Bluetooth	11.35	10.41	0.000	10 mm [Top]	FCC #2	1	76.8	0.010	1.242	1.302	0.016		
2441.0	39	Bluetooth	11.35	10.41	-0.120	10 mm [Front]	FCC #2	1	76.8	0.013	1.242	1.302	0.021		
2441.0	39	Bluetooth	11.35	10.41	-0.040	10 mm [Rear]	FCC #2	1	76.8	0.017	1.242	1.302	0.027		
2441.0	39	Bluetooth	11.35	10.41	0.030	10 mm [Left]	FCC #2	1	76.8	0.043	1.242	1.302	0.070	A71	
2441.0	39	Bluetooth	11.35	10.41	0.180	10 mm [Left]	FCC #2	1	76.8	0.042	1.242	1.302	0.068		
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak										Body 1.6 W/kg (mW/g) averaged over 1 gram					
Uncontrolled Exposure/General Population Exposure															

- Note(s):
- Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

### 11.4 Standalone Phablet SAR Results

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required when Hotspot 1g SAR (scaled to maximum output power including tolerance) < 1.2 W/kg.

Since the proximity sensor is enabled in WCDMA 1700, WCDMA 1900, LTE B66, LTE B4, LTE B2, and LTE B7 of this device, Phablet SAR Evaluation was performed.

**Table 11.4.1 WCDMA Phablet SAR**

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	-0.190	4 mm [Bottom]	FCC #1	N/A	1:1	1.370	1.178	1.614	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.070	1 mm [Front]	FCC #1	N/A	1:1	1.600	1.178	1.885	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.010	2 mm [Rear]	FCC #1	N/A	1:1	1.360	1.178	1.602	
1732.4	1412	WCDMA 1700	RMC	25.20	24.49	0.020	0 mm [Left]	FCC #1	N/A	1:1	0.387	1.178	0.456	
1712.4	1312	WCDMA 1700	RMC	23.70	23.06	-0.017	0 mm [Bottom]	FCC #1	N/A	1:1	1.760	1.159	2.040	
1732.4	1412	WCDMA 1700	RMC	23.70	23.04	-0.030	0 mm [Bottom]	FCC #1	N/A	1:1	1.840	1.164	2.142	
1752.6	1513	WCDMA 1700	RMC	23.70	23.30	0.080	0 mm [Bottom]	FCC #1	N/A	1:1	1.960	1.096	2.148	A72
1732.4	1412	WCDMA 1700	RMC	23.70	23.04	0.110	0 mm [Front]	FCC #1	N/A	1:1	1.160	1.164	1.350	
1732.4	1412	WCDMA 1700	RMC	23.70	23.04	0.010	0 mm [Rear]	FCC #1	N/A	1:1	1.260	1.164	1.467	
1752.6	1513	WCDMA 1700	RMC	23.70	23.30	-0.020	0 mm [Bottom]	FCC #1	N/A	1:1	1.920	1.096	2.104	
1752.6	1513	WCDMA 1700	RMC	23.70	23.30	-0.140	0 mm [Bottom]	FCC #1	N/A	1:1	1.890	1.096	2.071	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	-0.120	4 mm [Bottom]	FCC #1	N/A	1:1	1.160	1.138	1.320	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.020	1 mm [Front]	FCC #1	N/A	1:1	1.590	1.138	1.809	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.060	2 mm [Rear]	FCC #1	N/A	1:1	1.370	1.138	1.559	
1880.0	9400	WCDMA 1900	RMC	25.20	24.64	0.160	0 mm [Left]	FCC #1	N/A	1:1	0.330	1.138	0.376	
1880.0	9400	WCDMA 1900	RMC	23.70	23.26	0.060	0 mm [Bottom]	FCC #1	N/A	1:1	1.700	1.107	1.882	A73
1880.0	9400	WCDMA 1900	RMC	23.70	23.26	-0.190	0 mm [Front]	FCC #1	N/A	1:1	1.470	1.107	1.627	
1880.0	9400	WCDMA 1900	RMC	23.70	23.26	0.020	0 mm [Rear]	FCC #1	N/A	1:1	1.630	1.107	1.804	
1880.0	9400	WCDMA 1900	RMC	23.70	23.26	0.170	0 mm [Bottom]	FCC #1	N/A	1:1	1.680	1.107	1.860	
1880.0	9400	WCDMA 1900	RMC	23.70	23.26	0.110	0 mm [Bottom]	FCC #1	N/A	1:1	1.660	1.107	1.838	

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Phablet  
4.0 W/kg (mW/g)  
averaged over 10 gram

- Note(s):
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.
  2. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.

Table 11.4.2 LTE Phablet SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	10g SAR (W/kg)	Scaling Factor	10g Scaled SAR (W/kg)	Plots #
Mhz	Ch																	
1 770.0	132572	LTE B66	-	20	25.20	25.08	-0.110	0	4 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.360	1.028	1.398	
1 770.0	132572	LTE B66	-	20	24.20	23.98	0.080	1	4 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.120	1.052	1.178	
1 770.0	132572	LTE B66	-	20	25.20	25.08	0.010	0	1 mm [Front]	FCC #1	QPSK	1	0	1:1	1.790	1.028	1.840	
1 770.0	132572	LTE B66	-	20	24.20	23.98	-0.020	1	1 mm [Front]	FCC #1	QPSK	50	0	1:1	1.440	1.052	1.515	
1 770.0	132572	LTE B66	-	20	25.20	25.08	0.010	0	2 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.440	1.028	1.480	
1 770.0	132572	LTE B66	-	20	24.20	23.98	0.030	1	2 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.150	1.052	1.210	
1 770.0	132572	LTE B66	-	20	25.20	25.08	-0.080	0	0 mm [Left]	FCC #1	QPSK	1	0	1:1	0.448	1.028	0.461	
1 770.0	132572	LTE B66	-	20	24.20	23.98	-0.070	1	0 mm [Left]	FCC #1	QPSK	50	0	1:1	0.355	1.052	0.373	
1 770.0	132572	LTE B66	-	20	23.70	23.63	-0.170	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.900	1.016	1.930	A74
1 770.0	132572	LTE B66	-	20	23.70	23.55	-0.170	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.840	1.035	1.904	
1 770.0	132572	LTE B66	-	20	23.70	23.63	-0.030	0	0 mm [Front]	FCC #1	QPSK	1	0	1:1	1.360	1.016	1.382	
1 770.0	132572	LTE B66	-	20	23.70	23.55	-0.080	1	0 mm [Front]	FCC #1	QPSK	50	0	1:1	1.320	1.035	1.366	
1 770.0	132572	LTE B66	-	20	23.70	23.63	-0.110	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.740	1.016	1.768	
1 720.0	132072	LTE B66	-	20	23.70	23.55	-0.130	1	0 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.720	1.035	1.780	
1 770.0	132572	LTE B66	-	20	23.70	23.63	0.050	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.860	1.016	1.890	
1 770.0	132572	LTE B66	-	20	23.70	23.63	-0.110	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.830	1.016	1.859	
1 900.0	19100	LTE B2	-	20	25.20	25.06	0.080	0	4 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.210	1.033	1.250	
1 900.0	19100	LTE B2	-	20	24.20	24.07	0.020	1	4 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.080	1.030	1.112	
1 900.0	19100	LTE B2	-	20	25.20	25.06	0.020	0	1 mm [Front]	FCC #1	QPSK	1	0	1:1	1.290	1.033	1.333	
1 900.0	19100	LTE B2	-	20	24.20	24.07	0.190	1	1 mm [Front]	FCC #1	QPSK	50	0	1:1	1.060	1.030	1.092	
1 900.0	19100	LTE B2	-	20	25.20	25.06	-0.150	0	2 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.410	1.033	1.457	
1 900.0	19100	LTE B2	-	20	24.20	24.07	-0.110	1	2 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.300	1.030	1.339	
1 900.0	19100	LTE B2	-	20	25.20	25.06	0.130	0	0 mm [Left]	FCC #1	QPSK	1	0	1:1	0.396	1.033	0.409	
1 900.0	19100	LTE B2	-	20	24.20	24.07	-0.180	1	0 mm [Left]	FCC #1	QPSK	50	0	1:1	0.392	1.030	0.404	
1 900.0	19100	LTE B2	-	20	23.70	23.48	0.170	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.700	1.052	1.788	A75
1 900.0	19100	LTE B2	-	20	23.70	23.41	-0.030	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.650	1.069	1.764	
1 900.0	19100	LTE B2	-	20	23.70	23.48	0.010	0	0 mm [Front]	FCC #1	QPSK	1	0	1:1	1.460	1.052	1.536	
1 900.0	19100	LTE B2	-	20	23.70	23.41	0.030	1	0 mm [Front]	FCC #1	QPSK	50	0	1:1	1.450	1.069	1.550	
1 900.0	19100	LTE B2	-	20	23.70	23.48	0.050	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.580	1.052	1.662	
1 900.0	19100	LTE B2	-	20	23.70	23.41	0.090	1	0 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.530	1.069	1.636	
1 882.5	26365	LTE B2	-	20	23.70	23.48	0.030	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.820	1.052	1.704	
1 882.5	26365	LTE B2	-	20	23.70	23.48	0.110	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.600	1.052	1.683	
2 510.0	20850	LTE B7	-	20	25.20	24.87	-0.190	0	4 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.220	1.079	1.316	
2 510.0	20850	LTE B7	-	20	24.20	23.92	-0.170	1	4 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.210	1.067	1.291	
2 510.0	20850	LTE B7	-	20	25.20	24.87	0.080	0	1 mm [Front]	FCC #1	QPSK	1	0	1:1	1.440	1.079	1.554	
2 510.0	20850	LTE B7	-	20	24.20	23.92	-0.120	1	1 mm [Front]	FCC #1	QPSK	50	0	1:1	1.360	1.067	1.451	
2 510.0	20850	LTE B7	-	20	25.20	24.87	-0.080	0	2 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.240	1.079	1.338	
2 510.0	20850	LTE B7	-	20	24.20	23.92	-0.050	1	2 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.220	1.067	1.302	
2 510.0	20850	LTE B7	-	20	25.20	24.87	-0.110	0	0 mm [Left]	FCC #1	QPSK	1	0	1:1	0.404	1.079	0.436	
2 510.0	20850	LTE B7	-	20	24.20	23.92	-0.110	1	0 mm [Left]	FCC #1	QPSK	50	0	1:1	0.353	1.067	0.377	
2 510.0	20850	LTE B7	-	20	23.70	23.46	-0.090	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	2.190	1.057	2.315	A76
2 510.0	20850	LTE B7	-	20	23.70	23.45	0.120	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1	2.130	1.059	2.256	
2 510.0	20850	LTE B7	-	20	23.70	23.43	0.020	1	0 mm [Bottom]	FCC #1	QPSK	100	0	1:1	2.050	1.064	2.181	
2 535.0	21100	LTE B7	-	20	23.70	23.41	0.190	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	2.120	1.069	2.266	
2 535.0	21100	LTE B7	-	20	23.70	23.35	0.180	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1	2.110	1.084	2.287	
2 560.0	21350	LTE B7	-	20	23.70	23.35	-0.130	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.990	1.084	2.157	
2 560.0	21350	LTE B7	-	20	23.70	23.33	-0.150	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1	1.910	1.089	2.080	
2 510.0	20850	LTE B7	-	20	23.70	23.46	0.140	0	0 mm [Front]	FCC #1	QPSK	1	0	1:1	1.280	1.057	1.353	
2 510.0	20850	LTE B7	-	20	23.70	23.45	0.190	1	0 mm [Front]	FCC #1	QPSK	50	0	1:1	1.270	1.059	1.345	
2 510.0	20850	LTE B7	-	20	23.70	23.46	0.110	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1	1.670	1.057	1.765	
2 510.0	20850	LTE B7	-	20	23.70	23.45	0.140	1	0 mm [Rear]	FCC #1	QPSK	50	0	1:1	1.650	1.059	1.747	
2 510.0	20850	LTE B7	-	20	23.70	23.46	-0.070	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	2.160	1.057	2.283	
2 510.0	20850	LTE B7	-	20	23.70	23.46	-0.050	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	2.140	1.057	2.262	
2 510.0	20850	LTE B7	-	20	23.70	23.46	0.180	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	2.180	1.057	2.304	
2 510.0	20850	LTE B7	#1	20	23.70	23.46	-0.190	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.410	1.057	1.490	
2 510.0	20850	LTE B7	#2	20	23.70	23.46	0.150	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.210	1.057	1.279	
2 510.0	20850	LTE B7	#3	20	23.70	23.46	-0.140	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1	1.850	1.057	1.955	

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Phablet  
4.0 W/kg (mW/g)  
averaged over 10 gram

- Note(s):
1. Purple entries represent SIM2 (This device supports Dual SIM and is 1 RF Path.) measurements.
  2. Gray entries represent 2nd Battery (This device supports two vendor's batteries.) measurements.
  3. Yellow entries represent variability measurements.
  4. Blue entries represent additional Phablet SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
  5. Green entries represent additional Phablet SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
  6. Orange entries represent additional Phablet SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Table 11.4.3 UNII Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift Power (dB)	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate (Mbps)	Duty Cycle	10g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	10g Scaled SAR (W/kg)	Photo #
MHz	Ch														
5 260.0	52	802.11a (Ant.1)	16.00	15.85	0.150	0 mm [Top]	FCC #2	0.075	6	97.7	0.079	1.035	1.024	0.084	
5 260.0	52	802.11a (Ant.1)	16.00	15.85	-0.170	0 mm [Front]	FCC #2	0.053	6	97.7	0.046	1.035	1.024	0.049	
5 260.0	52	802.11a (Ant.1)	16.00	15.85	-0.080	0 mm [Rear]	FCC #2	0.788	6	97.7	0.754	1.035	1.024	0.799	A77
5 260.0	52	802.11a (Ant.1)	16.00	15.85	-0.110	0 mm [Left]	FCC #2	0.194	6	97.7	0.227	1.035	1.024	0.240	
5 260.0	52	802.11a (Ant.1)	16.00	15.85	-0.090	0 mm [Rear]	FCC #2	0.586	6	97.7	0.577	1.035	1.024	0.611	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	0.140	0 mm [Top]	FCC #2	0.199	6	97.7	0.187	1.016	1.024	0.194	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	-0.130	0 mm [Front]	FCC #2	0.186	6	97.7	0.187	1.016	1.024	0.194	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	-0.070	0 mm [Rear]	FCC #2	0.432	6	97.7	0.433	1.016	1.024	0.450	A78
5 320.0	64	802.11a (Ant.2)	16.00	15.93	0.030	0 mm [Left]	FCC #2	0.225	6	97.7	0.249	1.016	1.024	0.259	
5 320.0	64	802.11a (Ant.2)	16.00	15.93	-0.180	0 mm [Rear]	FCC #2	0.267	6	98.5	0.341	1.016	1.015	0.352	
5 260.0	52	802.11a (MIMO)	19.00	18.89	-0.170	0 mm [Top]	FCC #2	0.225	6	97.9	0.222	1.035	1.021	0.235	
5 260.0	52	802.11a (MIMO)	19.00	18.89	-0.090	0 mm [Front]	FCC #2	0.082	6	97.9	0.050	1.035	1.021	0.053	
5 260.0	52	802.11a (MIMO)	19.00	18.89	-0.010	0 mm [Rear]	FCC #2	1.350	6	97.9	1.180	1.035	1.021	1.247	A79
5 260.0	52	802.11a (MIMO)	19.00	18.89	0.050	0 mm [Left]	FCC #2	0.236	6	97.9	0.261	1.035	1.021	0.276	
5 260.0	52	802.11a (MIMO)	19.00	18.89	0.110	0 mm [Rear]	FCC #2	0.694	6	97.9	0.643	1.035	1.021	0.680	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	-0.070	0 mm [Top]	FCC #2	0.068	6	97.7	0.068	1.007	1.019	0.070	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	-0.090	0 mm [Front]	FCC #2	0.083	6	97.7	0.079	1.007	1.019	0.081	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.050	0 mm [Rear]	FCC #2	1.070	6	97.7	0.897	1.007	1.019	0.920	A80
5 600.0	120	802.11a (Ant.1)	16.00	15.97	0.010	0 mm [Left]	FCC #2	0.234	6	97.7	0.276	1.007	1.019	0.283	
5 600.0	120	802.11a (Ant.1)	16.00	15.97	-0.040	0 mm [Rear]	FCC #2	0.862	6	97.7	0.774	1.007	1.019	0.794	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	0.180	0 mm [Top]	FCC #2	0.069	6	97.7	0.058	1.019	1.019	0.060	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	0.080	0 mm [Front]	FCC #2	0.234	6	97.7	0.238	1.019	1.019	0.247	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	-0.030	0 mm [Rear]	FCC #2	0.727	6	97.7	0.693	1.019	1.019	0.720	A81
5 600.0	120	802.11a (Ant.2)	16.00	15.92	-0.150	0 mm [Left]	FCC #2	0.282	6	97.7	0.289	1.019	1.019	0.300	
5 600.0	120	802.11a (Ant.2)	16.00	15.92	0.150	0 mm [Rear]	FCC #2	0.529	6	97.7	0.558	1.019	1.019	0.579	
5 600.0	120	802.11a (MIMO)	19.00	18.96	0.140	0 mm [Top]	FCC #2	0.177	6	97.9	0.135	1.019	1.019	0.140	
5 600.0	120	802.11a (MIMO)	19.00	18.96	-0.190	0 mm [Front]	FCC #2	0.344	6	97.9	0.367	1.019	1.019	0.381	
5 600.0	120	802.11a (MIMO)	19.00	18.96	-0.050	0 mm [Rear]	FCC #2	1.450	6	97.9	1.340	1.019	1.019	1.391	A82
5 600.0	120	802.11a (MIMO)	19.00	18.96	-0.040	0 mm [Left]	FCC #2	0.245	6	97.9	0.562	1.019	1.019	0.584	
5 600.0	120	802.11a (MIMO)	19.00	18.96	-0.130	0 mm [Rear]	FCC #2	1.000	6	97.9	1.060	1.019	1.019	1.101	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.110	0 mm [Top]	FCC #2	0.083	6	97.7	0.095	1.172	1.024	0.114	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	-0.150	0 mm [Front]	FCC #2	0.058	6	97.7	0.056	1.172	1.024	0.067	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.070	0 mm [Rear]	FCC #2	0.646	6	97.7	0.697	1.172	1.024	0.836	A83
5 825.0	165	802.11a (Ant.1)	16.00	15.31	-0.070	0 mm [Left]	FCC #2	0.213	6	97.7	0.274	1.172	1.024	0.329	
5 825.0	165	802.11a (Ant.1)	16.00	15.31	0.110	0 mm [Rear]	FCC #2	0.630	6	97.7	0.675	1.172	1.024	0.810	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.100	0 mm [Top]	FCC #2	0.214	6	97.7	0.219	1.064	1.024	0.239	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.180	0 mm [Front]	FCC #2	0.200	6	97.7	0.218	1.064	1.024	0.237	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	-0.110	0 mm [Rear]	FCC #2	0.288	6	97.7	0.398	1.064	1.024	0.433	A84
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.050	0 mm [Left]	FCC #2	0.260	6	97.7	0.315	1.064	1.024	0.343	
5 825.0	165	802.11a (Ant.2)	16.00	15.73	0.050	0 mm [Rear]	FCC #2	0.286	6	97.7	0.389	1.064	1.024	0.424	
5 825.0	165	802.11a (MIMO)	19.00	18.53	-0.130	0 mm [Top]	FCC #2	0.248	6	97.9	0.268	1.172	1.021	0.321	
5 825.0	165	802.11a (MIMO)	19.00	18.53	-0.030	0 mm [Front]	FCC #2	0.068	6	97.9	0.060	1.172	1.021	0.072	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.130	0 mm [Rear]	FCC #2	0.765	6	97.9	0.777	1.172	1.021	0.930	A85
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.020	0 mm [Left]	FCC #2	0.370	6	97.9	0.460	1.172	1.021	0.551	
5 825.0	165	802.11a (MIMO)	19.00	18.53	0.060	0 mm [Rear]	FCC #2	0.745	6	97.9	0.753	1.064	1.021	0.818	

ANSI / IEEE C95.1-1992- SAFETY LIMIT  
Spatial Peak  
Uncontrolled Exposure/General Population Exposure

Phablet  
4.0 W/kg (mW/g)  
averaged over 10 gram

Note(s):

1. Gray entries represent 2<sup>nd</sup> Battery (This device supports two vendor's batteries.) measurements.
2. UNII-3 Band CH 165 (5825 MHz) is not support Hotspot mode as described on operational description of this device, so phablet SAR is tested on this CH.

## 11.5 SAR Test Notes

### General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements. A standard battery was used for all SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was not  $> 1.2$  W/kg, no additional body-worn SAR evaluations using a headset cable were performed.
8. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated.
9. SAR measurements were performed using the DASY5 automated system. The procedure for spatial peak SAR evaluation has been implemented according to the IEEE 1528 standard. During a maximum search, global and local maxima searches are automatically performed in 2-D after each area scan measurement. The algorithm will find the global maximum and all local maxima within 2 dB of the global maxima for all SAR distributions. All local maxima within 2 dB of the global maximum were searched and passed for the Zoom Scan measurement.

### GSM Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. This device supports GSM VOIP in the head and body-worn configurations; therefore GPRS was additionally evaluated for head and body-worn compliance.
3. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR.
4. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s). Since the maximum output power variation across the required test channels is not  $> \frac{1}{2}$  dB, the middle channel was used for testing.

**WCDMA (UMTS) Notes:**

1. WCDMA (UMTS) mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is  $> \frac{1}{2}$  dB, instead of the middle channel, the highest output power channel was used.

**LTE Notes:**

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r05. The general test procedures used for testing can be found in Section 8.4.4.
2. According to FCC KDB 941225 D05v02r05, when the reported SAR is  $\leq 0.8$  W/kg, testing of the 100% RB allocation and required test channels is not required.  
Otherwise, SAR is required for the remaining required test channels using the 1 RB, 50% RB and 100% RB allocation with highest output power for that channel.  
Only one channel, and as reported SAR values for 1 RB allocation and 50% RB allocation were less than 1.45 W/kg only the highest power RB offset for each allocation was required.
3. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
4. A-MPR was disabled for all SAR tests by setting NS=1 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
5. Per KDB Publication 941225 D05Av01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not  $> 0.25$  dB higher than the maximum output power when downlink carrier aggregation was inactive.
6. Per FCC KDB Publication 447498 D01v06, when the reported (scaled) for LTE Band 41 SAR measured at the highest output power channel in a given a test configuration was  $> 0.6$  W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
7. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r05. Testing was performed using UL-DL configuration 0 with 6 UL sub frames and 2S sub frames using extended cyclic prefix only and special sub frame configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Sec. 4, the duty factor using extended cyclic prefix is 0.633 (cf=1.58).
8. SAR test reduction is applied using the following criteria:  
Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is  $> 0.8$  W/kg, testing for other channels is performed at the highest output power level for 1 RB, and 50% RB configuration for that channel. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High channel when the highest reported SAR for 1 RB and 50% RB are  $> 0.8$  W/kg, Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation  $< 1.45$  W/kg. Testing for 16QAM modulation is not required because the reported SAR for QPSK is  $< 1.45$  W/kg and its output power is not more than 0.5 dB higher than that a QPSK. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is  $< 1.45$  W/kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

**WLAN Notes:**

1. The initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4$  W/kg, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is  $\leq 0.8$  W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output and the adjusted SAR is  $\leq 1.2$  W/kg.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg.
4. When the maximum reported 1g averaged SAR  $\leq 0.8$  W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was  $\leq 1.20$  W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor to determine compliance.
6. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by making a SAR measurement with both antennas transmitting simultaneously.

**Bluetooth Notes:**

1. Bluetooth SAR was measured with the device connected to a call with hopping disabled with DH5 operation and Tx test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. Refer to section 9.5 for the time-domain plot and calculation for the duty factor of the device.
2. Head and hotspot Bluetooth SAR were evaluated for BT tethering applications.

## **12. FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS**

---

### **12.1 Introduction**

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to handsets with built-in unlicensed transmitters such as 802.11b/g/n and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

### **12.2 Simultaneous Transmission Procedures**

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the sum 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is  $\leq 1.6$  W/kg. The different test position in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR.

### **12.3 Simultaneous Transmission Capabilities**

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

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

**Table 12.3.1 Simultaneous SAR Cases**

No.	Capable Transmit Configuration	Head SAR	Body-Worn SAR	Hotspot SAR	Phablet SAR	Note
1	GSM Voice + Wi-Fi 2.4 GHz	Yes	Yes	N/A	Yes	
2	GSM Voice + Wi-Fi 5 GHz	Yes	Yes	N/A	Yes	
3	GSM Voice + Bluetooth 2.4 GHz	Yes <sup>A</sup>	Yes	N/A	Yes	<sup>A</sup> Bluetooth Tethering is considered.
4	GSM Voice + Wi-Fi 2.4 GHz MIMO	Yes	Yes	N/A	Yes	
5	GSM Voice + Wi-Fi 5 GHz MIMO	Yes	Yes	N/A	Yes	
6	GSM Voice + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5 GHz Ant.2	Yes	Yes	N/A	Yes	
7	GSM Voice + Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes <sup>A</sup>	Yes	N/A	Yes	<sup>A</sup> Bluetooth Tethering is considered.
8	GSM Voice + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes <sup>A</sup>	Yes	N/A	Yes	<sup>A</sup> Bluetooth Tethering is considered.
9	WCDMA + Wi-Fi 2.4 GHz	Yes	Yes	Yes	Yes	
10	WCDMA + Wi-Fi 5 GHz	Yes	Yes	Yes	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
11	WCDMA + Bluetooth 2.4 GHz	Yes <sup>A</sup>	Yes	Yes	Yes	<sup>A</sup> Bluetooth Tethering is considered.
12	WCDMA + Wi-Fi 2.4 GHz MIMO	Yes	Yes	Yes	Yes	
13	WCDMA + Wi-Fi 5 GHz MIMO	Yes	Yes	Yes <sup>`</sup>	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
14	WCDMA + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5 GHz Ant.2	Yes	Yes	Yes <sup>`</sup>	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
15	WCDMA + Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes <sup>A</sup>	Yes	Yes <sup>`</sup>	Yes	<sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
16	WCDMA + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes <sup>A</sup>	Yes	Yes <sup>`</sup>	Yes	<sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
17	LTE + Wi-Fi 2.4 GHz	Yes	Yes	Yes	Yes	
18	LTE + Wi-Fi 5 GHz	Yes	Yes	Yes <sup>`</sup>	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
19	LTE + Bluetooth 2.4 GHz	Yes <sup>A</sup>	Yes	Yes	Yes	<sup>A</sup> Bluetooth Tethering is considered.
20	LTE + Wi-Fi 2.4 GHz MIMO	Yes	Yes	Yes	Yes	
21	LTE + Wi-Fi 5 GHz MIMO	Yes	Yes	Yes	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
22	LTE + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5 GHz Ant.2	Yes	Yes	Yes <sup>`</sup>	Yes	<sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
23	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes <sup>A</sup>	Yes	Yes <sup>`</sup>	Yes	<sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
24	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes <sup>A</sup>	Yes	Yes <sup>`</sup>	Yes	<sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
25	GPRS/EDGE + Wi-Fi 2.4 GHz	Yes <sup>*</sup>	Yes <sup>*</sup>	Yes	Yes	<sup>*</sup> Pre-installed VOIP applications are considered.
26	GPRS/EDGE + Wi-Fi 5 GHz	Yes <sup>*</sup>	Yes <sup>*</sup>	Yes <sup>`</sup>	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
27	GPRS/EDGE + Bluetooth 2.4 GHz	Yes <sup>*A</sup>	Yes <sup>*</sup>	Yes	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>A</sup> Bluetooth Tethering is considered.
28	GPRS/EDGE + Wi-Fi 2.4 GHz MIMO	Yes <sup>*</sup>	Yes <sup>*</sup>	Yes	Yes	<sup>*</sup> Pre-installed VOIP applications are considered.
29	GPRS/EDGE + Wi-Fi 5 GHz MIMO	Yes <sup>*</sup>	Yes <sup>*</sup>	Yes <sup>`</sup>	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
30	GPRS/EDGE + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5 GHz Ant.2	Yes <sup>*</sup>	Yes <sup>*</sup>	Yes <sup>`</sup>	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
31	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes <sup>*A</sup>	Yes <sup>*</sup>	Yes <sup>`</sup>	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
32	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes <sup>*A</sup>	Yes <sup>*</sup>	Yes <sup>`</sup>	Yes	<sup>*</sup> Pre-installed VOIP applications are considered. <sup>A</sup> Bluetooth Tethering is considered. <sup>`</sup> Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
33	Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5 GHz Ant.2	Yes	Yes	N/A	Yes	
34	Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes <sup>A</sup>	Yes	N/A	Yes	<sup>A</sup> Bluetooth Tethering is considered.
35	Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes <sup>A</sup>	Yes	N/A	Yes	<sup>A</sup> Bluetooth Tethering is considered.

**Notes:**

- WiFi 2.4GHz is supported Hotspot and WiFi-Direct(GO/GC).
- WiFi 5GHz is supported Hotspot in UNII B1,B3 and WiFi-Direct(GO/GC) in UNII B1,B3.
- LTE, WCDMA, GPRS/EDGE is supported Hotspot.
- VoIP is supported in LTE, WCDMA, GSM.
- Bluetooth and WiFi can not transmit simultaneously at 2.4G band.
- GSM, WCDMA and LTE can not transmit simultaneously since they share the same chip.
- When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
- Per the manufacturer, WiFi Direct is expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Simultaneous transmission scenarios involving WiFi direct are included in the above table.

## 12.4 Head SAR Simultaneous Transmission Analysis

**Table 12.4.1 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.3 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.166	0.120	0.256	0.210	0.376
		Right Touch	0.064	0.512	0.558	0.576	0.622	1.134
		Right Tilt	0.028	0.122	0.102	0.150	0.130	0.282
	GPRS 850	Left Touch	0.038	0.322	0.338	0.360	0.376	0.698
		Right Touch	0.110	0.166	0.120	0.276	0.230	0.396
		Right Tilt	0.076	0.512	0.558	0.588	0.634	1.146
	GSM 1900	Left Tilt	0.031	0.122	0.102	0.153	0.133	0.255
		Right Tilt	0.046	0.322	0.338	0.368	0.384	0.706
		Left Touch	0.057	0.166	0.120	0.223	0.177	0.343
	GPRS 1900	Right Touch	0.050	0.512	0.558	0.562	0.608	1.120
		Left Tilt	0.037	0.122	0.102	0.159	0.139	0.291
		Right Tilt	0.026	0.322	0.338	0.348	0.364	0.686
	WCDMA 850	Left Touch	0.064	0.166	0.120	0.230	0.184	0.350
		Right Touch	0.055	0.512	0.558	0.567	0.613	1.125
		Left Tilt	0.038	0.122	0.102	0.160	0.140	0.262
	WCDMA 1700	Right Tilt	0.023	0.322	0.338	0.345	0.361	0.683
		Left Touch	0.165	0.166	0.120	0.331	0.285	0.451
		Right Touch	0.130	0.512	0.558	0.642	0.688	1.200
	WCDMA 1900	Left Tilt	0.056	0.122	0.102	0.178	0.158	0.280
		Right Tilt	0.072	0.322	0.338	0.350	0.370	0.720
		Left Touch	0.082	0.166	0.120	0.248	0.202	0.368
	LTE Band 12	Right Touch	0.120	0.512	0.558	0.632	0.678	1.190
		Left Tilt	0.073	0.122	0.102	0.195	0.175	0.297
		Right Tilt	0.053	0.322	0.338	0.375	0.391	0.713
	LTE Band 13	Left Touch	0.089	0.166	0.120	0.255	0.209	0.375
		Right Touch	0.112	0.512	0.558	0.624	0.670	1.182
		Left Tilt	0.065	0.122	0.102	0.187	0.167	0.289
	LTE Band 5	Right Tilt	0.046	0.322	0.338	0.368	0.384	0.706
		Left Touch	0.049	0.166	0.120	0.215	0.169	0.335
		Right Touch	0.056	0.512	0.558	0.568	0.614	1.126
	LTE Band 66	Left Tilt	0.019	0.122	0.102	0.141	0.121	0.243
		Right Tilt	0.019	0.322	0.338	0.341	0.357	0.679
		Left Touch	0.097	0.166	0.120	0.283	0.217	0.383
	LTE Band 7	Right Touch	0.105	0.512	0.558	0.617	0.663	1.175
		Left Tilt	0.037	0.122	0.102	0.159	0.139	0.261
		Right Tilt	0.050	0.322	0.338	0.372	0.388	0.710
	LTE Band 41	Left Touch	0.161	0.166	0.120	0.327	0.281	0.447
		Right Touch	0.122	0.512	0.558	0.634	0.680	1.192
		Left Tilt	0.046	0.122	0.102	0.168	0.148	0.270
	LTE Band 2	Right Tilt	0.108	0.322	0.338	0.430	0.446	0.768
		Left Touch	0.090	0.166	0.120	0.256	0.210	0.376
		Right Touch	0.105	0.512	0.558	0.617	0.663	1.175
	LTE Band 41	Left Tilt	0.079	0.122	0.102	0.201	0.181	0.303
		Right Tilt	0.050	0.322	0.338	0.372	0.388	0.710
		Left Touch	0.070	0.166	0.120	0.236	0.190	0.356
	LTE Band 7	Right Touch	0.101	0.512	0.558	0.613	0.659	1.171
		Left Tilt	0.057	0.122	0.102	0.179	0.159	0.291
		Right Tilt	0.035	0.322	0.338	0.357	0.373	0.695
	LTE Band 41	Left Touch	0.120	0.166	0.120	0.286	0.240	0.406
		Right Touch	0.087	0.512	0.558	0.599	0.645	1.157
		Left Tilt	0.033	0.122	0.102	0.155	0.135	0.257
	LTE Band 41	Right Tilt	0.114	0.322	0.338	0.436	0.452	0.774
		Left Touch	0.101	0.166	0.120	0.267	0.221	0.387
		Right Touch	0.081	0.512	0.558	0.593	0.639	1.151
	LTE Band 41	Left Tilt	0.025	0.122	0.102	0.147	0.127	0.249
		Right Tilt	0.100	0.322	0.338	0.422	0.438	0.760

**Table 12.4.2 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.6 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.166	0.116	0.256	0.206	0.372
		Right Touch	0.064	0.512	0.515	0.576	0.379	0.891
		Right Tilt	0.028	0.122	0.087	0.150	0.115	0.237
	GPRS 850	Left Tilt	0.038	0.322	0.212	0.360	0.250	0.572
		Right Touch	0.110	0.166	0.116	0.276	0.206	0.392
		Right Tilt	0.076	0.512	0.515	0.588	0.391	0.903
	GSM 1900	Left Tilt	0.031	0.122	0.087	0.153	0.118	0.240
		Right Tilt	0.046	0.322	0.212	0.368	0.258	0.580
		Left Touch	0.057	0.166	0.116	0.223	0.173	0.339
	GPRS 1900	Right Touch	0.050	0.512	0.515	0.562	0.365	0.877
		Left Tilt	0.037	0.122	0.087	0.159	0.124	0.246
		Right Tilt	0.026	0.322	0.212	0.348	0.238	0.560
	WCDMA 850	Left Touch	0.064	0.166	0.116	0.230	0.180	0.346
		Right Touch	0.055	0.512	0.515	0.567	0.370	0.882
		Left Tilt	0.038	0.122	0.087	0.160	0.125	0.247
	WCDMA 1700	Right Tilt	0.023	0.322	0.212	0.345	0.235	0.557
		Left Touch	0.165	0.166	0.116	0.331	0.281	0.447
		Right Touch	0.130	0.512	0.515	0.642	0.445	0.957
	WCDMA 1900	Left Tilt	0.056	0.122	0.087	0.178	0.143	0.265
		Right Tilt	0.072	0.322	0.212	0.394	0.284	0.606
		Left Touch	0.082	0.166	0.116	0.248	0.198	0.364
	LTE Band 12	Right Touch	0.120	0.512	0.515	0.632	0.435	0.947
		Left Tilt	0.073	0.122	0.087	0.195	0.160	0.282
		Right Tilt	0.053	0.322	0.212	0.375	0.265	0.587
	LTE Band 13	Left Touch	0.089	0.166	0.116	0.255	0.205	0.371
		Right Touch	0.112	0.512	0.515	0.624	0.427	0.939
		Left Tilt	0.065	0.122	0.087	0.187	0.152	0.274
	LTE Band 5	Right Tilt	0.046	0.322	0.212	0.368	0.258	0.580
		Left Touch	0.049	0.166	0.116	0.215	0.165	0.331
		Right Touch	0.056	0.512	0.515	0.568	0.371	0.883
	LTE Band 66	Left Tilt	0.019	0.122	0.087	0.141	0.106	0.228
		Right Tilt	0.019	0.322	0.212	0.341	0.231	0.553
		Left Touch	0.097	0.166	0.116	0.263	0.213	0.379
	LTE Band 7	Right Touch	0.105	0.512	0.515	0.617	0.430	0.932
		Left Tilt	0.037	0.122	0.087	0.159	0.124	0.246
		Right Tilt	0.050	0.322	0.212	0.372	0.262	0.584
	LTE Band 41	Left Touch	0.161	0.166	0.116	0.327	0.277	0.443
		Right Touch	0.122	0.512	0.515	0.634	0.437	0.949
		Left Tilt	0.046	0.122	0.087	0.168	0.133	0.255
	LTE Band 2	Right Tilt	0.108	0.322	0.212	0.430	0.320	0.642
		Left Touch	0.090	0.166	0.116	0.256	0.206	0.372
		Right Touch	0.105	0.512	0.515	0.617	0.420	0.932
	LTE Band 41	Left Tilt	0.079	0.122	0.087	0.201	0.166	0.286
		Right Tilt	0.050	0.322	0.212	0.372	0.262	0.584
		Left Touch	0.070	0.166	0.116	0.236	0.186	0.352
	LTE Band 7	Right Touch	0.101	0.512	0.515	0.613	0.416	0.928
		Left Tilt	0.057	0.122	0.087	0.179	0.144	0.266
		Right Tilt	0.035	0.322	0.212	0.357	0.247	0.569
	LTE Band 41	Left Touch	0.120	0.166	0.116	0.286	0.236	0.402
		Right Touch	0.087	0.512	0.515	0.599	0.402	0.914
		Left Tilt	0.033	0.122	0.087	0.155	0.120	0.242
	LTE Band 41	Right Tilt	0.114	0.322	0.212	0.436	0.336	0.648
		Left Touch	0.101	0.166	0.116	0.267	0.217	0.383
		Right Touch	0.081	0.512	0.515	0.593	0.396	0.908
	LTE Band 41	Left Tilt	0.025	0.122	0.087	0.147	0.112	0.234
		Right Tilt	0.100	0.322	0.212	0.422	0.312	0.634

**Table 12.4.3 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.8 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.166	0.134	0.256	0.224	0.390
		Right Touch	0.064	0.512	0.332	0.576	0.386	0.860
		Left Tilt	0.028	0.122	0.133	0.150	0.161	0.283
		Right Tilt	0.038	0.322	0.235	0.360	0.273	0.595
	GPRS 850	Left Touch	0.110	0.166	0.134	0.276	0.244	0.410
		Right Touch	0.076	0.512	0.332	0.588	0.408	0.920
		Left Tilt	0.031	0.122	0.133	0.153	0.164	0.286
		Right Tilt	0.046	0.322	0.235	0.368	0.281	0.603
	GSM 1900	Left Touch	0.057	0.166	0.134	0.223	0.191	0.357
		Right Touch	0.059	0.512	0.332	0.562	0.382	0.894
		Left Tilt	0.037	0.122	0.133	0.159	0.170	0.292
		Right Tilt	0.026	0.322	0.235	0.348	0.261	0.583
	GPRS 1900	Left Touch	0.064	0.166	0.134	0.230	0.198	0.364
		Right Touch	0.055	0.512	0.332	0.567	0.387	0.899
		Left Tilt	0.038	0.122	0.133	0.160	0.171	0.293
		Right Tilt	0.023	0.322	0.235	0.345	0.258	0.580
	WCDMA 850	Left Touch	0.165	0.166	0.134	0.331	0.299	0.465
		Right Touch	0.130	0.512	0.332	0.642	0.462	0.974
		Left Tilt	0.056	0.122	0.133	0.178	0.188	0.311
		Right Tilt	0.072	0.322	0.235	0.394	0.307	0.629
	WCDMA 1700	Left Touch	0.082	0.166	0.134	0.248	0.216	0.382
		Right Touch	0.120	0.512	0.332	0.632	0.452	0.964
		Left Tilt	0.073	0.122	0.133	0.195	0.206	0.328
		Right Tilt	0.053	0.322	0.235	0.375	0.288	0.610
	WCDMA 1900	Left Touch	0.089	0.166	0.134	0.255	0.223	0.389
		Right Touch	0.112	0.512	0.332	0.624	0.444	0.956
		Left Tilt	0.065	0.122	0.133	0.187	0.198	0.320
		Right Tilt	0.046	0.322	0.235	0.388	0.291	0.603
	LTE Band 12	Left Touch	0.049	0.166	0.134	0.215	0.183	0.349
		Right Touch	0.056	0.512	0.332	0.568	0.388	0.900
		Left Tilt	0.019	0.122	0.133	0.141	0.152	0.274
		Right Tilt	0.019	0.322	0.235	0.341	0.254	0.576
	LTE Band 13	Left Touch	0.097	0.166	0.134	0.263	0.231	0.397
		Right Touch	0.105	0.512	0.332	0.617	0.437	0.949
		Left Tilt	0.037	0.122	0.133	0.159	0.170	0.292
		Right Tilt	0.050	0.322	0.235	0.372	0.285	0.607
	LTE Band 5	Left Touch	0.161	0.166	0.134	0.327	0.295	0.461
		Right Touch	0.122	0.512	0.332	0.634	0.454	0.966
		Left Tilt	0.046	0.122	0.133	0.168	0.179	0.301
		Right Tilt	0.108	0.322	0.235	0.430	0.343	0.685
	LTE Band 66	Left Touch	0.090	0.166	0.134	0.256	0.224	0.390
		Right Touch	0.105	0.512	0.332	0.617	0.437	0.949
		Left Tilt	0.079	0.122	0.133	0.201	0.212	0.334
		Right Tilt	0.050	0.322	0.235	0.372	0.285	0.607
	LTE Band 2	Left Touch	0.070	0.166	0.134	0.236	0.204	0.370
		Right Touch	0.101	0.512	0.332	0.613	0.433	0.945
		Left Tilt	0.057	0.122	0.133	0.179	0.190	0.312
		Right Tilt	0.035	0.322	0.235	0.357	0.270	0.592
LTE Band 7	Left Touch	0.120	0.166	0.134	0.286	0.254	0.420	
	Right Touch	0.087	0.512	0.332	0.599	0.419	0.931	
	Left Tilt	0.033	0.122	0.133	0.155	0.166	0.288	
	Right Tilt	0.114	0.322	0.235	0.436	0.349	0.671	
LTE Band 41	Left Touch	0.101	0.166	0.134	0.267	0.235	0.401	
	Right Touch	0.081	0.512	0.332	0.593	0.413	0.925	
	Left Tilt	0.025	0.122	0.133	0.147	0.158	0.280	
	Right Tilt	0.100	0.322	0.235	0.422	0.335	0.657	

**Table 12.4.4 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.044	0.051	0.134	0.141	0.185
		Right Touch	0.064	0.194	0.055	0.258	0.119	0.313
		Left Tilt	0.028	0.029	0.039	0.057	0.067	0.096
		Right Tilt	0.038	0.107	0.046	0.145	0.084	0.191
	GPRS 850	Left Touch	0.110	0.044	0.051	0.154	0.161	0.205
		Right Touch	0.076	0.194	0.055	0.270	0.131	0.325
		Left Tilt	0.031	0.029	0.039	0.060	0.070	0.099
		Right Tilt	0.046	0.107	0.046	0.153	0.092	0.199
	GSM 1900	Left Touch	0.057	0.044	0.051	0.101	0.108	0.152
		Right Touch	0.050	0.194	0.055	0.244	0.105	0.299
		Left Tilt	0.037	0.029	0.039	0.066	0.076	0.105
		Right Tilt	0.026	0.107	0.046	0.133	0.072	0.179
	GPRS 1900	Left Touch	0.064	0.044	0.051	0.108	0.115	0.159
		Right Touch	0.055	0.194	0.055	0.249	0.110	0.304
		Left Tilt	0.038	0.029	0.039	0.067	0.077	0.106
		Right Tilt	0.023	0.107	0.046	0.130	0.069	0.176
	WCDMA 850	Left Touch	0.165	0.044	0.051	0.209	0.216	0.260
		Right Touch	0.130	0.194	0.055	0.324	0.185	0.379
		Left Tilt	0.056	0.029	0.039	0.085	0.095	0.124
		Right Tilt	0.072	0.107	0.046	0.179	0.118	0.225
	WCDMA 1700	Left Touch	0.082	0.044	0.051	0.126	0.133	0.177
		Right Touch	0.120	0.194	0.055	0.314	0.175	0.369
		Left Tilt	0.073	0.029	0.039	0.102	0.112	0.141
		Right Tilt	0.053	0.107	0.046	0.160	0.099	0.206
	WCDMA 1900	Left Touch	0.089	0.044	0.051	0.133	0.140	0.184
		Right Touch	0.112	0.194	0.055	0.306	0.167	0.361
		Left Tilt	0.065	0.029	0.039	0.094	0.104	0.133
		Right Tilt	0.046	0.107	0.046	0.153	0.092	0.199
	LTE Band 12	Left Touch	0.049	0.044	0.051	0.093	0.100	0.144
		Right Touch	0.056	0.194	0.055	0.250	0.111	0.305
		Left Tilt	0.019	0.029	0.039	0.048	0.058	0.087
		Right Tilt	0.019	0.107	0.046	0.126	0.065	0.172
	LTE Band 13	Left Touch	0.097	0.044	0.051	0.141	0.148	0.192
		Right Touch	0.105	0.194	0.055	0.299	0.160	0.354
		Left Tilt	0.037	0.029	0.039	0.066	0.076	0.105
		Right Tilt	0.050	0.107	0.046	0.157	0.096	0.203
	LTE Band 5	Left Touch	0.161	0.044	0.051	0.205	0.212	0.256
		Right Touch	0.122	0.194	0.055	0.316	0.177	0.371
		Left Tilt	0.046	0.029	0.039	0.075	0.085	0.114
		Right Tilt	0.108	0.107	0.046	0.215	0.154	0.261
	LTE Band 66	Left Touch	0.090	0.044	0.051	0.134	0.141	0.185
		Right Touch	0.105	0.194	0.055	0.289	0.160	0.354
		Left Tilt	0.079	0.029	0.039	0.108	0.118	0.147
		Right Tilt	0.050	0.107	0.046	0.157	0.096	0.203
	LTE Band 2	Left Touch	0.070	0.044	0.051	0.114	0.121	0.165
		Right Touch	0.101	0.194	0.055	0.295	0.156	0.350
		Left Tilt	0.057	0.029	0.039	0.086	0.096	0.125
		Right Tilt	0.035	0.107	0.046	0.142	0.081	0.188
LTE Band 7	Left Touch	0.120	0.044	0.051	0.164	0.171	0.215	
	Right Touch	0.087	0.194	0.055	0.281	0.142	0.336	
	Left Tilt	0.038	0.029	0.039	0.082	0.092	0.101	
	Right Tilt	0.114	0.107	0.046	0.221	0.160	0.267	
LTE Band 41	Left Touch	0.101	0.044	0.051	0.145	0.152	0.196	
	Right Touch	0.081	0.194	0.055	0.275	0.136	0.330	
	Left Tilt	0.025	0.029	0.039	0.054	0.064	0.093	
	Right Tilt	0.100	0.107	0.046	0.207	0.146	0.253	

**Table 12.4.5 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth Ant.1 SAR (W/kg)			5.3G W-LAN Ant.2 SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Head SAR	GSM 850	Left Touch	0.090	0.044	0.120	0.134	0.210	0.254	0.134	0.210	0.254	0.262	0.416	0.516
		Right Touch	0.064	0.194	0.586	0.258	0.650	0.844	0.258	0.650	0.844	0.186	0.186	0.186
		Left Tilt	0.028	0.029	0.102	0.057	0.130	0.159	0.057	0.130	0.159	0.057	0.130	0.159
	Right Tilt	0.038	0.107	0.338	0.145	0.376	0.483	0.145	0.376	0.483	0.145	0.376	0.483	
	GPRS 850	Left Touch	0.110	0.044	0.120	0.154	0.230	0.274	0.154	0.230	0.274	0.162	0.162	0.162
		Right Touch	0.076	0.194	0.558	0.270	0.634	0.828	0.270	0.634	0.828	0.194	0.194	0.194
		Left Tilt	0.031	0.029	0.102	0.060	0.133	0.162	0.060	0.133	0.162	0.060	0.133	0.162
	Right Tilt	0.046	0.107	0.338	0.153	0.384	0.491	0.153	0.384	0.491	0.153	0.384	0.491	
	GSM 1900	Left Touch	0.057	0.044	0.120	0.101	0.177	0.221	0.101	0.177	0.221	0.101	0.177	0.221
		Right Touch	0.050	0.194	0.558	0.244	0.608	0.802	0.244	0.608	0.802	0.177	0.177	0.177
		Left Tilt	0.037	0.029	0.102	0.066	0.139	0.168	0.066	0.139	0.168	0.066	0.139	0.168
	Right Tilt	0.026	0.107	0.338	0.133	0.364	0.471	0.133	0.364	0.471	0.133	0.364	0.471	
	GPRS 1900	Left Touch	0.064	0.044	0.120	0.108	0.184	0.228	0.108	0.184	0.228	0.108	0.184	0.228
		Right Touch	0.055	0.194	0.558	0.249	0.613	0.807	0.249	0.613	0.807	0.184	0.184	0.184
		Left Tilt	0.038	0.029	0.102	0.067	0.140	0.169	0.067	0.140	0.169	0.067	0.140	0.169
	Right Tilt	0.023	0.107	0.338	0.130	0.361	0.468	0.130	0.361	0.468	0.130	0.361	0.468	
	WCDMA 850	Left Touch	0.165	0.044	0.120	0.209	0.285	0.329	0.209	0.285	0.329	0.209	0.285	0.329
		Right Touch	0.130	0.194	0.558	0.324	0.688	0.882	0.324	0.688	0.882	0.285	0.285	0.285
		Left Tilt	0.056	0.029	0.102	0.085	0.158	0.187	0.085	0.158	0.187	0.085	0.158	0.187
	Right Tilt	0.072	0.107	0.338	0.179	0.410	0.517	0.179	0.410	0.517	0.179	0.410	0.517	
	WCDMA 1700	Left Touch	0.082	0.044	0.120	0.126	0.202	0.246	0.126	0.202	0.246	0.126	0.202	0.246
		Right Touch	0.120	0.194	0.558	0.314	0.678	0.872	0.314	0.678	0.872	0.202	0.202	0.202
		Left Tilt	0.073	0.029	0.102	0.102	0.175	0.204	0.102	0.175	0.204	0.102	0.175	0.204
	Right Tilt	0.053	0.107	0.338	0.160	0.391	0.498	0.160	0.391	0.498	0.160	0.391	0.498	
	WCDMA 1900	Left Touch	0.089	0.044	0.120	0.133	0.209	0.253	0.133	0.209	0.253	0.133	0.209	0.253
		Right Touch	0.112	0.194	0.558	0.306	0.670	0.864	0.306	0.670	0.864	0.209	0.209	0.209
		Left Tilt	0.065	0.029	0.102	0.094	0.167	0.196	0.094	0.167	0.196	0.094	0.167	0.196
	Right Tilt	0.046	0.107	0.338	0.153	0.384	0.491	0.153	0.384	0.491	0.153	0.384	0.491	
	LTE Band 12	Left Touch	0.049	0.044	0.120	0.093	0.167	0.213	0.093	0.167	0.213	0.093	0.167	0.213
		Right Touch	0.056	0.194	0.558	0.250	0.642	0.836	0.250	0.642	0.836	0.167	0.167	0.167
		Left Tilt	0.037	0.029	0.102	0.066	0.139	0.168	0.066	0.139	0.168	0.066	0.139	0.168
	Right Tilt	0.019	0.107	0.338	0.048	0.121	0.150	0.048	0.121	0.150	0.048	0.121	0.150	
	LTE Band 13	Left Touch	0.097	0.044	0.120	0.126	0.207	0.251	0.126	0.207	0.251	0.126	0.207	0.251
		Right Touch	0.105	0.194	0.558	0.299	0.663	0.857	0.299	0.663	0.857	0.207	0.207	0.207
		Left Tilt	0.037	0.029	0.102	0.066	0.139	0.168	0.066	0.139	0.168	0.066	0.139	0.168
	Right Tilt	0.050	0.107	0.338	0.157	0.388	0.495	0.157	0.388	0.495	0.157	0.388	0.495	
	LTE Band 5	Left Touch	0.161	0.044	0.120	0.205	0.281	0.325	0.205	0.281	0.325	0.205	0.281	0.325
		Right Touch	0.122	0.194	0.558	0.316	0.680	0.874	0.316	0.680	0.874	0.281	0.281	0.281
		Left Tilt	0.046	0.029	0.102	0.075	0.148	0.177	0.075	0.148	0.177	0.075	0.148	0.177
	Right Tilt	0.108	0.107	0.338	0.215	0.446	0.553	0.215	0.446	0.553	0.215	0.446	0.553	
	LTE Band 66	Left Touch	0.090	0.044	0.120	0.134	0.210	0.254	0.134	0.210	0.254	0.134	0.210	0.254
		Right Touch	0.105	0.194	0.558	0.299	0.663	0.857	0.299	0.663	0.857	0.210	0.210	0.210
		Left Tilt	0.079	0.029	0.102	0.108	0.181	0.210	0.108	0.181	0.210	0.108	0.181	0.210
	Right Tilt	0.050	0.107	0.338	0.157	0.388	0.495	0.157	0.388	0.495	0.157	0.388	0.495	
	LTE Band 2	Left Touch	0.070	0.044	0.120	0.114	0.190	0.234	0.114	0.190	0.234	0.114	0.190	0.234
		Right Touch	0.101	0.194	0.558	0.295	0.659	0.853	0.295	0.659	0.853	0.234	0.234	0.234
		Left Tilt	0.057	0.029	0.102	0.088	0.161	0.190	0.088	0.161	0.190	0.088	0.161	0.190
	Right Tilt	0.035	0.107	0.338	0.142	0.373	0.480	0.142	0.373	0.480	0.142	0.373	0.480	
	LTE Band 7	Left Touch	0.120	0.044	0.120	0.164	0.240	0.284	0.164	0.240	0.284	0.164	0.240	0.284
		Right Touch	0.087	0.194	0.558	0.281	0.645	0.839	0.281	0.645	0.839	0.240	0.240	0.240
		Left Tilt	0.033	0.029	0.102	0.062	0.135	0.164	0.062	0.135	0.164	0.062	0.135	0.164
	Right Tilt	0.114	0.107	0.338	0.221	0.452	0.559	0.221	0.452	0.559	0.221	0.452	0.559	
	LTE Band 41	Left Touch	0.101	0.044	0.120	0.145	0.221	0.265	0.145	0.221	0.265	0.145	0.221	0.265
		Right Touch	0.081	0.194	0.558	0.275	0.639	0.833	0.275	0.639	0.833	0.265	0.265	0.265
		Left Tilt	0.025	0.029	0.102	0.054	0.127	0.156	0.054	0.127	0.156	0.054	0.127	0.156
	Right Tilt	0.100	0.107	0.338	0.207	0.438	0.545	0.207	0.438	0.545	0.207	0.438	0.545	

**Table 12.4.6 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth Ant.1 SAR (W/kg)			5.3G W-LAN MIMO SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Head SAR	GSM 850	Left Touch	0.090	0.044	0.143	0.134	0.233	0.277	0.134	0.233	0.277	0.277	0.277	0.277
		Right Touch	0.064	0.194	0.586	0.258	0.650	0.844	0.258	0.650	0.844	0.233	0.233	0.233
		Left Tilt	0.028	0.029	0.102	0.057	0.130	0.159	0.057	0.130	0.159	0.057	0.130	0.159
	Right Tilt	0.038	0.107	0.338	0.145	0.376	0.483	0.145	0.376	0.483	0.145	0.376	0.483	
	GPRS 850	Left Touch	0.110	0.044	0.143	0.154	0.253	0.297	0.154	0.253	0.297	0.297	0.297	0.297
		Right Touch	0.076	0.194	0.586	0.270	0.662	0.856	0.270	0.662	0.856	0.253	0.253	0.253
		Left Tilt	0.031	0.029	0.102	0.060	0.139	0.168	0.060	0.139	0.168	0.060	0.139	0.168
	Right Tilt	0.046	0.107	0.338	0.153	0.384	0.491	0.153	0.384	0.491	0.153	0.384	0.491	
	GSM 1900	Left Touch	0.057	0.044	0.143	0.101	0.200	0.244	0.101	0.200	0.244	0.244	0.244	0.244
		Right Touch	0.050	0.194	0.586	0.244	0.636	0.830	0.244	0.636	0.830	0.200	0.200	0.200
		Left Tilt	0.037	0.029	0.102	0.066	0.166	0.195	0.066	0.166	0.195	0.066	0.166	0.195
	Right Tilt	0.026	0.107	0.338	0.133	0.361	0.468	0.133	0.361	0.468	0.133	0.361	0.468	
	GPRS 1900	Left Touch	0.064	0.044	0.143	0.108	0.207	0.251	0.108	0.207	0.251	0.251	0.251	0.251
		Right Touch	0.055	0.194	0.586	0.249	0.641	0.835	0.249	0.641	0.835	0.207	0.207	0.207
		Left Tilt	0.038	0.029	0.102	0.067	0.140	0.169	0.067	0.140	0.169	0.067	0.140	0.169
	Right Tilt	0.023	0.107	0.338	0.130	0.361	0.468	0.130	0.361	0.468	0.130	0.361	0.468	
	WCDMA 850	Left Touch	0.165	0.044	0.143	0.209	0.308	0.352	0.209	0.308	0.352	0.352	0.352	0.352
		Right Touch	0.130	0.194	0.586	0.324	0.716	0.910	0.324	0.716	0.910	0.308	0.308	0.308
		Left Tilt	0.056	0.029	0.102	0.085	0.185	0.214	0.085	0.185	0.214	0.085	0.185	0.214
	Right Tilt	0.072	0.107	0.338	0.179	0.557	0.664	0.179	0.557	0.664	0.179	0.557	0.664	
	WCDMA 1700	Left Touch	0.082	0.044	0.143	0.12								

**Table 12.4.7 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.6G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.044	0.062	0.134	0.152	0.196
		Right Touch	0.064	0.194	0.183	0.258	0.247	0.441
		Left Tilt	0.028	0.029	0.087	0.057	0.080	0.109
		Right Tilt	0.038	0.107	0.146	0.145	0.184	0.291
	GPRS 850	Left Touch	0.110	0.044	0.062	0.154	0.172	0.216
		Right Touch	0.076	0.194	0.183	0.270	0.259	0.453
		Left Tilt	0.031	0.029	0.052	0.060	0.083	0.112
		Right Tilt	0.046	0.107	0.146	0.153	0.192	0.299
	GSM 1900	Left Touch	0.044	0.044	0.062	0.101	0.119	0.163
		Right Touch	0.059	0.194	0.183	0.244	0.233	0.427
		Left Tilt	0.037	0.029	0.052	0.066	0.089	0.118
		Right Tilt	0.026	0.107	0.146	0.133	0.172	0.279
	GPRS 1900	Left Touch	0.064	0.044	0.062	0.108	0.126	0.170
		Right Touch	0.055	0.194	0.183	0.249	0.238	0.432
		Left Tilt	0.038	0.029	0.052	0.067	0.090	0.119
		Right Tilt	0.023	0.107	0.146	0.130	0.169	0.276
	WCDMA 850	Left Touch	0.165	0.044	0.062	0.209	0.227	0.271
		Right Touch	0.130	0.194	0.183	0.324	0.313	0.507
		Left Tilt	0.056	0.029	0.052	0.085	0.108	0.137
		Right Tilt	0.072	0.107	0.146	0.179	0.218	0.325
	WCDMA 1700	Left Touch	0.082	0.044	0.062	0.126	0.144	0.188
		Right Touch	0.120	0.194	0.183	0.314	0.303	0.497
		Left Tilt	0.073	0.029	0.052	0.102	0.125	0.154
		Right Tilt	0.053	0.107	0.146	0.160	0.199	0.306
	WCDMA 1900	Left Touch	0.089	0.044	0.062	0.133	0.151	0.195
		Right Touch	0.112	0.194	0.183	0.306	0.295	0.489
		Left Tilt	0.065	0.029	0.052	0.094	0.117	0.146
		Right Tilt	0.046	0.107	0.146	0.153	0.192	0.299
	LTE Band 12	Left Touch	0.049	0.044	0.062	0.093	0.111	0.155
		Right Touch	0.056	0.194	0.183	0.250	0.239	0.433
		Left Tilt	0.019	0.029	0.052	0.048	0.071	0.100
		Right Tilt	0.019	0.107	0.146	0.126	0.165	0.272
	LTE Band 13	Left Touch	0.097	0.044	0.062	0.141	0.159	0.203
		Right Touch	0.105	0.194	0.183	0.299	0.288	0.482
		Left Tilt	0.037	0.029	0.052	0.066	0.089	0.118
		Right Tilt	0.050	0.107	0.146	0.157	0.196	0.303
	LTE Band 5	Left Touch	0.161	0.044	0.062	0.205	0.223	0.267
		Right Touch	0.122	0.194	0.183	0.318	0.305	0.499
		Left Tilt	0.046	0.029	0.052	0.075	0.098	0.127
		Right Tilt	0.108	0.107	0.146	0.215	0.254	0.361
	LTE Band 66	Left Touch	0.090	0.044	0.062	0.134	0.152	0.196
		Right Touch	0.105	0.194	0.183	0.299	0.288	0.482
		Left Tilt	0.079	0.029	0.052	0.108	0.131	0.160
		Right Tilt	0.050	0.107	0.146	0.157	0.196	0.303
	LTE Band 2	Left Touch	0.070	0.044	0.062	0.114	0.132	0.176
		Right Touch	0.101	0.194	0.183	0.295	0.284	0.478
		Left Tilt	0.057	0.029	0.052	0.086	0.109	0.138
		Right Tilt	0.035	0.107	0.146	0.142	0.181	0.288
	LTE Band 7	Left Touch	0.120	0.044	0.062	0.164	0.182	0.226
		Right Touch	0.087	0.194	0.183	0.281	0.270	0.464
		Left Tilt	0.033	0.029	0.052	0.062	0.085	0.114
		Right Tilt	0.114	0.107	0.146	0.221	0.260	0.367
	LTE Band 41	Left Touch	0.101	0.044	0.062	0.145	0.163	0.207
		Right Touch	0.081	0.194	0.183	0.275	0.264	0.458
		Left Tilt	0.025	0.029	0.052	0.054	0.077	0.106
		Right Tilt	0.100	0.107	0.146	0.207	0.246	0.353

**Table 12.4.8 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.090	0.044	0.116	0.134	0.206	0.250
		Right Touch	0.064	0.194	0.315	0.258	0.379	0.573
		Left Tilt	0.028	0.029	0.087	0.057	0.115	0.144
		Right Tilt	0.038	0.107	0.212	0.145	0.250	0.357
	GPRS 850	Left Touch	0.110	0.044	0.116	0.154	0.226	0.270
		Right Touch	0.076	0.194	0.315	0.270	0.391	0.585
		Left Tilt	0.031	0.029	0.087	0.060	0.118	0.147
		Right Tilt	0.046	0.107	0.212	0.153	0.258	0.365
	GSM 1900	Left Touch	0.057	0.044	0.116	0.101	0.173	0.217
		Right Touch	0.050	0.194	0.315	0.244	0.365	0.559
		Left Tilt	0.037	0.029	0.087	0.066	0.124	0.153
		Right Tilt	0.026	0.107	0.212	0.133	0.238	0.345
	GPRS 1900	Left Touch	0.064	0.044	0.116	0.108	0.180	0.224
		Right Touch	0.055	0.194	0.315	0.249	0.370	0.564
		Left Tilt	0.038	0.029	0.087	0.067	0.125	0.154
		Right Tilt	0.023	0.107	0.212	0.130	0.235	0.342
	WCDMA 850	Left Touch	0.165	0.044	0.116	0.209	0.281	0.325
		Right Touch	0.130	0.194	0.315	0.324	0.445	0.639
		Left Tilt	0.056	0.029	0.087	0.085	0.143	0.172
		Right Tilt	0.072	0.107	0.212	0.179	0.284	0.391
	WCDMA 1700	Left Touch	0.082	0.044	0.116	0.126	0.198	0.242
		Right Touch	0.120	0.194	0.315	0.314	0.435	0.629
		Left Tilt	0.073	0.029	0.087	0.102	0.160	0.199
		Right Tilt	0.053	0.107	0.212	0.160	0.265	0.372
	WCDMA 1900	Left Touch	0.089	0.044	0.116	0.133	0.205	0.249
		Right Touch	0.112	0.194	0.315	0.306	0.427	0.621
		Left Tilt	0.065	0.029	0.087	0.094	0.152	0.181
		Right Tilt	0.046	0.107	0.212	0.153	0.258	0.365
	LTE Band 12	Left Touch	0.049	0.044	0.116	0.093	0.165	0.209
		Right Touch	0.056	0.194	0.315	0.250	0.371	0.565
		Left Tilt	0.019	0.029	0.087	0.048	0.106	0.135
		Right Tilt	0.019	0.107	0.212	0.126	0.231	0.338
	LTE Band 13	Left Touch	0.097	0.044	0.116	0.141	0.213	0.257
		Right Touch	0.105	0.194	0.315	0.299	0.420	0.614
		Left Tilt	0.037	0.029	0.087	0.066	0.124	0.153
		Right Tilt	0.050	0.107	0.212	0.157	0.262	0.369
	LTE Band 5	Left Touch	0.161	0.044	0.116	0.205	0.277	0.321
		Right Touch	0.122	0.194	0.315	0.316	0.437	0.631
		Left Tilt	0.046	0.029	0.087	0.075	0.133	0.162
		Right Tilt	0.108	0.107	0.212	0.215	0.320	0.427
	LTE Band 66	Left Touch	0.090	0.044	0.116	0.134	0.206	0.250
		Right Touch	0.105	0.194	0.315	0.299	0.420	0.614
		Left Tilt	0.079	0.029	0.087	0.108	0.166	0.195
		Right Tilt	0.050	0.107	0.212	0.157	0.262	0.369
	LTE Band 2	Left Touch	0.070	0.044	0.116	0.114	0.186	0.230
		Right Touch	0.101	0.194	0.315	0.295	0.416	0.610
		Left Tilt	0.057	0.029	0.087	0.086	0.144	0.173
		Right Tilt	0.035	0.107	0.212	0.142	0.247	0.354
	LTE Band 7	Left Touch	0.120	0.044	0.116	0.164	0.236	0.280
		Right Touch	0.087	0.194	0.315	0.281	0.402	0.596
		Left Tilt	0.033	0.029	0.087	0.062	0.120	0.149
		Right Tilt	0.114	0.107	0.212	0.221	0.326	0.433
	LTE Band 41	Left Touch	0.101	0.044	0.116	0.145	0.217	0.261
		Right Touch	0.081	0.194	0.315	0.275	0.396	0.590
		Left Tilt	0.025	0.029	0.087	0.054	0.112	0.141
		Right Tilt	0.100	0.107	0.212	0.207	0.312	0.419

**Table 12.4.9 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.6G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)	
			1	2	3	1+2	1+3	1+2+3		
Head SAR	GSM 850	Left Touch	0.090	0.044	0.141	0.134	0.231	0.275		
		Right Touch	0.064	0.194	0.481	0.258	0.435	0.719		
		Left Tilt	0.028	0.029	0.127	0.057	0.155	0.184		
	GPRS 850	Right Tilt	0.038	0.107	0.277	0.145	0.315	0.422		
		Left Touch	0.110	0.044	0.141	0.154	0.251	0.295		
		Right Touch	0.076	0.194	0.481	0.270	0.557	0.751		
	GSM 1900	Left Tilt	0.031	0.029	0.127	0.060	0.158	0.187		
		Right Tilt	0.046	0.107	0.277	0.153	0.323	0.430		
		Left Touch	0.057	0.044	0.141	0.101	0.198	0.242		
	GPRS 1900	Right Touch	0.059	0.194	0.481	0.244	0.531	0.725		
		Left Tilt	0.037	0.029	0.127	0.066	0.164	0.193		
		Right Tilt	0.026	0.107	0.277	0.133	0.303	0.410		
	WCDMA 850	Left Touch	0.064	0.044	0.141	0.108	0.205	0.249		
		Right Touch	0.055	0.194	0.481	0.249	0.536	0.730		
		Left Tilt	0.038	0.029	0.127	0.067	0.165	0.194		
	WCDMA 1700	Right Tilt	0.023	0.107	0.277	0.130	0.300	0.407		
		Left Touch	0.165	0.044	0.141	0.209	0.306	0.350		
		Right Touch	0.130	0.194	0.481	0.324	0.611	0.805		
	WCDMA 1900	Left Tilt	0.056	0.029	0.127	0.065	0.163	0.212		
		Right Tilt	0.072	0.107	0.277	0.179	0.349	0.456		
		Left Touch	0.082	0.044	0.141	0.126	0.223	0.267		
	LTE Band 12	Right Touch	0.120	0.194	0.481	0.314	0.601	0.795		
		Left Tilt	0.073	0.029	0.127	0.102	0.200	0.229		
		Right Tilt	0.053	0.107	0.277	0.160	0.330	0.437		
	LTE Band 13	Left Touch	0.089	0.044	0.141	0.133	0.230	0.274		
		Right Touch	0.112	0.194	0.481	0.306	0.593	0.787		
		Left Tilt	0.065	0.029	0.127	0.094	0.192	0.221		
	LTE Band 5	Right Tilt	0.046	0.107	0.277	0.153	0.323	0.430		
		Left Touch	0.049	0.044	0.141	0.093	0.190	0.234		
		Right Touch	0.056	0.194	0.481	0.250	0.537	0.731		
	LTE Band 66	Left Tilt	0.019	0.029	0.127	0.048	0.146	0.175		
		Right Tilt	0.019	0.107	0.277	0.126	0.296	0.403		
		Left Touch	0.097	0.044	0.141	0.141	0.238	0.282		
	LTE Band 7	Right Touch	0.105	0.194	0.481	0.299	0.586	0.780		
		Left Tilt	0.037	0.029	0.127	0.066	0.164	0.193		
		Right Tilt	0.050	0.107	0.277	0.157	0.327	0.434		
	LTE Band 2	Left Touch	0.161	0.044	0.141	0.205	0.302	0.346		
		Right Touch	0.122	0.194	0.481	0.316	0.603	0.797		
		Left Tilt	0.046	0.029	0.127	0.075	0.173	0.202		
	LTE Band 41	Right Tilt	0.108	0.107	0.277	0.215	0.385	0.492		
		Left Touch	0.090	0.044	0.141	0.134	0.231	0.275		
		Right Touch	0.105	0.194	0.481	0.299	0.586	0.780		
	LTE Band 2	Left Tilt	0.079	0.029	0.127	0.108	0.206	0.235		
		Right Tilt	0.050	0.107	0.277	0.157	0.327	0.434		
		Left Touch	0.070	0.044	0.141	0.114	0.211	0.255		
	LTE Band 7	Right Touch	0.101	0.194	0.481	0.295	0.582	0.776		
		Left Tilt	0.057	0.029	0.127	0.086	0.194	0.213		
		Right Tilt	0.035	0.107	0.277	0.142	0.312	0.419		
LTE Band 41	Left Touch	0.120	0.044	0.141	0.164	0.261	0.305			
	Right Touch	0.087	0.194	0.481	0.281	0.568	0.762			
	Left Tilt	0.033	0.029	0.127	0.062	0.160	0.189			
LTE Band 41	Right Tilt	0.114	0.107	0.277	0.221	0.391	0.498			
	Left Touch	0.101	0.044	0.141	0.145	0.242	0.286			
	Right Touch	0.081	0.194	0.481	0.275	0.562	0.756			
LTE Band 41	Left Tilt	0.025	0.029	0.127	0.054	0.152	0.181			
	Right Tilt	0.100	0.107	0.277	0.207	0.377	0.484			

**Table 12.4.10 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.6G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)	
			1	2	3	1+2	1+3	1+2+3		
Head SAR	GSM 850	Left Touch	0.090	0.044	0.037	0.134	0.127	0.171		
		Right Touch	0.064	0.194	0.109	0.258	0.173	0.367		
		Left Tilt	0.028	0.029	0.053	0.057	0.081	0.110		
	GPRS 850	Right Tilt	0.038	0.107	0.124	0.145	0.162	0.269		
		Left Touch	0.110	0.044	0.037	0.154	0.147	0.191		
		Right Touch	0.076	0.194	0.109	0.270	0.185	0.379		
	GSM 1900	Left Tilt	0.031	0.029	0.053	0.060	0.084	0.113		
		Right Tilt	0.046	0.107	0.124	0.153	0.170	0.277		
		Left Touch	0.057	0.044	0.037	0.101	0.094	0.138		
	GPRS 1900	Right Touch	0.050	0.194	0.109	0.244	0.159	0.353		
		Left Tilt	0.037	0.029	0.053	0.066	0.090	0.119		
		Right Tilt	0.026	0.107	0.124	0.133	0.150	0.257		
	WCDMA 850	Left Touch	0.064	0.044	0.037	0.108	0.101	0.145		
		Right Touch	0.055	0.194	0.109	0.249	0.164	0.358		
		Left Tilt	0.038	0.029	0.053	0.067	0.091	0.120		
	WCDMA 1700	Right Tilt	0.023	0.107	0.124	0.130	0.147	0.254		
		Left Touch	0.165	0.044	0.037	0.209	0.202	0.246		
		Right Touch	0.130	0.194	0.109	0.324	0.239	0.433		
	WCDMA 1900	Left Tilt	0.056	0.029	0.053	0.085	0.109	0.138		
		Right Tilt	0.072	0.107	0.124	0.179	0.196	0.303		
		Left Touch	0.082	0.044	0.037	0.126	0.119	0.163		
	LTE Band 12	Right Touch	0.120	0.194	0.109	0.314	0.229	0.423		
		Left Tilt	0.073	0.029	0.053	0.102	0.126	0.155		
		Right Tilt	0.053	0.107	0.124	0.160	0.177	0.284		
	LTE Band 13	Left Touch	0.089	0.044	0.037	0.133	0.126	0.170		
		Right Touch	0.112	0.194	0.109	0.306	0.221	0.415		
		Left Tilt	0.065	0.029	0.053	0.094	0.118	0.147		
	LTE Band 5	Right Tilt	0.046	0.107	0.124	0.153	0.170	0.277		
		Left Touch	0.049	0.044	0.037	0.093	0.086	0.130		
		Right Touch	0.056	0.194	0.109	0.250	0.165	0.359		
	LTE Band 66	Left Tilt	0.019	0.029	0.053	0.048	0.072	0.101		
		Right Tilt	0.019	0.107	0.124	0.126	0.143	0.250		
		Left Touch	0.097	0.044	0.037	0.141	0.134	0.178		
	LTE Band 2	Right Touch	0.105	0.194	0.109	0.299	0.214	0.408		
		Left Tilt	0.037	0.029	0.053	0.066	0.090	0.119		
		Right Tilt	0.050	0.107	0.124	0.157	0.174	0.281		
	LTE Band 7	Left Touch	0.161	0.044	0.037	0.205	0.198	0.242		
		Right Touch	0.122	0.194	0.109	0.316	0.231	0.425		
		Left Tilt	0.046	0.029	0.053	0.075	0.099	0.128		
	LTE Band 41	Right Tilt	0.108	0.107	0.124	0.215	0.232	0.339		
		Left Touch	0.090	0.044	0.037	0.134	0.127	0.174		
		Right Touch	0.105	0.194	0.109	0.289	0.214	0.408		
	LTE Band 2	Left Tilt	0.079	0.029	0.053	0.108	0.132	0.161		
		Right Tilt	0.050	0.107	0.124	0.157	0.174	0.281		
		Left Touch	0.070	0.044	0.037	0.114	0.107	0.151		
	LTE Band 7	Right Touch	0.101	0.194	0.109	0.295	0.210	0.404		
		Left Tilt	0.057	0.029	0.053	0.086	0.110	0.139		
		Right Tilt	0.035	0.107	0.124	0.142	0.159	0.266		
LTE Band 41	Left Touch	0.120	0.044	0.037	0.164	0.157	0.201			
	Right Touch	0.087	0.194	0.109	0.281	0.196	0.390			
	Left Tilt	0.033	0.029	0.053	0.065	0.086	0.115			
LTE Band 41	Right Tilt	0.114	0.107	0.124	0.221	0.238	0.345			
	Left Touch	0.101	0.044	0.037	0.145	0.138	0.182			
	Right Touch	0.081	0.194	0.109	0.275	0.190	0.384			
LTE Band 41	Left Tilt	0.025	0.029	0.053	0.054	0.078	0.107			
	Right Tilt	0.100	0.107	0.124	0.207	0.224	0.331			

**Table 12.4.11 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.8G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)	
			1	2	3	1+2	1+3	1+2+3		
Head SAR	GSM 850	Left Touch	0.090	0.044	0.134	0.134	0.224	0.268		
		Right Touch	0.064	0.194	0.332	0.258	0.602	0.576		
		Left Tilt	0.028	0.029	0.133	0.057	0.161	0.190		
		Right Tilt	0.038	0.107	0.235	0.145	0.273	0.380		
	GPRS 850	Left Touch	0.110	0.044	0.134	0.154	0.244	0.288		
		Right Touch	0.076	0.194	0.332	0.270	0.408	0.602		
		Left Tilt	0.031	0.029	0.133	0.060	0.164	0.193		
		Right Tilt	0.046	0.107	0.235	0.153	0.281	0.388		
	GSM 1900	Left Touch	0.057	0.044	0.134	0.101	0.191	0.235		
		Right Touch	0.059	0.194	0.332	0.244	0.382	0.576		
		Left Tilt	0.037	0.029	0.133	0.066	0.170	0.199		
		Right Tilt	0.026	0.107	0.235	0.133	0.261	0.368		
	GPRS 1900	Left Touch	0.064	0.044	0.134	0.108	0.198	0.242		
		Right Touch	0.055	0.194	0.332	0.249	0.387	0.581		
		Left Tilt	0.038	0.029	0.133	0.067	0.171	0.200		
		Right Tilt	0.023	0.107	0.235	0.130	0.258	0.365		
	WCDMA 850	Left Touch	0.165	0.044	0.134	0.209	0.299	0.343		
		Right Touch	0.130	0.194	0.332	0.324	0.462	0.656		
		Left Tilt	0.056	0.029	0.133	0.085	0.218	0.278		
		Right Tilt	0.072	0.107	0.235	0.179	0.307	0.414		
	WCDMA 1700	Left Touch	0.082	0.044	0.134	0.126	0.216	0.260		
		Right Touch	0.120	0.194	0.332	0.314	0.452	0.646		
		Left Tilt	0.073	0.029	0.133	0.102	0.206	0.235		
		Right Tilt	0.053	0.107	0.235	0.160	0.288	0.395		
	WCDMA 1900	Left Touch	0.089	0.044	0.134	0.133	0.223	0.267		
		Right Touch	0.112	0.194	0.332	0.306	0.444	0.638		
		Left Tilt	0.065	0.029	0.133	0.094	0.198	0.227		
		Right Tilt	0.046	0.107	0.235	0.153	0.281	0.388		
	LTE Band 12	Left Touch	0.049	0.044	0.134	0.093	0.183	0.227		
		Right Touch	0.056	0.194	0.332	0.250	0.388	0.582		
		Left Tilt	0.019	0.029	0.133	0.048	0.152	0.181		
		Right Tilt	0.019	0.107	0.235	0.126	0.254	0.361		
	LTE Band 13	Left Touch	0.097	0.044	0.134	0.141	0.231	0.275		
		Right Touch	0.105	0.194	0.332	0.299	0.437	0.631		
		Left Tilt	0.037	0.029	0.133	0.066	0.170	0.199		
		Right Tilt	0.050	0.107	0.235	0.157	0.285	0.392		
	LTE Band 5	Left Touch	0.161	0.044	0.134	0.205	0.295	0.339		
		Right Touch	0.122	0.194	0.332	0.316	0.454	0.648		
		Left Tilt	0.046	0.029	0.133	0.075	0.179	0.208		
		Right Tilt	0.108	0.107	0.235	0.215	0.343	0.450		
	LTE Band 66	Left Touch	0.090	0.044	0.134	0.134	0.224	0.268		
		Right Touch	0.105	0.194	0.332	0.299	0.437	0.631		
		Left Tilt	0.079	0.029	0.133	0.108	0.212	0.241		
		Right Tilt	0.050	0.107	0.235	0.157	0.285	0.392		
	LTE Band 2	Left Touch	0.070	0.044	0.134	0.114	0.204	0.248		
		Right Touch	0.101	0.194	0.332	0.295	0.433	0.627		
		Left Tilt	0.057	0.029	0.133	0.086	0.190	0.219		
		Right Tilt	0.035	0.107	0.235	0.142	0.270	0.377		
LTE Band 7	Left Touch	0.120	0.044	0.134	0.164	0.254	0.298			
	Right Touch	0.087	0.194	0.332	0.281	0.419	0.613			
	Left Tilt	0.033	0.029	0.133	0.062	0.166	0.195			
	Right Tilt	0.114	0.107	0.235	0.221	0.349	0.456			
LTE Band 41	Left Touch	0.101	0.044	0.134	0.145	0.235	0.279			
	Right Touch	0.081	0.194	0.332	0.275	0.413	0.607			
	Left Tilt	0.025	0.029	0.133	0.054	0.158	0.187			
	Right Tilt	0.100	0.107	0.235	0.207	0.335	0.442			

**Table 12.4.12 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.8G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)	
			1	2	3	1+2	1+3	1+2+3		
Head SAR	GSM 850	Left Touch	0.090	0.044	0.200	0.134	0.290	0.334		
		Right Touch	0.064	0.194	0.590	0.258	0.654	0.848		
		Left Tilt	0.028	0.029	0.170	0.057	0.198	0.227		
		Right Tilt	0.038	0.107	0.467	0.145	0.505	0.612		
	GPRS 850	Left Touch	0.110	0.044	0.200	0.154	0.310	0.354		
		Right Touch	0.076	0.194	0.590	0.270	0.656	0.850		
		Left Tilt	0.031	0.029	0.170	0.060	0.201	0.230		
		Right Tilt	0.046	0.107	0.467	0.153	0.513	0.620		
	GSM 1900	Left Touch	0.057	0.044	0.200	0.101	0.257	0.301		
		Right Touch	0.050	0.194	0.590	0.244	0.640	0.834		
		Left Tilt	0.037	0.029	0.170	0.066	0.207	0.236		
		Right Tilt	0.026	0.107	0.467	0.133	0.493	0.600		
	GPRS 1900	Left Touch	0.064	0.044	0.200	0.108	0.264	0.308		
		Right Touch	0.055	0.194	0.590	0.249	0.645	0.839		
		Left Tilt	0.038	0.029	0.170	0.067	0.208	0.237		
		Right Tilt	0.023	0.107	0.467	0.130	0.490	0.587		
	WCDMA 850	Left Touch	0.165	0.044	0.200	0.209	0.365	0.409		
		Right Touch	0.130	0.194	0.590	0.324	0.720	0.914		
		Left Tilt	0.056	0.029	0.170	0.085	0.226	0.255		
		Right Tilt	0.072	0.107	0.467	0.179	0.539	0.646		
	WCDMA 1700	Left Touch	0.082	0.044	0.200	0.126	0.282	0.326		
		Right Touch	0.120	0.194	0.590	0.314	0.710	0.904		
		Left Tilt	0.073	0.029	0.170	0.102	0.243	0.272		
		Right Tilt	0.053	0.107	0.467	0.169	0.520	0.627		
	WCDMA 1900	Left Touch	0.089	0.044	0.200	0.133	0.289	0.333		
		Right Touch	0.112	0.194	0.590	0.306	0.702	0.896		
		Left Tilt	0.065	0.029	0.170	0.094	0.235	0.264		
		Right Tilt	0.046	0.107	0.467	0.153	0.513	0.620		
	LTE Band 12	Left Touch	0.049	0.044	0.200	0.093	0.249	0.293		
		Right Touch	0.056	0.194	0.590	0.250	0.646	0.840		
		Left Tilt	0.019	0.029	0.170	0.048	0.189	0.218		
		Right Tilt	0.019	0.107	0.467	0.126	0.486	0.593		
	LTE Band 13	Left Touch	0.097	0.044	0.200	0.141	0.257	0.301		
		Right Touch	0.105	0.194	0.590	0.299	0.695	0.889		
		Left Tilt	0.037	0.029	0.170	0.066	0.207	0.236		
		Right Tilt	0.050	0.107	0.467	0.157	0.517	0.624		
	LTE Band 5	Left Touch	0.161	0.044	0.200	0.205	0.361	0.405		
		Right Touch	0.122	0.194	0.590	0.316	0.712	0.906		
		Left Tilt	0.046	0.029	0.170	0.075	0.216	0.245		
		Right Tilt	0.108	0.107	0.467	0.215	0.575	0.682		
	LTE Band 66	Left Touch	0.090	0.044	0.200	0.134	0.290	0.334		
		Right Touch	0.105	0.194	0.590	0.299	0.695	0.889		
		Left Tilt	0.079	0.029	0.170	0.108	0.249	0.278		
		Right Tilt	0.050	0.107	0.467	0.157	0.517	0.624		
	LTE Band 2	Left Touch	0.070	0.044	0.200	0.114	0.270	0.314		
		Right Touch	0.101	0.194	0.590	0.295	0.691	0.885		
		Left Tilt	0.057	0.029	0.170	0.086	0.227	0.256		
		Right Tilt	0.035	0.107	0.467	0.142	0.502	0.609		
LTE Band 7	Left Touch	0.120	0.044	0.200	0.164	0.320	0.364			
	Right Touch	0.087	0.194	0.590	0.281	0.677	0.871			
	Left Tilt	0.033	0.029	0.170	0.062	0.208	0.237			
	Right Tilt	0.114	0.107	0.467	0.221	0.581	0.688			
LTE Band 41	Left Touch	0.101	0.044	0.200	0.145	0.301	0.345			
	Right Touch	0.081	0.194	0.590	0.275	0.671	0.865			
	Left Tilt	0.025	0.029	0.170	0.054	0.195	0.224			
	Right Tilt	0.100	0.107	0.467	0.207	0.567	0.674			

**Table 12.4.13 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.166	0.256
		Right Touch	0.064	0.312	0.376
		Left Tilt	0.028	0.122	0.150
		Right Tilt	0.038	0.322	0.360
	GPRS 850	Left Touch	0.110	0.166	0.276
		Right Touch	0.076	0.512	0.588
		Left Tilt	0.031	0.122	0.153
		Right Tilt	0.046	0.322	0.368
	GSM 1900	Left Touch	0.057	0.166	0.223
		Right Touch	0.050	0.512	0.562
		Left Tilt	0.037	0.122	0.159
	GPRS 1900	Right Tilt	0.026	0.322	0.348
		Left Touch	0.064	0.166	0.230
		Right Touch	0.055	0.512	0.567
		Left Tilt	0.038	0.122	0.160
	WCDMA 850	Right Tilt	0.023	0.322	0.345
		Left Touch	0.165	0.166	0.331
		Right Touch	0.130	0.512	0.642
		Left Tilt	0.056	0.122	0.178
	WCDMA 1700	Right Tilt	0.072	0.322	0.394
		Left Touch	0.082	0.166	0.248
		Right Touch	0.120	0.512	0.632
		Left Tilt	0.073	0.122	0.195
	WCDMA 1900	Right Tilt	0.053	0.322	0.375
		Left Touch	0.089	0.166	0.255
		Right Touch	0.112	0.512	0.624
		Left Tilt	0.065	0.122	0.187
	LTE Band 12	Right Tilt	0.046	0.322	0.368
		Left Touch	0.049	0.166	0.215
		Right Touch	0.056	0.512	0.568
		Left Tilt	0.019	0.122	0.141
	LTE Band 13	Right Tilt	0.019	0.322	0.341
		Left Touch	0.097	0.166	0.263
		Right Touch	0.105	0.512	0.617
		Left Tilt	0.037	0.122	0.159
	LTE Band 5	Right Tilt	0.050	0.322	0.372
		Left Touch	0.161	0.166	0.327
		Right Touch	0.122	0.512	0.634
		Left Tilt	0.046	0.122	0.168
	LTE Band 66	Right Tilt	0.108	0.322	0.430
		Left Touch	0.090	0.166	0.256
		Right Touch	0.105	0.512	0.617
		Left Tilt	0.079	0.122	0.201
	LTE Band 2	Right Tilt	0.050	0.322	0.372
		Left Touch	0.070	0.166	0.236
		Right Touch	0.101	0.512	0.613
		Left Tilt	0.057	0.122	0.179
	LTE Band 7	Right Tilt	0.035	0.322	0.357
Left Touch		0.120	0.166	0.286	
Right Touch		0.087	0.512	0.599	
Left Tilt		0.033	0.122	0.155	
LTE Band 41	Right Tilt	0.114	0.322	0.436	
	Left Touch	0.101	0.166	0.267	
	Right Touch	0.081	0.512	0.593	
	Left Tilt	0.025	0.122	0.147	
		Right Tilt	0.100	0.322	0.422

**Table 12.4.14 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.564	0.654
		Right Touch	0.064	0.909	0.973
		Left Tilt	0.028	0.547	0.575
		Right Tilt	0.038	0.873	0.911
	GPRS 850	Left Touch	0.110	0.564	0.674
		Right Touch	0.076	0.909	0.985
		Left Tilt	0.031	0.547	0.578
		Right Tilt	0.046	0.873	0.919
	GSM 1900	Left Touch	0.057	0.564	0.621
		Right Touch	0.050	0.909	0.959
		Left Tilt	0.037	0.547	0.584
		Right Tilt	0.026	0.873	0.899
	GPRS 1900	Left Touch	0.064	0.564	0.628
		Right Touch	0.055	0.909	0.964
		Left Tilt	0.038	0.547	0.585
		Right Tilt	0.023	0.873	0.896
	WCDMA 850	Left Touch	0.165	0.564	0.729
		Right Touch	0.130	0.909	1.039
		Left Tilt	0.056	0.547	0.603
		Right Tilt	0.072	0.873	0.945
	WCDMA 1700	Left Touch	0.082	0.564	0.646
		Right Touch	0.120	0.909	1.029
		Left Tilt	0.073	0.547	0.620
		Right Tilt	0.053	0.873	0.926
	WCDMA 1900	Left Touch	0.089	0.564	0.653
		Right Touch	0.112	0.909	1.021
		Left Tilt	0.065	0.547	0.612
		Right Tilt	0.046	0.873	0.919
	LTE Band 12	Left Touch	0.049	0.564	0.613
		Right Touch	0.056	0.909	0.965
		Left Tilt	0.019	0.547	0.566
		Right Tilt	0.019	0.873	0.892
	LTE Band 13	Left Touch	0.097	0.564	0.661
		Right Touch	0.105	0.909	1.014
		Left Tilt	0.037	0.547	0.584
		Right Tilt	0.050	0.873	0.923
	LTE Band 5	Left Touch	0.161	0.564	0.725
		Right Touch	0.122	0.909	1.031
		Left Tilt	0.046	0.547	0.593
		Right Tilt	0.108	0.873	0.981
	LTE Band 66	Left Touch	0.090	0.564	0.654
		Right Touch	0.105	0.909	1.014
		Left Tilt	0.079	0.547	0.626
		Right Tilt	0.050	0.873	0.923
	LTE Band 2	Left Touch	0.070	0.564	0.634
		Right Touch	0.101	0.909	1.010
		Left Tilt	0.057	0.547	0.604
		Right Tilt	0.035	0.873	0.908
LTE Band 7	Left Touch	0.120	0.564	0.684	
	Right Touch	0.087	0.909	0.996	
	Left Tilt	0.033	0.547	0.580	
	Right Tilt	0.114	0.873	0.987	
LTE Band 41	Left Touch	0.101	0.564	0.665	
	Right Touch	0.081	0.909	0.990	
	Left Tilt	0.025	0.547	0.572	
	Right Tilt	0.100	0.873	0.973	

**Table 12.4.15 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		2.4G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	GSM 850	Left Touch	0.090	0.669	0.759		
		Right Touch	0.064	1.121	1.185		
		Left Tilt	0.028	0.634	0.662		
		Right Tilt	0.038	1.051	1.089		
	GPRS 850	Left Touch	0.110	0.669	0.779		
		Right Touch	0.076	1.121	1.197		
		Left Tilt	0.031	0.634	0.665		
		Right Tilt	0.046	1.051	1.097		
	GSM 1900	Left Touch	0.057	0.669	0.726		
		Right Touch	0.050	1.121	1.171		
		Left Tilt	0.037	0.634	0.671		
		Right Tilt	0.026	1.051	1.077		
	GPRS 1900	Left Touch	0.064	0.669	0.733		
		Right Touch	0.055	1.121	1.176		
		Left Tilt	0.038	0.634	0.672		
		Right Tilt	0.023	1.051	1.074		
	WCDMA 850	Left Touch	0.165	0.669	0.834		
		Right Touch	0.130	1.121	1.251		
		Left Tilt	0.056	0.634	0.690		
		Right Tilt	0.072	1.051	1.123		
	WCDMA 1700	Left Touch	0.082	0.669	0.751		
		Right Touch	0.120	1.121	1.241		
		Left Tilt	0.073	0.634	0.707		
		Right Tilt	0.053	1.051	1.104		
	WCDMA 1900	Left Touch	0.089	0.669	0.758		
		Right Touch	0.112	1.121	1.233		
		Left Tilt	0.065	0.634	0.699		
		Right Tilt	0.046	1.051	1.097		
	LTE Band 12	Left Touch	0.049	0.669	0.718		
		Right Touch	0.056	1.121	1.177		
		Left Tilt	0.019	0.634	0.653		
		Right Tilt	0.019	1.051	1.070		
	LTE Band 13	Left Touch	0.097	0.669	0.766		
		Right Touch	0.105	1.121	1.226		
		Left Tilt	0.037	0.634	0.671		
		Right Tilt	0.050	1.051	1.101		
	LTE Band 5	Left Touch	0.161	0.669	0.830		
		Right Touch	0.122	1.121	1.243		
		Left Tilt	0.046	0.634	0.680		
		Right Tilt	0.108	1.051	1.159		
	LTE Band 66	Left Touch	0.090	0.669	0.759		
		Right Touch	0.105	1.121	1.226		
		Left Tilt	0.079	0.634	0.713		
		Right Tilt	0.050	1.051	1.101		
	LTE Band 2	Left Touch	0.070	0.669	0.739		
		Right Touch	0.101	1.121	1.222		
		Left Tilt	0.057	0.634	0.691		
		Right Tilt	0.035	1.051	1.086		
	LTE Band 7	Left Touch	0.120	0.669	0.789		
		Right Touch	0.087	1.121	1.208		
Left Tilt		0.033	0.634	0.667			
Right Tilt		0.114	1.051	1.165			
LTE Band 41	Left Touch	0.101	0.669	0.770			
	Right Touch	0.081	1.121	1.202			
	Left Tilt	0.025	0.634	0.659			
	Right Tilt	0.100	1.051	1.151			

**Table 12.4.16 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.3G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	GSM 850	Left Touch	0.090	0.051	0.141		
		Right Touch	0.064	0.055	0.119		
		Left Tilt	0.028	0.039	0.067		
		Right Tilt	0.038	0.046	0.084		
	GPRS 850	Left Touch	0.110	0.051	0.161		
		Right Touch	0.076	0.055	0.131		
		Left Tilt	0.031	0.039	0.070		
		Right Tilt	0.046	0.046	0.092		
	GSM 1900	Left Touch	0.057	0.051	0.108		
		Right Touch	0.050	0.055	0.105		
		Left Tilt	0.037	0.039	0.076		
		Right Tilt	0.026	0.046	0.072		
	GPRS 1900	Left Touch	0.064	0.051	0.115		
		Right Touch	0.055	0.055	0.110		
		Left Tilt	0.038	0.039	0.077		
		Right Tilt	0.023	0.046	0.069		
	WCDMA 850	Left Touch	0.165	0.051	0.216		
		Right Touch	0.130	0.055	0.185		
		Left Tilt	0.056	0.039	0.095		
		Right Tilt	0.072	0.046	0.118		
	WCDMA 1700	Left Touch	0.082	0.051	0.133		
		Right Touch	0.120	0.055	0.175		
		Left Tilt	0.073	0.039	0.112		
		Right Tilt	0.053	0.046	0.099		
	WCDMA 1900	Left Touch	0.089	0.051	0.140		
		Right Touch	0.112	0.055	0.167		
		Left Tilt	0.065	0.039	0.104		
		Right Tilt	0.046	0.046	0.092		
	LTE Band 12	Left Touch	0.049	0.051	0.100		
		Right Touch	0.056	0.055	0.111		
		Left Tilt	0.019	0.039	0.058		
		Right Tilt	0.019	0.046	0.065		
	LTE Band 13	Left Touch	0.097	0.051	0.148		
		Right Touch	0.105	0.055	0.160		
		Left Tilt	0.037	0.039	0.076		
		Right Tilt	0.050	0.046	0.096		
	LTE Band 5	Left Touch	0.161	0.051	0.212		
		Right Touch	0.122	0.055	0.177		
		Left Tilt	0.046	0.039	0.085		
		Right Tilt	0.108	0.046	0.154		
	LTE Band 66	Left Touch	0.090	0.051	0.141		
		Right Touch	0.105	0.055	0.160		
		Left Tilt	0.079	0.039	0.118		
		Right Tilt	0.050	0.046	0.096		
	LTE Band 2	Left Touch	0.070	0.051	0.121		
		Right Touch	0.101	0.055	0.156		
		Left Tilt	0.057	0.039	0.096		
		Right Tilt	0.035	0.046	0.081		
	LTE Band 7	Left Touch	0.120	0.051	0.171		
		Right Touch	0.087	0.055	0.142		
Left Tilt		0.033	0.039	0.072			
Right Tilt		0.114	0.046	0.160			
LTE Band 41	Left Touch	0.101	0.051	0.152			
	Right Touch	0.081	0.055	0.136			
	Left Tilt	0.025	0.039	0.064			
	Right Tilt	0.100	0.046	0.146			

**Table 12.4.17 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.120	0.210
		Right Touch	0.064	0.558	<b>0.622</b>
		Left Tilt	0.102		0.130
		Right Tilt	0.038	0.338	0.376
	GPRS 850	Left Touch	0.110	0.120	0.230
		Right Touch	0.076	0.558	<b>0.634</b>
		Left Tilt	0.031	0.102	0.133
		Right Tilt	0.046	0.338	0.384
	GSM 1900	Left Touch	0.057	0.120	0.177
		Right Touch	0.050	0.558	<b>0.608</b>
		Left Tilt	0.037	0.102	0.139
		Right Tilt	0.026	0.338	0.364
	GPRS 1900	Left Touch	0.064	0.120	0.184
		Right Touch	0.055	0.558	<b>0.613</b>
		Left Tilt	0.038	0.102	0.140
		Right Tilt	0.023	0.338	0.361
	WCDMA 850	Left Touch	0.165	0.120	0.285
		Right Touch	0.130	0.558	<b>0.688</b>
		Left Tilt	0.056	0.102	0.158
		Right Tilt	0.072	0.338	0.410
	WCDMA 1700	Left Touch	0.082	0.120	0.202
		Right Touch	0.120	0.558	<b>0.678</b>
		Left Tilt	0.073	0.102	0.175
		Right Tilt	0.053	0.338	0.391
	WCDMA 1900	Left Touch	0.089	0.120	0.209
		Right Touch	0.112	0.558	<b>0.670</b>
		Left Tilt	0.065	0.102	0.167
		Right Tilt	0.046	0.338	0.384
	LTE Band 12	Left Touch	0.049	0.120	0.169
		Right Touch	0.056	0.558	<b>0.614</b>
		Left Tilt	0.019	0.102	0.121
		Right Tilt	0.019	0.338	0.357
	LTE Band 13	Left Touch	0.097	0.120	0.217
		Right Touch	0.105	0.558	<b>0.663</b>
		Left Tilt	0.037	0.102	0.139
		Right Tilt	0.050	0.338	0.388
	LTE Band 5	Left Touch	0.161	0.120	0.281
		Right Touch	0.122	0.558	<b>0.680</b>
		Left Tilt	0.046	0.102	0.148
		Right Tilt	0.108	0.338	0.446
	LTE Band 66	Left Touch	0.090	0.120	0.210
		Right Touch	0.105	0.558	<b>0.663</b>
		Left Tilt	0.079	0.102	0.181
		Right Tilt	0.050	0.338	0.388
	LTE Band 2	Left Touch	0.070	0.120	0.190
		Right Touch	0.101	0.558	<b>0.659</b>
		Left Tilt	0.057	0.102	0.159
		Right Tilt	0.035	0.338	0.373
	LTE Band 7	Left Touch	0.120	0.120	0.240
		Right Touch	0.087	0.558	<b>0.645</b>
Left Tilt		0.033	0.102	0.135	
Right Tilt		0.114	0.338	0.452	
LTE Band 41	Left Touch	0.101	0.120	0.221	
	Right Touch	0.081	0.558	<b>0.639</b>	
	Left Tilt	0.025	0.102	0.127	
	Right Tilt	0.100	0.338	0.438	

**Table 12.4.18 Simultaneous Transmission Scenario: 2G/3G/4G + 5.3 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.143	0.233
		Right Touch	0.064	0.586	<b>0.650</b>
		Left Tilt	0.028	0.129	0.157
		Right Tilt	0.038	0.485	0.523
	GPRS 850	Left Touch	0.110	0.143	0.253
		Right Touch	0.076	0.586	<b>0.662</b>
		Left Tilt	0.031	0.129	0.160
		Right Tilt	0.046	0.485	0.531
	GSM 1900	Left Touch	0.057	0.143	0.200
		Right Touch	0.050	0.586	<b>0.636</b>
		Left Tilt	0.037	0.129	0.166
		Right Tilt	0.026	0.485	0.511
	GPRS 1900	Left Touch	0.064	0.143	0.207
		Right Touch	0.055	0.586	<b>0.641</b>
		Left Tilt	0.038	0.129	0.167
		Right Tilt	0.023	0.485	0.508
	WCDMA 850	Left Touch	0.165	0.143	0.308
		Right Touch	0.130	0.586	<b>0.716</b>
		Left Tilt	0.056	0.129	0.185
		Right Tilt	0.072	0.485	0.557
	WCDMA 1700	Left Touch	0.082	0.143	0.225
		Right Touch	0.120	0.586	<b>0.706</b>
		Left Tilt	0.073	0.129	0.202
		Right Tilt	0.053	0.485	0.538
	WCDMA 1900	Left Touch	0.089	0.143	0.232
		Right Touch	0.112	0.586	<b>0.698</b>
		Left Tilt	0.065	0.129	0.194
		Right Tilt	0.046	0.485	0.531
	LTE Band 12	Left Touch	0.049	0.143	0.192
		Right Touch	0.056	0.586	<b>0.642</b>
		Left Tilt	0.019	0.129	0.148
		Right Tilt	0.019	0.485	0.504
	LTE Band 13	Left Touch	0.097	0.143	0.240
		Right Touch	0.105	0.586	<b>0.691</b>
		Left Tilt	0.037	0.129	0.166
		Right Tilt	0.050	0.485	0.535
	LTE Band 5	Left Touch	0.161	0.143	0.304
		Right Touch	0.122	0.586	<b>0.708</b>
		Left Tilt	0.046	0.129	0.175
		Right Tilt	0.108	0.485	0.593
	LTE Band 66	Left Touch	0.090	0.143	0.233
		Right Touch	0.105	0.586	<b>0.691</b>
		Left Tilt	0.079	0.129	0.208
		Right Tilt	0.050	0.485	0.535
	LTE Band 2	Left Touch	0.070	0.143	0.213
		Right Touch	0.101	0.586	<b>0.687</b>
		Left Tilt	0.057	0.129	0.186
		Right Tilt	0.035	0.485	0.520
	LTE Band 7	Left Touch	0.120	0.143	0.263
		Right Touch	0.087	0.586	<b>0.673</b>
Left Tilt		0.033	0.129	0.162	
Right Tilt		0.114	0.485	0.599	
LTE Band 41	Left Touch	0.101	0.143	0.244	
	Right Touch	0.081	0.586	<b>0.667</b>	
	Left Tilt	0.025	0.129	0.154	
	Right Tilt	0.100	0.485	0.585	

**Table 12.4.19 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.6G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.062	0.152
		Right Touch	0.064	0.183	0.247
		Left Tilt	0.028	0.052	0.080
		Right Tilt	0.038	0.146	0.184
	GPRS 850	Left Touch	0.110	0.062	0.172
		Right Touch	0.076	0.183	0.259
		Left Tilt	0.031	0.052	0.083
		Right Tilt	0.046	0.146	0.192
	GSM 1900	Left Touch	0.057	0.062	0.119
		Right Touch	0.050	0.183	0.233
		Left Tilt	0.037	0.052	0.089
		Right Tilt	0.026	0.146	0.172
	GPRS 1900	Left Touch	0.064	0.062	0.126
		Right Touch	0.055	0.183	0.238
		Left Tilt	0.038	0.052	0.090
		Right Tilt	0.023	0.146	0.169
	WCDMA 850	Left Touch	0.165	0.062	0.227
		Right Touch	0.130	0.183	0.313
		Left Tilt	0.056	0.052	0.108
		Right Tilt	0.072	0.146	0.218
	WCDMA 1700	Left Touch	0.082	0.062	0.144
		Right Touch	0.120	0.183	0.303
		Left Tilt	0.073	0.052	0.125
		Right Tilt	0.053	0.146	0.199
	WCDMA 1900	Left Touch	0.089	0.062	0.151
		Right Touch	0.112	0.183	0.295
		Left Tilt	0.065	0.052	0.117
		Right Tilt	0.046	0.146	0.192
	LTE Band 12	Left Touch	0.049	0.062	0.111
		Right Touch	0.056	0.183	0.239
		Left Tilt	0.019	0.052	0.071
		Right Tilt	0.019	0.146	0.165
	LTE Band 13	Left Touch	0.097	0.062	0.159
		Right Touch	0.105	0.183	0.288
		Left Tilt	0.037	0.052	0.089
		Right Tilt	0.050	0.146	0.196
	LTE Band 5	Left Touch	0.161	0.062	0.223
		Right Touch	0.122	0.183	0.305
		Left Tilt	0.046	0.052	0.098
		Right Tilt	0.108	0.146	0.254
	LTE Band 66	Left Touch	0.090	0.062	0.152
		Right Touch	0.105	0.183	0.288
		Left Tilt	0.079	0.052	0.131
		Right Tilt	0.050	0.146	0.196
	LTE Band 2	Left Touch	0.070	0.062	0.132
		Right Touch	0.101	0.183	0.284
		Left Tilt	0.057	0.052	0.109
		Right Tilt	0.035	0.146	0.181
	LTE Band 7	Left Touch	0.120	0.062	0.182
		Right Touch	0.087	0.183	0.270
Left Tilt		0.033	0.052	0.085	
Right Tilt		0.114	0.146	0.260	
LTE Band 41	Left Touch	0.101	0.062	0.163	
	Right Touch	0.081	0.183	0.264	
	Left Tilt	0.025	0.052	0.077	
	Right Tilt	0.100	0.146	0.246	

**Table 12.4.20 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.116	0.206
		Right Touch	0.064	0.315	0.379
		Left Tilt	0.028	0.087	0.115
		Right Tilt	0.038	0.212	0.250
	GPRS 850	Left Touch	0.110	0.116	0.226
		Right Touch	0.076	0.315	0.391
		Left Tilt	0.031	0.087	0.118
		Right Tilt	0.046	0.212	0.258
	GSM 1900	Left Touch	0.057	0.116	0.173
		Right Touch	0.050	0.315	0.365
		Left Tilt	0.037	0.087	0.124
		Right Tilt	0.026	0.212	0.238
	GPRS 1900	Left Touch	0.064	0.116	0.180
		Right Touch	0.055	0.315	0.370
		Left Tilt	0.038	0.087	0.125
		Right Tilt	0.023	0.212	0.235
	WCDMA 850	Left Touch	0.165	0.116	0.281
		Right Touch	0.130	0.315	0.445
		Left Tilt	0.056	0.087	0.143
		Right Tilt	0.072	0.212	0.284
	WCDMA 1700	Left Touch	0.082	0.116	0.198
		Right Touch	0.120	0.315	0.435
		Left Tilt	0.073	0.087	0.160
		Right Tilt	0.053	0.212	0.265
	WCDMA 1900	Left Touch	0.089	0.116	0.205
		Right Touch	0.112	0.315	0.427
		Left Tilt	0.065	0.087	0.152
		Right Tilt	0.046	0.212	0.258
	LTE Band 12	Left Touch	0.049	0.116	0.165
		Right Touch	0.056	0.315	0.371
		Left Tilt	0.019	0.087	0.106
		Right Tilt	0.019	0.212	0.231
	LTE Band 13	Left Touch	0.097	0.116	0.213
		Right Touch	0.105	0.315	0.420
		Left Tilt	0.037	0.087	0.124
		Right Tilt	0.050	0.212	0.262
	LTE Band 5	Left Touch	0.161	0.116	0.277
		Right Touch	0.122	0.315	0.437
		Left Tilt	0.046	0.087	0.133
		Right Tilt	0.108	0.212	0.320
	LTE Band 66	Left Touch	0.090	0.116	0.206
		Right Touch	0.105	0.315	0.420
		Left Tilt	0.079	0.087	0.166
		Right Tilt	0.050	0.212	0.262
	LTE Band 2	Left Touch	0.070	0.116	0.186
		Right Touch	0.101	0.315	0.416
		Left Tilt	0.057	0.087	0.144
		Right Tilt	0.035	0.212	0.247
	LTE Band 7	Left Touch	0.120	0.116	0.236
		Right Touch	0.087	0.315	0.402
Left Tilt		0.033	0.087	0.120	
Right Tilt		0.114	0.212	0.326	
LTE Band 41	Left Touch	0.101	0.116	0.217	
	Right Touch	0.081	0.315	0.396	
	Left Tilt	0.025	0.087	0.112	
	Right Tilt	0.100	0.212	0.312	

**Table 12.4.21 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.6G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.141	0.231
		Right Touch	0.064	0.481	0.545
		Left Tilt	0.028	0.127	0.155
		Right Tilt	0.038	0.277	0.315
	GPRS 850	Left Touch	0.110	0.141	0.251
		Right Touch	0.076	0.481	0.557
		Left Tilt	0.031	0.127	0.158
		Right Tilt	0.046	0.277	0.323
	GSM 1900	Left Touch	0.057	0.141	0.198
		Right Touch	0.050	0.481	0.531
		Left Tilt	0.037	0.127	0.164
		Right Tilt	0.026	0.277	0.303
	GPRS 1900	Left Touch	0.064	0.141	0.205
		Right Touch	0.055	0.481	0.536
		Left Tilt	0.038	0.127	0.165
		Right Tilt	0.023	0.277	0.300
	WCDMA 850	Left Touch	0.165	0.141	0.306
		Right Touch	0.130	0.481	0.611
		Left Tilt	0.056	0.127	0.183
		Right Tilt	0.072	0.277	0.349
	WCDMA 1700	Left Touch	0.082	0.141	0.223
		Right Touch	0.120	0.481	0.601
		Left Tilt	0.073	0.127	0.200
		Right Tilt	0.053	0.277	0.330
	WCDMA 1900	Left Touch	0.089	0.141	0.230
		Right Touch	0.112	0.481	0.593
		Left Tilt	0.065	0.127	0.192
		Right Tilt	0.046	0.277	0.323
	LTE Band 12	Left Touch	0.049	0.141	0.190
		Right Touch	0.056	0.481	0.537
		Left Tilt	0.019	0.127	0.146
		Right Tilt	0.019	0.277	0.296
	LTE Band 13	Left Touch	0.097	0.141	0.238
		Right Touch	0.105	0.481	0.586
		Left Tilt	0.037	0.127	0.164
		Right Tilt	0.050	0.277	0.327
	LTE Band 5	Left Touch	0.161	0.141	0.302
		Right Touch	0.122	0.481	0.603
		Left Tilt	0.046	0.127	0.173
		Right Tilt	0.108	0.277	0.385
	LTE Band 66	Left Touch	0.090	0.141	0.231
		Right Touch	0.105	0.481	0.586
		Left Tilt	0.079	0.127	0.206
		Right Tilt	0.050	0.277	0.327
	LTE Band 2	Left Touch	0.070	0.141	0.211
		Right Touch	0.101	0.481	0.582
		Left Tilt	0.057	0.127	0.184
		Right Tilt	0.035	0.277	0.312
LTE Band 7	Left Touch	0.120	0.141	0.261	
	Right Touch	0.087	0.481	0.568	
	Left Tilt	0.033	0.127	0.160	
	Right Tilt	0.114	0.277	0.391	
LTE Band 41	Left Touch	0.101	0.141	0.242	
	Right Touch	0.081	0.481	0.562	
	Left Tilt	0.025	0.127	0.152	
	Right Tilt	0.100	0.277	0.377	

**Table 12.4.22 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.090	0.037	0.127
		Right Touch	0.064	0.109	0.173
		Left Tilt	0.028	0.053	0.081
		Right Tilt	0.038	0.124	0.162
	GPRS 850	Left Touch	0.110	0.037	0.147
		Right Touch	0.076	0.109	0.185
		Left Tilt	0.031	0.053	0.084
		Right Tilt	0.046	0.124	0.170
	GSM 1900	Left Touch	0.057	0.037	0.094
		Right Touch	0.050	0.109	0.159
		Left Tilt	0.037	0.053	0.090
		Right Tilt	0.026	0.124	0.150
	GPRS 1900	Left Touch	0.064	0.037	0.101
		Right Touch	0.055	0.109	0.164
		Left Tilt	0.038	0.053	0.091
		Right Tilt	0.023	0.124	0.147
	WCDMA 850	Left Touch	0.165	0.037	0.202
		Right Touch	0.130	0.109	0.239
		Left Tilt	0.056	0.053	0.109
		Right Tilt	0.072	0.124	0.196
	WCDMA 1700	Left Touch	0.082	0.037	0.119
		Right Touch	0.120	0.109	0.229
		Left Tilt	0.073	0.053	0.126
		Right Tilt	0.053	0.124	0.177
	WCDMA 1900	Left Touch	0.089	0.037	0.126
		Right Touch	0.112	0.109	0.221
		Left Tilt	0.065	0.053	0.118
		Right Tilt	0.046	0.124	0.170
	LTE Band 12	Left Touch	0.049	0.037	0.086
		Right Touch	0.056	0.109	0.165
		Left Tilt	0.019	0.053	0.072
		Right Tilt	0.019	0.124	0.143
	LTE Band 13	Left Touch	0.097	0.037	0.134
		Right Touch	0.105	0.109	0.214
		Left Tilt	0.037	0.053	0.090
		Right Tilt	0.050	0.124	0.174
	LTE Band 5	Left Touch	0.161	0.037	0.198
		Right Touch	0.122	0.109	0.231
		Left Tilt	0.046	0.053	0.099
		Right Tilt	0.108	0.124	0.232
	LTE Band 66	Left Touch	0.090	0.037	0.127
		Right Touch	0.105	0.109	0.214
		Left Tilt	0.079	0.053	0.132
		Right Tilt	0.050	0.124	0.174
	LTE Band 2	Left Touch	0.070	0.037	0.107
		Right Touch	0.101	0.109	0.210
		Left Tilt	0.057	0.053	0.110
		Right Tilt	0.035	0.124	0.159
LTE Band 7	Left Touch	0.120	0.037	0.157	
	Right Touch	0.087	0.109	0.196	
	Left Tilt	0.033	0.053	0.086	
	Right Tilt	0.114	0.124	0.238	
LTE Band 41	Left Touch	0.101	0.037	0.138	
	Right Touch	0.081	0.109	0.190	
	Left Tilt	0.025	0.053	0.078	
	Right Tilt	0.100	0.124	0.224	

**Table 12.4.23 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	GSM 850	Left Touch	0.090	0.134	0.224		
		Right Touch	0.064	0.332	0.396		
		Left Tilt	0.028	0.133	0.161		
		Right Tilt	0.038	0.235	0.273		
	GPRS 850	Left Touch	0.110	0.134	0.244		
		Right Touch	0.076	0.332	0.408		
		Left Tilt	0.031	0.133	0.164		
		Right Tilt	0.046	0.235	0.281		
	GSM 1900	Left Touch	0.057	0.134	0.191		
		Right Touch	0.050	0.332	0.382		
		Left Tilt	0.037	0.133	0.170		
		Right Tilt	0.026	0.235	0.261		
	GPRS 1900	Left Touch	0.064	0.134	0.198		
		Right Touch	0.055	0.332	0.387		
		Left Tilt	0.038	0.133	0.171		
		Right Tilt	0.023	0.235	0.258		
	WCDMA 850	Left Touch	0.165	0.134	0.299		
		Right Touch	0.130	0.332	0.462		
		Left Tilt	0.056	0.133	0.188		
		Right Tilt	0.072	0.235	0.307		
	WCDMA 1700	Left Touch	0.082	0.134	0.216		
		Right Touch	0.120	0.332	0.452		
		Left Tilt	0.073	0.133	0.206		
		Right Tilt	0.053	0.235	0.288		
	WCDMA 1900	Left Touch	0.089	0.134	0.223		
		Right Touch	0.112	0.332	0.444		
		Left Tilt	0.065	0.133	0.198		
		Right Tilt	0.046	0.235	0.281		
	LTE Band 12	Left Touch	0.049	0.134	0.183		
		Right Touch	0.056	0.332	0.388		
		Left Tilt	0.019	0.133	0.152		
		Right Tilt	0.019	0.235	0.254		
	LTE Band 13	Left Touch	0.097	0.134	0.231		
		Right Touch	0.105	0.332	0.437		
		Left Tilt	0.037	0.133	0.170		
		Right Tilt	0.050	0.235	0.285		
	LTE Band 5	Left Touch	0.161	0.134	0.295		
		Right Touch	0.122	0.332	0.454		
		Left Tilt	0.046	0.133	0.179		
		Right Tilt	0.108	0.235	0.343		
	LTE Band 66	Left Touch	0.090	0.134	0.224		
		Right Touch	0.105	0.332	0.437		
		Left Tilt	0.079	0.133	0.212		
		Right Tilt	0.050	0.235	0.285		
	LTE Band 2	Left Touch	0.070	0.134	0.204		
		Right Touch	0.101	0.332	0.433		
		Left Tilt	0.057	0.133	0.188		
		Right Tilt	0.035	0.235	0.270		
LTE Band 7	Left Touch	0.120	0.134	0.254			
	Right Touch	0.087	0.332	0.419			
	Left Tilt	0.033	0.133	0.166			
	Right Tilt	0.114	0.235	0.349			
LTE Band 41	Left Touch	0.101	0.134	0.235			
	Right Touch	0.081	0.332	0.413			
	Left Tilt	0.025	0.133	0.158			
	Right Tilt	0.100	0.235	0.335			

**Table 12.4.24 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	GSM 850	Left Touch	0.090	0.200	0.290		
		Right Touch	0.064	0.590	0.654		
		Left Tilt	0.028	0.170	0.198		
		Right Tilt	0.038	0.467	0.505		
	GPRS 850	Left Touch	0.110	0.200	0.310		
		Right Touch	0.076	0.590	0.666		
		Left Tilt	0.031	0.170	0.201		
		Right Tilt	0.046	0.467	0.513		
	GSM 1900	Left Touch	0.057	0.200	0.257		
		Right Touch	0.050	0.590	0.640		
		Left Tilt	0.037	0.170	0.207		
		Right Tilt	0.026	0.467	0.493		
	GPRS 1900	Left Touch	0.064	0.200	0.264		
		Right Touch	0.055	0.590	0.645		
		Left Tilt	0.038	0.170	0.208		
		Right Tilt	0.023	0.467	0.490		
	WCDMA 850	Left Touch	0.165	0.200	0.365		
		Right Touch	0.130	0.590	0.720		
		Left Tilt	0.056	0.170	0.226		
		Right Tilt	0.072	0.467	0.539		
	WCDMA 1700	Left Touch	0.082	0.200	0.282		
		Right Touch	0.120	0.590	0.710		
		Left Tilt	0.073	0.170	0.243		
		Right Tilt	0.053	0.467	0.520		
	WCDMA 1900	Left Touch	0.089	0.200	0.289		
		Right Touch	0.112	0.590	0.702		
		Left Tilt	0.065	0.170	0.235		
		Right Tilt	0.046	0.467	0.513		
	LTE Band 12	Left Touch	0.049	0.200	0.249		
		Right Touch	0.056	0.590	0.646		
		Left Tilt	0.019	0.170	0.189		
		Right Tilt	0.019	0.467	0.486		
	LTE Band 13	Left Touch	0.097	0.200	0.297		
		Right Touch	0.105	0.590	0.695		
		Left Tilt	0.037	0.170	0.207		
		Right Tilt	0.050	0.467	0.517		
	LTE Band 5	Left Touch	0.161	0.200	0.361		
		Right Touch	0.122	0.590	0.712		
		Left Tilt	0.046	0.170	0.216		
		Right Tilt	0.108	0.467	0.575		
	LTE Band 66	Left Touch	0.090	0.200	0.290		
		Right Touch	0.105	0.590	0.695		
		Left Tilt	0.079	0.170	0.249		
		Right Tilt	0.050	0.467	0.517		
	LTE Band 2	Left Touch	0.070	0.200	0.270		
		Right Touch	0.101	0.590	0.691		
		Left Tilt	0.057	0.170	0.227		
		Right Tilt	0.035	0.467	0.502		
LTE Band 7	Left Touch	0.120	0.200	0.320			
	Right Touch	0.087	0.590	0.677			
	Left Tilt	0.033	0.170	0.203			
	Right Tilt	0.114	0.467	0.581			
LTE Band 41	Left Touch	0.101	0.200	0.301			
	Right Touch	0.081	0.590	0.671			
	Left Tilt	0.025	0.170	0.195			
	Right Tilt	0.100	0.467	0.567			

**Table 12.4.25 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Held to Ear)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	GSM 850	Left Touch	0.090	0.044	0.134		
		Right Touch	0.064	0.194	<b>0.258</b>		
		Left Tilt	0.028	0.029	0.057		
		Right Tilt	0.036	0.107	0.145		
	GPRS 850	Left Touch	0.110	0.044	0.154		
		Right Touch	0.076	0.194	<b>0.270</b>		
		Left Tilt	0.031	0.029	0.060		
		Right Tilt	0.046	0.107	0.153		
	GSM 1900	Left Touch	0.057	0.044	0.101		
		Right Touch	0.050	0.194	<b>0.244</b>		
		Left Tilt	0.037	0.029	0.066		
		Right Tilt	0.026	0.107	0.133		
	GPRS 1900	Left Touch	0.064	0.044	0.108		
		Right Touch	0.055	0.194	<b>0.249</b>		
		Left Tilt	0.038	0.029	0.067		
		Right Tilt	0.023	0.107	0.130		
	WCDMA 850	Left Touch	0.165	0.044	0.209		
		Right Touch	0.130	0.194	<b>0.324</b>		
		Left Tilt	0.056	0.029	0.085		
		Right Tilt	0.072	0.107	0.179		
	WCDMA 1700	Left Touch	0.082	0.044	0.126		
		Right Touch	0.120	0.194	<b>0.314</b>		
		Left Tilt	0.073	0.029	0.102		
		Right Tilt	0.053	0.107	0.160		
	WCDMA 1900	Left Touch	0.089	0.044	0.133		
		Right Touch	0.112	0.194	<b>0.306</b>		
		Left Tilt	0.065	0.029	0.094		
		Right Tilt	0.046	0.107	0.153		
	LTE Band 12	Left Touch	0.049	0.044	0.093		
		Right Touch	0.056	0.194	<b>0.250</b>		
		Left Tilt	0.019	0.029	0.048		
		Right Tilt	0.019	0.107	0.126		
	LTE Band 13	Left Touch	0.097	0.044	0.141		
		Right Touch	0.105	0.194	<b>0.299</b>		
		Left Tilt	0.037	0.029	0.066		
		Right Tilt	0.050	0.107	0.157		
	LTE Band 5	Left Touch	0.161	0.044	0.205		
		Right Touch	0.122	0.194	<b>0.316</b>		
		Left Tilt	0.046	0.029	0.075		
		Right Tilt	0.108	0.107	0.215		
	LTE Band 66	Left Touch	0.090	0.044	0.134		
		Right Touch	0.105	0.194	<b>0.299</b>		
		Left Tilt	0.079	0.029	0.108		
		Right Tilt	0.050	0.107	0.157		
	LTE Band 2	Left Touch	0.070	0.044	0.114		
		Right Touch	0.101	0.194	<b>0.295</b>		
		Left Tilt	0.057	0.029	0.086		
		Right Tilt	0.035	0.107	0.142		
LTE Band 7	Left Touch	0.120	0.044	0.164			
	Right Touch	0.087	0.194	<b>0.281</b>			
	Left Tilt	0.033	0.029	0.062			
	Right Tilt	0.114	0.107	0.221			
LTE Band 41	Left Touch	0.101	0.044	0.145			
	Right Touch	0.081	0.194	<b>0.275</b>			
	Left Tilt	0.025	0.029	0.054			
	Right Tilt	0.100	0.107	0.207			

**Table 12.4.26 Simultaneous Transmission Scenario : 2.4 GHz W-LAN Ant.1 + 5 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	2.4G W-LAN Ant.1 SAR (W/kg)		5G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	5.3G W-LAN Ant.2	Left Touch	0.166	0.120	0.286		
		Right Touch	0.512	0.558	<b>1.070</b>		
		Left Tilt	0.122	0.102	0.224		
		Right Tilt	0.322	0.338	0.660		
	5.6G W-LAN Ant.2	Left Touch	0.166	0.116	0.282		
		Right Touch	0.512	0.315	<b>0.827</b>		
		Left Tilt	0.122	0.087	0.209		
		Right Tilt	0.322	0.212	0.534		
	5.8G W-LAN Ant.2	Left Touch	0.166	0.134	0.300		
		Right Touch	0.512	0.332	<b>0.844</b>		
		Left Tilt	0.122	0.133	0.255		
		Right Tilt	0.322	0.235	0.557		

**Table 12.4.27 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.1 (Held to Ear)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	5.3G W-LAN Ant.1	Left Touch	0.044	0.051	0.095		
		Right Touch	0.194	0.055	<b>0.249</b>		
		Left Tilt	0.029	0.039	0.068		
		Right Tilt	0.107	0.046	0.153		
	5.6G W-LAN Ant.1	Left Touch	0.044	0.062	0.106		
		Right Touch	0.194	0.183	<b>0.377</b>		
		Left Tilt	0.029	0.052	0.081		
		Right Tilt	0.107	0.146	0.253		
	5.8G W-LAN Ant.1	Left Touch	0.044	0.037	0.081		
		Right Touch	0.194	0.109	<b>0.303</b>		
		Left Tilt	0.029	0.053	0.082		
		Right Tilt	0.107	0.124	0.231		

**Table 12.4.28 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.2 (Held to Ear)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	5.3G W-LAN Ant.2	Left Touch	0.044	0.120	0.164		
		Right Touch	0.194	0.558	<b>0.752</b>		
		Left Tilt	0.029	0.102	0.131		
		Right Tilt	0.107	0.338	0.445		
	5.6G W-LAN Ant.2	Left Touch	0.044	0.116	0.160		
		Right Touch	0.194	0.315	<b>0.509</b>		
		Left Tilt	0.029	0.087	0.116		
		Right Tilt	0.107	0.212	0.319		
	5.8G W-LAN Ant.2	Left Touch	0.044	0.134	0.178		
		Right Touch	0.194	0.332	<b>0.526</b>		
		Left Tilt	0.029	0.133	0.162		
		Right Tilt	0.107	0.235	0.342		

**Table 12.4.29 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN MIMO (Held to Ear)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Head SAR	5.3G W-LAN MIMO	Left Touch	0.044	0.143	0.187		
		Right Touch	0.194	0.586	<b>0.780</b>		
		Left Tilt	0.029	0.129	0.158		
		Right Tilt	0.107	0.485	0.592		
	5.6G W-LAN MIMO	Left Touch	0.044	0.141	0.185		
		Right Touch	0.194	0.481	<b>0.675</b>		
		Left Tilt	0.029	0.127	0.156		
		Right Tilt	0.107	0.277	0.384		
	5.8G W-LAN MIMO	Left Touch	0.044	0.200	0.244		
		Right Touch	0.194	0.590	<b>0.784</b>		
		Left Tilt	0.029	0.170	0.199		
		Right Tilt	0.107	0.467	0.574		

## 12.5 Body-Worn Simultaneous Transmission Analysis

**Table 12.5.1 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.3 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.292	0.111	0.100	0.403	0.392	0.503
		Rear	0.384	0.141	0.129	0.525	0.513	0.654
	GPRS 850	Front	0.350	0.111	0.100	0.461	0.450	0.561
		Rear	0.447	0.141	0.129	0.588	0.576	0.717
	GSM 1900	Front	0.293	0.111	0.100	0.404	0.393	0.504
		Rear	0.437	0.141	0.129	0.578	0.566	0.707
	GPRS 1900	Front	0.385	0.111	0.100	0.496	0.485	0.596
		Rear	0.465	0.141	0.129	0.606	0.594	0.735
	WCDMA 850	Front	0.562	0.111	0.100	0.673	0.662	0.773
		Rear	0.607	0.141	0.129	0.748	0.736	0.877
	WCDMA 1700	Front	0.538	0.111	0.100	0.649	0.638	0.749
		Rear	0.620	0.141	0.129	0.761	0.749	0.890
	WCDMA 1900	Front	0.668	0.111	0.100	0.779	0.768	0.879
		Rear	0.793	0.141	0.129	0.934	0.922	1.063
	LTE Band 12	Front	0.339	0.111	0.100	0.450	0.439	0.550
		Rear	0.481	0.141	0.129	0.622	0.610	0.751
	LTE Band 13	Front	0.541	0.111	0.100	0.652	0.641	0.752
		Rear	0.721	0.141	0.129	0.863	0.850	0.991
	LTE Band 5	Front	0.722	0.111	0.100	0.833	0.822	0.933
		Rear	0.812	0.141	0.129	0.953	0.941	1.082
	LTE Band 66	Front	0.524	0.111	0.100	0.635	0.624	0.735
		Rear	0.652	0.141	0.129	0.793	0.781	0.922
	LTE Band 2	Front	0.503	0.111	0.100	0.614	0.603	0.714
		Rear	0.586	0.141	0.129	0.727	0.715	0.856
LTE Band 7	Front	0.411	0.111	0.100	0.522	0.511	0.622	
	Rear	0.527	0.141	0.129	0.668	0.656	0.797	
LTE Band 41	Front	0.375	0.111	0.100	0.486	0.475	0.586	
	Rear	0.473	0.141	0.129	0.614	0.602	0.743	

**Table 12.5.2 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.6 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.292	0.111	0.059	0.403	0.351	0.462
		Rear	0.384	0.141	0.332	0.525	0.716	0.857
	GPRS 850	Front	0.350	0.111	0.059	0.461	0.409	0.520
		Rear	0.447	0.141	0.332	0.588	0.779	0.920
	GSM 1900	Front	0.293	0.111	0.059	0.404	0.352	0.463
		Rear	0.437	0.141	0.332	0.578	0.769	0.910
	GPRS 1900	Front	0.385	0.111	0.059	0.496	0.444	0.555
		Rear	0.465	0.141	0.332	0.606	0.797	0.938
	WCDMA 850	Front	0.562	0.111	0.059	0.673	0.621	0.732
		Rear	0.607	0.141	0.332	0.748	0.939	1.080
	WCDMA 1700	Front	0.538	0.111	0.059	0.649	0.597	0.708
		Rear	0.620	0.141	0.332	0.761	0.952	1.093
	WCDMA 1900	Front	0.668	0.111	0.059	0.779	0.727	0.838
		Rear	0.793	0.141	0.332	0.934	1.125	1.266
	LTE Band 12	Front	0.339	0.111	0.059	0.450	0.398	0.509
		Rear	0.481	0.141	0.332	0.622	0.813	0.954
	LTE Band 13	Front	0.541	0.111	0.059	0.652	0.600	0.711
		Rear	0.721	0.141	0.332	0.862	1.053	1.194
	LTE Band 5	Front	0.722	0.111	0.059	0.833	0.781	0.892
		Rear	0.812	0.141	0.332	0.953	1.144	1.285
	LTE Band 66	Front	0.524	0.111	0.059	0.635	0.583	0.694
		Rear	0.652	0.141	0.332	0.793	0.984	1.125
	LTE Band 2	Front	0.503	0.111	0.059	0.614	0.562	0.673
		Rear	0.586	0.141	0.332	0.727	0.918	1.059
LTE Band 7	Front	0.411	0.111	0.059	0.522	0.470	0.581	
	Rear	0.527	0.141	0.332	0.668	0.859	1.000	
LTE Band 41	Front	0.375	0.111	0.059	0.486	0.434	0.545	
	Rear	0.473	0.141	0.332	0.614	0.805	0.946	

**Table 12.5.3 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.8 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.292	0.111	0.122	0.403	0.414	0.525
		Rear	0.384	0.141	0.158	0.525	0.542	0.683
	GPRS 850	Front	0.350	0.111	0.122	0.461	0.472	0.583
		Rear	0.447	0.141	0.158	0.588	0.605	0.746
	GSM 1900	Front	0.293	0.111	0.122	0.404	0.415	0.526
		Rear	0.437	0.141	0.158	0.578	0.595	0.736
	GPRS 1900	Front	0.385	0.111	0.122	0.496	0.507	0.618
		Rear	0.465	0.141	0.158	0.606	0.623	0.764
	WCDMA 850	Front	0.562	0.111	0.122	0.673	0.684	0.795
		Rear	0.607	0.141	0.158	0.748	0.765	0.906
	WCDMA 1700	Front	0.538	0.111	0.122	0.649	0.660	0.771
		Rear	0.620	0.141	0.158	0.761	0.778	0.919
	WCDMA 1900	Front	0.668	0.111	0.122	0.779	0.790	0.901
		Rear	0.793	0.141	0.158	0.934	0.951	1.092
	LTE Band 12	Front	0.339	0.111	0.122	0.450	0.461	0.572
		Rear	0.481	0.141	0.158	0.622	0.639	0.780
	LTE Band 13	Front	0.541	0.111	0.122	0.652	0.663	0.774
		Rear	0.721	0.141	0.158	0.862	0.879	1.020
	LTE Band 5	Front	0.722	0.111	0.122	0.833	0.844	0.955
		Rear	0.812	0.141	0.158	0.953	0.970	1.111
	LTE Band 66	Front	0.524	0.111	0.122	0.635	0.646	0.757
		Rear	0.652	0.141	0.158	0.793	0.810	0.951
	LTE Band 2	Front	0.503	0.111	0.122	0.614	0.625	0.736
		Rear	0.586	0.141	0.158	0.727	0.744	0.885
LTE Band 7	Front	0.411	0.111	0.122	0.522	0.533	0.644	
	Rear	0.527	0.141	0.158	0.668	0.685	0.826	
LTE Band 41	Front	0.375	0.111	0.122	0.486	0.497	0.608	
	Rear	0.473	0.141	0.158	0.614	0.631	0.772	

**Table 12.5.4 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.3G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3			
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.022	0.313	0.314	0.335			
		Rear	0.384	0.027	0.220	0.411	0.604	0.631			
	GPRS 850	Front	0.350	0.021	0.022	0.371	0.372	0.393			
		Rear	0.447	0.027	0.220	0.474	0.667	0.694			
	GSM 1900	Front	0.293	0.021	0.022	0.314	0.315	0.336			
		Rear	0.437	0.027	0.220	0.464	0.657	0.684			
	GPRS 1900	Front	0.385	0.021	0.022	0.406	0.407	0.428			
		Rear	0.465	0.027	0.220	0.492	0.685	0.712			
	WCDMA 850	Front	0.562	0.021	0.022	0.583	0.584	0.605			
		Rear	0.607	0.027	0.220	0.634	0.827	0.854			
	WCDMA 1700	Front	0.538	0.021	0.022	0.559	0.560	0.581			
		Rear	0.620	0.027	0.220	0.647	0.840	0.867			
	WCDMA 1900	Front	0.668	0.021	0.022	0.689	0.690	0.711			
		Rear	0.793	0.027	0.220	0.820	1.013	1.040			
	LTE Band 12	Front	0.339	0.021	0.022	0.360	0.361	0.382			
		Rear	0.481	0.027	0.220	0.508	0.701	0.728			
	LTE Band 13	Front	0.541	0.021	0.022	0.562	0.563	0.584			
		Rear	0.721	0.027	0.220	0.748	0.941	0.968			
	LTE Band 5	Front	0.722	0.021	0.022	0.743	0.744	0.765			
		Rear	0.812	0.027	0.220	0.839	1.032	1.059			
	LTE Band 66	Front	0.524	0.021	0.022	0.545	0.546	0.567			
		Rear	0.652	0.027	0.220	0.679	0.872	0.899			
	LTE Band 2	Front	0.503	0.021	0.022	0.524	0.525	0.546			
		Rear	0.586	0.027	0.220	0.613	0.806	0.833			
	LTE Band 7	Front	0.411	0.021	0.022	0.432	0.433	0.454			
		Rear	0.527	0.027	0.220	0.554	0.747	0.774			
	LTE Band 41	Front	0.375	0.021	0.022	0.396	0.397	0.418			
		Rear	0.473	0.027	0.220	0.500	0.693	0.720			

**Table 12.5.5 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.3G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3			
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.100	0.313	0.392	0.413			
		Rear	0.384	0.027	0.129	0.411	0.513	0.540			
	GPRS 850	Front	0.350	0.021	0.100	0.371	0.450	0.471			
		Rear	0.447	0.027	0.129	0.474	0.576	0.603			
	GSM 1900	Front	0.293	0.021	0.100	0.314	0.393	0.414			
		Rear	0.437	0.027	0.129	0.464	0.566	0.593			
	GPRS 1900	Front	0.385	0.021	0.100	0.406	0.485	0.506			
		Rear	0.465	0.027	0.129	0.492	0.594	0.621			
	WCDMA 850	Front	0.562	0.021	0.100	0.583	0.662	0.683			
		Rear	0.607	0.027	0.129	0.634	0.736	0.763			
	WCDMA 1700	Front	0.538	0.021	0.100	0.559	0.638	0.659			
		Rear	0.620	0.027	0.129	0.647	0.749	0.776			
	WCDMA 1900	Front	0.668	0.021	0.100	0.689	0.768	0.789			
		Rear	0.793	0.027	0.129	0.820	0.922	0.949			
	LTE Band 12	Front	0.339	0.021	0.100	0.360	0.439	0.460			
		Rear	0.481	0.027	0.129	0.508	0.610	0.637			
	LTE Band 13	Front	0.541	0.021	0.100	0.562	0.641	0.662			
		Rear	0.721	0.027	0.129	0.748	0.850	0.877			
	LTE Band 5	Front	0.722	0.021	0.100	0.743	0.822	0.843			
		Rear	0.812	0.027	0.129	0.839	0.941	0.968			
	LTE Band 66	Front	0.524	0.021	0.100	0.545	0.624	0.645			
		Rear	0.652	0.027	0.129	0.679	0.781	0.808			
	LTE Band 2	Front	0.503	0.021	0.100	0.524	0.603	0.624			
		Rear	0.586	0.027	0.129	0.613	0.715	0.742			
	LTE Band 7	Front	0.411	0.021	0.100	0.432	0.511	0.532			
		Rear	0.527	0.027	0.129	0.554	0.656	0.683			
	LTE Band 41	Front	0.375	0.021	0.100	0.396	0.475	0.496			
		Rear	0.473	0.027	0.129	0.500	0.602	0.629			

**Table 12.5.6 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.3 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.3G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3			
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.114	0.313	0.406	0.427			
		Rear	0.384	0.027	0.313	0.411	0.697	0.724			
	GPRS 850	Front	0.350	0.021	0.114	0.371	0.464	0.485			
		Rear	0.447	0.027	0.313	0.474	0.760	0.787			
	GSM 1900	Front	0.293	0.021	0.114	0.314	0.407	0.428			
		Rear	0.437	0.027	0.313	0.464	0.750	0.777			
	GPRS 1900	Front	0.385	0.021	0.114	0.406	0.499	0.520			
		Rear	0.465	0.027	0.313	0.492	0.778	0.805			
	WCDMA 850	Front	0.562	0.021	0.114	0.583	0.676	0.697			
		Rear	0.607	0.027	0.313	0.634	0.920	0.947			
	WCDMA 1700	Front	0.538	0.021	0.114	0.559	0.652	0.673			
		Rear	0.620	0.027	0.313	0.647	0.933	0.960			
	WCDMA 1900	Front	0.668	0.021	0.114	0.689	0.782	0.803			
		Rear	0.793	0.027	0.313	0.820	1.106	1.133			
	LTE Band 12	Front	0.339	0.021	0.114	0.360	0.453	0.474			
		Rear	0.481	0.027	0.313	0.508	0.794	0.821			
	LTE Band 13	Front	0.541	0.021	0.114	0.562	0.655	0.676			
		Rear	0.721	0.027	0.313	0.748	1.034	1.061			
	LTE Band 5	Front	0.722	0.021	0.114	0.743	0.836	0.857			
		Rear	0.812	0.027	0.313	0.839	1.125	1.152			
	LTE Band 66	Front	0.524	0.021	0.114	0.545	0.638	0.659			
		Rear	0.652	0.027	0.313	0.679	0.965	0.992			
	LTE Band 2	Front	0.503	0.021	0.114	0.524	0.617	0.638			
		Rear	0.586	0.027	0.313	0.613	0.899	0.926			
	LTE Band 7	Front	0.411	0.021	0.114	0.432	0.525	0.546			
		Rear	0.527	0.027	0.313	0.554	0.840	0.867			
	LTE Band 41	Front	0.375	0.021	0.114	0.396	0.489	0.510			
		Rear	0.473	0.027	0.313	0.500	0.786	0.813			

**Table 12.5.7 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.6G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	1	2	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.020	0.313	0.312	0.333			
		Rear	0.384	0.027	0.358	0.411	0.742	0.769			
	GPRS 850	Front	0.350	0.021	0.020	0.371	0.370	0.391			
		Rear	0.447	0.027	0.358	0.474	0.805	0.832			
	GSM 1900	Front	0.293	0.021	0.020	0.314	0.313	0.334			
		Rear	0.437	0.027	0.358	0.464	0.795	0.822			
	GPRS 1900	Front	0.385	0.021	0.020	0.406	0.405	0.426			
		Rear	0.465	0.027	0.358	0.492	0.823	0.850			
	WCDMA 850	Front	0.562	0.021	0.020	0.583	0.582	0.603			
		Rear	0.607	0.027	0.358	0.634	0.965	0.992			
	WCDMA 1700	Front	0.538	0.021	0.020	0.559	0.558	0.579			
		Rear	0.620	0.027	0.358	0.647	0.978	1.005			
	WCDMA 1900	Front	0.668	0.021	0.020	0.689	0.688	0.709			
		Rear	0.793	0.027	0.358	0.820	1.151	1.178			
	LTE Band 12	Front	0.339	0.021	0.020	0.360	0.359	0.380			
		Rear	0.481	0.027	0.358	0.508	0.839	0.866			
	LTE Band 13	Front	0.541	0.021	0.020	0.562	0.561	0.582			
		Rear	0.721	0.027	0.358	0.748	1.079	1.106			
	LTE Band 5	Front	0.722	0.021	0.020	0.743	0.742	0.763			
		Rear	0.812	0.027	0.358	0.839	1.170	1.197			
	LTE Band 66	Front	0.524	0.021	0.020	0.545	0.544	0.565			
		Rear	0.652	0.027	0.358	0.679	1.010	1.037			
	LTE Band 2	Front	0.503	0.021	0.020	0.524	0.523	0.544			
		Rear	0.586	0.027	0.358	0.613	0.944	0.971			
	LTE Band 7	Front	0.411	0.021	0.020	0.432	0.431	0.452			
		Rear	0.527	0.027	0.358	0.554	0.885	0.912			
	LTE Band 41	Front	0.375	0.021	0.020	0.396	0.395	0.416			
		Rear	0.473	0.027	0.358	0.500	0.831	0.858			

**Table 12.5.8 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.6G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	1	2	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.059	0.313	0.351	0.372			
		Rear	0.384	0.027	0.332	0.411	0.716	0.743			
	GPRS 850	Front	0.350	0.021	0.059	0.371	0.409	0.430			
		Rear	0.447	0.027	0.332	0.474	0.779	0.806			
	GSM 1900	Front	0.293	0.021	0.059	0.314	0.352	0.373			
		Rear	0.437	0.027	0.332	0.464	0.769	0.796			
	GPRS 1900	Front	0.385	0.021	0.059	0.406	0.444	0.465			
		Rear	0.465	0.027	0.332	0.492	0.797	0.824			
	WCDMA 850	Front	0.562	0.021	0.059	0.583	0.621	0.642			
		Rear	0.607	0.027	0.332	0.634	0.939	0.966			
	WCDMA 1700	Front	0.538	0.021	0.059	0.559	0.597	0.618			
		Rear	0.620	0.027	0.332	0.647	0.952	0.979			
	WCDMA 1900	Front	0.668	0.021	0.059	0.689	0.727	0.748			
		Rear	0.793	0.027	0.332	0.820	1.125	1.152			
	LTE Band 12	Front	0.339	0.021	0.059	0.360	0.398	0.419			
		Rear	0.481	0.027	0.332	0.508	0.813	0.840			
	LTE Band 13	Front	0.541	0.021	0.059	0.562	0.600	0.621			
		Rear	0.721	0.027	0.332	0.748	1.053	1.080			
	LTE Band 5	Front	0.722	0.021	0.059	0.743	0.781	0.802			
		Rear	0.812	0.027	0.332	0.839	1.144	1.171			
	LTE Band 66	Front	0.524	0.021	0.059	0.545	0.583	0.604			
		Rear	0.652	0.027	0.332	0.679	0.984	1.011			
	LTE Band 2	Front	0.503	0.021	0.059	0.524	0.562	0.583			
		Rear	0.586	0.027	0.332	0.613	0.918	0.945			
	LTE Band 7	Front	0.411	0.021	0.059	0.432	0.470	0.491			
		Rear	0.527	0.027	0.332	0.554	0.859	0.886			
	LTE Band 41	Front	0.375	0.021	0.059	0.396	0.434	0.455			
		Rear	0.473	0.027	0.332	0.500	0.805	0.832			

**Table 12.5.9 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.6 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.6G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)		
			1	2	1	2	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.074	0.313	0.366	0.387			
		Rear	0.384	0.027	0.441	0.411	0.825	0.852			
	GPRS 850	Front	0.350	0.021	0.074	0.371	0.424	0.445			
		Rear	0.447	0.027	0.441	0.474	0.888	0.915			
	GSM 1900	Front	0.293	0.021	0.074	0.314	0.367	0.388			
		Rear	0.437	0.027	0.441	0.464	0.878	0.905			
	GPRS 1900	Front	0.385	0.021	0.074	0.406	0.459	0.480			
		Rear	0.465	0.027	0.441	0.492	0.906	0.933			
	WCDMA 850	Front	0.562	0.021	0.074	0.583	0.636	0.657			
		Rear	0.607	0.027	0.441	0.634	1.048	1.075			
	WCDMA 1700	Front	0.538	0.021	0.074	0.559	0.612	0.633			
		Rear	0.620	0.027	0.441	0.647	1.061	1.088			
	WCDMA 1900	Front	0.668	0.021	0.074	0.689	0.742	0.763			
		Rear	0.793	0.027	0.441	0.820	1.234	1.261			
	LTE Band 12	Front	0.339	0.021	0.074	0.360	0.413	0.434			
		Rear	0.481	0.027	0.441	0.508	0.922	0.949			
	LTE Band 13	Front	0.541	0.021	0.074	0.562	0.615	0.636			
		Rear	0.721	0.027	0.441	0.748	1.162	1.189			
	LTE Band 5	Front	0.722	0.021	0.074	0.743	0.796	0.817			
		Rear	0.812	0.027	0.441	0.839	1.253	1.280			
	LTE Band 66	Front	0.524	0.021	0.074	0.545	0.598	0.619			
		Rear	0.652	0.027	0.441	0.679	1.093	1.120			
	LTE Band 2	Front	0.503	0.021	0.074	0.524	0.577	0.598			
		Rear	0.586	0.027	0.441	0.613	1.027	1.054			
	LTE Band 7	Front	0.411	0.021	0.074	0.432	0.485	0.506			
		Rear	0.527	0.027	0.441	0.554	0.988	0.995			
	LTE Band 41	Front	0.375	0.021	0.074	0.396	0.449	0.470			
		Rear	0.473	0.027	0.441	0.500	0.914	0.941			

**Table 12.5.10 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.8G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	2	3	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.021	0.030	0.313	0.322	0.343		
		Rear	0.384	0.027	0.027	0.301	0.411	0.685	0.712		
	GPRS 850	Front	0.350	0.021	0.021	0.030	0.371	0.380	0.401		
		Rear	0.447	0.027	0.027	0.301	0.474	0.748	0.775		
	GSM 1900	Front	0.293	0.021	0.021	0.030	0.314	0.323	0.344		
		Rear	0.437	0.027	0.027	0.301	0.464	0.738	0.765		
	GPRS 1900	Front	0.385	0.021	0.021	0.030	0.406	0.415	0.436		
		Rear	0.465	0.027	0.027	0.301	0.492	0.766	0.793		
	WCDMA 850	Front	0.562	0.021	0.021	0.030	0.583	0.592	0.613		
		Rear	0.607	0.027	0.027	0.301	0.634	0.908	0.935		
	WCDMA 1700	Front	0.538	0.021	0.021	0.030	0.559	0.568	0.589		
		Rear	0.620	0.027	0.027	0.301	0.647	0.921	0.948		
	WCDMA 1900	Front	0.668	0.021	0.021	0.030	0.689	0.698	0.719		
		Rear	0.793	0.027	0.027	0.301	0.820	1.094	1.121		
	LTE Band 12	Front	0.339	0.021	0.021	0.030	0.360	0.369	0.390		
		Rear	0.481	0.027	0.027	0.301	0.598	0.782	0.809		
	LTE Band 13	Front	0.541	0.021	0.021	0.030	0.562	0.571	0.592		
		Rear	0.721	0.027	0.027	0.301	0.748	1.022	1.049		
	LTE Band 5	Front	0.722	0.021	0.021	0.030	0.743	0.752	0.773		
		Rear	0.812	0.027	0.027	0.301	0.839	1.113	1.140		
	LTE Band 66	Front	0.524	0.021	0.021	0.030	0.545	0.554	0.575		
		Rear	0.652	0.027	0.027	0.301	0.679	0.953	0.980		
	LTE Band 2	Front	0.503	0.021	0.021	0.030	0.524	0.533	0.554		
		Rear	0.586	0.027	0.027	0.301	0.613	0.887	0.914		
	LTE Band 7	Front	0.411	0.021	0.021	0.030	0.432	0.441	0.462		
		Rear	0.527	0.027	0.027	0.301	0.554	0.828	0.855		
	LTE Band 41	Front	0.375	0.021	0.021	0.030	0.396	0.405	0.426		
		Rear	0.473	0.027	0.027	0.301	0.500	0.774	0.801		

**Table 12.5.11 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.8G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)		
			1	2	2	3	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.021	0.122	0.313	0.414	0.435		
		Rear	0.384	0.027	0.027	0.158	0.411	0.542	0.569		
	GPRS 850	Front	0.350	0.021	0.021	0.122	0.371	0.472	0.493		
		Rear	0.447	0.027	0.027	0.158	0.474	0.605	0.632		
	GSM 1900	Front	0.293	0.021	0.021	0.122	0.314	0.415	0.436		
		Rear	0.437	0.027	0.027	0.158	0.464	0.595	0.622		
	GPRS 1900	Front	0.385	0.021	0.021	0.122	0.406	0.507	0.528		
		Rear	0.465	0.027	0.027	0.158	0.492	0.623	0.650		
	WCDMA 850	Front	0.562	0.021	0.021	0.122	0.583	0.684	0.705		
		Rear	0.607	0.027	0.027	0.158	0.634	0.765	0.792		
	WCDMA 1700	Front	0.538	0.021	0.021	0.122	0.559	0.660	0.681		
		Rear	0.620	0.027	0.027	0.158	0.647	0.778	0.805		
	WCDMA 1900	Front	0.668	0.021	0.021	0.122	0.689	0.790	0.811		
		Rear	0.793	0.027	0.027	0.158	0.820	0.951	0.978		
	LTE Band 12	Front	0.339	0.021	0.021	0.122	0.360	0.461	0.482		
		Rear	0.481	0.027	0.027	0.158	0.508	0.639	0.666		
	LTE Band 13	Front	0.541	0.021	0.021	0.122	0.562	0.663	0.684		
		Rear	0.721	0.027	0.027	0.158	0.748	0.879	0.906		
	LTE Band 5	Front	0.722	0.021	0.021	0.122	0.743	0.844	0.865		
		Rear	0.812	0.027	0.027	0.158	0.839	0.970	0.997		
	LTE Band 66	Front	0.524	0.021	0.021	0.122	0.545	0.646	0.667		
		Rear	0.652	0.027	0.027	0.158	0.679	0.810	0.837		
	LTE Band 2	Front	0.503	0.021	0.021	0.122	0.524	0.625	0.646		
		Rear	0.586	0.027	0.027	0.158	0.613	0.744	0.771		
	LTE Band 7	Front	0.411	0.021	0.021	0.122	0.432	0.533	0.554		
		Rear	0.527	0.027	0.027	0.158	0.554	0.685	0.712		
	LTE Band 41	Front	0.375	0.021	0.021	0.122	0.396	0.497	0.518		
		Rear	0.473	0.027	0.027	0.158	0.500	0.631	0.658		

**Table 12.5.12 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth Ant.1 SAR (W/kg)		5.8G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)		
			1	2	2	3	1+2	1+3	1+2+3		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.021	0.157	0.313	0.449	0.507		
		Rear	0.384	0.027	0.027	0.393	0.411	0.777	0.804		
	GPRS 850	Front	0.350	0.021	0.021	0.157	0.371	0.507	0.528		
		Rear	0.447	0.027	0.027	0.393	0.474	0.840	0.867		
	GSM 1900	Front	0.293	0.021	0.021	0.157	0.314	0.450	0.471		
		Rear	0.437	0.027	0.027	0.393	0.464	0.830	0.857		
	GPRS 1900	Front	0.385	0.021	0.021	0.157	0.406	0.542	0.563		
		Rear	0.465	0.027	0.027	0.393	0.492	0.858	0.885		
	WCDMA 850	Front	0.562	0.021	0.021	0.157	0.583	0.719	0.740		
		Rear	0.607	0.027	0.027	0.393	0.634	1.000	1.027		
	WCDMA 1700	Front	0.538	0.021	0.021	0.157	0.559	0.695	0.716		
		Rear	0.620	0.027	0.027	0.393	0.647	1.013	1.040		
	WCDMA 1900	Front	0.668	0.021	0.021	0.157	0.689	0.825	0.846		
		Rear	0.793	0.027	0.027	0.393	0.820	1.186	1.213		
	LTE Band 12	Front	0.339	0.021	0.021	0.157	0.360	0.496	0.517		
		Rear	0.481	0.027	0.027	0.393	0.508	0.874	0.901		
	LTE Band 13	Front	0.541	0.021	0.021	0.157	0.562	0.698	0.719		
		Rear	0.721	0.027	0.027	0.393	0.748	1.114	1.141		
	LTE Band 5	Front	0.722	0.021	0.021	0.157	0.743	0.879	0.900		
		Rear	0.812	0.027	0.027	0.393	0.839	1.205	1.232		
	LTE Band 66	Front	0.524	0.021	0.021	0.157	0.545	0.681	0.702		
		Rear	0.652	0.027	0.027	0.393	0.679	1.045	1.072		
	LTE Band 2	Front	0.503	0.021	0.021	0.157	0.524	0.660	0.681		
		Rear	0.586	0.027	0.027	0.393	0.613	0.979	1.006		
	LTE Band 7	Front	0.411	0.021	0.021	0.157	0.432	0.568	0.589		
		Rear	0.527	0.027	0.027	0.393	0.554	0.920	0.947		
	LTE Band 41	Front	0.375	0.021	0.021	0.157	0.396	0.532	0.553		
		Rear	0.473	0.027	0.027	0.393	0.500	0.866	0.893		

**Table 12.5.13 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	GSM 850	Front	0.292	0.111	0.403
		Rear	0.384	0.141	0.525
	GPRS 850	Front	0.350	0.111	0.461
		Rear	0.447	0.141	0.588
	GSM 1900	Front	0.293	0.111	0.404
		Rear	0.437	0.141	0.578
	GPRS 1900	Front	0.385	0.111	0.496
		Rear	0.465	0.141	0.606
	WCDMA 850	Front	0.562	0.111	0.673
		Rear	0.607	0.141	0.748
	WCDMA 1700	Front	0.538	0.111	0.649
		Rear	0.620	0.141	0.761
	WCDMA 1900	Front	0.668	0.111	0.779
		Rear	0.793	0.141	0.934
	LTE Band 12	Front	0.339	0.111	0.450
		Rear	0.481	0.141	0.622
	LTE Band 13	Front	0.541	0.111	0.652
		Rear	0.721	0.141	0.862
	LTE Band 5	Front	0.722	0.111	0.833
		Rear	0.812	0.141	0.953
	LTE Band 66	Front	0.524	0.111	0.635
		Rear	0.652	0.141	0.793
	LTE Band 2	Front	0.503	0.111	0.614
		Rear	0.586	0.141	0.727
	LTE Band 7	Front	0.411	0.111	0.522
		Rear	0.527	0.141	0.668
	LTE Band 41	Front	0.375	0.111	0.486
		Rear	0.473	0.141	0.614

**Table 12.5.14 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	GSM 850	Front	0.292	0.100	0.392
		Rear	0.384	0.177	0.561
	GPRS 850	Front	0.350	0.100	0.450
		Rear	0.447	0.177	0.624
	GSM 1900	Front	0.293	0.100	0.393
		Rear	0.437	0.177	0.614
	GPRS 1900	Front	0.385	0.100	0.485
		Rear	0.465	0.177	0.642
	WCDMA 850	Front	0.562	0.100	0.662
		Rear	0.607	0.177	0.784
	WCDMA 1700	Front	0.538	0.100	0.638
		Rear	0.620	0.177	0.797
	WCDMA 1900	Front	0.668	0.100	0.768
		Rear	0.793	0.177	0.970
	LTE Band 12	Front	0.339	0.100	0.439
		Rear	0.481	0.177	0.658
	LTE Band 13	Front	0.541	0.100	0.641
		Rear	0.721	0.177	0.898
	LTE Band 5	Front	0.722	0.100	0.822
		Rear	0.812	0.177	0.989
	LTE Band 66	Front	0.524	0.100	0.624
		Rear	0.652	0.177	0.829
	LTE Band 2	Front	0.503	0.100	0.603
		Rear	0.586	0.177	0.763
	LTE Band 7	Front	0.411	0.100	0.511
		Rear	0.527	0.177	0.704
	LTE Band 41	Front	0.375	0.100	0.475
		Rear	0.473	0.177	0.650

**Table 12.5.15 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	GSM 850	Front	0.292	0.135	0.427
		Rear	0.384	0.197	0.581
	GPRS 850	Front	0.350	0.135	0.485
		Rear	0.447	0.197	0.644
	GSM 1900	Front	0.293	0.135	0.428
		Rear	0.437	0.197	0.634
	GPRS 1900	Front	0.385	0.135	0.520
		Rear	0.465	0.197	0.662
	WCDMA 850	Front	0.562	0.135	0.697
		Rear	0.607	0.197	0.804
	WCDMA 1700	Front	0.538	0.135	0.673
		Rear	0.620	0.197	0.817
	WCDMA 1900	Front	0.668	0.135	0.803
		Rear	0.793	0.197	0.990
	LTE Band 12	Front	0.339	0.135	0.474
		Rear	0.481	0.197	0.678
	LTE Band 13	Front	0.541	0.135	0.676
		Rear	0.721	0.197	0.918
	LTE Band 5	Front	0.722	0.135	0.857
		Rear	0.812	0.197	1.009
	LTE Band 66	Front	0.524	0.135	0.659
		Rear	0.652	0.197	0.849
	LTE Band 2	Front	0.503	0.135	0.638
		Rear	0.586	0.197	0.783
	LTE Band 7	Front	0.411	0.135	0.546
		Rear	0.527	0.197	0.724
	LTE Band 41	Front	0.375	0.135	0.510
		Rear	0.473	0.197	0.670

**Table 12.5.16 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.3G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.222	0.022	0.022	0.314
		Rear	0.384	0.220	0.220	0.220	0.604
	GPRS 850	Front	0.350	0.222	0.022	0.022	0.372
		Rear	0.447	0.220	0.220	0.220	0.667
	GSM 1900	Front	0.293	0.222	0.022	0.022	0.315
		Rear	0.437	0.220	0.220	0.220	0.657
	GPRS 1900	Front	0.385	0.222	0.022	0.022	0.407
		Rear	0.465	0.220	0.220	0.220	0.685
	WCDMA 850	Front	0.562	0.222	0.022	0.022	0.584
		Rear	0.607	0.220	0.220	0.220	0.827
	WCDMA 1700	Front	0.538	0.222	0.022	0.022	0.560
		Rear	0.620	0.220	0.220	0.220	0.840
	WCDMA 1900	Front	0.668	0.222	0.022	0.022	0.690
		Rear	0.793	0.220	0.220	0.220	1.013
	LTE Band 12	Front	0.339	0.222	0.022	0.022	0.361
		Rear	0.481	0.220	0.220	0.220	0.701
	LTE Band 13	Front	0.541	0.222	0.022	0.022	0.563
		Rear	0.721	0.220	0.220	0.220	0.941
	LTE Band 5	Front	0.722	0.222	0.022	0.022	0.744
		Rear	0.812	0.220	0.220	0.220	1.032
	LTE Band 66	Front	0.524	0.222	0.022	0.022	0.546
		Rear	0.652	0.220	0.220	0.220	0.872
	LTE Band 2	Front	0.503	0.222	0.022	0.022	0.525
		Rear	0.586	0.220	0.220	0.220	0.806
	LTE Band 7	Front	0.411	0.222	0.022	0.022	0.433
		Rear	0.527	0.220	0.220	0.220	0.747
	LTE Band 41	Front	0.375	0.222	0.022	0.022	0.397
		Rear	0.473	0.220	0.220	0.220	0.693

**Table 12.5.17 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.3G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.100	0.100	0.100	0.392
		Rear	0.384	0.129	0.129	0.129	0.513
	GPRS 850	Front	0.350	0.100	0.100	0.100	0.450
		Rear	0.447	0.129	0.129	0.129	0.576
	GSM 1900	Front	0.293	0.100	0.100	0.100	0.393
		Rear	0.437	0.129	0.129	0.129	0.566
	GPRS 1900	Front	0.385	0.100	0.100	0.100	0.485
		Rear	0.465	0.129	0.129	0.129	0.594
	WCDMA 850	Front	0.562	0.100	0.100	0.100	0.662
		Rear	0.607	0.129	0.129	0.129	0.736
	WCDMA 1700	Front	0.538	0.100	0.100	0.100	0.638
		Rear	0.620	0.129	0.129	0.129	0.749
	WCDMA 1900	Front	0.668	0.100	0.100	0.100	0.768
		Rear	0.793	0.129	0.129	0.129	0.922
	LTE Band 12	Front	0.339	0.100	0.100	0.100	0.439
		Rear	0.481	0.129	0.129	0.129	0.610
	LTE Band 13	Front	0.541	0.100	0.100	0.100	0.641
		Rear	0.721	0.129	0.129	0.129	0.850
	LTE Band 5	Front	0.722	0.100	0.100	0.100	0.822
		Rear	0.812	0.129	0.129	0.129	0.941
	LTE Band 66	Front	0.524	0.100	0.100	0.100	0.624
		Rear	0.652	0.129	0.129	0.129	0.781
	LTE Band 2	Front	0.503	0.100	0.100	0.100	0.603
		Rear	0.586	0.129	0.129	0.129	0.715
	LTE Band 7	Front	0.411	0.100	0.100	0.100	0.511
		Rear	0.527	0.129	0.129	0.129	0.656
	LTE Band 41	Front	0.375	0.100	0.100	0.100	0.475
		Rear	0.473	0.129	0.129	0.129	0.602

**Table 12.5.18 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.3G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.114	0.114	0.114	0.406
		Rear	0.384	0.313	0.313	0.313	0.697
	GPRS 850	Front	0.350	0.114	0.114	0.114	0.464
		Rear	0.447	0.313	0.313	0.313	0.760
	GSM 1900	Front	0.293	0.114	0.114	0.114	0.407
		Rear	0.437	0.313	0.313	0.313	0.750
	GPRS 1900	Front	0.385	0.114	0.114	0.114	0.499
		Rear	0.465	0.313	0.313	0.313	0.778
	WCDMA 850	Front	0.562	0.114	0.114	0.114	0.676
		Rear	0.607	0.313	0.313	0.313	0.930
	WCDMA 1700	Front	0.538	0.114	0.114	0.114	0.652
		Rear	0.620	0.313	0.313	0.313	0.933
	WCDMA 1900	Front	0.668	0.114	0.114	0.114	0.782
		Rear	0.793	0.313	0.313	0.313	1.106
	LTE Band 12	Front	0.339	0.114	0.114	0.114	0.453
		Rear	0.481	0.313	0.313	0.313	0.794
	LTE Band 13	Front	0.541	0.114	0.114	0.114	0.655
		Rear	0.721	0.313	0.313	0.313	1.034
	LTE Band 5	Front	0.722	0.114	0.114	0.114	0.836
		Rear	0.812	0.313	0.313	0.313	1.125
	LTE Band 66	Front	0.524	0.114	0.114	0.114	0.638
		Rear	0.652	0.313	0.313	0.313	0.965
	LTE Band 2	Front	0.503	0.114	0.114	0.114	0.617
		Rear	0.586	0.313	0.313	0.313	0.899
	LTE Band 7	Front	0.411	0.114	0.114	0.114	0.525
		Rear	0.527	0.313	0.313	0.313	0.840
	LTE Band 41	Front	0.375	0.114	0.114	0.114	0.489
		Rear	0.473	0.313	0.313	0.313	0.786

**Table 12.5.19 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.6G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.020	0.020	0.312	
		Rear	0.384	0.358	0.358	0.742	
	GPRS 850	Front	0.350	0.020	0.020	0.370	
		Rear	0.447	0.358	0.358	0.805	
	GSM 1900	Front	0.293	0.020	0.020	0.313	
		Rear	0.437	0.358	0.358	0.795	
	GPRS 1900	Front	0.385	0.020	0.020	0.405	
		Rear	0.465	0.358	0.358	0.823	
	WCDMA 850	Front	0.562	0.020	0.020	0.582	
		Rear	0.607	0.358	0.358	0.965	
	WCDMA 1700	Front	0.538	0.020	0.020	0.558	
		Rear	0.620	0.358	0.358	0.978	
	WCDMA 1900	Front	0.688	0.020	0.020	0.688	
		Rear	0.793	0.358	0.358	1.151	
	LTE Band 12	Front	0.339	0.020	0.020	0.359	
		Rear	0.481	0.358	0.358	0.839	
	LTE Band 13	Front	0.541	0.020	0.020	0.561	
		Rear	0.721	0.358	0.358	1.079	
	LTE Band 5	Front	0.722	0.020	0.020	0.742	
		Rear	0.812	0.358	0.358	1.170	
	LTE Band 66	Front	0.524	0.020	0.020	0.544	
		Rear	0.652	0.358	0.358	1.010	
	LTE Band 2	Front	0.503	0.020	0.020	0.523	
		Rear	0.586	0.358	0.358	0.944	
	LTE Band 7	Front	0.411	0.020	0.020	0.431	
		Rear	0.527	0.358	0.358	0.885	
	LTE Band 41	Front	0.375	0.020	0.020	0.395	
		Rear	0.473	0.358	0.358	0.831	

**Table 12.5.20 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.6G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.059	0.059	0.351	
		Rear	0.384	0.332	0.332	0.716	
	GPRS 850	Front	0.350	0.059	0.059	0.409	
		Rear	0.447	0.332	0.332	0.779	
	GSM 1900	Front	0.293	0.059	0.059	0.352	
		Rear	0.437	0.332	0.332	0.769	
	GPRS 1900	Front	0.385	0.059	0.059	0.444	
		Rear	0.465	0.332	0.332	0.797	
	WCDMA 850	Front	0.562	0.059	0.059	0.621	
		Rear	0.607	0.332	0.332	0.939	
	WCDMA 1700	Front	0.538	0.059	0.059	0.597	
		Rear	0.620	0.332	0.332	0.952	
	WCDMA 1900	Front	0.688	0.059	0.059	0.727	
		Rear	0.793	0.332	0.332	1.125	
	LTE Band 12	Front	0.339	0.059	0.059	0.398	
		Rear	0.481	0.332	0.332	0.813	
	LTE Band 13	Front	0.541	0.059	0.059	0.600	
		Rear	0.721	0.332	0.332	1.053	
	LTE Band 5	Front	0.722	0.059	0.059	0.781	
		Rear	0.812	0.332	0.332	1.144	
	LTE Band 66	Front	0.524	0.059	0.059	0.583	
		Rear	0.652	0.332	0.332	0.984	
	LTE Band 2	Front	0.503	0.059	0.059	0.562	
		Rear	0.586	0.332	0.332	0.918	
	LTE Band 7	Front	0.411	0.059	0.059	0.470	
		Rear	0.527	0.332	0.332	0.859	
	LTE Band 41	Front	0.375	0.059	0.059	0.434	
		Rear	0.473	0.332	0.332	0.805	

**Table 12.5.21 Simultaneous Transmission Scenario : 2G/3G/4G + 5.6 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.6G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Body-Worn SAR	GSM 850	Front	0.292	0.074	0.074	0.366	
		Rear	0.384	0.441	0.441	0.825	
	GPRS 850	Front	0.350	0.074	0.074	0.424	
		Rear	0.447	0.441	0.441	0.888	
	GSM 1900	Front	0.293	0.074	0.074	0.367	
		Rear	0.437	0.441	0.441	0.878	
	GPRS 1900	Front	0.385	0.074	0.074	0.459	
		Rear	0.465	0.441	0.441	0.906	
	WCDMA 850	Front	0.562	0.074	0.074	0.636	
		Rear	0.607	0.441	0.441	1.048	
	WCDMA 1700	Front	0.538	0.074	0.074	0.612	
		Rear	0.620	0.441	0.441	1.061	
	WCDMA 1900	Front	0.688	0.074	0.074	0.742	
		Rear	0.793	0.441	0.441	1.234	
	LTE Band 12	Front	0.339	0.074	0.074	0.413	
		Rear	0.481	0.441	0.441	0.922	
	LTE Band 13	Front	0.541	0.074	0.074	0.615	
		Rear	0.721	0.441	0.441	1.162	
	LTE Band 5	Front	0.722	0.074	0.074	0.796	
		Rear	0.812	0.441	0.441	1.253	
	LTE Band 66	Front	0.524	0.074	0.074	0.598	
		Rear	0.652	0.441	0.441	1.093	
	LTE Band 2	Front	0.503	0.074	0.074	0.577	
		Rear	0.586	0.441	0.441	1.027	
	LTE Band 7	Front	0.411	0.074	0.074	0.485	
		Rear	0.527	0.441	0.441	0.968	
	LTE Band 41	Front	0.375	0.074	0.074	0.449	
		Rear	0.473	0.441	0.441	0.914	

**Table 12.5.22 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	GSM 850	Front	0.350	0.030	0.380		
		Rear	0.447	0.301	0.748		
	GPRS 850	Front	0.293	0.030	0.323		
		Rear	0.437	0.301	0.738		
	GSM 1900	Front	0.385	0.030	0.415		
		Rear	0.465	0.301	0.766		
	GPRS 1900	Front	0.562	0.030	0.592		
		Rear	0.607	0.301	0.908		
	WCDMA 850	Front	0.538	0.030	0.568		
		Rear	0.620	0.301	0.921		
	WCDMA 1700	Front	0.668	0.030	0.698		
		Rear	0.793	0.301	1.094		
	WCDMA 1900	Front	0.339	0.030	0.369		
		Rear	0.481	0.301	0.782		
	LTE Band 12	Front	0.541	0.030	0.571		
		Rear	0.721	0.301	1.022		
	LTE Band 13	Front	0.722	0.030	0.752		
		Rear	0.812	0.301	1.113		
	LTE Band 5	Front	0.524	0.030	0.554		
		Rear	0.652	0.301	0.953		
	LTE Band 66	Front	0.503	0.030	0.533		
		Rear	0.586	0.301	0.887		
	LTE Band 2	Front	0.411	0.030	0.441		
		Rear	0.527	0.301	0.828		
	LTE Band 7	Front	0.375	0.030	0.405		
		Rear	0.473	0.301	0.774		
	LTE Band 41	Front	0.350	0.030	0.380		
		Rear	0.447	0.301	0.748		

**Table 12.5.23 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	GSM 850	Front	0.292	0.122	0.414		
		Rear	0.384	0.158	0.542		
	GPRS 850	Front	0.350	0.122	0.472		
		Rear	0.447	0.158	0.605		
	GSM 1900	Front	0.293	0.122	0.415		
		Rear	0.437	0.158	0.595		
	GPRS 1900	Front	0.385	0.122	0.507		
		Rear	0.485	0.158	0.623		
	WCDMA 850	Front	0.562	0.122	0.684		
		Rear	0.607	0.158	0.765		
	WCDMA 1700	Front	0.538	0.122	0.660		
		Rear	0.620	0.158	0.778		
	WCDMA 1900	Front	0.668	0.122	0.790		
		Rear	0.793	0.158	0.951		
	LTE Band 12	Front	0.339	0.122	0.461		
		Rear	0.481	0.158	0.639		
	LTE Band 13	Front	0.541	0.122	0.663		
		Rear	0.721	0.158	0.879		
	LTE Band 5	Front	0.722	0.122	0.844		
		Rear	0.812	0.158	0.970		
	LTE Band 66	Front	0.524	0.122	0.646		
		Rear	0.652	0.158	0.810		
	LTE Band 2	Front	0.503	0.122	0.625		
		Rear	0.586	0.158	0.744		
	LTE Band 7	Front	0.411	0.122	0.533		
		Rear	0.527	0.158	0.685		
	LTE Band 41	Front	0.375	0.122	0.497		
		Rear	0.473	0.158	0.631		

**Table 12.5.24 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	GSM 850	Front	0.292	0.157	0.449		
		Rear	0.384	0.393	0.777		
	GPRS 850	Front	0.350	0.157	0.507		
		Rear	0.447	0.393	0.840		
	GSM 1900	Front	0.293	0.157	0.450		
		Rear	0.437	0.393	0.830		
	GPRS 1900	Front	0.385	0.157	0.542		
		Rear	0.485	0.393	0.858		
	WCDMA 850	Front	0.562	0.157	0.719		
		Rear	0.607	0.393	1.000		
	WCDMA 1700	Front	0.538	0.157	0.695		
		Rear	0.620	0.393	1.013		
	WCDMA 1900	Front	0.668	0.157	0.825		
		Rear	0.793	0.393	1.186		
	LTE Band 12	Front	0.339	0.157	0.496		
		Rear	0.481	0.393	0.874		
	LTE Band 13	Front	0.541	0.157	0.698		
		Rear	0.721	0.393	1.114		
	LTE Band 5	Front	0.722	0.157	0.879		
		Rear	0.812	0.393	1.205		
	LTE Band 66	Front	0.524	0.157	0.681		
		Rear	0.652	0.393	1.045		
	LTE Band 2	Front	0.503	0.157	0.660		
		Rear	0.586	0.393	0.979		
	LTE Band 7	Front	0.411	0.157	0.568		
		Rear	0.527	0.393	0.920		
	LTE Band 41	Front	0.375	0.157	0.532		
		Rear	0.473	0.393	0.866		

**Table 12.5.25 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	GSM 850	Front	0.292	0.021	0.313		
		Rear	0.394	0.027	0.421		
	GPRS 850	Front	0.350	0.021	0.371		
		Rear	0.447	0.027	0.474		
	GSM 1900	Front	0.293	0.021	0.314		
		Rear	0.437	0.027	0.464		
	GPRS 1900	Front	0.385	0.021	0.406		
		Rear	0.465	0.027	0.492		
	WCDMA 850	Front	0.562	0.021	0.583		
		Rear	0.607	0.027	0.634		
	WCDMA 1700	Front	0.538	0.021	0.559		
		Rear	0.620	0.027	0.647		
	WCDMA 1900	Front	0.668	0.021	0.689		
		Rear	0.793	0.027	0.820		
	LTE Band 12	Front	0.339	0.021	0.360		
		Rear	0.481	0.027	0.508		
	LTE Band 13	Front	0.541	0.021	0.562		
		Rear	0.721	0.027	0.748		
	LTE Band 5	Front	0.722	0.021	0.743		
		Rear	0.812	0.027	0.839		
	LTE Band 66	Front	0.524	0.021	0.545		
		Rear	0.652	0.027	0.679		
	LTE Band 2	Front	0.503	0.021	0.524		
		Rear	0.586	0.027	0.613		
LTE Band 7	Front	0.411	0.021	0.432			
	Rear	0.527	0.027	0.554			
LTE Band 41	Front	0.375	0.021	0.396			
	Rear	0.473	0.027	0.500			

**Table 12.5.26 Simultaneous Transmission Scenario : 2.4 GHz W-LAN Ant.1 + 5 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	2.4G W-LAN Ant.1 SAR (W/kg)		5G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	5.2G W-LAN Ant.2	Front	0.111	0.100	0.211		
		Rear	0.141	0.129	0.270		
	5.6G W-LAN Ant.2	Front	0.111	0.074	0.185		
		Rear	0.141	0.441	0.582		
	5.8G W-LAN Ant.2	Front	0.111	0.122	0.233		
		Rear	0.141	0.158	0.299		

**Table 12.5.27 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.1 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN Ant.1 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	5.3G W-LAN Ant.1	Front	0.021	0.022	0.043		
		Rear	0.027	0.220	0.247		
	5.6G W-LAN Ant.1	Front	0.021	0.020	0.041		
		Rear	0.027	0.358	0.385		
	5.8G W-LAN Ant.1	Front	0.021	0.030	0.051		
		Rear	0.027	0.301	0.328		

**Table 12.5.28 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.2 (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN Ant.2 SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	5.3G W-LAN Ant.2	Front	0.021	0.100	0.121		
		Rear	0.027	0.129	0.156		
	5.6G W-LAN Ant.2	Front	0.021	0.059	0.080		
		Rear	0.027	0.332	0.359		
	5.8G W-LAN Ant.2	Front	0.021	0.122	0.143		
		Rear	0.027	0.158	0.185		

**Table 12.5.29 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN MIMO (Body-Worn at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)		5G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Body-Worn SAR	5.3G W-LAN MIMO	Front	0.021	0.114	0.135		
		Rear	0.027	0.313	0.340		
	5.6G W-LAN MIMO	Front	0.021	0.074	0.095		
		Rear	0.027	0.441	0.468		
	5.8G W-LAN MIMO	Front	0.021	0.157	0.178		
		Rear	0.027	0.393	0.420		

## 12.6 Hotspot SAR Simultaneous Transmission Analysis

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

**Table 12.6.1 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.2 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.2G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.111	0.065	0.461	0.415	0.526
		Rear	0.447	0.141	0.112	0.588	0.559	0.700
		Right	0.202	0.000	0.000	0.202	0.202	0.202
	Left	0.000	0.262	0.060	0.262	0.060	0.322	
	GPRS 1900	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.111	0.065	0.496	0.450	0.581
		Rear	0.465	0.141	0.112	0.606	0.577	0.718
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.117	0.262	0.060	0.379	0.177	0.439	
	WCDMA 850	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.111	0.065	0.673	0.627	0.738
		Rear	0.607	0.141	0.112	0.748	0.719	0.860
		Right	0.340	0.000	0.000	0.340	0.340	0.340
	Left	0.000	0.262	0.060	0.262	0.060	0.322	
	WCDMA 1700	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.111	0.065	0.649	0.603	0.714
		Rear	0.620	0.141	0.112	0.761	0.732	0.873
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.304	0.262	0.060	0.566	0.364	0.626	
	WCDMA 1900	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.668	0.111	0.065	0.779	0.733	0.844
		Rear	0.793	0.141	0.112	0.934	0.905	1.046
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.296	0.262	0.060	0.458	0.296	0.558	
	LTE Band 12	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.000	0.000	0.000	0.000	0.000	0.000
		Front	0.225	0.111	0.065	0.341	0.312	0.423
		Rear	0.338	0.141	0.065	0.450	0.404	0.515
		Right	0.481	0.141	0.112	0.622	0.593	0.734
	Left	0.185	0.000	0.000	0.185	0.185	0.185	
	Left	0.000	0.262	0.060	0.262	0.060	0.322	
	LTE Band 13	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.111	0.065	0.652	0.606	0.717
		Rear	0.721	0.141	0.112	0.862	0.833	0.974
		Right	0.129	0.000	0.000	0.129	0.129	0.129
	Left	0.000	0.262	0.060	0.262	0.060	0.322	
	LTE Band 5	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.111	0.065	0.833	0.787	0.898
		Rear	0.612	0.141	0.112	0.763	0.724	0.865
		Right	0.358	0.000	0.000	0.358	0.358	0.358
	Left	0.000	0.262	0.060	0.262	0.060	0.322	
	LTE Band 66	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.111	0.065	0.635	0.589	0.700
		Rear	0.652	0.141	0.112	0.793	0.764	0.905
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.272	0.262	0.060	0.534	0.332	0.594	
	LTE Band 2	Top	0.000	0.063	0.070	0.063	0.070	0.133
		Bottom	1.074	0.000	0.000	1.074	1.074	1.074
		Front	0.503	0.111	0.065	0.614	0.568	0.679
		Rear	0.586	0.141	0.112	0.727	0.698	0.839
		Right	0.000	0.000	0.000	0.000	0.000	0.000
Left	0.122	0.262	0.060	0.384	0.182	0.444		
LTE Band 7	Top	0.000	0.063	0.070	0.063	0.070	0.133	
	Bottom	0.839	0.000	0.000	0.839	0.839	0.839	
	Front	0.411	0.111	0.065	0.522	0.476	0.587	
	Rear	0.527	0.141	0.112	0.668	0.639	0.780	
	Right	0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.127	0.262	0.060	0.389	0.187	0.449		
LTE Band 41	Top	0.000	0.063	0.070	0.063	0.070	0.133	
	Bottom	0.792	0.000	0.000	0.792	0.792	0.792	
	Front	0.375	0.111	0.065	0.486	0.440	0.551	
	Rear	0.473	0.141	0.112	0.614	0.585	0.726	
	Right	0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.100	0.262	0.060	0.362	0.160	0.422		

**Table 12.6.2 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 + 5.8 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.111	0.090	0.461	0.440	0.551
		Rear	0.447	0.141	0.152	0.588	0.599	0.740
		Right	0.202	0.000	0.000	0.202	0.202	0.202
		Left	0.000	0.262	0.082	0.262	0.082	0.344
	GPRS 1900	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.111	0.090	0.496	0.475	0.586
		Rear	0.465	0.141	0.152	0.606	0.617	0.758
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.117	0.262	0.082	0.379	0.159	0.461
	WCDMA 850	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.111	0.090	0.673	0.652	0.763
		Rear	0.607	0.141	0.152	0.748	0.759	0.900
		Right	0.340	0.000	0.000	0.340	0.340	0.340
		Left	0.000	0.262	0.082	0.262	0.082	0.344
	WCDMA 1700	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.111	0.090	0.649	0.628	0.739
		Rear	0.620	0.141	0.152	0.761	0.772	0.913
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.262	0.082	0.566	0.386	0.648
	WCDMA 1900	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.668	0.111	0.090	0.779	0.758	0.869
		Rear	0.793	0.141	0.152	0.934	0.945	1.086
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.262	0.082	0.498	0.318	0.580
	LTE Band 12	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.111	0.090	0.450	0.429	0.540
		Rear	0.481	0.141	0.152	0.622	0.633	0.774
		Right	0.185	0.000	0.000	0.185	0.185	0.185
		Left	0.000	0.262	0.082	0.262	0.082	0.344
	LTE Band 13	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.111	0.090	0.652	0.631	0.742
		Rear	0.721	0.141	0.152	0.862	0.873	1.014
		Right	0.129	0.000	0.000	0.129	0.129	0.129
		Left	0.000	0.262	0.082	0.262	0.082	0.344
	LTE Band 5	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.111	0.090	0.833	0.812	0.923
		Rear	0.912	0.141	0.152	0.953	0.964	1.105
		Right	0.358	0.000	0.000	0.358	0.358	0.358
		Left	0.000	0.262	0.082	0.262	0.082	0.344
	LTE Band 66	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.111	0.090	0.635	0.614	0.725
		Rear	0.652	0.141	0.152	0.793	0.804	0.945
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.262	0.082	0.534	0.354	0.616
	LTE Band 2	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	1.074	0.000	0.000	1.074	1.074	1.074
		Front	0.503	0.111	0.090	0.614	0.593	0.704
		Rear	0.586	0.141	0.152	0.727	0.738	0.879
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.262	0.082	0.384	0.204	0.466
	LTE Band 7	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.839	0.000	0.000	0.839	0.839	0.839
		Front	0.411	0.111	0.090	0.522	0.501	0.612
		Rear	0.527	0.141	0.152	0.668	0.679	0.820
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.262	0.082	0.389	0.209	0.471
	LTE Band 41	Top	0.000	0.063	0.095	0.063	0.095	0.158
		Bottom	0.792	0.000	0.000	0.792	0.792	0.792
		Front	0.375	0.111	0.090	0.486	0.465	0.576
		Rear	0.473	0.141	0.152	0.614	0.625	0.766
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.262	0.082	0.362	0.182	0.444

**Table 12.6.3 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.2 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.2G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.009	0.371	0.359	0.380
		Rear	0.447	0.027	0.138	0.474	0.585	0.612
		Right	0.202	0.000	0.000	0.202	0.202	0.202
		Left	0.000	0.070	0.063	0.070	0.063	0.133
	GPRS 1900	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.009	0.406	0.394	0.415
		Rear	0.465	0.027	0.138	0.492	0.603	0.630
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.117	0.070	0.063	0.187	0.160	0.250
	WCDMA 850	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.009	0.583	0.571	0.592
		Rear	0.607	0.027	0.138	0.634	0.745	0.772
		Right	0.340	0.000	0.000	0.340	0.340	0.340
		Left	0.000	0.070	0.063	0.070	0.063	0.133
	WCDMA 1700	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.021	0.009	0.559	0.547	0.568
		Rear	0.620	0.027	0.138	0.647	0.758	0.785
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.070	0.063	0.374	0.367	0.437
	WCDMA 1900	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.668	0.021	0.009	0.689	0.677	0.698
		Rear	0.793	0.027	0.138	0.820	0.931	0.958
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.070	0.063	0.306	0.299	0.369
	LTE Band 12	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.009	0.360	0.348	0.369
		Rear	0.481	0.027	0.138	0.508	0.619	0.646
		Right	0.185	0.000	0.000	0.185	0.185	0.185
		Left	0.000	0.070	0.063	0.070	0.063	0.133
	LTE Band 13	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.009	0.562	0.550	0.571
		Rear	0.721	0.027	0.138	0.748	0.859	0.886
		Right	0.129	0.000	0.000	0.129	0.129	0.129
		Left	0.000	0.070	0.063	0.070	0.063	0.133
	LTE Band 5	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.009	0.743	0.731	0.752
		Rear	0.912	0.027	0.138	0.839	0.950	0.977
		Right	0.358	0.000	0.000	0.358	0.358	0.358
		Left	0.000	0.070	0.063	0.070	0.063	0.133
	LTE Band 66	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.021	0.009	0.545	0.533	0.554
		Rear	0.652	0.027	0.138	0.679	0.790	0.817
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.070	0.063	0.342	0.335	0.405
	LTE Band 2	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	1.074	0.000	0.000	1.074	1.074	1.074
		Front	0.503	0.021	0.009	0.524	0.512	0.533
		Rear	0.586	0.027	0.138	0.613	0.724	0.751
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.070	0.063	0.192	0.185	0.255
	LTE Band 7	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.839	0.000	0.000	0.839	0.839	0.839
		Front	0.411	0.021	0.009	0.432	0.420	0.441
		Rear	0.527	0.027	0.138	0.554	0.665	0.692
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.070	0.063	0.197	0.190	0.260
	LTE Band 41	Top	0.000	0.016	0.041	0.016	0.041	0.057
		Bottom	0.792	0.000	0.000	0.792	0.792	0.792
		Front	0.375	0.021	0.009	0.396	0.384	0.405
		Rear	0.473	0.027	0.138	0.500	0.611	0.638
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.070	0.063	0.170	0.163	0.233

**Table 12.6.4 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.2 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.2G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.065	0.371	0.415	0.436
		Rear	0.447	0.027	0.112	0.474	0.559	0.586
		Right	0.202	0.000	0.000	0.202	0.202	0.202
		Left	0.000	0.070	0.060	0.070	0.060	0.130
	GPRS 1900	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.065	0.406	0.450	0.471
		Rear	0.465	0.027	0.112	0.492	0.577	0.604
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.117	0.070	0.060	0.187	0.177	0.247
	WCDMA 850	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.065	0.583	0.627	0.648
		Rear	0.607	0.027	0.112	0.634	0.719	0.746
		Right	0.340	0.000	0.000	0.340	0.340	0.340
		Left	0.000	0.070	0.060	0.340	0.340	0.340
	WCDMA 1700	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.021	0.065	0.559	0.603	0.624
		Rear	0.620	0.027	0.112	0.647	0.732	0.759
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.070	0.060	0.374	0.364	0.434
	WCDMA 1900	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.668	0.021	0.065	0.689	0.733	0.754
		Rear	0.793	0.027	0.112	0.820	0.905	0.932
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.070	0.060	0.306	0.296	0.366
	LTE Band 12	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.065	0.360	0.404	0.425
		Rear	0.481	0.027	0.112	0.508	0.593	0.620
		Right	0.185	0.000	0.000	0.185	0.185	0.185
		Left	0.000	0.070	0.060	0.185	0.060	0.130
	LTE Band 13	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.065	0.562	0.606	0.627
		Rear	0.721	0.027	0.112	0.748	0.833	0.860
		Right	0.129	0.000	0.000	0.129	0.129	0.129
		Left	0.000	0.070	0.060	0.129	0.060	0.130
	LTE Band 5	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.065	0.743	0.787	0.808
		Rear	0.912	0.027	0.112	0.839	0.924	0.951
		Right	0.358	0.000	0.000	0.358	0.358	0.358
		Left	0.000	0.070	0.060	0.358	0.060	0.130
	LTE Band 66	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.021	0.065	0.545	0.589	0.610
		Rear	0.652	0.027	0.112	0.679	0.764	0.791
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.070	0.060	0.342	0.332	0.402
	LTE Band 2	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	1.074	0.000	0.000	1.074	1.074	1.074
		Front	0.503	0.021	0.065	0.524	0.568	0.589
		Rear	0.586	0.027	0.112	0.613	0.698	0.725
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.070	0.060	0.192	0.182	0.252
	LTE Band 7	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.839	0.000	0.000	0.839	0.839	0.839
		Front	0.411	0.021	0.065	0.432	0.476	0.497
		Rear	0.527	0.027	0.112	0.554	0.639	0.666
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.070	0.060	0.197	0.187	0.257
	LTE Band 41	Top	0.000	0.016	0.070	0.016	0.070	0.086
		Bottom	0.792	0.000	0.000	0.792	0.792	0.792
		Front	0.375	0.021	0.065	0.396	0.440	0.461
		Rear	0.473	0.027	0.112	0.500	0.585	0.612
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.070	0.060	0.170	0.160	0.230

**Table 12.6.5 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.2 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.2G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.086	0.371	0.436	0.457
		Rear	0.447	0.027	0.237	0.474	0.684	0.711
		Right	0.202	0.000	0.000	0.202	0.202	0.202
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	GPRS 1900	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.086	0.406	0.471	0.492
		Rear	0.465	0.027	0.237	0.492	0.702	0.729
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	WCDMA 850	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.086	0.583	0.648	0.669
		Rear	0.607	0.027	0.237	0.634	0.844	0.871
		Right	0.340	0.000	0.000	0.340	0.340	0.340
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	WCDMA 1700	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.021	0.086	0.559	0.624	0.645
		Rear	0.620	0.027	0.237	0.647	0.857	0.884
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.070	0.130	0.374	0.434	0.504
	WCDMA 1900	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.668	0.021	0.086	0.689	0.754	0.775
		Rear	0.793	0.027	0.237	0.820	1.030	1.057
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.070	0.130	0.306	0.366	0.436
	LTE Band 12	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.086	0.360	0.425	0.446
		Rear	0.481	0.027	0.237	0.508	0.718	0.745
		Right	0.185	0.000	0.000	0.185	0.185	0.185
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	LTE Band 13	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.086	0.562	0.627	0.648
		Rear	0.721	0.027	0.237	0.748	0.958	0.985
		Right	0.129	0.000	0.000	0.129	0.129	0.129
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	LTE Band 5	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.086	0.743	0.808	0.829
		Rear	0.912	0.027	0.237	0.939	1.049	1.076
		Right	0.358	0.000	0.000	0.358	0.358	0.358
		Left	0.000	0.070	0.130	0.070	0.130	0.200
	LTE Band 66	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.021	0.086	0.545	0.610	0.631
		Rear	0.652	0.027	0.237	0.679	0.889	0.916
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.070	0.130	0.342	0.402	0.472
	LTE Band 2	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	1.074	0.000	0.000	1.074	1.074	1.074
		Front	0.503	0.021	0.086	0.524	0.589	0.610
		Rear	0.586	0.027	0.237	0.613	0.823	0.850
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.070	0.130	0.192	0.252	0.322
	LTE Band 7	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.839	0.000	0.000	0.839	0.839	0.839
		Front	0.411	0.021	0.086	0.432	0.497	0.518
		Rear	0.527	0.027	0.237	0.554	0.764	0.791
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.070	0.130	0.197	0.257	0.327
	LTE Band 41	Top	0.000	0.016	0.115	0.016	0.115	0.131
		Bottom	0.792	0.000	0.000	0.792	0.792	0.792
		Front	0.375	0.021	0.086	0.396	0.461	0.482
		Rear	0.473	0.027	0.237	0.500	0.710	0.737
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.070	0.130	0.170	0.230	0.300

**Table 12.6.6 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.066	v	0.066	0.082
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.014	0.371	0.364	0.385
		Rear	0.447	0.027	0.217	0.475	0.664	<b>0.882</b>
		Right	0.202	0.000	0.000	0.202	0.202	0.202
	Left	0.000	0.070	0.100	0.070	0.100	0.169	
	GPRS 1900	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.014	0.406	0.399	0.420
		Rear	0.465	0.027	0.217	0.493	0.682	<b>0.710</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.117	0.070	0.100	0.186	0.217	0.286	
	WCDMA 850	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.014	0.583	0.576	0.597
		Rear	0.607	0.027	0.217	0.635	0.824	<b>0.852</b>
		Right	0.340	0.000	0.000	0.340	0.340	0.340
	Left	0.000	0.070	0.100	0.070	0.100	0.169	
	WCDMA 1700	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.986	0.000	0.000	0.986	0.986	0.986
		Front	0.538	0.021	0.014	0.559	0.553	0.574
		Rear	0.620	0.027	0.217	0.647	0.837	0.864
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.304	0.070	0.100	0.373	0.404	0.473	
	WCDMA 1900	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.968	0.021	0.014	0.989	0.982	1.003
		Rear	0.793	0.027	0.217	0.821	1.010	1.038
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.236	0.070	0.100	0.305	0.336	0.405	
	LTE Band 12	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.014	0.360	0.353	0.374
		Rear	0.481	0.027	0.217	0.509	0.698	<b>0.726</b>
		Right	0.185	0.000	0.000	0.185	0.185	0.185
	Left	0.000	0.070	0.100	0.070	0.100	0.169	
	LTE Band 13	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.014	0.562	0.556	0.577
		Rear	0.721	0.027	0.217	0.749	0.938	<b>0.966</b>
		Right	0.129	0.000	0.000	0.129	0.129	0.129
	Left	0.000	0.070	0.100	0.070	0.100	0.169	
	LTE Band 5	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.014	0.743	0.737	0.758
		Rear	0.812	0.027	0.217	0.839	1.029	<b>1.056</b>
		Right	0.358	0.000	0.000	0.358	0.358	0.358
	Left	0.000	0.070	0.100	0.070	0.100	0.169	
	LTE Band 66	Top	0.000	0.016	0.066	0.016	0.066	0.082
		Bottom	0.912	0.000	0.000	0.912	0.912	<b>0.912</b>
Front		0.524	0.021	0.014	0.545	0.539	0.560	
Rear		0.652	0.027	0.217	0.679	0.869	0.896	
Right		0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.272	0.070	0.100	0.342	0.372	0.442		
LTE Band 2	Top	0.000	0.016	0.066	0.016	0.066	0.082	
	Bottom	1.074	0.000	0.000	1.074	1.074	<b>1.074</b>	
	Front	0.503	0.021	0.014	0.524	0.518	0.539	
	Rear	0.586	0.027	0.217	0.613	0.803	0.830	
	Right	0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.122	0.070	0.100	0.191	0.222	0.291		
LTE Band 7	Top	0.000	0.016	0.066	0.016	0.066	0.082	
	Bottom	0.839	0.000	0.000	0.839	0.839	<b>0.839</b>	
	Front	0.411	0.021	0.014	0.432	0.426	0.447	
	Rear	0.527	0.027	0.217	0.554	0.744	0.771	
	Right	0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.127	0.070	0.100	0.197	0.227	0.297		
LTE Band 41	Top	0.000	0.016	0.066	0.016	0.066	0.082	
	Bottom	0.792	0.000	0.000	0.792	0.792	<b>0.792</b>	
	Front	0.375	0.021	0.014	0.396	0.389	0.410	
	Rear	0.473	0.027	0.217	0.501	0.691	0.718	
	Right	0.000	0.000	0.000	0.000	0.000	0.000	
Left	0.100	0.070	0.100	0.169	0.200	0.269		

**Table 12.6.7 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.090	0.371	0.440	0.461
		Rear	0.447	0.027	0.152	0.474	0.599	<b>0.626</b>
		Right	0.202	0.000	0.000	0.202	0.202	0.202
		Left	0.000	0.070	0.082	0.070	0.082	0.152
	GPRS 1900	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.090	0.406	0.475	0.496
		Rear	0.465	0.027	0.152	0.492	0.617	<b>0.644</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.117	0.070	0.082	0.187	0.199	0.269
	WCDMA 850	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.090	0.583	0.652	0.673
		Rear	0.607	0.027	0.152	0.634	0.759	<b>0.786</b>
		Right	0.340	0.000	0.000	0.340	0.340	0.340
		Left	0.000	0.070	0.082	0.070	0.082	0.152
	WCDMA 1700	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.996	0.000	0.000	0.996	0.996	<b>0.996</b>
		Front	0.538	0.021	0.090	0.559	0.628	0.649
		Rear	0.620	0.027	0.152	0.647	0.772	0.799
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.070	0.082	0.374	0.386	0.456
	WCDMA 1900	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	1.097	0.000	0.000	1.097	1.097	<b>1.097</b>
		Front	0.668	0.021	0.090	0.689	0.758	0.779
		Rear	0.793	0.027	0.152	0.820	0.945	0.972
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.070	0.082	0.306	0.318	0.388
	LTE Band 12	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.090	0.360	0.429	0.450
		Rear	0.481	0.027	0.152	0.508	0.633	<b>0.660</b>
		Right	0.185	0.000	0.000	0.185	0.185	0.185
		Left	0.000	0.070	0.082	0.070	0.082	0.152
	LTE Band 13	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.090	0.562	0.631	0.652
		Rear	0.721	0.027	0.152	0.748	0.873	<b>0.900</b>
		Right	0.129	0.000	0.000	0.129	0.129	0.129
		Left	0.000	0.070	0.082	0.070	0.082	0.152
	LTE Band 5	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.090	0.743	0.812	0.833
		Rear	0.812	0.027	0.152	0.839	0.964	<b>0.991</b>
		Right	0.358	0.000	0.000	0.358	0.358	0.358
		Left	0.000	0.070	0.082	0.070	0.082	0.152
	LTE Band 66	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.912	0.000	0.000	0.912	0.912	<b>0.912</b>
		Front	0.524	0.021	0.090	0.545	0.614	0.635
		Rear	0.652	0.027	0.152	0.679	0.804	0.831
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.070	0.082	0.342	0.354	0.424
	LTE Band 2	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	1.074	0.000	0.000	1.074	1.074	<b>1.074</b>
		Front	0.503	0.021	0.090	0.524	0.593	0.614
		Rear	0.586	0.027	0.152	0.613	0.738	0.765
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.070	0.082	0.192	0.204	0.274
	LTE Band 7	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.839	0.000	0.000	0.839	0.839	<b>0.839</b>
		Front	0.411	0.021	0.090	0.432	0.501	0.522
		Rear	0.527	0.027	0.152	0.554	0.679	0.706
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.070	0.082	0.197	0.209	0.279
	LTE Band 41	Top	0.000	0.016	0.095	0.016	0.095	0.111
		Bottom	0.792	0.000	0.000	0.792	0.792	<b>0.792</b>
		Front	0.375	0.021	0.090	0.396	0.465	0.486
		Rear	0.473	0.027	0.152	0.500	0.625	0.652
		Right	0.000	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.070	0.082	0.170	0.182	0.252

**Table 12.6.8 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 5.8 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.307	0.000	0.000	0.307	0.307	0.307
		Front	0.350	0.021	0.135	0.371	0.485	0.536
		Rear	0.447	0.027	0.374	0.474	0.821	<b>0.848</b>
		Right	0.000	0.000	0.000	0.202	0.202	0.202
	Left	0.000	0.070	0.205	0.070	0.205	0.275	
	GPRS 1900	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.639	0.000	0.000	0.639	0.639	0.639
		Front	0.385	0.021	0.135	0.406	0.520	0.541
		Rear	0.465	0.027	0.374	0.492	0.839	<b>0.866</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.117	0.070	0.205	0.187	0.322	0.392	
	WCDMA 850	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.461	0.000	0.000	0.461	0.461	0.461
		Front	0.562	0.021	0.135	0.583	0.697	0.718
		Rear	0.607	0.027	0.374	0.634	0.981	<b>1.008</b>
		Right	0.340	0.000	0.000	0.340	0.340	0.340
	Left	0.000	0.070	0.205	0.070	0.205	0.275	
	WCDMA 1700	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.996	0.000	0.000	0.996	0.996	0.996
		Front	0.538	0.021	0.135	0.559	0.673	0.694
		Rear	0.620	0.027	0.374	0.647	0.994	<b>1.021</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.304	0.070	0.205	0.374	0.509	0.579	
	WCDMA 1900	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	1.097	0.000	0.000	1.097	1.097	1.097
		Front	0.968	0.021	0.135	0.989	0.983	0.924
		Rear	0.793	0.027	0.374	0.820	1.167	<b>1.194</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.236	0.070	0.205	0.306	0.441	0.511	
	LTE Band 12	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.225	0.000	0.000	0.225	0.225	0.225
		Front	0.339	0.021	0.135	0.360	0.474	0.495
		Rear	0.481	0.027	0.374	0.508	0.855	<b>0.882</b>
		Right	0.185	0.000	0.000	0.185	0.185	0.185
	Left	0.000	0.070	0.205	0.070	0.205	0.275	
	LTE Band 13	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.188	0.000	0.000	0.188	0.188	0.188
		Front	0.541	0.021	0.135	0.562	0.676	0.697
		Rear	0.721	0.027	0.374	0.748	1.095	<b>1.122</b>
		Right	0.129	0.000	0.000	0.129	0.129	0.129
	Left	0.000	0.070	0.205	0.070	0.205	0.275	
	LTE Band 5	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.447	0.000	0.000	0.447	0.447	0.447
		Front	0.722	0.021	0.135	0.743	0.857	0.878
		Rear	<b>0.812</b>	<b>0.027</b>	<b>0.374</b>	<b>0.839</b>	<b>1.186</b>	<b>1.213</b>
		Right	0.358	0.000	0.000	0.358	0.358	0.358
	Left	0.000	0.070	0.205	0.070	0.205	0.275	
	LTE Band 66	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.912	0.000	0.000	0.912	0.912	0.912
		Front	0.524	0.021	0.135	0.545	0.659	0.680
		Rear	0.652	0.027	0.374	0.679	1.026	<b>1.053</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.272	0.070	0.205	0.342	0.477	0.547	
	LTE Band 2	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	1.074	0.000	0.000	1.074	1.074	<b>1.074</b>
		Front	0.503	0.021	0.135	0.524	0.638	0.659
		Rear	0.586	0.027	0.374	0.613	0.960	0.987
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.122	0.070	0.205	0.192	0.327	0.397	
	LTE Band 7	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.839	0.000	0.000	0.839	0.839	0.839
		Front	0.411	0.021	0.135	0.432	0.546	0.567
		Rear	0.527	0.027	0.374	0.554	0.901	<b>0.928</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.127	0.070	0.205	0.197	0.332	0.402	
	LTE Band 41	Top	0.000	0.016	0.181	0.016	0.181	0.197
		Bottom	0.792	0.000	0.000	0.792	0.792	0.792
		Front	0.375	0.021	0.135	0.396	0.510	0.531
		Rear	0.473	0.027	0.374	0.500	0.847	<b>0.874</b>
		Right	0.000	0.000	0.000	0.000	0.000	0.000
	Left	0.100	0.070	0.205	0.170	0.305	0.375	

**Table 12.6.9 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.063	0.063
		Bottom	0.307	0.000	0.307
		Front	0.350	0.111	0.461
		Rear	0.447	0.141	0.588
		Right	0.202	0.000	0.202
		Left	0.000	0.262	0.262
	GPRS 1900	Top	0.000	0.063	0.063
		Bottom	0.639	0.000	0.639
		Front	0.385	0.111	0.496
		Rear	0.465	0.141	0.606
		Right	0.000	0.000	0.000
		Left	0.117	0.262	0.379
	WCDMA 850	Top	0.000	0.063	0.063
		Bottom	0.461	0.000	0.461
		Front	0.562	0.111	0.673
		Rear	0.607	0.141	0.748
		Right	0.340	0.000	0.340
		Left	0.000	0.262	0.262
	WCDMA 1700	Top	0.000	0.063	0.063
		Bottom	0.996	0.000	0.996
		Front	0.538	0.111	0.649
		Rear	0.620	0.141	0.761
		Right	0.000	0.000	0.000
		Left	0.304	0.262	0.566
	WCDMA 1900	Top	0.000	0.063	0.063
		Bottom	1.097	0.000	1.097
		Front	0.968	0.111	1.079
		Rear	0.793	0.141	0.934
		Right	0.000	0.000	0.000
		Left	0.236	0.262	0.498
	LTE Band 12	Top	0.000	0.063	0.063
		Bottom	0.225	0.000	0.225
		Front	0.339	0.111	0.450
		Rear	0.481	0.141	0.622
		Right	0.185	0.000	0.185
		Left	0.000	0.262	0.262
	LTE Band 13	Top	0.000	0.063	0.063
		Bottom	0.188	0.000	0.188
		Front	0.541	0.111	0.652
		Rear	0.721	0.141	0.862
		Right	0.129	0.000	0.129
		Left	0.000	0.262	0.262
	LTE Band 5	Top	0.000	0.063	0.063
		Bottom	0.447	0.000	0.447
		Front	0.722	0.111	0.833
		Rear	0.812	0.141	0.953
		Right	0.358	0.000	0.358
		Left	0.000	0.262	0.262
	LTE Band 66	Top	0.000	0.063	0.063
		Bottom	0.912	0.000	0.912
		Front	0.524	0.111	0.635
		Rear	0.652	0.141	0.793
		Right	0.000	0.000	0.000
		Left	0.272	0.262	0.534
LTE Band 2	Top	0.000	0.063	0.063	
	Bottom	1.074	0.000	1.074	
	Front	0.503	0.111	0.614	
	Rear	0.586	0.141	0.727	
	Right	0.000	0.000	0.000	
	Left	0.122	0.262	0.384	
LTE Band 7	Top	0.000	0.063	0.063	
	Bottom	0.839	0.000	0.839	
	Front	0.411	0.111	0.522	
	Rear	0.527	0.141	0.668	
	Right	0.000	0.000	0.000	
	Left	0.127	0.262	0.389	
LTE Band 41	Top	0.000	0.063	0.063	
	Bottom	0.792	0.000	0.792	
	Front	0.375	0.111	0.486	
	Rear	0.473	0.141	0.614	
	Right	0.000	0.000	0.000	
	Left	0.100	0.262	0.362	

**Table 12.6.10 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.204	0.204
		Bottom	0.307	0.000	0.307
		Front	0.350	0.100	0.450
		Rear	0.447	0.177	0.624
		Right	0.202	0.000	0.202
		Left	0.000	0.007	0.007
	GPRS 1900	Top	0.000	0.204	0.204
		Bottom	0.639	0.000	0.639
		Front	0.385	0.100	0.485
		Rear	0.465	0.177	0.642
		Right	0.000	0.000	0.000
		Left	0.117	0.007	0.124
	WCDMA 850	Top	0.000	0.204	0.204
		Bottom	0.461	0.000	0.461
		Front	0.562	0.100	0.662
		Rear	0.607	0.177	0.784
		Right	0.340	0.000	0.340
		Left	0.000	0.007	0.007
	WCDMA 1700	Top	0.000	0.204	0.204
		Bottom	0.986	0.000	0.986
		Front	0.538	0.100	0.638
		Rear	0.620	0.177	0.797
		Right	0.000	0.000	0.000
		Left	0.304	0.007	0.311
	WCDMA 1900	Top	0.000	0.204	0.204
		Bottom	1.097	0.000	1.097
		Front	0.968	0.100	1.068
		Rear	0.793	0.177	0.970
		Right	0.000	0.000	0.000
		Left	0.236	0.007	0.243
	LTE Band 12	Top	0.000	0.204	0.204
		Bottom	0.225	0.000	0.225
		Front	0.339	0.100	0.439
		Rear	0.481	0.177	0.658
		Right	0.185	0.000	0.185
		Left	0.000	0.007	0.007
	LTE Band 13	Top	0.000	0.204	0.204
		Bottom	0.188	0.000	0.188
		Front	0.541	0.100	0.641
		Rear	0.721	0.177	0.898
		Right	0.129	0.000	0.129
		Left	0.000	0.007	0.007
	LTE Band 5	Top	0.000	0.204	0.204
		Bottom	0.447	0.000	0.447
		Front	0.722	0.100	0.822
		Rear	0.812	0.177	0.989
		Right	0.358	0.000	0.358
		Left	0.000	0.007	0.007
	LTE Band 66	Top	0.000	0.204	0.204
		Bottom	0.912	0.000	0.912
		Front	0.524	0.100	0.624
		Rear	0.652	0.177	0.829
		Right	0.000	0.000	0.000
		Left	0.272	0.007	0.279
	LTE Band 2	Top	0.000	0.204	0.204
		Bottom	1.074	0.000	1.074
		Front	0.503	0.100	0.603
Rear		0.586	0.177	0.763	
Right		0.000	0.000	0.000	
Left		0.122	0.007	0.129	
LTE Band 7	Top	0.000	0.204	0.204	
	Bottom	0.839	0.000	0.839	
	Front	0.411	0.100	0.511	
	Rear	0.527	0.177	0.704	
	Right	0.000	0.000	0.000	
	Left	0.127	0.007	0.134	
LTE Band 41	Top	0.000	0.204	0.204	
	Bottom	0.792	0.000	0.792	
	Front	0.375	0.100	0.475	
	Rear	0.473	0.177	0.650	
	Right	0.000	0.000	0.000	
	Left	0.100	0.007	0.107	

**Table 12.6.11 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		2.4G W-LAN MIMO SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Hotspot SAR	GPRS 850	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.000	0.000	0.000	0.000	0.000
		Front	0.350	0.135	0.135	0.135	0.485
		Rear	0.447	0.197	0.197	0.197	0.644
		Right	0.202	0.000	0.000	0.000	0.202
		Left	0.000	0.317	0.317	0.317	0.317
	GPRS 1900	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.639	0.000	0.000	0.000	0.639
		Front	0.385	0.135	0.135	0.135	0.520
		Rear	0.465	0.197	0.197	0.197	0.662
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.117	0.317	0.317	0.317	0.434
	WCDMA 850	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.461	0.000	0.000	0.000	0.461
		Front	0.562	0.135	0.135	0.135	0.697
		Rear	0.607	0.197	0.197	0.197	0.804
		Right	0.340	0.000	0.000	0.000	0.340
		Left	0.000	0.317	0.317	0.317	0.317
	WCDMA 1700	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.996	0.000	0.000	0.000	0.996
		Front	0.538	0.135	0.135	0.135	0.673
		Rear	0.620	0.197	0.197	0.197	0.817
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.304	0.317	0.317	0.317	0.621
	WCDMA 1900	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	1.097	0.000	0.000	0.000	1.097
		Front	0.668	0.135	0.135	0.135	0.803
		Rear	0.793	0.197	0.197	0.197	0.990
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.236	0.317	0.317	0.317	0.553
	LTE Band 12	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.225	0.000	0.000	0.000	0.225
		Front	0.339	0.135	0.135	0.135	0.474
		Rear	0.481	0.197	0.197	0.197	0.678
		Right	0.185	0.000	0.000	0.000	0.185
		Left	0.000	0.317	0.317	0.317	0.317
	LTE Band 13	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.188	0.000	0.000	0.000	0.188
		Front	0.541	0.135	0.135	0.135	0.676
		Rear	0.721	0.197	0.197	0.197	0.918
		Right	0.129	0.000	0.000	0.000	0.129
		Left	0.000	0.317	0.317	0.317	0.317
	LTE Band 5	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.447	0.000	0.000	0.000	0.447
		Front	0.722	0.135	0.135	0.135	0.857
		Rear	0.812	0.197	0.197	0.197	1.009
		Right	0.358	0.000	0.000	0.000	0.358
		Left	0.000	0.317	0.317	0.317	0.317
	LTE Band 66	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.912	0.000	0.000	0.000	0.912
		Front	0.524	0.135	0.135	0.135	0.659
		Rear	0.652	0.197	0.197	0.197	0.849
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.272	0.317	0.317	0.317	0.589
	LTE Band 2	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	1.074	0.000	0.000	0.000	1.074
		Front	0.503	0.135	0.135	0.135	0.638
		Rear	0.586	0.197	0.197	0.197	0.783
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.122	0.317	0.317	0.317	0.439
	LTE Band 7	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.839	0.000	0.000	0.000	0.839
		Front	0.411	0.135	0.135	0.135	0.546
		Rear	0.527	0.197	0.197	0.197	0.724
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.127	0.317	0.317	0.317	0.444
	LTE Band 41	Top	0.000	0.247	0.247	0.247	0.247
		Bottom	0.792	0.000	0.000	0.000	0.792
		Front	0.375	0.135	0.135	0.135	0.510
		Rear	0.473	0.197	0.197	0.197	0.670
		Right	0.000	0.000	0.000	0.000	0.000
		Left	0.100	0.317	0.317	0.317	0.417

**Table 12.6.12 Simultaneous Transmission Scenario : 2G/3G/4G + 5.2 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.041	0.041
		Bottom	0.307	0.000	0.307
		Front	0.350	0.009	0.359
		Rear	0.447	0.138	<b>0.585</b>
		Right	0.202	0.000	0.202
		Left	0.000	0.063	0.063
	GPRS 1900	Top	0.000	0.041	0.041
		Bottom	0.639	0.000	<b>0.639</b>
		Front	0.385	0.009	0.394
		Rear	0.465	0.138	0.603
		Right	0.000	0.000	0.000
		Left	0.117	0.063	0.180
	WCDMA 850	Top	0.000	0.041	0.041
		Bottom	0.461	0.000	0.461
		Front	0.562	0.009	0.571
		Rear	0.607	0.138	<b>0.745</b>
		Right	0.340	0.000	0.340
		Left	0.000	0.063	0.063
	WCDMA 1700	Top	0.000	0.041	0.041
		Bottom	0.996	0.000	<b>0.996</b>
		Front	0.538	0.009	0.547
		Rear	0.620	0.138	0.758
		Right	0.000	0.000	0.000
		Left	0.304	0.063	0.367
	WCDMA 1900	Top	0.000	0.041	0.041
		Bottom	1.097	0.000	<b>1.097</b>
		Front	0.968	0.009	0.977
		Rear	0.793	0.138	0.931
		Right	0.000	0.000	0.000
		Left	0.236	0.063	0.299
	LTE Band 12	Top	0.000	0.041	0.041
		Bottom	0.225	0.000	0.225
		Front	0.339	0.009	0.348
		Rear	0.481	0.138	<b>0.619</b>
		Right	0.185	0.000	0.185
		Left	0.000	0.063	0.063
	LTE Band 13	Top	0.000	0.041	0.041
		Bottom	0.188	0.000	0.188
		Front	0.541	0.009	0.550
		Rear	0.721	0.138	<b>0.859</b>
		Right	0.129	0.000	0.129
		Left	0.000	0.063	0.063
	LTE Band 5	Top	0.000	0.041	0.041
		Bottom	0.447	0.000	0.447
		Front	0.722	0.009	0.731
		Rear	0.812	0.138	<b>0.950</b>
		Right	0.358	0.000	0.358
		Left	0.000	0.063	0.063
	LTE Band 66	Top	0.000	0.041	0.041
		Bottom	0.912	0.000	<b>0.912</b>
		Front	0.524	0.009	0.533
		Rear	0.652	0.138	0.790
		Right	0.000	0.000	0.000
		Left	0.272	0.063	0.335
LTE Band 2	Top	0.000	0.041	0.041	
	Bottom	1.074	0.000	<b>1.074</b>	
	Front	0.503	0.009	0.512	
	Rear	0.586	0.138	0.724	
	Right	0.000	0.000	0.000	
	Left	0.122	0.063	0.185	
LTE Band 7	Top	0.000	0.041	0.041	
	Bottom	0.839	0.000	<b>0.839</b>	
	Front	0.411	0.009	0.420	
	Rear	0.527	0.138	0.665	
	Right	0.000	0.000	0.000	
	Left	0.127	0.063	0.190	
LTE Band 41	Top	0.000	0.041	0.041	
	Bottom	0.792	0.000	<b>0.792</b>	
	Front	0.375	0.009	0.384	
	Rear	0.473	0.138	0.611	
	Right	0.000	0.000	0.000	
	Left	0.100	0.063	0.163	

**Table 12.6.13 Simultaneous Transmission Scenario : 2G/3G/4G + 5.2 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.070	0.070
		Bottom	0.307	0.000	0.307
		Front	0.350	0.065	0.415
		Rear	0.447	0.112	0.559
		Right	0.202	0.000	0.202
		Left	0.000	0.060	0.060
	GPRS 1900	Top	0.000	0.070	0.070
		Bottom	0.639	0.000	0.639
		Front	0.385	0.065	0.450
		Rear	0.465	0.112	0.577
		Right	0.000	0.000	0.000
		Left	0.117	0.060	0.177
	WCDMA 850	Top	0.000	0.070	0.070
		Bottom	0.461	0.000	0.461
		Front	0.562	0.065	0.627
		Rear	0.607	0.112	0.719
		Right	0.340	0.000	0.340
		Left	0.000	0.060	0.060
	WCDMA 1700	Top	0.000	0.070	0.070
		Bottom	0.966	0.000	0.966
		Front	0.538	0.065	0.603
		Rear	0.620	0.112	0.732
		Right	0.000	0.000	0.000
		Left	0.304	0.060	0.364
	WCDMA 1900	Top	0.000	0.070	0.070
		Bottom	1.097	0.000	1.097
		Front	0.668	0.065	0.733
		Rear	0.793	0.112	0.905
		Right	0.000	0.000	0.000
		Left	0.236	0.060	0.296
	LTE Band 12	Top	0.000	0.070	0.070
		Bottom	0.225	0.000	0.225
		Front	0.339	0.065	0.404
		Rear	0.481	0.112	0.593
		Right	0.185	0.000	0.185
		Left	0.000	0.060	0.060
	LTE Band 13	Top	0.000	0.070	0.070
		Bottom	0.188	0.000	0.188
		Front	0.541	0.065	0.606
		Rear	0.721	0.112	0.833
		Right	0.129	0.000	0.129
		Left	0.000	0.060	0.060
	LTE Band 5	Top	0.000	0.070	0.070
		Bottom	0.447	0.000	0.447
		Front	0.722	0.065	0.787
		Rear	0.812	0.112	0.924
		Right	0.358	0.000	0.358
		Left	0.000	0.060	0.060
	LTE Band 66	Top	0.000	0.070	0.070
		Bottom	0.912	0.000	0.912
		Front	0.524	0.065	0.589
		Rear	0.652	0.112	0.764
		Right	0.000	0.000	0.000
		Left	0.272	0.060	0.332
	LTE Band 2	Top	0.000	0.070	0.070
		Bottom	1.074	0.000	1.074
		Front	0.503	0.065	0.568
		Rear	0.586	0.112	0.698
		Right	0.000	0.000	0.000
		Left	0.122	0.060	0.182
	LTE Band 7	Top	0.000	0.070	0.070
		Bottom	0.839	0.000	0.839
		Front	0.411	0.065	0.476
		Rear	0.527	0.112	0.639
		Right	0.000	0.000	0.000
		Left	0.127	0.060	0.187
	LTE Band 41	Top	0.000	0.070	0.070
		Bottom	0.792	0.000	0.792
		Front	0.375	0.065	0.440
		Rear	0.473	0.112	0.585
		Right	0.000	0.000	0.000
		Left	0.100	0.060	0.160

**Table 12.6.14 Simultaneous Transmission Scenario : 2G/3G/4G + 5.2 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.115	0.115
		Bottom	0.307	0.000	0.307
		Front	0.350	0.086	0.436
		Rear	0.447	0.237	0.684
		Right	0.202	0.000	0.202
		Left	0.000	0.130	0.130
	GPRS 1900	Top	0.000	0.115	0.115
		Bottom	0.639	0.000	0.639
		Front	0.385	0.086	0.471
		Rear	0.465	0.237	0.702
		Right	0.000	0.000	0.000
		Left	0.117	0.130	0.247
	WCDMA 850	Top	0.000	0.115	0.115
		Bottom	0.461	0.000	0.461
		Front	0.562	0.086	0.648
		Rear	0.607	0.237	0.844
		Right	0.340	0.000	0.340
		Left	0.000	0.130	0.130
	WCDMA 1700	Top	0.000	0.115	0.115
		Bottom	0.986	0.000	0.986
		Front	0.538	0.086	0.624
		Rear	0.620	0.237	0.857
		Right	0.000	0.000	0.000
		Left	0.304	0.130	0.434
	WCDMA 1900	Top	0.000	0.115	0.115
		Bottom	1.097	0.000	1.097
		Front	0.968	0.086	1.054
		Rear	0.793	0.237	1.030
		Right	0.000	0.000	0.000
		Left	0.236	0.130	0.366
	LTE Band 12	Top	0.000	0.115	0.115
		Bottom	0.225	0.000	0.225
		Front	0.339	0.086	0.425
		Rear	0.481	0.237	0.718
		Right	0.185	0.000	0.185
		Left	0.000	0.130	0.130
	LTE Band 13	Top	0.000	0.115	0.115
		Bottom	0.188	0.000	0.188
		Front	0.541	0.086	0.627
		Rear	0.721	0.237	0.958
		Right	0.129	0.000	0.129
		Left	0.000	0.130	0.130
	LTE Band 5	Top	0.000	0.115	0.115
		Bottom	0.447	0.000	0.447
		Front	0.722	0.086	0.808
		Rear	0.812	0.237	1.049
		Right	0.358	0.000	0.358
		Left	0.000	0.130	0.130
	LTE Band 66	Top	0.000	0.115	0.115
		Bottom	0.912	0.000	0.912
		Front	0.524	0.086	0.610
		Rear	0.652	0.237	0.889
		Right	0.000	0.000	0.000
		Left	0.272	0.130	0.402
LTE Band 2	Top	0.000	0.115	0.115	
	Bottom	1.074	0.000	1.074	
	Front	0.503	0.086	0.589	
	Rear	0.586	0.237	0.823	
	Right	0.000	0.000	0.000	
	Left	0.122	0.130	0.252	
LTE Band 7	Top	0.000	0.115	0.115	
	Bottom	0.839	0.000	0.839	
	Front	0.411	0.086	0.497	
	Rear	0.527	0.237	0.764	
	Right	0.000	0.000	0.000	
	Left	0.127	0.130	0.257	
LTE Band 41	Top	0.000	0.115	0.115	
	Bottom	0.792	0.000	0.792	
	Front	0.375	0.086	0.461	
	Rear	0.473	0.237	0.710	
	Right	0.000	0.000	0.000	
	Left	0.100	0.130	0.230	

**Table 12.6.15 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.066	0.066
		Bottom	0.307	0.000	0.307
		Front	0.350	0.014	0.364
		Rear	0.447	0.217	<b>0.664</b>
		Right	0.202	0.000	0.202
		Left	0.000	0.100	0.100
	GPRS 1900	Top	0.000	0.066	0.066
		Bottom	0.639	0.000	0.639
		Front	0.385	0.014	0.399
		Rear	0.465	0.217	<b>0.682</b>
		Right	0.000	0.000	0.000
		Left	0.117	0.100	0.217
	WCDMA 850	Top	0.000	0.066	0.066
		Bottom	0.461	0.000	0.461
		Front	0.562	0.014	0.576
		Rear	0.607	0.217	<b>0.824</b>
		Right	0.340	0.000	0.340
		Left	0.000	0.100	0.100
	WCDMA 1700	Top	0.000	0.066	0.066
		Bottom	0.966	0.000	<b>0.966</b>
		Front	0.538	0.014	0.552
		Rear	0.620	0.217	0.837
		Right	0.000	0.000	0.000
		Left	0.304	0.100	0.404
	WCDMA 1900	Top	0.000	0.066	0.066
		Bottom	1.097	0.000	<b>1.097</b>
		Front	0.968	0.014	0.982
		Rear	0.793	0.217	1.010
		Right	0.000	0.000	0.000
		Left	0.236	0.100	0.336
	LTE Band 12	Top	0.000	0.066	0.066
		Bottom	0.225	0.000	0.225
		Front	0.339	0.014	0.353
		Rear	0.481	0.217	<b>0.698</b>
		Right	0.185	0.000	0.185
		Left	0.000	0.100	0.100
	LTE Band 13	Top	0.000	0.066	0.066
		Bottom	0.188	0.000	0.188
		Front	0.541	0.014	0.555
		Rear	0.721	0.217	<b>0.938</b>
		Right	0.129	0.000	0.129
		Left	0.000	0.100	0.100
	LTE Band 5	Top	0.000	0.066	0.066
		Bottom	0.447	0.000	0.447
		Front	0.722	0.014	0.736
		Rear	0.812	0.217	<b>1.029</b>
		Right	0.358	0.000	0.358
		Left	0.000	0.100	0.100
	LTE Band 66	Top	0.000	0.066	0.066
		Bottom	0.912	0.000	<b>0.912</b>
		Front	0.524	0.014	0.538
		Rear	0.652	0.217	0.869
		Right	0.000	0.000	0.000
		Left	0.272	0.100	0.372
	LTE Band 2	Top	0.000	0.066	0.066
		Bottom	1.074	0.000	<b>1.074</b>
		Front	0.503	0.014	0.517
Rear		0.586	0.217	0.803	
Right		0.000	0.000	0.000	
Left		0.122	0.100	0.222	
LTE Band 7	Top	0.000	0.066	0.066	
	Bottom	0.839	0.000	<b>0.839</b>	
	Front	0.411	0.014	0.425	
	Rear	0.527	0.217	0.744	
	Right	0.000	0.000	0.000	
	Left	0.127	0.100	0.227	
LTE Band 41	Top	0.000	0.066	0.066	
	Bottom	0.792	0.000	<b>0.792</b>	
	Front	0.375	0.014	0.389	
	Rear	0.473	0.217	0.690	
	Right	0.000	0.000	0.000	
	Left	0.100	0.100	0.200	

**Table 12.6.16 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.095	0.095
		Bottom	0.307	0.000	0.307
		Front	0.350	0.090	0.440
		Rear	0.447	0.152	<b>0.599</b>
		Right	0.202	0.000	0.202
		Left	0.000	0.082	0.082
	GPRS 1900	Top	0.000	0.095	0.095
		Bottom	0.639	0.000	<b>0.639</b>
		Front	0.385	0.090	0.475
		Rear	0.465	0.152	0.617
		Right	0.000	0.000	0.000
		Left	0.117	0.082	0.199
	WCDMA 850	Top	0.000	0.095	0.095
		Bottom	0.461	0.000	0.461
		Front	0.562	0.090	0.652
		Rear	0.607	0.152	<b>0.759</b>
		Right	0.340	0.000	0.340
		Left	0.000	0.082	0.082
	WCDMA 1700	Top	0.000	0.095	0.095
		Bottom	0.966	0.000	<b>0.966</b>
		Front	0.538	0.090	0.628
		Rear	0.620	0.152	0.772
		Right	0.000	0.000	0.000
		Left	0.304	0.082	0.386
	WCDMA 1900	Top	0.000	0.095	0.095
		Bottom	1.097	0.000	<b>1.097</b>
		Front	0.968	0.090	1.058
		Rear	0.793	0.152	0.945
		Right	0.000	0.000	0.000
		Left	0.236	0.082	0.318
	LTE Band 12	Top	0.000	0.095	0.095
		Bottom	0.225	0.000	0.225
		Front	0.339	0.090	0.429
		Rear	0.481	0.152	<b>0.633</b>
		Right	0.185	0.000	0.185
		Left	0.000	0.082	0.082
	LTE Band 13	Top	0.000	0.095	0.095
		Bottom	0.188	0.000	0.188
		Front	0.541	0.090	0.631
		Rear	0.721	0.152	<b>0.873</b>
		Right	0.129	0.000	0.129
		Left	0.000	0.082	0.082
	LTE Band 5	Top	0.000	0.095	0.095
		Bottom	0.447	0.000	0.447
		Front	0.722	0.090	0.812
		Rear	0.812	0.152	<b>0.964</b>
		Right	0.358	0.000	0.358
		Left	0.000	0.082	0.082
	LTE Band 66	Top	0.000	0.095	0.095
		Bottom	0.912	0.000	<b>0.912</b>
		Front	0.524	0.090	0.614
		Rear	0.652	0.152	0.804
		Right	0.000	0.000	0.000
		Left	0.272	0.082	0.354
	LTE Band 2	Top	0.000	0.095	0.095
		Bottom	1.074	0.000	<b>1.074</b>
		Front	0.503	0.090	0.593
Rear		0.586	0.152	0.738	
Right		0.000	0.000	0.000	
Left		0.122	0.082	0.204	
LTE Band 7	Top	0.000	0.095	0.095	
	Bottom	0.839	0.000	<b>0.839</b>	
	Front	0.411	0.090	0.501	
	Rear	0.527	0.152	0.679	
	Right	0.000	0.000	0.000	
	Left	0.127	0.082	0.209	
LTE Band 41	Top	0.000	0.095	0.095	
	Bottom	0.792	0.000	<b>0.792</b>	
	Front	0.375	0.090	0.465	
	Rear	0.473	0.152	0.625	
	Right	0.000	0.000	0.000	
	Left	0.100	0.082	0.182	

**Table 12.6.17 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.181	0.181
		Bottom	0.307	0.000	0.307
		Front	0.350	0.135	0.485
		Rear	0.447	0.374	0.821
		Right	0.202	0.000	0.202
		Left	0.000	0.205	0.205
	GPRS 1900	Top	0.000	0.181	0.181
		Bottom	0.639	0.000	0.639
		Front	0.385	0.135	0.520
		Rear	0.465	0.374	0.839
		Right	0.000	0.000	0.000
		Left	0.117	0.205	0.322
	WCDMA 850	Top	0.000	0.181	0.181
		Bottom	0.461	0.000	0.461
		Front	0.562	0.135	0.697
		Rear	0.607	0.374	0.981
		Right	0.340	0.000	0.340
		Left	0.000	0.205	0.205
	WCDMA 1700	Top	0.000	0.181	0.181
		Bottom	0.966	0.000	0.966
		Front	0.538	0.135	0.673
		Rear	0.620	0.374	0.994
		Right	0.000	0.000	0.000
		Left	0.304	0.205	0.509
	WCDMA 1900	Top	0.000	0.181	0.181
		Bottom	1.097	0.000	1.097
		Front	0.968	0.135	0.803
		Rear	0.793	0.374	1.167
		Right	0.000	0.000	0.000
		Left	0.236	0.205	0.441
	LTE Band 12	Top	0.000	0.181	0.181
		Bottom	0.225	0.000	0.225
		Front	0.339	0.135	0.474
		Rear	0.481	0.374	0.855
		Right	0.185	0.000	0.185
		Left	0.000	0.205	0.205
	LTE Band 13	Top	0.000	0.181	0.181
		Bottom	0.188	0.000	0.188
		Front	0.541	0.135	0.676
		Rear	0.721	0.374	1.095
		Right	0.129	0.000	0.129
		Left	0.000	0.205	0.205
	LTE Band 5	Top	0.000	0.181	0.181
		Bottom	0.447	0.000	0.447
		Front	0.722	0.135	0.857
		Rear	0.812	0.374	1.186
		Right	0.358	0.000	0.358
		Left	0.000	0.205	0.205
	LTE Band 66	Top	0.000	0.181	0.181
		Bottom	0.912	0.000	0.912
		Front	0.524	0.135	0.659
		Rear	0.652	0.374	1.026
		Right	0.000	0.000	0.000
		Left	0.272	0.205	0.477
	LTE Band 2	Top	0.000	0.181	0.181
		Bottom	1.074	0.000	1.074
		Front	0.503	0.135	0.638
Rear		0.586	0.374	0.960	
Right		0.000	0.000	0.000	
Left		0.122	0.205	0.327	
LTE Band 7	Top	0.000	0.181	0.181	
	Bottom	0.839	0.000	0.839	
	Front	0.411	0.135	0.546	
	Rear	0.527	0.374	0.901	
	Right	0.000	0.000	0.000	
	Left	0.127	0.205	0.332	
LTE Band 41	Top	0.000	0.181	0.181	
	Bottom	0.792	0.000	0.792	
	Front	0.375	0.135	0.510	
	Rear	0.473	0.374	0.847	
	Right	0.000	0.000	0.000	
	Left	0.100	0.205	0.305	

**Table 12.6.18 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	0.000	0.016	0.016
		Bottom	0.307	0.000	0.307
		Front	0.350	0.021	0.371
		Rear	0.447	0.027	0.474
		Right	0.202	0.000	0.202
		Left	0.000	0.070	0.070
	GPRS 1900	Top	0.000	0.016	0.016
		Bottom	0.639	0.000	0.639
		Front	0.385	0.021	0.406
		Rear	0.465	0.027	0.492
		Right	0.000	0.000	0.000
		Left	0.117	0.070	0.187
	WCDMA 850	Top	0.000	0.016	0.016
		Bottom	0.461	0.000	0.461
		Front	0.562	0.021	0.583
		Rear	0.607	0.027	0.634
		Right	0.340	0.000	0.340
		Left	0.000	0.070	0.070
	WCDMA 1700	Top	0.000	0.016	0.016
		Bottom	0.996	0.000	0.996
		Front	0.538	0.021	0.559
		Rear	0.620	0.027	0.647
		Right	0.000	0.000	0.000
		Left	0.304	0.070	0.374
	WCDMA 1900	Top	0.000	0.016	0.016
		Bottom	1.097	0.000	1.097
		Front	0.968	0.021	0.989
		Rear	0.793	0.027	0.820
		Right	0.000	0.000	0.000
		Left	0.236	0.070	0.306
	LTE Band 12	Top	0.000	0.016	0.016
		Bottom	0.225	0.000	0.225
		Front	0.339	0.021	0.360
		Rear	0.481	0.027	0.508
		Right	0.185	0.000	0.185
		Left	0.000	0.070	0.070
	LTE Band 13	Top	0.000	0.016	0.016
		Bottom	0.188	0.000	0.188
		Front	0.541	0.021	0.562
		Rear	0.721	0.027	0.748
		Right	0.129	0.000	0.129
		Left	0.000	0.070	0.070
	LTE Band 5	Top	0.000	0.016	0.016
		Bottom	0.447	0.000	0.447
		Front	0.722	0.021	0.743
		Rear	0.812	0.027	0.839
		Right	0.358	0.000	0.358
		Left	0.000	0.070	0.070
	LTE Band 66	Top	0.000	0.016	0.016
		Bottom	0.912	0.000	0.912
		Front	0.524	0.021	0.545
		Rear	0.652	0.027	0.679
		Right	0.000	0.000	0.000
		Left	0.272	0.070	0.342
LTE Band 2	Top	0.000	0.016	0.016	
	Bottom	1.074	0.000	1.074	
	Front	0.503	0.021	0.524	
	Rear	0.586	0.027	0.613	
	Right	0.000	0.000	0.000	
	Left	0.122	0.070	0.192	
LTE Band 7	Top	0.000	0.016	0.016	
	Bottom	0.839	0.000	0.839	
	Front	0.411	0.021	0.432	
	Rear	0.527	0.027	0.554	
	Right	0.000	0.000	0.000	
	Left	0.127	0.070	0.197	
LTE Band 41	Top	0.000	0.016	0.016	
	Bottom	0.792	0.000	0.792	
	Front	0.375	0.021	0.396	
	Rear	0.473	0.027	0.500	
	Right	0.000	0.000	0.000	
	Left	0.100	0.070	0.170	

**Table 12.6.19 Simultaneous Transmission Scenario : 2.4 GHz W-LAN Ant.1 + 5 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	2.4G W-LAN Ant.1 SAR (W/kg)	5G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.2	Top	0.063	0.070	0.133
		Bottom	0.000	0.000	0.000
		Front	0.111	0.065	0.176
		Rear	0.141	0.112	0.253
		Right	0.000	0.000	0.000
		Left	0.262	0.060	<b>0.322</b>
	5.8G W-LAN Ant.2	Top	0.063	0.095	0.158
		Bottom	0.000	0.000	0.000
		Front	0.111	0.090	0.201
		Rear	0.141	0.152	0.293
		Right	0.000	0.000	0.000
		Left	0.262	0.082	<b>0.344</b>

**Table 12.6.20 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.1 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.1	Top	0.016	0.041	0.057
		Bottom	0.000	0.000	0.000
		Front	0.021	0.009	0.030
		Rear	0.027	0.138	<b>0.165</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.063	0.133
	5.8G W-LAN Ant.1	Top	0.016	0.066	0.082
		Bottom	0.000	0.000	0.000
		Front	0.021	0.014	0.035
		Rear	0.027	0.217	<b>0.244</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.100	0.170

**Table 12.6.21 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.2 (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.2	Top	0.016	0.070	0.086
		Bottom	0.000	0.000	0.000
		Front	0.021	0.065	0.086
		Rear	0.027	0.112	<b>0.139</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.060	0.130
	5.8G W-LAN Ant.2	Top	0.016	0.095	0.111
		Bottom	0.000	0.000	0.000
		Front	0.021	0.090	0.111
		Rear	0.027	0.152	<b>0.179</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.082	0.152

**Table 12.6.22 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN MIMO (Hotspot at 10 mm)**

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN MIMO	Top	0.016	0.115	0.131
		Bottom	0.000	0.000	0.000
		Front	0.021	0.066	0.107
		Rear	0.027	0.237	<b>0.264</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.130	0.200
	5.8G W-LAN MIMO	Top	0.016	0.181	0.197
		Bottom	0.000	0.000	0.000
		Front	0.021	0.135	0.156
		Rear	0.027	0.374	<b>0.401</b>
		Right	0.000	0.000	0.000
		Left	0.070	0.205	0.275

## 12.7 Phablet SAR Simultaneous Transmission Analysis with proximity sensor enabled

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required when Hotspot 1g SAR (scaled to maximum output power including tolerance) < 1.2 W/kg.

Since the proximity sensor is enabled in WCDMA 1700, WCDMA 1900, LTE B66, LTE B4, LTE B25, LTE B2, and LTE B7 of this device, Phablet SAR Evaluation was performed.

**Table 12.7.1 Simultaneous Transmission Scenario : 3G/4G + 5.3 GHz W-LAN Ant.1 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.3G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.084	0.084
		Bottom	2.148	0.000	2.148
		Front	1.885	0.049	1.934
		Rear	1.602	0.799	2.401
		Right	0.000	0.000	0.000
		Left	0.456	0.240	0.696
	WCDMA 1900	Top	0.000	0.084	0.084
		Bottom	1.882	0.000	1.882
		Front	1.809	0.049	1.858
		Rear	1.804	0.799	2.603
		Right	0.000	0.000	0.000
		Left	0.376	0.240	0.616
	LTE Band 66	Top	0.000	0.084	0.084
		Bottom	1.930	0.000	1.930
		Front	1.840	0.049	1.889
		Rear	1.780	0.799	2.579
		Right	0.000	0.000	0.000
		Left	0.461	0.240	0.701
	LTE Band 2	Top	0.000	0.084	0.084
		Bottom	1.788	0.000	1.788
		Front	1.550	0.049	1.599
		Rear	1.662	0.799	2.461
		Right	0.000	0.000	0.000
		Left	0.409	0.240	0.649
LTE Band 7	Top	0.000	0.084	0.084	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.049	1.603	
	Rear	1.765	0.799	2.564	
	Right	0.000	0.000	0.000	
	Left	0.436	0.240	0.676	

**Table 12.7.2 Simultaneous Transmission Scenario : 3G/4G + 5.3 GHz W-LAN Ant.2 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.194	0.194
		Bottom	2.148	0.000	2.148
		Front	1.885	0.194	2.079
		Rear	1.602	0.450	2.052
		Right	0.000	0.000	0.000
		Left	0.456	0.259	0.715
	WCDMA 1900	Top	0.000	0.194	0.194
		Bottom	1.882	0.000	1.882
		Front	1.809	0.194	2.003
		Rear	1.804	0.450	2.254
		Right	0.000	0.000	0.000
		Left	0.376	0.259	0.635
	LTE Band 66	Top	0.000	0.194	0.194
		Bottom	1.930	0.000	1.930
		Front	1.840	0.194	2.034
		Rear	1.780	0.450	2.230
		Right	0.000	0.000	0.000
		Left	0.461	0.259	0.720
	LTE Band 2	Top	0.000	0.194	0.194
		Bottom	1.788	0.000	1.788
		Front	1.550	0.194	1.744
		Rear	1.662	0.450	2.112
		Right	0.000	0.000	0.000
		Left	0.409	0.259	0.668
LTE Band 7	Top	0.000	0.194	0.194	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.194	1.748	
	Rear	1.765	0.450	2.215	
	Right	0.000	0.000	0.000	
	Left	0.436	0.259	0.695	

**Table 12.7.3 Simultaneous Transmission Scenario : 3G/4G + 5.3 GHz W-LAN MIMO (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.3G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.235	0.235
		Bottom	2.148	0.000	2.148
		Front	1.885	0.053	1.938
		Rear	1.602	1.247	2.849
		Right	0.000	0.000	0.000
		Left	0.456	0.276	0.732
	WCDMA 1900	Top	0.000	0.235	0.235
		Bottom	1.882	0.000	1.882
		Front	1.809	0.053	1.862
		Rear	1.804	1.247	3.051
		Right	0.000	0.000	0.000
		Left	0.376	0.276	0.652
	LTE Band 66	Top	0.000	0.235	0.235
		Bottom	1.930	0.000	1.930
		Front	1.840	0.053	1.893
		Rear	1.780	1.247	3.027
		Right	0.000	0.000	0.000
		Left	0.461	0.276	0.737
	LTE Band 2	Top	0.000	0.235	0.235
		Bottom	1.788	0.000	1.788
		Front	1.550	0.053	1.603
		Rear	1.662	1.247	2.909
		Right	0.000	0.000	0.000
		Left	0.409	0.276	0.685
LTE Band 7	Top	0.000	0.235	0.235	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.053	1.607	
	Rear	1.765	1.247	3.012	
	Right	0.000	0.000	0.000	
	Left	0.436	0.276	0.712	

**Table 12.7.4 Simultaneous Transmission Scenario : 3G/4G + 5.6 GHz W-LAN Ant.1 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.6G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.070	0.070
		Bottom	2.148	0.000	2.148
		Front	1.885	0.081	1.966
		Rear	1.602	0.920	<b>2.522</b>
		Right	0.000	0.000	0.000
		Left	0.456	0.283	0.739
	WCDMA 1900	Top	0.000	0.070	0.070
		Bottom	1.882	0.000	1.882
		Front	1.809	0.081	1.890
		Rear	1.804	0.920	<b>2.724</b>
		Right	0.000	0.000	0.000
		Left	0.376	0.283	0.659
	LTE Band 66	Top	0.000	0.070	0.070
		Bottom	1.930	0.000	1.930
		Front	1.840	0.081	1.921
		Rear	1.780	0.920	<b>2.700</b>
		Right	0.000	0.000	0.000
		Left	0.461	0.283	0.744
	LTE Band 2	Top	0.000	0.070	0.070
		Bottom	1.788	0.000	1.788
		Front	1.550	0.081	1.631
		Rear	1.662	0.920	<b>2.582</b>
		Right	0.000	0.000	0.000
		Left	0.409	0.283	0.692
LTE Band 7	Top	0.000	0.070	0.070	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.081	1.635	
	Rear	1.765	0.920	<b>2.685</b>	
	Right	0.000	0.000	0.000	
	Left	0.436	0.283	0.719	

**Table 12.7.5 Simultaneous Transmission Scenario : 3G/4G + 5.6 GHz W-LAN Ant.2 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.060	0.060
		Bottom	2.148	0.000	2.148
		Front	1.885	0.247	2.132
		Rear	1.602	0.720	<b>2.322</b>
		Right	0.000	0.000	0.000
		Left	0.456	0.300	0.756
	WCDMA 1900	Top	0.000	0.060	0.060
		Bottom	1.882	0.000	1.882
		Front	1.809	0.247	2.056
		Rear	1.804	0.720	<b>2.524</b>
		Right	0.000	0.000	0.000
		Left	0.376	0.300	0.676
	LTE Band 66	Top	0.000	0.060	0.060
		Bottom	1.930	0.000	1.930
		Front	1.840	0.247	2.087
		Rear	1.780	0.720	<b>2.500</b>
		Right	0.000	0.000	0.000
		Left	0.461	0.300	0.761
	LTE Band 2	Top	0.000	0.060	0.060
		Bottom	1.788	0.000	1.788
		Front	1.550	0.247	1.797
		Rear	1.662	0.720	<b>2.382</b>
		Right	0.000	0.000	0.000
		Left	0.409	0.300	0.709
LTE Band 7	Top	0.000	0.060	0.060	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.247	1.801	
	Rear	1.765	0.720	<b>2.485</b>	
	Right	0.000	0.000	0.000	
	Left	0.436	0.300	0.736	

**Table 12.7.6 Simultaneous Transmission Scenario : 3G/4G + 5.6 GHz W-LAN MIMO (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.6G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.140	0.140
		Bottom	2.148	0.000	2.148
		Front	1.885	0.381	2.266
		Rear	1.602	1.391	<b>2.993</b>
		Right	0.000	0.000	0.000
		Left	0.456	0.584	1.040
	WCDMA 1900	Top	0.000	0.140	0.140
		Bottom	1.882	0.000	1.882
		Front	1.809	0.381	2.190
		Rear	1.804	1.391	<b>3.195</b>
		Right	0.000	0.000	0.000
		Left	0.376	0.584	0.960
	LTE Band 66	Top	0.000	0.140	0.140
		Bottom	1.930	0.000	1.930
		Front	1.840	0.381	2.221
		Rear	1.780	1.391	<b>3.171</b>
		Right	0.000	0.000	0.000
		Left	0.461	0.584	1.045
	LTE Band 2	Top	0.000	0.140	0.140
		Bottom	1.788	0.000	1.788
		Front	1.550	0.381	1.931
		Rear	1.662	1.391	<b>3.053</b>
		Right	0.000	0.000	0.000
		Left	0.409	0.584	0.993
LTE Band 7	Top	0.000	0.140	0.140	
	Bottom	2.315	0.000	2.315	
	Front	1.554	0.381	1.935	
	Rear	1.765	1.391	<b>3.156</b>	
	Right	0.000	0.000	0.000	
	Left	0.436	0.584	1.020	

**Table 12.7.7 Simultaneous Transmission Scenario : 3G/4G + 5.8 GHz W-LAN Ant.1 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.114	0.114
		Bottom	2.148	0.000	2.148
		Front	1.885	0.067	1.952
		Rear	1.602	0.836	2.438
		Right	0.000	0.000	0.000
		Left	0.456	0.329	0.785
	WCDMA 1900	Top	0.000	0.114	0.114
		Bottom	1.882	0.000	1.882
		Front	1.809	0.067	1.876
		Rear	1.804	0.836	2.640
		Right	0.000	0.000	0.000
		Left	0.376	0.329	0.705
	LTE Band 66	Top	0.000	0.114	0.114
		Bottom	1.930	0.000	1.930
		Front	1.840	0.067	1.907
		Rear	1.780	0.836	2.616
		Right	0.000	0.000	0.000
		Left	0.461	0.329	0.790
	LTE Band 2	Top	0.000	0.114	0.114
		Bottom	1.788	0.000	1.788
		Front	1.550	0.067	1.617
		Rear	1.662	0.836	2.498
		Right	0.000	0.000	0.000
		Left	0.409	0.329	0.738
	LTE Band 7	Top	0.000	0.114	0.114
		Bottom	2.315	0.000	2.315
		Front	1.554	0.067	1.621
		Rear	1.765	0.836	2.601
		Right	0.000	0.000	0.000
		Left	0.436	0.329	0.765

**Table 12.7.8 Simultaneous Transmission Scenario : 3G/4G + 5.8 GHz W-LAN Ant.2 (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.239	0.239
		Bottom	2.148	0.000	2.148
		Front	1.885	0.237	2.122
		Rear	1.602	0.433	2.035
		Right	0.000	0.000	0.000
		Left	0.456	0.343	0.799
	WCDMA 1900	Top	0.000	0.239	0.239
		Bottom	1.882	0.000	1.882
		Front	1.809	0.237	2.046
		Rear	1.804	0.433	2.237
		Right	0.000	0.000	0.000
		Left	0.376	0.343	0.719
	LTE Band 66	Top	0.000	0.239	0.239
		Bottom	1.930	0.000	1.930
		Front	1.840	0.237	2.077
		Rear	1.780	0.433	2.213
		Right	0.000	0.000	0.000
		Left	0.461	0.343	0.804
	LTE Band 2	Top	0.000	0.239	0.239
		Bottom	1.788	0.000	1.788
		Front	1.550	0.237	1.787
		Rear	1.662	0.433	2.095
		Right	0.000	0.000	0.000
		Left	0.409	0.343	0.752
	LTE Band 7	Top	0.000	0.239	0.239
		Bottom	2.315	0.000	2.315
		Front	1.554	0.237	1.791
		Rear	1.765	0.433	2.198
		Right	0.000	0.000	0.000
		Left	0.436	0.343	0.779

**Table 12.7.9 Simultaneous Transmission Scenario : 3G/4G + 5.8 GHz W-LAN MIMO (Phablet at 0 mm)**

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.8G W-LANMIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	0.000	0.321	0.321
		Bottom	2.148	0.000	2.148
		Front	1.885	0.072	1.957
		Rear	1.602	0.930	2.532
		Right	0.000	0.000	0.000
		Left	0.456	0.551	1.007
	WCDMA 1900	Top	0.000	0.321	0.321
		Bottom	1.882	0.000	1.882
		Front	1.809	0.072	1.881
		Rear	1.804	0.930	2.734
		Right	0.000	0.000	0.000
		Left	0.376	0.551	0.927
	LTE Band 66	Top	0.000	0.321	0.321
		Bottom	1.930	0.000	1.930
		Front	1.840	0.072	1.912
		Rear	1.780	0.930	2.710
		Right	0.000	0.000	0.000
		Left	0.461	0.551	1.012
	LTE Band 2	Top	0.000	0.321	0.321
		Bottom	1.788	0.000	1.788
		Front	1.550	0.072	1.622
		Rear	1.662	0.930	2.592
		Right	0.000	0.000	0.000
		Left	0.409	0.551	0.960
	LTE Band 7	Top	0.000	0.321	0.321
		Bottom	2.315	0.000	2.315
		Front	1.554	0.072	1.626
		Rear	1.765	0.930	2.695
		Right	0.000	0.000	0.000
		Left	0.436	0.551	0.987

## 12.8 Simultaneous Transmission Conclusion

The above numerical summed SAR results for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

## 13. SAR MEASUREMENT VARIABILITY

### 13.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1. When the original highest measured SAR is  $\geq 0.80$  W/kg, the measurement was repeated once.
2. A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg (~10% from the 1-g SAR limit).
3. A third repeated measurement was performed only if the original, first or second repeated measurement was  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .
4. Repeated measurements are not required when the original highest measured SAR is  $< 0.80$  W/kg
5. The same procedures should be adapted for measurements according to extremity exposure limits by applying a factor of 2.5 for extremity exposure to the corresponding SAR thresholds.

**Table 13.1 Head SAR Measurement Variability Results**

Frequency		Mode	Service	# of Time Slots	Spacing [Side]	Measured SAR (1g)	1st Repeated SAR(1g)	Ratio	2nd Repeated SAR(1g)	Ratio	3rd Repeated SAR(1g)	Ratio
MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
2 462.0	11	802.11g (MIMO)	DSSS	-	Right Touch	0.808	0.796	1.02	-	-	-	-
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Body 1.6 W/kg (mW/g) averaged over 1 gram						

**Table 13.2 Hotspot SAR Measurement Variability Results**

Frequency		Mode	Service	# of Time Slots	Spacing [Side]	Measured SAR (1g)	1st Repeated SAR(1g)	Ratio	2nd Repeated SAR(1g)	Ratio	3rd Repeated SAR(1g)	Ratio
MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1 752.6	1513	WCDMA 1700	RMC	-	10 mm [Bottom]	0.864	0.830	1.04	-	-	-	-
1 852.4	9262	WCDMA 1900	RMC	-	10 mm [Bottom]	0.962	0.947	1.02	-	-	-	-
1 770.0	132572	LTE B66	-	-	10 mm [Bottom]	0.887	0.850	1.04	-	-	-	-
1 900.0	19100	LTE B2	-	-	10 mm [Bottom]	1.040	1.010	1.03	-	-	-	-
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Body 1.6 W/kg (mW/g) averaged over 1 gram						

**Table 13.3 Phablet SAR Measurement Variability Results**

Frequency		Mode	Service	# of Time Slots	Spacing [Side]	Measured SAR (10g)	1st Repeated SAR(10g)	Ratio	2nd Repeated SAR(10g)	Ratio	3rd Repeated SAR(10g)	Ratio
MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
2 510.0	20850	LTE B7	-	-	0 mm [Bottom]	2.190	2.180	1.00	-	-	-	-
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Phablet 4.0 W/kg (mW/g) averaged over 10 gram						

### 13.2 Measurement Uncertainty

The measured SAR was  $< 1.5$  W/kg for 1g and  $< 3.75$  W/kg for 10g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

# 14. EQUIPMENT LIST

Table 14.1.1 Test Equipment Calibration

Type	Manufacturer	Model	Cal.Date	Next.Cal.Date	S/N
SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
Robot	SPEAG	TX60L	N/A	N/A	F14/5VR2A1/A/01
Robot	SPEAG	TX90XL	N/A	N/A	F13/5P9GA1/A/01
Robot	SPEAG	TX90XL	N/A	N/A	F13/5RR2A1/A/01
Robot	SPEAG	TX60L	N/A	N/A	F15/50NHA1/A/01
Robot	SPEAG	TX60L	N/A	N/A	F14/5WV5D1/A/01
Robot Controller	SPEAG	CS8C	N/A	N/A	F14/5VR2A1/C/01
Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5P9GA1/C/01
Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5RR2A1/C/01
Robot Controller	SPEAG	CS8C	N/A	N/A	F15/50NHA1/C/01
Robot Controller	SPEAG	CS8C	N/A	N/A	F14/5WV5D1/C/01
Joystick	SPEAG	N/A	N/A	N/A	D21142605A
Joystick	SPEAG	N/A	N/A	N/A	S-12450905
Joystick	SPEAG	N/A	N/A	N/A	S-13200990
Joystick	SPEAG	N/A	N/A	N/A	D21142605A
Joystick	SPEAG	P21142605A	N/A	N/A	005695
Intel Core i7-4 770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
Intel Core i7-3 770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
Intel Core i7-3 770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
Intel Core i7-8 700K 3.70 GHz Windows 10 Pro	N/A	N/A	N/A	N/A	N/A
Intel Core i7-4 770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
Device Holder	SPEAG	SD000H01KA	N/A	N/A	N/A
Device Holder	SPEAG	SD000H01KA	N/A	N/A	N/A
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1220
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1782
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1783
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1785
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1786
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1895
Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1837
Data Acquisition Electronics	SPEAG	DAE4V1	2019-09-04	2020-09-04	1396
Data Acquisition Electronics	SPEAG	DAE4V1	2019-07-18	2020-07-18	1335
Data Acquisition Electronics	SPEAG	DAE3V1	2019-11-19	2020-11-19	520
Data Acquisition Electronics	SPEAG	DAE4V1	2020-03-20	2021-03-20	1394
Data Acquisition Electronics	SPEAG	DAE4V1	2019-09-20	2020-09-20	1453
Dosimetric E-Field Probe	SPEAG	EX3DV4	2020-04-27	2021-04-27	3916
Dosimetric E-Field Probe	SPEAG	E3SDV3	2020-03-25	2021-03-25	3328
Dosimetric E-Field Probe	SPEAG	EX3DV4	2019-09-27	2020-09-27	3933
Dosimetric E-Field Probe	SPEAG	E3SDV3	2019-08-27	2020-08-27	3327
Dosimetric E-Field Probe	SPEAG	EX3DV4	2019-11-27	2020-11-27	7337
Dosimetric E-Field Probe	SPEAG	EX3DV4	2020-05-27	2021-05-27	3866
750MHz SAR Dipole	SPEAG	D750V3	2020-01-22	2022-01-22	1049
835MHz SAR Dipole	SPEAG	D835V2	2019-07-18	2020-07-18	464
1800MHz SAR Dipole	SPEAG	D1800V2	2020-03-20	2022-03-20	2d202
1900MHz SAR Dipole	SPEAG	D1900V2	2019-07-17	2020-07-17	50d29
2450MHz SAR Dipole	SPEAG	D2450V2	2019-09-19	2021-09-19	726
2600MHz SAR Dipole	SPEAG	D2600V2	2020-02-20	2022-02-20	1103
5GHz SAR Dipole	SPEAG	D5GHZV2	2020-02-27	2022-02-27	1212
Network Analyzer	Agilent	E5071C	2019-06-24	2020-06-24	MY46106970
			2020-06-24	2021-06-24	
Signal Generator	Agilent	E4438C	2019-06-24	2020-06-24	US41461520
			2020-06-24	2021-06-24	
Amplifier	RFBAY,Inc	MPA-40-40	2019-12-16	2020-12-16	21151801
Amplifier	EMPOWER	BBS3Q7ELU	2019-06-24	2020-06-24	1020
			2020-06-24	2021-06-24	
High Power RF Amplifier	EMPOWER	BBS3Q8CCJ	2019-06-24	2020-06-24	1005
			2020-06-24	2021-06-24	
Power Meter	HP	EPM-442A	2019-12-16	2020-12-16	GB37170267
Power Meter	HP	EPM-442A	2019-12-16	2020-12-16	GB37170413
Power Sensor	HP	8481A	2019-12-16	2020-12-16	US37294267
Power Sensor	HP	8481A	2019-12-16	2020-12-16	3318A96566
Power Sensor	HP	8481A	2019-12-16	2020-12-16	2702A65976
Dual Directional Coupler	Agilent	778D-012	2019-12-16	2020-12-16	50228
Directional Coupler	HP	772D	2019-06-24	2020-06-24	2889A01064
			2020-06-24	2021-06-24	
Low Pass Filter 1GHz	Wainwright Instruments	WLK6-1000-1400-9000-60SS	2019-06-24	2020-06-24	165
			2020-06-24	2021-06-24	
Low Pass Filter 1.5GHz	Micro LAB	LA-15N	2019-06-24	2020-06-24	2
			2020-06-24	2021-06-24	
Low Pass Filter 3.0GHz	Micro LAB	LA-30N	2019-06-24	2020-06-24	2
			2020-06-24	2021-06-24	
Low Pass Filter 6.0GHz	Micro LAB	LA-60N	2019-12-16	2020-12-16	03942
Attenuators(10 dB)	WEINSCHTEL	23-10-34	2019-12-16	2020-12-16	BP4387
Attenuators	Cernexwave	CFADC2603U5	2019-08-27	2020-08-27	C11711
			2020-06-24	2021-06-24	
Dielectric Probe kit	SPEAG	DAK-3.5	2019-11-19	2020-11-19	1092
8960 Series 10 Wireless Comms. Test Set	Agilent	E5515C	2019-06-28	2020-06-28	GB41321164
			2020-06-24	2021-06-24	
Wideband Radio Communication Tester	Rohde Schwarz	CMW500	2019-12-16	2020-12-16	101414
Wideband Radio Communication Tester	Rohde Schwarz	CMW500	2020-04-29	2021-04-29	147898
Radio Communication Analyzer	Agilent	E5515E	2019-06-28	2020-06-28	MY52113012
			2020-06-24	2021-06-24	
Radio Communication Analyzer	KEYSIGHT	E7515A	2019-07-05	2020-07-05	MY55210201
Radio Communication Analyzer	KEYSIGHT	E7515A	2019-12-16	2020-12-16	MY57270113
Power Splitter	Anritsu	K241B	2019-12-16	2020-12-16	1301183
Bluetooth Tester	TESCOM	TC-3000C	2019-06-24	2020-06-24	3000C000563
			2020-06-24	2021-06-24	

NOTE(S):  
 1. The E-field probe was calibrated by SPEAG, by temperature measurement procedure. Dipole Verification measurement is performed by DT&C before each test. The brain and muscle simulating material are calibrated by DT&C using the dielectric probe system and network analyzer to determine the conductivity and permittivity (dielectric constant) of the brain and muscle-equivalent material. Each equipment item was used solely within its respective calibration period.  
 2. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

## 15. MEASUREMENT UNCERTAINTIES

### 750 MHz Head (SN: 3327)

Error Description	Uncertainty value $\pm\%$		Probability Distribution	Divisor	(Ci)	(Ci)	Standard	Standard	vi 2 or Veff
					1 g	10 g	1 g ( $\pm\%$ )	10 g ( $\pm\%$ )	
<b>Measurement System</b>									
Probe calibration	6.0		Normal	1	1	1	6.0	6.0	$\infty$
Isotropy	1.3		Normal	1	1	1	1.3	1.3	$\infty$
Boundary Effects	2.0		Rectangular	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
Probe Linearity	0.3		Normal	1	1	1	0.3	0.3	$\infty$
Probe modulation response	0.0		Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
Detection limits	0.25		Rectangular	$\sqrt{3}$	1	1	0.14	0.14	$\infty$
Readout Electronics	0.3		Normal	1	1	1	0.3	0.3	$\infty$
Response time	0.8		Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Integration time	2.6		Rectangular	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
RF Ambient Conditions – Noise	3.0		Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
RF Ambient Conditions – Reflections	3.0		Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
Probe Positioner	0.8		Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Probe Positioning	6.7		Rectangular	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
Algorithms for Max. SAR Eval.	4.0		Rectangular	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test Sample Related</b>									
Device Positioning	2.9		Normal	1	1	1	2.9	2.9	145
Device Holder	3.6		Normal	1	1	1	3.6	3.6	5
Power Drift	5.0		Rectangular	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
SAR Scaling	0.0		Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
<b>Physical Parameters</b>									
Phantom Shell	7.6		Rectangular	$\sqrt{3}$	1	1	4.4	4.4	$\infty$
SAR correction	0.0		Normal	1	1	0.84	0.0	0.0	$\infty$
Liquid conductivity (Target)	5.0		Rectangular	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
Liquid conductivity (Meas.)	4.1		Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0		Rectangular	$\sqrt{3}$	0.60	0.49	1.7	1.4	$\infty$
Liquid permittivity (Meas.)	3.9		Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	2.0		Rectangular	$\sqrt{3}$	0.78	0.71	0.9	0.8	$\infty$
Temp. unc. - Permittivity	2.0		Rectangular	$\sqrt{3}$	0.23	0.26	0.3	0.3	$\infty$
<b>Combined Standard Uncertainty</b>							<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>							<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

$$= 24\% \text{ (The confidence level is about 95\% } k=2)$$

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

$$= 22\% \text{ (The confidence level is about 95\% } k=2)$$

The above measurement uncertainties are according to IEEE Std 1528

**750 MHz Body (SN: 3327)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.8	Normal	1	0.78	0.71	3.0	2.7	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**835 MHz Head (SN: 7337)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.9	Normal	1	0.78	0.71	3.0	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.8	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**835 MHz Body (SN: 7337)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.9	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

**1 800 MHz Head (SN: 3328)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	1.8	Rectangular	√3	0.23	0.26	0.2	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11.</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**1 800 MHz Body (SN: 3328)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.9	Normal	1	0.78	0.71	3.0	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.0	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	1.8	Rectangular	√3	0.23	0.26	0.2	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**1 900 MHz Head (SN: 3933)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.7	Normal	1	0.78	0.71	2.9	2.6	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.8	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**1 900 MHz Body (SN: 3933)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.1	Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.8	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**2 450 MHz Head (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.1	Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.2	Normal	1	0.23	0.26	1.0	1.1	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**2 450 MHz Body (SN: 3866)**

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g ( $\pm\%$ )	Standard 10 g ( $\pm\%$ )	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	$\infty$
Isotropy	1.3	Normal	1	1	1	1.3	1.3	$\infty$
Boundary Effects	2.0	Rectangular	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Probe modulation response	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	1	0.14	0.14	$\infty$
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Response time	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Integration time	2.6	Rectangular	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
RF Ambient Conditions – Noise	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
RF Ambient Conditions – Reflections	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
Probe Positioner	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Probe Positioning	6.7	Rectangular	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
Algorithms for Max. SAR Eval.	4.0	Rectangular	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
SAR Scaling	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	$\sqrt{3}$	1	1	4.4	4.4	$\infty$
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	$\infty$
Liquid conductivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
Liquid conductivity (Meas.)	3.9	Normal	1	0.78	0.71	3.0	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.60	0.49	1.7	1.4	$\infty$
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	1.8	Rectangular	$\sqrt{3}$	0.78	0.71	0.8	0.7	$\infty$
Temp. unc. - Permittivity	1.8	Rectangular	$\sqrt{3}$	0.23	0.26	0.2	0.3	$\infty$
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**2 600 MHz Head (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.9	Normal	1	0.78	0.71	3.0	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.8	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**2 600 MHz Body (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.2	Normal	1	0.23	0.26	1.0	1.1	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12</b>	<b>11</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>22</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 11\%$$

= 22 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 200 MHz Body (SN: 3916)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.1	Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.9	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 300 MHz Head (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 300 MHz Body (SN: 3916)**

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g ( $\pm\%$ )	Standard 10 g ( $\pm\%$ )	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	$\infty$
Isotropy	1.3	Normal	1	1	1	1.3	1.3	$\infty$
Boundary Effects	2.0	Rectangular	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Probe modulation response	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	1	0.14	0.14	$\infty$
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Response time	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Integration time	2.6	Rectangular	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
RF Ambient Conditions – Noise	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
RF Ambient Conditions – Reflections	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
Probe Positioner	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Probe Positioning	6.7	Rectangular	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
Algorithms for Max. SAR Eval.	4.0	Rectangular	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
SAR Scaling	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	$\sqrt{3}$	1	1	4.4	4.4	$\infty$
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	$\infty$
Liquid conductivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
Liquid conductivity (Meas.)	3.8	Normal	1	0.78	0.71	3.0	2.7	10
Liquid permittivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.60	0.49	1.7	1.4	$\infty$
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	2.0	Rectangular	$\sqrt{3}$	0.78	0.71	0.9	0.8	$\infty$
Temp. unc. - Permittivity	1.9	Rectangular	$\sqrt{3}$	0.23	0.26	0.3	0.3	$\infty$
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k=2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k=2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 500 MHz Head (SN: 3866)**

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g ( $\pm\%$ )	Standard 10 g ( $\pm\%$ )	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	$\infty$
Isotropy	1.3	Normal	1	1	1	1.3	1.3	$\infty$
Boundary Effects	2.0	Rectangular	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Probe modulation response	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	1	0.14	0.14	$\infty$
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	$\infty$
Response time	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Integration time	2.6	Rectangular	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
RF Ambient Conditions – Noise	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
RF Ambient Conditions – Reflections	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
Probe Positioner	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	$\infty$
Probe Positioning	6.7	Rectangular	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
Algorithms for Max. SAR Eval.	4.0	Rectangular	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
SAR Scaling	0.0	Rectangular	$\sqrt{3}$	1	1	0.0	0.0	$\infty$
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	$\sqrt{3}$	1	1	4.4	4.4	$\infty$
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	$\infty$
Liquid conductivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
Liquid conductivity (Meas.)	4.1	Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0	Rectangular	$\sqrt{3}$	0.60	0.49	1.7	1.4	$\infty$
Liquid permittivity (Meas.)	4.2	Normal	1	0.23	0.26	1.0	1.1	10
Temp. unc. - Conductivity	1.8	Rectangular	$\sqrt{3}$	0.78	0.71	0.8	0.7	$\infty$
Temp. unc. - Permittivity	1.9	Rectangular	$\sqrt{3}$	0.23	0.26	0.3	0.3	$\infty$
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k=2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k=2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 500 MHz Body (SN: 3916)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.8	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 600 MHz Head (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.8	Normal	1	0.78	0.71	3.0	2.7	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.0	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	1.8	Rectangular	√3	0.78	0.71	0.8	0.7	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 600 MHz Body (SN: 3916)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.0	Normal	1	0.78	0.71	3.1	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.2	Normal	1	0.23	0.26	1.0	1.1	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 800 MHz Head (SN: 3866)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.8	Normal	1	0.78	0.71	3.0	2.7	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.1	Normal	1	0.23	0.26	0.9	1.1	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	1.8	Rectangular	√3	0.23	0.26	0.2	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

**5 800 MHz Body (SN: 3916)**

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
<b>Measurement System</b>								
Probe calibration	6.55	Normal	1	1	1	6.6	6.6	∞
Isotropy	1.3	Normal	1	1	1	1.3	1.3	∞
Boundary Effects	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Probe Linearity	0.3	Normal	1	1	1	0.3	0.3	∞
Probe modulation response	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response time	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.9	3.9	∞
Algorithms for Max. SAR Eval.	4.0	Rectangular	√3	1	1	2.3	2.3	∞
<b>Test Sample Related</b>								
Device Positioning	2.9	Normal	1	1	1	2.9	2.9	145
Device Holder	3.6	Normal	1	1	1	3.6	3.6	5
Power Drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
SAR Scaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
<b>Physical Parameters</b>								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
SAR correction	0.0	Normal	1	1	0.84	0.0	0.0	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	4.1	Normal	1	0.78	0.71	3.2	2.9	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.0	Normal	1	0.23	0.26	0.9	1.0	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.9	0.8	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.3	0.3	∞
<b>Combined Standard Uncertainty</b>						<b>12.</b>	<b>12</b>	<b>330</b>
<b>Expanded Uncertainty (k=2)</b>						<b>24</b>	<b>24</b>	

$$U(1\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

$$U(10\text{ g}) = k \cdot u_c$$

$$= 2 \cdot 12\%$$

= 24 % (The confidence level is about 95 %  $k = 2$ )

The above measurement uncertainties are according to IEEE Std 1528

## 16. CONCLUSION

---

### Measurement Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC. These measurements are taken to simulate the RF effects exposure under the worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The tested device complies with the requirements in respect to all parameters subject to the test. The test results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are every complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role impossible biological effect are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease).

Because innumerable factors may interact to determine the specific biological outcome of an exposure to electromagnetic fields, any protection guide shall consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

## 17. REFERENCES

---

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radiofrequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.
- [3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radiofrequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.
- [4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.
- [5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2003, Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices.
- [6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. -124.
- [9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [10] Schmid& Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct.1996, pp. 1865-1873.
- [12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bio electromagnetics, Canada: 1987, pp. 29-36.
- [14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [15] W. Gander, Computer mathematick, Birkhaeuser, Basel, 1992.
- [16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.
- [17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.
- [18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.
- [19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.

- [20] IEC 62209-1, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3 GHz), Feb. 2005.
- [21] Industry Canada RSS-102 Radio Frequency Exposure Compliance of Radio communication Apparatus (All Frequency Bands) Issue 5, March 2015.
- [22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2009
- [23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225,D01-D07
- [24] SAR Measurement procedures for IEEE 802.11a/b/g KDB Publication 248227 D01v02
- [25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474D02-D04
- [26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04
- [27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02
- [28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02
- [29] 615223 D01 802 16e WI-Max SAR Guidance v01, Nov. 13, 2009
- [30] Anexo à Resolução No. 533, de 10 de September de 2009.
- [31] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body(frequency range of 30 MHz to 6 GHz), Mar. 2010.

## APPENDIX A. – Probe Calibration Data

**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
 Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

 Client **DT&C (Dymstec)**

 Certificate No: **EX3-3916\_Apr20**

## CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3916
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes
Calibration date:	April 27, 2020
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.	
All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.	
Calibration Equipment used (M&TE critical for calibration)	

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: April 27, 2020
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

**Calibration Laboratory of**  
 Schmid & Partner  
 Engineering AG  
 Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

#### Glossary:

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

#### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

#### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* frequency\_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

EX3DV4 – SN:3916

April 27, 2020

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3916

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	0.55	0.48	0.52	± 10.1 %
DCP (mV) <sup>B</sup>	105.1	102.4	105.2	

### Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc <sup>E</sup> (k=2)
0	CW	X	0.0	0.0	1.0	0.00	173.8	± 2.7 %	± 4.7 %
		Y	0.0	0.0	1.0		167.8		
		Z	0.0	0.0	1.0		169.5		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

EX3DV4- SN:3916

April 27, 2020

**DASY/EASY - Parameters of Probe: EX3DV4 - SN:3916****Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	89.4
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

EX3DV4– SN:3916

April 27, 2020

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3916

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
2450	39.2	1.80	7.75	7.75	7.75	0.36	0.90	± 12.0 %
2600	39.0	1.96	7.41	7.41	7.41	0.38	0.90	± 12.0 %
5200	36.0	4.66	5.09	5.09	5.09	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.95	4.95	4.95	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.80	4.80	4.80	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.70	4.70	4.70	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.74	4.74	4.74	0.40	1.80	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

EX3DV4– SN:3916

April 27, 2020

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3916

### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
2450	52.7	1.95	7.96	7.96	7.96	0.35	0.85	± 12.0 %
2600	52.5	2.16	7.57	7.57	7.57	0.35	0.95	± 12.0 %
5200	49.0	5.30	4.51	4.51	4.51	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.37	4.37	4.37	0.50	1.90	± 13.1 %
5500	48.6	5.65	4.14	4.14	4.14	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.00	4.00	4.00	0.50	1.90	± 13.1 %
5800	48.2	6.00	4.18	4.18	4.18	0.50	1.90	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

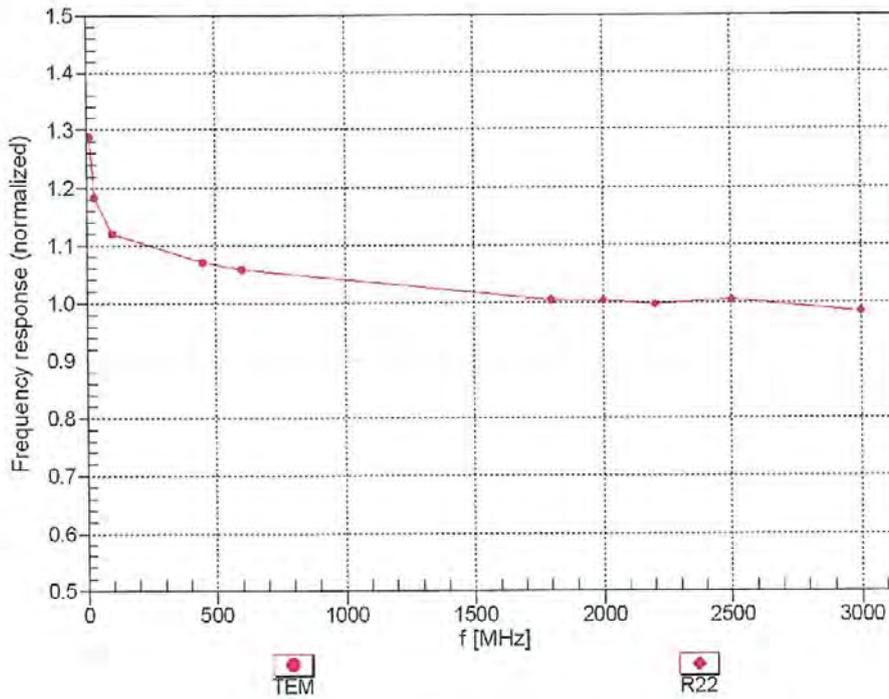
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

EX3DV4- SN:3916

April 27, 2020

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



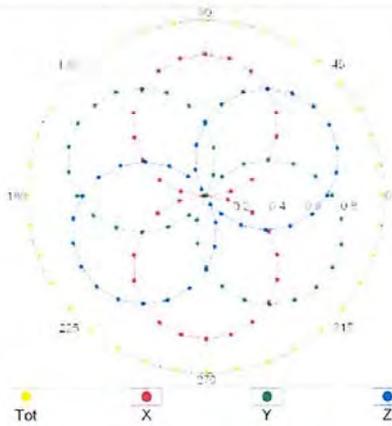
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

EX3DV4- SN:3916

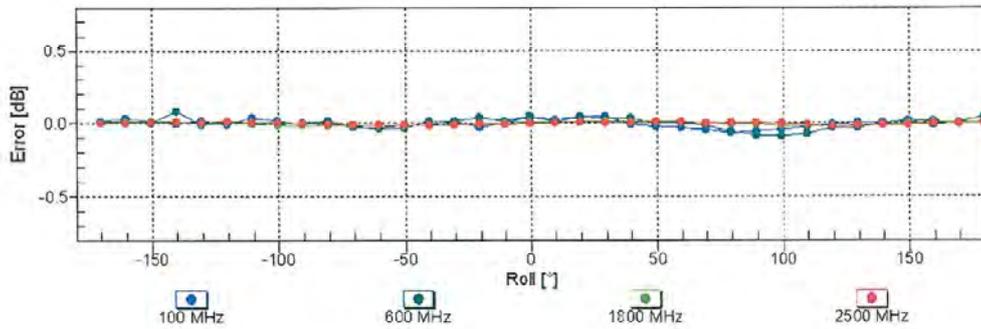
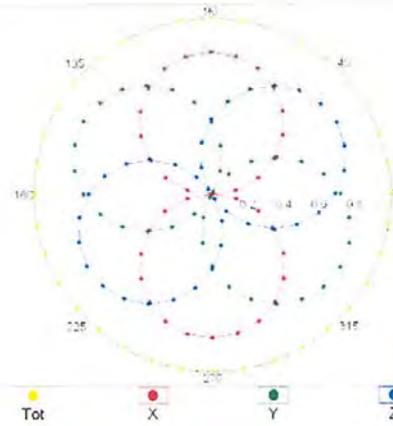
April 27, 2020

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM



f=1800 MHz,R22

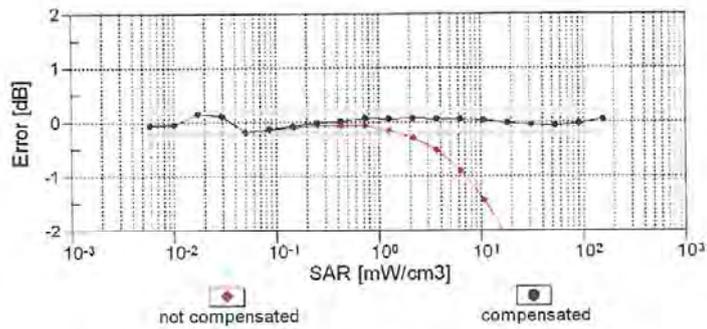
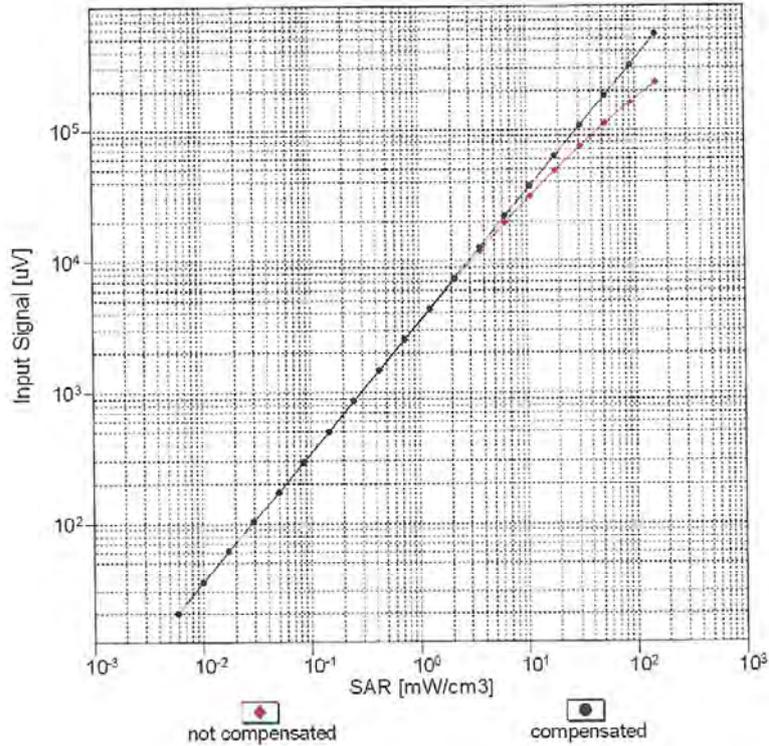


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

EX3DV4-SN:3916

April 27, 2020

### Dynamic Range $f(SAR_{head})$ (TEM cell, $f_{eval} = 1900$ MHz)



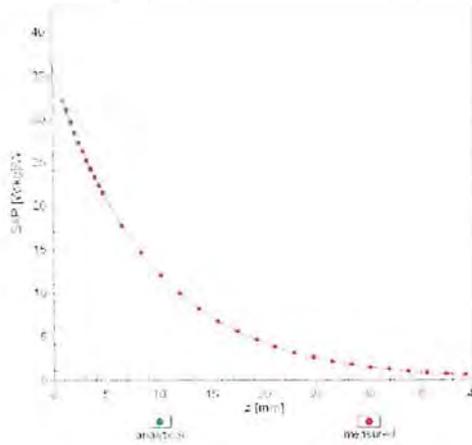
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

EX3DV4- SN:3916

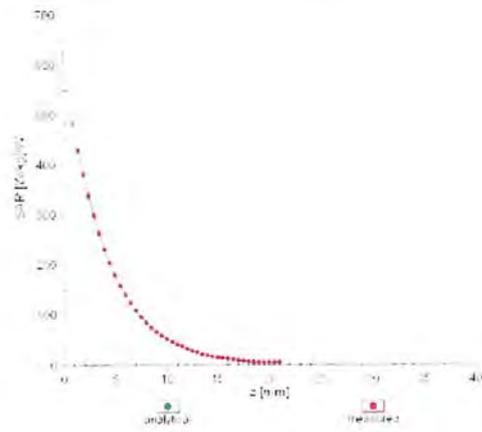
April 27, 2020

### Conversion Factor Assessment

f = 2450 MHz.WGLS R22 (H\_convF)

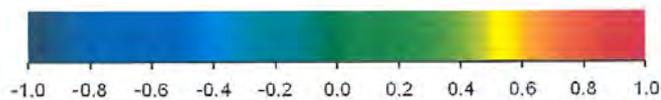
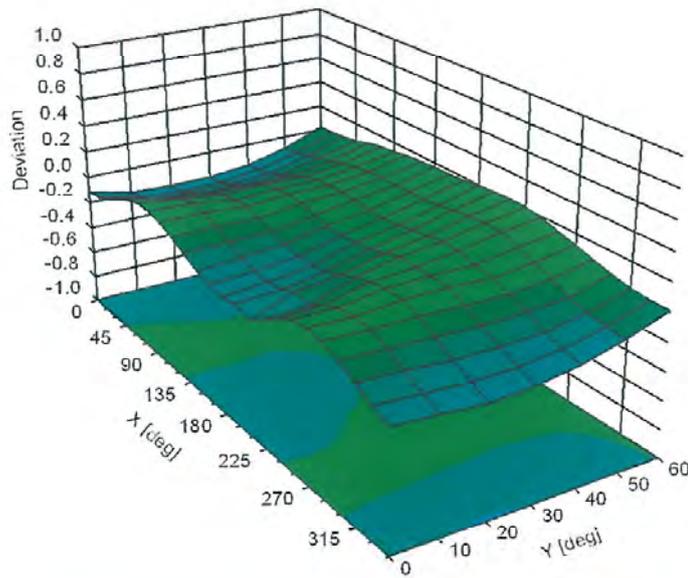


f = 5200 MHz.WGLS R58 (H\_convF)-SCS



### Deviation from Isotropy in Liquid

Error ( $\phi, \theta$ ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  (k=2)

**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
 Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client: DT&amp;C (Dymstec)

Certificate No: ES3-3328\_Mar20

## CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3328
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes
Calibration date:	March 25, 2020
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.	
All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.	
Calibration Equipment used (M&TE critical for calibration)	

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
D4E4	SN: 660	27-Dec-19 (No. D4E4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature 
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature 
			Issued: March 27, 2020
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: SCS 0108

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

### Glossary:

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>; A, B, C, D** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

ES3DV3 – SN:3328

March 25, 2020

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3328

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	1.03	1.05	1.08	± 10.1 %
DCP (mV) <sup>B</sup>	106.5	103.5	104.9	

### Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc <sup>E</sup> (k=2)
0	CW	X	0.0	0.0	1.0	0.00	195.5	± 3.5 %	± 4.7 %
		Y	0.0	0.0	1.0		194.7		
		Z	0.0	0.0	1.0		193.7		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

ES3DV3-- SN:3328

March 25, 2020

**DASY/EASY - Parameters of Probe: ES3DV3 - SN:3328****Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	-23.3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

ES3DV3- SN:3328

March 25, 2020

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3328

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	6.34	6.34	6.34	0.80	1.30	± 12.0 %
835	41.5	0.90	6.19	6.19	6.19	0.80	1.23	± 12.0 %
900	41.5	0.97	6.01	6.01	6.01	0.80	1.24	± 12.0 %
1750	40.1	1.37	5.34	5.34	5.34	0.80	1.24	± 12.0 %
1900	40.0	1.40	5.09	5.09	5.09	0.80	1.30	± 12.0 %
2450	39.2	1.80	4.70	4.70	4.70	0.78	1.33	± 12.0 %
2600	39.0	1.96	4.57	4.57	4.57	0.80	1.28	± 12.0 %
3500	37.9	2.91	4.30	4.30	4.30	0.65	1.60	± 13.1 %
3700	37.7	3.12	4.23	4.23	4.23	0.70	1.60	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

ES3DV3- SN:3328

March 25, 2020

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3328

### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	6.18	6.18	6.18	0.51	1.47	± 12.0 %
835	55.2	0.97	6.11	6.11	6.11	0.80	1.19	± 12.0 %
900	55.0	1.05	6.06	6.06	6.06	0.48	1.48	± 12.0 %
1750	53.4	1.49	4.98	4.98	4.98	0.71	1.31	± 12.0 %
1900	53.3	1.52	4.74	4.74	4.74	0.62	1.55	± 12.0 %
2450	52.7	1.95	4.44	4.44	4.44	0.75	1.30	± 12.0 %
2600	52.5	2.16	4.25	4.25	4.25	0.80	1.30	± 12.0 %
3500	51.3	3.31	3.70	3.70	3.70	0.85	1.60	± 13.1 %
3700	51.0	3.55	3.57	3.57	3.57	0.70	1.70	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 126, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

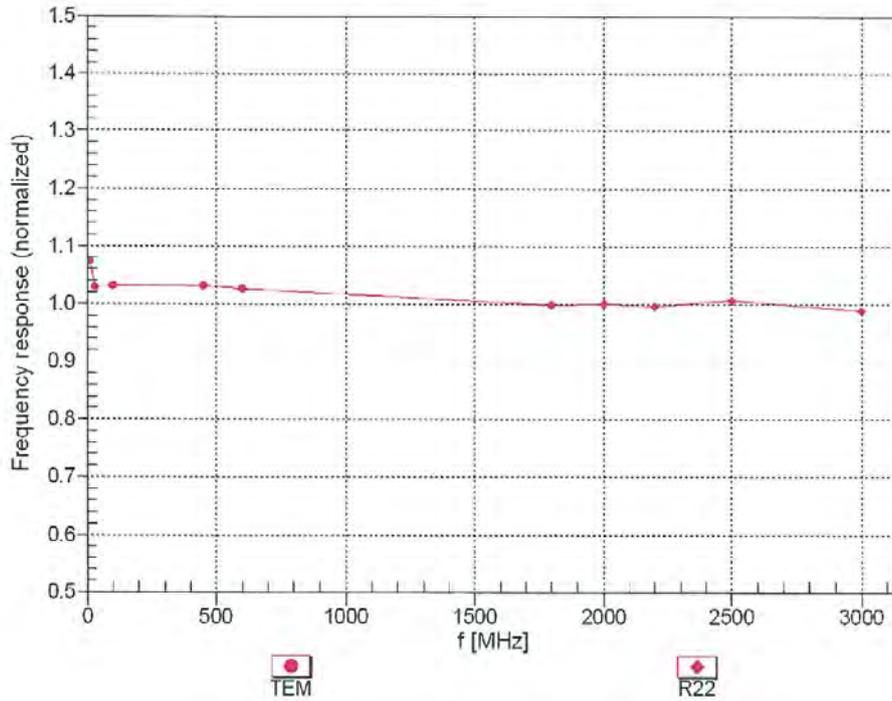
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

ES3DV3- SN:3328

March 25, 2020

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

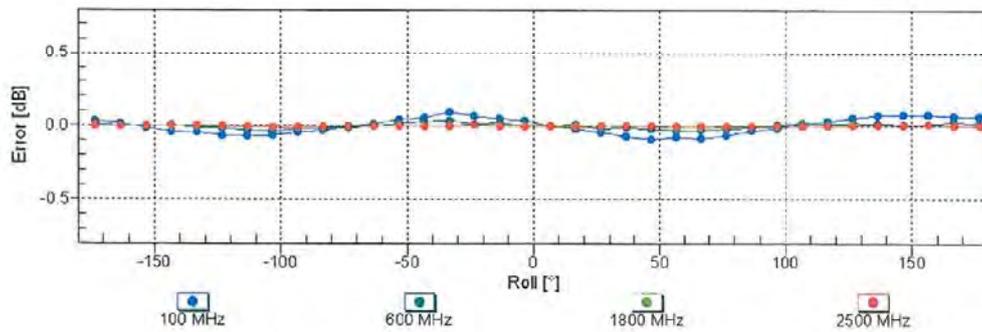
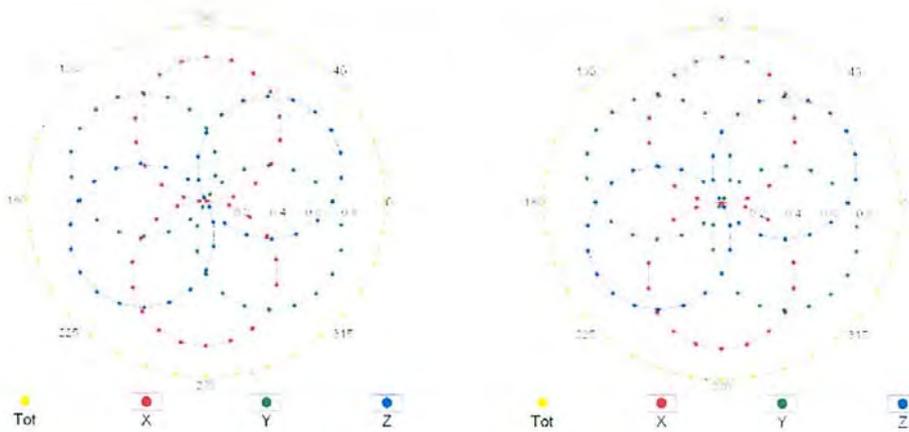
ES3DV3-SN:3328

March 25, 2020

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM

f=1800 MHz,R22

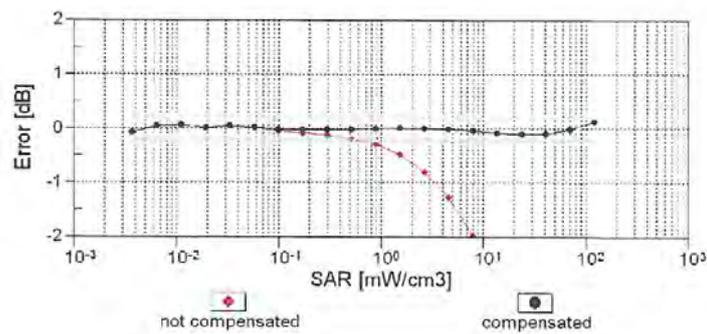
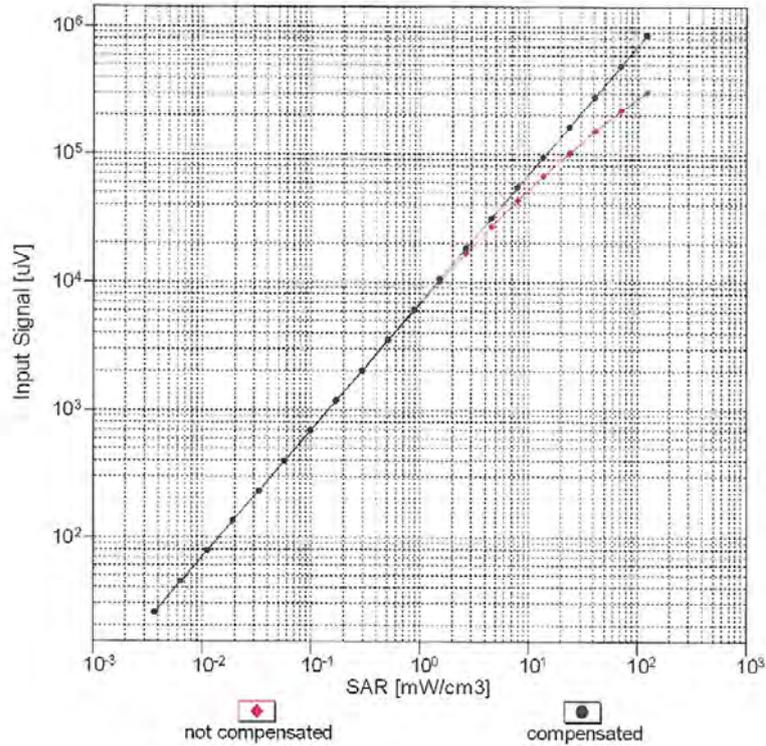


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

ES3DV3- SN:3328

March 25, 2020

### Dynamic Range $f(SAR_{head})$ (TEM cell , $f_{eval}= 1900$ MHz)

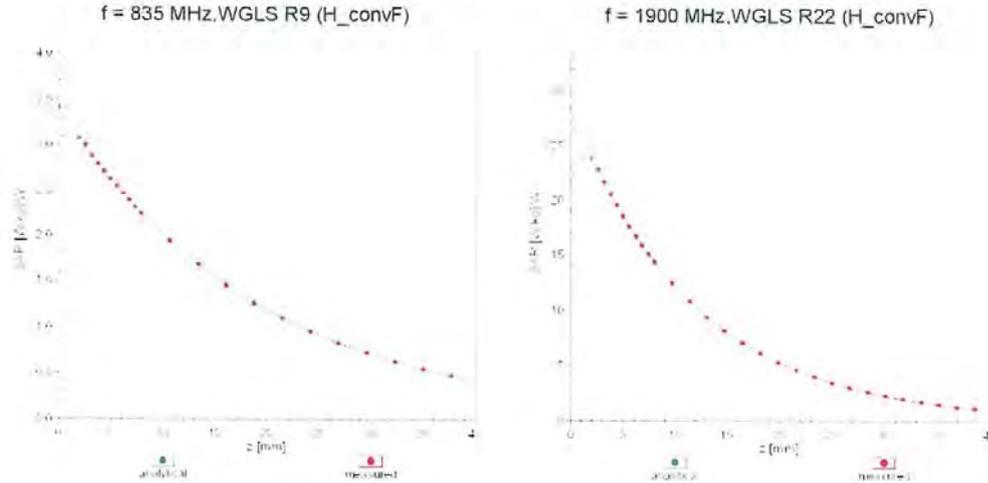


Uncertainty of Linearity Assessment:  $\pm 0.6\%$  (k=2)

ES3DV3- SN:3328

March 25, 2020

### Conversion Factor Assessment



### Deviation from Isotropy in Liquid Error ( $\phi, \vartheta$ ), f = 900 MHz

