

TEST REPORT



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1. Report No : DRRFCC2005-0043
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-G910HMMW
FCC ID : ZNFG910HMMW
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 : 2020.04.23 ~ 2020.05.11
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		Reviewed by	
	Name : BumJun Park		Name : HakMin Kim	

2020 . 05 . 29 .

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

Test Report Version

Test Report No.	Date	Description	Tested by	Reviewed by
DRRFCC2005-0043	May. 29, 2020	Initial issue	BumJun Park	HakMin Kim

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1. DESCRIPTION OF DEVICE

1.1 General Information

EUT type	Mobile Phone				
FCC ID	ZNFG910HMW				
Equipment model name	LM-G910HMW				
Equipment add model name	LMG910HMW, G910HMW, LM-G910HM, LMG910HM, G910HM • 6 models are same mechanical, electrical and functional except follows. - LM-G910HM, LMG910HM, G910HM : No differences - LM-G910HMW, LMG910HMW, G910HMW: Dual SIM support(1 RF Path)				
Equipment serial no.	Identical prototype				
Mode(s) of Operation	GSM 850, GSM 1900, WCDMA 850, WCDMA 1700, WCDMA 1900, LTE Band 12, 17, 13, 26, 5, 66, 4, 25, 2, 7, 41, 2.4 G W-LAN (802.11b/g/n-HT20/ac-VHT20), 5 G W-LAN (802.11a/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80), Bluetooth				
TX Frequency Range	Band	Mode	Operating Modes	Bandwidth	Frequency
	GSM 850	GSM/GPRS/EDGE	Voice/Data	-	824.2 ~ 848.8 MHz
	GSM 1900	GSM/GPRS/EDGE	Voice/Data	-	1850.2 ~ 1909.8 MHz
	WCDMA 850	WCDMA	Voice/Data	-	826.4 ~ 846.6 MHz
	WCDMA 1700	WCDMA	Voice/Data	-	1712.4 ~ 1752.6 MHz
	WCDMA 1900	WCDMA	Voice/Data	-	1852.4 ~ 1907.6 MHz
	LTE Band 12	LTE	Voice/Data	1.4/3/5/10MHz	699.7 ~ 715.3 MHz
	LTE Band 17	LTE	Voice/Data	5/10MHz	706.5 ~ 713.5 MHz
	LTE Band 13	LTE	Voice/Data	5/10MHz	779.5 ~ 784.5 MHz
	LTE Band 26	LTE	Voice/Data	1.4/3/5/10/15MHz	814.7 ~ 848.3 MHz
	LTE Band 5	LTE	Voice/Data	1.4/3/5/10MHz	824.7 ~ 848.3 MHz
	LTE Band 66	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1710.7 ~ 1779.3 MHz
	LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1710.7 ~ 1754.3 MHz
	LTE Band 25	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1850.7 ~ 1914.3 MHz
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1850.7 ~ 1909.3 MHz
	LTE Band 7	LTE	Voice/Data	5/10/15/20MHz	2502.5 ~ 2567.5 MHz
	LTE Band 41	LTE	Voice/Data	5/10/15/20MHz	2498.5 ~ 2687.5 MHz
	2.4 GHz W-LAN	802.11b/g/n/ac	Voice/Data	HT20/VHT20	2412 ~ 2472 MHz
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5180 ~ 5240 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5190 ~ 5230 MHz
	5.3 GHz W-LAN	802.11ac	Voice/Data	VHT80	5210 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5260 ~ 5320 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5270 ~ 5310 MHz
	5.6 GHz W-LAN	802.11ac	Voice/Data	VHT80	5290 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5500 ~ 5720 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5510 ~ 5710 MHz
	5.8 GHz W-LAN	802.11ac	Voice/Data	VHT80	5530 ~ 5690 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5745 ~ 5825 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5755 ~ 5795 MHz
		802.11ac	Voice/Data	VHT80	5775 MHz
		Bluetooth	-	Data	2402 ~ 2480 MHz
RX Frequency Range	GSM 850	GSM/GPRS/EDGE	Voice/Data	-	869.2 ~ 893.8 MHz
	GSM 1900	GSM/GPRS/EDGE	Voice/Data	-	1930.2 ~ 1989.8 MHz
	WCDMA 850	WCDMA	Voice/Data	-	871.4 ~ 891.6 MHz
	WCDMA 1700	WCDMA	Voice/Data	-	2112.4 ~ 2152.6 MHz
	WCDMA 1900	WCDMA	Voice/Data	-	1932.4 ~ 1987.6 MHz
	LTE Band 12	LTE	Voice/Data	1.4/3/5/10MHz	729.7 ~ 745.3 MHz
	LTE Band 17	LTE	Voice/Data	5/10MHz	736.5 ~ 743.5 MHz
	LTE Band 13	LTE	Voice/Data	5/10MHz	748.5 ~ 753.5 MHz
	LTE Band 26	LTE	Voice/Data	1.4/3/5/10/15MHz	859.7 ~ 893.3 MHz
	LTE Band 5	LTE	Voice/Data	1.4/3/5/10MHz	869.7 ~ 893.3 MHz
	LTE Band 66	LTE	Voice/Data	1.4/3/5/10/15/20MHz	2110.7 ~ 2179.3 MHz
	LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	2110.7 ~ 2154.3 MHz
	LTE Band 25	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1930.7 ~ 1994.3 MHz
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1930.7 ~ 1989.3 MHz
	LTE Band 7	LTE	Voice/Data	5/10/15/20MHz	2622.5 ~ 2687.5 MHz
	LTE Band 41	LTE	Voice/Data	5/10/15/20MHz	2498.5 ~ 2687.5 MHz
	2.4 GHz W-LAN	802.11b/g/n/ac	Voice/Data	HT20/VHT20	2412 ~ 2472 MHz
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5180 ~ 5240 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5190 ~ 5230 MHz
	5.3 GHz W-LAN	802.11ac	Voice/Data	VHT80	5210 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5260 ~ 5320 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5270 ~ 5310 MHz
	5.6 GHz W-LAN	802.11ac	Voice/Data	VHT80	5290 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5500 ~ 5720 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5510 ~ 5710 MHz
	5.8 GHz W-LAN	802.11ac	Voice/Data	VHT80	5530 ~ 5690 MHz
		802.11a/n/ac	Voice/Data	HT20/VHT20	5745 ~ 5825 MHz
		802.11n/ac	Voice/Data	HT40/VHT40	5755 ~ 5795 MHz
		802.11ac	Voice/Data	VHT80	5775 MHz
		Bluetooth	-	Data	2402 ~ 2480 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	0.12	0.40	-	-
PCE	GPRS 850	0.16	0.49	0.49	-
PCE	GSM 1900	< 0.1	0.26	-	-
PCE	GPRS 1900	< 0.1	0.30	0.50	-
PCE	WCDMA 850	0.17	0.62	0.62	-
PCE	WCDMA 1700	0.11	0.66	1.13	2.82
PCE	WCDMA 1900	< 0.1	0.58	1.07	2.87
PCE	LTE Band 12	0.15	0.46	0.46	-
PCE	LTE Band 17	-	-	-	-
PCE	LTE Band 13	0.20	0.56	0.56	-
PCE	LTE Band 26	0.25	0.78	0.78	-
PCE	LTE Band 5	-	-	-	-
PCE	LTE Band 66	0.12	0.62	0.83	1.99
PCE	LTE Band 4	-	-	-	-
PCE	LTE Band 25	< 0.1	0.51	0.89	1.96
PCE	LTE Band 2	-	-	-	-
PCE	LTE Band 7	< 0.1	0.47	0.49	1.77
PCE	LTE Band 41	< 0.1	0.32	0.32	-
DTS(SISO)	2.4 GHz W-LAN	0.70	0.16	0.25	-
DTS(MIMO)	2.4 GHz W-LAN	0.72	0.21	0.29	-
U-NII-1(SISO)	5.2 GHz W-LAN	-	-	0.31	-
U-NII-1(MIMO)	5.2 GHz W-LAN	-	-	0.45	-
U-NII-2A(SISO)	5.3 GHz W-LAN	0.36	0.39	-	0.95
U-NII-2A(MIMO)	5.3 GHz W-LAN	0.52	0.59	-	1.60
U-NII-2C(SISO)	5.6 GHz W-LAN	0.16	0.15	-	0.48
U-NII-2C(MIMO)	5.6 GHz W-LAN	0.30	0.24	-	0.66
U-NII-3(SISO)	5.8 GHz W-LAN	< 0.1	0.12	0.13	0.41
U-NII-3(MIMO)	5.8 GHz W-LAN	0.27	0.19	0.19	0.74
DSS	Bluetooth	0.19	< 0.1	< 0.1	-
Simultaneous SAR per KDB 690783 D01v01r03		1.17	1.42	1.28	3.33
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	2020.04.23 ~ 2020.05.11				
Antenna Type	Internal Antenna				
Functions	- GSM/GPRS/EDGE (GPRS/EDGE Class: 33) supported. * DTM not supported. - No simultaneous transmission between BT & 2.4GHz WLAN - Simultaneous transmission between [GSM, WCDMA voice & WLAN], [GPRS, WCDMA & WLAN], [LTE & WLAN]. - VoIP is supported. - W-LAN 2.4GHz is supported Hotspot. - W-LAN 5 GHz is supported Hotspot in UNII B1, B3.				

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 ZNFG910HMMW_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 26	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 25	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 ZNFG910HMMW_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	ZNFG910HMMW				
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 26 (Cell) (814.7 ~ 848.3 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 25 (PCS) (1850.7 ~ 1914.3 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 26 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 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 25 : 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) ^{Note1}	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) ^{Note2}	N/A	784.5(23255)
LTE Band 13: 10 MHz	N/A	N/A	782.0(23230)	N/A	N/A
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)	N/A	831.5 (26865)	N/A	848.3 (27033)
LTE Band 26 (Cell): 3 MHz	815.5 (26705)	N/A	831.5 (26865)	N/A	847.5 (27025)
LTE Band 26 (Cell): 5 MHz	816.5 (26715)	N/A	831.5 (26865)	N/A	846.5 (27015)
LTE Band 26 (Cell): 10 MHz	819.0 (26740)	N/A	831.5 (26865)	N/A	844.0 (26990)
LTE Band 26 (Cell): 15 MHz	821.5 (26765)	N/A	831.5 (26865) ^{Note3}	N/A	841.5 (26965)
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) ^{Note4}	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) ^{Note5}	N/A	1745.0 (20300)
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)	N/A	1882.5 (26365)	N/A	1914.3 (26683)
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)	N/A	1882.5 (26365)	N/A	1913.5 (26675)
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)	N/A	1882.5 (26365)	N/A	1912.5 (26665)
LTE Band 25 (PCS): 10 MHz	1855.0 (26090)	N/A	1882.5 (26365)	N/A	1910.0 (26640)
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)	N/A	1882.5 (26365)	N/A	1907.5 (26615)
LTE Band 25 (PCS): 20 MHz	1860.0 (26140)	N/A	1882.5 (26365)	N/A	1905.0 (26590)
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 QPSK, 16QAM, 64QAM				
Modulations Supported in UL	Yes				
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, eCIC, WiFi Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

Note(s)

- 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 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.
- LTE B26(Cell) can not contain three non-overlapping channels of 15 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 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 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 (ρ) 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:

- σ = conductivity of the tissue-simulating material (S/m)
- ρ = mass density of the tissue-simulating material (kg/m³)
- 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.

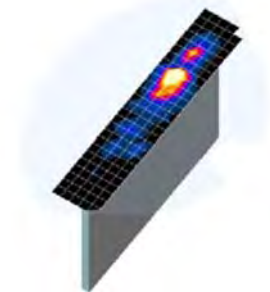


Figure 4.1
Sample SAR Area Scan

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm $\pm$ 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm $\pm$ 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° $\pm$ 1°	20° $\pm$ 1°
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ 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: Δx_{Zoom} , Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

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.

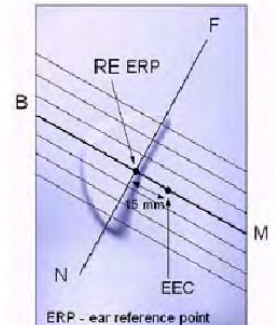


Figure 5.1
Close-up side view
of ERP

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 it’s 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

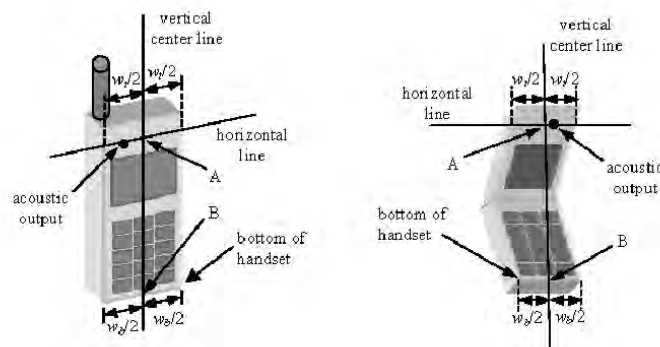


Figure 5.3 Handset Vertical Center & Horizontal Line Reference Points

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).

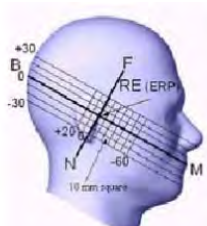


Figure 6.2 Side view w/relevant markings



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	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	CM (dB) ⁽²⁾
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 ⁽³⁾	15/15 ⁽³⁾	64	12/15 ⁽³⁾	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 β_c/β_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	β_e	β_d	β_d (SF)	β_e/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM ⁽²⁾ (dB)	MPR (dB)	AG ⁽⁴⁾ Index	E-TFCI
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	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	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	15/15 ⁽⁴⁾	30/15	24/15	134/15	4	1	1.0	0.0	21	81

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

Note 2: CM = 1 for $\beta_e/\beta_d = 12/15$, $\beta_{hs}/\beta_e = 24/15$. 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 β_e/β_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 $\beta_e = 10/15$ and $\beta_d = 15/15$.

Note 4: For subtest 5 the β_e/β_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 $\beta_e = 14/15$ 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: β_{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 $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. 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 ≤ 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 * (T_s) * # 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 < ¼ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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	32.70	32.70	30.70	25.80	24.10	26.60	25.80	24.40	23.20
	190	33.00	33.00	30.80	25.90	24.20	26.60	26.00	24.50	23.00
	251	32.90	32.90	30.70	26.00	24.30	26.60	25.90	24.50	23.10
PCS 1900	512	30.00	30.00	28.60	26.90	25.40	26.20	25.50	24.40	22.90
	661	30.10	30.10	28.60	26.90	25.40	26.10	25.50	24.20	22.90
	810	29.90	29.90	28.50	26.80	25.30	26.10	25.40	24.70	22.80
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	23.67	23.67	24.68	21.54	21.09	17.57	19.78	20.14	20.19
	190	23.97	23.97	24.78	21.64	21.19	17.57	19.98	20.24	19.99
	251	23.87	23.87	24.68	21.74	21.29	17.57	19.88	20.24	20.09
PCS 1900	512	20.97	20.97	22.58	22.64	22.39	17.17	19.48	20.14	19.89
	661	21.07	21.07	22.58	22.64	22.39	17.07	19.48	19.94	19.89
	810	20.87	20.87	22.48	22.54	22.29	17.07	19.38	20.44	19.79
GSM850	Frame Avg. Targets:	24.17	24.17	25.18	22.44	22.19	17.67	20.18	20.94	21.19
PCS 1900		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)
99	WCDMA	Voice	Maximum	25.2	25.2	25.2	25.2	25.2	-
			Nominal	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	0
			Nominal	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	0
			Nominal	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	0.5
			Nominal	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	0.5
			Nominal	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	0
			Nominal	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	2
			Nominal	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	1
			Nominal	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	2
			Nominal	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	0
			Nominal	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	0
			Nominal	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	0
			Nominal	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	0.5
			Nominal	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	0.5
			Nominal	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	24.50	24.46	24.48	24.56	24.60	24.62	24.56	-
99		12.2 kbps AMR	24.41	24.52	24.51	24.47	24.47	24.54	24.60	24.59	24.55	-
5	HSDPA	Subtest 1	24.42	24.51	24.50	24.44	24.43	24.55	24.59	24.59	24.56	0
5		Subtest 2	24.44	24.51	24.53	24.47	24.45	24.54	24.59	24.58	24.55	0
5		Subtest 3	23.96	24.04	24.04	23.95	23.94	24.05	24.09	24.13	24.09	0.5
5		Subtest 4	23.95	24.05	24.04	23.95	23.93	24.04	24.11	24.13	24.09	0.5
6	HSUPA	Subtest 1	23.42	23.51	23.52	23.48	23.46	23.54	23.57	23.59	23.54	0
6		Subtest 2	22.43	22.51	21.71	22.45	22.44	22.55	22.61	22.60	22.57	2
6		Subtest 3	23.46	23.52	22.96	23.49	23.43	23.55	23.60	23.61	23.55	1
6		Subtest 4	22.42	22.51	22.50	22.46	22.44	22.55	22.59	22.63	22.56	2
6		Subtest 5	24.42	24.53	24.51	24.45	24.43	24.54	24.60	24.60	24.55	0
8	DC-HSDPA	Subtest 1	24.41	24.50	24.48	24.43	24.42	24.46	24.53	24.52	24.55	0
8		Subtest 2	24.41	24.50	24.52	24.43	24.42	24.44	24.53	24.51	24.54	0
8		Subtest 3	23.95	24.02	24.00	23.91	23.90	23.98	24.00	24.12	24.08	0.5
8		Subtest 4	23.95	24.01	24.00	23.89	23.88	23.97	24.00	24.11	24.08	0.5

Table 9.2.2 WCDMA Conducted Power

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

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	22.99	22.96	23.10	23.06	23.09	23.03	-
99		12.2 kbps AMR	22.95	22.94	23.09	23.06	23.06	23.02	-
5	HSDPA	Subtest 1	22.96	22.95	23.09	23.06	23.08	23.03	0
5		Subtest 2	22.97	22.94	23.08	23.04	23.06	23.02	0
5		Subtest 3	22.47	22.44	22.60	22.63	22.62	22.57	0.5
5		Subtest 4	22.45	22.44	22.61	22.59	22.61	22.55	0.5
6	HSUPA	Subtest 1	22.47	22.44	22.57	22.57	22.59	22.55	0
6		Subtest 2	20.94	20.94	21.10	21.11	21.07	21.06	2
6		Subtest 3	21.95	21.92	22.08	22.08	22.08	22.03	1
6		Subtest 4	20.97	20.93	21.07	21.06	21.08	21.03	2
6		Subtest 5	22.96	22.95	23.08	23.05	23.07	23.04	0
8	DC-HSDPA	Subtest 1	22.95	22.94	23.02	23.05	23.06	23.00	0
8		Subtest 2	22.93	22.94	23.01	23.05	23.05	22.99	0
8		Subtest 3	22.45	22.43	22.58	22.58	22.56	22.53	0.5
8		Subtest 4	22.42	22.42	22.59	22.58	22.54	22.52	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	25.5
	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	25.00	≤ 1	0
	1	25	25.08		
	1	49	25.03		
	25	0	24.00		1
	25	12	24.07		
	25	25	24.03		
16QAM	50	0	24.00	≤ 1	1
	1	0	24.12		
	1	25	24.15		
	1	49	24.14		2
	25	0	23.06		
	25	12	23.14		
64QAM	25	25	23.09	≤ 2	2
	50	0	23.08		
	1	0	22.95		
	1	25	23.06		3
	1	49	22.99		
	25	0	22.03		
64QAM	25	12	22.15	≤ 3	3
	25	25	22.08		
	50	0	22.09		

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	24.91	24.98	24.92	≤ 1	0
	1	12	24.99	25.02	25.06		
	1	24	24.95	24.95	24.98		
	12	0	23.94	24.00	23.98		1
	12	6	24.01	24.02	24.03		
	12	13	23.97	24.01	23.98		
	25	0	23.96	24.01	24.05	1	
16QAM	1	0	24.05	24.15	24.10	≤ 1	1
	1	12	24.11	24.17	24.23		
	1	24	24.10	24.07	24.17		
	12	0	23.01	23.08	23.04	≤ 2	2
	12	6	23.10	23.13	23.08		
	12	13	23.04	23.11	23.06		
	25	0	23.04	23.05	23.11		
64QAM	1	0	22.95	23.03	22.96	≤ 2	2
	1	12	23.00	23.07	23.16		
	1	24	22.99	22.95	23.05		
	12	0	22.07	22.06	22.07	≤ 3	3
	12	6	22.14	22.13	22.09		
	12	13	22.06	22.09	22.03		
	15	0	22.04	22.06	22.05		

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	24.86	24.93	24.87	≤ 1	0
	1	7	24.88	24.95	24.97		
	1	14	24.80	24.94	24.90		
	8	0	23.91	23.93	23.88		1
	8	4	23.96	23.98	24.02		
	8	7	23.93	23.97	24.00		
	15	0	23.89	23.94	23.95	1	
16QAM	1	0	24.04	24.07	24.05	≤ 1	1
	1	7	24.07	24.14	24.12		
	1	14	23.93	24.07	24.09		
	8	0	23.03	23.09	23.05	≤ 2	2
	8	4	23.10	23.15	23.15		
	8	7	23.05	23.13	23.14		
	15	0	23.00	23.04	23.08		2
64QAM	1	0	22.90	23.00	22.91	≤ 2	2
	1	7	22.93	23.02	23.02		
	1	14	22.92	23.00	23.01		
	8	0	22.00	22.08	22.00	≤ 3	3
	8	4	22.08	22.12	22.13		
	8	7	22.01	22.09	22.09		
	15	0	21.99	22.03	22.04		

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	24.80	24.87	24.86	≤ 1	0
	1	2	24.91	24.95	24.99		
	1	5	24.80	24.90	24.87		
	3	0	24.83	24.88	24.91		0
	3	2	24.86	24.92	24.93		
	3	3	24.84	24.89	24.92		
	6	0	23.88	23.89	23.93	1	
16QAM	1	0	23.96	24.03	24.02	≤ 1	1
	1	2	24.04	24.07	24.16		
	1	5	23.99	24.01	23.99		
	3	0	23.94	24.00	24.00		1
	3	2	23.99	24.02	24.03		
	3	3	23.94	24.01	24.01		
	6	0	23.03	23.06	23.07	≤ 2	2
64QAM	1	0	22.87	22.94	22.95	≤ 2	2
	1	2	22.91	22.98	22.99		
	1	5	22.87	22.91	22.94		
	3	0	22.86	22.91	22.88		2
	3	2	22.90	22.94	22.95		
	3	3	22.88	22.88	22.89		
	6	0	21.93	21.98	22.01	≤ 3	3

Table 9.3.1.5 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 13	Maximum	25.5
	Nominal	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	24.84	≤ 1	0
	1	25	24.89		
	1	49	24.87		
	25	0	23.88		1
	25	12	23.98		
	25	25	23.93		
16QAM	50	0	23.95	≤ 1	1
	1	0	23.87		1
	1	25	23.94		
	1	49	23.81		
	25	0	22.88		2
	25	12	22.96		
64QAM	25	25	22.90		
	50	0	22.95	≤ 2	2
	1	0	22.80		2
	1	25	22.95		
	1	49	22.84		
	25	0	21.80		3
	25	12	21.84		
	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	24.82	≤ 1	0
	1	12	24.90		
	1	24	24.85		
	12	0	23.87		1
	12	6	23.95		
	12	13	23.91		
16QAM	25	0	23.87	≤ 1	1
	1	0	23.83		1
	1	12	24.02		
	1	24	23.94		
	12	0	22.80		2
	12	6	22.85		
64QAM	12	13	22.80		
	25	0	22.84	≤ 2	2
	1	0	22.85		2
	1	12	22.95		
	1	24	22.89		
	12	0	21.80		3
	12	6	21.88		
	12	13	21.81		
	15	0	21.84		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 26	Maximum	25.5
	Nominal	25.0

Table 9.3.3.1 Nominal and Maximum Output Power Spec

3) LTE Band 26 (Cell)

LTE Band 26 (Cell) Conducted Power– 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26865 (831.5 MHz)		
			Conducted Power (dBm)		
QPSK	1	0	24.85	≤ 1	0
	1	36	24.95		
	1	74	24.81		
	36	0	23.95		1
	36	18	23.97		
	36	37	23.89		
16QAM	75	0	23.94	≤ 1	1
	1	0	24.02		1
	1	36	24.06		
	1	74	23.89		
	36	0	23.05		2
	36	18	23.09		
64QAM	36	37	23.02		
	75	0	23.06	≤ 2	2
	1	0	22.91		2
	1	36	23.08		
	1	74	22.92		
	36	0	22.08		3
64QAM	36	18	22.15		
	36	37	22.05		
	75	0	22.07	≤ 3	3

Table 9.3.3.2 LTE Conducted Power

Note : LTE B26 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 26 (Cell) Conducted Power-- 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26740 (819.0 MHz)	26865 (831.5 MHz)	26990 (844.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.86	24.85	24.87	≤ 1	0
	1	25	24.94	24.93	24.90		
	1	49	24.88	24.90	24.81		
	25	0	23.85	23.84	23.88		1
	25	12	23.96	23.95	23.92		
	25	25	23.93	23.92	23.89		
	50	0	23.95	23.94	23.91		
16QAM	1	0	23.97	23.96	24.04	≤ 1	1
	1	25	24.07	24.05	24.09		
	1	49	23.98	24.00	23.91		
	25	0	22.90	22.89	22.97	≤ 2	2
	25	12	23.02	23.01	23.00		
	25	25	22.93	22.93	22.98		
	50	0	23.05	23.02	23.02		
64QAM	1	0	23.04	23.02	22.97	≤ 2	2
	1	25	23.06	23.04	23.03		
	1	49	22.97	22.92	22.85		
	25	0	21.90	21.88	22.06	≤ 3	3
	25	12	22.13	22.11	22.10		
	25	25	21.93	21.91	22.06		
	50	0	21.95	22.05	22.02		

Table 9.3.3.3 LTE Conducted Power

LTE Band 26 (Cell) Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26715 (816.5 MHz)	26865 (831.5 MHz)	27015 (846.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.82	24.81	24.83	≤ 1	0
	1	12	24.91	24.90	24.89		
	1	24	24.83	24.82	24.81		
	12	0	23.87	23.86	23.93		1
	12	6	23.96	23.90	23.94		
	12	13	23.88	23.88	23.89		
	25	0	23.90	23.88	23.87		1
16QAM	1	0	23.85	23.84	24.02	≤ 1	1
	1	12	24.07	24.06	24.02		
	1	24	23.90	23.88	23.94		
	12	0	22.93	22.92	22.99	≤ 2	2
	12	6	23.05	23.03	23.04		
	12	13	22.94	22.95	22.99		
	25	0	23.02	23.00	22.94		2
64QAM	1	0	22.94	22.95	22.96	≤ 2	2
	1	12	23.04	23.02	23.00		
	1	24	22.99	22.87	22.87		
	12	0	21.90	21.88	21.93	≤ 3	3
	12	6	22.08	22.00	22.06		
	12	13	21.91	21.92	22.01		
	25	0	22.06	22.05	21.86		3

Table 9.3.3.4 LTE Conducted Power

LTE Band 26 (Cell) Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26705 (815.5 MHz)	26865 (831.5 MHz)	27025 (847.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.86	24.85	24.82	0	0
	1	7	24.88	24.86	24.83		
	1	14	24.83	24.82	24.81		
	8	0	23.80	23.82	23.88	0-1	1
	8	4	23.86	23.88	23.89		
	8	7	23.81	23.84	23.85		
	15	0	23.89	23.88	23.87		
16QAM	1	0	23.85	23.84	23.99	0-1	1
	1	7	23.95	23.90	24.02		
	1	14	23.88	23.86	23.95		
	8	0	22.88	22.90	23.01	0-2	2
	8	4	22.97	22.99	23.08		
	8	7	22.89	22.93	22.98		
	15	0	22.98	22.94	22.93		
64QAM	1	0	22.89	22.89	22.90	0-2	2
	1	7	22.97	22.95	22.93		
	1	14	22.88	22.86	22.89		
	8	0	21.80	21.85	22.04	0-3	3
	8	4	21.93	21.95	22.05		
	8	7	21.81	21.82	22.00		
	15	0	22.00	21.90	21.89		

Table 9.3.3.5 LTE Conducted Power

LTE Band 26 (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)
			26697 (814.7 MHz)	26865 (831.5 MHz)	27033 (848.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.80	24.83	24.83	0	0
	1	2	24.88	24.86	24.85		
	1	5	24.83	24.82	24.80		
	3	0	24.83	24.84	24.83	0	0
	3	2	24.87	24.85	24.84		
	3	3	24.80	24.82	24.83		
	6	0	23.84	23.83	23.81	0-1	1
16QAM	1	0	23.87	23.88	23.88	0-1	1
	1	2	24.03	24.00	24.03		
	1	5	23.91	23.90	23.83		
	3	0	23.89	23.90	23.87	0-1	1
	3	2	23.93	23.92	23.88		
	3	3	23.91	23.90	23.85		
	6	0	22.95	22.93	22.82	0-2	2
64QAM	1	0	22.90	22.85	22.81	0-2	2
	1	2	23.03	23.00	22.98		
	1	5	22.91	22.88	22.81		
	3	0	22.88	22.85	22.82	0-2	2
	3	2	22.99	22.98	22.83		
	3	3	22.89	22.88	22.80		
	6	0	21.99	21.98	21.88	0-3	3

Table 9.3.3.6 LTE Conducted Power

Band & Mode		Modulated Average(dBm)
LTE Band 66 (AWS)	Maximum	25.2
	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 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.93	24.86	25.10	≤ 1	0
	1	50	24.80	24.76	24.85		
	1	99	24.72	24.71	24.77		
	50	0	23.98	23.92	23.99		1
	50	25	23.85	23.81	23.90		
	50	50	23.80	23.78	23.82		
	100	0	23.84	23.83	23.89		
16QAM	1	0	24.10	24.04	24.13	≤ 1	1
	1	50	23.78	23.93	24.03		
	1	99	23.89	23.88	23.94		
	50	0	22.83	22.83	22.84		
	50	25	22.76	22.72	22.82	≤ 2	2
	50	50	22.71	22.68	22.74		
	100	0	22.76	22.68	22.70		
64QAM	1	0	23.07	23.02	23.12	≤ 2	2
	1	50	22.91	22.90	22.91		
	1	99	22.82	22.79	22.78		
	50	0	21.86	21.81	21.83		
	50	25	21.80	21.77	21.81	≤ 3	3
	50	50	21.71	21.69	21.77		
	100	0	21.77	21.73	21.73		

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 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	25.05	24.92	25.09	≤ 1	0
	1	36	24.78	24.67	24.86		
	1	74	24.79	24.74	24.78		
	36	0	23.92	23.85	23.93		1
	36	18	23.89	23.80	23.92		
	36	37	23.80	23.78	23.82		
	75	0	23.87	23.84	23.88		
16QAM	1	0	24.03	24.08	24.11	≤ 1	1
	1	36	23.95	23.84	23.99		
	1	74	23.97	23.93	23.93		
	36	0	22.83	22.75	22.84	≤ 2	2
	36	18	22.77	22.72	22.79		
	36	37	22.65	22.68	22.70		
	75	0	22.74	22.74	22.79		
64QAM	1	0	23.07	23.00	23.10	≤ 2	2
	1	36	22.83	22.78	22.92		
	1	74	22.86	22.82	22.86		
	36	0	21.86	21.76	21.91	≤ 3	3
	36	18	21.76	21.73	21.84		
	36	37	21.70	21.67	21.71		
	75	0	21.77	21.71	21.81		

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 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.93	24.77	24.94	≤ 1	0
	1	25	24.80	24.67	24.82		
	1	49	24.73	24.70	24.75		
	25	0	23.85	23.74	23.89		1
	25	12	23.84	23.72	23.87		
	25	25	23.76	23.71	23.79		
	50	0	23.84	23.78	23.87		
16QAM	1	0	24.05	23.94	24.10	≤ 1	1
	1	25	23.96	23.81	24.00		
	1	49	23.90	23.88	23.92		
	25	0	22.76	22.63	22.82	≤ 2	2
	25	12	22.70	22.57	22.77		
	25	25	22.69	22.55	22.71		
	50	0	22.71	22.67	22.77		
64QAM	1	0	22.98	22.87	23.02	≤ 2	2
	1	25	22.87	22.74	22.91		
	1	49	22.83	22.77	22.89		
	25	0	21.78	21.61	21.82	≤ 3	3
	25	12	21.71	21.60	21.74		
	25	25	21.70	21.58	21.73		
	50	0	21.76	21.74	21.81		

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 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.88	24.75	24.90	≤ 1	0
	1	12	24.86	24.70	24.87		
	1	24	24.79	24.62	24.80		
	12	0	23.86	23.73	23.88		1
	12	6	23.83	23.72	23.87		
	12	13	23.80	23.69	23.83		
	25	0	23.82	23.68	23.83		
16QAM	1	0	24.04	23.92	24.04	≤ 1	1
	1	12	23.99	23.88	24.02		
	1	24	23.97	23.79	23.97		
	12	0	22.71	22.59	22.74	≤ 2	2
	12	6	22.70	22.57	22.72		
	12	13	22.69	22.55	22.68		
	25	0	22.70	22.58	22.74		
64QAM	1	0	22.95	22.84	23.00	≤ 2	2
	1	12	22.92	22.83	22.96		
	1	24	22.85	22.69	22.90		
	12	0	21.76	21.68	21.81	≤ 3	3
	12	6	21.75	21.67	21.78		
	12	13	21.72	21.64	21.73		
	25	0	21.73	21.56	21.75		

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 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.82	24.69	24.83	≤ 1	0
	1	7	24.80	24.66	24.81		
	1	14	24.76	24.65	24.73		
	8	0	23.83	23.71	23.83		1
	8	4	23.78	23.66	23.80		
	8	7	23.78	23.65	23.78		
	15	0	23.77	23.67	23.78		1
16QAM	1	0	23.93	23.88	23.98	≤ 1	1
	1	7	23.91	23.82	23.96		
	1	14	23.87	23.80	23.91		
	8	0	22.76	22.66	22.77	≤ 2	2
	8	4	22.71	22.62	22.73		
	8	7	22.71	22.61	22.75		
	15	0	22.70	22.60	22.71		2
64QAM	1	0	22.86	22.78	22.88	≤ 2	2
	1	7	22.84	22.69	22.86		
	1	14	22.81	22.66	22.84		
	8	0	21.77	21.66	21.77	≤ 3	3
	8	4	21.73	21.63	21.75		
	8	7	21.73	21.61	21.71		
	15	0	21.70	21.60	21.72		3

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 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.79	24.69	24.80	≤ 1	0
	1	2	24.73	24.61	24.75		
	1	5	24.70	24.60	24.73		
	3	0	24.75	24.64	24.76		0
	3	2	24.73	24.62	24.75		
	3	3	24.70	24.60	24.72		
	6	0	23.73	23.59	23.74		1
16QAM	1	0	23.97	23.86	23.95	≤ 1	1
	1	2	23.88	23.80	23.92		
	1	5	23.86	23.79	23.89		
	3	0	23.67	23.60	23.73		1
	3	2	23.66	23.55	23.68		
	3	3	23.63	23.56	23.66		
	6	0	22.68	22.58	22.70		≤ 2
64QAM	1	0	22.82	22.76	22.88	≤ 2	2
	1	2	22.81	22.68	22.79		
	1	5	22.80	22.64	22.82		
	3	0	22.80	22.72	22.82		2
	3	2	22.73	22.63	22.79		
	3	3	22.77	22.66	22.80		
	6	0	21.65	21.54	21.62		≤ 3

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 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.26	23.20	23.49	≤ 1	0
	1	50	23.16	23.02	23.21		
	1	99	23.11	23.06	23.34		
	50	0	23.24	23.13	23.41		0
	50	25	23.06	23.10	23.40		
	50	50	23.09	23.01	23.30		
	100	0	23.18	23.13	23.48	0	
16QAM	1	0	23.34	23.29	23.64	≤ 1	0
	1	50	23.18	23.12	23.35		
	1	99	23.16	23.18	23.47		
	50	0	22.20	22.17	22.56	≤ 2	1
	50	25	22.11	22.05	22.36		
	50	50	22.16	22.15	22.26		
	100	0	22.15	22.09	22.48		1
64QAM	1	0	22.41	22.35	22.60	≤ 2	1
	1	50	22.32	22.13	22.33		
	1	99	22.23	22.14	22.42		
	50	0	21.25	21.20	21.53	≤ 3	2
	50	25	21.11	21.14	21.47		
	50	50	21.19	21.14	21.36		
	100	0	21.12	21.06	21.37		2

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 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.16	23.15	23.30	≤ 1	0
	1	36	23.01	23.02	23.13		
	1	74	23.08	23.06	23.19		
	36	0	23.15	23.14	23.29		0
	36	18	23.05	23.12	23.23		
	36	37	23.07	23.13	23.25		
	75	0	23.14	23.08	23.16		0
16QAM	1	0	23.35	23.33	23.46	≤ 1	0
	1	36	23.18	23.10	23.30		
	1	74	23.27	23.11	23.38		
	36	0	22.23	22.09	22.43	≤ 2	1
	36	18	22.19	22.07	22.35		
	36	37	22.12	22.08	22.40		
	75	0	22.26	22.20	22.18		1
64QAM	1	0	22.24	22.26	22.50	≤ 2	1
	1	36	22.09	22.13	22.23		
	1	74	22.11	22.15	22.28		
	36	0	21.23	21.22	21.42	≤ 3	2
	36	18	21.15	21.22	21.22		
	36	37	21.22	21.00	21.30		
	75	0	21.20	21.07	21.24		2

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 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.26	23.16	23.47	≤ 1	0
	1	25	23.08	23.09	23.18		
	1	49	23.10	23.15	23.26		
	25	0	23.25	23.08	23.40		0
	25	12	23.10	23.04	23.35		
	25	25	23.13	23.06	23.38		
	50	0	23.18	23.02	23.29		0
	50	0	23.18	23.02	23.29		
16QAM	1	0	23.37	23.15	23.53	≤ 1	0
	1	25	23.10	23.12	23.34		
	1	49	23.22	23.13	23.43		
	25	0	22.08	22.16	22.40		
	25	12	22.03	22.12	22.36	≤ 2	1
	25	25	22.07	22.14	22.39		
	50	0	22.11	22.09	22.29		
	50	0	22.11	22.09	22.29		
64QAM	1	0	22.18	22.23	22.53	≤ 2	1
	1	25	22.14	22.05	22.35		
	1	49	22.16	22.09	22.42		
	25	0	21.16	21.20	21.32	≤ 3	2
	25	12	21.05	21.17	21.22		
	25	25	21.13	21.19	21.28		
	50	0	21.02	21.16	21.21		
	50	0	21.02	21.16	21.21		

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 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.16	23.14	23.40	≤ 1	0
	1	12	23.08	23.11	23.27		
	1	24	23.12	23.12	23.34		
	12	0	23.14	23.10	23.38		0
	12	6	23.06	23.09	23.20		
	12	13	23.09	23.08	23.26		
	25	0	23.14	23.07	23.38		0
16QAM	1	0	23.30	23.21	23.51	≤ 1	0
	1	12	23.22	23.19	23.36		
	1	24	23.26	23.20	23.40		
	12	0	22.14	22.11	22.30	≤ 2	1
	12	6	22.05	22.06	22.27		
	12	13	22.11	22.02	22.26		
	25	0	22.08	22.06	22.30		1
64QAM	1	0	22.22	22.10	22.46	≤ 2	1
	1	12	22.18	22.03	22.33		
	1	24	22.20	22.09	22.38		
	12	0	21.06	21.16	21.34	≤ 3	2
	12	6	21.03	21.02	21.24		
	12	13	21.05	21.10	21.26		
	25	0	21.08	21.11	21.20		2

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 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.14	23.10	23.40	≤ 1	0
	1	7	23.09	23.02	23.16		
	1	14	23.11	23.08	23.17		
	8	0	23.13	23.09	23.38		0
	8	4	23.03	23.08	23.26		
	8	7	23.09	23.02	23.29		
	15	0	23.13	23.01	23.23		0
16QAM	1	0	23.32	23.23	23.42	≤ 1	0
	1	7	23.20	23.10	23.27		
	1	14	23.21	23.21	23.30		
	8	0	22.15	22.12	22.31	≤ 2	1
	8	4	22.06	22.05	22.30		
	8	7	22.07	22.09	22.19		
	15	0	22.06	22.04	22.22		1
64QAM	1	0	22.23	22.09	22.39	≤ 2	1
	1	7	22.20	22.02	22.26		
	1	14	22.22	22.08	22.37		
	8	0	21.16	21.15	21.30	≤ 3	2
	8	4	21.05	21.13	21.22		
	8	7	21.09	21.08	21.28		
	15	0	21.05	21.02	21.25		2

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 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.25	23.18	23.43	≤ 1	0
	1	2	23.12	23.13	23.15		
	1	5	23.16	23.15	23.21		
	3	0	23.18	23.08	23.36		0
	3	2	23.09	23.00	23.33		
	3	3	23.10	23.04	23.31		
	6	0	23.05	23.04	23.42		0
16QAM	1	0	23.24	23.28	23.45	≤ 1	0
	1	2	23.22	23.15	23.32		
	1	5	23.23	23.21	23.33		
	3	0	23.07	23.08	23.37		0
	3	2	23.05	23.01	23.17		
	3	3	23.04	23.02	23.29		
	6	0	22.21	22.08	22.29		≤ 2
64QAM	1	0	22.38	22.25	22.50	≤ 2	1
	1	2	22.16	22.12	22.28		
	1	5	22.22	22.16	22.30		
	3	0	22.24	22.24	22.43		1
	3	2	22.15	22.10	22.34		
	3	3	22.10	22.23	22.38		
	6	0	21.13	21.07	21.27		≤ 3

Table 9.3.5.7 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 25(PCS)	Maximum	26.2
	Nominal	24.7

Table 9.3.6.1 Nominal and Maximum Output Power Spec

6) LTE Band 25 (PCS)

LTE Band 25 (PCS) Conducted Power-- 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.90	24.83	25.09	≤ 1	0
	1	50	24.73	24.66	24.84		
	1	99	24.59	24.52	24.80		
	50	0	23.85	23.76	23.96		1
	50	25	23.77	23.71	23.89		
	50	50	23.72	23.64	23.84		
	100	0	23.78	23.71	23.92		1
16QAM	1	0	24.01	23.93	24.04	≤ 1	1
	1	50	23.83	23.81	23.97		
	1	99	23.74	23.69	23.92		
	50	0	22.76	22.66	22.82	≤ 2	2
	50	25	22.68	22.61	22.78		
	50	50	22.61	22.51	22.70		
	100	0	22.65	22.57	22.77		2
64QAM	1	0	22.92	22.87	23.05	≤ 2	2
	1	50	22.78	22.69	22.81		
	1	99	22.64	22.57	22.83		
	50	0	21.73	21.62	21.83	≤ 3	3
	50	25	21.67	21.58	21.74		
	50	50	21.57	21.51	21.69		
	100	0	21.64	21.57	21.78		3

Table 9.3.6.2 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power~ 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.93	24.81	25.02	≤ 1	0
	1	36	24.75	24.63	24.81		
	1	74	24.72	24.62	24.81		
	36	0	23.82	23.76	23.91		1
	36	18	23.81	23.68	23.87		
	36	37	23.70	23.66	23.81		
	75	0	23.77	23.69	23.86		
16QAM	1	0	24.00	23.94	24.03	≤ 1	1
	1	36	23.91	23.80	23.97		
	1	74	23.81	23.75	23.92		
	36	0	22.69	22.59	22.80	≤ 2	2
	36	18	22.67	22.56	22.72		
	36	37	22.61	22.52	22.69		
	75	0	22.65	22.56	22.72		
64QAM	1	0	22.96	22.88	23.00	≤ 2	2
	1	36	22.79	22.71	22.85		
	1	74	22.70	22.64	22.79		
	36	0	21.70	21.63	21.78	≤ 3	3
	36	18	21.68	21.58	21.74		
	36	37	21.61	21.51	21.68		
	75	0	21.63	21.52	21.70		

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)
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.82	24.68	24.85	≤ 1	0
	1	25	24.73	24.62	24.80		
	1	49	24.64	24.59	24.79		
	25	0	23.83	23.72	23.87		1
	25	12	23.78	23.71	23.85		
	25	25	23.75	23.65	23.81		
	50	0	23.75	23.68	23.84		1
16QAM	1	0	23.99	23.82	24.01	≤ 1	1
	1	25	23.86	23.78	23.97		
	1	49	23.79	23.69	23.91		
	25	0	22.69	22.59	22.70	≤ 2	2
	25	12	22.66	22.57	22.69		
	25	25	22.60	22.51	22.66		
	50	0	22.64	22.56	22.68		2
64QAM	1	0	22.82	22.72	22.89	≤ 2	2
	1	25	22.75	22.62	22.82		
	1	49	22.69	22.59	22.77		
	25	0	21.66	21.57	21.72	≤ 3.	3
	25	12	21.65	21.53	21.71		
	25	25	21.60	21.52	21.67		
	50	0	21.65	21.54	21.68		3

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)
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.79	24.69	24.82	≤ 1	0
	1	12	24.77	24.68	24.80		
	1	24	24.70	24.61	24.74		
	12	0	23.80	23.66	23.81		1
	12	6	23.78	23.64	23.80		
	12	13	23.77	23.62	23.76		
	25	0	23.76	23.67	23.79		
16QAM	1	0	23.96	23.84	23.94	≤ 1	1
	1	12	23.84	23.82	23.90		
	1	24	23.79	23.78	23.89		
	12	0	22.69	22.55	22.69	≤ 2	2
	12	6	22.65	22.54	22.64		
	12	13	22.64	22.53	22.61		
	25	0	22.63	22.54	22.66		
64QAM	1	0	22.80	22.71	22.86	≤ 2	2
	1	12	22.75	22.68	22.82		
	1	24	22.71	22.66	22.74		
	12	0	21.69	21.59	21.71	≤ 3	3
	12	6	21.68	21.58	21.69		
	12	13	21.64	21.53	21.67		
	25	0	21.61	21.51	21.65		

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)
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.75	24.65	24.78	≤ 1	0
	1	7	24.73	24.60	24.77		
	1	14	24.70	24.63	24.76		
	8	0	23.77	23.68	23.79		1
	8	4	23.76	23.65	23.78		
	8	7	23.75	23.63	23.78		
	15	0	23.76	23.60	23.80		1
16QAM	1	0	23.87	23.82	23.90	≤ 1	1
	1	7	23.86	23.77	23.88		
	1	14	23.83	23.71	23.84		
	8	0	22.68	22.60	22.74	≤ 2	2
	8	4	22.65	22.59	22.72		
	8	7	22.64	22.52	22.69		
	15	0	22.60	22.54	22.66		2
64QAM	1	0	22.78	22.67	22.79	≤ 2	2
	1	7	22.75	22.65	22.76		
	1	14	22.72	22.60	22.75		
	8	0	21.66	21.59	21.75	≤ 3	3
	8	4	21.65	21.58	21.72		
	8	7	21.63	21.52	21.66		
	15	0	21.64	21.52	21.66		3

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)
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.77	24.73	24.83	≤ 1	0
	1	2	24.67	24.72	24.68		
	1	5	24.66	24.71	24.65		
	3	0	24.75	24.72	24.81		0
	3	2	24.67	24.71	24.73		
	3	3	24.66	24.70	24.72		
	6	0	23.69	23.68	23.74		1
16QAM	1	0	23.92	23.82	24.01	≤ 1	1
	1	2	23.77	23.73	23.80		
	1	5	23.76	23.71	23.79		
	3	0	23.67	23.80	23.73		1
	3	2	23.57	23.76	23.63		
	3	3	23.58	23.70	23.62		
	6	0	22.64	22.63	22.65		≤ 2
64QAM	1	0	22.78	22.75	22.85	≤ 2	2
	1	2	22.69	22.73	22.71		
	1	5	22.67	22.71	22.70		
	3	0	22.74	22.74	22.83		2
	3	2	22.70	22.73	22.70		
	3	3	22.65	22.70	22.69		
	6	0	21.55	21.54	21.57		≤ 3

Table 9.3.6.7 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 25(PCS)	Maximum	23.7
	Nominal	23.2

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

7) LTE Band 25 (PCS)

LTE Band 25 (PCS) Conducted Power– 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.28	23.24	23.55	≤ 1	0
	1	50	23.16	23.06	23.37		
	1	99	23.08	23.03	23.33		
	50	0	23.26	23.15	23.52		0
	50	25	23.15	23.06	23.48		
	50	50	23.19	23.13	23.36		
	100	0	23.15	23.14	23.44		0
16QAM	1	0	23.42	23.37	23.57	≤ 1	0
	1	50	23.31	23.14	23.51		
	1	99	23.26	23.21	23.48		
	50	0	22.24	22.16	22.55	≤ 2	1
	50	25	22.23	22.09	22.42		
	50	50	22.15	22.13	22.38		
	100	0	22.15	22.18	22.49		1
64QAM	1	0	22.43	22.38	22.63	≤ 2	1
	1	50	22.25	22.17	22.55		
	1	99	22.28	22.22	22.52		
	50	0	21.33	21.26	21.55	≤ 3	2
	50	25	21.26	21.16	21.43		
	50	50	21.20	21.10	21.46		
	100	0	21.16	21.11	21.45		2

Table 9.3.7.2 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.27	23.22	23.35	≤ 1	0
	1	36	23.07	23.19	23.19		
	1	74	23.03	23.11	23.16		
	36	0	23.26	23.17	23.34		0
	36	18	23.08	23.13	23.25		
	36	37	23.04	23.05	23.20		
	75	0	23.24	23.18	23.21		0
16QAM	1	0	23.43	23.35	23.52	≤ 1	0
	1	36	23.09	23.21	23.38		
	1	74	23.06	23.11	23.33		
	36	0	22.30	22.21	22.44	≤ 2	1
	36	18	22.20	22.19	22.33		
	36	37	22.09	22.15	22.30		
	75	0	22.21	22.14	22.35		1
64QAM	1	0	22.31	22.28	22.44	≤ 2	1
	1	36	22.16	22.22	22.24		
	1	74	22.15	22.06	22.12		
	36	0	21.30	21.25	21.44	≤ 3	2
	36	18	21.25	21.18	21.43		
	36	37	21.11	21.13	21.36		
	75	0	21.17	21.17	21.33		2

Table 9.3.7.3 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.25	23.15	23.48	≤ 1	0
	1	25	23.12	23.10	23.33		
	1	49	23.02	23.05	23.28		
	25	0	23.24	23.13	23.46		0
	25	12	23.22	23.11	23.40		
	25	25	23.16	23.09	23.40		
	50	0	23.12	23.09	23.43		0
16QAM	1	0	23.36	23.31	23.55	≤ 1	0
	1	25	23.30	23.24	23.52		
	1	49	23.20	23.11	23.44		
	25	0	22.13	22.15	22.33	≤ 2	1
	25	12	22.11	22.14	22.33		
	25	25	22.09	22.04	22.29		
	50	0	22.08	22.12	22.27		1
64QAM	1	0	22.22	22.23	22.51	≤ 2	1
	1	25	22.19	22.18	22.41		
	1	49	22.21	22.11	22.38		
	25	0	21.17	21.13	21.38	≤ 3.	2
	25	12	21.11	21.10	21.34		
	25	25	21.10	21.09	21.30		
	50	0	21.07	21.18	21.31		2

Table 9.3.7.4 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.26	23.23	23.41	≤ 1	0
	1	12	23.21	23.15	23.34		
	1	24	23.07	23.07	23.32		
	12	0	23.18	23.22	23.40		0
	12	6	23.17	23.18	23.39		
	12	13	23.17	23.21	23.36		
	25	0	23.12	23.11	23.32		
16QAM	1	0	23.41	23.32	23.54	≤ 1	0
	1	12	23.29	23.28	23.50		
	1	24	23.15	23.15	23.47		
	12	0	22.14	22.15	22.30	≤ 2	1
	12	6	22.06	22.12	22.27		
	12	13	22.08	22.04	22.28		
	25	0	22.02	22.04	22.29		
64QAM	1	0	22.25	22.18	22.49	≤ 2	1
	1	12	22.17	22.06	22.44		
	1	24	22.10	22.09	22.39		
	12	0	21.16	21.16	21.40	≤ 3	2
	12	6	21.13	21.14	21.38		
	12	13	21.13	21.10	21.33		
	25	0	21.03	21.08	21.26		

Table 9.3.7.5 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.24	23.16	23.40	≤ 1	0
	1	7	23.08	23.12	23.29		
	1	14	23.12	23.11	23.28		
	8	0	23.09	23.12	23.33		0
	8	4	23.23	23.15	23.37		
	8	7	23.13	23.09	23.27		
	15	0	23.19	23.03	23.27		
16QAM	1	0	23.32	23.19	23.48	≤ 1	0
	1	7	23.27	23.15	23.47		
	1	14	23.23	23.18	23.43		
	8	0	22.09	22.13	22.28		≤ 2
	8	4	22.13	22.18	22.29		
	8	7	22.04	22.15	22.20		
	15	0	22.13	22.11	22.19	1	
64QAM	1	0	22.22	22.20	22.42	≤ 2	1
	1	7	22.21	22.10	22.34		
	1	14	22.15	22.10	22.41		
	8	0	21.13	21.10	21.29		≤ 3
	8	4	21.16	21.15	21.30		
	8	7	21.10	21.07	21.24		
	15	0	21.08	21.13	21.25	2	

Table 9.3.7.6 LTE Conducted Power

LTE Band 25 (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)
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.24	23.18	23.44	≤ 1	0
	1	2	23.23	23.09	23.26		
	1	5	23.06	23.05	23.31		
	3	0	23.18	23.13	23.38		0
	3	2	23.22	23.13	23.39		
	3	3	23.14	23.10	23.36		
	6	0	23.21	23.12	23.33		
16QAM	1	0	23.34	23.28	23.44	≤ 1	0
	1	2	23.28	23.24	23.42		
	1	5	23.22	23.08	23.37		
	3	0	23.08	23.09	23.25		0
	3	2	23.11	23.11	23.31		
	3	3	23.04	23.06	23.30		
	6	0	22.14	22.04	22.38		
64QAM	1	0	22.34	22.26	22.48	≤ 2	1
	1	2	22.32	22.21	22.46		
	1	5	22.25	22.13	22.36		
	3	0	22.21	22.15	22.38		1
	3	2	22.26	22.22	22.44		
	3	3	22.18	22.16	22.40		
	6	0	21.06	21.06	21.35		

Table 9.3.7.7 LTE Conducted Power

LTE Band 7	Band & Mode	Modulated Average(dBm)
	Maximum Nominal	25.2 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 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.90	24.88	24.87	≤ 1	0
	1	50	24.72	24.77	24.68		
	1	99	24.80	24.79	24.59		
	50	0	23.96	23.94	23.84		1
	50	25	23.81	23.85	23.79		
	50	50	23.86	23.82	23.72		
	100	0	23.90	23.88	23.78		
16QAM	1	0	24.00	23.98	23.97	≤ 1	1
	1	50	23.88	23.84	23.79		
	1	99	23.87	23.86	23.57		
	50	0	22.97	22.95	22.86	≤ 2	2
	50	25	22.85	22.89	22.81		
	50	50	22.89	22.85	22.74		
	100	0	22.98	22.87	22.80		
64QAM	1	0	22.81	22.87	22.88	≤ 2	2
	1	50	22.77	22.69	22.68		
	1	99	22.80	22.71	22.61		
	50	0	21.95	21.93	21.83	≤ 3	3
	50	25	21.83	21.89	21.78		
	50	50	21.84	21.81	21.70		
	100	0	21.90	21.87	21.78		

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 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.88	24.84	24.82	≤ 1	0
	1	36	24.81	24.80	24.65		
	1	74	24.76	24.77	24.65		
	36	0	23.94	23.91	23.76		1
	36	18	23.83	23.87	23.75		
	36	37	23.78	23.78	23.73		
	75	0	23.84	23.83	23.72		
16QAM	1	0	23.96	23.93	23.91	≤ 1	1
	1	36	23.90	23.83	23.72		
	1	74	23.85	23.83	23.70		
	36	0	22.96	22.95	22.82	≤ 2	2
	36	18	22.88	22.91	22.79		
	36	37	22.84	22.81	22.80		
	75	0	22.96	22.88	22.75		
64QAM	1	0	22.82	22.81	22.80	≤ 2	2
	1	36	22.75	22.77	22.64		
	1	74	22.75	22.73	22.58		
	36	0	21.95	21.92	21.81	≤ 3	3
	36	18	21.84	21.88	21.80		
	36	37	21.79	21.83	21.78		
	75	0	21.86	21.84	21.75		

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 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.89	24.88	24.79	≤ 1	0
	1	25	24.59	24.83	24.74		
	1	49	24.58	24.71	24.71		
	25	0	23.88	23.85	23.72		
	25	12	23.74	23.84	23.65		
	25	25	23.70	23.79	23.63		
	50	0	23.86	23.84	23.71	1	
16QAM	1	0	23.95	23.94	23.82	≤ 1	1
	1	25	23.78	23.90	23.81		
	1	49	23.76	23.81	23.80		
	25	0	22.98	22.95	22.79	≤ 2	2
	25	12	22.87	22.93	22.74		
	25	25	22.86	22.82	22.70		
	50	0	22.93	22.90	22.84		2
64QAM	1	0	22.72	22.81	22.72	≤ 2	2
	1	25	22.64	22.76	22.63		
	1	49	22.63	22.74	22.60		
	25	0	21.92	21.91	21.73	≤ 3	3
	25	12	21.85	21.90	21.72		
	25	25	21.81	21.84	21.71		
	50	0	21.88	21.87	21.86		

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 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.86	24.82	24.77	≤ 1	0
	1	12	24.66	24.80	24.73		
	1	24	24.64	24.73	24.60		
	12	0	23.80	23.79	23.70		1
	12	6	23.69	23.78	23.66		
	12	13	23.67	23.77	23.65		
	25	0	23.79	23.78	23.73		
16QAM	1	0	23.95	23.94	23.81	≤ 1	1
	1	12	23.82	23.92	23.75		
	1	24	23.76	23.87	23.68		
	12	0	22.78	22.74	22.68	≤ 2	2
	12	6	22.63	22.73	22.64		
	12	13	22.58	22.68	22.63		
	25	0	22.70	22.67	22.64		
64QAM	1	0	22.87	22.86	22.79	≤ 2	2
	1	12	22.67	22.85	22.69		
	1	24	22.59	22.75	22.56		
	12	0	21.73	21.71	21.70	≤ 3	3
	12	6	21.60	21.70	21.65		
	12	13	21.57	21.66	21.62		
	25	0	21.68	21.67	21.63		

Table 9.3.8.5 LTE Conducted Power

Band & Mode		Modulated Average(dBm)
LTE Band 7	Maximum	23.7
	Nominal	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 (2510.0 MHz)	21300 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.36	23.35	23.33	≤ 1	0
	1	50	23.26	23.15	23.06		
	1	99	23.22	23.01	23.04		
	50	0	23.34	23.26	23.32		0
	50	25	23.20	23.24	23.24		
	50	50	23.26	23.15	23.11		
	100	0	23.34	23.24	23.23		0
16QAM	1	0	23.38	23.33	23.35	≤ 1	0
	1	50	23.28	23.17	23.17		
	1	99	23.27	23.10	23.08		
	50	0	22.29	22.26	22.25		1
	50	25	22.19	22.22	22.24		
	50	50	22.25	22.15	22.10		
	100	0	22.30	22.19	22.25		1
64QAM	1	0	22.49	22.50	22.48	≤ 1	1
	1	50	22.34	22.35	22.21		
	1	99	22.30	22.11	22.11		
	50	0	21.39	21.37	21.42	≤ 2	2
	50	25	21.34	21.31	21.36		
	50	50	21.38	21.23	21.21		
	100	0	21.44	21.31	21.36		

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 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.27	23.26	23.20	≤ 1	0
	1	36	23.17	23.15	23.08		
	1	74	23.13	23.12	23.04		
	36	0	23.26	23.25	23.18		0
	36	18	23.25	23.23	23.15		
	36	37	23.17	23.19	23.08		
	75	0	23.24	23.20	23.16		
16QAM	1	0	23.30	23.32	23.34	≤ 1	0
	1	36	23.25	23.20	23.10		
	1	74	23.20	23.18	23.07		
	36	0	22.25	22.21	22.27		1
	36	18	22.22	22.10	22.14		
	36	37	22.20	22.13	22.08		
	75	0	22.23	22.18	22.19		
64QAM	1	0	22.43	22.43	22.38	≤ 1	1
	1	36	22.36	22.31	22.21		
	1	74	22.32	22.22	22.11		
	36	0	21.38	21.35	21.36	≤ 2	2
	36	18	21.36	21.34	21.24		
	36	37	21.28	21.30	21.20		
	75	0	21.31	21.30	21.31		

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 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.36	23.26	23.15	≤ 1	0
	1	25	23.25	23.14	23.08		
	1	49	23.23	23.11	23.06		
	25	0	23.33	23.23	23.14		0
	25	12	23.29	23.15	23.10		
	25	25	23.30	23.18	23.11		
	50	0	23.29	23.16	23.09		0
16QAM	1	0	23.37	23.23	23.18	≤ 1	0
	1	25	23.36	23.22	23.15		
	1	49	23.34	23.16	23.04		
	25	0	22.34	22.21	22.14		1
	25	12	22.26	22.11	22.12		
	25	25	22.29	22.15	22.07		
	50	0	22.28	22.18	22.14		1
64QAM	1	0	22.50	22.38	22.28	≤ 1	1
	1	25	22.44	22.33	22.19		
	1	49	22.42	22.28	22.16		
	25	0	21.44	21.32	21.24	≤ 2	2
	25	12	21.40	21.31	21.21		
	25	25	21.42	21.25	21.19		
	50	0	21.43	21.31	21.19		

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 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	23.34	23.24	23.15	≤ 1	0
	1	12	23.28	23.14	23.07		
	1	24	23.22	23.10	23.04		
	12	0	23.33	23.23	23.13		0
	12	6	23.31	23.20	23.08		
	12	13	23.32	23.19	23.10		
	25	0	23.33	23.19	23.06		
16QAM	1	0	23.36	23.25	23.15	≤ 1	0
	1	12	23.35	23.20	23.14		
	1	24	23.29	23.19	23.08		
	12	0	22.36	22.23	22.11		1
	12	6	22.32	22.15	22.08		
	12	13	22.32	22.19	22.02		
	25	0	22.31	22.18	22.05		
64QAM	1	0	22.50	22.38	22.19	≤ 1	1
	1	12	22.43	22.30	22.18		
	1	24	22.42	22.28	22.08		
	12	0	21.50	21.34	21.26	≤ 2	2
	12	6	21.40	21.30	21.13		
	12	13	21.45	21.31	21.02		
	25	0	21.41	21.30	21.10		

Table 9.3.9.5 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 41	Maximum	25.2
	Nominal	24.7

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 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power (dBm)						
QPSK	1	0	24.84	24.86	24.88	24.80	24.78	≤ 1	0
	1	50	24.62	24.66	24.68	24.60	24.59		1
	1	99	24.60	24.62	24.65	24.58	24.58		
	50	0	23.77	23.78	23.81	23.76	23.75		
	50	25	23.69	23.72	23.73	23.68	23.66		
	50	50	23.63	23.61	23.62	23.55	23.52		
	100	0	23.71	23.73	23.75	23.69	23.67		
16QAM	1	0	23.90	23.94	23.98	23.88	23.86	≤ 1	1
	1	50	23.71	23.72	23.74	23.65	23.60		
	1	99	23.62	23.70	23.72	23.58	23.57		
	50	0	22.86	22.87	22.89	22.83	22.82	≤ 2	2
	50	25	22.83	22.84	22.83	22.81	22.73		
	50	50	22.78	22.76	22.72	22.63	22.60		
	100	0	22.78	22.80	22.81	22.75	22.73		
64QAM	1	0	22.97	22.99	23.03	22.96	22.94	≤ 2	2
	1	50	22.78	22.80	22.82	22.73	22.69		
	1	99	22.74	22.77	22.79	22.70	22.68		
	50	0	21.86	21.88	21.92	21.84	21.82	≤ 3	3
	50	25	21.78	21.79	21.80	21.76	21.74		
	50	50	21.73	21.70	21.73	21.68	21.65		
	100	0	21.75	21.77	21.83	21.77	21.74		

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 (2503.5 MHz)	40173 (2548.3 MHz)	40620 (2593.0 MHz)	41068 (2637.8 MHz)	41515 (2682.5 MHz)		
			Conducted Power (dBm)						
QPSK	1	0	24.82	24.83	24.84	24.77	24.75	≤ 1	0
	1	36	24.65	24.66	24.67	24.58	24.55		
	1	74	24.61	24.62	24.61	24.55	24.52		
	36	0	23.72	23.78	23.80	23.73	23.71		1
	36	18	23.71	23.72	23.75	23.63	23.58		
	36	37	23.65	23.66	23.67	23.54	23.52		
	75	0	23.70	23.72	23.74	23.66	23.62		
16QAM	1	0	23.88	23.90	23.91	23.84	23.80	≤ 1	1
	1	36	23.72	23.73	23.74	23.70	23.61		
	1	74	23.69	23.70	23.64	23.53	23.52		
	36	0	22.77	22.80	22.84	22.75	22.71	≤ 2	2
	36	18	22.75	22.76	22.77	22.68	22.62		
	36	37	22.73	22.73	22.72	22.57	22.55		
	75	0	22.76	22.77	22.80	22.74	22.70		
64QAM	1	0	22.94	22.95	22.99	22.92	22.90	≤ 2	2
	1	36	22.80	22.80	22.81	22.75	22.70		
	1	74	22.75	22.76	22.73	22.60	22.59		
	36	0	21.80	21.83	21.85	21.80	21.79	≤ 3	3
	36	18	21.76	21.77	21.78	21.72	21.70		
	36	37	21.71	21.72	21.70	21.65	21.63		
	75	0	21.77	21.76	21.78	21.73	21.71		

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 (2501.0 MHz)	40160 (2547.0 MHz)	40620 (2593.0 MHz)	41080 (2639.0 MHz)	41540 (2685.0 MHz)		
			Conducted Power (dBm)						
QPSK	1	0	24.77	24.78	24.80	24.75	24.72	≤ 1	0
	1	25	24.71	24.70	24.70	24.63	24.59		
	1	49	24.59	24.58	24.60	24.53	24.51		
	25	0	23.71	23.75	23.78	23.72	23.66		1
	25	12	23.68	23.70	23.75	23.65	23.63		
	25	25	23.66	23.65	23.67	23.60	23.58		
	50	0	23.70	23.72	23.74	23.68	23.65		1
16QAM	1	0	23.84	23.85	23.87	23.80	23.78	≤ 1	1
	1	25	23.75	23.75	23.76	23.68	23.61		
	1	49	23.69	23.66	23.69	23.60	23.57		
	25	0	22.85	22.84	22.82	22.83	22.80	≤ 2	2
	25	12	22.83	22.82	22.81	22.76	22.68		
	25	25	22.74	22.73	22.75	22.70	22.67		
	50	0	22.76	22.77	22.78	22.75	22.70		
64QAM	1	0	22.85	22.88	22.92	22.83	22.87	≤ 2	2
	1	25	22.83	22.81	22.84	22.74	22.67		
	1	49	22.74	22.73	22.74	22.72	22.65		
	25	0	21.87	21.88	21.90	21.85	21.82	≤ 3	3
	25	12	21.82	21.82	21.83	21.83	21.77		
	25	25	21.79	21.78	21.76	21.77	21.72		
	50	0	21.74	21.75	21.78	21.73	21.71		

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 (2498.5 MHz)	40148 (2545.8 MHz)	40620 (2593.0 MHz)	41093 (2640.3 MHz)	41565 (2687.5 MHz)		
			Conducted Power (dBm)						
QPSK	1	0	24.70	24.71	24.72	24.66	24.62	≤ 1	0
	1	12	24.66	24.68	24.71	24.64	24.59		1
	1	24	24.64	24.59	24.59	24.58	24.50		
	12	0	23.70	23.72	23.74	23.65	23.62		
	12	6	23.69	23.71	23.73	23.62	23.60		
	12	13	23.67	23.68	23.64	23.61	23.56		
	25	0	23.70	23.71	23.72	23.64	23.58		1
16QAM	1	0	23.82	23.83	23.85	23.75	23.65	≤ 1	1
	1	12	23.76	23.78	23.79	23.75	23.61		
	1	24	23.70	23.72	23.73	23.67	23.53		
	12	0	22.83	22.82	22.83	22.78	22.71	≤ 2	2
	12	6	22.82	22.79	22.81	22.75	22.68		
	12	13	22.81	22.78	22.78	22.70	22.60		
	25	0	22.78	22.79	22.84	22.76	22.67		
64QAM	1	0	22.86	22.89	22.90	22.83	22.73	≤ 2	2
	1	12	22.80	22.79	22.78	22.74	22.65		
	1	24	22.74	22.75	22.73	22.69	22.60		
	12	0	21.82	21.83	21.84	21.76	21.72	≤ 3	3
	12	6	21.76	21.80	21.83	21.73	21.70		
	12	13	21.77	21.76	21.77	21.69	21.65		
	25	0	21.81	21.81	21.82	21.75	21.70		

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	2412	1	15.82	15.48	-	-
	2437	6	15.95	15.82	-	-
	2462	11	15.75	15.80	-	-
	2467	12	0.40	0.15	-	-
	2472	13	0.45	0.14	-	-
802.11g	2412	1	15.15	14.94	18.06	-
	2437	6	15.30	15.32	18.32	-
	2462	11	15.14	15.21	18.18	-
	2467	12	3.05	3.20	6.14	-
	2472	13	2.94	3.06	6.01	-
802.11n (HT-20)	2412	1	13.97	13.91	16.95	16.96
	2437	6	14.02	13.86	16.95	17.01
	2462	11	13.98	13.94	16.97	17.04
	2467	12	2.81	2.97	5.90	5.50
	2472	13	2.65	2.95	5.81	5.44
802.11ac (VHT-20)	2412	1	13.92	13.90	16.92	16.96
	2437	6	13.91	13.97	16.95	17.01
	2462	11	13.99	13.94	16.98	17.06
	2467	12	2.63	3.14	5.90	5.55
	2472	13	2.69	3.12	5.92	5.48

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	5180	36	15.99	15.85	18.93	-
	5200	40	15.43	15.70	18.58	-
	5220	44	15.34	15.10	18.23	-
	5240	48	15.47	14.89	18.20	-
	5260	52	14.98	14.70	17.85	-
	5280	56	14.71	14.36	17.55	-
	5300	60	14.63	15.60	18.15	-
	5320	64	14.93	15.24	18.10	-
	5500	100	14.89	15.12	18.02	-
	5600	120	15.82	15.94	18.89	-
	5660	132	15.65	15.40	18.54	-
	5720	144	15.51	14.44	18.02	-
	5745	149	15.41	15.43	18.43	-
	5785	157	15.10	15.47	18.30	-
	5825	165	15.61	15.98	18.81	-

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)	5180	36	14.54	14.66	17.61	17.73
	5200	40	14.38	14.28	17.34	17.58
	5220	44	14.27	14.22	17.25	17.24
	5240	48	14.32	14.15	17.25	17.27
	5260	52	13.70	13.45	16.59	16.94
	5280	56	13.53	13.66	16.61	16.74
	5300	60	13.84	14.44	17.16	17.04
	5320	64	13.77	14.22	17.01	17.15
	5500	100	13.94	14.01	16.99	17.03
	5600	120	14.55	14.79	17.68	17.79
	5660	132	14.55	14.16	17.37	17.48
	5720	144	14.52	13.59	17.09	17.16
	5745	149	14.36	14.02	17.20	16.86
	5785	157	14.31	14.22	17.28	17.37
	5825	165	14.41	14.79	17.61	17.80

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)	5180	36	14.72	15.00	17.87	17.96
	5200	40	14.30	14.50	17.41	17.55
	5220	44	14.28	14.15	17.23	17.16
	5240	48	14.29	14.16	17.24	17.35
	5260	52	13.68	13.82	16.76	16.58
	5280	56	13.53	13.60	16.57	16.55
	5300	60	13.88	14.12	17.01	17.18
	5320	64	13.76	14.27	17.03	17.00
	5500	100	13.87	14.02	16.96	17.08
	5600	120	14.54	14.72	17.64	17.80
	5660	132	14.65	14.18	17.43	17.51
	5720	144	14.47	13.36	16.96	17.13
	5745	149	14.32	13.83	17.09	17.02
	5785	157	14.21	14.26	17.24	17.40
	5825	165	14.42	14.80	17.62	17.74

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)	5190	38	14.88	14.86	17.88	17.91
	5230	46	14.48	14.37	17.44	17.35
	5270	54	13.56	13.59	16.59	16.95
	5310	62	14.11	14.54	17.34	17.22
	5510	102	14.26	14.35	17.32	16.90
	5590	118	14.82	14.99	17.92	17.83
	5670	134	14.64	14.28	17.47	17.61
	5710	142	14.76	13.51	17.19	17.22
	5755	151	14.67	13.87	17.30	17.08
	5795	159	14.51	14.64	17.59	17.60

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)	5190	38	14.78	14.99	17.90	17.88
	5230	46	14.59	14.32	17.47	17.53
	5270	54	13.57	13.56	16.58	17.16
	5310	62	14.09	14.72	17.43	17.48
	5510	102	14.21	14.33	17.28	17.38
	5590	118	14.87	14.99	17.94	17.95
	5670	134	14.90	14.57	17.75	17.70
	5710	142	14.64	13.60	17.16	17.41
	5755	151	14.48	14.19	17.35	17.39
	5795	159	14.55	14.75	17.66	17.72

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)	5210	42	14.02	14.06	17.05	17.32
	5290	58	13.31	13.71	16.52	16.56
	5530	106	13.55	13.39	16.48	16.79
	5610	122	14.38	14.56	17.48	17.43
	5690	138	14.48	13.30	16.94	17.03
	5775	155	14.01	13.61	16.82	16.97

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, due 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 ≤ 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.

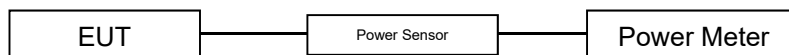


Figure 9.4 Power Measurement Setup

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 (MHz)	Burst AVG Output Power (1Mbps) (dBm)	Frame AVG Output Power (1Mbps) (dBm)	Burst AVG Output Power (2Mbps) (dBm)	Frame AVG Output Power (2Mbps) (dBm)	Burst AVG Output Power (3Mbps) (dBm)	Frame AVG Output Power (3Mbps) (dBm)
Low	2402	12.14	10.99	11.45	10.30	11.44	10.29
Mid	2441	11.87	10.72	11.30	10.15	11.31	10.16
High	2480	11.49	10.34	9.99	8.84	10.00	8.85

Table 9.5.3 Bluetooth Burst and Frame Average RF Power

Channel	Frequency (MHz)	Burst AVG Output Power(LE / 1Mbps) (dBm)	Frame AVG Output Power(LE / 1Mbps) (dBm)	Burst AVG Output Power(LE / 2Mbps) (dBm)	Frame AVG Output Power(LE / 2Mbps) (dBm)
Low	2402	6.98	6.31	6.97	4.59
Mid	2440	6.46	5.79	6.46	4.08
High	2480	5.50	4.83	5.45	3.07

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 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.

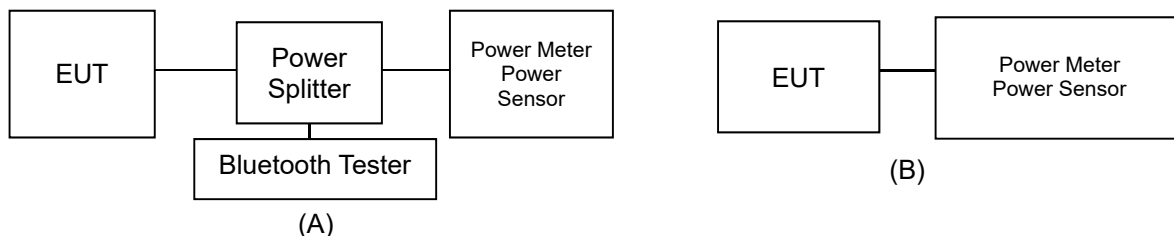


Figure 9.5.1 Average Power Measurement Setup

- Bluetooth Transmission Plot

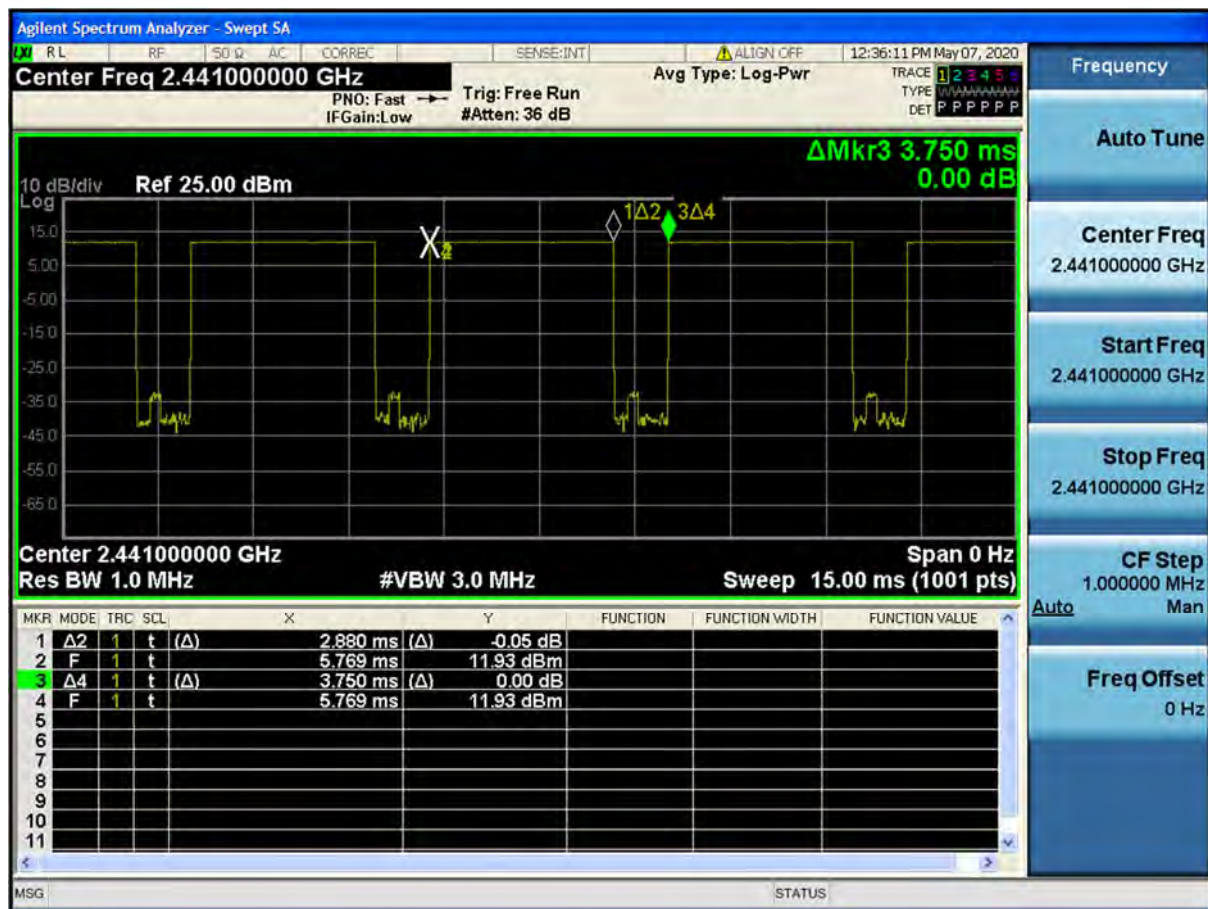


Figure 9.5.2 Bluetooth Transmission Plot

- Bluetooth Duty Cycle Calculation

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

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, ϵ_r	Target Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ_r	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
Apr. 29. 2020	2600 Head	21.9	22.1	2506.0	39.125	1.860	38.597	1.871	-1.35	0.59
				2510.0	39.120	1.864	38.582	1.875	-1.38	0.59
				2535.0	39.087	1.891	38.489	1.903	-1.53	0.63
				2549.5	39.068	1.906	38.434	1.919	-1.62	0.68
				2560.0	39.053	1.917	38.404	1.931	-1.66	0.73
				2593.0	39.009	1.953	38.288	1.966	-1.85	0.67
				2600.0	39.000	1.960	38.265	1.974	-1.88	0.71
				2636.5	38.955	2.000	38.127	2.014	-2.13	0.70
May. 1. 2020	2600 Body	21.2	21.4	2680.0	38.900	2.048	37.984	2.064	-2.35	0.78
				2506.0	52.629	2.029	52.012	2.050	-1.17	1.03
				2510.0	52.624	2.035	51.998	2.055	-1.19	0.98
				2535.0	52.592	2.071	51.921	2.086	-1.28	0.72
				2549.5	52.574	2.090	51.883	2.105	-1.31	0.72
				2560.0	52.560	2.106	51.859	2.117	-1.33	0.52
				2593.0	52.518	2.153	51.762	2.156	-1.44	0.14
				2600.0	52.509	2.163	51.740	2.164	-1.46	0.05
Apr. 29. 2020	5200 Body	22.3	22.6	2636.5	52.463	2.214	51.618	2.209	-1.61	-0.23
				2680.0	52.407	2.276	51.505	2.265	-1.72	-0.48
				5180.0	49.041	5.276	49.678	5.192	1.30	-1.59
				5190.0	49.028	5.288	49.661	5.202	1.29	-1.63
				5200.0	49.014	5.299	49.632	5.213	1.26	-1.62
				5210.0	49.001	5.311	49.608	5.224	1.24	-1.64
				5220.0	48.987	5.323	49.577	5.234	1.20	-1.67
				5230.0	48.974	5.334	49.543	5.247	1.16	-1.63
May. 7. 2020	5300 Head	21.3	20.9	5240.0	48.960	5.346	49.513	5.264	1.13	-1.53
				5260.0	35.940	4.720	35.208	4.809	-2.04	1.89
				5270.0	35.930	4.730	35.194	4.820	-2.05	1.90
				5280.0	35.920	4.740	35.185	4.828	-2.05	1.86
				5290.0	35.910	4.750	35.166	4.835	-2.07	1.79
				5300.0	35.900	4.760	35.143	4.846	-2.11	1.81
				5310.0	35.890	4.770	35.127	4.859	-2.13	1.87
				5320.0	35.880	4.780	35.116	4.873	-2.13	1.95
May. 1. 2020	5300 Body	21.1	21.8	5260.0	48.933	5.369	49.332	5.276	0.82	-1.73
				5270.0	48.919	5.381	49.271	5.294	0.72	-1.62
				5280.0	48.906	5.393	49.235	5.314	0.67	-1.46
				5290.0	48.892	5.404	49.221	5.333	0.67	-1.31
				5300.0	48.879	5.416	49.231	5.355	0.72	-1.13
				5310.0	48.865	5.428	49.265	5.373	0.82	-1.01
				5320.0	48.851	5.439	49.305	5.386	0.93	-0.97
May. 8. 2020	5600 Head	20.3	20.6	5500.0	35.650	4.965	34.834	4.848	-2.29	-2.36
				5510.0	35.635	4.976	34.830	4.856	-2.26	-2.41
				5530.0	35.605	4.997	34.792	4.878	-2.28	-2.38
				5550.0	35.575	5.018	34.770	4.902	-2.26	-2.31
				5580.0	35.530	5.049	34.725	4.933	-2.27	-2.30
				5600.0	35.500	5.070	34.696	4.960	-2.26	-2.17
				5660.0	35.440	5.130	34.628	5.025	-2.29	-2.05
				5670.0	35.430	5.140	34.615	5.034	-2.30	-2.06
				5690.0	35.410	5.160	34.578	5.058	-2.35	-1.98
				5710.0	35.390	5.180	34.548	5.085	-2.38	-1.83
				5720.0	35.380	5.190	34.548	5.096	-2.35	-1.81
May. 4. 2020	5600 Body	20.9	21.3	5500.0	48.607	5.650	48.900	5.773	0.60	2.18
				5510.0	48.594	5.661	48.880	5.782	0.59	2.14
				5530.0	48.566	5.685	48.819	5.809	0.52	2.18
				5550.0	48.539	5.708	48.770	5.838	0.48	2.28
				5580.0	48.499	5.743	48.710	5.891	0.44	2.58
				5600.0	48.471	5.766	48.707	5.920	0.49	2.67
				5660.0	48.390	5.836	48.566	5.991	0.36	2.66
				5670.0	48.376	5.848	48.538	6.008	0.33	2.74
				5690.0	48.349	5.872	48.506	6.046	0.32	2.96
				5710.0	48.322	5.895	48.507	6.075	0.38	3.05
				5720.0	48.309	5.907	48.496	6.083	0.39	2.98

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, ϵ_r	Target Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ_r	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
May. 11. 2020	5800 Head	20.6	20.9	5745.0	35.355	5.215	34.170	5.165	-3.35	-0.96
				5755.0	35.345	5.225	34.150	5.180	-3.38	-0.86
				5775.0	35.325	5.245	34.136	5.200	-3.37	-0.86
				5785.0	35.315	5.255	34.121	5.209	-3.38	-0.88
				5795.0	35.305	5.265	34.103	5.219	-3.40	-0.87
				5800.0	35.300	5.270	34.094	5.225	-3.42	-0.85
				5825.0	35.275	5.296	34.053	5.257	-3.46	-0.74
May. 6. 2020	5800 Body	21.1	21.3	5745.0	48.275	5.936	48.507	6.104	0.48	2.83
				5755.0	48.261	5.947	48.473	6.117	0.44	2.86
				5775.0	48.234	5.971	48.402	6.149	0.35	2.98
				5785.0	48.220	5.982	48.378	6.171	0.33	3.16
				5795.0	48.207	5.994	48.368	6.194	0.33	3.34
				5800.0	48.200	6.000	48.368	6.205	0.35	3.42
				5825.0	48.166	6.029	48.389	6.235	0.46	3.42

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, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω 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 _{1g} (W/kg)	Measured SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation [%]
D	750	D750V3, SN:1049	Apr. 27. 2020	Head	22.1	22.4	3933	250	8.47	2.02	8.08	-4.60
D	750	D750V3, SN:1049	Apr. 28. 2020	Body	21.2	21.6	3933	250	8.43	2.16	8.64	2.49
D	835	D835V2, SN:464	Apr. 23. 2020	Head	21.2	21.6	3933	250	9.59	2.46	9.84	2.61
D	835	D835V2, SN:464	Apr. 24. 2020	Body	22.6	22.4	3933	250	9.68	2.38	9.52	-1.65
C	1800	D1800V2, SN:2d202	Apr. 27. 2020	Head	21.5	21.7	3328	100	39.6	3.79	37.90	-4.29
C	1800	D1800V2, SN:2d202	Apr. 28. 2020	Body	21.8	21.6	3328	100	39.0	3.83	38.30	-1.79
C	1900	D1900V2, SN:5d029	Apr. 23. 2020	Head	20.0	20.2	3328	100	40.4	4.08	40.80	0.99
C	1900	D1900V2, SN:5d029	Apr. 24. 2020	Body	20.4	20.3	3328	100	39.9	4.01	40.10	0.50
C	2450	D2450V2, SN:726	May. 4. 2020	Head	21.0	21.2	3328	100	51.2	5.32	53.20	3.91
C	2450	D2450V2, SN:726	May. 6. 2020	Body	21.3	21.1	3328	100	52.0	5.11	51.10	-1.73
C	2600	D2600V2, SN:1103	Apr. 29. 2020	Head	21.9	22.1	3328	100	57.8	5.87	58.70	1.56
C	2600	D2600V2, SN:1103	May. 1. 2020	Body	21.2	21.4	3328	100	55.8	5.31	53.10	-4.84
D	5200	D5GHZV2, SN:1212	Apr. 29. 2020	Body	22.3	22.6	3933	100	72.8	7.40	74.00	1.65
D	5300	D5GHZV2, SN:1212	May. 7. 2020	Head	21.3	20.9	3933	100	81.3	7.92	79.20	-2.58
D	5300	D5GHZV2, SN:1212	May. 1. 2020	Body	21.1	21.8	3933	100	72.8	7.63	76.30	4.81
D	5600	D5GHZV2, SN:1212	May. 8. 2020	Head	20.3	20.6	3933	100	83.3	8.03	80.30	-3.60
D	5600	D5GHZV2, SN:1212	May. 4. 2020	Body	20.9	21.3	3933	100	77.6	7.93	79.30	2.19
D	5800	D5GHZV2, SN:1212	May. 11. 2020	Head	20.6	20.9	3933	100	81.5	8.31	83.10	1.96
D	5800	D5GHZV2, SN:1212	May. 6. 2020	Body	21.1	21.3	3933	100	73.7	7.25	72.50	-1.63

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 _{10g} (W/kg)	Measured SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation [%]
C	1800	D1800V2, SN:2d002	Apr. 28. 2020	Body	21.8	21.6	3328	100	20.4	2.01	20.10	-1.47
C	1900	D1900V2, SN:5d029	Apr. 24. 2020	Body	20.4	20.3	3328	100	21.0	2.05	20.50	-2.38
C	2600	D2600V2, SN:1103	May. 1. 2020	Body	21.2	21.4	3328	100	24.9	2.41	24.10	-3.21
D	5300	D5GHZV2, SN:1212	May. 1. 2020	Body	21.1	21.8	3933	100	20.2	2.12	21.20	4.95
D	5600	D5GHZV2, SN:1212	May. 4. 2020	Body	20.9	21.3	3933	100	21.4	2.21	22.10	3.27
D	5800	D5GHZV2, SN:1212	May. 6. 2020	Body	21.1	21.3	3933	100	20.2	1.98	19.80	-1.98

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.

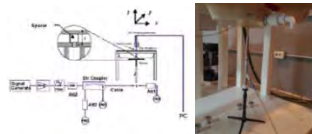


Figure 10.1 Dipole Verification Test Setup Diagram & Photo

Table 11.1.15 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														
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.000	Left Touch	FCC #2	0.053	6	97.7	0.048	1.042	1.024	0.051	A21
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.000	Right Touch	FCC #2	0.062	6	97.7	0.058	1.042	1.024	0.062	
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.000	Left Tilt	FCC #2	0.043	6	97.7	0.036	1.042	1.024	0.038	
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.000	Right Tilt	FCC #2	0.053	6	97.7	0.049	1.042	1.024	0.052	
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.000	Right Touch	FCC #2	0.062	6	97.7	0.056	1.042	1.024	0.060	A22
5600.0	120	802.11a (Ant.2)	16.00	15.94	0.030	Left Touch	FCC #2	0.116	6	97.7	0.143	1.014	1.024	0.148	
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.140	Right Touch	FCC #2	0.162	6	97.7	0.158	1.014	1.024	0.164	
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.060	Left Tilt	FCC #2	0.121	6	97.7	0.140	1.014	1.024	0.145	
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.030	Right Tilt	FCC #2	0.099	6	97.7	0.097	1.014	1.024	0.101	A23
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.130	Right Touch	FCC #2	0.158	6	97.7	0.154	1.014	1.024	0.160	
5600.0	120	802.11a (MIMO)	19.00	18.89	0.070	Left Touch	FCC #2	0.232	6	97.9	0.241	1.042	1.021	0.257	
5600.0	120	802.11a (MIMO)	19.00	18.89	0.130	Right Touch	FCC #2	0.273	6	97.9	0.281	1.042	1.021	0.299	
5600.0	120	802.11a (MIMO)	19.00	18.89	-0.110	Left Tilt	FCC #2	0.121	6	97.9	0.133	1.042	1.021	0.142	A24
5600.0	120	802.11a (MIMO)	19.00	18.89	-0.140	Right Tilt	FCC #2	0.150	6	97.9	0.158	1.042	1.021	0.168	
5600.0	120	802.11a (MIMO)	19.00	18.89	-0.190	Right Touch	FCC #2	0.268	6	97.9	0.272	1.042	1.021	0.290	
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.000	Left Touch	FCC #2	0.059	6	97.7	0.032	1.094	1.024	0.036	
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.000	Right Touch	FCC #2	0.042	6	97.7	0.035	1.094	1.024	0.039	A25
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.000	Left Tilt	FCC #2	0.050	6	97.7	0.034	1.094	1.024	0.038	
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.000	Right Tilt	FCC #2	0.049	6	97.7	0.036	1.094	1.024	0.040	
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.000	Right Touch	FCC #2	0.046	6	97.7	0.033	1.094	1.024	0.037	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.030	Left Touch	FCC #2	0.103	6	97.7	0.089	1.005	1.024	0.092	A26
5825.0	165	802.11a (Ant.2)	16.00	15.98	-0.080	Right Touch	FCC #2	0.124	6	97.7	0.092	1.005	1.024	0.095	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.090	Left Tilt	FCC #2	0.106	6	97.7	0.090	1.005	1.024	0.093	
5825.0	165	802.11a (Ant.2)	16.00	15.98	-0.010	Right Tilt	FCC #2	0.108	6	97.7	0.091	1.005	1.024	0.094	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.040	Right Touch	FCC #2	0.118	6	97.7	0.091	1.005	1.024	0.094	A27
5825.0	165	802.11a (MIMO)	19.00	18.81	0.160	Left Touch	FCC #2	0.244	6	97.9	0.216	1.094	1.021	0.241	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.080	Right Touch	FCC #2	0.251	6	97.9	0.242	1.094	1.021	0.270	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.030	Left Tilt	FCC #2	0.153	6	97.9	0.166	1.094	1.021	0.185	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.060	Right Tilt	FCC #2	0.161	6	97.9	0.176	1.094	1.021	0.197	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.010	Right Touch	FCC #2	0.246	6	97.9	0.240	1.094	1.021	0.268	
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 2nd Battery (This device supports two vendor's batteries.) measurements.

Table 11.1.16 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													
2441.0	39	Bluetooth	11.35	10.72	0.000	Left Touch	FCC #2	1	76.8	0.029	1.156	1.302	0.044	A27
2441.0	39	Bluetooth	11.35	10.72	0.080	Right Touch	FCC #2	1	76.8	0.123	1.156	1.302	0.185	
2441.0	39	Bluetooth	11.35	10.72	0.000	Left Tilt	FCC #2	1	76.8	0.027	1.156	1.302	0.041	
2441.0	39	Bluetooth	11.35	10.72	0.130	Right Tilt	FCC #2	1	76.8	0.089	1.156	1.302	0.134	
2441.0	39	Bluetooth	11.35	10.72	0.090	Right Touch	FCC #2	1	76.8	0.119	1.156	1.302	0.179	
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 2nd Battery (This device supports two vendor's batteries.) measurements.

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														
5260.0	52	802.11a (Ant.1)	16.00	14.98	-0.120	0 mm [Top]	FCC #2	0.065	6	97.7	0.061	1.265	1.024	0.079	
5260.0	52	802.11a (Ant.1)	16.00	14.98	-0.180	0 mm [Front]	FCC #2	0.064	6	97.7	0.062	1.265	1.024	0.080	
5260.0	52	802.11a (Ant.1)	16.00	14.98	0.080	0 mm [Rear]	FCC #2	0.710	6	97.7	0.733	1.265	1.024	0.949	A76
5260.0	52	802.11a (Ant.1)	16.00	14.98	0.000	0 mm [Left]	FCC #2	0.136	6	97.7	0.162	1.265	1.024	0.210	
5260.0	52	802.11a (Ant.1)	16.00	14.98	-0.010	0 mm [Rear]	FCC #2	0.515	6	97.7	0.650	1.265	1.024	0.842	
5300.0	60	802.11a (Ant.2)	16.00	15.60	-0.090	0 mm [Top]	FCC #2	0.098	6	97.7	0.084	1.096	1.024	0.094	
5300.0	60	802.11a (Ant.2)	16.00	15.60	0.110	0 mm [Front]	FCC #2	0.181	6	97.7	0.162	1.096	1.024	0.182	
5300.0	60	802.11a (Ant.2)	16.00	15.60	-0.160	0 mm [Rear]	FCC #2	0.346	6	97.7	0.315	1.096	1.024	0.353	A77
5300.0	60	802.11a (Ant.2)	16.00	15.60	0.050	0 mm [Left]	FCC #2	0.244	6	97.7	0.292	1.096	1.024	0.328	
5300.0	60	802.11a (Ant.2)	16.00	15.60	-0.140	0 mm [Rear]	FCC #2	0.342	6	97.7	0.314	1.096	1.024	0.352	
5300.0	80	802.11a (MIMO)	19.00	18.15	-0.050	0 mm [Top]	FCC #2	0.208	6	97.9	0.192	1.265	1.021	0.248	
5300.0	80	802.11a (MIMO)	19.00	18.15	0.110	0 mm [Front]	FCC #2	0.301	6	97.9	0.302	1.265	1.021	0.390	
5300.0	80	802.11a (MIMO)	19.00	18.15	-0.040	0 mm [Rear]	FCC #2	1.060	6	97.9	1.240	1.265	1.021	1.602	A78
5300.0	80	802.11a (MIMO)	19.00	18.15	0.080	0 mm [Left]	FCC #2	0.310	6	97.9	0.353	1.265	1.021	0.456	
5300.0	80	802.11a (MIMO)	19.00	18.15	0.140	0 mm [Rear]	FCC #2	0.983	6	97.9	1.170	1.265	1.021	1.512	
5600.0	120	802.11a (Ant.1)	16.00	15.82	-0.130	0 mm [Top]	FCC #2	0.014	6	97.7	0.011	1.042	1.019	0.012	
5600.0	120	802.11a (Ant.1)	16.00	15.82	-0.120	0 mm [Front]	FCC #2	0.036	6	97.7	0.035	1.042	1.019	0.037	
5600.0	120	802.11a (Ant.1)	16.00	15.82	-0.070	0 mm [Rear]	FCC #2	0.431	6	97.7	0.453	1.042	1.019	0.481	A79
5600.0	120	802.11a (Ant.1)	16.00	15.82	0.170	0 mm [Left]	FCC #2	0.096	6	97.7	0.093	1.042	1.019	0.099	
5600.0	120	802.11a (Ant.1)	16.00	15.82	-0.120	0 mm [Rear]	FCC #2	0.439	6	97.7	0.452	1.042	1.019	0.480	
5600.0	120	802.11a (Ant.2)	16.00	15.94	0.160	0 mm [Top]	FCC #2	0.047	6	97.7	0.048	1.014	1.019	0.050	
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.160	0 mm [Front]	FCC #2	0.092	6	97.7	0.144	1.014	1.019	0.149	
5600.0	120	802.11a (Ant.2)	16.00	15.94	-0.020	0 mm [Rear]	FCC #2	0.352	6	97.7	0.353	1.014	1.019	0.365	A80
5600.0	120	802.11a (Ant.2)	16.00	15.94	0.120	0 mm [Left]	FCC #2	0.179	6	97.7	0.187	1.014	1.019	0.193	
5600.0	120	802.11a (Ant.2)	16.00	15.94	0.140	0 mm [Rear]	FCC #2	0.355	6	97.7	0.330	1.014	1.019	0.341	
5600.0	120	802.11a (MIMO)	19.00	18.89	0.110	0 mm [Top]	FCC #2	0.007	6	97.9	0.063	1.042	1.019	0.067	
5600.0	120	802.11a (MIMO)	19.00	18.89	-0.190	0 mm [Front]	FCC #2	0.179	6	97.9	0.179	1.042	1.019	0.190	
5600.0	120	802.11a (MIMO)	19.00	18.89	0.180	0 mm [Rear]	FCC #2	0.616	6	97.9	0.622	1.042	1.019	0.660	A81
5600.0	120	802.11a (MIMO)	19.00	18.89	0.150	0 mm [Left]	FCC #2	0.287	6	97.9	0.287	1.042	1.019	0.305	
5600.0	120	802.11a (MIMO)	19.00	18.89	0.180	0 mm [Rear]	FCC #2	0.615	6	97.9	0.617	1.042	1.019	0.655	
5825.0	165	802.11a (Ant.1)	16.00	15.61	-0.050	0 mm [Top]	FCC #2	0.050	6	97.7	0.043	1.094	1.024	0.048	
5825.0	165	802.11a (Ant.1)	16.00	15.61	0.040	0 mm [Front]	FCC #2	0.023	6	97.7	0.018	1.094	1.024	0.020	
5825.0	165	802.11a (Ant.1)	16.00	15.61	-0.050	0 mm [Rear]	FCC #2	0.377	6	97.7	0.365	1.094	1.024	0.409	A82
5825.0	165	802.11a (Ant.1)	16.00	15.61	-0.140	0 mm [Left]	FCC #2	0.111	6	97.7	0.109	1.094	1.024	0.122	
5825.0	165	802.11a (Ant.1)	16.00	15.61	-0.130	0 mm [Rear]	FCC #2	0.373	6	97.7	0.364	1.094	1.024	0.408	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.100	0 mm [Top]	FCC #2	0.083	6	97.7	0.080	1.005	1.024	0.082	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.090	0 mm [Front]	FCC #2	0.124	6	97.7	0.095	1.005	1.024	0.098	
5825.0	165	802.11a (Ant.2)	16.00	15.98	-0.090	0 mm [Rear]	FCC #2	0.258	6	97.7	0.257	1.005	1.024	0.264	A83
5825.0	165	802.11a (Ant.2)	16.00	15.98	-0.190	0 mm [Left]	FCC #2	0.182	6	97.7	0.173	1.005	1.024	0.178	
5825.0	165	802.11a (Ant.2)	16.00	15.98	0.060	0 mm [Rear]	FCC #2	0.253	6	97.7	0.255	1.005	1.024	0.262	
5825.0	165	802.11a (MIMO)	19.00	18.81	-0.180	0 mm [Top]	FCC #2	0.135	6	97.9	0.127	1.094	1.021	0.142	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.140	0 mm [Front]	FCC #2	0.121	6	97.9	0.101	1.094	1.021	0.113	
5825.0	165	802.11a (MIMO)	19.00	18.81	0.080	0 mm [Rear]	FCC #2	0.596	6	97.9	0.662	1.094	1.021	0.740	A84
5825.0	165	802.11a (MIMO)	19.00	18.81	-0.150	0 mm [Left]	FCC #2	0.341	6	97.9	0.311	1.094	1.021	0.348	
5825.0	165	802.11a (MIMO)	19.00	18.81	-0.190	0 mm [Rear]	FCC #2	0.661	6	97.9	0.661	1.094	1.021	0.739	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Phablet 4.0 W/kg (mW/g) averaged over 10 g/cm							

Note(s):

- Gray entries represent 2nd 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 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 boy-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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 adjust SAR is ≤ 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 ≤ 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 ≤ 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 physical test configuration is ≤ 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 ^A	Yes	N/A	Yes	^A 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 ^A	Yes	N/A	Yes	^A Bluetooth Tethering is considered.
8	GSM Voice + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes ^A	Yes	N/A	Yes	^A 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	[^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
11	WCDMA + Bluetooth 2.4 GHz	Yes ^A	Yes	Yes	Yes	^A 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 [^]	Yes	[^] 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 [^]	Yes	[^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
15	WCDMA + Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes ^A	Yes	Yes [^]	Yes	^A Bluetooth Tethering is considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
16	WCDMA + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes ^A	Yes	Yes [^]	Yes	^A Bluetooth Tethering is considered. [^] 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 [^]	Yes	[^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
19	LTE + Bluetooth 2.4 GHz	Yes ^A	Yes	Yes	Yes	^A 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	[^] 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 [^]	Yes	[^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
23	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes ^A	Yes	Yes [^]	Yes	^A Bluetooth Tethering is considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
24	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes ^A	Yes	Yes [^]	Yes	^A Bluetooth Tethering is considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
25	GPRS/EDGE + Wi-Fi 2.4 GHz	Yes [*]	Yes [*]	Yes	Yes	[*] Pre-installed VOIP applications are considered.
26	GPRS/EDGE + Wi-Fi 5 GHz	Yes [*]	Yes [*]	Yes [^]	Yes	[*] Pre-installed VOIP applications are considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
27	GPRS/EDGE + Bluetooth 2.4 GHz	Yes ^{*A}	Yes [*]	Yes	Yes	[*] Pre-installed VOIP applications are considered. ^A Bluetooth Tethering is considered.
28	GPRS/EDGE + Wi-Fi 2.4 GHz MIMO	Yes [*]	Yes [*]	Yes	Yes	[*] Pre-installed VOIP applications are considered.
29	GPRS/EDGE + Wi-Fi 5 GHz MIMO	Yes [*]	Yes [*]	Yes [^]	Yes	[*] Pre-installed VOIP applications are considered. [^] 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 [*]	Yes [*]	Yes [^]	Yes	[*] Pre-installed VOIP applications are considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
31	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5 GHz	Yes ^{*A}	Yes [*]	Yes [^]	Yes	[*] Pre-installed VOIP applications are considered. ^A Bluetooth Tethering is considered. [^] Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
32	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes ^{*A}	Yes [*]	Yes [^]	Yes	[*] Pre-installed VOIP applications are considered. ^A Bluetooth Tethering is considered. [^] 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 ^A	Yes	N/A	Yes	^A Bluetooth Tethering is considered.
35	Bluetooth 2.4 GHz + Wi-Fi 5 GHz MIMO	Yes ^A	Yes	N/A	Yes	^A Bluetooth Tethering is considered.

Notes:

1. WiFi 2.4GHz is supported Hotspot and WiFi-Direct(GO/GC).
2. WiFi 5GHz is supported Hotspot in UNII B1,B3 and WiFi-Direct(GO/GC) in UNII B1,B3.
3. LTE, WCDMA, GPRS/EDGE is supported Hotspot.
4. VoIP is supported in LTE, WCDMA, GSM.
5. Bluetooth and WiFi can not transmit simultaneously at 2.4G band.
6. GSM, WCDMA and LTE can not transmit simultaneously since they share the same chip.
7. 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 [DPCCH]) 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.
8. 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.

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	0.121	0.184	0.305
		Right Touch	0.100	0.640	0.740
		Left Tilt	0.055	0.137	0.192
		Right Tilt	0.069	0.395	0.464
	GPRS 850	Left Touch	0.155	0.184	0.339
		Right Touch	0.136	0.640	0.776
		Left Tilt	0.069	0.137	0.206
		Right Tilt	0.087	0.395	0.482
	GSM 1900	Left Touch	0.029	0.184	0.213
		Right Touch	0.025	0.640	0.665
		Left Tilt	0.018	0.137	0.155
		Right Tilt	0.013	0.395	0.408
	GPRS 1900	Left Touch	0.036	0.184	0.220
		Right Touch	0.031	0.640	0.671
		Left Tilt	0.021	0.137	0.158
		Right Tilt	0.013	0.395	0.408
	WCDMA 850	Left Touch	0.172	0.184	0.356
		Right Touch	0.153	0.640	0.793
		Left Tilt	0.071	0.137	0.208
		Right Tilt	0.107	0.395	0.502
	WCDMA 1700	Left Touch	0.081	0.184	0.265
		Right Touch	0.106	0.640	0.746
		Left Tilt	0.064	0.137	0.201
		Right Tilt	0.060	0.395	0.455
	WCDMA 1900	Left Touch	0.065	0.184	0.249
		Right Touch	0.059	0.640	0.699
		Left Tilt	0.047	0.137	0.184
		Right Tilt	0.039	0.395	0.434
	LTE Band 12	Left Touch	0.148	0.184	0.332
		Right Touch	0.139	0.640	0.779
		Left Tilt	0.056	0.137	0.193
		Right Tilt	0.079	0.395	0.474
	LTE Band 13	Left Touch	0.197	0.184	0.381
		Right Touch	0.165	0.640	0.805
		Left Tilt	0.074	0.137	0.211
		Right Tilt	0.115	0.395	0.510
	LTE Band 26	Left Touch	0.253	0.184	0.437
		Right Touch	0.170	0.640	0.810
		Left Tilt	0.108	0.137	0.245
		Right Tilt	0.114	0.395	0.509
	LTE Band 66	Left Touch	0.082	0.184	0.266
		Right Touch	0.116	0.640	0.756
		Left Tilt	0.078	0.137	0.215
		Right Tilt	0.044	0.395	0.439
	LTE Band 25	Left Touch	0.055	0.184	0.239
		Right Touch	0.068	0.640	0.708
		Left Tilt	0.042	0.137	0.179
		Right Tilt	0.033	0.395	0.428
	LTE Band 7	Left Touch	0.092	0.184	0.276
		Right Touch	0.063	0.640	0.703
		Left Tilt	0.035	0.137	0.172
		Right Tilt	0.039	0.395	0.434
	LTE Band 41	Left Touch	0.033	0.184	0.217
		Right Touch	0.026	0.640	0.666
		Left Tilt	0.008	0.137	0.145
		Right Tilt	0.013	0.395	0.408

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	0.121	0.258	0.379
		Right Touch	0.110	0.548	0.658
		Left Tilt	0.055	0.324	0.379
		Right Tilt	0.069	0.695	0.764
	GPRS 850	Left Touch	0.155	0.258	0.413
		Right Touch	0.136	0.548	0.684
		Left Tilt	0.069	0.324	0.393
		Right Tilt	0.087	0.695	0.782
	GSM 1900	Left Touch	0.029	0.258	0.287
		Right Touch	0.025	0.548	0.573
		Left Tilt	0.018	0.324	0.342
		Right Tilt	0.013	0.695	0.708
	GPRS 1900	Left Touch	0.036	0.258	0.294
		Right Touch	0.031	0.548	0.579
		Left Tilt	0.021	0.324	0.345
		Right Tilt	0.013	0.695	0.708
	WCDMA 850	Left Touch	0.172	0.258	0.430
		Right Touch	0.153	0.548	0.701
		Left Tilt	0.071	0.324	0.395
		Right Tilt	0.107	0.695	0.802
	WCDMA 1700	Left Touch	0.081	0.258	0.339
		Right Touch	0.106	0.548	0.654
		Left Tilt	0.064	0.324	0.388
		Right Tilt	0.060	0.695	0.755
	WCDMA 1900	Left Touch	0.065	0.258	0.323
		Right Touch	0.059	0.548	0.607
		Left Tilt	0.047	0.324	0.371
		Right Tilt	0.039	0.695	0.734
	LTE Band 12	Left Touch	0.148	0.258	0.406
		Right Touch	0.139	0.548	0.687
		Left Tilt	0.056	0.324	0.380
		Right Tilt	0.079	0.695	0.774
	LTE Band 13	Left Touch	0.197	0.258	0.455
		Right Touch	0.165	0.548	0.713
		Left Tilt	0.074	0.324	0.398
		Right Tilt	0.115	0.695	0.810
	LTE Band 26	Left Touch	0.253	0.258	0.511
		Right Touch	0.170	0.548	0.718
		Left Tilt	0.108	0.324	0.432
		Right Tilt	0.114	0.695	0.809
	LTE Band 66	Left Touch	0.082	0.258	0.340
		Right Touch	0.116	0.548	0.664
		Left Tilt	0.078	0.324	0.402
		Right Tilt	0.044	0.695	0.739
	LTE Band 25	Left Touch	0.055	0.258	0.313
		Right Touch	0.068	0.548	0.616
		Left Tilt	0.042	0.324	0.366
		Right Tilt	0.033	0.695	0.728
	LTE Band 7	Left Touch	0.092	0.258	0.350
		Right Touch	0.063	0.548	0.611
		Left Tilt	0.035	0.324	0.359
		Right Tilt	0.039	0.695	0.734
	LTE Band 41	Left Touch	0.033	0.258	0.291
		Right Touch	0.026	0.548	0.574
		Left Tilt	0.008	0.324	0.332
		Right Tilt	0.013	0.695	0.708

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	0.121	0.308	0.429
		Right Touch	0.110	0.630	0.740
		Left Tilt	0.055	0.398	0.453
		Right Tilt	0.069	0.719	0.788
	GPRS 850	Left Touch	0.155	0.308	0.463
		Right Touch	0.136	0.630	0.766
		Left Tilt	0.069	0.398	0.467
		Right Tilt	0.087	0.719	0.806
	GSM 1900	Left Touch	0.036	0.308	0.344
		Right Touch	0.031	0.630	0.661
		Left Tilt	0.021	0.398	0.419
		Right Tilt	0.013	0.719	0.732
	GPRS 1900	Left Touch	0.037	0.308	0.345
		Right Touch	0.032	0.630	0.662
		Left Tilt	0.022	0.398	0.420
		Right Tilt	0.013	0.719	0.732
	WCDMA 850	Left Touch	0.172	0.308	0.480
		Right Touch	0.153	0.630	0.783
		Left Tilt	0.071	0.398	0.469
		Right Tilt	0.107	0.719	0.826
	WCDMA 1700	Left Touch	0.081	0.308	0.389
		Right Touch	0.106	0.630	0.736
		Left Tilt	0.064	0.398	0.462
		Right Tilt	0.060	0.719	0.779
	WCDMA 1900	Left Touch	0.065	0.308	0.373
		Right Touch	0.059	0.630	0.689
		Left Tilt	0.047	0.398	0.445
		Right Tilt	0.039	0.719	0.758
	LTE Band 12	Left Touch	0.148	0.308	0.456
		Right Touch	0.139	0.630	0.769
		Left Tilt	0.056	0.398	0.454
		Right Tilt	0.079	0.719	0.798
	LTE Band 13	Left Touch	0.197	0.308	0.505
		Right Touch	0.165	0.630	0.795
		Left Tilt	0.074	0.398	0.472
		Right Tilt	0.115	0.719	0.834
	LTE Band 26	Left Touch	0.253	0.308	0.561
		Right Touch	0.170	0.630	0.800
		Left Tilt	0.108	0.398	0.506
		Right Tilt	0.114	0.719	0.833
	LTE Band 66	Left Touch	0.082	0.308	0.390
		Right Touch	0.116	0.630	0.746
		Left Tilt	0.078	0.398	0.476
		Right Tilt	0.044	0.719	0.763
	LTE Band 25	Left Touch	0.055	0.308	0.363
		Right Touch	0.058	0.630	0.698
		Left Tilt	0.042	0.398	0.440
		Right Tilt	0.033	0.719	0.752
	LTE Band 7	Left Touch	0.092	0.308	0.400
		Right Touch	0.063	0.630	0.693
		Left Tilt	0.035	0.398	0.433
		Right Tilt	0.039	0.719	0.758
	LTE Band 41	Left Touch	0.033	0.308	0.341
		Right Touch	0.026	0.630	0.656
		Left Tilt	0.008	0.398	0.406
		Right Tilt	0.019	0.719	0.732

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	0.121	0.117	0.238
		Right Touch	0.110	0.135	0.245
		Left Tilt	0.055	0.132	0.187
		Right Tilt	0.069	0.148	0.217
	GPRS 850	Left Touch	0.155	0.117	0.272
		Right Touch	0.136	0.135	0.271
		Left Tilt	0.069	0.132	0.201
		Right Tilt	0.087	0.148	0.235
	GSM 1900	Left Touch	0.029	0.117	0.146
		Right Touch	0.025	0.135	0.160
		Left Tilt	0.018	0.132	0.150
		Right Tilt	0.013	0.148	0.161
	GPRS 1900	Left Touch	0.036	0.117	0.153
		Right Touch	0.031	0.135	0.166
		Left Tilt	0.021	0.132	0.153
		Right Tilt	0.013	0.148	0.161
	WCDMA 850	Left Touch	0.172	0.117	0.289
		Right Touch	0.153	0.135	0.288
		Left Tilt	0.071	0.132	0.203
		Right Tilt	0.107	0.148	0.255
	WCDMA 1700	Left Touch	0.081	0.117	0.198
		Right Touch	0.106	0.135	0.241
		Left Tilt	0.064	0.132	0.196
		Right Tilt	0.060	0.148	0.208
	WCDMA 1900	Left Touch	0.065	0.117	0.182
		Right Touch	0.059	0.135	0.194
		Left Tilt	0.047	0.132	0.179
		Right Tilt	0.039	0.148	0.187
	LTE Band 12	Left Touch	0.148	0.117	0.265
		Right Touch	0.139	0.135	0.274
		Left Tilt	0.056	0.132	0.188
		Right Tilt	0.079	0.148	0.227
	LTE Band 13	Left Touch	0.197	0.117	0.314
		Right Touch	0.165	0.135	0.300
		Left Tilt	0.074	0.132	0.206
		Right Tilt	0.115	0.148	0.263
	LTE Band 26	Left Touch	0.253	0.117	0.370
		Right Touch	0.170	0.135	0.305
		Left Tilt	0.108	0.132	0.240
		Right Tilt	0.114	0.148	0.262
	LTE Band 66	Left Touch	0.082	0.117	0.199
		Right Touch	0.116	0.135	0.251
		Left Tilt	0.078	0.132	0.210
		Right Tilt	0.044	0.148	0.192
	LTE Band 25	Left Touch	0.055	0.117	0.172
		Right Touch	0.068	0.135	0.203
		Left Tilt	0.042	0.132	0.174
		Right Tilt	0.033	0.148	0.181
	LTE Band 7	Left Touch	0.092	0.117	0.209
		Right Touch	0.063	0.135	0.198
		Left Tilt	0.035	0.132	0.167
		Right Tilt	0.039	0.148	0.187
	LTE Band 41	Left Touch	0.033	0.117	0.150
		Right Touch	0.026	0.135	0.161
		Left Tilt	0.008	0.132	0.140
		Right Tilt	0.013	0.148	0.161

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)
Head SAR	GSM 850	Left Touch	0.121	0.331	0.452
		Right Touch	0.110	0.362	0.472
		Left Tilt	0.055	0.217	0.272
		Right Tilt	0.069	0.221	0.290
	GPRS 850	Left Touch	0.155	0.331	0.486
		Right Touch	0.136	0.362	0.498
		Left Tilt	0.069	0.217	0.286
		Right Tilt	0.087	0.221	0.308
	GSM 1900	Left Touch	0.029	0.331	0.360
		Right Touch	0.025	0.362	0.387
		Left Tilt	0.018	0.217	0.235
		Right Tilt	0.013	0.221	0.234
	GPRS 1900	Left Touch	0.036	0.331	0.367
		Right Touch	0.031	0.362	0.393
		Left Tilt	0.021	0.217	0.238
		Right Tilt	0.013	0.221	0.234
	WCDMA 850	Left Touch	0.172	0.331	0.503
		Right Touch	0.153	0.362	0.515
		Left Tilt	0.071	0.217	0.288
		Right Tilt	0.107	0.221	0.328
	WCDMA 1700	Left Touch	0.081	0.331	0.412
		Right Touch	0.106	0.362	0.468
		Left Tilt	0.064	0.217	0.281
		Right Tilt	0.060	0.221	0.281
	WCDMA 1900	Left Touch	0.065	0.331	0.396
		Right Touch	0.059	0.362	0.421
		Left Tilt	0.047	0.217	0.264
		Right Tilt	0.038	0.221	0.260
	LTE Band 12	Left Touch	0.148	0.331	0.479
		Right Touch	0.139	0.362	0.501
		Left Tilt	0.056	0.217	0.273
		Right Tilt	0.079	0.221	0.300
	LTE Band 13	Left Touch	0.197	0.331	0.528
		Right Touch	0.165	0.362	0.527
		Left Tilt	0.074	0.217	0.291
		Right Tilt	0.115	0.221	0.336
	LTE Band 26	Left Touch	0.253	0.331	0.584
		Right Touch	0.170	0.362	0.532
		Left Tilt	0.108	0.217	0.325
		Right Tilt	0.114	0.221	0.335
	LTE Band 66	Left Touch	0.082	0.331	0.413
		Right Touch	0.116	0.362	0.478
		Left Tilt	0.078	0.217	0.295
		Right Tilt	0.044	0.221	0.265
	LTE Band 25	Left Touch	0.055	0.331	0.386
		Right Touch	0.058	0.362	0.430
		Left Tilt	0.042	0.217	0.259
		Right Tilt	0.033	0.221	0.254
	LTE Band 7	Left Touch	0.092	0.331	0.423
		Right Touch	0.063	0.362	0.425
		Left Tilt	0.035	0.217	0.252
		Right Tilt	0.039	0.221	0.260
	LTE Band 41	Left Touch	0.033	0.331	0.364
		Right Touch	0.026	0.362	0.388
		Left Tilt	0.008	0.217	0.225
		Right Tilt	0.013	0.221	0.234

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)
Head SAR	GSM 850	Left Touch	0.121	0.486	0.607
		Right Touch	0.110	0.516	0.626
		Left Tilt	0.055	0.300	0.355
		Right Tilt	0.069	0.319	0.388
	GPRS 850	Left Touch	0.155	0.486	0.641
		Right Touch	0.136	0.516	0.652
		Left Tilt	0.069	0.300	0.369
		Right Tilt	0.087	0.319	0.406
	GSM 1900	Left Touch	0.029	0.486	0.515
		Right Touch	0.025	0.516	0.541
		Left Tilt	0.018	0.300	0.318
		Right Tilt	0.013	0.319	0.332
	GPRS 1900	Left Touch	0.036	0.486	0.522
		Right Touch	0.031	0.516	0.547
		Left Tilt	0.021	0.300	0.321
		Right Tilt	0.013	0.319	0.332
	WCDMA 850	Left Touch	0.172	0.486	0.658
		Right Touch	0.153	0.516	0.669
		Left Tilt	0.071	0.300	0.371
		Right Tilt	0.107	0.319	0.426
	WCDMA 1700	Left Touch	0.081	0.486	0.567
		Right Touch	0.106	0.516	0.622
		Left Tilt	0.064	0.300	0.364
		Right Tilt	0.060	0.319	0.379
	WCDMA 1900	Left Touch	0.065	0.486	0.551
		Right Touch	0.059	0.516	0.575
		Left Tilt	0.047	0.300	0.347
		Right Tilt	0.039	0.319	0.358
	LTE Band 12	Left Touch	0.148	0.486	0.634
		Right Touch	0.139	0.516	0.655
		Left Tilt	0.056	0.300	0.356
		Right Tilt	0.079	0.319	0.398
	LTE Band 13	Left Touch	0.197	0.486	0.683
		Right Touch	0.165	0.516	0.681
		Left Tilt	0.074	0.300	0.374
		Right Tilt	0.115	0.319	0.434
	LTE Band 26	Left Touch	0.253	0.486	0.739
		Right Touch	0.170	0.516	0.686
		Left Tilt	0.108	0.300	0.408
		Right Tilt	0.114	0.319	0.433
	LTE Band 66	Left Touch	0.082	0.486	0.568
		Right Touch	0.116	0.516	0.632
		Left Tilt	0.078	0.300	0.378
		Right Tilt	0.044	0.319	0.363
	LTE Band 25	Left Touch	0.055	0.486	0.541
		Right Touch	0.058	0.516	0.554
		Left Tilt	0.042	0.300	0.342
		Right Tilt	0.033	0.319	0.352
	LTE Band 7	Left Touch	0.092	0.486	0.578
		Right Touch	0.063	0.516	0.579
		Left Tilt	0.035	0.300	0.335
		Right Tilt	0.039	0.319	0.358
	LTE Band 41	Left Touch	0.033	0.486	0.519
		Right Touch	0.026	0.516	0.542
		Left Tilt	0.008	0.300	0.308
		Right Tilt	0.013	0.319	0.332

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	0.121	0.051	0.172
		Right Touch	0.110	0.062	0.172
		Left Tilt	0.055	0.038	0.093
		Right Tilt	0.069	0.052	0.121
	GPRS 850	Left Touch	0.155	0.051	0.206
		Right Touch	0.136	0.062	0.198
		Left Tilt	0.069	0.038	0.107
		Right Tilt	0.087	0.052	0.139
	GSM 1900	Left Touch	0.029	0.051	0.080
		Right Touch	0.025	0.062	0.087
		Left Tilt	0.018	0.038	0.056
		Right Tilt	0.013	0.052	0.065
	GPRS 1900	Left Touch	0.036	0.051	0.087
		Right Touch	0.031	0.062	0.093
		Left Tilt	0.021	0.038	0.059
		Right Tilt	0.013	0.052	0.065
	WCDMA 850	Left Touch	0.172	0.051	0.223
		Right Touch	0.153	0.062	0.215
		Left Tilt	0.071	0.038	0.109
		Right Tilt	0.107	0.052	0.159
	WCDMA 1700	Left Touch	0.081	0.051	0.132
		Right Touch	0.106	0.062	0.168
		Left Tilt	0.064	0.038	0.102
		Right Tilt	0.060	0.052	0.112
	WCDMA 1900	Left Touch	0.065	0.051	0.116
		Right Touch	0.059	0.062	0.121
		Left Tilt	0.047	0.038	0.085
		Right Tilt	0.039	0.052	0.091
	LTE Band 12	Left Touch	0.148	0.051	0.199
		Right Touch	0.139	0.062	0.201
		Left Tilt	0.056	0.038	0.094
		Right Tilt	0.079	0.052	0.131
	LTE Band 13	Left Touch	0.197	0.051	0.248
		Right Touch	0.165	0.062	0.227
		Left Tilt	0.074	0.038	0.112
		Right Tilt	0.115	0.052	0.167
	LTE Band 26	Left Touch	0.253	0.051	0.304
		Right Touch	0.170	0.062	0.232
		Left Tilt	0.108	0.038	0.146
		Right Tilt	0.114	0.052	0.166
	LTE Band 66	Left Touch	0.082	0.051	0.133
		Right Touch	0.116	0.062	0.178
		Left Tilt	0.078	0.038	0.116
		Right Tilt	0.044	0.052	0.096
	LTE Band 25	Left Touch	0.055	0.051	0.106
		Right Touch	0.068	0.062	0.130
		Left Tilt	0.042	0.038	0.080
		Right Tilt	0.033	0.052	0.085
	LTE Band 7	Left Touch	0.092	0.051	0.143
		Right Touch	0.063	0.062	0.125
		Left Tilt	0.035	0.038	0.073
		Right Tilt	0.039	0.052	0.091
	LTE Band 41	Left Touch	0.033	0.051	0.084
		Right Touch	0.026	0.062	0.088
		Left Tilt	0.008	0.038	0.046
		Right Tilt	0.013	0.052	0.065

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	0.121	0.148	0.269
		Right Touch	0.110	0.164	0.274
		Left Tilt	0.055	0.145	0.200
		Right Tilt	0.069	0.101	0.170
	GPRS 850	Left Touch	0.155	0.148	0.303
		Right Touch	0.136	0.164	0.300
		Left Tilt	0.069	0.145	0.214
		Right Tilt	0.087	0.101	0.188
	GSM 1900	Left Touch	0.029	0.148	0.177
		Right Touch	0.025	0.164	0.189
		Left Tilt	0.018	0.145	0.163
		Right Tilt	0.013	0.101	0.114
	GPRS 1900	Left Touch	0.036	0.148	0.184
		Right Touch	0.031	0.164	0.195
		Left Tilt	0.021	0.145	0.166
		Right Tilt	0.013	0.101	0.114
	WCDMA 850	Left Touch	0.172	0.148	0.320
		Right Touch	0.153	0.164	0.317
		Left Tilt	0.071	0.145	0.216
		Right Tilt	0.107	0.101	0.208
	WCDMA 1700	Left Touch	0.081	0.148	0.229
		Right Touch	0.106	0.164	0.270
		Left Tilt	0.064	0.145	0.209
		Right Tilt	0.060	0.101	0.161
	WCDMA 1900	Left Touch	0.065	0.148	0.213
		Right Touch	0.059	0.164	0.223
		Left Tilt	0.047	0.145	0.192
		Right Tilt	0.039	0.101	0.140
	LTE Band 12	Left Touch	0.148	0.148	0.296
		Right Touch	0.139	0.164	0.303
		Left Tilt	0.056	0.145	0.201
		Right Tilt	0.079	0.101	0.180
	LTE Band 13	Left Touch	0.197	0.148	0.345
		Right Touch	0.165	0.164	0.329
		Left Tilt	0.074	0.145	0.219
		Right Tilt	0.115	0.101	0.216
	LTE Band 26	Left Touch	0.253	0.148	0.401
		Right Touch	0.170	0.164	0.334
		Left Tilt	0.108	0.145	0.253
		Right Tilt	0.114	0.101	0.215
	LTE Band 66	Left Touch	0.082	0.148	0.230
		Right Touch	0.116	0.164	0.280
		Left Tilt	0.078	0.145	0.223
		Right Tilt	0.044	0.101	0.145
	LTE Band 25	Left Touch	0.055	0.148	0.203
		Right Touch	0.068	0.164	0.232
		Left Tilt	0.042	0.145	0.187
		Right Tilt	0.033	0.101	0.134
	LTE Band 7	Left Touch	0.092	0.148	0.240
		Right Touch	0.063	0.164	0.227
		Left Tilt	0.035	0.145	0.180
		Right Tilt	0.039	0.101	0.140
	LTE Band 41	Left Touch	0.033	0.148	0.181
		Right Touch	0.026	0.164	0.190
		Left Tilt	0.008	0.145	0.153
		Right Tilt	0.013	0.101	0.114

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	0.121	0.257	0.378
		Right Touch	0.110	0.299	0.409
		Left Tilt	0.055	0.142	0.197
		Right Tilt	0.069	0.168	0.237
	GPRS 850	Left Touch	0.155	0.257	0.412
		Right Touch	0.136	0.299	0.435
		Left Tilt	0.069	0.142	0.211
		Right Tilt	0.087	0.168	0.255
	GSM 1900	Left Touch	0.029	0.257	0.286
		Right Touch	0.025	0.299	0.324
		Left Tilt	0.018	0.142	0.160
		Right Tilt	0.013	0.168	0.181
	GPRS 1900	Left Touch	0.036	0.257	0.293
		Right Touch	0.031	0.299	0.330
		Left Tilt	0.021	0.142	0.163
		Right Tilt	0.013	0.168	0.181
	WCDMA 850	Left Touch	0.172	0.257	0.429
		Right Touch	0.153	0.299	0.452
		Left Tilt	0.071	0.142	0.213
		Right Tilt	0.107	0.168	0.275
	WCDMA 1700	Left Touch	0.081	0.257	0.338
		Right Touch	0.106	0.299	0.405
		Left Tilt	0.064	0.142	0.206
		Right Tilt	0.060	0.168	0.228
	WCDMA 1900	Left Touch	0.065	0.257	0.322
		Right Touch	0.059	0.299	0.358
		Left Tilt	0.047	0.142	0.189
		Right Tilt	0.039	0.168	0.207
	LTE Band 12	Left Touch	0.148	0.257	0.405
		Right Touch	0.139	0.299	0.438
		Left Tilt	0.056	0.142	0.198
		Right Tilt	0.079	0.168	0.247
	LTE Band 13	Left Touch	0.197	0.257	0.454
		Right Touch	0.165	0.299	0.464
		Left Tilt	0.074	0.142	0.216
		Right Tilt	0.115	0.168	0.283
	LTE Band 26	Left Touch	0.253	0.257	0.510
		Right Touch	0.170	0.299	0.469
		Left Tilt	0.108	0.142	0.250
		Right Tilt	0.114	0.168	0.282
	LTE Band 66	Left Touch	0.082	0.257	0.339
		Right Touch	0.116	0.299	0.415
		Left Tilt	0.078	0.142	0.220
		Right Tilt	0.044	0.168	0.212
	LTE Band 25	Left Touch	0.055	0.257	0.312
		Right Touch	0.058	0.299	0.367
		Left Tilt	0.042	0.142	0.184
		Right Tilt	0.033	0.168	0.201
	LTE Band 7	Left Touch	0.092	0.257	0.349
		Right Touch	0.063	0.299	0.362
		Left Tilt	0.035	0.142	0.177
		Right Tilt	0.039	0.168	0.207
	LTE Band 41	Left Touch	0.033	0.257	0.290
		Right Touch	0.026	0.299	0.325
		Left Tilt	0.008	0.142	0.150
		Right Tilt	0.013	0.168	0.181

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	0.121	0.036	0.157
		Right Touch	0.110	0.039	0.149
		Left Tilt	0.055	0.038	0.093
		Right Tilt	0.069	0.040	0.109
	GPRS 850	Left Touch	0.155	0.036	0.191
		Right Touch	0.136	0.039	0.175
		Left Tilt	0.069	0.038	0.107
		Right Tilt	0.087	0.040	0.127
	GSM 1900	Left Touch	0.029	0.036	0.065
		Right Touch	0.025	0.039	0.064
		Left Tilt	0.018	0.038	0.056
		Right Tilt	0.013	0.040	0.053
	GPRS 1900	Left Touch	0.036	0.036	0.072
		Right Touch	0.031	0.039	0.070
		Left Tilt	0.021	0.038	0.059
		Right Tilt	0.013	0.040	0.053
	WCDMA 850	Left Touch	0.172	0.036	0.208
		Right Touch	0.153	0.039	0.192
		Left Tilt	0.071	0.038	0.109
		Right Tilt	0.107	0.040	0.147
	WCDMA 1700	Left Touch	0.081	0.036	0.117
		Right Touch	0.106	0.039	0.145
		Left Tilt	0.064	0.038	0.102
		Right Tilt	0.060	0.040	0.100
	WCDMA 1900	Left Touch	0.065	0.036	0.101
		Right Touch	0.059	0.039	0.098
		Left Tilt	0.047	0.038	0.085
		Right Tilt	0.039	0.040	0.079
	LTE Band 12	Left Touch	0.148	0.036	0.184
		Right Touch	0.139	0.039	0.178
		Left Tilt	0.056	0.038	0.094
		Right Tilt	0.079	0.040	0.119
	LTE Band 13	Left Touch	0.197	0.036	0.233
		Right Touch	0.165	0.039	0.204
		Left Tilt	0.074	0.038	0.112
		Right Tilt	0.115	0.040	0.155
	LTE Band 26	Left Touch	0.253	0.036	0.289
		Right Touch	0.170	0.039	0.209
		Left Tilt	0.108	0.038	0.146
		Right Tilt	0.114	0.040	0.154
	LTE Band 66	Left Touch	0.082	0.036	0.118
		Right Touch	0.116	0.039	0.155
		Left Tilt	0.078	0.038	0.116
		Right Tilt	0.044	0.040	0.084
	LTE Band 25	Left Touch	0.055	0.036	0.091
		Right Touch	0.068	0.039	0.107
		Left Tilt	0.042	0.038	0.080
		Right Tilt	0.033	0.040	0.073
	LTE Band 7	Left Touch	0.092	0.036	0.128
		Right Touch	0.063	0.039	0.102
		Left Tilt	0.035	0.038	0.073
		Right Tilt	0.039	0.040	0.079
	LTE Band 41	Left Touch	0.033	0.036	0.069
		Right Touch	0.026	0.039	0.065
		Left Tilt	0.008	0.038	0.046
		Right Tilt	0.013	0.040	0.053

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	0.121	0.092	0.213
		Right Touch	0.110	0.095	0.205
		Left Tilt	0.055	0.093	0.148
		Right Tilt	0.069	0.094	0.163
	GPRS 850	Left Touch	0.155	0.092	0.247
		Right Touch	0.136	0.095	0.231
		Left Tilt	0.069	0.093	0.162
		Right Tilt	0.087	0.094	0.181
	GSM 1900	Left Touch	0.029	0.092	0.121
		Right Touch	0.025	0.095	0.120
		Left Tilt	0.018	0.093	0.111
		Right Tilt	0.013	0.094	0.107
	GPRS 1900	Left Touch	0.036	0.092	0.128
		Right Touch	0.031	0.095	0.126
		Left Tilt	0.021	0.093	0.114
		Right Tilt	0.013	0.094	0.107
	WCDMA 850	Left Touch	0.172	0.092	0.264
		Right Touch	0.153	0.095	0.248
		Left Tilt	0.071	0.093	0.164
		Right Tilt	0.107	0.094	0.201
	WCDMA 1700	Left Touch	0.081	0.092	0.173
		Right Touch	0.106	0.095	0.201
		Left Tilt	0.064	0.093	0.157
		Right Tilt	0.060	0.094	0.154
	WCDMA 1900	Left Touch	0.065	0.092	0.157
		Right Touch	0.059	0.095	0.154
		Left Tilt	0.047	0.093	0.140
		Right Tilt	0.039	0.094	0.133
	LTE Band 12	Left Touch	0.148	0.092	0.240
		Right Touch	0.139	0.095	0.234
		Left Tilt	0.056	0.093	0.149
		Right Tilt	0.079	0.094	0.173
	LTE Band 13	Left Touch	0.197	0.092	0.289
		Right Touch	0.165	0.095	0.260
		Left Tilt	0.074	0.093	0.167
		Right Tilt	0.115	0.094	0.209
	LTE Band 26	Left Touch	0.253	0.092	0.345
		Right Touch	0.170	0.095	0.265
		Left Tilt	0.108	0.093	0.201
		Right Tilt	0.114	0.094	0.208
	LTE Band 66	Left Touch	0.082	0.092	0.174
		Right Touch	0.116	0.095	0.211
		Left Tilt	0.078	0.093	0.171
		Right Tilt	0.044	0.094	0.138
	LTE Band 25	Left Touch	0.055	0.092	0.147
		Right Touch	0.058	0.095	0.153
		Left Tilt	0.042	0.093	0.135
		Right Tilt	0.033	0.094	0.127
	LTE Band 7	Left Touch	0.092	0.092	0.184
		Right Touch	0.063	0.095	0.158
		Left Tilt	0.035	0.093	0.128
		Right Tilt	0.039	0.094	0.133
	LTE Band 41	Left Touch	0.033	0.092	0.125
		Right Touch	0.026	0.095	0.121
		Left Tilt	0.008	0.093	0.101
		Right Tilt	0.013	0.094	0.107

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	0.121	0.241	0.362
		Right Touch	0.110	0.270	0.380
		Left Tilt	0.055	0.185	0.240
		Right Tilt	0.069	0.197	0.266
	GPRS 850	Left Touch	0.155	0.241	0.396
		Right Touch	0.136	0.270	0.406
		Left Tilt	0.069	0.185	0.254
		Right Tilt	0.087	0.197	0.284
	GSM 1900	Left Touch	0.029	0.241	0.270
		Right Touch	0.025	0.270	0.295
		Left Tilt	0.018	0.185	0.203
		Right Tilt	0.013	0.197	0.210
	GPRS 1900	Left Touch	0.036	0.241	0.277
		Right Touch	0.031	0.270	0.301
		Left Tilt	0.021	0.185	0.206
		Right Tilt	0.013	0.197	0.210
	WCDMA 850	Left Touch	0.172	0.241	0.413
		Right Touch	0.153	0.270	0.423
		Left Tilt	0.071	0.185	0.256
		Right Tilt	0.107	0.197	0.304
	WCDMA 1700	Left Touch	0.081	0.241	0.322
		Right Touch	0.106	0.270	0.376
		Left Tilt	0.064	0.185	0.249
		Right Tilt	0.060	0.197	0.257
	WCDMA 1900	Left Touch	0.065	0.241	0.306
		Right Touch	0.059	0.270	0.329
		Left Tilt	0.047	0.185	0.232
		Right Tilt	0.039	0.197	0.236
	LTE Band 12	Left Touch	0.148	0.241	0.389
		Right Touch	0.139	0.270	0.409
		Left Tilt	0.056	0.185	0.241
		Right Tilt	0.079	0.197	0.276
	LTE Band 13	Left Touch	0.197	0.241	0.438
		Right Touch	0.165	0.270	0.435
		Left Tilt	0.074	0.185	0.259
		Right Tilt	0.115	0.197	0.312
	LTE Band 26	Left Touch	0.253	0.241	0.494
		Right Touch	0.170	0.270	0.440
		Left Tilt	0.108	0.185	0.293
		Right Tilt	0.114	0.197	0.311
	LTE Band 66	Left Touch	0.082	0.241	0.323
		Right Touch	0.116	0.270	0.386
		Left Tilt	0.078	0.185	0.263
		Right Tilt	0.044	0.197	0.241
	LTE Band 25	Left Touch	0.055	0.241	0.296
		Right Touch	0.068	0.270	0.338
		Left Tilt	0.042	0.185	0.227
		Right Tilt	0.033	0.197	0.230
	LTE Band 7	Left Touch	0.092	0.241	0.333
		Right Touch	0.063	0.270	0.333
		Left Tilt	0.035	0.185	0.220
		Right Tilt	0.039	0.197	0.236
	LTE Band 41	Left Touch	0.033	0.241	0.274
		Right Touch	0.026	0.270	0.296
		Left Tilt	0.008	0.185	0.193
		Right Tilt	0.013	0.197	0.210

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	0.121	0.044	0.165
		Right Touch	0.110	0.185	0.295
		Left Tilt	0.055	0.041	0.096
		Right Tilt	0.069	0.134	0.203
	GPRS 850	Left Touch	0.155	0.044	0.199
		Right Touch	0.136	0.185	0.321
		Left Tilt	0.069	0.041	0.110
		Right Tilt	0.087	0.134	0.221
	GSM 1900	Left Touch	0.029	0.044	0.073
		Right Touch	0.025	0.185	0.210
		Left Tilt	0.018	0.041	0.059
		Right Tilt	0.013	0.134	0.147
	GPRS 1900	Left Touch	0.036	0.044	0.080
		Right Touch	0.031	0.185	0.216
		Left Tilt	0.021	0.041	0.062
		Right Tilt	0.013	0.134	0.147
	WCDMA 850	Left Touch	0.172	0.044	0.216
		Right Touch	0.153	0.185	0.338
		Left Tilt	0.071	0.041	0.112
		Right Tilt	0.107	0.134	0.241
	WCDMA 1700	Left Touch	0.081	0.044	0.125
		Right Touch	0.106	0.185	0.291
		Left Tilt	0.064	0.041	0.105
		Right Tilt	0.060	0.134	0.194
	WCDMA 1900	Left Touch	0.065	0.044	0.109
		Right Touch	0.059	0.185	0.244
		Left Tilt	0.047	0.041	0.088
		Right Tilt	0.039	0.134	0.173
	LTE Band 12	Left Touch	0.148	0.044	0.192
		Right Touch	0.139	0.185	0.324
		Left Tilt	0.056	0.041	0.097
		Right Tilt	0.079	0.134	0.213
	LTE Band 13	Left Touch	0.197	0.044	0.241
		Right Touch	0.185	0.185	0.380
		Left Tilt	0.074	0.041	0.115
		Right Tilt	0.115	0.134	0.249
	LTE Band 26	Left Touch	0.253	0.044	0.297
		Right Touch	0.170	0.185	0.355
		Left Tilt	0.108	0.041	0.149
		Right Tilt	0.114	0.134	0.248
	LTE Band 66	Left Touch	0.082	0.044	0.126
		Right Touch	0.116	0.185	0.301
		Left Tilt	0.078	0.041	0.119
		Right Tilt	0.044	0.134	0.178
	LTE Band 25	Left Touch	0.055	0.044	0.099
		Right Touch	0.068	0.185	0.253
		Left Tilt	0.042	0.041	0.083
		Right Tilt	0.033	0.134	0.167
	LTE Band 7	Left Touch	0.092	0.044	0.136
		Right Touch	0.063	0.185	0.248
		Left Tilt	0.035	0.041	0.076
		Right Tilt	0.039	0.134	0.173
	LTE Band 41	Left Touch	0.033	0.044	0.077
		Right Touch	0.026	0.185	0.211
		Left Tilt	0.008	0.041	0.049
		Right Tilt	0.013	0.134	0.147

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	0.184	0.331	0.515
		Right Touch	0.640	0.362	1.002
		Left Tilt	0.137	0.217	0.354
		Right Tilt	0.395	0.221	0.616
	5.6G W-LAN Ant.2	Left Touch	0.184	0.148	0.332
		Right Touch	0.640	0.164	0.804
		Left Tilt	0.137	0.145	0.282
		Right Tilt	0.395	0.101	0.496
	5.8G W-LAN Ant.2	Left Touch	0.184	0.092	0.276
		Right Touch	0.640	0.095	0.735
		Left Tilt	0.137	0.093	0.230
		Right Tilt	0.395	0.094	0.489

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	0.117	0.161
		Right Touch	0.185	0.135	0.320
		Left Tilt	0.041	0.132	0.173
		Right Tilt	0.134	0.148	0.282
	5.6G W-LAN Ant.1	Left Touch	0.044	0.051	0.095
		Right Touch	0.185	0.062	0.247
		Left Tilt	0.041	0.038	0.079
		Right Tilt	0.134	0.052	0.186
	5.8G W-LAN Ant.1	Left Touch	0.044	0.036	0.080
		Right Touch	0.185	0.039	0.224
		Left Tilt	0.041	0.038	0.079
		Right Tilt	0.134	0.040	0.174

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	0.331	0.375
		Right Touch	0.185	0.362	0.547
		Left Tilt	0.041	0.217	0.258
		Right Tilt	0.134	0.221	0.355
	5.6G W-LAN Ant.2	Left Touch	0.044	0.148	0.192
		Right Touch	0.185	0.164	0.349
		Left Tilt	0.041	0.145	0.186
		Right Tilt	0.134	0.101	0.235
	5.8G W-LAN Ant.2	Left Touch	0.044	0.092	0.136
		Right Touch	0.185	0.095	0.280
		Left Tilt	0.041	0.093	0.134
		Right Tilt	0.134	0.094	0.228

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	0.486	0.530
		Right Touch	0.185	0.516	0.701
		Left Tilt	0.041	0.300	0.341
		Right Tilt	0.134	0.319	0.453
	5.6G W-LAN MIMO	Left Touch	0.044	0.257	0.301
		Right Touch	0.185	0.299	0.484
		Left Tilt	0.041	0.142	0.183
		Right Tilt	0.134	0.168	0.302
	5.8G W-LAN MIMO	Left Touch	0.044	0.241	0.285
		Right Touch	0.185	0.270	0.455
		Left Tilt	0.041	0.185	0.226
		Right Tilt	0.134	0.197	0.331

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)	1+2	ΣSAR (W/kg)	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.031	0.362	0.364	0.393
		Rear	0.403	0.044	0.385	0.447	0.748	0.532
	GPRS 850	Front	0.411	0.029	0.031	0.440	0.442	0.471
		Rear	0.489	0.044	0.385	0.533	0.874	0.918
	GSM 1900	Front	0.243	0.029	0.031	0.272	0.274	0.303
		Rear	0.258	0.044	0.385	0.302	0.643	0.687
	GPRS 1900	Front	0.299	0.029	0.031	0.328	0.330	0.359
		Rear	0.302	0.044	0.385	0.346	0.687	0.731
	WCDMA 850	Front	0.568	0.029	0.031	0.597	0.599	0.628
		Rear	0.621	0.044	0.385	0.665	1.006	1.050
	WCDMA 1700	Front	0.601	0.029	0.031	0.630	0.632	0.661
		Rear	0.660	0.044	0.385	0.704	1.045	1.089
	WCDMA 1900	Front	0.536	0.029	0.031	0.565	0.567	0.596
		Rear	0.583	0.044	0.385	0.627	0.968	1.012
	LTE Band 12	Front	0.356	0.029	0.031	0.385	0.387	0.416
		Rear	0.464	0.044	0.385	0.508	0.849	0.893
	LTE Band 13	Front	0.483	0.029	0.031	0.512	0.514	0.543
		Rear	0.555	0.044	0.385	0.599	0.940	0.984
	LTE Band 26	Front	0.647	0.029	0.031	0.676	0.678	0.707
		Rear	0.783	0.044	0.385	0.827	1.168	1.212
	LTE Band 66	Front	0.573	0.029	0.031	0.602	0.604	0.633
		Rear	0.622	0.044	0.385	0.666	1.007	1.051
	LTE Band 25	Front	0.451	0.029	0.031	0.480	0.482	0.511
		Rear	0.513	0.044	0.385	0.557	0.898	0.942
	LTE Band 7	Front	0.345	0.029	0.031	0.374	0.376	0.405
		Rear	0.473	0.044	0.385	0.517	0.858	0.902
	LTE Band 41	Front	0.160	0.029	0.031	0.189	0.191	0.220
		Rear	0.323	0.044	0.385	0.367	0.708	0.752

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)	1+2	ΣSAR (W/kg)	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.049	0.362	0.382	0.411
		Rear	0.403	0.044	0.206	0.447	0.609	0.653
	GPRS 850	Front	0.411	0.029	0.049	0.440	0.460	0.489
		Rear	0.489	0.044	0.206	0.533	0.695	0.739
	GSM 1900	Front	0.243	0.029	0.049	0.272	0.292	0.321
		Rear	0.258	0.044	0.206	0.302	0.464	0.508
	GPRS 1900	Front	0.299	0.029	0.049	0.328	0.348	0.377
		Rear	0.302	0.044	0.206	0.346	0.508	0.552
	WCDMA 850	Front	0.568	0.029	0.049	0.597	0.617	0.646
		Rear	0.621	0.044	0.206	0.665	0.827	0.871
	WCDMA 1700	Front	0.601	0.029	0.049	0.630	0.650	0.679
		Rear	0.660	0.044	0.206	0.704	0.866	0.910
	WCDMA 1900	Front	0.536	0.029	0.049	0.565	0.585	0.614
		Rear	0.583	0.044	0.206	0.627	0.789	0.833
	LTE Band 12	Front	0.356	0.029	0.049	0.385	0.405	0.434
		Rear	0.464	0.044	0.206	0.508	0.670	0.714
	LTE Band 13	Front	0.483	0.029	0.049	0.512	0.532	0.561
		Rear	0.555	0.044	0.206	0.599	0.761	0.805
	LTE Band 26	Front	0.647	0.029	0.049	0.676	0.696	0.725
		Rear	0.783	0.044	0.206	0.827	0.989	1.033
	LTE Band 66	Front	0.573	0.029	0.049	0.602	0.622	0.651
		Rear	0.622	0.044	0.206	0.666	0.828	0.872
	LTE Band 25	Front	0.451	0.029	0.049	0.480	0.500	0.529
		Rear	0.513	0.044	0.206	0.557	0.719	0.763
	LTE Band 7	Front	0.345	0.029	0.049	0.374	0.394	0.423
		Rear	0.473	0.044	0.206	0.517	0.679	0.723
	LTE Band 41	Front	0.160	0.029	0.049	0.189	0.209	0.238
		Rear	0.323	0.044	0.206	0.367	0.529	0.573

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)	1+2	ΣSAR (W/kg)	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.092	0.362	0.425	0.454
		Rear	0.403	0.044	0.588	0.447	0.991	1.035
	GPRS 850	Front	0.411	0.029	0.092	0.440	0.503	0.532
		Rear	0.489	0.044	0.588	0.533	1.077	1.121
	GSM 1900	Front	0.243	0.029	0.092	0.272	0.335	0.364
		Rear	0.258	0.044	0.588	0.302	0.846	0.890
	GPRS 1900	Front	0.299	0.029	0.092	0.328	0.391	0.420
		Rear	0.302	0.044	0.588	0.346	0.890	0.934
	WCDMA 850	Front	0.568	0.029	0.092	0.597	0.660	0.689
		Rear	0.621	0.044	0.588	0.665	1.209	1.253
	WCDMA 1700	Front	0.601	0.029	0.092	0.630	0.693	0.722
		Rear	0.660	0.044	0.588	0.704	1.248	1.292
	WCDMA 1900	Front	0.536	0.029	0.092	0.565	0.628	0.657
		Rear	0.583	0.044	0.588	0.627	1.171	1.215
	LTE Band 12	Front	0.356	0.029	0.092	0.385	0.448	0.477
		Rear	0.464	0.044	0.588	0.508	1.052	1.096
	LTE Band 13	Front	0.483	0.029	0.092	0.512	0.575	0.604
		Rear	0.555	0.044	0.588	0.599	1.143	1.187
	LTE Band 26	Front	0.647	0.029	0.092	0.676	0.739	0.768
		Rear	0.783	0.044	0.588	0.827	1.371	1.415
	LTE Band 66	Front	0.573	0.029	0.092	0.602	0.665	0.694
		Rear	0.622	0.044	0.588	0.666	1.210	1.254
	LTE Band 25	Front	0.451	0.029	0.092	0.480	0.543	0.572
		Rear	0.513	0.044	0.588	0.557	1.101	1.145
	LTE Band 7	Front	0.345	0.029	0.092	0.374	0.437	0.466
		Rear	0.473	0.044	0.588	0.517	1.061	1.105
	LTE Band 41	Front	0.160	0.029	0.092	0.189	0.252	0.281
		Rear	0.323	0.044	0.588	0.367	0.911	0.955

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	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.010	0.362	0.343	0.372
		Rear	0.403	0.044	0.154	0.447	0.557	0.601
	GPRS 850	Front	0.411	0.029	0.010	0.440	0.421	0.450
		Rear	0.489	0.044	0.154	0.533	0.643	0.687
	GSM 1900	Front	0.243	0.029	0.010	0.272	0.253	0.282
		Rear	0.258	0.044	0.154	0.302	0.412	0.456
	GPRS 1900	Front	0.299	0.029	0.010	0.328	0.309	0.338
		Rear	0.302	0.044	0.154	0.346	0.456	0.500
	WCDMA 850	Front	0.568	0.029	0.010	0.597	0.578	0.607
		Rear	0.621	0.044	0.154	0.665	0.775	0.819
	WCDMA 1700	Front	0.601	0.029	0.010	0.630	0.611	0.640
		Rear	0.660	0.044	0.154	0.704	0.814	0.858
	WCDMA 1900	Front	0.536	0.029	0.010	0.565	0.546	0.575
		Rear	0.583	0.044	0.154	0.627	0.737	0.781
	LTE Band 12	Front	0.356	0.029	0.010	0.385	0.366	0.395
		Rear	0.464	0.044	0.154	0.508	0.618	0.662
	LTE Band 13	Front	0.483	0.029	0.010	0.512	0.493	0.522
		Rear	0.555	0.044	0.154	0.599	0.709	0.753
	LTE Band 26	Front	0.647	0.029	0.010	0.676	0.657	0.686
		Rear	0.783	0.044	0.154	0.827	0.937	0.981
	LTE Band 66	Front	0.573	0.029	0.010	0.602	0.583	0.612
		Rear	0.622	0.044	0.154	0.666	0.776	0.820
	LTE Band 25	Front	0.451	0.029	0.010	0.480	0.461	0.490
		Rear	0.513	0.044	0.154	0.557	0.667	0.711
	LTE Band 7	Front	0.345	0.029	0.010	0.374	0.355	0.384
		Rear	0.473	0.044	0.154	0.517	0.627	0.671
	LTE Band 41	Front	0.160	0.029	0.010	0.189	0.170	0.199
		Rear	0.323	0.044	0.154	0.367	0.477	0.521

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	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.026	0.382	0.359	0.388
		Rear	0.403	0.044	0.102	0.447	0.505	0.549
	GPRS 850	Front	0.411	0.029	0.026	0.440	0.437	0.466
		Rear	0.489	0.044	0.102	0.533	0.591	0.635
	GSM 1900	Front	0.243	0.029	0.026	0.272	0.269	0.298
		Rear	0.258	0.044	0.102	0.302	0.360	0.404
	GPRS 1900	Front	0.299	0.029	0.026	0.328	0.325	0.354
		Rear	0.302	0.044	0.102	0.346	0.404	0.448
	WCDMA 850	Front	0.568	0.029	0.026	0.597	0.594	0.623
		Rear	0.621	0.044	0.102	0.665	0.723	0.767
	WCDMA 1700	Front	0.601	0.029	0.026	0.630	0.627	0.656
		Rear	0.660	0.044	0.102	0.704	0.762	0.806
	WCDMA 1900	Front	0.536	0.029	0.026	0.565	0.562	0.591
		Rear	0.583	0.044	0.102	0.627	0.685	0.729
	LTE Band 12	Front	0.356	0.029	0.026	0.385	0.382	0.411
		Rear	0.464	0.044	0.102	0.508	0.566	0.610
	LTE Band 13	Front	0.483	0.029	0.026	0.512	0.509	0.538
		Rear	0.555	0.044	0.102	0.599	0.657	0.701
	LTE Band 26	Front	0.647	0.029	0.026	0.676	0.673	0.702
		Rear	0.783	0.044	0.102	0.827	0.885	0.929
	LTE Band 66	Front	0.573	0.029	0.026	0.602	0.599	0.628
		Rear	0.622	0.044	0.102	0.666	0.724	0.768
	LTE Band 25	Front	0.451	0.029	0.026	0.480	0.477	0.506
		Rear	0.513	0.044	0.102	0.557	0.615	0.659
	LTE Band 7	Front	0.345	0.029	0.026	0.374	0.371	0.400
		Rear	0.473	0.044	0.102	0.517	0.575	0.619
	LTE Band 41	Front	0.160	0.029	0.026	0.189	0.186	0.215
		Rear	0.323	0.044	0.102	0.367	0.425	0.469

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	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.040	0.382	0.373	0.402
		Rear	0.403	0.044	0.243	0.447	0.646	0.690
	GPRS 850	Front	0.411	0.029	0.040	0.440	0.451	0.480
		Rear	0.489	0.044	0.243	0.533	0.732	0.776
	GSM 1900	Front	0.243	0.029	0.040	0.272	0.283	0.312
		Rear	0.258	0.044	0.243	0.302	0.501	0.545
	GPRS 1900	Front	0.299	0.029	0.040	0.328	0.339	0.368
		Rear	0.302	0.044	0.243	0.346	0.545	0.589
	WCDMA 850	Front	0.568	0.029	0.040	0.597	0.608	0.637
		Rear	0.621	0.044	0.243	0.665	0.864	0.908
	WCDMA 1700	Front	0.601	0.029	0.040	0.630	0.641	0.670
		Rear	0.660	0.044	0.243	0.704	0.903	0.947
	WCDMA 1900	Front	0.536	0.029	0.040	0.565	0.576	0.605
		Rear	0.583	0.044	0.243	0.627	0.826	0.870
	LTE Band 12	Front	0.356	0.029	0.040	0.385	0.396	0.425
		Rear	0.464	0.044	0.243	0.508	0.707	0.751
	LTE Band 13	Front	0.483	0.029	0.040	0.512	0.523	0.552
		Rear	0.555	0.044	0.243	0.599	0.798	0.842
	LTE Band 26	Front	0.647	0.029	0.040	0.676	0.687	0.716
		Rear	0.783	0.044	0.243	0.827	1.026	1.070
	LTE Band 66	Front	0.573	0.029	0.040	0.602	0.613	0.642
		Rear	0.622	0.044	0.243	0.666	0.865	0.909
	LTE Band 25	Front	0.451	0.029	0.040	0.480	0.491	0.520
		Rear	0.513	0.044	0.243	0.557	0.756	0.800
	LTE Band 7	Front	0.345	0.029	0.040	0.374	0.385	0.414
		Rear	0.473	0.044	0.243	0.517	0.716	0.760
	LTE Band 41	Front	0.160	0.029	0.040	0.189	0.200	0.229
		Rear	0.323	0.044	0.243	0.367	0.566	0.610

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	0.333	0.135	0.468
		Rear	0.403	0.157	0.560
	GPRS 850	Front	0.411	0.135	0.546
		Rear	0.489	0.157	0.646
	GSM 1900	Front	0.243	0.135	0.378
		Rear	0.258	0.157	0.415
	GPRS 1900	Front	0.299	0.135	0.434
		Rear	0.302	0.157	0.459
	WCDMA 850	Front	0.568	0.135	0.703
		Rear	0.621	0.157	0.778
	WCDMA 1700	Front	0.601	0.135	0.736
		Rear	0.660	0.157	0.817
	WCDMA 1900	Front	0.536	0.135	0.671
		Rear	0.583	0.157	0.740
	LTE Band 12	Front	0.356	0.135	0.491
		Rear	0.464	0.157	0.621
	LTE Band 13	Front	0.483	0.135	0.618
		Rear	0.555	0.157	0.712
	LTE Band 26	Front	0.647	0.135	0.782
		Rear	0.783	0.157	0.940
	LTE Band 66	Front	0.573	0.135	0.708
		Rear	0.622	0.157	0.779
	LTE Band 25	Front	0.451	0.135	0.586
		Rear	0.513	0.157	0.670
	LTE Band 7	Front	0.345	0.135	0.480
		Rear	0.473	0.157	0.630
	LTE Band 41	Front	0.160	0.135	0.295
		Rear	0.323	0.157	0.480

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	0.333	0.082	0.415
		Rear	0.403	0.144	0.547
	GPRS 850	Front	0.411	0.082	0.493
		Rear	0.489	0.144	0.633
	GSM 1900	Front	0.243	0.082	0.325
		Rear	0.258	0.144	0.402
	GPRS 1900	Front	0.299	0.082	0.381
		Rear	0.302	0.144	0.446
	WCDMA 850	Front	0.568	0.082	0.650
		Rear	0.621	0.144	0.765
	WCDMA 1700	Front	0.601	0.082	0.683
		Rear	0.660	0.144	0.804
	WCDMA 1900	Front	0.536	0.082	0.618
		Rear	0.583	0.144	0.727
	LTE Band 12	Front	0.356	0.082	0.438
		Rear	0.464	0.144	0.608
	LTE Band 13	Front	0.483	0.082	0.565
		Rear	0.555	0.144	0.699
	LTE Band 26	Front	0.647	0.082	0.729
		Rear	0.783	0.144	0.927
	LTE Band 66	Front	0.573	0.082	0.655
		Rear	0.622	0.144	0.766
	LTE Band 25	Front	0.451	0.082	0.533
		Rear	0.513	0.144	0.657
	LTE Band 7	Front	0.345	0.082	0.427
		Rear	0.473	0.144	0.617
	LTE Band 41	Front	0.160	0.082	0.242
		Rear	0.323	0.144	0.467

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	0.333	0.110	0.443
		Rear	0.403	0.205	0.608
	GPRS 850	Front	0.411	0.110	0.521
		Rear	0.489	0.205	0.694
	GSM 1900	Front	0.243	0.110	0.353
		Rear	0.258	0.205	0.463
	GPRS 1900	Front	0.299	0.110	0.409
		Rear	0.302	0.205	0.507
	WCDMA 850	Front	0.568	0.110	0.678
		Rear	0.621	0.205	0.826
	WCDMA 1700	Front	0.601	0.110	0.711
		Rear	0.660	0.205	0.865
	WCDMA 1900	Front	0.536	0.110	0.646
		Rear	0.583	0.205	0.788
	LTE Band 12	Front	0.356	0.110	0.466
		Rear	0.464	0.205	0.669
	LTE Band 13	Front	0.483	0.110	0.593
		Rear	0.555	0.205	0.760
	LTE Band 26	Front	0.647	0.110	0.757
		Rear	0.783	0.205	0.988
	LTE Band 66	Front	0.573	0.110	0.683
		Rear	0.622	0.205	0.827
	LTE Band 25	Front	0.451	0.110	0.561
		Rear	0.513	0.205	0.718
	LTE Band 7	Front	0.345	0.110	0.455
		Rear	0.473	0.205	0.678
	LTE Band 41	Front	0.160	0.110	0.270
		Rear	0.323	0.205	0.528

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	0.333	0.031	0.364
		Rear	0.403	0.385	0.788
	GPRS 850	Front	0.411	0.031	0.442
		Rear	0.489	0.385	0.874
	GSM 1900	Front	0.243	0.031	0.274
		Rear	0.258	0.385	0.643
	GPRS 1900	Front	0.299	0.031	0.330
		Rear	0.302	0.385	0.687
	WCDMA 850	Front	0.568	0.031	0.599
		Rear	0.621	0.385	1.006
	WCDMA 1700	Front	0.601	0.031	0.632
		Rear	0.660	0.385	1.045
	WCDMA 1900	Front	0.536	0.031	0.567
		Rear	0.583	0.385	0.968
	LTE Band 12	Front	0.356	0.031	0.387
		Rear	0.464	0.385	0.849
	LTE Band 13	Front	0.483	0.031	0.514
		Rear	0.555	0.385	0.940
	LTE Band 26	Front	0.647	0.031	0.678
		Rear	0.783	0.385	1.168
	LTE Band 66	Front	0.573	0.031	0.604
		Rear	0.622	0.385	1.007
	LTE Band 25	Front	0.451	0.031	0.482
		Rear	0.513	0.385	0.898
	LTE Band 7	Front	0.345	0.031	0.376
		Rear	0.473	0.385	0.858
	LTE Band 41	Front	0.160	0.031	0.191
		Rear	0.323	0.385	0.708

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	0.333	0.049	0.382
		Rear	0.403	0.206	0.609
	GPRS 850	Front	0.411	0.049	0.460
		Rear	0.489	0.206	0.695
	GSM 1900	Front	0.243	0.049	0.292
		Rear	0.258	0.206	0.464
	GPRS 1900	Front	0.299	0.049	0.348
		Rear	0.302	0.206	0.508
	WCDMA 850	Front	0.568	0.049	0.617
		Rear	0.621	0.206	0.827
	WCDMA 1700	Front	0.601	0.049	0.650
		Rear	0.660	0.206	0.866
	WCDMA 1900	Front	0.536	0.049	0.585
		Rear	0.583	0.206	0.789
	LTE Band 12	Front	0.356	0.049	0.405
		Rear	0.464	0.206	0.670
	LTE Band 13	Front	0.483	0.049	0.532
		Rear	0.555	0.206	0.761
	LTE Band 26	Front	0.647	0.049	0.696
		Rear	0.783	0.206	0.989
	LTE Band 66	Front	0.573	0.049	0.622
		Rear	0.622	0.206	0.828
	LTE Band 25	Front	0.451	0.049	0.500
		Rear	0.513	0.206	0.719
	LTE Band 7	Front	0.345	0.049	0.394
		Rear	0.473	0.206	0.679
	LTE Band 41	Front	0.160	0.049	0.209
		Rear	0.323	0.206	0.529

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	0.333	0.092	0.425
		Rear	0.403	0.588	0.991
	GPRS 850	Front	0.411	0.092	0.503
		Rear	0.489	0.588	1.077
	GSM 1900	Front	0.243	0.092	0.335
		Rear	0.258	0.588	0.846
	GPRS 1900	Front	0.299	0.092	0.391
		Rear	0.302	0.588	0.890
	WCDMA 850	Front	0.568	0.092	0.660
		Rear	0.621	0.588	1.209
	WCDMA 1700	Front	0.601	0.092	0.693
		Rear	0.660	0.588	1.248
	WCDMA 1900	Front	0.536	0.092	0.628
		Rear	0.583	0.588	1.171
	LTE Band 12	Front	0.356	0.092	0.448
		Rear	0.464	0.588	1.052
	LTE Band 13	Front	0.483	0.092	0.575
		Rear	0.555	0.588	1.143
	LTE Band 26	Front	0.647	0.092	0.739
		Rear	0.783	0.588	1.371
	LTE Band 66	Front	0.573	0.092	0.665
		Rear	0.622	0.588	1.210
	LTE Band 25	Front	0.451	0.092	0.543
		Rear	0.513	0.588	1.101
	LTE Band 7	Front	0.345	0.092	0.437
		Rear	0.473	0.588	1.061
	LTE Band 41	Front	0.160	0.092	0.252
		Rear	0.323	0.588	0.911

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	0.333	0.010	0.343
		Rear	0.403	0.154	0.557
	GPRS 850	Front	0.411	0.010	0.421
		Rear	0.489	0.154	0.643
	GSM 1900	Front	0.243	0.010	0.253
		Rear	0.258	0.154	0.412
	GPRS 1900	Front	0.299	0.010	0.309
		Rear	0.302	0.154	0.456
	WCDMA 850	Front	0.568	0.010	0.578
		Rear	0.621	0.154	0.775
	WCDMA 1700	Front	0.601	0.010	0.611
		Rear	0.660	0.154	0.814
	WCDMA 1900	Front	0.536	0.010	0.546
		Rear	0.583	0.154	0.737
	LTE Band 12	Front	0.356	0.010	0.366
		Rear	0.464	0.154	0.618
	LTE Band 13	Front	0.483	0.010	0.493
		Rear	0.555	0.154	0.709
	LTE Band 26	Front	0.647	0.010	0.657
		Rear	0.783	0.154	0.937
	LTE Band 66	Front	0.573	0.010	0.583
		Rear	0.622	0.154	0.776
	LTE Band 25	Front	0.451	0.010	0.461
		Rear	0.513	0.154	0.667
	LTE Band 7	Front	0.345	0.010	0.355
		Rear	0.473	0.154	0.627
	LTE Band 41	Front	0.160	0.010	0.170
		Rear	0.323	0.154	0.477

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	0.333	0.026	0.359
		Rear	0.403	0.102	0.505
	GPRS 850	Front	0.411	0.026	0.437
		Rear	0.489	0.102	0.591
	GSM 1900	Front	0.243	0.026	0.269
		Rear	0.258	0.102	0.360
	GPRS 1900	Front	0.299	0.026	0.325
		Rear	0.302	0.102	0.404
	WCDMA 850	Front	0.568	0.026	0.594
		Rear	0.621	0.102	0.723
	WCDMA 1700	Front	0.601	0.026	0.627
		Rear	0.660	0.102	0.762
	WCDMA 1900	Front	0.536	0.026	0.562
		Rear	0.583	0.102	0.685
	LTE Band 12	Front	0.356	0.026	0.382
		Rear	0.464	0.102	0.566
	LTE Band 13	Front	0.483	0.026	0.509
		Rear	0.555	0.102	0.657
	LTE Band 26	Front	0.647	0.026	0.673
		Rear	0.783	0.102	0.885
	LTE Band 66	Front	0.573	0.026	0.599
		Rear	0.622	0.102	0.724
	LTE Band 25	Front	0.451	0.026	0.477
		Rear	0.513	0.102	0.615
	LTE Band 7	Front	0.345	0.026	0.371
		Rear	0.473	0.102	0.575
	LTE Band 41	Front	0.160	0.026	0.186
		Rear	0.323	0.102	0.425

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	0.333	0.040	0.373
		Rear	0.403	0.243	0.646
	GPRS 850	Front	0.411	0.040	0.451
		Rear	0.489	0.243	0.732
	GSM 1900	Front	0.243	0.040	0.283
		Rear	0.258	0.243	0.501
	GPRS 1900	Front	0.299	0.040	0.339
		Rear	0.302	0.243	0.545
	WCDMA 850	Front	0.568	0.040	0.608
		Rear	0.621	0.243	0.864
	WCDMA 1700	Front	0.601	0.040	0.641
		Rear	0.660	0.243	0.903
	WCDMA 1900	Front	0.536	0.040	0.576
		Rear	0.583	0.243	0.826
	LTE Band 12	Front	0.356	0.040	0.396
		Rear	0.464	0.243	0.707
	LTE Band 13	Front	0.483	0.040	0.523
		Rear	0.555	0.243	0.798
	LTE Band 26	Front	0.647	0.040	0.687
		Rear	0.783	0.243	1.026
	LTE Band 66	Front	0.573	0.040	0.613
		Rear	0.622	0.243	0.865
	LTE Band 25	Front	0.451	0.040	0.491
		Rear	0.513	0.243	0.756
	LTE Band 7	Front	0.345	0.040	0.385
		Rear	0.473	0.243	0.716
	LTE Band 41	Front	0.160	0.040	0.200
		Rear	0.323	0.243	0.566

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	0.333	0.018	0.351
		Rear	0.403	0.102	0.505
	GPRS 850	Front	0.411	0.018	0.429
		Rear	0.489	0.102	0.591
	GSM 1900	Front	0.243	0.018	0.261
		Rear	0.258	0.102	0.360
	GPRS 1900	Front	0.299	0.018	0.317
		Rear	0.302	0.102	0.404
	WCDMA 850	Front	0.568	0.018	0.586
		Rear	0.621	0.102	0.723
	WCDMA 1700	Front	0.601	0.018	0.619
		Rear	0.660	0.102	0.762
	WCDMA 1900	Front	0.536	0.018	0.554
		Rear	0.583	0.102	0.685
	LTE Band 12	Front	0.356	0.018	0.374
		Rear	0.464	0.102	0.566
	LTE Band 13	Front	0.483	0.018	0.501
		Rear	0.555	0.102	0.657
	LTE Band 26	Front	0.647	0.018	0.665
		Rear	0.783	0.102	0.885
	LTE Band 66	Front	0.573	0.018	0.591
		Rear	0.622	0.102	0.724
	LTE Band 25	Front	0.451	0.018	0.469
		Rear	0.513	0.102	0.615
	LTE Band 7	Front	0.345	0.018	0.363
		Rear	0.473	0.102	0.575
	LTE Band 41	Front	0.160	0.018	0.178
		Rear	0.323	0.102	0.425

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	0.333	0.014	0.347
		Rear	0.403	0.122	0.525
	GPRS 850	Front	0.411	0.014	0.425
		Rear	0.489	0.122	0.611
	GSM 1900	Front	0.243	0.014	0.257
		Rear	0.258	0.122	0.380
	GPRS 1900	Front	0.299	0.014	0.313
		Rear	0.302	0.122	0.424
	WCDMA 850	Front	0.568	0.014	0.582
		Rear	0.621	0.122	0.743
	WCDMA 1700	Front	0.601	0.014	0.615
		Rear	0.660	0.122	0.782
	WCDMA 1900	Front	0.536	0.014	0.550
		Rear	0.583	0.122	0.705
	LTE Band 12	Front	0.356	0.014	0.370
		Rear	0.464	0.122	0.586
	LTE Band 13	Front	0.483	0.014	0.497
		Rear	0.555	0.122	0.677
	LTE Band 26	Front	0.647	0.014	0.661
		Rear	0.783	0.122	0.905
	LTE Band 66	Front	0.573	0.014	0.587
		Rear	0.622	0.122	0.744
	LTE Band 25	Front	0.451	0.014	0.465
		Rear	0.513	0.122	0.635
	LTE Band 7	Front	0.345	0.014	0.359
		Rear	0.473	0.122	0.595
	LTE Band 41	Front	0.160	0.014	0.174
		Rear	0.323	0.122	0.445

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	0.333	0.036	0.369
		Rear	0.403	0.187	0.590
	GPRS 850	Front	0.411	0.036	0.447
		Rear	0.489	0.187	0.676
	GSM 1900	Front	0.243	0.036	0.279
		Rear	0.258	0.187	0.445
	GPRS 1900	Front	0.299	0.036	0.335
		Rear	0.302	0.187	0.489
	WCDMA 850	Front	0.568	0.036	0.604
		Rear	0.621	0.187	0.808
	WCDMA 1700	Front	0.601	0.036	0.637
		Rear	0.660	0.187	0.847
	WCDMA 1900	Front	0.536	0.036	0.572
		Rear	0.583	0.187	0.770
	LTE Band 12	Front	0.356	0.036	0.392
		Rear	0.464	0.187	0.651
	LTE Band 13	Front	0.483	0.036	0.519
		Rear	0.555	0.187	0.742
	LTE Band 26	Front	0.647	0.036	0.683
		Rear	0.783	0.187	0.970
	LTE Band 66	Front	0.573	0.036	0.609
		Rear	0.622	0.187	0.809
	LTE Band 25	Front	0.451	0.036	0.487
		Rear	0.513	0.187	0.700
	LTE Band 7	Front	0.345	0.036	0.381
		Rear	0.473	0.187	0.660
	LTE Band 41	Front	0.160	0.036	0.196
		Rear	0.323	0.187	0.510

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)
Body-Worn SAR	GSM 850	Front	0.333	0.029	0.362
		Rear	0.403	0.044	0.447
	GPRS 850	Front	0.411	0.029	0.440
		Rear	0.489	0.044	0.533
	GSM 1900	Front	0.243	0.029	0.272
		Rear	0.258	0.044	0.302
	GPRS 1900	Front	0.299	0.029	0.328
		Rear	0.302	0.044	0.346
	WCDMA 850	Front	0.568	0.029	0.597
		Rear	0.621	0.044	0.665
	WCDMA 1700	Front	0.601	0.029	0.630
		Rear	0.660	0.044	0.704
	WCDMA 1900	Front	0.536	0.029	0.565
		Rear	0.583	0.044	0.627
	LTE Band 12	Front	0.356	0.029	0.385
		Rear	0.464	0.044	0.508
	LTE Band 13	Front	0.483	0.029	0.512
		Rear	0.555	0.044	0.599
	LTE Band 26	Front	0.647	0.029	0.676
		Rear	0.783	0.044	0.827
	LTE Band 66	Front	0.573	0.029	0.602
		Rear	0.622	0.044	0.666
	LTE Band 25	Front	0.451	0.029	0.480
		Rear	0.513	0.044	0.557
	LTE Band 7	Front	0.345	0.029	0.374
		Rear	0.473	0.044	0.517
	LTE Band 41	Front	0.160	0.029	0.189
		Rear	0.323	0.044	0.367

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)
Body-Worn SAR	5.2G W-LAN Ant.2	Front	0.135	0.049	0.184
		Rear	0.157	0.206	0.363
	5.6G W-LAN Ant.2	Front	0.135	0.026	0.161
		Rear	0.157	0.102	0.259
	5.8G W-LAN Ant.2	Front	0.135	0.014	0.149
		Rear	0.157	0.122	0.279

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)
Body-Worn SAR	5.3G W-LAN Ant.1	Front	0.029	0.031	0.060
		Rear	0.044	0.385	0.429
	5.6G W-LAN Ant.1	Front	0.029	0.010	0.039
		Rear	0.044	0.154	0.198
	5.8G W-LAN Ant.1	Front	0.029	0.018	0.047
		Rear	0.044	0.102	0.146

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)
Body-Worn SAR	5.3G W-LAN Ant.2	Front	0.029	0.049	0.078
		Rear	0.044	0.206	0.250
	5.6G W-LAN Ant.2	Front	0.029	0.026	0.055
		Rear	0.044	0.102	0.146
	5.8G W-LAN Ant.2	Front	0.029	0.014	0.043
		Rear	0.044	0.122	0.166

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)
Body-Worn SAR	5.3G W-LAN MIMO	Front	0.029	0.092	0.121
		Rear	0.044	0.588	0.632
	5.6G W-LAN MIMO	Front	0.029	0.040	0.069
		Rear	0.044	0.243	0.287
	5.8G W-LAN MIMO	Front	0.029	0.036	0.065
		Rear	0.044	0.187	0.231

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)		
Hotspot SAR	GPRS 850	Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.257	-	-	0.257	0.257	0.257
		Front	0.461	0.135	0.042	0.596	0.503	0.636
		Rear	0.549	0.157	0.113	0.706	0.662	0.819
		Right	0.226	-	-	0.226	0.226	0.226
	GPRS 1900	Left	-	0.252	0.059	0.252	0.059	0.311
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.135	0.042	0.434	0.341	0.476
		Rear	0.302	0.157	0.113	0.459	0.415	0.572
	WCDMA 850	Right	-	-	-	-	-	-
		Left	0.091	0.252	0.059	0.343	0.150	0.402
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.336	-	-	0.336	0.336	0.336
		Front	0.568	0.135	0.042	0.703	0.610	0.745
	WCDMA 1700	Rear	0.621	0.157	0.113	0.778	0.734	0.891
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.252	0.059	0.252	0.059	0.311
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	1.129	-	-	1.129	1.129	1.129
	WCDMA 1900	Front	0.601	0.135	0.042	0.736	0.643	0.778
		Rear	0.660	0.157	0.113	0.817	0.773	0.930
		Right	-	-	-	-	-	-
		Left	0.263	0.252	0.059	0.515	0.322	0.574
		Top	-	0.072	0.015	0.072	0.015	0.087
	LTE Band 12	Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.135	0.042	0.671	0.578	0.713
		Rear	0.583	0.157	0.113	0.740	0.696	0.853
		Right	-	-	-	-	-	-
		Left	0.217	0.252	0.059	0.469	0.276	0.528
	LTE Band 13	Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.135	0.042	0.491	0.398	0.533
		Rear	0.464	0.157	0.113	0.621	0.577	0.734
		Right	0.168	-	-	0.168	0.168	0.168
	LTE Band 26	Left	-	0.252	0.059	0.252	0.059	0.311
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.241	-	-	0.241	0.241	0.241
		Front	0.483	0.135	0.042	0.618	0.525	0.660
		Rear	0.555	0.157	0.113	0.712	0.668	0.825
	LTE Band 66	Right	0.256	-	-	0.256	0.256	0.256
		Left	-	0.252	0.059	0.252	0.059	0.311
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.427	-	-	0.427	0.427	0.427
		Front	0.647	0.135	0.042	0.782	0.689	0.824
	LTE Band 25	Rear	0.763	0.157	0.113	0.940	0.896	1.053
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.252	0.059	0.252	0.059	0.311
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.829	-	-	0.829	0.829	0.829
	LTE Band 7	Front	0.573	0.135	0.042	0.708	0.615	0.750
		Rear	0.622	0.157	0.113	0.779	0.735	0.892
		Right	-	-	-	-	-	-
		Left	0.241	0.252	0.059	0.493	0.300	0.552
		Top	-	0.072	0.015	0.072	0.015	0.087
	LTE Band 41	Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.135	0.042	0.586	0.493	0.628
		Rear	0.513	0.157	0.113	0.670	0.626	0.783
		Right	-	-	-	-	-	-
		Left	0.165	0.252	0.059	0.417	0.224	0.476
	LTE Band 7	Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.135	0.042	0.480	0.387	0.522
		Rear	0.473	0.157	0.113	0.630	0.586	0.743
		Right	-	-	-	-	-	-
	LTE Band 41	Left	0.150	0.252	0.059	0.402	0.209	0.461
		Top	-	0.072	0.015	0.072	0.015	0.087
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.135	0.042	0.295	0.202	0.337
		Rear	0.323	0.157	0.113	0.480	0.436	0.593
	LTE Band 41	Right	-	-	-	-	-	-
		Left	0.095	0.252	0.059	0.347	0.154	0.406

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)		
Hotspot SAR	GPRS 850	1	2	3	1+2	1+3	1+2+3	
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.257	-	-	0.257	0.257	0.257
		Front	0.461	0.135	0.012	0.596	0.473	0.608
		Rear	0.549	0.157	0.133	0.706	0.682	0.839
	GPRS 1900	Right	0.226	-	-	0.226	0.226	0.226
		Left	-	0.252	0.051	0.252	0.051	0.303
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.135	0.012	0.434	0.311	0.446
	WCDMA 850	Rear	0.302	0.157	0.133	0.459	0.435	0.592
		Right	-	-	-	-	-	-
		Left	0.091	0.252	0.051	0.343	0.142	0.394
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.336	-	-	0.336	0.336	0.336
	WCDMA 1700	Front	0.568	0.135	0.012	0.703	0.580	0.715
		Rear	0.621	0.157	0.133	0.778	0.754	0.911
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.252	0.051	0.252	0.051	0.303
		Top	-	0.072	0.037	0.072	0.037	0.109
	WCDMA 1900	Bottom	1.129	-	-	1.129	1.129	1.129
		Front	0.601	0.135	0.012	0.736	0.613	0.748
		Rear	0.660	0.157	0.133	0.817	0.793	0.950
		Right	-	-	-	-	-	-
		Left	0.263	0.252	0.051	0.515	0.314	0.566
	LTE Band 12	Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.135	0.012	0.671	0.548	0.683
		Rear	0.583	0.157	0.133	0.740	0.716	0.873
		Right	-	-	-	-	-	-
	LTE Band 13	Left	0.217	0.252	0.051	0.469	0.268	0.520
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.135	0.012	0.491	0.368	0.503
		Rear	0.464	0.157	0.133	0.621	0.597	0.754
	LTE Band 26	Right	0.168	-	-	0.168	0.168	0.168
		Left	-	0.252	0.051	0.252	0.051	0.303
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.427	-	-	0.427	0.427	0.427
		Front	0.647	0.135	0.012	0.782	0.659	0.794
	LTE Band 66	Rear	0.783	0.157	0.133	0.940	0.916	1.073
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.252	0.051	0.252	0.051	0.303
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.829	-	-	0.829	0.829	0.829
	LTE Band 25	Front	0.573	0.135	0.012	0.708	0.585	0.720
		Rear	0.622	0.157	0.133	0.779	0.755	0.912
		Right	-	-	-	-	-	-
		Left	0.241	0.252	0.051	0.493	0.292	0.544
		Top	-	0.072	0.037	0.072	0.037	0.109
	LTE Band 7	Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.135	0.012	0.586	0.463	0.598
		Rear	0.513	0.157	0.133	0.670	0.646	0.803
		Right	-	-	-	-	-	-
		Left	0.165	0.252	0.051	0.417	0.216	0.468
	LTE Band 41	Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.135	0.012	0.480	0.357	0.492
		Rear	0.473	0.157	0.133	0.630	0.606	0.763
		Right	-	-	-	-	-	-
	LTE Band 41	Left	0.150	0.252	0.051	0.402	0.201	0.453
		Top	-	0.072	0.037	0.072	0.037	0.109
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.135	0.012	0.295	0.172	0.307
		Rear	0.323	0.157	0.133	0.480	0.456	0.613
		Right	-	-	-	-	-	-
		Left	0.095	0.252	0.051	0.347	0.146	0.398

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)		
Hotspot SAR	GPRS 850	1	2	3	1+2	1+3	1+2+3	
		Top	0.229	0.030	0.111	0.030	0.111	0.141
		Bottom	-	-	-	0.229	-	0.229
		Front	0.411	0.029	0.043	0.440	0.454	0.483
		Rear	0.489	0.044	0.305	0.533	0.794	0.838
	Right	0.202	-	-	0.202	-	0.202	
	Left	-	0.090	0.141	0.090	0.141	0.231	
	GPRS 1900	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.497	-	-	0.497	-	0.497
		Front	0.299	0.029	0.043	0.328	0.342	0.371
		Rear	0.302	0.044	0.305	0.346	0.607	0.651
		Right	-	-	-	-	-	-
	Left	0.091	0.090	0.141	0.181	0.232	0.322	
	WCDMA 850	Top	0.336	0.030	0.111	0.030	0.111	0.141
		Bottom	-	-	-	0.336	-	0.336
		Front	0.568	0.029	0.043	0.597	0.611	0.640
		Rear	0.621	0.044	0.305	0.665	0.926	0.970
		Right	0.288	-	-	0.288	-	0.288
	Left	-	0.090	0.141	0.090	0.141	0.231	
	WCDMA 1700	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	1.129	-	-	1.129	-	1.129
		Front	0.601	0.029	0.043	0.630	0.644	0.673
		Rear	0.660	0.044	0.305	0.704	0.965	1.009
		Right	-	-	-	-	-	-
	Left	0.263	0.090	0.141	0.353	0.404	0.494	
	WCDMA 1900	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	1.072	-	-	1.072	-	1.072
		Front	0.536	0.029	0.043	0.565	0.579	0.608
		Rear	0.583	0.044	0.305	0.627	0.888	0.932
		Right	-	-	-	-	-	-
	Left	0.217	0.090	0.141	0.307	0.358	0.448	
	LTE Band 12	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.190	-	-	0.190	-	0.190
		Front	0.356	0.029	0.043	0.385	0.399	0.428
		Rear	0.464	0.044	0.305	0.508	0.769	0.813
		Right	0.168	-	-	0.168	-	0.168
	Left	-	0.090	0.141	0.090	0.141	0.231	
	LTE Band 13	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.241	-	-	0.241	-	0.241
		Front	0.483	0.029	0.043	0.512	0.526	0.555
		Rear	0.555	0.044	0.305	0.599	0.860	0.904
		Right	0.256	-	-	0.256	-	0.256
	Left	-	0.090	0.141	0.090	0.141	0.231	
	LTE Band 26	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.427	-	-	0.427	-	0.427
		Front	0.647	0.029	0.043	0.676	0.690	0.719
		Rear	0.783	0.044	0.305	0.827	1.088	1.132
		Right	0.279	-	-	0.279	-	0.279
	Left	-	0.090	0.141	0.090	0.141	0.231	
	LTE Band 66	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.829	-	-	0.829	-	0.829
		Front	0.573	0.029	0.043	0.602	0.616	0.645
		Rear	0.622	0.044	0.305	0.666	0.927	0.971
		Right	-	-	-	-	-	-
	Left	0.241	0.090	0.141	0.331	0.382	0.472	
	LTE Band 25	Top	0.885	0.030	0.111	0.030	0.111	0.141
		Bottom	-	-	-	0.885	-	0.885
		Front	0.451	0.029	0.043	0.480	0.494	0.523
		Rear	0.513	0.044	0.305	0.557	0.818	0.862
		Right	-	-	-	-	-	-
	Left	0.165	0.090	0.141	0.255	0.306	0.396	
	LTE Band 7	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.493	-	-	0.493	-	0.493
		Front	0.345	0.029	0.043	0.374	0.388	0.417
		Rear	0.473	0.044	0.305	0.517	0.778	0.822
		Right	-	-	-	-	-	-
	Left	0.150	0.090	0.141	0.240	0.291	0.381	
	LTE Band 41	Top	-	0.030	0.111	0.030	0.111	0.141
		Bottom	0.274	-	-	0.274	-	0.274
		Front	0.160	0.029	0.043	0.189	0.203	0.232
		Rear	0.323	0.044	0.305	0.367	0.628	0.672
Right		-	-	-	-	-	-	
Left	0.095	0.090	0.141	0.185	0.236	0.326		

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	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.229	-	-	0.229	0.229	0.229
		Front	0.411	0.029	0.042	0.440	0.453	0.482
		Rear	0.489	0.044	0.113	0.533	0.602	0.646
		Right	0.202	-	-	0.202	0.202	0.202
		Left	-	0.090	0.059	0.090	0.059	0.149
	GPRS 1900	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.029	0.042	0.328	0.341	0.370
		Rear	0.302	0.044	0.113	0.346	0.415	0.459
		Right	-	-	-	-	-	-
		Left	0.091	0.090	0.059	0.181	0.150	0.240
	WCDMA 850	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.336	-	-	0.336	0.336	0.336
		Front	0.568	0.029	0.042	0.597	0.610	0.639
		Rear	0.621	0.044	0.113	0.665	0.734	0.778
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.090	0.059	0.090	0.059	0.149
	WCDMA 1700	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	1.129	-	-	1.129	1.129	1.129
		Front	0.601	0.029	0.042	0.630	0.643	0.672
		Rear	0.660	0.044	0.113	0.704	0.773	0.817
		Right	-	-	-	-	-	-
		Left	0.263	0.090	0.059	0.353	0.322	0.412
	WCDMA 1900	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.029	0.042	0.565	0.578	0.607
		Rear	0.583	0.044	0.113	0.627	0.696	0.740
		Right	-	-	-	-	-	-
		Left	0.217	0.090	0.059	0.307	0.276	0.366
	LTE Band 12	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.029	0.042	0.385	0.398	0.427
		Rear	0.464	0.044	0.113	0.508	0.577	0.621
		Right	0.168	-	-	0.168	0.168	0.168
		Left	-	0.090	0.059	0.090	0.059	0.149
	LTE Band 13	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.241	-	-	0.241	0.241	0.241
		Front	0.483	0.029	0.042	0.512	0.525	0.554
		Rear	0.555	0.044	0.113	0.599	0.668	0.712
		Right	0.256	-	-	0.256	0.256	0.256
		Left	-	0.090	0.059	0.090	0.059	0.149
	LTE Band 26	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.427	-	-	0.427	0.427	0.427
		Front	0.647	0.029	0.042	0.676	0.689	0.718
		Rear	0.783	0.044	0.113	0.827	0.896	0.940
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.090	0.059	0.090	0.059	0.149
	LTE Band 66	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.829	-	-	0.829	0.829	0.829
		Front	0.573	0.029	0.042	0.602	0.615	0.644
		Rear	0.622	0.044	0.113	0.666	0.735	0.779
		Right	-	-	-	-	-	-
		Left	0.241	0.090	0.059	0.331	0.300	0.390
	LTE Band 25	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.029	0.042	0.480	0.493	0.522
		Rear	0.513	0.044	0.113	0.557	0.626	0.670
		Right	-	-	-	-	-	-
		Left	0.165	0.090	0.059	0.255	0.224	0.314
	LTE Band 7	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.029	0.042	0.374	0.387	0.416
		Rear	0.473	0.044	0.113	0.517	0.586	0.630
		Right	-	-	-	-	-	-
		Left	0.150	0.090	0.059	0.240	0.209	0.299
	LTE Band 41	Top	-	0.030	0.015	0.030	0.015	0.045
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.029	0.042	0.189	0.202	0.231
		Rear	0.323	0.044	0.113	0.367	0.436	0.469
		Right	-	-	-	-	-	-
		Left	0.095	0.090	0.059	0.185	0.154	0.244

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)		
Hotspot SAR	GPRS 850	1	2	3	1+2	1+3	1+2+3	
		Top	0.229	0.030	0.126	0.030	0.126	0.156
		Bottom	-	-	-	0.229	0.229	0.229
		Front	0.411	0.029	0.101	0.440	0.512	0.541
		Rear	0.489	0.044	0.448	0.533	0.937	0.981
	GPRS 1900	Right	0.202	-	-	0.202	0.202	0.202
		Left	-	0.090	0.198	0.090	0.198	0.288
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.029	0.101	0.328	0.400	0.429
	WCDMA 850	Rear	0.302	0.044	0.448	0.346	0.750	0.794
		Right	-	-	-	-	-	-
		Left	0.091	0.090	0.198	0.181	0.289	0.379
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.336	-	-	0.336	0.336	0.336
	WCDMA 1700	Front	0.568	0.029	0.101	0.597	0.669	0.698
		Rear	0.621	0.044	0.448	0.665	1.069	1.113
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.090	0.198	0.090	0.198	0.288
		Top	-	0.030	0.126	0.030	0.126	0.156
	WCDMA 1900	Bottom	1.129	-	-	1.129	1.129	1.129
		Front	0.601	0.029	0.101	0.630	0.702	0.731
		Rear	0.660	0.044	0.448	0.704	1.108	1.152
		Right	-	-	-	-	-	-
		Left	0.263	0.090	0.198	0.353	0.461	0.551
	LTE Band 12	Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.029	0.101	0.565	0.637	0.666
		Rear	0.583	0.044	0.448	0.627	1.031	1.075
		Right	-	-	-	-	-	-
	LTE Band 13	Left	0.217	0.090	0.198	0.307	0.415	0.505
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.029	0.101	0.385	0.457	0.486
		Rear	0.464	0.044	0.448	0.508	0.912	0.956
	LTE Band 26	Right	0.168	-	-	0.168	0.168	0.168
		Left	-	0.090	0.198	0.090	0.198	0.288
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.241	-	-	0.241	0.241	0.241
		Front	0.483	0.029	0.101	0.512	0.584	0.613
	LTE Band 66	Rear	0.555	0.044	0.448	0.599	1.003	1.047
		Right	0.256	-	-	0.256	0.256	0.256
		Left	-	0.090	0.198	0.090	0.198	0.288
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.427	-	-	0.427	0.427	0.427
	LTE Band 25	Front	0.647	0.029	0.101	0.676	0.748	0.777
		Rear	0.783	0.044	0.448	0.827	1.231	1.275
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.090	0.198	0.090	0.198	0.288
		Top	-	0.030	0.126	0.030	0.126	0.156
	LTE Band 7	Bottom	0.829	-	-	0.829	0.829	0.829
		Front	0.573	0.029	0.101	0.602	0.674	0.703
		Rear	0.622	0.044	0.448	0.666	1.070	1.114
		Right	-	-	-	-	-	-
		Left	0.241	0.090	0.198	0.331	0.439	0.529
	LTE Band 41	Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.029	0.101	0.480	0.552	0.581
		Rear	0.513	0.044	0.448	0.557	0.961	1.005
		Right	-	-	-	-	-	-
	LTE Band 7	Left	0.165	0.090	0.198	0.255	0.363	0.453
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.029	0.101	0.374	0.446	0.475
		Rear	0.473	0.044	0.448	0.517	0.921	0.965
	LTE Band 41	Right	-	-	-	-	-	-
		Left	0.150	0.090	0.198	0.240	0.348	0.438
		Top	-	0.030	0.126	0.030	0.126	0.156
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.029	0.101	0.189	0.261	0.290
	LTE Band 41	Rear	0.323	0.044	0.448	0.367	0.771	0.815
		Right	-	-	-	-	-	-
		Left	0.095	0.090	0.198	0.185	0.293	0.383

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	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.229	-	-	0.229	-	0.229
		Front	0.411	0.029	0.013	0.440	0.424	0.453
		Rear	0.489	0.044	0.083	0.533	0.572	0.616
		Right	0.202	-	-	0.202	-	0.202
	GPRS 1900	Left	-	0.090	0.063	0.090	0.063	0.153
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.497	-	-	0.497	-	0.497
		Front	0.299	0.029	0.013	0.328	0.312	0.341
		Rear	0.302	0.044	0.083	0.346	0.385	0.429
	WCDMA 850	Left	0.091	0.090	0.063	0.181	0.154	0.244
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.336	-	-	0.336	-	0.336
		Front	0.568	0.029	0.013	0.597	0.581	0.610
		Rear	0.621	0.044	0.083	0.665	0.704	0.748
	WCDMA 1700	Right	0.288	-	-	0.288	-	0.288
		Left	-	0.090	0.063	0.090	0.063	0.153
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	1.129	-	-	1.129	-	1.129
		Front	0.601	0.029	0.013	0.630	0.614	0.643
	WCDMA 1900	Rear	0.660	0.044	0.083	0.704	0.743	0.787
		Right	-	-	-	-	-	-
		Left	0.263	0.090	0.063	0.353	0.326	0.416
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	1.072	-	-	1.072	-	1.072
	LTE Band 12	Front	0.536	0.029	0.013	0.565	0.549	0.578
		Rear	0.583	0.044	0.083	0.627	0.666	0.710
		Right	-	-	-	-	-	-
		Left	0.217	0.090	0.063	0.307	0.280	0.370
		Top	-	0.030	0.040	0.030	0.040	0.070
	LTE Band 13	Bottom	0.190	-	-	0.190	-	0.190
		Front	0.356	0.029	0.013	0.385	0.369	0.398
		Rear	0.464	0.044	0.083	0.508	0.547	0.591
		Right	0.168	-	-	0.168	-	0.168
		Left	-	0.090	0.063	0.090	0.063	0.153
	LTE Band 26	Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.241	-	-	0.241	-	0.241
		Front	0.483	0.029	0.013	0.512	0.496	0.525
		Rear	0.555	0.044	0.083	0.599	0.638	0.682
		Right	0.256	-	-	0.256	-	0.256
	LTE Band 66	Left	-	0.090	0.063	0.090	0.063	0.153
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.829	-	-	0.829	-	0.829
		Front	0.573	0.029	0.013	0.602	0.586	0.615
		Rear	0.622	0.044	0.083	0.666	0.705	0.749
	LTE Band 25	Right	-	-	-	-	-	-
		Left	0.241	0.090	0.063	0.331	0.304	0.394
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.885	-	-	0.885	-	0.885
		Front	0.451	0.029	0.013	0.480	0.464	0.493
	LTE Band 7	Rear	0.513	0.044	0.083	0.557	0.596	0.640
		Right	-	-	-	-	-	-
		Left	0.165	0.090	0.063	0.255	0.228	0.318
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.493	-	-	0.493	-	0.493
	LTE Band 41	Front	0.345	0.029	0.013	0.374	0.358	0.387
		Rear	0.473	0.044	0.083	0.517	0.556	0.600
		Right	-	-	-	-	-	-
		Left	0.150	0.090	0.063	0.240	0.213	0.303
		Top	-	0.030	0.040	0.030	0.040	0.070
		Bottom	0.274	-	-	0.274	-	0.274
		Front	0.160	0.029	0.013	0.189	0.173	0.202
		Rear	0.323	0.044	0.083	0.367	0.406	0.450
		Right	-	-	-	-	-	-
		Left	0.095	0.090	0.063	0.185	0.158	0.248

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	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.229	-	-	0.229	0.229	0.229
		Front	0.411	0.029	0.012	0.440	0.423	0.452
		Rear	0.489	0.044	0.133	0.533	0.622	0.666
		Right	0.202	-	-	0.202	0.202	0.202
		Left	-	0.090	0.051	0.090	0.051	0.141
	GPRS 1900	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.029	0.012	0.328	0.311	0.340
		Rear	0.302	0.044	0.133	0.346	0.435	0.479
		Right	-	-	-	-	-	-
		Left	0.091	0.090	0.051	0.181	0.142	0.232
	WCDMA 850	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.336	-	-	0.336	0.336	0.336
		Front	0.568	0.029	0.012	0.597	0.580	0.599
		Rear	0.621	0.044	0.133	0.665	0.754	0.798
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.090	0.051	0.090	0.051	0.141
	WCDMA 1700	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	1.129	-	-	1.129	1.129	1.129
		Front	0.601	0.029	0.012	0.630	0.613	0.642
		Rear	0.660	0.044	0.133	0.704	0.793	0.837
		Right	-	-	-	-	-	-
		Left	0.263	0.090	0.051	0.353	0.314	0.404
	WCDMA 1900	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.029	0.012	0.565	0.548	0.577
		Rear	0.583	0.044	0.133	0.627	0.716	0.760
		Right	-	-	-	-	-	-
		Left	0.217	0.090	0.051	0.307	0.268	0.358
	LTE Band 12	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.029	0.012	0.385	0.368	0.397
		Rear	0.464	0.044	0.133	0.508	0.597	0.641
		Right	0.168	-	-	0.168	0.168	0.168
		Left	-	0.090	0.051	0.090	0.051	0.141
	LTE Band 13	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.241	-	-	0.241	0.241	0.241
		Front	0.483	0.029	0.012	0.512	0.495	0.524
		Rear	0.565	0.044	0.133	0.599	0.688	0.732
		Right	0.256	-	-	0.256	0.256	0.256
		Left	-	0.090	0.051	0.090	0.051	0.141
	LTE Band 26	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.427	-	-	0.427	0.427	0.427
		Front	0.647	0.029	0.012	0.676	0.659	0.688
		Rear	0.783	0.044	0.133	0.827	0.916	0.960
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.090	0.051	0.090	0.051	0.141
	LTE Band 66	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.829	-	-	0.829	0.829	0.829
		Front	0.573	0.029	0.012	0.602	0.585	0.614
		Rear	0.622	0.044	0.133	0.666	0.755	0.799
		Right	-	-	-	-	-	-
		Left	0.241	0.090	0.051	0.331	0.292	0.382
	LTE Band 25	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.029	0.012	0.480	0.463	0.492
		Rear	0.513	0.044	0.133	0.557	0.646	0.690
		Right	-	-	-	-	-	-
		Left	0.165	0.090	0.051	0.255	0.216	0.306
	LTE Band 7	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.029	0.012	0.374	0.357	0.386
		Rear	0.473	0.044	0.133	0.517	0.606	0.650
		Right	-	-	-	-	-	-
		Left	0.150	0.090	0.051	0.240	0.201	0.291
	LTE Band 41	Top	-	0.030	0.037	0.030	0.037	0.067
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.029	0.012	0.189	0.172	0.201
		Rear	0.323	0.044	0.133	0.367	0.456	0.500
		Right	-	-	-	-	-	-
		Left	0.095	0.090	0.051	0.185	0.146	0.236

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	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.229	-	0.229	0.229	0.229	0.229
		Front	0.411	0.029	0.028	0.440	0.437	0.466
		Rear	0.489	0.044	0.186	0.533	0.675	0.719
		Right	0.202	-	-	0.202	0.202	0.202
	GPRS 1900	Left	-	0.090	0.125	0.090	0.125	0.215
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.497	-	-	0.497	0.497	0.497
		Front	0.299	0.029	0.026	0.328	0.325	0.354
		Rear	0.302	0.044	0.186	0.346	0.488	0.532
	WCDMA 850	Right	-	0.090	0.125	0.090	0.125	0.215
		Left	0.091	-	0.181	0.181	0.216	0.306
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.336	-	-	0.336	0.336	0.336
		Front	0.568	0.029	0.026	0.597	0.594	0.623
	WCDMA 1700	Rear	0.621	0.044	0.186	0.665	0.807	0.851
		Right	0.288	-	-	0.288	0.288	0.288
		Left	-	0.090	0.125	0.090	0.125	0.215
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	1.129	-	-	1.129	1.129	1.129
	WCDMA 1900	Front	0.601	0.029	0.026	0.630	0.627	0.656
		Rear	0.660	0.044	0.186	0.704	0.846	0.890
		Right	-	-	-	-	-	-
		Left	0.263	0.090	0.125	0.353	0.388	0.478
		Top	-	0.030	0.083	0.030	0.083	0.113
	LTE Band 12	Bottom	1.072	-	-	1.072	1.072	1.072
		Front	0.536	0.029	0.026	0.565	0.562	0.591
		Rear	0.583	0.044	0.186	0.627	0.769	0.813
		Right	-	-	-	-	-	-
		Left	0.217	0.090	0.125	0.307	0.342	0.432
	LTE Band 13	Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.190	-	-	0.190	0.190	0.190
		Front	0.356	0.029	0.026	0.385	0.382	0.411
		Rear	0.464	0.044	0.186	0.508	0.650	0.694
		Right	0.168	-	-	0.168	0.168	0.168
	LTE Band 26	Left	-	0.090	0.125	0.090	0.125	0.215
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.241	-	-	0.241	0.241	0.241
		Front	0.483	0.029	0.026	0.512	0.509	0.538
		Rear	0.555	0.044	0.186	0.599	0.741	0.785
	LTE Band 66	Right	0.256	-	-	0.256	0.256	0.256
		Left	-	0.090	0.125	0.090	0.125	0.215
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.427	-	-	0.427	0.427	0.427
		Front	0.647	0.029	0.026	0.676	0.673	0.702
	LTE Band 25	Rear	0.783	0.044	0.186	0.827	0.969	1.013
		Right	0.279	-	-	0.279	0.279	0.279
		Left	-	0.090	0.125	0.090	0.125	0.215
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.829	-	-	0.829	0.829	0.829
	LTE Band 7	Front	0.573	0.029	0.026	0.602	0.599	0.628
		Rear	0.622	0.044	0.186	0.666	0.808	0.852
		Right	-	-	-	-	-	-
		Left	0.241	0.090	0.125	0.331	0.366	0.456
		Top	-	0.030	0.083	0.030	0.083	0.113
	LTE Band 41	Bottom	0.885	-	-	0.885	0.885	0.885
		Front	0.451	0.029	0.026	0.480	0.477	0.506
		Rear	0.513	0.044	0.186	0.557	0.699	0.743
		Right	-	-	-	-	-	-
		Left	0.165	0.090	0.125	0.255	0.290	0.380
	LTE Band 41	Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.493	-	-	0.493	0.493	0.493
		Front	0.345	0.029	0.026	0.374	0.371	0.400
		Rear	0.473	0.044	0.186	0.517	0.659	0.703
		Right	-	-	-	-	-	-
	LTE Band 41	Left	0.150	0.090	0.125	0.240	0.275	0.365
		Top	-	0.030	0.083	0.030	0.083	0.113
		Bottom	0.274	-	-	0.274	0.274	0.274
		Front	0.160	0.029	0.026	0.189	0.186	0.215
		Rear	0.323	0.044	0.186	0.367	0.509	0.553
	LTE Band 41	Right	-	-	-	-	-	-
		Left	0.095	0.090	0.125	0.185	0.220	0.310

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 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.072	0.072
		Bottom	0.229	-	0.229
		Front	0.411	0.135	0.546
		Rear	0.489	0.157	0.646
		Right	0.202	-	0.202
		Left	-	0.252	0.252
	GPRS 1900	Top	-	0.072	0.072
		Bottom	0.497	-	0.497
		Front	0.299	0.135	0.434
		Rear	0.302	0.157	0.459
		Right	-	-	-
		Left	0.091	0.252	0.343
	WCDMA 850	Top	-	0.072	0.072
		Bottom	0.336	-	0.336
		Front	0.568	0.135	0.703
		Rear	0.621	0.157	0.778
		Right	0.288	-	0.288
		Left	-	0.252	0.252
	WCDMA 1700	Top	-	0.072	0.072
		Bottom	1.129	-	1.129
		Front	0.601	0.135	0.736
		Rear	0.660	0.157	0.817
		Right	-	-	-
		Left	0.263	0.252	0.515
	WCDMA 1900	Top	-	0.072	0.072
		Bottom	1.072	-	1.072
		Front	0.536	0.135	0.671
		Rear	0.583	0.157	0.740
		Right	-	-	-
		Left	0.217	0.252	0.469
	LTE Band 12	Top	-	0.072	0.072
		Bottom	0.190	-	0.190
		Front	0.356	0.135	0.491
		Rear	0.454	0.157	0.621
		Right	0.168	-	0.168
		Left	-	0.252	0.252
	LTE Band 13	Top	-	0.072	0.072
		Bottom	0.241	-	0.241
		Front	0.483	0.135	0.618
		Rear	0.555	0.157	0.712
		Right	0.256	-	0.256
		Left	-	0.252	0.252
	LTE Band 26	Top	-	0.072	0.072
		Bottom	0.427	-	0.427
		Front	0.647	0.135	0.782
		Rear	0.783	0.157	0.940
		Right	0.279	-	0.279
		Left	-	0.252	0.252
	LTE Band 66	Top	-	0.072	0.072
		Bottom	0.829	-	0.829
		Front	0.573	0.135	0.708
		Rear	0.622	0.157	0.779
		Right	-	-	-
		Left	0.241	0.252	0.493
	LTE Band 25	Top	-	0.072	0.072
		Bottom	0.885	-	0.885
		Front	0.451	0.135	0.586
		Rear	0.513	0.157	0.670
		Right	-	-	-
		Left	0.185	0.252	0.437
	LTE Band 7	Top	-	0.072	0.072
		Bottom	0.493	-	0.493
		Front	0.345	0.135	0.480
		Rear	0.473	0.157	0.630
		Right	-	-	-
		Left	0.150	0.252	0.402
	LTE Band 41	Top	-	0.072	0.072
		Bottom	0.274	-	0.274
		Front	0.160	0.135	0.295
		Rear	0.323	0.157	0.480
		Right	-	-	-
		Left	0.095	0.252	0.347

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)
Hotspot SAR	GPRS 850	Top	-	0.146	0.146
		Bottom	0.229	-	0.229
		Front	0.411	0.082	0.493
		Rear	0.489	0.144	0.633
		Right	0.202	-	0.202
		Left	-	0.006	0.006
	GPRS 1900	Top	-	0.146	0.146
		Bottom	0.497	-	0.497
		Front	0.299	0.082	0.381
		Rear	0.302	0.144	0.446
		Right	-	-	-
		Left	0.091	0.006	0.097
	WCDMA 850	Top	-	0.146	0.146
		Bottom	0.336	-	0.336
		Front	0.568	0.082	0.650
		Rear	0.621	0.144	0.765
		Right	0.288	-	0.288
		Left	-	0.006	0.006
	WCDMA 1700	Top	-	0.146	0.146
		Bottom	1.129	-	1.129
		Front	0.601	0.082	0.683
		Rear	0.660	0.144	0.804
		Right	-	-	-
		Left	0.263	0.006	0.269
	WCDMA 1900	Top	-	0.146	0.146
		Bottom	1.072	-	1.072
		Front	0.536	0.082	0.618
		Rear	0.583	0.144	0.727
		Right	-	-	-
		Left	0.217	0.006	0.223
	LTE Band 12	Top	-	0.146	0.146
		Bottom	0.190	-	0.190
		Front	0.356	0.082	0.438
		Rear	0.464	0.144	0.608
		Right	0.168	-	0.168
		Left	-	0.006	0.006
	LTE Band 13	Top	-	0.146	0.146
		Bottom	0.241	-	0.241
		Front	0.483	0.082	0.565
		Rear	0.555	0.144	0.699
		Right	0.256	-	0.256
		Left	-	0.006	0.006
	LTE Band 26	Top	-	0.146	0.146
		Bottom	0.427	-	0.427
		Front	0.647	0.082	0.729
		Rear	0.783	0.144	0.927
		Right	0.279	-	0.279
		Left	-	0.006	0.006
	LTE Band 66	Top	-	0.146	0.146
		Bottom	0.829	-	0.829
		Front	0.573	0.082	0.655
		Rear	0.622	0.144	0.766
		Right	-	-	-
		Left	0.241	0.006	0.247
	LTE Band 25	Top	-	0.146	0.146
		Bottom	0.885	-	0.885
		Front	0.451	0.082	0.533
		Rear	0.513	0.144	0.657
		Right	-	-	-
		Left	0.165	0.006	0.171
	LTE Band 7	Top	-	0.146	0.146
		Bottom	0.493	-	0.493
		Front	0.345	0.082	0.427
		Rear	0.473	0.144	0.617
		Right	-	-	-
		Left	0.150	0.006	0.156
	LTE Band 41	Top	-	0.146	0.146
		Bottom	0.274	-	0.274
		Front	0.160	0.082	0.242
		Rear	0.323	0.144	0.467
		Right	-	-	-
		Left	0.095	0.006	0.101

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	-	0.144	0.144
		Bottom	0.229	-	0.229
		Front	0.411	0.110	0.521
		Rear	0.489	0.205	0.694
		Right	0.202	-	0.202
		Left	-	0.290	0.290
	GPRS 1900	Top	-	0.144	0.144
		Bottom	0.497	-	0.497
		Front	0.299	0.110	0.409
		Rear	0.302	0.205	0.507
		Right	-	-	-
		Left	0.091	0.290	0.381
	WCDMA 850	Top	-	0.144	0.144
		Bottom	0.336	-	0.336
		Front	0.568	0.110	0.678
		Rear	0.621	0.205	0.826
		Right	0.288	-	0.288
		Left	-	0.290	0.290
	WCDMA 1700	Top	-	0.144	0.144
		Bottom	1.129	-	1.129
		Front	0.601	0.110	0.711
		Rear	0.660	0.205	0.865
		Right	-	-	-
		Left	0.263	0.290	0.553
	WCDMA 1900	Top	-	0.144	0.144
		Bottom	1.072	-	1.072
		Front	0.536	0.110	0.646
		Rear	0.583	0.205	0.788
		Right	-	-	-
		Left	0.217	0.290	0.507
	LTE Band 12	Top	-	0.144	0.144
		Bottom	0.190	-	0.190
		Front	0.356	0.110	0.466
		Rear	0.464	0.205	0.669
		Right	0.168	-	0.168
		Left	-	0.290	0.290
	LTE Band 13	Top	-	0.144	0.144
		Bottom	0.241	-	0.241
		Front	0.483	0.110	0.593
		Rear	0.565	0.205	0.769
		Right	0.256	-	0.256
		Left	-	0.290	0.290
	LTE Band 26	Top	-	0.144	0.144
		Bottom	0.427	-	0.427
		Front	0.647	0.110	0.757
		Rear	0.783	0.205	0.988
		Right	0.279	-	0.279
		Left	-	0.290	0.290
	LTE Band 66	Top	-	0.144	0.144
		Bottom	0.829	-	0.829
		Front	0.573	0.110	0.683
		Rear	0.622	0.205	0.827
		Right	-	-	-
		Left	0.241	0.290	0.531
	LTE Band 25	Top	-	0.144	0.144
		Bottom	0.885	-	0.885
		Front	0.451	0.110	0.561
		Rear	0.513	0.205	0.718
		Right	-	-	-
		Left	0.165	0.290	0.455
	LTE Band 7	Top	-	0.144	0.144
		Bottom	0.493	-	0.493
		Front	0.345	0.110	0.455
		Rear	0.473	0.205	0.678
		Right	-	-	-
		Left	0.150	0.290	0.440
	LTE Band 41	Top	-	0.144	0.144
		Bottom	0.274	-	0.274
		Front	0.160	0.110	0.270
		Rear	0.323	0.205	0.528
		Right	-	-	-
		Left	0.095	0.290	0.385

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 SAR (W/kg)	ΣSAR (W/kg)
Hotspot SAR	GPRS 850	Top	-	0.111	0.111
		Bottom	0.229	-	0.229
		Front	0.411	0.043	0.454
		Rear	0.489	0.305	0.794
		Right	0.202	-	0.202
		Left	-	0.141	0.141
	GPRS 1900	Top	-	0.111	0.111
		Bottom	0.497	-	0.497
		Front	0.299	0.043	0.342
		Rear	0.302	0.305	0.607
		Right	-	-	-
		Left	0.091	0.141	0.232
	WCDMA 850	Top	-	0.111	0.111
		Bottom	0.336	-	0.336
		Front	0.568	0.043	0.611
		Rear	0.621	0.305	0.926
		Right	0.288	-	0.288
		Left	-	0.141	0.141
	WCDMA 1700	Top	-	0.111	0.111
		Bottom	1.129	-	1.129
		Front	0.601	0.043	0.644
		Rear	0.660	0.305	0.965
		Right	-	-	-
		Left	0.263	0.141	0.404
	WCDMA 1900	Top	-	0.111	0.111
		Bottom	1.072	-	1.072
		Front	0.536	0.043	0.579
		Rear	0.583	0.305	0.888
		Right	-	-	-
		Left	0.217	0.141	0.358
	LTE Band 12	Top	-	0.111	0.111
		Bottom	0.190	-	0.190
		Front	0.356	0.043	0.399
		Rear	0.464	0.305	0.769
		Right	0.168	-	0.168
		Left	-	0.141	0.141
	LTE Band 13	Top	-	0.111	0.111
		Bottom	0.241	-	0.241
		Front	0.483	0.043	0.526
		Rear	0.555	0.305	0.860
		Right	0.256	-	0.256
		Left	-	0.141	0.141
	LTE Band 26	Top	-	0.111	0.111
		Bottom	0.427	-	0.427
		Front	0.647	0.043	0.690
		Rear	0.783	0.305	1.088
		Right	0.279	-	0.279
		Left	-	0.141	0.141
	LTE Band 66	Top	-	0.111	0.111
		Bottom	0.829	-	0.829
		Front	0.573	0.043	0.616
		Rear	0.622	0.305	0.927
		Right	-	-	-
		Left	0.241	0.141	0.382
	LTE Band 25	Top	-	0.111	0.111
		Bottom	0.885	-	0.885
		Front	0.451	0.043	0.494
		Rear	0.513	0.305	0.818
		Right	-	-	-
		Left	0.165	0.141	0.306
	LTE Band 7	Top	-	0.111	0.111
		Bottom	0.493	-	0.493
		Front	0.345	0.043	0.388
		Rear	0.473	0.305	0.778
		Right	-	-	-
		Left	0.150	0.141	0.291
	LTE Band 41	Top	-	0.111	0.111
		Bottom	0.274	-	0.274
		Front	0.160	0.043	0.203
		Rear	0.323	0.305	0.628
		Right	-	-	-
		Left	0.095	0.141	0.236

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)
Hotspot SAR	GPRS 850	Top	-	0.015	0.015
		Bottom	0.229	-	0.229
		Front	0.411	0.042	0.453
		Rear	0.489	0.113	0.602
		Right	0.202	-	0.202
		Left	-	0.059	0.059
	GPRS 1900	Top	-	0.015	0.015
		Bottom	0.497	-	0.497
		Front	0.299	0.042	0.341
		Rear	0.302	0.113	0.415
		Right	-	-	-
		Left	0.091	0.059	0.150
	WCDMA 850	Top	-	0.015	0.015
		Bottom	0.336	-	0.336
		Front	0.568	0.042	0.610
		Rear	0.621	0.113	0.734
		Right	0.288	-	0.288
		Left	-	0.059	0.059
	WCDMA 1700	Top	-	0.015	0.015
		Bottom	1.129	-	1.129
		Front	0.601	0.042	0.643
		Rear	0.660	0.113	0.773
		Right	-	-	-
		Left	0.263	0.059	0.322
	WCDMA 1900	Top	-	0.015	0.015
		Bottom	1.072	-	1.072
		Front	0.536	0.042	0.578
		Rear	0.583	0.113	0.696
		Right	-	-	-
		Left	0.217	0.059	0.276
	LTE Band 12	Top	-	0.015	0.015
		Bottom	0.190	-	0.190
		Front	0.356	0.042	0.398
		Rear	0.464	0.113	0.577
		Right	0.168	-	0.168
		Left	-	0.059	0.059
	LTE Band 13	Top	-	0.015	0.015
		Bottom	0.241	-	0.241
		Front	0.483	0.042	0.525
		Rear	0.555	0.113	0.668
		Right	0.256	-	0.256
		Left	-	0.059	0.059
	LTE Band 26	Top	-	0.015	0.015
		Bottom	0.427	-	0.427
		Front	0.647	0.042	0.689
		Rear	0.783	0.113	0.896
		Right	0.279	-	0.279
		Left	-	0.059	0.059
	LTE Band 66	Top	-	0.015	0.015
		Bottom	0.829	-	0.829
		Front	0.573	0.042	0.615
		Rear	0.622	0.113	0.735
		Right	-	-	-
		Left	0.241	0.059	0.300
	LTE Band 25	Top	-	0.015	0.015
		Bottom	0.885	-	0.885
		Front	0.451	0.042	0.493
		Rear	0.513	0.113	0.626
		Right	-	-	-
		Left	0.165	0.059	0.224
	LTE Band 7	Top	-	0.015	0.015
		Bottom	0.493	-	0.493
		Front	0.345	0.042	0.387
		Rear	0.473	0.113	0.586
		Right	-	-	-
		Left	0.150	0.059	0.209
	LTE Band 41	Top	-	0.015	0.015
		Bottom	0.274	-	0.274
		Front	0.160	0.042	0.202
		Rear	0.323	0.113	0.436
		Right	-	-	-
		Left	0.095	0.059	0.154

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	-	0.126	0.126
		Bottom	0.229	-	0.229
		Front	0.411	0.101	0.512
		Rear	0.489	0.448	0.937
		Right	0.202	-	0.202
		Left	-	0.198	0.198
	GPRS 1900	Top	-	0.126	0.126
		Bottom	0.497	-	0.497
		Front	0.299	0.101	0.400
		Rear	0.302	0.448	0.750
		Right	-	-	-
		Left	0.091	0.198	0.289
	WCDMA 850	Top	-	0.126	0.126
		Bottom	0.336	-	0.336
		Front	0.568	0.101	0.669
		Rear	0.621	0.448	1.069
		Right	0.288	-	0.288
		Left	-	0.198	0.198
	WCDMA 1700	Top	-	0.126	0.126
		Bottom	1.129	-	1.129
		Front	0.601	0.101	0.702
		Rear	0.660	0.448	1.108
		Right	-	-	-
		Left	0.263	0.198	0.461
	WCDMA 1900	Top	-	0.126	0.126
		Bottom	1.072	-	1.072
		Front	0.536	0.101	0.637
		Rear	0.583	0.448	1.031
		Right	-	-	-
		Left	0.217	0.198	0.415
	LTE Band 12	Top	-	0.126	0.126
		Bottom	0.190	-	0.190
		Front	0.356	0.101	0.457
		Rear	0.454	0.448	0.912
		Right	0.168	-	0.168
		Left	-	0.198	0.198
	LTE Band 13	Top	-	0.126	0.126
		Bottom	0.241	-	0.241
		Front	0.483	0.101	0.584
		Rear	0.555	0.448	1.003
		Right	0.256	-	0.256
		Left	-	0.198	0.198
	LTE Band 26	Top	-	0.126	0.126
		Bottom	0.427	-	0.427
		Front	0.647	0.101	0.748
		Rear	0.783	0.448	1.231
		Right	0.279	-	0.279
		Left	-	0.198	0.198
	LTE Band 66	Top	-	0.126	0.126
		Bottom	0.829	-	0.829
		Front	0.573	0.101	0.674
		Rear	0.622	0.448	1.070
		Right	-	-	-
		Left	0.241	0.198	0.439
	LTE Band 25	Top	-	0.126	0.126
		Bottom	0.885	-	0.885
		Front	0.451	0.101	0.552
		Rear	0.513	0.448	0.961
		Right	-	-	-
		Left	0.165	0.198	0.363
	LTE Band 7	Top	-	0.126	0.126
		Bottom	0.493	-	0.493
		Front	0.345	0.101	0.446
		Rear	0.473	0.448	0.921
		Right	-	-	-
		Left	0.150	0.198	0.348
	LTE Band 41	Top	-	0.126	0.126
		Bottom	0.274	-	0.274
		Front	0.160	0.101	0.261
		Rear	0.323	0.448	0.771
		Right	-	-	-
		Left	0.095	0.198	0.293

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)
Hotspot SAR	GPRS 850	Top	-	0.040	0.040
		Bottom	0.229	-	0.229
		Front	0.411	0.013	0.424
		Rear	0.489	0.083	0.572
		Right	0.202	-	0.202
		Left	-	0.063	0.063
	GPRS 1900	Top	-	0.040	0.040
		Bottom	0.497	-	0.497
		Front	0.299	0.013	0.312
		Rear	0.302	0.083	0.385
		Right	-	-	-
		Left	0.091	0.063	0.154
	WCDMA 850	Top	-	0.040	0.040
		Bottom	0.336	-	0.336
		Front	0.568	0.013	0.581
		Rear	0.621	0.083	0.704
		Right	0.288	-	0.288
		Left	-	0.063	0.063
	WCDMA 1700	Top	-	0.040	0.040
		Bottom	1.129	-	1.129
		Front	0.601	0.013	0.614
		Rear	0.660	0.083	0.743
		Right	-	-	-
		Left	0.263	0.063	0.326
	WCDMA 1900	Top	-	0.040	0.040
		Bottom	1.072	-	1.072
		Front	0.536	0.013	0.549
		Rear	0.583	0.083	0.666
		Right	-	-	-
		Left	0.217	0.063	0.280
	LTE Band 12	Top	-	0.040	0.040
		Bottom	0.190	-	0.190
		Front	0.356	0.013	0.369
		Rear	0.464	0.083	0.547
		Right	0.168	-	0.168
		Left	-	0.063	0.063
	LTE Band 13	Top	-	0.040	0.040
		Bottom	0.241	-	0.241
		Front	0.483	0.013	0.496
		Rear	0.555	0.083	0.638
		Right	0.256	-	0.256
		Left	-	0.063	0.063
	LTE Band 26	Top	-	0.040	0.040
		Bottom	0.427	-	0.427
		Front	0.647	0.013	0.660
		Rear	0.783	0.083	0.866
		Right	0.279	-	0.279
		Left	-	0.063	0.063
	LTE Band 66	Top	-	0.040	0.040
		Bottom	0.829	-	0.829
		Front	0.573	0.013	0.586
		Rear	0.622	0.083	0.705
		Right	-	-	-
		Left	0.241	0.063	0.304
	LTE Band 25	Top	-	0.040	0.040
		Bottom	0.885	-	0.885
		Front	0.451	0.013	0.464
		Rear	0.513	0.083	0.596
		Right	-	-	-
		Left	0.185	0.063	0.228
	LTE Band 7	Top	-	0.040	0.040
		Bottom	0.493	-	0.493
		Front	0.345	0.013	0.358
		Rear	0.473	0.083	0.556
		Right	-	-	-
		Left	0.150	0.063	0.213
	LTE Band 41	Top	-	0.040	0.040
		Bottom	0.274	-	0.274
		Front	0.160	0.013	0.173
		Rear	0.323	0.083	0.406
		Right	-	-	-
		Left	0.095	0.063	0.158

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	-	0.037	0.037
		Bottom	0.229	-	0.229
		Front	0.411	0.012	0.423
		Rear	0.489	0.133	0.622
		Right	0.202	-	0.202
		Left	-	0.051	0.051
	GPRS 1900	Top	-	0.037	0.037
		Bottom	0.497	-	0.497
		Front	0.299	0.012	0.311
		Rear	0.302	0.133	0.435
		Right	-	-	-
		Left	0.091	0.051	0.142
	WCDMA 850	Top	-	0.037	0.037
		Bottom	0.336	-	0.336
		Front	0.568	0.012	0.580
		Rear	0.621	0.133	0.754
		Right	0.288	-	0.288
		Left	-	0.051	0.051
	WCDMA 1700	Top	-	0.037	0.037
		Bottom	1.129	-	1.129
		Front	0.601	0.012	0.613
		Rear	0.660	0.133	0.793
		Right	-	-	-
		Left	0.263	0.051	0.314
	WCDMA 1900	Top	-	0.037	0.037
		Bottom	1.072	-	1.072
		Front	0.536	0.012	0.548
		Rear	0.583	0.133	0.716
		Right	-	-	-
		Left	0.217	0.051	0.268
	LTE Band 12	Top	-	0.037	0.037
		Bottom	0.190	-	0.190
		Front	0.356	0.012	0.368
		Rear	0.464	0.133	0.597
		Right	0.168	-	0.168
		Left	-	0.051	0.051
	LTE Band 13	Top	-	0.037	0.037
		Bottom	0.241	-	0.241
		Front	0.483	0.012	0.495
		Rear	0.555	0.133	0.688
		Right	0.256	-	0.256
		Left	-	0.051	0.051
	LTE Band 26	Top	-	0.037	0.037
		Bottom	0.427	-	0.427
		Front	0.647	0.012	0.659
		Rear	0.783	0.133	0.916
		Right	0.279	-	0.279
		Left	-	0.051	0.051
	LTE Band 66	Top	-	0.037	0.037
		Bottom	0.829	-	0.829
		Front	0.573	0.012	0.585
		Rear	0.622	0.133	0.755
		Right	-	-	-
		Left	0.241	0.051	0.292
	LTE Band 25	Top	-	0.037	0.037
		Bottom	0.885	-	0.885
		Front	0.451	0.012	0.463
		Rear	0.513	0.133	0.646
		Right	-	-	-
		Left	0.165	0.051	0.216
	LTE Band 7	Top	-	0.037	0.037
		Bottom	0.493	-	0.493
		Front	0.345	0.012	0.357
		Rear	0.473	0.133	0.606
		Right	-	-	-
		Left	0.150	0.051	0.201
	LTE Band 41	Top	-	0.037	0.037
		Bottom	0.274	-	0.274
		Front	0.160	0.012	0.172
		Rear	0.323	0.133	0.456
		Right	-	-	-
		Left	0.095	0.051	0.146

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 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.083	0.083
		Bottom	0.229	-	0.229
		Front	0.411	0.026	0.437
		Rear	0.489	0.186	0.675
		Right	0.202	-	0.202
		Left	-	0.125	0.125
	GPRS 1900	Top	-	0.083	0.083
		Bottom	0.497	-	0.497
		Front	0.299	0.026	0.325
		Rear	0.302	0.186	0.488
		Right	-	-	-
		Left	0.091	0.125	0.216
	WCDMA 850	Top	-	0.083	0.083
		Bottom	0.336	-	0.336
		Front	0.568	0.026	0.594
		Rear	0.621	0.186	0.807
		Right	0.288	-	0.288
		Left	-	0.125	0.125
	WCDMA 1700	Top	-	0.083	0.083
		Bottom	1.129	-	1.129
		Front	0.601	0.026	0.627
		Rear	0.660	0.186	0.846
		Right	-	-	-
		Left	0.263	0.125	0.388
	WCDMA 1900	Top	-	0.083	0.083
		Bottom	1.072	-	1.072
		Front	0.536	0.026	0.562
		Rear	0.583	0.186	0.769
		Right	-	-	-
		Left	0.217	0.125	0.342
	LTE Band 12	Top	-	0.083	0.083
		Bottom	0.190	-	0.190
		Front	0.356	0.026	0.382
		Rear	0.464	0.186	0.650
		Right	0.168	-	0.168
		Left	-	0.125	0.125
	LTE Band 13	Top	-	0.083	0.083
		Bottom	0.241	-	0.241
		Front	0.483	0.026	0.509
		Rear	0.555	0.186	0.741
		Right	0.256	-	0.256
		Left	-	0.125	0.125
	LTE Band 26	Top	-	0.083	0.083
		Bottom	0.427	-	0.427
		Front	0.647	0.026	0.673
		Rear	0.783	0.186	0.969
		Right	0.279	-	0.279
		Left	-	0.125	0.125
	LTE Band 66	Top	-	0.083	0.083
		Bottom	0.829	-	0.829
		Front	0.573	0.026	0.599
		Rear	0.622	0.186	0.808
		Right	-	-	-
		Left	0.241	0.125	0.366
	LTE Band 25	Top	-	0.083	0.083
		Bottom	0.885	-	0.885
		Front	0.451	0.026	0.477
		Rear	0.513	0.186	0.699
		Right	-	-	-
		Left	0.165	0.125	0.290
	LTE Band 7	Top	-	0.083	0.083
		Bottom	0.493	-	0.493
		Front	0.345	0.026	0.371
		Rear	0.473	0.186	0.659
		Right	-	-	-
		Left	0.150	0.125	0.275
	LTE Band 41	Top	-	0.083	0.083
		Bottom	0.274	-	0.274
		Front	0.160	0.026	0.186
		Rear	0.323	0.186	0.509
		Right	-	-	-
		Left	0.095	0.125	0.220

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	-	0.030	0.030
		Bottom	0.229	-	0.229
		Front	0.411	0.029	0.440
		Rear	0.489	0.044	0.533
		Right	0.202	-	0.202
	GPRS 1900	Left	-	0.090	0.090
		Top	-	0.030	0.030
		Bottom	0.497	-	0.497
		Front	0.299	0.029	0.328
		Rear	0.302	0.044	0.346
	WCDMA 850	Right	-	0.090	0.090
		Left	0.091	0.090	0.181
		Top	-	0.030	0.030
		Bottom	0.336	-	0.336
		Front	0.568	0.029	0.597
	WCDMA 1700	Rear	0.621	0.044	0.665
		Right	0.288	-	0.288
		Left	-	0.090	0.090
		Top	-	0.030	0.030
		Bottom	1.129	-	1.129
	WCDMA 1900	Front	0.601	0.029	0.630
		Rear	0.660	0.044	0.704
		Right	-	-	-
		Left	0.263	0.090	0.353
		Top	-	0.030	0.030
	LTE Band 12	Bottom	1.072	-	1.072
		Front	0.536	0.029	0.565
		Rear	0.583	0.044	0.627
		Right	-	-	-
		Left	0.217	0.090	0.307
	LTE Band 13	Top	-	0.030	0.030
		Bottom	0.190	-	0.190
		Front	0.356	0.029	0.385
		Rear	0.464	0.044	0.508
		Right	0.168	-	0.168
	LTE Band 26	Left	-	0.090	0.090
		Top	-	0.030	0.030
		Bottom	0.241	-	0.241
		Front	0.483	0.029	0.512
		Rear	0.555	0.044	0.599
	LTE Band 66	Right	0.256	-	0.256
		Left	-	0.090	0.090
		Top	-	0.030	0.030
		Bottom	0.427	-	0.427
		Front	0.647	0.029	0.676
	LTE Band 25	Rear	0.783	0.044	0.827
		Right	0.279	-	0.279
		Left	-	0.090	0.090
		Top	-	0.030	0.030
		Bottom	0.829	-	0.829
	LTE Band 7	Front	0.573	0.029	0.602
		Rear	0.622	0.044	0.666
		Right	-	-	-
		Left	0.241	0.090	0.331
		Top	-	0.030	0.030
	LTE Band 41	Bottom	0.885	-	0.885
		Front	0.451	0.029	0.480
		Rear	0.513	0.044	0.557
		Right	-	-	-
		Left	0.185	0.090	0.255
	LTE Band 7	Top	-	0.030	0.030
		Bottom	0.493	-	0.493
		Front	0.345	0.029	0.374
		Rear	0.473	0.044	0.517
		Right	-	-	-
	LTE Band 41	Left	0.150	0.090	0.240
		Top	-	0.030	0.030
		Bottom	0.274	-	0.274
		Front	0.160	0.029	0.189
		Rear	0.323	0.044	0.367
	LTE Band 41	Right	-	-	-
		Left	0.095	0.090	0.185

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)
Hotspot SAR	5.2G W-LAN Ant.2	Top	0.072	2	1+2
		Bottom	-	0.015	0.087
		Front	0.135	0.042	0.177
		Rear	0.157	0.113	0.270
		Right	-	-	-
		Left	0.252	0.059	0.311
	5.8G W-LAN Ant.2	Top	0.072	0.037	0.109
		Bottom	-	-	-
		Front	0.135	0.012	0.147
		Rear	0.157	0.133	0.290
		Right	-	-	-
		Left	0.252	0.051	0.303

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)
Hotspot SAR	5.2G W-LAN Ant.1	Top	1	2	1+2
		Bottom	0.030	0.111	0.141
		Front	0.029	0.043	0.072
		Rear	0.044	0.305	0.349
		Right	-	-	-
		Left	0.090	0.141	0.231
	5.8G W-LAN Ant.1	Top	0.030	0.040	0.070
		Bottom	-	-	-
		Front	0.029	0.013	0.042
		Rear	0.044	0.083	0.127
		Right	-	-	-
		Left	0.090	0.063	0.153

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)
Hotspot SAR	5.2G W-LAN Ant.2	Top	1	2	1+2
		Bottom	0.030	0.015	0.045
		Front	0.029	0.042	0.071
		Rear	0.044	0.113	0.157
		Right	-	-	-
		Left	0.090	0.059	0.149
	5.8G W-LAN Ant.2	Top	0.030	0.037	0.067
		Bottom	-	-	-
		Front	0.029	0.012	0.041
		Rear	0.044	0.133	0.177
		Right	-	-	-
		Left	0.090	0.051	0.141

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)
Hotspot SAR	5.2G W-LAN MIMO	Top	1	2	1+2
		Bottom	0.030	0.126	0.156
		Front	0.029	0.101	0.130
		Rear	0.044	0.448	0.492
		Right	-	-	-
		Left	0.090	0.198	0.288
	5.8G W-LAN MIMO	Top	0.030	0.083	0.113
		Bottom	-	-	-
		Front	0.029	0.026	0.055
		Rear	0.044	0.186	0.230
		Right	-	-	-
		Left	0.090	0.125	0.215

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	-	0.079	0.079
		Bottom	2.824	-	2.824
		Front	1.817	0.080	1.897
		Rear	1.723	0.949	2.672
		Right	-	-	-
		Left	0.430	0.210	0.640
	WCDMA 1900	Top	-	0.079	0.079
		Bottom	2.874	-	2.874
		Front	1.509	0.080	1.589
		Rear	1.417	0.949	2.366
		Right	-	-	-
		Left	0.342	0.210	0.552
	LTE Band 66	Top	-	0.079	0.079
		Bottom	1.985	-	1.985
		Front	1.749	0.080	1.829
		Rear	1.617	0.949	2.566
		Right	-	-	-
		Left	0.466	0.210	0.676
	LTE Band 25	Top	-	0.079	0.079
		Bottom	1.956	-	1.956
		Front	1.385	0.080	1.465
		Rear	1.242	0.949	2.191
		Right	-	-	-
		Left	0.317	0.210	0.527
	LTE Band 7	Top	-	0.079	0.079
		Bottom	1.773	-	1.773
		Front	1.490	0.080	1.570
		Rear	1.416	0.949	2.365
		Right	-	-	-
		Left	0.316	0.210	0.526

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	-	0.094	0.094
		Bottom	2.824	-	2.824
		Front	1.817	0.182	1.999
		Rear	1.723	0.353	2.076
		Right	-	-	-
		Left	0.430	0.328	0.758
	WCDMA 1900	Top	-	0.094	0.094
		Bottom	2.874	-	2.874
		Front	1.509	0.182	1.691
		Rear	1.417	0.353	1.770
		Right	-	-	-
		Left	0.342	0.328	0.670
	LTE Band 66	Top	-	0.094	0.094
		Bottom	1.985	-	1.985
		Front	1.749	0.182	1.931
		Rear	1.617	0.353	1.970
		Right	-	-	-
		Left	0.466	0.328	0.794
	LTE Band 25	Top	-	0.094	0.094
		Bottom	1.956	-	1.956
		Front	1.385	0.182	1.567
		Rear	1.242	0.353	1.595
		Right	-	-	-
		Left	0.317	0.328	0.645
	LTE Band 7	Top	-	0.094	0.094
		Bottom	1.773	-	1.773
		Front	1.490	0.182	1.672
		Rear	1.416	0.353	1.769
		Right	-	-	-
		Left	0.316	0.328	0.644

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	-	0.248	0.248
		Bottom	2.824	-	2.824
		Front	1.817	0.390	2.207
		Rear	1.723	1.602	3.325
		Right	-	-	-
		Left	0.430	0.456	0.886
	WCDMA 1900	Top	-	0.248	0.248
		Bottom	2.874	-	2.874
		Front	1.509	0.390	1.899
		Rear	1.417	1.602	3.019
		Right	-	-	-
		Left	0.342	0.456	0.798
	LTE Band 66	Top	-	0.248	0.248
		Bottom	1.985	-	1.985
		Front	1.749	0.390	2.139
		Rear	1.617	1.602	3.219
		Right	-	-	-
		Left	0.466	0.456	0.922
	LTE Band 25	Top	-	0.248	0.248
		Bottom	1.956	-	1.956
		Front	1.385	0.390	1.775
		Rear	1.242	1.602	2.844
		Right	-	-	-
		Left	0.317	0.456	0.773
	LTE Band 7	Top	-	0.248	0.248
		Bottom	1.773	-	1.773
		Front	1.490	0.390	1.880
		Rear	1.416	1.602	3.018
		Right	-	-	-
		Left	0.316	0.456	0.772

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 SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	-	0.012	0.012
		Bottom	2.824	-	2.824
		Front	1.817	0.037	1.854
		Rear	1.723	0.481	2.204
		Right	-	-	-
		Left	0.430	0.099	0.529
	WCDMA 1900	Top	-	0.012	0.012
		Bottom	2.874	-	2.874
		Front	1.509	0.037	1.546
		Rear	1.417	0.481	1.898
		Right	-	-	-
		Left	0.342	0.099	0.441
	LTE Band 66	Top	-	0.012	0.012
		Bottom	1.985	-	1.985
		Front	1.749	0.037	1.786
		Rear	1.617	0.481	2.098
		Right	-	-	-
		Left	0.466	0.099	0.565
	LTE Band 25	Top	-	0.012	0.012
		Bottom	1.956	-	1.956
		Front	1.385	0.037	1.422
		Rear	1.242	0.481	1.723
		Right	-	-	-
		Left	0.317	0.099	0.416
	LTE Band 7	Top	-	0.012	0.012
		Bottom	1.773	-	1.773
		Front	1.490	0.037	1.527
		Rear	1.416	0.481	1.897
		Right	-	-	-
		Left	0.316	0.099	0.415

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)	Σ SAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	-	0.050	0.050
		Bottom	2.824	-	2.824
		Front	1.817	0.149	1.966
		Rear	1.723	0.365	2.088
		Right	-	-	-
		Left	0.430	0.193	0.623
	WCDMA 1900	Top	-	0.050	0.050
		Bottom	2.874	-	2.874
		Front	1.509	0.149	1.658
		Rear	1.417	0.365	1.782
		Right	-	-	-
		Left	0.342	0.193	0.535
	LTE Band 66	Top	-	0.050	0.050
		Bottom	1.985	-	1.985
		Front	1.749	0.149	1.898
		Rear	1.617	0.365	1.982
		Right	-	-	-
		Left	0.466	0.193	0.659
	LTE Band 25	Top	-	0.050	0.050
		Bottom	1.956	-	1.956
		Front	1.385	0.149	1.534
		Rear	1.242	0.365	1.607
		Right	-	-	-
		Left	0.317	0.193	0.510
	LTE Band 7	Top	-	0.050	0.050
		Bottom	1.773	-	1.773
		Front	1.490	0.149	1.639
		Rear	1.416	0.365	1.781
		Right	-	-	-
		Left	0.316	0.193	0.509

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)	Σ SAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	-	0.067	0.067
		Bottom	2.824	-	2.824
		Front	1.817	0.190	2.007
		Rear	1.723	0.660	2.383
		Right	-	-	-
		Left	0.430	0.305	0.735
	WCDMA 1900	Top	-	0.067	0.067
		Bottom	2.874	-	2.874
		Front	1.509	0.190	1.699
		Rear	1.417	0.660	2.077
		Right	-	-	-
		Left	0.342	0.305	0.647
	LTE Band 66	Top	-	0.067	0.067
		Bottom	1.985	-	1.985
		Front	1.749	0.190	1.939
		Rear	1.617	0.660	2.277
		Right	-	-	-
		Left	0.466	0.305	0.771
	LTE Band 25	Top	-	0.067	0.067
		Bottom	1.956	-	1.956
		Front	1.385	0.190	1.575
		Rear	1.242	0.660	1.902
		Right	-	-	-
		Left	0.317	0.305	0.622
	LTE Band 7	Top	-	0.067	0.067
		Bottom	1.773	-	1.773
		Front	1.490	0.190	1.680
		Rear	1.416	0.660	2.076
		Right	-	-	-
		Left	0.316	0.305	0.621

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	-	0.048	0.048
		Bottom	2.824	-	2.824
		Front	1.817	0.020	1.837
		Rear	1.723	0.409	2.132
		Right	-	-	-
		Left	0.430	0.122	0.552
	WCDMA 1900	Top	-	0.048	0.048
		Bottom	2.874	-	2.874
		Front	1.509	0.020	1.529
		Rear	1.417	0.409	1.826
		Right	-	-	-
		Left	0.342	0.122	0.464
	LTE Band 66	Top	-	0.048	0.048
		Bottom	1.985	-	1.985
		Front	1.749	0.020	1.769
		Rear	1.617	0.409	2.026
		Right	-	-	-
		Left	0.466	0.122	0.588
	LTE Band 25	Top	-	0.048	0.048
		Bottom	1.956	-	1.956
		Front	1.385	0.020	1.405
		Rear	1.242	0.409	1.651
		Right	-	-	-
		Left	0.317	0.122	0.439
	LTE Band 7	Top	-	0.048	0.048
		Bottom	1.773	-	1.773
		Front	1.490	0.020	1.510
		Rear	1.416	0.409	1.825
		Right	-	-	-
		Left	0.316	0.122	0.438

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	-	0.082	0.082
		Bottom	2.824	-	2.824
		Front	1.817	0.098	1.915
		Rear	1.723	0.264	1.987
		Right	-	-	-
		Left	0.430	0.178	0.608
	WCDMA 1900	Top	-	0.082	0.082
		Bottom	2.874	-	2.874
		Front	1.509	0.098	1.607
		Rear	1.417	0.264	1.681
		Right	-	-	-
		Left	0.342	0.178	0.520
	LTE Band 66	Top	-	0.082	0.082
		Bottom	1.985	-	1.985
		Front	1.749	0.098	1.847
		Rear	1.617	0.264	1.881
		Right	-	-	-
		Left	0.466	0.178	0.644
	LTE Band 25	Top	-	0.082	0.082
		Bottom	1.956	-	1.956
		Front	1.385	0.098	1.483
		Rear	1.242	0.264	1.506
		Right	-	-	-
		Left	0.317	0.178	0.495
	LTE Band 7	Top	-	0.082	0.082
		Bottom	1.773	-	1.773
		Front	1.490	0.098	1.588
		Rear	1.416	0.264	1.680
		Right	-	-	-
		Left	0.316	0.178	0.494

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-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1700	Top	-	0.142	0.142
		Bottom	2.824	-	2.824
		Front	1.817	0.113	1.930
		Rear	1.723	0.740	2.463
		Right	-	-	-
		Left	0.430	0.348	0.778
	WCDMA 1900	Top	-	0.142	0.142
		Bottom	2.874	-	2.874
		Front	1.509	0.113	1.622
		Rear	1.417	0.740	2.157
		Right	-	-	-
		Left	0.342	0.348	0.690
	LTE Band 66	Top	-	0.142	0.142
		Bottom	1.985	-	1.985
		Front	1.749	0.113	1.862
		Rear	1.617	0.740	2.357
		Right	-	-	-
		Left	0.466	0.348	0.814
	LTE Band 25	Top	-	0.142	0.142
		Bottom	1.956	-	1.956
		Front	1.385	0.113	1.498
		Rear	1.242	0.740	1.982
		Right	-	-	-
		Left	0.317	0.348	0.665
	LTE Band 7	Top	-	0.142	0.142
		Bottom	1.773	-	1.773
		Front	1.490	0.113	1.603
		Rear	1.416	0.740	2.156
		Right	-	-	-
		Left	0.316	0.348	0.664

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 ≥ 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 ≥ 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 ≥ 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 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)	
1752.6	1513	WCDMA 1700	RMC	-	10 mm [Bottom]	0.974	0.973	1.00	-	-	-	-
1852.4	9262	WCDMA 1900	RMC	-	10 mm [Bottom]	0.934	0.931	1.00	-	-	-	-
1770.0	132572	LTE B66	-	-	10 mm [Bottom]	0.810	0.809	1.00	-	-	-	-
1860.0	26140	LTE B25	-	-	10 mm [Bottom]	0.826	0.824	1.00	-	-	-	-
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 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)	
1752.6	1513	WCDMA 1700	RMC	-	0 mm [Bottom]	2.460	2.450	1.00	-	-	-	-
1852.4	9262	WCDMA 1900	RMC	-	0 mm [Bottom]	2.480	2.470	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 15.1.1 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
☒	Robot	SPEAG	TX90XL	N/A	N/A	F13/5RR2A1/A/01
☒	Robot	SPEAG	TX90XL	N/A	N/A	F13/5P9GA1/A/01
☒	Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5RR2A1/C/01
☒	Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5P9GA1/C/01
☒	Joystick	SPEAG	N/A	N/A	N/A	S-13200990
☒	Joystick	SPEAG	N/A	N/A	N/A	S-12450905
☒	Intel Core i7-3770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
☒	Intel Core i7-3770 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
☒	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
☒	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
☒	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
☒	Data Acquisition Electronics	SPEAG	DAE3V1	2019-11-19	2020-11-19	520
☒	Data Acquisition Electronics	SPEAG	DAE4V1	2019-07-18	2020-07-18	1335
☒	Dosimetric E-Field Probe	SPEAG	EX3DV4	2019-09-27	2020-09-27	3933
☒	Dosimetric E-Field Probe	SPEAG	ES3DV3	2020-03-25	2021-03-25	3328
☒	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	5d029
☒	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
☒	Signal Generator	Agilent	E4438C	2019-06-24	2020-06-24	US41461520
☒	Amplifier	RFBAY.Inc	MPA-40-40	2019-12-16	2020-12-16	21151801
☒	Amplifier	EMPOWER	BBS3Q7ELU	2019-06-24	2020-06-24	1020
☒	High Power RF Amplifier	EMPOWER	BBS3Q8CCJ	2019-06-24	2020-06-24	1005
☒	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
☒	Low Pass Filter 1GHz	Wainwright Instruments	WLK6-1000-1400-9000-60SS	2019-06-24	2020-06-24	165
☒	Low Pass Filter 1.5GHz	Micro LAB	LA-15N	2019-06-24	2020-06-24	2
☒	Low Pass Filter 3.0GHz	Micro LAB	LA-30N	2019-06-24	2020-06-24	2
☒	Low Pass Filter 6.0GHz	Micro LAB	LA-60N	2019-12-16	2020-12-16	03942
☒	Attenuators(10 dB)	WEINSCHEL	23-10-34	2019-12-16	2020-12-16	BP4387
☒	Attenuators	Cernexwave	CFADC2603U5	2019-06-27	2020-06-27	C11740
☒	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
☒	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
☒	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

NOTE(S):

- 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.
- 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: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.1	Normal	1	0.78	0.71	$\pm 3.2 \%$	$\pm 2.9 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	$\pm 1.0 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 1.9	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

750 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

835 MHz Head (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 3.7	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 1.9	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

835 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.3	Normal	1	0.78	0.71	$\pm 3.4 \%$	$\pm 3.1 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 1.7	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8 \%$	$\pm 0.7 \%$	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.7 \%$	$\pm 11.5 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.4 \%$	$\pm 23.0 \%$	

The above measurement uncertainties are according to IEEE Std 1528

1800 MHz Head (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	$\pm 3.1 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 1.9	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

1800 MHz Body (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

1900 MHz Head (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 1.8	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8 \%$	$\pm 0.7 \%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

1900 MHz Body (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.8	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.7 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

2450 MHz Head (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.1	Normal	1	0.78	0.71	$\pm 3.2 \%$	$\pm 2.9 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 1.7	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8 \%$	$\pm 0.7 \%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

2450 MHz Body (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	$\pm 3.1 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 1.9	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

2600 MHz Head (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.2	Normal	1	0.78	0.71	$\pm 3.3 \%$	$\pm 3.0 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 1.8	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8 \%$	$\pm 0.7 \%$	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.7 \%$	$\pm 11.5 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.4 \%$	$\pm 23.0 \%$	

The above measurement uncertainties are according to IEEE Std 1528

2600 MHz Body (SN: 3328)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.0	Normal	1	1	1	$\pm 6.0 \%$	$\pm 6.0 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	$\pm 1.0 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.6 \%$	$\pm 11.4 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.2 \%$	$\pm 22.8 \%$	

The above measurement uncertainties are according to IEEE Std 1528

5200 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6 \%$	$\pm 6.6 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.1	Normal	1	0.78	0.71	$\pm 3.2 \%$	$\pm 2.9 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.0 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.9 \%$	$\pm 11.7 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.8 \%$	$\pm 23.4 \%$	

The above measurement uncertainties are according to IEEE Std 1528

5300 MHz Head (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6\%$	$\pm 6.6\%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3\%$	$\pm 1.3\%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2\%$	$\pm 1.2\%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14\%$	$\pm 0.14\%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5\%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9\%$	$\pm 3.9\%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3\%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9\%$	$\pm 2.9\%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6\%$	$\pm 3.6\%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9\%$	$\pm 2.9\%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4\%$	$\pm 4.4\%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0\%$	$\pm 0.0\%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2\%$	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	$\pm 3.1\%$	$\pm 2.8\%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7\%$	$\pm 1.4\%$	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	$\pm 1.0\%$	$\pm 1.1\%$	10
Temp. unc. - Conductivity	± 1.8	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8\%$	$\pm 0.7\%$	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3\%$	$\pm 0.3\%$	∞
Combined Standard Uncertainty						$\pm 11.9\%$	$\pm 11.7\%$	330
Expanded Uncertainty (k=2)						$\pm 23.8\%$	$\pm 23.4\%$	

The above measurement uncertainties are according to IEEE Std 1528

5300 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6\%$	$\pm 6.6\%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3\%$	$\pm 1.3\%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2\%$	$\pm 1.2\%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14\%$	$\pm 0.14\%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5\%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9\%$	$\pm 3.9\%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3\%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9\%$	$\pm 2.9\%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6\%$	$\pm 3.6\%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9\%$	$\pm 2.9\%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4\%$	$\pm 4.4\%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0\%$	$\pm 0.0\%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2\%$	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	$\pm 3.0\%$	$\pm 2.8\%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7\%$	$\pm 1.4\%$	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	$\pm 1.0\%$	$\pm 1.1\%$	10
Temp. unc. - Conductivity	± 1.7	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8\%$	$\pm 0.7\%$	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2\%$	$\pm 0.3\%$	∞
Combined Standard Uncertainty						$\pm 11.9\%$	$\pm 11.7\%$	330
Expanded Uncertainty (k=2)						$\pm 23.8\%$	$\pm 23.4\%$	

The above measurement uncertainties are according to IEEE Std 1528

5600 MHz Head (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6\%$	$\pm 6.6\%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3\%$	$\pm 1.3\%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2\%$	$\pm 1.2\%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14\%$	$\pm 0.14\%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3\%$	$\pm 0.3\%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5\%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46\%$	$\pm 0.46\%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9\%$	$\pm 3.9\%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3\%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9\%$	$\pm 2.9\%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6\%$	$\pm 3.6\%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9\%$	$\pm 2.9\%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4\%$	$\pm 4.4\%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0\%$	$\pm 0.0\%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2\%$	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	$\pm 3.1\%$	$\pm 2.8\%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7\%$	$\pm 1.4\%$	∞
Liquid permittivity (Meas.)	± 4.3	Normal	1	0.23	0.26	$\pm 1.0\%$	$\pm 1.1\%$	10
Temp. unc. - Conductivity	± 1.8	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.8\%$	$\pm 0.7\%$	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3\%$	$\pm 0.3\%$	∞
Combined Standard Uncertainty						$\pm 11.9\%$	$\pm 11.7\%$	330
Expanded Uncertainty (k=2)						$\pm 23.8\%$	$\pm 23.4\%$	

The above measurement uncertainties are according to IEEE Std 1528

5600 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6 \%$	$\pm 6.6 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.3	Normal	1	0.78	0.71	$\pm 3.4 \%$	$\pm 3.1 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.4	Normal	1	0.23	0.26	$\pm 1.0 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 12.0 \%$	$\pm 11.8 \%$	330
Expanded Uncertainty (k=2)						$\pm 24.0 \%$	$\pm 23.6 \%$	

The above measurement uncertainties are according to IEEE Std 1528

5800 MHz Head (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6 \%$	$\pm 6.6 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 3.8	Normal	1	0.78	0.71	$\pm 3.0 \%$	$\pm 2.7 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	$\pm 1.0 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 1.9	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.2 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.9 \%$	$\pm 11.7 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.8 \%$	$\pm 23.4 \%$	

The above measurement uncertainties are according to IEEE Std 1528

5800 MHz Body (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1g	(Ci) 10g	Standard (1g)	Standard (10g)	vi 2 or Veff
Measurement System								
Probe calibration	± 6.55	Normal	1	1	1	$\pm 6.6 \%$	$\pm 6.6 \%$	∞
Isotropy	± 1.3	Normal	1	1	1	$\pm 1.3 \%$	$\pm 1.3 \%$	∞
Boundary Effects	± 2.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.2 \%$	$\pm 1.2 \%$	∞
Probe Linearity	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Probe modulation response	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Detection limits	± 0.25	Rectangular	$\sqrt{3}$	1	1	$\pm 0.14 \%$	$\pm 0.14 \%$	∞
Readout Electronics	± 0.3	Normal	1	1	1	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5 \%$	$\pm 1.5 \%$	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7 \%$	$\pm 1.7 \%$	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	1	$\pm 0.46 \%$	$\pm 0.46 \%$	∞
Probe Positioning	± 6.7	Rectangular	$\sqrt{3}$	1	1	$\pm 3.9 \%$	$\pm 3.9 \%$	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3 \%$	$\pm 2.3 \%$	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	145
Device Holder	± 3.6	Normal	1	1	1	$\pm 3.6 \%$	$\pm 3.6 \%$	5
Power Drift	± 5.0	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9 \%$	$\pm 2.9 \%$	∞
SAR Scaling	± 0.0	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4 \%$	$\pm 4.4 \%$	∞
SAR correction	± 0.0	Normal	1	1	0.84	$\pm 0.0 \%$	$\pm 0.0 \%$	∞
Liquid conductivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8 \%$	$\pm 1.2 \%$	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	$\pm 3.1 \%$	$\pm 2.8 \%$	10
Liquid permittivity (Target)	± 5.0	Rectangular	$\sqrt{3}$	0.60	0.49	$\pm 1.7 \%$	$\pm 1.4 \%$	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	$\pm 0.9 \%$	$\pm 1.1 \%$	10
Temp. unc. - Conductivity	± 2.0	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 0.9 \%$	$\pm 0.8 \%$	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	$\sqrt{3}$	0.23	0.26	$\pm 0.3 \%$	$\pm 0.3 \%$	∞
Combined Standard Uncertainty						$\pm 11.9 \%$	$\pm 11.7 \%$	330
Expanded Uncertainty (k=2)						$\pm 23.8 \%$	$\pm 23.4 \%$	

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.
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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: **EX3-3933_Sep19**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3933**

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: **September 27, 2019**

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 ($22 \pm 3^\circ\text{C}$) 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
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

Calibrated by:	Name Claudio Leubler	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature
Issued: September 30, 2019			
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



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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization ϕ	ϕ rotation around probe axis
Polarization ϑ	ϑ 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_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * 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_{x,y,z}**: 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_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: 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_{x,y,z} * 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 ± 50 MHz to ± 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_x (no uncertainty required).

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3933

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.49	0.52	0.19	± 10.1 %
DCP (mV) ^B	105.1	100.3	95.6	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB/μV	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	163.3	± 2.2 %	± 4.7 %
		Y	0.00	0.00	1.00		166.6		
		Z	0.00	0.00	1.00		158.8		
10352- AAA	Pulse Waveform (200Hz, 10%)	X	15.00	90.30	22.21	10.00	60.0	± 3.2 %	± 9.6 %
		Y	15.00	89.45	22.16		60.0		
		Z	15.00	90.07	22.52		60.0		
10353- AAA	Pulse Waveform (200Hz, 20%)	X	15.00	93.23	22.50	6.99	80.0	± 2.1 %	± 9.6 %
		Y	15.00	90.02	21.08		80.0		
		Z	15.00	92.33	21.94		80.0		
10354- AAA	Pulse Waveform (200Hz, 40%)	X	15.00	102.11	25.43	3.98	95.0	± 2.4 %	± 9.6 %
		Y	15.00	91.85	20.31		95.0		
		Z	15.00	161.21	54.32		95.0		
10355- AAA	Pulse Waveform (200Hz, 60%)	X	15.00	127.83	36.23	2.22	120.0	± 3.0 %	± 9.6 %
		Y	15.00	100.88	23.08		120.0		
		Z	0.11	60.00	30.00		120.0		
10387- AAA	QPSK Waveform, 1 MHz	X	15.00	94.61	19.88	0.00	150.0	± 4.9 %	± 9.6 %
		Y	0.98	66.33	11.74		150.0		
		Z	0.03	60.00	30.00		150.0		
10388- AAA	QPSK Waveform, 10 MHz	X	4.47	82.57	22.97	0.00	150.0	± 4.7 %	± 9.6 %
		Y	2.77	72.49	18.16		150.0		
		Z	15.00	116.88	37.35		150.0		
10396- AAA	64-QAM Waveform, 100 kHz	X	3.14	73.89	21.30	3.01	150.0	± 3.7 %	± 9.6 %
		Y	3.97	75.80	21.70		150.0		
		Z	15.00	121.14	42.19		150.0		
10399- AAA	64-QAM Waveform, 40 MHz	X	4.01	70.75	18.20	0.00	150.0	± 3.5 %	± 9.6 %
		Y	3.70	68.48	16.76		150.0		
		Z	6.59	83.14	25.05		150.0		
10414- AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.96	67.04	16.71	0.00	150.0	± 4.5 %	± 9.6 %
		Y	4.95	66.11	16.05		150.0		
		Z	5.53	71.03	19.84		150.0		

Note: For details on UID parameters see Appendix

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%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3933

Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 ms. V^{-2}	T2 ms. V^{-1}	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	37.1	274.02	35.44	16.09	0.81	5.10	0.05	0.40	1.01
Y	48.6	371.39	37.26	21.32	1.16	5.10	0.67	0.53	1.01
Z	27.0	217.61	42.23	8.67	1.66	5.07	0.00	0.24	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	76.2
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

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3933

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	41.9	0.89	10.68	10.68	10.68	0.45	0.86	± 12.0 %
835	41.5	0.90	10.32	10.32	10.32	0.41	0.90	± 12.0 %
900	41.5	0.97	10.01	10.01	10.01	0.52	0.80	± 12.0 %
1750	40.1	1.37	8.87	8.87	8.87	0.34	0.87	± 12.0 %
1900	40.0	1.40	8.57	8.57	8.57	0.30	0.87	± 12.0 %
2300	39.5	1.67	8.19	8.19	8.19	0.29	0.90	± 12.0 %
2450	39.2	1.80	7.84	7.84	7.84	0.33	0.90	± 12.0 %
2600	39.0	1.96	7.62	7.62	7.62	0.25	0.90	± 12.0 %
3500	37.9	2.91	7.27	7.27	7.27	0.30	1.35	± 13.1 %
3700	37.7	3.12	6.99	6.99	6.99	0.30	1.35	± 13.1 %
5200	36.0	4.66	5.29	5.29	5.29	0.40	1.80	± 13.1 %
5300	35.9	4.76	5.10	5.10	5.10	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.95	4.95	4.95	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.80	4.80	4.80	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.75	4.75	4.75	0.40	1.80	± 13.1 %

^C 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.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) 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 (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G 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.

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3933

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k=2)
750	55.5	0.96	10.44	10.44	10.44	0.45	0.80	± 12.0 %
835	55.2	0.97	10.24	10.24	10.24	0.40	0.80	± 12.0 %
900	55.0	1.05	10.14	10.14	10.14	0.47	0.80	± 12.0 %
1750	53.4	1.49	8.64	8.64	8.64	0.40	0.87	± 12.0 %
1900	53.3	1.52	8.15	8.15	8.15	0.40	0.87	± 12.0 %
2300	52.9	1.81	7.94	7.94	7.94	0.39	0.90	± 12.0 %
2450	52.7	1.95	7.75	7.75	7.75	0.38	0.90	± 12.0 %
2600	52.5	2.16	7.57	7.57	7.57	0.31	0.90	± 12.0 %
3500	51.3	3.31	6.88	6.88	6.88	0.40	1.35	± 13.1 %
3700	51.0	3.55	6.82	6.82	6.82	0.40	1.35	± 13.1 %
5200	49.0	5.30	4.66	4.66	4.66	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.56	4.56	4.56	0.50	1.90	± 13.1 %
5500	48.6	5.65	4.20	4.20	4.20	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.05	4.05	4.05	0.50	1.90	± 13.1 %
5800	48.2	6.00	4.13	4.13	4.13	0.50	1.90	± 13.1 %

^C 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.

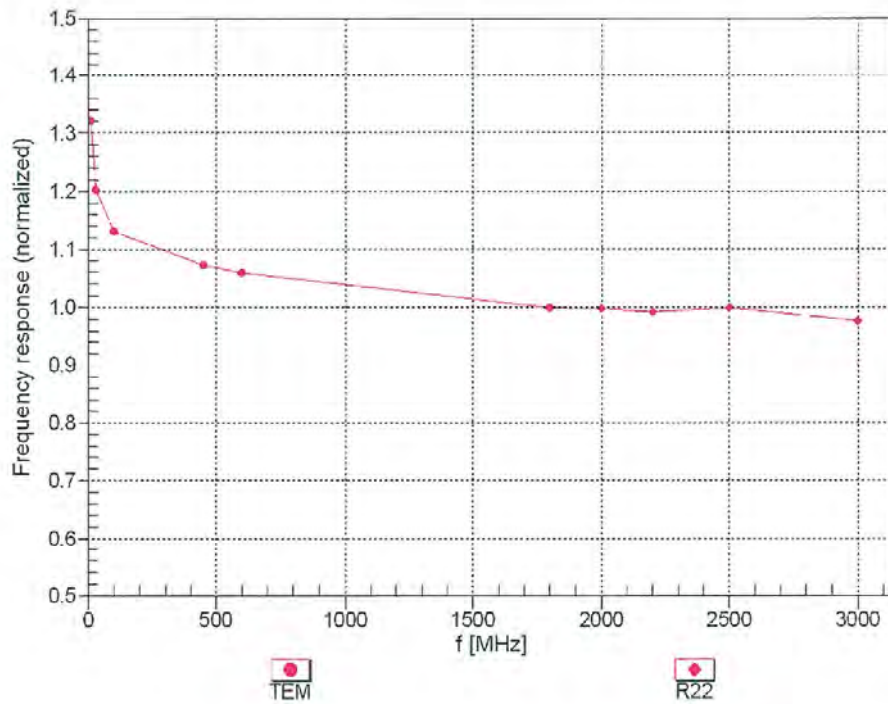
^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G 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.

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



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

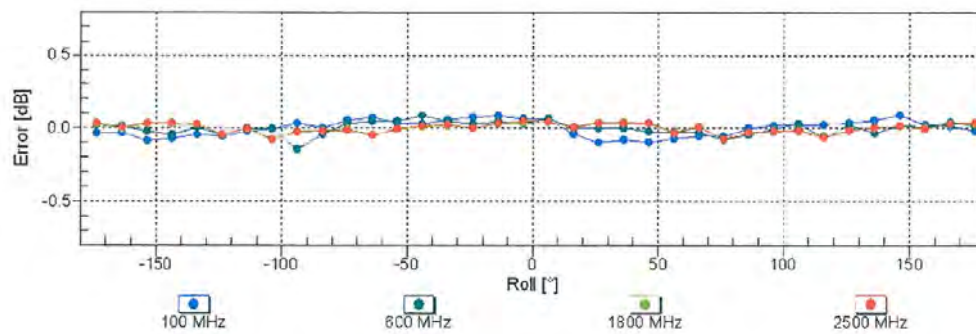
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Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

f=1800 MHz,R22

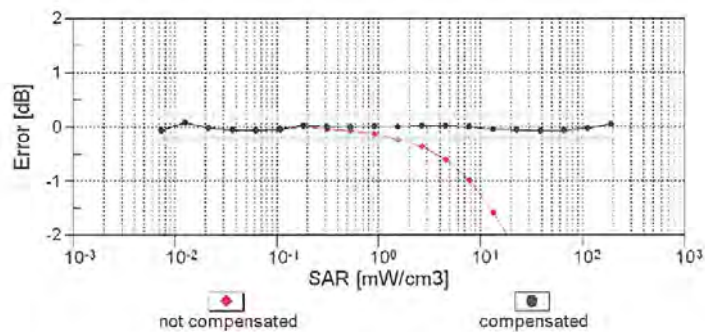
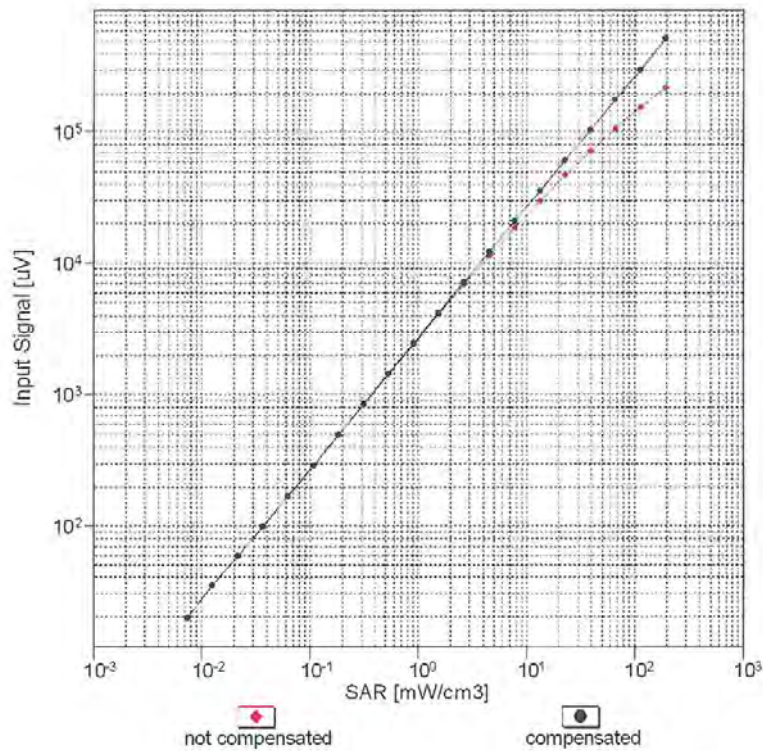


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell, $f_{\text{eval}} = 1900 \text{ MHz}$)

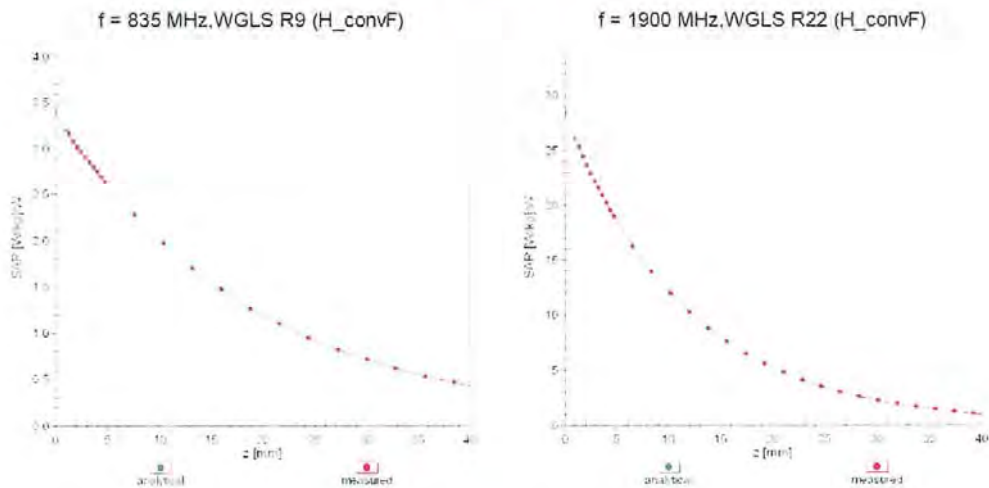


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

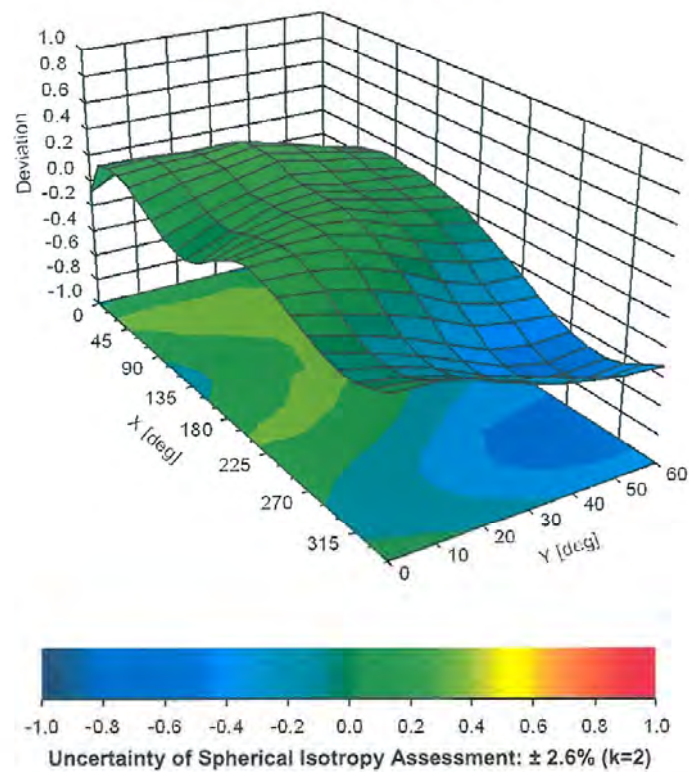
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Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$ 

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Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

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10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %