TEST REPORT

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1. Report No : DRRFCC2004-0033(1)
2. Customer
   - Name : LG Electronics USA, Inc.
   - Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
3. Use of Report : FCC Original Grant
4. Product Name / Model Name : Mobile Phone / LM-G900EM
   FCC ID : ZNFG900EM
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 : 2020.04.01 ~ 2020.04.13
7. Testing Environment : Refer to appended test report.
8. Test Result : Refer to attached test report.

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

2020 . 05 . 04 .

DT&C Co., Ltd.

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
DRRFCC2004-0033	Apr. 29, 2020	Initial issue	BumJun Park	HakMin Kim
DRRFCC2004-0033(1)	May. 4, 2020	Revise of section 10.1.	BumJun Park	HakMin Kim

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1. DESCRIPTION OF DEVICE

1.1 General Information

EUT type	Mobile Phone				
FCC ID	ZNFG900EM				
Equipment model name	LM-G900EM				
Equipment add model name	LMG900EM, G900EM, LM-G900GM, LMG900GM, G900GM				
Equipment serial no.	Identical prototype				
Mode(s) of Operation	GSM 850, GSM 1900, WCDMA 850, WCDMA 1900, LTE Band 12, 17, 5, 4, 2, 41, 2.4 G W-LAN (802.11b/g/n/ac), 5 G W-LAN (802.11a/n/ac), 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 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 5	LTE	Voice/Data	1.4/3/5/10MHz	824.7 ~ 848.3 MHz
	LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1710.7 ~ 1754.3 MHz
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1850.7 ~ 1909.3 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	20MHz	2412 ~ 2472 MHz
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5180 ~ 5240 MHz
		802.11n/ac	Voice/Data	40MHz	5190 ~ 5230 MHz
		802.11ac	Voice/Data	80MHz	5210 MHz
	5.3 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5260 ~ 5320 MHz
		802.11n/ac	Voice/Data	40MHz	5270 ~ 5310 MHz
		802.11ac	Voice/Data	80MHz	5290 MHz
	5.6 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5500 ~ 5720 MHz
		802.11n/ac	Voice/Data	40MHz	5510 ~ 5710 MHz
		802.11ac	Voice/Data	80MHz	5530 ~ 5690 MHz
	5.8 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5745 ~ 5825 MHz
		802.11n/ac	Voice/Data	40MHz	5755 ~ 5795 MHz
		802.11ac	Voice/Data	80MHz	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 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 5	LTE	Voice/Data	1.4/3/5/10MHz	869.7 ~ 893.3 MHz
	LTE Band 4	LTE	Voice/Data	1.4/3/5/10/15/20MHz	2110.7 ~ 2154.3 MHz
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1930.7 ~ 1989.3 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	20MHz	2412 ~ 2472 MHz
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5180 ~ 5240 MHz
		802.11n/ac	Voice/Data	40MHz	5190 ~ 5230 MHz
		802.11ac	Voice/Data	80MHz	5210 MHz
	5.3 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5260 ~ 5320 MHz
		802.11n/ac	Voice/Data	40MHz	5270 ~ 5310 MHz
		802.11ac	Voice/Data	80MHz	5290 MHz
	5.6 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5500 ~ 5720 MHz
		802.11n/ac	Voice/Data	40MHz	5510 ~ 5710 MHz
		802.11ac	Voice/Data	80MHz	5530 ~ 5690 MHz
	5.8 GHz W-LAN	802.11a/n/ac	Voice/Data	20MHz	5745 ~ 5825 MHz
		802.11n/ac	Voice/Data	40MHz	5755 ~ 5795 MHz
		802.11ac	Voice/Data	80MHz	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	0.11	0.36	-	-
PCE	GPRS 850	0.16	0.59	0.59	-
PCE	GSM 1900	< 0.1	0.34	-	-
PCE	GPRS 1900	< 0.1	0.44	0.66	-
PCE	WCDMA 850	0.16	0.68	0.68	-
PCE	WCDMA 1900	0.11	**0.80**	**1.16**	-
PCE	LTE Band 12	0.14	0.39	0.39	-
PCE	LTE Band 17	-	-	-	-
PCE	LTE Band 5	**0.18**	0.69	0.69	-
PCE	LTE Band 4	0.11	0.53	0.73	-
PCE	LTE Band 2	< 0.1	0.63	0.98	-
PCE	LTE Band 41	< 0.1	0.26	0.37	-
DTS(SISO)	2.4 GHz W-LAN	0.49	0.13	0.17	-
DTS(MIMO)	2.4 GHz W-LAN	**0.67**	0.18	0.22	-
U-NII-1(SISO)	5.2 GHz W-LAN	-	-	0.29	-
U-NII-1(MIMO)	5.2 GHz W-LAN	-	-	0.31	-
U-NII-2A(SISO)	5.3 GHz W-LAN	0.23	0.35	-	0.69
U-NII-2A(MIMO)	5.3 GHz W-LAN	0.46	0.36	-	**1.25**
U-NII-2C(SISO)	5.6 GHz W-LAN	0.28	0.23	-	0.57
U-NII-2C(MIMO)	5.6 GHz W-LAN	0.58	0.36	-	1.07
U-NII-3(SISO)	5.8 GHz W-LAN	0.27	< 0.1	< 0.1	0.26
U-NII-3(MIMO)	5.8 GHz W-LAN	0.36	0.12	0.11	0.54
DSS	Bluetooth	< 0.1	< 0.1	< 0.1	-
Simultaneous SAR per KDB 690783 D01v01r03		**0.81**	**1.20**	**1.16**	-

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	2020.04.01 ~ 2020.04.13
Antenna Type	Internal Antenna
Functions	● GSM/GPRS/EDGE (GPRS/EDGE Class: 33) supported. * DTM not supported. ● 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

There is no power reduction used for any band/mode implemented in this device for SAR purposes.

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 ZNFG900EM_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 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 5	X	O	O	O	O	X
LTE Band 4	X	O	O	O	X	O
LTE Band 2	X	O	O	O	X	O
LTE Band 41	X	O	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 ZNFG900EM_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:

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

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 was not required; [(10/10)*√2.480] = 1.5 (< 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:

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

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; [(10/5)*√2.480] = 3.0 (< 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 is not supported for US bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS 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.

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 lager 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)
- 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	**ZNFG900EM**				
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 5 (Cell) (824.7 ~ 848.3 MHz) LTE Band 4 (AWS) (1710.7 ~ 1754.3 MHz) LTE Band 2 (PCS) (1850.7 ~ 1909.3 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 5 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz LTE Band 4 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 2 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 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 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)**[Note2]	N/A	844.0 (20600)
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)**[Note3]	N/A	1745.0 (20300)
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)	N/A	1880.0 (18900)	N/A	1909.3 (19193)
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)	N/A	1880.0 (18900)	N/A	1908.5 (19185)
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)	N/A	1880.0 (18900)	N/A	1907.5 (19175)
LTE Band 2 (PCS): 10 MHz	1855.0 (18650)	N/A	1880.0 (18900)	N/A	1905.0 (19150)
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)	N/A	1880.0 (18900)	N/A	1902.5 (19125)
LTE Band 2 (PCS): 20 MHz	**1860.0 (18700)**	N/A	**1880.0 (18900)**	N/A	**1900.0 (19100)**
LTE Band 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.15 LTE UE Cat (DL UE Cat 18, UL UE Cat 5)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	Yes				
A-MPR (Additional MPR) disabled for SAR Testing?	Yes				
LTE Carrier Aggregation Possible Combinations	LTE Carrier Aggregation is not supported.				
LTE Additional Information	This device does not support full CA features on 3GPP Release 15. All uplink communications are identical to the Release 8 Specifications. The following LTE Release 15 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

Note(s)
1. LTE B12 can not contain three non-overlapping channels of 10 MHz bandwidth.
   Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
2. LTE 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.
3. 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/m^3)

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.

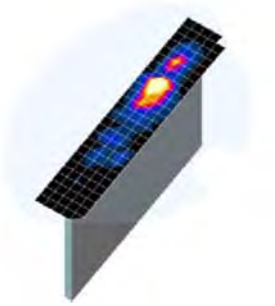

Figure 4.1
Sample SAR Area Scan

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.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$ 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 *reported* SAR from the *area scan based 1-g SAR estimation* 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.

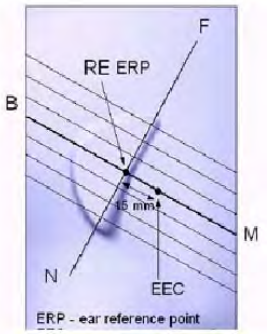

Figure 5.1
Close-up side view of ERP

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 than 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

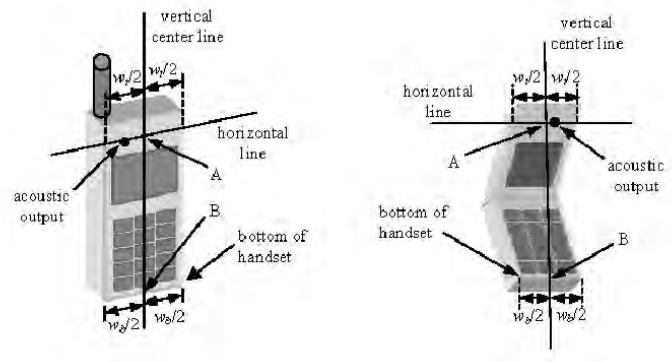

Figure 5.3 Handset Vertical Center & Horizontal Line Reference Points

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 ε = 3 and loss tangent δ = 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 hen rotated around the vertical centerline until the phone (horizontal line) was symmetrical was 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).

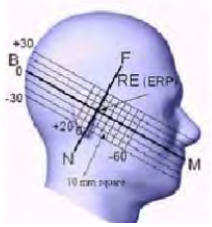

Figure 6.2 Side view w/relevant markings

Figure 6.3 Front, Side and Top View of Ear/15º 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 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.

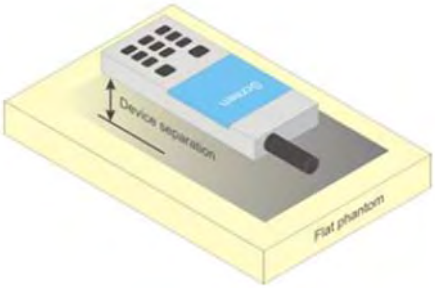

Figure 6.4 Sample Body-Worn Diagram

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 x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front 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 mm or an overall diagonal dimension > 160 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 ≤ 25mm 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 W/kg.

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 7.1.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 in12.2 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	β_{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: Δ_{ACK}, Δ_{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 β_c/β_d =12/15, β_{hs}/β_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 β_c = 11/15 and β_d = 15/15.

Figure 8.1 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_c	β_d	β_d (SF)	β_c/β_d	β_{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	β_{ed1}: 47/15 β_{ed2}: 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(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 Δ_{CQI} = 8 ⇔ A_{hs} = β_{hs}/β_c = 30/15 ⇔ β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_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 8.2 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 ≤ ¼ 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 disable 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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			-	-	-
8	$24144 \cdot T_s$			-	-	-

Table 4.2-2: Uplink-downlink configurations.

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

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

Ts = 1/(15000 * 2048) seconds

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

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

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 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, 802.11n and 802.11 ac or 802.11g, 802.11n and 802.11ac with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a then 802.11n and 802.11ac or 802.11g then 802.11n and 802.11ac is used for SAR measurement. Per April 2019 TCB Workshop guidance, 802.11ax was considered the highest order 802.11 mode. When the maximum output power ware 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	29.70	28.70	27.20	26.70	25.70	24.70
	Nominal	33.20	33.20	31.20	29.20	28.20	26.70	26.20	25.20	24.20
GSM/GPRSEDGE 1900	Maximum	30.70	30.70	28.70	27.70	25.70	26.20	25.70	24.70	23.70
	Nominal	30.20	30.20	28.20	27.20	25.20	25.70	25.20	24.20	23.20

Table 9.1.1 GSM Nominal and Maximum Output Power Spec

Band	Channel	Maximum Burst-Averaged Output Power(dBm)								
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		GSM CS 1 Slot	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
GSM850	128	33.20	33.20	31.00	29.20	28.00	26.70	26.00	24.80	24.00
	190	33.50	33.50	31.20	28.30	28.30	26.80	26.20	25.50	24.40
	251	33.40	33.40	30.90	29.00	28.10	27.20	26.70	25.40	24.20
PCS 1900	512	30.50	30.50	28.30	27.10	24.80	26.10	25.40	24.30	22.80
	661	30.30	30.30	28.30	27.20	25.30	26.00	25.10	23.90	23.00
	810	30.50	30.50	28.30	27.00	25.30	26.00	25.30	24.00	23.00
Band	Channel	Calculated Maximum Frame-Averaged Output Power(dBm)								
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		GSM CS 1 Slot	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
GSM850	128	24.17	24.17	24.98	24.94	24.99	17.67	19.98	20.54	20.99
	190	24.47	24.47	25.18	24.04	25.29	17.77	20.18	21.24	21.39
	251	24.37	24.37	24.88	24.74	25.09	18.17	20.68	21.14	21.19
PCS 1900	512	21.47	21.47	22.28	22.84	21.79	17.07	19.38	20.04	19.79
	661	21.27	21.27	22.28	22.94	22.29	16.97	19.08	19.64	19.99
	810	21.47	21.47	22.28	22.74	22.29	16.97	19.28	19.74	19.99
GSM850	Frame Avg. Targets:	24.17	24.17	25.18	24.94	25.19	17.67	20.18	20.94	21.19
PCS 1900		21.17	21.17	22.18	22.94	22.19	16.67	19.18	19.94	20.19

Table 9.1.2 GSM Conducted Power

Note:

1. 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.
2. 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.
3. 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)	PCS Band (dBm)	3GPP MPR (dB)
99	WCDMA	Voice	Maximum	25.5	24.7	-
			Nominal	25.0	24.2	
5	HSDPA	Subtest 1	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
5		Subtest 2	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
5		Subtest 3	Maximum	24.0	23.2	0.5
			Nominal	23.5	22.7	
5		Subtest 4	Maximum	24.0	23.2	0.5
			Nominal	23.5	22.7	
6	HSUPA	Subtest 1	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
6		Subtest 2	Maximum	22.5	21.7	2
			Nominal	22.0	21.2	
6		Subtest 3	Maximum	23.5	22.7	1
			Nominal	23.0	22.2	
6		Subtest 4	Maximum	22.5	21.7	2
			Nominal	22.0	21.2	
6		Subtest 5	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
8	DC-HSDPA	Subtest 1	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
8		Subtest 2	Maximum	24.5	23.7	0
			Nominal	24.0	23.2	
8		Subtest 3	Maximum	24.0	23.2	0.5
			Nominal	23.5	22.7	
8		Subtest 4	Maximum	24.0	23.2	0.5
			Nominal	23.5	22.7	

Table 9.2.1 WCDMA Nominal and Maximum Output Power Spec

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band (dBm)			PCS Band (dBm)			3GPP MPR (dB)
			4132	4183	4233	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	25.13	25.20	25.12	24.04	24.10	24.04	-
99		12.2 kbps AMR	25.14	25.19	25.13	24.03	24.09	24.04	-
5	HSDPA	Subtest 1	24.16	24.20	24.16	23.05	23.09	23.05	0
5		Subtest 2	24.15	24.21	24.15	23.06	23.07	23.06	0
5		Subtest 3	23.67	23.71	23.64	22.56	22.61	22.55	0.5
5		Subtest 4	23.65	23.70	23.63	22.57	22.60	22.55	0.5
6	HSUPA	Subtest 1	24.15	24.23	24.18	23.07	23.09	23.05	0
6		Subtest 2	22.19	21.37	22.27	21.02	21.11	21.05	2
6		Subtest 3	23.17	23.26	23.17	22.04	22.08	22.03	1
6		Subtest 4	22.10	22.23	22.15	21.07	21.12	21.07	2
6		Subtest 5	24.14	24.18	24.15	22.55	22.58	22.55	0
8	DC-HSDPA	Subtest 1	24.15	24.18	24.15	23.05	23.08	23.04	0
8		Subtest 2	24.14	24.17	24.15	23.05	23.07	23.02	0
8		Subtest 3	23.63	23.66	23.60	22.55	22.59	22.55	0.5
8		Subtest 4	23.62	23.65	23.58	22.56	22.58	22.54	0.5

Table 9.2.2 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 23095 (707.5 MHz) Conducted Power (dBm)	MPR Allowed Per 3GPP(dB)	MPR (dB)
QPSK	1	0	24.90	≤ 1	0
	1	**25**	**25.05**		
	1	49	24.94		
	25	0	23.91		1
	25	**12**	**24.04**		
	25	25	23.96		
	50	0	23.93		1
16QAM	1	0	24.06	≤ 1	1
	1	25	24.21		
	1	49	24.13		
	25	0	22.92	≤ 2	2
	25	12	23.03		
	25	25	23.00		
	50	0	22.96		2
64QAM	1	0	23.02	≤ 2	2
	1	25	23.12		
	1	49	23.03		
	25	0	21.91	≤ 3	3
	25	12	22.10		
	25	25	22.01		
	50	0	21.98		3

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 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed Per 3GPP(dB)	MPR (dB)
			Conducted Power (dBm)				
QPSK	1	0	24.81	24.80	24.89	≤ 1	0
	1	12	24.85	25.01	25.00		
	1	24	24.82	24.96	24.95		
	12	0	23.89	23.97	24.02		1
	12	6	23.94	24.06	24.05		
	12	13	23.93	24.03	24.03		
	25	0	23.91	24.02	23.99		1
16QAM	1	0	23.94	23.99	24.03	≤ 1	1
	1	12	24.05	24.20	24.18		
	1	24	23.95	24.14	24.12		
	12	0	22.94	23.02	23.01	≤ 2	2
	12	6	23.01	23.06	23.09		
	12	13	22.95	23.02	23.08		
	25	0	22.96	23.02	23.01		2
64QAM	1	0	22.82	22.93	22.99	≤ 2	2
	1	12	23.00	23.06	23.07		
	1	24	22.96	22.99	23.03		
	12	0	21.93	22.06	22.06	≤ 3	3
	12	6	22.05	22.13	22.17		
	12	13	22.01	22.10	22.13		
	15	0	21.99	22.04	22.03		3

Table 9.3.1.3 LTE Conducted Power

LTE Band 12 Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.83	24.87	24.91	≤ 1	0
	1	7	24.90	25.02	24.98		
	1	14	24.88	24.98	24.92		
	8	0	23.89	23.95	23.96		1
	8	4	23.92	24.03	24.01		
	8	7	23.90	23.97	23.98		
	15	0	23.93	24.00	23.96		1
16QAM	1	0	23.99	24.07	24.10	≤ 1	1
	1	7	24.10	24.20	24.11		
	1	14	23.99	24.17	24.10		
	8	0	22.98	23.03	23.04	≤ 2	2
	8	4	23.03	23.09	23.10		
	8	7	23.01	23.07	23.09		
	15	0	22.98	23.01	23.01		2
64QAM	1	0	22.81	22.94	22.98	≤ 2	2
	1	7	22.93	23.08	23.06		
	1	14	22.91	23.07	23.01		
	8	0	21.97	22.08	22.06	≤ 3	3
	8	4	22.02	22.11	22.16		
	8	7	21.99	22.10	22.09		
	15	0	21.96	22.03	22.03		3

Table 9.3.1.4 LTE Conducted Power

LTE Band 12 Conducted Power– 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.80	24.83	24.82	≤ 1	0
	1	2	24.84	24.89	24.88		
	1	5	24.81	24.83	24.83		
	3	0	24.81	24.80	24.83		0
	3	2	24.82	24.88	24.87		
	3	3	24.80	24.87	24.80		
	6	0	23.85	23.90	23.89		1
16QAM	1	0	23.95	24.01	24.00	≤ 1	1
	1	2	24.02	24.05	24.04		
	1	5	23.89	24.02	23.96		
	3	0	23.88	23.92	23.95		1
	3	2	23.91	24.04	24.00		
	3	3	23.86	23.99	23.96		
	6	0	22.96	23.00	23.02	≤ 2	2
64QAM	1	0	22.81	22.90	22.91	≤ 2	2
	1	2	22.99	23.01	22.93		
	1	5	22.98	22.96	22.92		
	3	0	22.80	22.89	22.88		2
	3	2	22.99	23.01	22.91		
	3	3	22.90	22.91	22.87		
	6	0	21.82	21.95	21.94	≤ 3	3

Table 9.3.1.5 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 5	Maximum	25.5
	Nominal	25.0

Table 9.3.2.1 Nominal and Maximum Output Power Spec

2) LTE Band 5 (Cell)

LTE Band 5 (Cell) Conducted Power– 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power (dBm)	MPR Allowed Per 3GPP(dB)	MPR (dB)
QPSK	1	0	24.86	≤ 1	0
	1	**25**	**24.93**		
	1	49	24.87		
	25	0	23.86		1
	25	**12**	**23.94**		
	25	25	23.87		
	50	0	23.86		1
16QAM	1	0	23.89	≤ 1	1
	1	25	24.03		
	1	49	23.93		
	25	0	22.85	≤ 2	2
	25	12	22.91		
	25	25	22.87		
	50	0	22.87		2
64QAM	1	0	23.04	≤ 2	2
	1	25	23.06		
	1	49	23.02		
	25	0	21.82	≤ 3	3
	25	12	21.90		
	25	25	21.84		
	50	0	21.87		3

Table 9.3.2.2 LTE Conducted Power

Note : LTE B5(Cell) can not contain three non-overlapping channels of 10 MHz bandwidth.
Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

LTE Band 5 (Cell) Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed Per 3GPP(dB)	MPR (dB)
			Conducted Power (dBm)				
QPSK	1	0	24.81	24.81	24.80	≤ 1	0
	1	12	24.86	24.92	24.83		
	1	24	24.82	24.82	24.82		
	12	0	23.87	23.86	23.89		1
	12	6	23.94	23.95	23.93		
	12	13	23.88	23.93	23.92		
	25	0	23.88	23.94	23.85		1
16QAM	1	0	23.93	23.92	23.86	≤ 1	1
	1	12	24.02	24.05	23.95		
	1	24	23.92	23.93	23.91		
	12	0	22.91	22.90	22.87	≤ 2	2
	12	6	22.94	22.96	22.95		
	12	13	22.91	22.95	22.93		
	25	0	22.91	22.92	22.87		2
64QAM	1	0	22.95	22.91	22.82	≤ 2	2
	1	12	23.05	23.04	22.85		
	1	24	22.99	22.97	22.83		
	12	0	21.93	21.88	21.82	≤ 3	3
	12	6	21.99	22.01	21.86		
	12	13	21.95	21.98	21.85		
	25	0	21.91	21.91	21.80		3

Table 9.3.2.3 LTE Conducted Power

LTE Band 5 (Cell) Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.81	24.80	24.80	≤ 1	0
	1	7	24.90	24.91	24.86		
	1	14	24.83	24.84	24.83		
	8	0	23.86	23.84	23.82		1
	8	4	23.90	23.93	23.88		
	8	7	23.86	23.91	23.87		
	15	0	23.87	23.92	23.84		1
16QAM	1	0	23.94	23.90	23.93	≤ 1	1
	1	7	24.07	24.03	23.97		
	1	14	23.95	23.96	23.89		
	8	0	22.99	22.94	22.88	≤ 2	2
	8	4	23.02	23.00	22.98		
	8	7	22.93	22.98	22.97		
	15	0	22.92	22.98	22.87		2
64QAM	1	0	22.99	22.92	22.80	≤ 2	2
	1	7	23.07	23.09	22.84		
	1	14	22.99	23.02	22.82		
	8	0	21.92	21.93	21.80	≤ 3	3
	8	4	21.99	22.01	21.82		
	8	7	21.97	21.98	21.81		
	15	0	21.94	21.97	21.80		3

Table 9.3.2.4 LTE Conducted Power

LTE Band 5 (Cell) Conducted Power– 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.80	24.81	24.80	≤ 1	0
	1	2	24.82	24.84	24.81		
	1	5	24.81	24.82	24.80		
	3	0	24.80	24.80	24.80		0
	3	2	24.81	24.83	24.80		
	3	3	24.80	24.81	24.80		
	6	0	23.83	23.86	23.81		1
16QAM	1	0	23.96	23.87	23.92	≤ 1	1
	1	2	23.98	23.96	23.97		
	1	5	23.92	23.92	23.91		
	3	0	23.87	23.83	23.83		1
	3	2	23.89	23.92	23.86		
	3	3	23.88	23.89	23.80		
	6	0	22.91	22.92	22.88	≤ 2	2
64QAM	1	0	22.88	22.82	22.87	≤ 2	2
	1	2	22.92	22.95	22.93		
	1	5	22.82	22.88	22.81		
	3	0	22.88	22.85	22.87		2
	3	2	22.91	22.90	22.90		
	3	3	22.89	22.86	22.89		
	6	0	21.80	21.80	21.88	≤ 3	3

Table 9.3.2.5 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 4	Maximum	24.7
	Nominal	24.2

Table 9.3.3.1 Nominal and Maximum Output Power Spec

3) LTE Band 4

LTE Band 4 (AWS) Conducted Power– 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20175 (1732.5 MHz) Conducted Power (dBm)	MPR Allowed Per 3GPP(dB)	MPR (dB)
QPSK	1	0	24.62	≤ 1	0
	1	**50**	24.70		
	1	99	24.60		
	50	0	23.08		1
	50	**25**	23.16		
	50	50	23.09		
	100	0	23.18		1
16QAM	1	0	23.61	≤ 1	1
	1	50	23.68		
	1	99	23.57		
	50	0	22.20	≤ 2	2
	50	25	22.27		
	50	50	22.21		
	100	0	22.16		2
64QAM	1	0	22.50	≤ 2	2
	1	50	22.60		
	1	99	22.49		
	50	0	21.14	≤ 3	3
	50	25	21.30		
	50	50	21.16		
	100	0	21.13		3

Table 9.3.3.2 LTE Conducted Power

Note: 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.

LTE Band 4 (AWS) Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20025 (1717.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20325 (1747.5 MHz) Conducted Power (dBm)	MPR Allowed Per 3GPP(dB)	MPR (dB)
QPSK	1	0	24.60	24.53	24.62	≤ 1	0
	1	36	24.66	24.68	24.67		
	1	74	24.49	24.51	24.50		
	36	0	23.03	23.10	23.10		1
	36	18	23.14	23.20	23.16		
	36	37	23.08	23.11	23.12		
	75	0	23.06	23.17	23.12		1
16QAM	1	0	23.62	23.54	23.59	≤ 1	1
	1	36	23.64	23.63	23.62		
	1	74	23.47	23.49	23.49		
	36	0	22.11	22.12	22.13	≤ 2	2
	36	18	22.19	22.24	22.20		
	36	37	22.15	22.11	22.15		
	75	0	22.10	22.14	22.11		2
64QAM	1	0	22.53	22.43	22.55	≤ 2	2
	1	36	22.62	22.59	22.61		
	1	74	22.41	22.44	22.39		
	36	0	21.18	21.17	21.22	≤ 3	3
	36	18	21.26	21.26	21.26		
	36	37	21.19	21.17	21.17		
	75	0	21.10	21.15	21.14		3

Table 9.3.3.3 LTE Conducted Power

LTE Band 4 (AWS) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20000 (1715.0 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20350 (1750.0 MHz) Conducted Power (dBm)	MPR Allowed Per 3GPP(dB)	MPR (dB)
QPSK	1	0	24.41	24.37	24.41	≤ 1	0
	1	25	24.61	24.64	24.63		
	1	49	24.29	24.35	24.33		
	25	0	23.02	23.01	23.01		1
	25	12	23.05	23.07	23.06		
	25	25	23.03	23.03	23.02		
	50	0	23.04	23.08	23.06		1
16QAM	1	0	23.37	23.33	23.50	≤ 1	1
	1	25	23.62	23.62	23.70		
	1	49	23.26	23.32	23.39		
	25	0	22.00	22.05	22.02	≤ 2	2
	25	12	22.09	22.17	22.10		
	25	25	22.01	22.04	22.06		
	50	0	22.06	22.09	22.07		2
64QAM	1	0	22.26	22.20	22.32	≤ 2	2
	1	25	22.56	22.53	22.65		
	1	49	22.20	22.25	22.31		
	25	0	21.02	21.06	21.08	≤ 3	3
	25	12	21.10	21.14	21.13		
	25	25	21.05	21.08	21.06		
	50	0	21.12	21.14	21.13		3

Table 9.3.3.4 LTE Conducted Power

LTE Band 4 (AWS) Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			19975 (1712.5 MHz)	20175 (1732.5 MHz)	20375 (1752.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.32	24.40	24.39	≤ 1	0
	1	12	24.48	24.54	24.53		
	1	24	24.21	24.25	24.23		
	12	0	23.00	23.00	23.01		1
	12	6	23.02	23.06	23.05		
	12	13	23.01	23.01	23.02		
	25	0	23.03	23.05	23.04		1
16QAM	1	0	23.36	23.41	23.40	≤ 1	1
	1	12	23.57	23.59	23.61		
	1	24	23.30	23.31	23.34		
	12	0	22.02	22.01	22.01	≤ 2	2
	12	6	22.04	22.13	22.05		
	12	13	22.03	22.02	22.04		
	25	0	22.03	22.07	22.04		2
64QAM	1	0	22.33	22.35	22.34	≤ 2	2
	1	12	22.44	22.57	22.53		
	1	24	22.31	22.30	22.30		
	12	0	21.03	21.03	21.05	≤ 3	3
	12	6	21.16	21.09	21.11		
	12	13	21.05	21.07	21.07		
	25	0	21.06	21.09	21.07		3

Table 9.3.3.5 LTE Conducted Power

LTE Band 4 (AWS) Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			19965 (1711.5 MHz)	20175 (1732.5 MHz)	20385 (1753.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.42	24.39	24.40	≤ 1	0
	1	7	24.52	24.58	24.55		
	1	14	24.36	24.40	24.36		
	8	0	23.00	23.03	23.00		1
	8	4	23.07	23.13	23.10		
	8	7	23.04	23.05	23.05		
	15	0	23.02	23.06	23.04		1
16QAM	1	0	23.50	23.45	23.43	≤ 1	1
	1	7	23.56	23.64	23.61		
	1	14	23.42	23.50	23.48		
	8	0	22.00	22.00	22.01	≤ 2	2
	8	4	22.10	22.13	22.12		
	8	7	22.06	22.07	22.07		
	15	0	22.01	22.08	22.02		2
64QAM	1	0	22.39	22.39	22.37	≤ 2	2
	1	7	22.54	22.56	22.56		
	1	14	22.39	22.44	22.41		
	8	0	21.04	21.03	21.06	≤ 3	3
	8	4	21.10	21.16	21.13		
	8	7	21.09	21.10	21.12		
	15	0	21.01	21.06	21.03		3

Table 9.3.3.6 LTE Conducted Power

TE Band 4 (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)
			19957 (1710.7 MHz)	20175 (1732.5 MHz)	20393 (1754.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.60	24.60	24.55	≤ 1	0
	1	2	24.64	24.66	24.65		
	1	5	24.50	24.57	24.48		
	3	0	24.56	24.59	24.56		0
	3	2	24.58	24.61	24.59		
	3	3	24.52	24.55	24.56		
	6	0	23.08	23.16	23.10		1
16QAM	1	0	23.60	23.66	23.61	≤ 1	1
	1	2	23.61	23.69	23.62		
	1	5	23.59	23.61	23.55		
	3	0	23.39	23.43	23.40		1
	3	2	23.41	23.44	23.43		
	3	3	23.40	23.43	23.41		
	6	0	22.09	22.13	22.12	≤ 2	2
64QAM	1	0	22.56	22.57	22.57	≤ 2	2
	1	2	22.63	22.59	22.60		
	1	5	22.57	22.55	22.50		
	3	0	22.43	22.55	22.50		2
	3	2	22.50	22.60	22.53		
	3	3	22.49	22.55	22.51		
	6	0	21.11	21.13	21.12	≤ 3	3

Table 9.3.3.7 LTE Conducted Power

Band & Mode		Modulated Average[dBm]
LTE Band 2(PCS)	Maximum	24.7
	Nominal	24.2

Table 9.3.4.1 Nominal and Maximum Output Power Spec

4) LTE Band 2 (PCS)

LTE Band 2 (PCS) Conducted Power– 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18700 (1860.0 MHz)	18900 (1880.0 MHz)	19100 (1900.0 MHz)		
			Conducted Power (dBm)				
QPSK	**1**	**0**	24.54	24.62	24.60	≤ 1	0
	1	**50**	**24.69**	**24.64**	**24.63**		
	1	99	24.58	24.63	24.61		
	50	0	23.09	23.06	23.04		1
	50	**25**	**23.25**	23.23	23.22		
	50	50	23.21	23.14	23.16		
	100	**0**	**23.20**	23.10	23.05		1
16QAM	1	0	23.41	23.43	23.41	≤ 1	1
	1	50	23.62	23.47	23.46		
	1	99	23.45	23.44	23.42		
	50	0	22.13	22.13	22.10	≤ 2	2
	50	25	22.31	22.26	22.23		
	50	50	22.24	22.21	22.21		
	100	0	22.19	22.15	22.09		2
64QAM	1	0	22.41	22.54	22.43	≤ 2	2
	1	50	22.58	22.57	22.48		
	1	99	22.46	22.56	22.45		
	50	0	21.15	21.13	21.11	≤ 3	3
	50	25	21.29	21.27	21.28		
	50	50	21.26	21.25	21.23		
	100	0	21.21	21.13	21.12		3

Table 9.3.4.2 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power– 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18675 (1857.5 MHz)	18900 (1880.0 MHz)	19125 (1902.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.49	24.60	24.54	≤ 1	0
	1	36	24.63	24.62	24.56		
	1	74	24.52	24.61	24.55		
	36	0	23.13	23.10	23.06		1
	36	18	23.27	23.25	23.15		
	36	37	23.23	23.22	23.12		
	75	0	23.22	23.12	23.11		1
16QAM	1	0	23.37	23.42	23.41	≤ 1	1
	1	36	23.45	23.49	23.45		
	1	74	23.38	23.45	23.42		
	36	0	22.17	22.15	22.09	≤ 2	2
	36	18	22.30	22.27	22.21		
	36	37	22.25	22.26	22.17		
	75	0	22.25	22.16	22.11		2
64QAM	1	0	22.30	22.41	22.36	≤ 2	2
	1	36	22.46	22.48	22.43		
	1	74	22.34	22.43	22.36		
	36	0	21.20	21.16	21.14	≤ 3	3
	36	18	21.29	21.30	21.23		
	36	37	21.28	21.29	21.17		
	75	0	21.23	21.15	21.15		3

Table 9.3.4.3 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18650 (1855.0 MHz)	18900 (1880.0 MHz)	19150 (1905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.46	24.40	24.51	≤ 1	0
	1	25	24.63	24.62	24.61		
	1	49	24.48	24.46	24.53		
	25	0	23.27	23.16	23.12		1
	25	12	23.34	23.33	23.20		
	25	25	23.29	23.22	23.13		
	50	0	23.24	23.15	23.09		1
16QAM	1	0	23.34	23.26	23.51	≤ 1	1
	1	25	23.62	23.60	23.61		
	1	49	23.35	23.32	23.56		
	25	0	22.25	22.19	22.11	≤ 2	2
	25	12	22.37	22.35	22.25		
	25	25	22.27	22.23	22.19		
	50	0	22.27	22.18	22.13		2
64QAM	1	0	22.36	22.23	22.49	≤ 2	2
	1	25	22.57	22.55	22.54		
	1	49	22.38	22.27	22.49		
	25	0	21.31	21.21	21.17	≤ 3.	3
	25	12	21.38	21.39	21.26		
	25	25	21.34	21.26	21.21		
	50	0	21.29	21.20	21.15		3

Table 9.3.4.4 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18625 (1852.5 MHz)	18900 (1880.0 MHz)	19175 (1907.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.63	24.60	24.55	≤ 1	0
	1	12	24.68	24.65	24.62		
	1	24	24.67	24.61	24.56		
	12	0	23.36	23.30	23.26		1
	12	6	23.37	23.31	23.28		
	12	13	23.23	23.27	23.20		
	25	0	23.32	23.31	23.26		1
16QAM	1	0	23.44	23.49	23.53	≤ 1	1
	1	12	23.67	23.67	23.61		
	1	24	23.49	23.50	23.55		
	12	0	22.31	22.31	22.20	≤ 2	2
	12	6	22.42	22.41	22.34		
	12	13	22.33	22.27	22.26		
	25	0	22.36	22.33	22.26		2
64QAM	1	0	22.44	22.47	22.49	≤ 2	2
	1	12	22.61	22.58	22.52		
	1	24	22.55	22.53	22.50		
	12	0	21.45	21.35	21.32	≤ 3	3
	12	6	21.46	21.43	21.37		
	12	13	21.35	21.35	21.26		
	25	0	21.33	21.33	21.30		3

Table 9.3.4.5 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power– 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18615 (1851.5 MHz)	18900 (1880.0 MHz)	19185 (1908.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.68	24.67	24.51	≤ 1	0
	1	7	24.69	24.68	24.66		
	1	14	24.65	24.65	24.56		
	8	0	23.29	23.24	23.22		1
	8	4	23.36	23.34	23.27		
	8	7	23.33	23.25	23.25		
	15	0	23.34	23.26	23.24		1
16QAM	1	0	23.60	23.55	23.52	≤ 1	1
	1	7	23.66	23.62	23.63		
	1	14	23.62	23.54	23.43		
	8	0	22.40	22.33	22.32	≤ 2	2
	8	4	22.43	22.41	22.36		
	8	7	22.42	22.34	22.35		
	15	0	22.38	22.35	22.29		2
64QAM	1	0	22.51	22.50	22.50	≤ 2	2
	1	7	22.61	22.59	22.55		
	1	14	22.55	22.50	22.41		
	8	0	21.35	21.35	21.31	≤ 3	3
	8	4	21.44	21.41	21.35		
	8	7	21.38	21.36	21.33		
	15	0	21.38	21.37	21.31		3

Table 9.3.4.6 LTE Conducted Power

LTE Band 2 (PCS) Conducted Power– 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			18607 (1850.7 MHz)	18900 (1880.0 MHz)	19193 (1909.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	24.62	24.65	24.59	≤ 1	0
	1	2	24.68	24.67	24.62		
	1	5	24.66	24.66	24.60		
	3	0	24.63	24.66	24.50		0
	3	2	24.67	24.65	24.60		
	3	3	24.65	24.65	24.54		
	6	0	23.28	23.25	23.15		1
16QAM	1	0	23.57	23.51	23.43	≤ 1	1
	1	2	23.60	23.58	23.51		
	1	5	23.59	23.55	23.45		
	3	0	23.52	23.48	23.38		1
	3	2	23.57	23.55	23.45		
	3	3	23.50	23.49	23.39		
	6	0	22.31	22.34	22.22	≤ 2	2
64QAM	1	0	22.50	22.47	22.48	≤ 2	2
	1	2	22.54	22.51	22.50		
	1	5	22.52	22.49	22.46		
	3	0	22.65	22.63	22.56		2
	3	2	22.68	22.65	22.58		
	3	3	22.67	22.62	22.52		
	6	0	21.33	21.29	21.19	≤ 3	3

Table 9.3.4.7 LTE Conducted Power

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

Table 9.3.5.1 Nominal and Maximum Output Power Spec

5) LTE Band 41

LTE Band 41 Conducted Power– 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed Per 3GPP(dB)	MPR (dB)
			Conducted Power (dBm)						
QPSK	1	0	24.74	24.73	24.79	25.03	25.04	≤ 1	0
	1	**50**	24.77	24.82	24.96	25.09	25.11		
	1	99	24.75	24.81	24.84	25.06	25.05		
	50	0	23.83	23.82	23.94	24.02	24.11		1
	50	**25**	23.85	23.86	24.01	24.12	24.19		
	50	50	23.80	23.79	23.99	24.06	24.13		
	100	0	23.81	23.82	23.98	24.09	24.16		1
16QAM	1	0	23.79	23.80	23.90	24.12	24.03	≤ 1	1
	1	50	23.86	23.85	24.08	24.13	24.20		
	1	99	23.82	23.84	24.00	24.10	24.05		
	50	0	22.87	22.88	22.95	22.91	23.01	≤ 2	2
	50	25	22.94	22.95	23.08	23.01	23.04		
	50	50	22.87	22.87	23.03	22.94	23.03		
	100	0	22.88	22.88	23.05	23.03	23.06		2
64QAM	1	0	22.93	22.91	22.97	23.01	23.02	≤ 2	2
	1	50	22.96	22.97	23.11	23.10	23.20		
	1	99	22.93	22.91	23.01	23.07	23.17		
	50	0	21.92	21.91	21.96	22.14	22.13	≤ 3	3
	50	25	21.93	21.93	22.05	22.11	22.19		
	50	50	21.91	21.91	22.02	22.17	22.15		
	100	0	21.88	21.88	22.06	22.08	22.18		3

Table 9.3.5.2 LTE Conducted Power

LTE Band 41 Conducted Power– 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39725 (2503.5 MHz)	Low-Mid Channel 40173 (2548.3 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41068 (2637.8 MHz)	High Channel 41515 (2682.5 MHz)	MPR Allowed Per 3GPP(dB)	MPR (dB)
			Conducted Power (dBm)						
QPSK	1	0	24.69	24.63	24.62	24.81	24.74	≤ 1	0
	1	36	24.70	24.72	24.88	24.99	25.01		
	1	74	24.68	24.70	24.69	24.93	24.92		
	36	0	23.79	23.81	23.80	23.95	23.97		1
	36	18	23.84	23.90	23.95	24.02	24.14		
	36	37	23.80	23.89	23.94	24.00	24.13		
	75	0	23.77	23.91	23.93	23.96	23.99		1
16QAM	1	0	23.76	23.71	23.73	23.85	23.84	≤ 1	1
	1	36	23.83	23.85	23.94	23.96	23.93		
	1	74	23.76	23.78	23.87	23.92	23.90		
	36	0	22.81	22.83	22.85	22.90	22.97	≤ 2	2
	36	18	22.84	22.91	22.99	23.10	23.12		
	36	37	22.83	22.90	22.91	23.03	23.09		
	75	0	22.82	22.90	22.94	23.00	23.01		2
64QAM	1	0	22.77	22.76	22.77	22.91	22.89	≤ 2	2
	1	36	22.88	22.86	23.04	23.13	23.17		
	1	74	22.82	22.85	22.88	23.08	23.10		
	36	0	21.84	21.88	21.87	21.96	21.99	≤ 3	3
	36	18	21.85	21.93	22.04	22.11	22.18		
	36	37	21.84	21.91	21.95	22.10	22.14		
	75	0	21.84	21.91	21.93	22.02	22.03		3

Table 9.3.5.3 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	24.70	24.76	24.62	24.77	24.80	≤ 1	0
	1	25	24.77	24.82	24.90	25.01	25.08		
	1	49	24.73	24.77	24.66	24.74	24.72		
	25	0	23.83	23.85	23.86	23.95	24.07		1
	25	12	23.87	23.93	23.98	24.03	24.12		
	25	25	23.86	23.88	23.90	23.99	24.10		
	50	0	23.78	23.84	23.91	24.01	24.04		1
16QAM	1	0	23.83	23.81	23.72	23.82	23.95	≤ 1	1
	1	25	23.91	23.92	23.92	23.92	23.96		
	1	49	23.87	23.82	23.77	23.86	23.83		
	25	0	22.82	22.85	22.86	23.02	23.11	≤ 2	2
	25	12	22.87	23.02	23.04	23.10	23.16		
	25	25	22.85	22.91	22.95	23.02	23.14		
	50	0	22.80	22.91	22.99	23.06	23.09		2
64QAM	1	0	22.83	22.85	22.71	22.92	22.95	≤ 2	2
	1	25	22.90	23.01	23.09	23.13	23.19		
	1	49	22.87	22.87	22.77	22.88	22.84		
	25	0	21.92	21.93	21.94	22.02	22.17	≤ 3	3
	25	12	21.96	22.04	22.11	22.13	22.19		
	25	25	21.95	21.97	22.01	22.13	22.18		
	50	0	21.83	21.93	21.99	22.10	22.11		3

Table 9.3.5.4 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	24.64	24.62	24.53	24.63	24.61	≤ 1	0
	1	12	24.66	24.75	24.81	24.88	24.92		
	1	24	24.65	24.62	24.58	24.76	24.80		
	12	0	23.72	23.74	23.78	23.85	23.91		1
	12	6	23.81	23.86	23.95	23.99	24.14		
	12	13	23.78	23.83	23.92	23.97	24.08		
	25	0	23.73	23.80	23.91	23.94	23.96		1
16QAM	1	0	23.63	23.61	23.64	23.65	23.74	≤ 1	1
	1	12	23.81	23.85	23.90	23.95	24.09		
	1	24	23.78	23.76	23.72	23.82	23.89		
	12	0	22.77	22.79	22.81	22.88	22.96	≤ 2	2
	12	6	22.89	22.92	23.03	23.05	23.19		
	12	13	22.85	22.87	22.93	22.99	23.15		
	25	0	22.78	22.82	22.93	22.96	22.99		2
64QAM	1	0	22.80	22.79	22.62	22.60	22.73	≤ 2	2
	1	12	22.84	22.86	22.93	22.93	22.96		
	1	24	22.82	22.80	22.71	22.86	22.93		
	12	0	21.77	21.83	21.85	21.90	21.98	≤ 3	3
	12	6	21.88	21.92	22.05	22.15	22.20		
	12	13	21.84	21.88	21.95	22.02	22.16		
	25	0	21.79	21.88	21.96	21.99	22.00		3

Table 9.3.5.5 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	1~2	16.5	15.5	16.5	15.5	-	-
		3~9	16.5	15.5	16.5	15.5	-	-
		10~11	16.5	15.5	16.5	15.5	-	-
		12	4.0	3.0	4.0	3.0	-	-
		13	4.0	3.0	4.0	3.0	-	-
	802.11g	1~2	16.0	15.0	16.0	15.0	19.0	18.0
		3~9	16.0	15.0	16.0	15.0	19.0	18.0
		10~11	16.0	15.0	16.0	15.0	19.0	18.0
		12	4.0	3.0	4.0	3.0	7.0	6.0
		13	4.0	3.0	4.0	3.0	7.0	6.0
	802.11n	1~2	15.0	14.0	15.0	14.0	18.0	17.0
		3~9	15.0	14.0	15.0	14.0	18.0	17.0
		10~11	15.0	14.0	15.0	14.0	18.0	17.0
		12	4.0	3.0	4.0	3.0	7.0	6.0
		13	4.0	3.0	4.0	3.0	7.0	6.0
	802.11ac	1~2	15.0	14.0	15.0	14.0	18.0	17.0
		3~9	15.0	14.0	15.0	14.0	18.0	17.0
		10~11	15.0	14.0	15.0	14.0	18.0	17.0
		12	4.0	3.0	4.0	3.0	7.0	6.0
		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**	15.88	15.42	-	-
	2437	6	15.73	15.40	-	-
	2462	**11**	15.81	15.46	-	-
	2467	12	3.05	3.01	-	-
	2472	13	3.20	3.06	-	-
802.11g	2412	1	15.13	15.22	18.19	-
	2437	6	15.24	15.14	18.20	-
	2462	**11**	15.36	15.24	18.31	-
	2467	12	3.28	2.96	6.13	-
	2472	13	3.31	2.81	6.08	-
802.11n (HT-20)	2412	1	14.11	14.09	17.11	17.14
	2437	6	14.30	14.03	17.18	17.27
	2462	11	14.32	14.12	17.23	17.18
	2467	12	3.22	2.89	6.07	6.17
	2472	13	3.19	2.74	5.98	6.01
802.11ac (VHT-20)	2412	1	14.07	14.17	17.13	17.14
	2437	6	14.22	14.09	17.17	17.25
	2462	11	14.30	14.22	17.27	17.24
	2467	12	3.26	3.00	6.14	6.14
	2472	13	3.30	2.75	6.04	6.06

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	16.0	15.0	16.0	15.0	19.0	18.0
	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 9.4.3 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	15.53	15.73	18.64	-
	5200	**40**	15.58	15.80	18.70	-
	5220	44	15.43	15.62	18.54	-
	5240	48	15.45	15.73	18.60	-
	5260	52	15.42	15.73	18.59	-
	5280	**56**	15.51	15.78	18.66	-
	5300	60	15.48	15.57	18.54	-
	5320	**64**	15.63	15.61	18.63	-
	5500	**100**	15.43	15.41	18.43	-
	5600	120	15.36	15.41	18.40	-
	5660	132	15.42	15.31	18.38	-
	5720	**144**	15.36	15.43	18.41	-
	5745	**149**	15.49	15.43	18.47	-
	5785	**157**	15.38	15.71	18.56	-
	5825	**165**	15.49	15.76	18.64	-

Table 9.4.4 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	14.53	14.81	17.68	17.66
	5200	40	14.76	14.96	17.87	17.81
	5220	44	14.50	14.69	17.61	17.56
	5240	48	14.57	14.75	17.67	17.70
	5260	52	14.54	14.75	17.66	17.60
	5280	56	14.76	14.84	17.81	17.64
	5300	60	14.71	14.55	17.64	17.59
	5320	64	14.66	14.62	17.65	17.63
	5500	100	14.42	14.51	17.48	17.46
	5600	120	14.22	14.41	17.33	17.34
	5660	132	14.48	14.25	17.38	17.41
	5720	144	14.41	14.50	17.47	17.46
	5745	149	14.56	14.56	17.57	17.56
	5785	157	14.50	14.65	17.59	17.59
	5825	165	14.60	14.64	17.63	17.68

Table 9.4.5 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	14.67	14.88	17.79	17.63
	5200	40	14.93	14.95	17.95	17.92
	5220	44	14.68	14.72	17.71	17.76
	5240	48	14.75	14.79	17.78	17.87
	5260	52	14.69	14.74	17.73	17.77
	5280	56	14.87	14.88	17.89	17.94
	5300	60	14.88	14.62	17.76	17.57
	5320	64	14.76	14.61	17.70	17.73
	5500	100	14.56	14.53	17.56	17.43
	5600	120	14.37	14.39	17.39	17.60
	5660	132	14.60	14.27	17.45	17.64
	5720	144	14.49	14.57	17.54	17.72
	5745	149	14.69	14.57	17.64	17.60
	5785	157	14.65	14.63	17.65	17.51
	5825	165	14.73	14.72	17.74	17.65

Table 9.4.6 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	14.42	14.70	17.57	17.73
	5230	46	14.19	14.63	17.43	17.57
	5270	54	14.31	14.78	17.56	17.71
	5310	62	14.33	14.69	17.52	17.65
	5510	102	14.42	14.09	17.27	17.42
	5590	118	14.08	14.32	17.21	17.43
	5670	134	14.10	14.42	17.27	17.44
	5710	142	14.20	14.57	17.40	17.50
	5755	151	14.44	14.31	17.39	17.51
	5795	159	14.45	14.42	17.45	17.57

Table 9.4.7 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	14.36	14.82	17.61	17.67
	5230	46	14.36	14.44	17.41	17.49
	5270	54	14.46	14.55	17.52	17.60
	5310	62	14.48	14.57	17.54	17.58
	5510	102	14.25	14.23	17.25	17.30
	5590	118	14.01	14.44	17.24	17.30
	5670	134	14.32	14.22	17.28	17.36
	5710	142	14.32	14.31	17.33	17.43
	5755	151	14.33	14.34	17.35	17.46
	5795	159	14.32	14.42	17.38	17.51

Table 9.4.8 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	14.82	14.51	17.68	17.80
	5290	58	14.57	14.71	17.65	17.89
	5530	106	14.44	14.13	17.30	17.75
	5610	122	14.27	14.37	17.33	17.38
	5690	138	14.26	14.54	17.41	17.76
	5775	155	14.55	14.54	17.56	17.60

Table 9.4.9 IEEE 802.11ac VHT80 Average RF Power

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

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

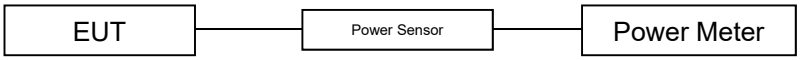

Figure 9.4 Power Measurement Setup

9.5 Bluetooth Conducted Powers

Burst Modulated Average[dBm]		
Bluetooth 1 Mbps	Maximum	11.0
	Nominal	10.0
Bluetooth 2 Mbps	Maximum	11.0
	Nominal	10.0
Bluetooth 3 Mbps	Maximum	11.0
	Nominal	10.0
Bluetooth LE	Maximum	5.0
	Nominal	4.0

Table 9.5.1 Nominal and Maximum Output Power Spec (Burst)

Frame Modulated Average[dBm]		
Bluetooth 1 Mbps	Maximum	9.85
	Nominal	8.85
Bluetooth 2 Mbps	Maximum	9.85
	Nominal	8.85
Bluetooth 3 Mbps	Maximum	9.85
	Nominal	8.85
Bluetooth (LE / 1Mbps)	Maximum	4.33
	Nominal	3.33
Bluetooth (LE / 2Mbps)	Maximum	2.59
	Nominal	1.59

Table 9.5.2 Nominal and Maximum Output Power Spec (Frame)

Channel	Frequency	Burst AVG Output Power (1Mbps)	Frame AVG Output Power (1Mbps)	Burst AVG Output Power (2Mbps)	Frame AVG Output Power (2Mbps)	Burst AVG Output Power (3Mbps)	Frame AVG Output Power (3Mbps)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
Low	2402	10.92	9.77	10.46	9.31	10.45	9.30
Mid	2441	10.65	9.50	10.09	8.94	10.08	8.93
High	2480	10.66	9.51	10.13	8.98	10.11	8.96

Table 9.5.3 Bluetooth Burst and Frame Average RF Power

Channel	Frequency	Burst AVG Output Power(LE / 1Mbps)	Frame AVG Output Power(LE / 1Mbps)	Burst AVG Output Power(LE / 2Mbps)	Frame AVG Output Power(LE / 2Mbps)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
Low	2402	3.93	3.26	3.91	1.50
Mid	2440	3.33	2.66	3.32	0.91
High	2480	4.77	4.10	4.74	2.33

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.

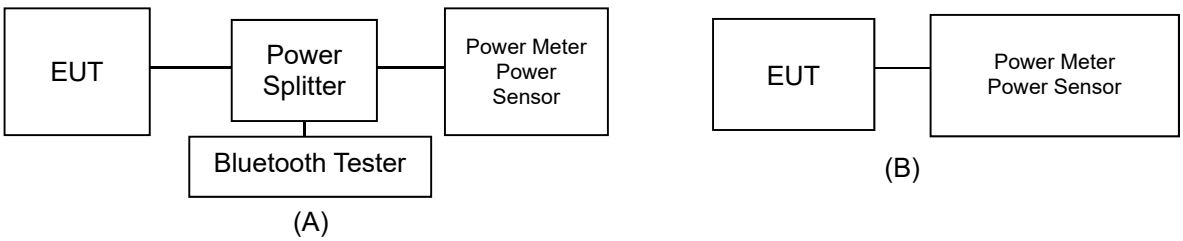

Figure 9.5.1 Average Power Measurement Setup

- **Bluetooth Transmission Plot**

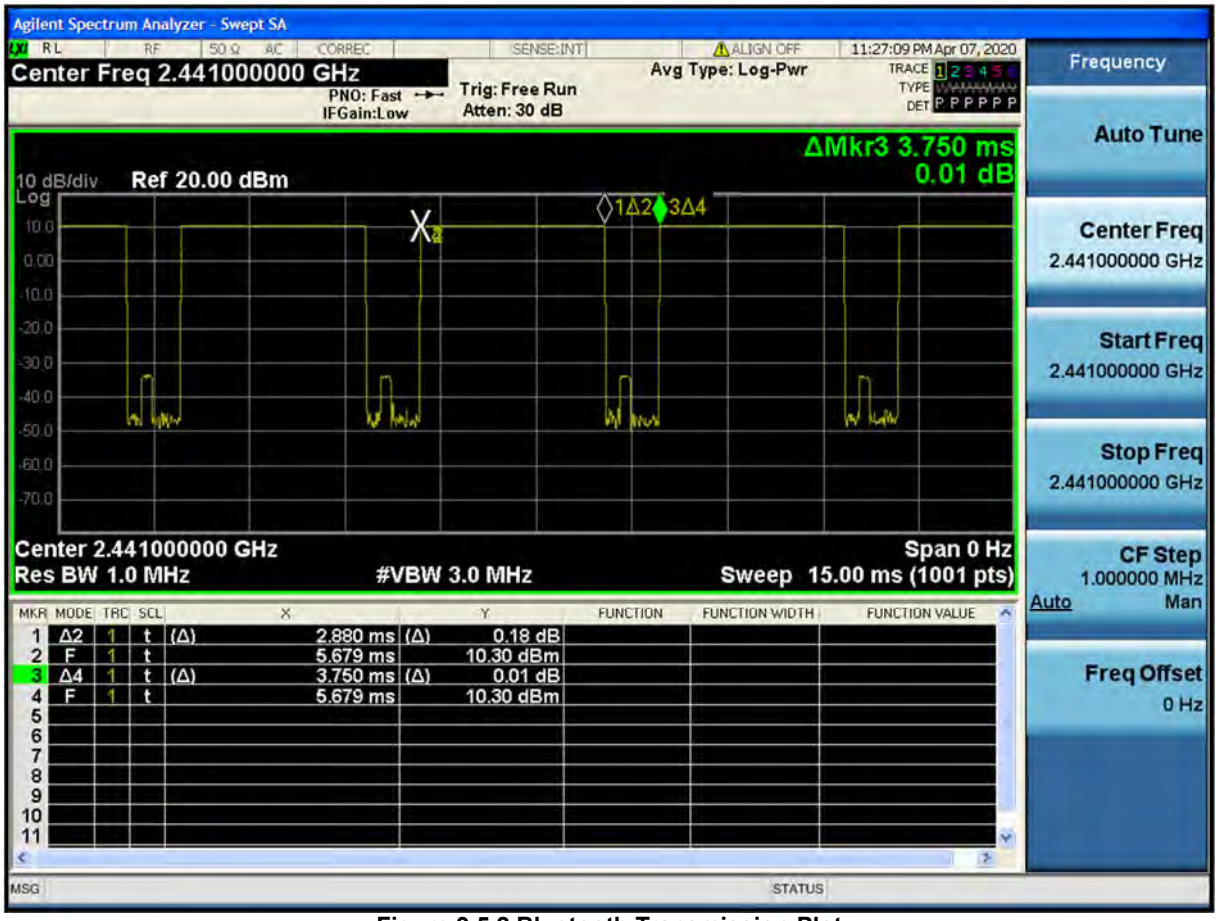

Figure 9.5.2 Bluetooth Transmission Plot

- **Bluetooth Duty Cycle Calculation**

Duty Cycle = Pulse/Period * 100% = (2.880/3.750) * 100 = 76.8%

10. SYSTEM VERIFICATION

10.1 Tissue Verification

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
Apr. 3. 2020	750 Head	22.2	22.4	707.5	42.129	0.887	43.282	0.875	2.74	-1.35
				750.0	41.900	0.890	42.692	0.915	1.89	2.81
Apr. 3. 2020	750 Body	22.2	22.3	707.5	55.672	0.957	56.810	0.925	2.04	-3.34
				750.0	55.500	0.960	56.023	0.973	0.94	1.35
Apr. 1. 2020	835 Head	20.8	21.2	821.5	41.566	0.898	41.115	0.879	-1.09	-2.12
				824.2	41.552	0.899	41.157	0.882	-0.95	-1.89
				826.4	41.542	0.899	41.189	0.885	-0.85	-1.56
				829.0	41.528	0.899	41.226	0.888	-0.73	-1.22
				831.5	41.519	0.900	41.267	0.891	-0.61	-1.00
				835.0	41.500	0.900	41.323	0.895	-0.43	-0.56
				836.5	41.500	0.901	41.347	0.897	-0.37	-0.44
				836.6	41.500	0.901	41.347	0.897	-0.37	-0.44
				841.5	41.500	0.906	41.411	0.903	-0.21	-0.33
				844.0	41.500	0.910	41.441	0.906	-0.14	-0.44
				846.6	41.500	0.912	41.466	0.909	-0.08	-0.33
				848.8	41.500	0.914	41.489	0.913	-0.03	-0.11
Apr. 2. 2020	835 Body	21.4	21.6	821.5	55.255	0.969	53.090	0.980	-3.92	1.14
				824.2	55.243	0.969	53.890	0.982	-2.45	1.34
				826.4	55.235	0.969	53.873	0.983	-2.47	1.44
				829.0	55.223	0.970	53.863	0.985	-2.46	1.55
				831.5	55.216	0.970	53.846	0.986	-2.48	1.65
				835.0	55.200	0.970	53.828	0.988	-2.49	1.86
				836.5	55.197	0.971	53.820	0.989	-2.49	1.85
				836.6	55.197	0.971	53.818	0.989	-2.50	1.85
				841.5	55.182	0.977	53.781	0.991	-2.54	1.43
				844.0	55.172	0.981	53.758	0.993	-2.56	1.22
				846.6	55.166	0.984	53.736	0.994	-2.59	1.02
				848.8	55.160	0.986	53.711	0.995	-2.63	0.91
Apr. 6. 2020	1800 Head	20.1	20.7	1712.4	40.126	1.350	38.989	1.359	-2.83	0.67
				1720.0	40.114	1.354	38.961	1.366	-2.87	0.89
				1732.4	40.097	1.361	38.923	1.378	-2.93	1.25
				1732.5	40.097	1.361	38.923	1.378	-2.93	1.25
				1745.0	40.079	1.369	38.880	1.391	-2.99	1.61
				1752.6	40.069	1.373	38.856	1.399	-3.03	1.89
				1770.0	40.043	1.383	38.801	1.416	-3.10	2.39
				1800.0	40.000	1.400	38.704	1.447	-3.24	3.36
Apr. 6. 2020	1800 Body	20.1	20.5	1712.4	53.596	1.464	53.183	1.454	-0.77	-0.68
				1720.0	53.580	1.469	53.157	1.462	-0.79	-0.48
				1732.4	53.556	1.477	53.109	1.475	-0.83	-0.14
				1732.5	53.556	1.477	53.109	1.475	-0.83	-0.14
				1745.0	53.530	1.485	53.060	1.487	-0.88	0.13
				1752.6	53.516	1.489	53.036	1.494	-0.90	0.34
				1770.0	53.480	1.501	52.940	1.509	-1.01	0.53
				1800.0	53.300	1.520	52.930	1.533	-0.69	0.86
Apr. 2. 2020	1900 Head	20.1	20.4	1850.2	40.000	1.400	40.821	1.393	2.05	-0.50
				1852.4	40.000	1.400	40.818	1.395	2.04	-0.36
				1880.0	40.000	1.400	40.717	1.417	1.79	1.21
				1900.0	40.000	1.400	40.612	1.433	1.53	2.36
				1907.6	40.000	1.400	40.573	1.440	1.43	2.86
				1909.8	40.000	1.400	40.567	1.442	1.42	3.00
Apr. 2. 2020	1900 Body	20.1	20.2	1850.2	53.300	1.520	52.011	1.505	-2.42	-0.99
				1852.4	53.300	1.520	52.008	1.507	-2.42	-0.86
				1880.0	53.300	1.520	51.770	1.535	-2.87	0.99
				1900.0	53.300	1.520	51.426	1.555	-3.52	2.30
				1907.6	53.300	1.520	51.357	1.565	-3.65	2.96
				1909.8	53.300	1.520	51.348	1.568	-3.66	3.16
Apr. 3. 2020	1900 Head	21.8	22.0	1860.0	40.000	1.400	40.824	1.394	2.06	-0.43
				1880.0	40.000	1.400	40.728	1.409	1.82	0.64
				1900.0	40.000	1.400	40.622	1.426	1.56	1.86
Apr. 3. 2020	1900 Body	21.8	21.9	1860.0	53.300	1.520	51.644	1.472	-3.11	-3.16
				1880.0	53.300	1.520	51.585	1.490	-3.22	-1.97
				1900.0	53.300	1.520	51.557	1.513	-3.27	-0.46

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
Apr. 8. 2020	2450 Head	20.3	20.6	2402.0	39.282	1.757	38.619	1.797	-1.69	2.28
				2412.0	39.265	1.766	38.576	1.808	-1.75	2.38
				2437.0	39.222	1.788	38.480	1.837	-1.89	2.74
				2441.0	39.215	1.792	38.465	1.842	-1.91	2.79
				2450.0	39.200	1.800	38.434	1.852	-1.95	2.89
				2462.0	39.184	1.813	38.396	1.865	-2.01	2.87
				2467.0	39.177	1.818	38.376	1.871	-2.04	2.92
				2472.0	39.171	1.823	38.358	1.876	-2.08	2.91
				2480.0	39.160	1.832	38.327	1.885	-2.13	2.89
Apr. 8. 2020	2450 Body	20.3	20.4	2402.0	52.764	1.904	51.798	1.936	-1.83	1.68
				2412.0	52.751	1.914	51.775	1.947	-1.85	1.72
				2437.0	52.717	1.938	51.714	1.976	-1.90	1.96
				2441.0	52.712	1.941	51.705	1.981	-1.91	2.06
				2450.0	52.700	1.950	51.686	1.992	-1.92	2.15
				2462.0	52.685	1.967	51.661	2.006	-1.94	1.98
				2467.0	52.678	1.974	51.648	2.012	-1.96	1.93
				2472.0	52.672	1.981	51.636	2.018	-1.97	1.87
				2480.0	52.662	1.993	51.611	2.028	-2.00	1.76
Apr. 7. 2020	2600 Head	20.4	20.6	2506.0	39.125	1.860	38.411	1.871	-1.82	0.59
				2549.5	39.068	1.906	38.254	1.920	-2.08	0.73
				2593.0	39.009	1.953	38.107	1.967	-2.31	0.72
				2600.0	39.000	1.960	38.082	1.975	-2.35	0.77
				2636.5	38.955	2.000	37.947	2.015	-2.59	0.75
				2680.0	38.900	2.048	37.807	2.065	-2.81	0.83
Apr. 7. 2020	2600 Body	20.4	20.7	2506.0	52.629	2.029	51.945	2.052	-1.30	1.13
				2549.5	52.574	2.090	51.817	2.106	-1.44	0.77
				2593.0	52.518	2.153	51.696	2.157	-1.57	0.19
				2600.0	52.509	2.163	51.672	2.166	-1.59	0.14
				2636.5	52.463	2.214	51.554	2.211	-1.73	-0.14
				2680.0	52.407	2.276	51.436	2.267	-1.85	-0.40
Apr. 6. 2020	5200 Body	21.4	21.6	5180.0	49.041	5.276	49.271	5.211	0.47	-1.23
				5190.0	49.028	5.288	49.248	5.225	0.45	-1.19
				5200.0	49.014	5.299	49.223	5.240	0.43	-1.11
				5210.0	49.001	5.311	49.211	5.255	0.43	-1.05
				5220.0	48.987	5.323	49.194	5.268	0.42	-1.03
				5230.0	48.974	5.334	49.179	5.281	0.42	-0.99
				5240.0	48.960	5.346	49.161	5.295	0.41	-0.95
Apr. 9. 2020	5300 Head	21.3	21.1	5260.0	35.940	4.720	35.148	4.787	-2.20	1.42
				5270.0	35.930	4.730	35.132	4.799	-2.22	1.46
				5280.0	35.920	4.740	35.121	4.808	-2.22	1.43
				5290.0	35.910	4.750	35.103	4.816	-2.25	1.39
				5300.0	35.900	4.760	35.082	4.827	-2.28	1.41
				5310.0	35.890	4.770	35.068	4.841	-2.29	1.49
				5320.0	35.880	4.780	35.062	4.853	-2.28	1.53
Apr. 7. 2020	5300 Body	20.1	20.7	5260.0	48.933	5.369	49.276	5.274	0.70	-1.77
				5270.0	48.919	5.381	49.251	5.287	0.68	-1.75
				5280.0	48.906	5.393	49.232	5.300	0.67	-1.72
				5290.0	48.892	5.404	49.216	5.313	0.66	-1.68
				5300.0	48.879	5.416	49.204	5.329	0.66	-1.61
				5310.0	48.865	5.428	49.200	5.346	0.69	-1.51
				5320.0	48.851	5.439	49.201	5.362	0.72	-1.42

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
Apr. 10. 2020	5600 Head	21.8	21.5	5500.0	35.650	4.965	35.881	5.066	0.65	2.03
				5510.0	35.635	4.976	35.846	5.076	0.59	2.01
				5530.0	35.605	4.997	35.792	5.105	0.53	2.16
				5550.0	35.575	5.018	35.781	5.132	0.58	2.27
				5580.0	35.530	5.049	35.755	5.167	0.63	2.34
				5600.0	35.500	5.070	35.729	5.185	0.65	2.27
				5660.0	35.440	5.130	35.574	5.253	0.38	2.40
				5670.0	35.430	5.140	35.565	5.267	0.38	2.47
				5690.0	35.410	5.160	35.554	5.297	0.41	2.66
				5710.0	35.390	5.180	35.544	5.313	0.44	2.57
				5720.0	35.380	5.190	35.522	5.317	0.40	2.45
				5800.0	35.300	5.270	35.349	5.424	0.14	2.92
Apr. 8. 2020	5600 Body	21.1	21.6	5500.0	48.607	5.650	48.671	5.751	0.13	1.79
				5510.0	48.594	5.661	48.652	5.762	0.12	1.78
				5530.0	48.566	5.685	48.604	5.791	0.08	1.86
				5550.0	48.539	5.708	48.566	5.817	0.06	1.91
				5580.0	48.499	5.743	48.505	5.867	0.01	2.16
				5600.0	48.471	5.766	48.493	5.897	0.05	2.27
				5660.0	48.390	5.836	48.369	5.973	-0.04	2.35
				5670.0	48.376	5.848	48.345	5.988	-0.06	2.39
				5690.0	48.349	5.872	48.310	6.024	-0.08	2.59
				5710.0	48.322	5.895	48.305	6.054	-0.04	2.70
				5720.0	48.309	5.907	48.288	6.062	-0.04	2.62
				5800.0	48.200	6.000	48.116	6.181	-0.17	3.02
Apr. 13. 2020	5800 Head	20.1	20.4	5745.0	35.355	5.215	34.341	5.326	-2.87	2.13
				5755.0	35.345	5.225	34.329	5.336	-2.87	2.12
				5775.0	35.325	5.245	34.296	5.353	-2.91	2.06
				5785.0	35.315	5.255	34.273	5.364	-2.95	2.07
				5795.0	35.305	5.265	34.250	5.379	-2.99	2.17
				5800.0	35.300	5.270	34.242	5.387	-3.00	2.22
				5825.0	35.275	5.296	34.216	5.415	-3.00	2.25
Apr. 9. 2020	5800 Body	20.7	20.9	5745.0	48.275	5.936	48.463	6.107	0.39	2.88
				5755.0	48.261	5.947	48.434	6.119	0.36	2.89
				5775.0	48.234	5.971	48.366	6.149	0.27	2.98
				5785.0	48.220	5.982	48.341	6.169	0.25	3.13
				5795.0	48.207	5.994	48.326	6.192	0.25	3.30
				5800.0	48.200	6.000	48.325	6.202	0.26	3.37
				5825.0	48.166	6.029	48.336	6.234	0.35	3.40

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):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{\left[\ln(b/a)\right]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r'\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

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 ± 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. 3. 2020	Head	22.2	22.4	3933	250	8.47	2.02	8.08	-4.60
D	750	D750V3, SN:1049	Apr. 3. 2020	Body	22.2	22.3	3933	250	8.43	2.15	8.60	2.02
D	835	D835V2, SN:464	Apr. 1. 2020	Head	20.8	21.2	3933	250	9.59	2.53	10.12	5.53
D	835	D835V2, SN:464	Apr. 2. 2020	Body	21.4	21.6	3933	250	9.68	2.34	9.36	-3.31
C	1800	D1800V2, SN:2d047	Apr. 6. 2020	Head	20.1	20.7	3866	100	38.1	3.85	38.50	1.05
C	1800	D1800V2, SN:2d047	Apr. 6. 2020	Body	20.1	20.5	3866	100	38.0	3.83	38.30	0.79
C	1900	D1900V2, SN:5d029	Apr. 2. 2020	Head	20.1	20.4	3866	100	40.4	4.29	42.90	6.19
C	1900	D1900V2, SN:5d029	Apr. 2. 2020	Body	20.1	20.2	3866	100	39.9	4.12	41.20	3.26
C	1900	D1900V2, SN:5d029	Apr. 3. 2020	Head	21.8	22.0	3866	100	40.4	4.21	42.10	4.21
C	1900	D1900V2, SN:5d029	Apr. 3. 2020	Body	21.8	21.9	3866	100	39.9	3.92	39.20	-1.75
C	2450	D2450V2, SN: 726	Apr. 8. 2020	Head	20.3	20.6	3866	100	51.2	5.19	51.90	1.37
C	2450	D2450V2, SN: 726	Apr. 8. 2020	Body	20.3	20.4	3866	100	52.0	5.51	55.10	5.96
C	2600	D2600V2, SN: 1103	Apr. 7. 2020	Head	20.4	20.6	3866	100	57.8	5.66	56.60	-2.08
C	2600	D2600V2, SN: 1103	Apr. 7. 2020	Body	20.4	20.7	3866	100	55.8	5.41	54.10	-3.05
D	5200	D5GHzV2, SN:1212	Apr. 6. 2020	Body	21.4	21.6	3933	100	72.8	7.69	76.90	5.63
C	5300	D5GHzV2, SN:1212	Apr. 9. 2020	Head	21.3	21.1	3866	100	81.3	8.34	83.40	2.58
D	5300	D5GHzV2, SN:1212	Apr. 7. 2020	Body	20.1	20.7	3933	100	72.8	7.50	75.00	3.02
C	5500	D5GHzV2, SN:1212	Apr. 10. 2020	Head	21.8	21.5	3866	100	86.3	8.41	84.10	-2.55
D	5500	D5GHzV2, SN:1212	Apr. 8. 2020	Body	21.1	21.6	3933	100	78.6	7.86	78.60	0.00
C	5800	D5GHzV2, SN:1212	Apr. 10. 2020	Head	21.8	21.5	3866	100	81.5	8.32	83.20	2.09
D	5800	D5GHzV2, SN:1212	Apr. 8. 2020	Body	21.1	21.6	3933	100	73.7	7.72	77.20	4.75
C	5800	D5GHzV2, SN:1212	Apr. 13. 2020	Head	20.1	20.4	3866	100	81.5	8.46	84.60	3.80
D	5800	D5GHzV2, SN:1212	Apr. 9. 2020	Body	20.7	20.9	3933	100	73.7	7.68	76.80	4.21

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 [%]
D	5300	D5GHzV2, SN:1212	Apr. 7. 2020	Body	20.1	20.7	3933	100	20.2	2.12	21.20	4.95
D	5500	D5GHzV2, SN:1212	Apr. 8. 2020	Body	21.1	21.6	3933	100	21.6	2.18	21.80	0.93
D	5800	D5GHzV2, SN:1212	Apr. 8. 2020	Body	21.1	21.6	3933	100	20.2	2.16	21.60	6.93
D	5800	D5GHzV2, SN:1212	Apr. 9. 2020	Body	20.7	20.9	3933	100	20.2	2.15	21.50	6.44

Note(s)
1. System Verification was measured with input 250 mW, 100 mW and normalized to 1W.
2. Full system validation status and results can be found in Appendix D.

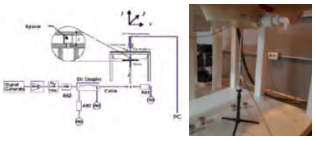

Figure 10.1 Dipole Verification Test Setup Diagram & Photo

11. SAR TEST RESULTS

11.1 Standalone Head SAR Results

Table 11.1.1 GSM/GPRS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
836.6	190	GSM850	GSM	33.70	33.50	0.010	Left Touch	FCC #1	1	1:8.3	0.105	1.047	**0.110**	A1
836.6	190	GSM850	GSM	33.70	33.50	0.180	Right Touch	FCC #1	1	1:8.3	0.092	1.047	0.096	
836.6	190	GSM850	GSM	33.70	33.50	0.040	Left Tilt	FCC #1	1	1:8.3	0.049	1.047	0.051	
836.6	190	GSM850	GSM	33.70	33.50	0.120	Right Tilt	FCC #1	1	1:8.3	0.055	1.047	0.058	
836.6	190	GSM850	GPRS	28.70	28.30	0.110	Left Touch	FCC #1	4	1:2.075	0.143	1.096	**0.157**	A2
836.6	190	GSM850	GPRS	28.70	28.30	0.130	Right Touch	FCC #1	4	1:2.075	0.114	1.096	0.125	
836.6	190	GSM850	GPRS	28.70	28.30	0.010	Left Tilt	FCC #1	4	1:2.075	0.053	1.096	0.058	
836.6	190	GSM850	GPRS	28.70	28.30	-0.030	Right Tilt	FCC #1	4	1:2.075	0.063	1.096	0.069	
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						

Table 11.1.2 PCS/GPRS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
1880.0	661	PCS1900	PCS	30.70	30.30	0.060	Left Touch	FCC #1	1	1:8.3	0.031	1.096	0.034	
1880.0	661	PCS1900	PCS	30.70	30.30	0.160	Right Touch	FCC #1	1	1:8.3	0.040	1.096	**0.044**	A3
1880.0	661	PCS1900	PCS	30.70	30.30	0.190	Left Tilt	FCC #1	1	1:8.3	0.027	1.096	0.030	
1880.0	661	PCS1900	PCS	30.70	30.30	0.110	Right Tilt	FCC #1	1	1:8.3	0.017	1.096	0.019	
1880.0	661	PCS1900	GPRS	27.70	27.20	0.000	Left Touch	FCC #1	3	1:2.77	0.037	1.122	0.042	
1880.0	661	PCS1900	GPRS	27.70	27.20	0.180	Right Touch	FCC #1	3	1:2.77	0.056	1.122	**0.063**	A4
1880.0	661	PCS1900	GPRS	27.70	27.20	0.130	Left Tilt	FCC #1	3	1:2.77	0.036	1.122	0.040	
1880.0	661	PCS1900	GPRS	27.70	27.20	0.140	Right Tilt	FCC #1	3	1:2.77	0.022	1.122	0.025	
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						

Table 11.1.3 WCDMA 850 Head SAR

MEASUREMENT RESULTS												
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch												
836.6	4183	WCDMA 850	RMC	25.50	25.20	0.090	Left Touch	FCC #1	1:1	0.151	1.072	**0.162**	A5
836.6	4183	WCDMA 850	RMC	25.50	25.20	0.180	Right Touch	FCC #1	1:1	0.139	1.072	0.149	
836.6	4183	WCDMA 850	RMC	25.50	25.20	0.070	Left Tilt	FCC #1	1:1	0.070	1.072	0.075	
836.6	4183	WCDMA 850	RMC	25.50	25.20	-0.100	Right Tilt	FCC #1	1:1	0.093	1.072	0.100	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Head 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11.1.4 WCDMA 1900 Head SAR

MEASUREMENT RESULTS													
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch												
1880.0	9400	WCDMA 1900	RMC	24.70	24.10	-0.090	Left Touch	FCC #1	1:1	0.068	1.148	0.078	
1880.0	9400	WCDMA 1900	RMC	24.70	24.10	0.140	Right Touch	FCC #1	1:1	0.095	1.148	**0.109**	A6
1880.0	9400	WCDMA 1900	RMC	24.70	24.10	0.015	Left Tilt	FCC #1	1:1	0.065	1.148	0.075	
1880.0	9400	WCDMA 1900	RMC	24.70	24.10	0.070	Right Tilt	FCC #1	1:1	0.041	1.148	0.047	
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					

Table 11.1.5 LTE Band 12 Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
707.5	23095	LTE B12	10	25.50	25.05	-0.060	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.129	1.109	**0.143**	A7
707.5	23095	LTE B12	10	24.50	24.04	0.120	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.080	1.112	0.089	
707.5	23095	LTE B12	10	25.50	25.05	0.140	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.108	1.109	0.120	
707.5	23095	LTE B12	10	24.50	24.04	-0.050	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.074	1.112	0.082	
707.5	23095	LTE B12	10	25.50	25.05	-0.170	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.035	1.109	0.039	
707.5	23095	LTE B12	10	24.50	24.04	-0.070	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.021	1.112	0.023	
707.5	23095	LTE B12	10	25.50	25.05	0.070	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.056	1.109	0.062	
707.5	23095	LTE B12	10	24.50	24.04	-0.090	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.038	1.112	0.042	
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							

Table 11.1.6 LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																	
836.5	20525	LTE B5	-	10	25.50	24.93	0.130	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.156	1.140	**0.178**	A8
836.5	20525	LTE B5	-	10	24.50	23.94	0.040	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.105	1.138	0.119	
836.5	20525	LTE B5	-	10	25.50	24.93	0.040	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.131	1.140	0.149	
836.5	20525	LTE B5	-	10	24.50	23.94	0.030	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.087	1.138	0.099	
836.5	20525	LTE B5	-	10	25.50	24.93	0.070	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.064	1.140	0.073	
836.5	20525	LTE B5	-	10	24.50	23.94	0.190	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.043	1.138	0.049	
836.5	20525	LTE B5	-	10	25.50	24.93	0.050	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.085	1.140	0.097	
836.5	20525	LTE B5	-	10	24.50	23.94	0.130	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.055	1.138	0.063	
836.5	20525	LTE B5	#1	10	25.50	24.93	0.000	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.048	1.140	0.055	
836.5	20525	LTE B5	#2	10	25.50	24.93	0.000	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.077	1.140	0.088	
836.5	20525	LTE B5	#3	10	25.50	24.93	0.000	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.087	1.140	0.099	
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. Blue entries represent additional Head SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
2. Green entries represent additional Head SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
3. Orange entries represent additional Head SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Table 11.1.7 LTE Band 4 (AWS) Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1732.5	20175	LTE B4	20	24.70	24.70	-0.140	0	Left Touch	FCC #1	QPSK	1	50	1:1	0.065	1.000	0.065	
1732.5	20175	LTE B4	20	23.70	23.16	0.190	1	Left Touch	FCC #1	QPSK	50	25	1:1	0.035	1.132	0.040	
1732.5	20175	LTE B4	20	24.70	24.70	0.170	0	Right Touch	FCC #1	QPSK	1	50	1:1	0.106	1.000	**0.106**	A9
1732.5	20175	LTE B4	20	23.70	23.16	0.180	1	Right Touch	FCC #1	QPSK	50	25	1:1	0.069	1.132	0.078	
1732.5	20175	LTE B4	20	24.70	24.70	0.030	0	Left Tilt	FCC #1	QPSK	1	50	1:1	0.059	1.000	0.059	
1732.5	20175	LTE B4	20	23.70	23.16	0.140	1	Left Tilt	FCC #1	QPSK	50	25	1:1	0.025	1.132	0.028	
1732.5	20175	LTE B4	20	24.70	24.70	-0.040	0	Right Tilt	FCC #1	QPSK	1	50	1:1	0.056	1.000	0.056	
1732.5	20175	LTE B4	20	23.70	23.16	0.080	1	Right Tilt	FCC #1	QPSK	50	25	1:1	0.029	1.132	0.033	
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**			

Table 11.1.8 LTE Band 2 (PCS) Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1860.0	18700	LTE B2	20	24.70	24.69	0.170	0	Left Touch	FCC #1	QPSK	1	50	1:1	0.066	1.002	0.066	
1860.0	18700	LTE B2	20	23.70	23.25	0.180	1	Left Touch	FCC #1	QPSK	50	25	1:1	0.059	1.109	0.065	
1860.0	18700	LTE B2	20	24.70	24.69	0.140	0	Right Touch	FCC #1	QPSK	1	50	1:1	0.090	1.002	**0.090**	A10
1860.0	18700	LTE B2	20	23.70	23.25	0.160	1	Right Touch	FCC #1	QPSK	50	25	1:1	0.079	1.109	0.088	
1860.0	18700	LTE B2	20	24.70	24.69	-0.160	0	Left Tilt	FCC #1	QPSK	1	50	1:1	0.054	1.002	0.054	
1860.0	18700	LTE B2	20	23.70	23.25	0.110	1	Left Tilt	FCC #1	QPSK	50	25	1:1	0.047	1.109	0.052	
1860.0	18700	LTE B2	20	24.70	24.69	0.130	0	Right Tilt	FCC #1	QPSK	1	50	1:1	0.043	1.002	0.043	
1860.0	18700	LTE B2	20	23.70	23.25	0.150	1	Right Tilt	FCC #1	QPSK	50	25	1:1	0.034	1.109	0.038	
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**			

Table 11.1.9 LTE Band 41 Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2680.0	41490	LTE B41	20	25.20	25.11	0.000	0	Left Touch	FCC #1	QPSK	1	50	1:1.58	0.039	1.021	**0.040**	A11
2680.0	41490	LTE B41	20	24.20	24.19	0.000	1	Left Touch	FCC #1	QPSK	50	25	1:1.58	0.029	1.002	0.029	
2680.0	41490	LTE B41	20	25.20	25.11	0.000	0	Right Touch	FCC #1	QPSK	1	50	1:1.58	0.037	1.021	0.038	
2680.0	41490	LTE B41	20	24.20	24.19	0.000	1	Right Touch	FCC #1	QPSK	50	25	1:1.58	0.015	1.002	0.015	
2680.0	41490	LTE B41	20	25.20	25.11	0.000	0	Left Tilt	FCC #1	QPSK	1	50	1:1.58	0.012	1.021	0.012	
2680.0	41490	LTE B41	20	24.20	24.19	0.000	1	Left Tilt	FCC #1	QPSK	50	25	1:1.58	0.004	1.002	0.004	
2680.0	41490	LTE B41	20	25.20	25.11	0.000	0	Right Tilt	FCC #1	QPSK	1	50	1:1.58	0.021	1.021	0.021	
2680.0	41490	LTE B41	20	24.20	24.19	0.000	1	Right Tilt	FCC #1	QPSK	50	25	1:1.58	0.016	1.002	0.016	
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**			

Table 11.1.10 DTS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode (Antenna)	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch															
2412.0	1	802.11b (Ant.1)	-	16.50	15.88	0.030	Left Touch	FCC #2	0.087	1	99.3	0.084	1.153	1.007	0.098	
2412.0	1	802.11b (Ant.1)	-	16.50	15.88	-0.180	Right Touch	FCC #2	0.316	1	99.3	0.335	1.153	1.007	**0.389**	A12
2412.0	1	802.11b (Ant.1)	-	16.50	15.88	0.160	Left Tilt	FCC #2	0.100	1	99.3	0.102	1.153	1.007	0.118	
2412.0	1	802.11b (Ant.1)	-	16.50	15.88	-0.090	Right Tilt	FCC #2	0.232	1	99.3	0.273	1.153	1.007	0.317	
2462.0	11	802.11b (Ant.2)	-	16.50	15.46	0.140	Left Touch	FCC #2	0.249	1	99.3	0.240	1.271	1.007	0.307	
2462.0	11	802.11b (Ant.2)	-	16.50	15.46	-0.010	Right Touch	FCC #2	0.463	1	99.3	0.384	1.271	1.007	**0.492**	A13
2462.0	11	802.11b (Ant.2)	-	16.50	15.46	0.160	Left Tilt	FCC #2	0.279	1	99.3	0.276	1.271	1.007	0.353	
2462.0	11	802.11b (Ant.2)	-	16.50	15.46	0.190	Right Tilt	FCC #2	0.378	1	99.3	0.322	1.271	1.007	0.412	
2462.0	11	802.11g (MIMO)	-	19.00	18.31	0.080	Left Touch	FCC #2	0.250	1	97.7	0.246	1.271	1.024	0.320	
2462.0	11	802.11g (MIMO)	-	19.00	18.31	0.140	Right Touch	FCC #2	0.546	1	97.7	0.516	1.271	1.024	**0.671**	A14
2462.0	11	802.11g (MIMO)	-	19.00	18.31	0.150	Left Tilt	FCC #2	0.271	1	97.7	0.267	1.271	1.024	0.347	
2462.0	11	802.11g (MIMO)	-	19.00	18.31	-0.010	Right Tilt	FCC #2	0.435	1	97.7	0.442	1.271	1.024	0.575	
2462.0	11	802.11g (MIMO)	#1	19.00	18.31	0.040	Right Touch	FCC #2	0.355	1	97.7	0.335	1.271	1.024	0.436	
2462.0	11	802.11g (MIMO)	#2	19.00	18.31	0.140	Right Touch	FCC #2	0.533	1	97.7	0.504	1.271	1.024	0.656	
2462.0	11	802.11g (MIMO)	#3	19.00	18.31	0.040	Right Touch	FCC #2	0.537	1	97.7	0.507	1.271	1.024	0.660	
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. Blue entries represent additional Head SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
2. Green entries represent additional Head SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
3. Orange entries represent additional Head SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Adjusted SAR results for OFDM SAR											
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.389	2437	802.11g	OFDM	16.0	0.891	**0.347**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.389	2437	802.11n	OFDM	15.0	0.708	**0.275**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.389	2437	802.11ac	OFDM	15.0	0.708	**0.275**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.492	2437	802.11g	OFDM	16.0	0.891	**0.438**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.492	2437	802.11n	OFDM	15.0	0.708	**0.348**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.492	2437	802.11ac	OFDM	15.0	0.708	**0.348**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.671	2437	802.11n	OFDM	18.0	0.794	**0.533**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.671	2437	802.11ac	OFDM	18.0	0.794	**0.533**	X
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: SAR is not required for the following 2.4 GHz OFDM conditions. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Table 11.1.11 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														
5320.0	64	802.11a (Ant.1)	16.00	15.63	0.080	Left Touch	FCC #2	0.106	6	98.1	0.080	1.089	1.019	0.089	
5320.0	64	802.11a (Ant.1)	16.00	15.63	0.110	Right Touch	FCC #2	0.194	6	98.1	0.205	1.089	1.019	**0.228**	A15
5320.0	64	802.11a (Ant.1)	16.00	15.63	0.000	Left Tilt	FCC #2	0.099	6	98.1	0.096	1.089	1.019	0.107	
5320.0	64	802.11a (Ant.1)	16.00	15.63	0.170	Right Tilt	FCC #2	0.170	6	98.1	0.183	1.089	1.019	0.203	
5280.0	56	802.11a (Ant.2)	16.00	15.78	-0.000	Left Touch	FCC #2	0.055	6	98.1	0.057	1.052	1.019	0.061	
5280.0	56	802.11a (Ant.2)	16.00	15.78	-0.160	Right Touch	FCC #2	0.204	6	98.1	0.204	1.052	1.019	**0.219**	A16
5280.0	56	802.11a (Ant.2)	16.00	15.78	0.190	Left Tilt	FCC #2	0.049	6	98.1	0.042	1.052	1.019	0.045	
5280.0	56	802.11a (Ant.2)	16.00	15.78	-0.050	Right Tilt	FCC #2	0.150	6	98.1	0.146	1.052	1.019	0.157	
5280.0	56	802.11a (MIMO)	19.00	18.66	-0.140	Left Touch	FCC #2	0.109	6	98.1	0.108	1.089	1.019	0.120	
5280.0	56	802.11a (MIMO)	19.00	18.66	0.170	Right Touch	FCC #2	0.405	6	98.1	0.413	1.089	1.019	**0.458**	A17
5280.0	56	802.11a (MIMO)	19.00	18.66	-0.100	Left Tilt	FCC #2	0.117	6	98.1	0.114	1.089	1.019	0.127	
5280.0	56	802.11a (MIMO)	19.00	18.66	0.170	Right Tilt	FCC #2	0.258	6	98.1	0.260	1.089	1.019	0.289	
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**						

Adjusted SAR results for UNII-1 and UNII-2A SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5320.0	64	802.11a (Ant.1)	OFDM	16.0	0.228	5200	802.11a	OFDM	16.0	1.000	**0.228**	X
5280.0	56	802.11a (Ant.2)	OFDM	16.0	0.219	5200	802.11a	OFDM	16.0	1.000	**0.219**	X
5280.0	56	802.11a (MIMO)	OFDM	19.0	0.458	5200	802.11a	OFDM	19.0	1.000	**0.458**	X
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: U-NII-1 and U-NII-2A Bands: When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration.

Table 11.1.12 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														
5500.0	100	802.11a (Ant.1)	16.00	15.43	-0.150	Left Touch	FCC #2	0.107	6	98.1	0.083	1.140	1.019	0.096	
5500.0	100	802.11a (Ant.1)	16.00	15.43	0.130	Right Touch	FCC #2	0.123	6	98.1	0.109	1.140	1.019	**0.127**	A18
5500.0	100	802.11a (Ant.1)	16.00	15.43	0.080	Left Tilt	FCC #2	0.081	6	98.1	0.066	1.140	1.019	0.077	
5500.0	100	802.11a (Ant.1)	16.00	15.43	0.120	Right Tilt	FCC #2	0.114	6	98.1	0.107	1.140	1.019	0.124	
5720.0	144	802.11a (Ant.2)	16.00	15.43	0.190	Left Touch	FCC #2	0.122	6	98.1	0.149	1.140	1.019	0.173	
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.070	Right Touch	FCC #2	0.238	6	98.1	0.237	1.140	1.019	**0.275**	A19
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.050	Left Tilt	FCC #2	0.127	6	98.1	0.146	1.140	1.019	0.170	
5720.0	144	802.11a (Ant.2)	16.00	15.43	0.150	Right Tilt	FCC #2	0.224	6	98.1	0.205	1.140	1.019	0.238	
5500.0	100	802.11a (MIMO)	19.00	18.43	0.080	Left Touch	FCC #2	0.139	6	98.1	0.161	1.140	1.019	0.187	
5500.0	100	802.11a (MIMO)	19.00	18.43	0.080	Right Touch	FCC #2	0.485	6	98.1	0.500	1.140	1.019	**0.581**	A20
5500.0	100	802.11a (MIMO)	19.00	18.43	0.140	Left Tilt	FCC #2	0.127	6	98.1	0.139	1.140	1.019	0.162	
5500.0	100	802.11a (MIMO)	19.00	18.43	0.120	Right Tilt	FCC #2	0.342	6	98.1	0.345	1.140	1.019	0.401	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.170	Left Touch	FCC #2	0.060	6	98.1	0.024	1.125	1.019	0.028	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.130	Right Touch	FCC #2	0.044	6	98.1	0.034	1.125	1.019	0.039	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.120	Left Tilt	FCC #2	0.052	6	98.1	0.035	1.125	1.019	0.040	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.190	Right Tilt	FCC #2	0.055	6	98.1	0.036	1.125	1.019	**0.041**	A21
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.190	Left Touch	FCC #2	0.244	6	98.1	0.216	1.057	1.019	0.233	
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.020	Right Touch	FCC #2	0.253	6	98.1	0.246	1.057	1.019	0.265	
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.130	Left Tilt	FCC #2	0.213	6	98.1	0.212	1.057	1.019	0.228	
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.070	Right Tilt	FCC #2	0.270	6	98.1	0.248	1.057	1.019	**0.267**	A22
5825.0	165	802.11a (MIMO)	19.00	18.64	0.070	Left Touch	FCC #2	0.195	6	98.1	0.236	1.125	1.019	0.271	
5825.0	165	802.11a (MIMO)	19.00	18.64	0.030	Right Touch	FCC #2	0.301	6	98.1	0.314	1.125	1.019	**0.360**	A23
5825.0	165	802.11a (MIMO)	19.00	18.64	0.180	Left Tilt	FCC #2	0.201	6	98.1	0.226	1.125	1.019	0.259	
5825.0	165	802.11a (MIMO)	19.00	18.64	0.070	Right Tilt	FCC #2	0.318	6	98.1	0.299	1.125	1.019	0.343	
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							

Table 11.1.13 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	9.85	9.50	0.000	Left Touch	FCC #2	1	76.8	0.015	1.084	1.302	0.021	
2441.0	39	Bluetooth	9.85	9.50	0.000	Right Touch	FCC #2	1	76.8	0.057	1.084	1.302	**0.080**	A24
2441.0	39	Bluetooth	9.85	9.50	-0.050	Left Tilt	FCC #2	1	76.8	0.017	1.084	1.302	0.024	
2441.0	39	Bluetooth	9.85	9.50	0.000	Right Tilt	FCC #2	1	76.8	0.046	1.084	1.302	0.065	
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						

11.2 Standalone Body-Worn SAR Worn SAR Results

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

MEASUREMENT RESULTS															
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
836.6	190	GSM850	-	GSM	33.70	33.50	0.020	10 mm [Front]	FCC #1	1	1:8.3	0.262	1.047	0.274	
836.6	190	GSM850	-	GSM	33.70	33.50	0.030	10 mm [Rear]	FCC #1	1	1:8.3	0.345	1.047	**0.361**	A25
836.6	190	GSM850	-	GPRS	28.70	28.30	0.060	10 mm [Front]	FCC #1	4	1:2.075	0.321	1.096	0.352	
836.6	190	GSM850	-	GPRS	28.70	28.30	-0.080	10 mm [Rear]	FCC #1	4	1:2.075	0.537	1.096	**0.589**	A26
1880.0	661	PCS1900	-	PCS	30.70	30.30	-0.000	10 mm [Front]	FCC #1	1	1:8.3	0.262	1.096	0.287	
1880.0	661	PCS1900	-	PCS	30.70	30.30	-0.040	10 mm [Rear]	FCC #1	1	1:8.3	0.314	1.096	**0.344**	A27
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.030	10 mm [Front]	FCC #1	3	1:2.77	0.329	1.122	0.369	
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.020	10 mm [Rear]	FCC #1	3	1:2.77	0.391	1.122	**0.439**	A28
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.459	1.072	0.492	
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	0.020	10 mm [Rear]	FCC #1	N/A	1:1	0.632	1.072	**0.678**	A29
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.020	10 mm [Front]	FCC #1	N/A	1:1	0.602	1.148	0.691	
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.070	10 mm [Rear]	FCC #1	N/A	1:1	0.694	1.148	**0.797**	A30
1880.0	9400	WCDMA 1900	#1	RMC	24.70	24.10	-0.100	10 mm [Rear]	FCC #1	N/A	1:1	0.675	1.148	0.775	
1880.0	9400	WCDMA 1900	#2	RMC	24.70	24.10	0.140	10 mm [Rear]	FCC #1	N/A	1:1	0.659	1.148	0.757	
1880.0	9400	WCDMA 1900	#3	RMC	24.70	24.10	-0.110	10 mm [Rear]	FCC #1	N/A	1:1	0.603	1.148	0.692	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure												Body 1.6 W/kg (mW/g) averaged over 1 gram			

Note(s):
1. Blue entries represent additional Body-Worn SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
2. Green entries represent additional Body-Worn SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
3. Orange entries represent additional Body-Worn SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Table 11.2.2 LTE B12, B5, B4, B2, B41 Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
707.5	23095	LTE B12	10	25.50	25.05	-0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.260	1.109	0.288	
707.5	23095	LTE B12	10	24.50	24.04	-0.030	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.175	1.112	0.195	
707.5	23095	LTE B12	10	25.50	25.05	-0.000	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.354	1.109	**0.393**	A31
707.5	23095	LTE B12	10	24.50	24.04	0.010	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.240	1.112	0.267	
836.5	20525	LTE B5	10	25.50	24.93	0.020	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.447	1.140	0.510	
836.5	20525	LTE B5	10	24.50	23.94	0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.314	1.138	0.357	
836.5	20525	LTE B5	10	25.50	24.93	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.601	1.140	**0.685**	A32
836.5	20525	LTE B5	10	24.50	23.94	0.030	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.423	1.138	0.481	
1732.5	20175	LTE B4	20	24.70	24.70	-0.040	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.485	1.000	0.485	
1732.5	20175	LTE B4	20	23.70	23.16	0.000	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.365	1.132	0.413	
1732.5	20175	LTE B4	20	24.70	24.70	0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.528	1.000	**0.528**	A33
1732.5	20175	LTE B4	20	23.70	23.16	0.050	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.391	1.132	0.443	
1860.0	18700	LTE B2	20	24.70	24.69	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.517	1.002	0.518	
1860.0	18700	LTE B2	20	23.70	23.25	-0.070	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.461	1.109	0.511	
1860.0	18700	LTE B2	20	24.70	24.69	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.633	1.002	**0.634**	A34
1860.0	18700	LTE B2	20	23.70	23.25	-0.030	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.555	1.109	0.615	
2680.0	41490	LTE B41	20	25.20	25.11	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1.58	0.191	1.021	0.195	
2680.0	41490	LTE B41	20	24.20	24.19	0.020	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1.58	0.134	1.002	0.134	
2680.0	41490	LTE B41	20	25.20	25.11	-0.020	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1.58	0.254	1.021	**0.259**	A35
2680.0	41490	LTE B41	20	24.20	24.19	-0.050	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1.58	0.174	1.002	0.174	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure														Body 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11.2.3 DTS Body-Worn SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	SAR (W/kg)	Plots #
MHz	Ch														
2412.0	1	802.11b (Ant.1)	16.50	15.88	-0.170	10 mm [Front]	FCC #2	0.072	1	99.3	0.075	1.153	1.007	0.087	
2412.0	1	802.11b (Ant.1)	16.50	15.88	-0.150	10 mm [Rear]	FCC #2	0.075	1	99.3	0.078	1.153	1.007	**0.091**	A36
2462.0	11	802.11b (Ant.2)	16.50	15.46	-0.060	10 mm [Front]	FCC #2	0.071	1	99.3	0.072	1.271	1.007	0.092	
2462.0	11	802.11b (Ant.2)	16.50	15.46	-0.040	10 mm [Rear]	FCC #2	0.100	1	99.3	0.101	1.271	1.007	**0.129**	A37
2462.0	11	802.11g (MIMO)	19.00	18.31	0.070	10 mm [Front]	FCC #2	0.102	1	97.7	0.101	1.271	1.024	0.131	
2462.0	11	802.11g (MIMO)	19.00	18.31	-0.090	10 mm [Rear]	FCC #2	0.129	1	97.7	0.136	1.271	1.024	**0.177**	A38
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure													Body 1.6 W/kg (mW/g) averaged over 1 gram		

Adjusted SAR results for OFDM SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.091	2437	802.11g	OFDM	16.0	0.891	**0.081**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.091	2437	802.11n	OFDM	15.0	0.708	**0.064**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.091	2437	802.11ac	OFDM	15.0	0.708	**0.064**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11g	OFDM	16.0	0.891	**0.115**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11n	OFDM	15.0	0.708	**0.091**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11ac	OFDM	15.0	0.708	**0.091**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.177	2437	802.11n	OFDM	18.0	0.794	**0.141**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.177	2437	802.11ac	OFDM	18.0	0.794	**0.141**	X
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: SAR is not required for the following 2.4 GHz OFDM conditions. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Table 11.2.4 UNII Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5320.0	64	802.11a (Ant.1)	16.00	15.63	-0.170	10 mm [Front]	FCC #2	0.044	6	98.1	0.042	1.089	1.019	0.047	
5320.0	64	802.11a (Ant.1)	16.00	15.63	0.140	10 mm [Rear]	FCC #2	0.292	6	98.1	0.312	1.089	1.019	**0.346**	A39
5280.0	56	802.11a (Ant.2)	16.00	15.78	-0.120	10 mm [Front]	FCC #2	0.044	6	98.1	0.042	1.052	1.019	0.045	
5280.0	56	802.11a (Ant.2)	16.00	15.78	0.040	10 mm [Rear]	FCC #2	0.266	6	98.1	0.288	1.052	1.019	**0.309**	A40
5280.0	56	802.11a (MIMO)	19.00	18.66	0.150	10 mm [Front]	FCC #2	0.070	6	98.1	0.069	1.089	1.019	0.077	
5280.0	56	802.11a (MIMO)	19.00	18.66	-0.070	10 mm [Rear]	FCC #2	0.319	6	98.1	0.321	1.089	1.019	**0.356**	A41
ANSI / IEEE C95.1-2005– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Adjusted SAR results for UNII-1 and UNII-2A SAR											
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5320.0	64	802.11a (Ant.1)	OFDM	16.0	0.346	5200	802.11a	OFDM	16.0	1.000	**0.346**	X
5280.0	56	802.11a (Ant.2)	OFDM	16.0	0.309	5200	802.11a	OFDM	16.0	1.000	**0.309**	X
5280.0	56	802.11a (MIMO)	OFDM	19.0	0.356	5200	802.11a	OFDM	19.0	1.000	**0.356**	X
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Body 1.6 W/kg (mW/g) averaged over 1 gram						

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

Table 11.2.5 UNII Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5500.0	100	802.11a (Ant.1)	16.00	15.43	0.070	10 mm [Front]	FCC #2	0.018	6	98.1	0.013	1.140	1.019	0.015	
5500.0	100	802.11a (Ant.1)	16.00	15.43	-0.110	10 mm [Rear]	FCC #2	0.176	6	98.1	0.199	1.140	1.019	**0.231**	A42
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.120	10 mm [Front]	FCC #2	0.026	6	98.1	0.025	1.140	1.019	0.029	
5720.0	144	802.11a (Ant.2)	16.00	15.43	0.150	10 mm [Rear]	FCC #2	0.043	6	98.1	0.040	1.140	1.019	**0.046**	A43
5500.0	100	802.11a (MIMO)	19.00	18.43	-0.140	10 mm [Front]	FCC #2	0.071	6	98.1	0.070	1.140	1.019	0.081	
5500.0	100	802.11a (MIMO)	19.00	18.43	-0.150	10 mm [Rear]	FCC #2	0.288	6	98.1	0.310	1.140	1.019	**0.360**	A44
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.000	10 mm [Front]	FCC #2	0.003	6	98.1	0.003	1.125	1.019	0.003	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.060	10 mm [Rear]	FCC #2	0.069	6	98.1	0.059	1.125	1.019	**0.068**	A45
5825.0	165	802.11a (Ant.2)	16.00	15.76	-0.140	10 mm [Front]	FCC #2	0.038	6	98.1	0.024	1.057	1.019	0.026	
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.010	10 mm [Rear]	FCC #2	0.068	6	98.1	0.058	1.057	1.019	**0.062**	A46
5825.0	165	802.11a (MIMO)	19.00	18.64	0.060	10 mm [Front]	FCC #2	0.039	6	98.1	0.026	1.125	1.019	0.030	
5825.0	165	802.11a (MIMO)	19.00	18.64	-0.100	10 mm [Rear]	FCC #2	0.101	6	98.1	0.100	1.125	1.019	**0.115**	A47
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11.2.6 Bluetooth Body-Worn SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
2441.0	39	Bluetooth	9.85	9.50	-0.090	10 mm [Front]	FCC #2	1	76.8	0.015	1.084	1.302	**0.021**	A48
2441.0	39	Bluetooth	9.85	9.50	-0.030	10 mm [Rear]	FCC #2	1	76.8	0.013	1.084	1.302	0.018	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram						

11.3 Standalone Hotspot SAR Results

Table 11.3.1 GPRS/WCDMA Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/ Band	Dual Display Accessory Configuration	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
836.6	190	GSM850	-	GPRS	28.70	28.30	0.140	10 mm [Bottom]	FCC #1	4	1:2.075	0.213	1.096	0.233	
836.6	190	GSM850	-	GPRS	28.70	28.30	0.060	10 mm [Front]	FCC #1	4	1:2.075	0.321	1.096	0.352	
836.6	190	GSM850	-	GPRS	28.70	28.30	-0.080	10 mm [Rear]	FCC #1	4	1:2.075	0.537	1.096	**0.589**	A26
836.6	190	GSM850	-	GPRS	28.70	28.30	0.150	10 mm [Right]	FCC #1	4	1:2.075	0.172	1.096	0.189	
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.110	10 mm [Bottom]	FCC #1	3	1:2.77	0.588	1.122	**0.660**	A49
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.030	10 mm [Front]	FCC #1	3	1:2.77	0.329	1.122	0.369	
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.020	10 mm [Rear]	FCC #1	3	1:2.77	0.391	1.122	0.439	
1880.0	661	PCS1900	-	GPRS	27.70	27.20	-0.140	10 mm [Left]	FCC #1	3	1:2.77	0.136	1.122	0.153	
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	0.160	10 mm [Bottom]	FCC #1	N/A	1:1	0.316	1.072	0.339	
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.459	1.072	0.492	
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	0.020	10 mm [Rear]	FCC #1	N/A	1:1	0.632	1.072	**0.678**	A29
836.6	4183	WCDMA 850	-	RMC	25.50	25.20	-0.080	10 mm [Right]	FCC #1	N/A	1:1	0.182	1.072	0.195	
1852.4	9262	WCDMA 1900	-	RMC	24.70	24.04	-0.050	10 mm [Bottom]	FCC #1	N/A	1:1	0.998	1.164	**1.162**	A50
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.040	10 mm [Bottom]	FCC #1	N/A	1:1	0.973	1.148	1.117	
1907.6	9538	WCDMA 1900	-	RMC	24.70	24.04	-0.030	10 mm [Bottom]	FCC #1	N/A	1:1	0.974	1.164	1.134	
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.020	10 mm [Front]	FCC #1	N/A	1:1	0.602	1.148	0.691	
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.070	10 mm [Rear]	FCC #1	N/A	1:1	0.694	1.148	0.797	
1880.0	9400	WCDMA 1900	-	RMC	24.70	24.10	-0.060	10 mm [Left]	FCC #1	N/A	1:1	0.216	1.148	0.248	
1852.4	9262	WCDMA 1900	#1	RMC	24.70	24.04	0.030	10 mm [Bottom]	FCC #1	N/A	1:1	0.952	1.164	1.108	
1852.4	9262	WCDMA 1900	#2	RMC	24.70	24.04	-0.080	10 mm [Bottom]	FCC #1	N/A	1:1	0.948	1.164	1.103	
1852.4	9262	WCDMA 1900	#3	RMC	24.70	24.04	0.120	10 mm [Bottom]	FCC #1	N/A	1:1	0.867	1.164	1.009	
1852.4	9262	WCDMA 1900	-	RMC	24.70	24.04	-0.010	10 mm [Bottom]	FCC #1	N/A	1:1	0.989	1.164	1.151	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									**Body 1.6 W/kg (mW/g) averaged over 1 gram**						

Note(s):
1. Blue entries represent additional Hotspot SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
2. Green entries represent additional Hotspot SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
3. Orange entries represent additional Hotspot SAR Test Position (#3: DD angle: 360 degree) with the worst case position.
4. Yellow entries represent variability measurements.

Table 11.3.2 LTE B12, B5, B4, B2, B41 Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
707.5	23095	LTE B12	10	25.50	25.05	-0.020	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.153	1.109	0.170	
707.5	23095	LTE B12	10	24.50	24.04	0.060	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.107	1.112	0.119	
707.5	23095	LTE B12	10	25.50	25.05	-0.010	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.260	1.109	0.288	
707.5	23095	LTE B12	10	24.50	24.04	-0.030	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.175	1.112	0.195	
707.5	23095	LTE B12	10	25.50	25.05	-0.000	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.354	1.109	**0.393**	A31
707.5	23095	LTE B12	10	24.50	24.04	0.010	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.240	1.112	0.267	
707.5	23095	LTE B12	10	25.50	25.05	-0.060	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.125	1.109	0.139	
707.5	23095	LTE B12	10	24.50	24.04	0.010	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.083	1.112	0.092	
836.5	20525	LTE B5	10	25.50	24.93	-0.050	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.322	1.140	0.367	
836.5	20525	LTE B5	10	24.50	23.94	-0.010	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.222	1.138	0.253	
836.5	20525	LTE B5	10	25.50	24.93	0.020	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.447	1.140	0.510	
836.5	20525	LTE B5	10	24.50	23.94	0.010	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.314	1.138	0.357	
836.5	20525	LTE B5	10	25.50	24.93	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.601	1.140	**0.685**	A32
836.5	20525	LTE B5	10	24.50	23.94	0.030	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.423	1.138	0.481	
836.5	20525	LTE B5	10	25.50	24.93	-0.190	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.197	1.140	0.225	
836.5	20525	LTE B5	10	24.50	23.94	0.170	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.136	1.138	0.155	
1732.5	20175	LTE B4	20	24.70	24.70	-0.050	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.729	1.000	**0.729**	A51
1732.5	20175	LTE B4	20	23.70	23.16	-0.060	1	10 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.564	1.132	0.638	
1732.5	20175	LTE B4	20	24.70	24.70	-0.040	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.485	1.000	0.485	
1732.5	20175	LTE B4	20	23.70	23.16	0.000	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.365	1.132	0.413	
1732.5	20175	LTE B4	20	24.70	24.70	0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.528	1.000	0.528	
1732.5	20175	LTE B4	20	23.70	23.16	0.050	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.391	1.132	0.443	
1732.5	20175	LTE B4	20	24.70	24.70	-0.030	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1	0.182	1.000	0.182	
1732.5	20175	LTE B4	20	23.70	23.16	-0.070	1	10 mm [Left]	FCC #1	QPSK	50	25	1:1	0.128	1.132	0.145	
1860.0	18700	LTE B2	20	24.70	24.69	-0.110	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.974	1.002	**0.976**	A52
1860.0	18700	LTE B2	20	23.70	23.25	0.090	1	10 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.720	1.109	0.798	
1860.0	18700	LTE B2	20	23.70	23.20	-0.080	1	10 mm [Bottom]	FCC #1	QPSK	100	0	1:1	0.652	1.122	0.732	
1880.0	18900	LTE B2	20	24.70	24.64	-0.100	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.943	1.014	0.956	
1900.0	19100	LTE B2	20	24.70	24.63	-0.120	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.938	1.016	0.953	
1860.0	18700	LTE B2	20	24.70	24.69	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.517	1.002	0.518	
1860.0	18700	LTE B2	20	23.70	23.25	-0.070	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.461	1.109	0.511	
1860.0	18700	LTE B2	20	24.70	24.69	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.633	1.002	0.634	
1860.0	18700	LTE B2	20	23.70	23.25	-0.030	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.555	1.109	0.615	
1860.0	18700	LTE B2	20	24.70	24.69	-0.140	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1	0.249	1.002	0.249	
1860.0	18700	LTE B2	20	23.70	23.25	-0.180	1	10 mm [Left]	FCC #1	QPSK	50	25	1:1	0.223	1.109	0.247	
1860.0	18700	LTE B2	20	24.70	24.69	-0.130	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.969	1.002	0.971	
2680.0	41490	LTE B41	20	25.20	25.11	0.120	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1.58	0.361	1.021	**0.369**	A53
2680.0	41490	LTE B41	20	24.20	24.19	0.140	1	10 mm [Bottom]	FCC #1	QPSK	50	25	1:1.58	0.243	1.002	0.243	
2680.0	41490	LTE B41	20	25.20	25.11	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1.58	0.191	1.021	0.195	
2680.0	41490	LTE B41	20	24.20	24.19	0.020	1	10 mm [Front]	FCC #1	QPSK	50	25	1:1.58	0.134	1.002	0.134	
2680.0	41490	LTE B41	20	25.20	25.11	-0.020	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1.58	0.254	1.021	0.259	
2680.0	41490	LTE B41	20	24.20	24.19	-0.050	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1.58	0.174	1.002	0.174	
2680.0	41490	LTE B41	20	25.20	25.11	0.030	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1.58	0.051	1.021	0.052	
2680.0	41490	LTE B41	20	24.20	24.19	-0.110	1	10 mm [Left]	FCC #1	QPSK	50	25	1:1.58	0.038	1.002	0.038	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure										**Body 1.6 W/kg (mW/g) averaged over 1 gram**							

Note: Yellow entries represent variability measurements.

Table 11.3.3 DTS Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	SAR (W/kg)	Plots #
MHz	Ch														
2412.0	1	802.11b (Ant.1)	16.50	15.88	0.160	10 mm [Top]	FCC #2	0.062	1	99.3	0.064	1.153	1.007	0.074	
2412.0	1	802.11b (Ant.1)	16.50	15.88	-0.170	10 mm [Front]	FCC #2	0.072	1	99.3	0.075	1.153	1.007	0.087	
2412.0	1	802.11b (Ant.1)	16.50	15.88	-0.150	10 mm [Rear]	FCC #2	0.075	1	99.3	0.078	1.153	1.007	0.091	
2412.0	1	802.11b (Ant.1)	16.50	15.88	-0.020	10 mm [Left]	FCC #2	0.142	1	99.3	0.149	1.153	1.007	**0.173**	A54
2462.0	11	802.11b (Ant.2)	16.50	15.46	0.000	10 mm [Top]	FCC #2	0.083	1	99.3	0.083	1.271	1.007	0.106	
2462.0	11	802.11b (Ant.2)	16.50	15.46	-0.060	10 mm [Front]	FCC #2	0.071	1	99.3	0.072	1.271	1.007	0.092	
2462.0	11	802.11b (Ant.2)	16.50	15.46	-0.040	10 mm [Rear]	FCC #2	0.100	1	99.3	0.101	1.271	1.007	**0.129**	A37
2462.0	11	802.11b (Ant.2)	16.50	15.46	0.090	10 mm [Left]	FCC #2	0.020	1	99.3	0.017	1.271	1.007	0.022	
2462.0	11	802.11g (MIMO)	19.00	18.31	0.150	10 mm [Top]	FCC #2	0.106	1	97.7	0.104	1.271	1.024	0.135	
2462.0	11	802.11g (MIMO)	19.00	18.31	0.070	10 mm [Front]	FCC #2	0.102	1	97.7	0.101	1.271	1.024	0.131	
2462.0	11	802.11g (MIMO)	19.00	18.31	-0.090	10 mm [Rear]	FCC #2	0.129	1	97.7	0.136	1.271	1.024	0.177	
2462.0	11	802.11g (MIMO)	19.00	18.31	0.050	10 mm [Left]	FCC #2	0.170	1	97.7	0.171	1.271	1.024	**0.222**	A55
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Adjusted SAR results for OFDM SAR											
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.173	2437	802.11g	OFDM	16.0	0.891	**0.154**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.173	2437	802.11n	OFDM	15.0	0.708	**0.122**	X
2412.0	1	802.11b (Ant.1)	DSSS	16.5	0.173	2437	802.11ac	OFDM	15.0	0.708	**0.122**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11g	OFDM	16.0	0.891	**0.115**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11n	OFDM	15.0	0.708	**0.091**	X
2462.0	11	802.11b (Ant.2)	DSSS	16.5	0.129	2437	802.11ac	OFDM	15.0	0.708	**0.091**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.222	2437	802.11n	OFDM	18.0	0.794	**0.176**	X
2462.0	11	802.11g (MIMO)	OFDM	19.0	0.222	2437	802.11ac	OFDM	18.0	0.794	**0.176**	X
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure						Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: SAR is not required for the following 2.4 GHz OFDM conditions. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Table 11.3.4 UNII Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5200.0	40	802.11a (Ant.1)	16.00	15.58	-0.050	10 mm [Top]	FCC #2	0.069	6	98.1	0.067	1.102	1.019	0.075	
5200.0	40	802.11a (Ant.1)	16.00	15.58	0.170	10 mm [Front]	FCC #2	0.041	6	98.1	0.038	1.102	1.019	0.043	
5200.0	40	802.11a (Ant.1)	16.00	15.58	0.180	10 mm [Rear]	FCC #2	0.241	6	98.1	0.259	1.102	1.019	**0.291**	A56
5200.0	40	802.11a (Ant.1)	16.00	15.58	0.040	10 mm [Left]	FCC #2	0.097	6	98.1	0.103	1.102	1.019	0.116	
5200.0	40	802.11a (Ant.2)	16.00	15.80	0.000	10 mm [Top]	FCC #2	0.011	6	98.1	0.007	1.047	1.019	0.007	
5200.0	40	802.11a (Ant.2)	16.00	15.80	-0.160	10 mm [Front]	FCC #2	0.040	6	98.1	0.036	1.047	1.019	0.038	
5200.0	40	802.11a (Ant.2)	16.00	15.80	0.160	10 mm [Rear]	FCC #2	0.225	6	98.1	0.242	1.047	1.019	**0.258**	A57
5200.0	40	802.11a (Ant.2)	16.00	15.80	-0.130	10 mm [Left]	FCC #2	0.036	6	98.1	0.026	1.047	1.019	0.028	
5200.0	40	802.11a (MIMO)	19.00	18.70	0.050	10 mm [Top]	FCC #2	0.078	6	98.1	0.076	1.102	1.019	0.085	
5200.0	40	802.11a (MIMO)	19.00	18.70	-0.050	10 mm [Front]	FCC #2	0.063	6	98.1	0.061	1.102	1.019	0.069	
5200.0	40	802.11a (MIMO)	19.00	18.70	-0.090	10 mm [Rear]	FCC #2	0.257	6	98.1	0.274	1.102	1.019	**0.308**	A58
5200.0	40	802.11a (MIMO)	19.00	18.70	0.060	10 mm [Left]	FCC #2	0.107	6	98.1	0.111	1.102	1.019	0.125	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11.3.5 UNII Hotspot SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5745.0	149	802.11a (Ant.1)	16.00	15.49	-0.110	10 mm [Top]	FCC #2	0.022	6	98.1	0.017	1.125	1.019	0.019	
5745.0	149	802.11a (Ant.1)	16.00	15.49	0.000	10 mm [Front]	FCC #2	0.003	6	98.1	0.003	1.125	1.019	0.003	
5745.0	149	802.11a (Ant.1)	16.00	15.49	0.030	10 mm [Rear]	FCC #2	0.067	6	98.1	0.053	1.125	1.019	**0.061**	A59
5745.0	149	802.11a (Ant.1)	16.00	15.49	0.010	10 mm [Left]	FCC #2	0.042	6	98.1	0.029	1.125	1.019	0.033	
5785.0	157	802.11a (Ant.2)	16.00	15.71	-0.010	10 mm [Top]	FCC #2	0.041	6	98.1	0.021	1.069	1.019	0.023	
5785.0	157	802.11a (Ant.2)	16.00	15.71	0.080	10 mm [Front]	FCC #2	0.036	6	98.1	0.021	1.069	1.019	0.023	
5785.0	157	802.11a (Ant.2)	16.00	15.71	0.040	10 mm [Rear]	FCC #2	0.059	6	98.1	0.043	1.069	1.019	**0.047**	A60
5785.0	157	802.11a (Ant.2)	16.00	15.71	0.060	10 mm [Left]	FCC #2	0.033	6	98.1	0.018	1.069	1.019	0.020	
5785.0	157	802.11a (MIMO)	19.00	18.56	0.060	10 mm [Top]	FCC #2	0.034	6	98.1	0.030	1.125	1.019	0.034	
5785.0	157	802.11a (MIMO)	19.00	18.56	-0.010	10 mm [Front]	FCC #2	0.037	6	98.1	0.024	1.125	1.019	0.028	
5785.0	157	802.11a (MIMO)	19.00	18.56	0.180	10 mm [Rear]	FCC #2	0.096	6	98.1	0.097	1.125	1.019	**0.111**	A61
5785.0	157	802.11a (MIMO)	19.00	18.56	-0.130	10 mm [Left]	FCC #2	0.053	6	98.1	0.037	1.125	1.019	0.042	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: UNII-3 Band CH 165(5825 MHz) is not support Hotspot mode as described on operational description, so other required CHs are tested.

Table 11.3.6 Bluetooth Hotspot SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
2441.0	39	Bluetooth	9.85	9.50	0.000	10 mm [Top]	FCC #2	1	76.8	0.010	1.084	1.302	0.014	
2441.0	39	Bluetooth	9.85	9.50	-0.090	10 mm [Front]	FCC #2	1	76.8	0.015	1.084	1.302	0.021	
2441.0	39	Bluetooth	9.85	9.50	-0.030	10 mm [Rear]	FCC #2	1	76.8	0.013	1.084	1.302	0.018	
2441.0	39	Bluetooth	9.85	9.50	0.000	10 mm [Left]	FCC #2	1	76.8	0.027	1.084	1.302	**0.038**	A62
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Body 1.6 W/kg (mW/g) averaged over 1 gram						

11.4 Standalone Phablet SAR Results

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

Table 11.4.1 UNII Phablet SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	10g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	10g Scaled SAR (W/kg)	Plots #
MHz	Ch															
5320.0	64	802.11a (Ant.1)	-	16.00	15.63	-0.170	0 mm [Top]	FCC #2	0.128	6	98.1	0.131	1.089	1.019	0.145	
5320.0	64	802.11a (Ant.1)	-	16.00	15.63	-0.130	0 mm [Front]	FCC #2	0.094	6	98.1	0.080	1.089	1.019	0.089	
5320.0	64	802.11a (Ant.1)	-	16.00	15.63	-0.180	0 mm [Rear]	FCC #2	0.528	6	98.1	0.618	1.089	1.019	**0.686**	A63
5320.0	64	802.11a (Ant.1)	-	16.00	15.63	-0.160	0 mm [Left]	FCC #2	0.232	6	98.1	0.266	1.089	1.019	0.295	
5280.0	56	802.11a (Ant.2)	-	16.00	15.78	0.030	0 mm [Top]	FCC #2	0.035	6	98.1	0.041	1.052	1.019	0.044	
5280.0	56	802.11a (Ant.2)	-	16.00	15.78	-0.090	0 mm [Front]	FCC #2	0.080	6	98.1	0.076	1.052	1.019	0.082	
5280.0	56	802.11a (Ant.2)	-	16.00	15.78	0.090	0 mm [Rear]	FCC #2	0.535	6	98.1	0.589	1.052	1.019	**0.632**	A64
5280.0	56	802.11a (Ant.2)	-	16.00	15.78	-0.190	0 mm [Left]	FCC #2	0.106	6	98.1	0.113	1.052	1.019	0.121	
5280.0	56	802.11a (MIMO)	-	19.00	18.66	-0.160	0 mm [Top]	FCC #2	0.131	6	98.1	0.140	1.089	1.019	0.155	
5280.0	56	802.11a (MIMO)	-	19.00	18.66	-0.170	0 mm [Front]	FCC #2	0.197	6	98.1	0.181	1.089	1.019	0.201	
5280.0	56	802.11a (MIMO)	-	19.00	18.66	-0.020	0 mm [Rear]	FCC #2	0.916	6	98.1	1.130	1.089	1.019	**1.254**	A65
5280.0	56	802.11a (MIMO)	-	19.00	18.66	-0.050	0 mm [Left]	FCC #2	0.299	6	98.1	0.316	1.089	1.019	0.351	
5280.0	56	802.11a (MIMO)	#1	19.00	18.66	0.000	0 mm [Rear]	FCC #2	0.999	6	98.1	1.100	1.089	1.019	1.221	
5280.0	56	802.11a (MIMO)	#2	19.00	18.66	-0.070	0 mm [Rear]	FCC #2	0.781	6	98.1	1.000	1.089	1.019	1.110	
5280.0	56	802.11a (MIMO)	#3	19.00	18.66	0.150	0 mm [Rear]	FCC #2	0.645	6	98.1	0.685	1.089	1.019	0.760	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure									Phablet 4.0 W/kg (mW/g) averaged over 10 gram							

Note(s):
1. Blue entries represent additional Phablet SAR Test Position (#1: DD angle: 0 degree) with the worst case position.
2. Green entries represent additional Phablet SAR Test Position (#2: DD angle: 180 degree) with the worst case position.
3. Orange entries represent additional Phablet SAR Test Position (#3: DD angle: 360 degree) with the worst case position.

Table 11.4.2 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)	Plots #
MHz	Ch														
5500.0	100	802.11a (Ant.1)	16.00	15.43	-0.120	0 mm [Top]	FCC #2	0.075	6	98.1	0.070	1.140	1.019	0.081	
5500.0	100	802.11a (Ant.1)	16.00	15.43	-0.190	0 mm [Front]	FCC #2	0.029	6	98.1	0.025	1.140	1.019	0.029	
5500.0	100	802.11a (Ant.1)	16.00	15.43	0.010	0 mm [Rear]	FCC #2	0.369	6	98.1	0.486	1.140	1.019	**0.565**	A66
5500.0	100	802.11a (Ant.1)	16.00	15.43	-0.020	0 mm [Left]	FCC #2	0.177	6	98.1	0.178	1.140	1.019	0.207	
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.190	0 mm [Top]	FCC #2	0.055	6	98.1	0.059	1.140	1.019	0.069	
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.140	0 mm [Front]	FCC #2	0.104	6	98.1	0.091	1.140	1.019	0.106	
5720.0	144	802.11a (Ant.2)	16.00	15.43	-0.040	0 mm [Rear]	FCC #2	0.175	6	98.1	0.192	1.140	1.019	**0.223**	A67
5720.0	144	802.11a (Ant.2)	16.00	15.43	0.040	0 mm [Left]	FCC #2	0.103	6	98.1	0.096	1.140	1.019	0.112	
5500.0	100	802.11a (MIMO)	19.00	18.43	0.030	0 mm [Top]	FCC #2	0.179	6	98.1	0.195	1.140	1.019	0.227	
5500.0	100	802.11a (MIMO)	19.00	18.43	-0.180	0 mm [Front]	FCC #2	0.330	6	98.1	0.338	1.140	1.019	0.393	
5500.0	100	802.11a (MIMO)	19.00	18.43	-0.040	0 mm [Rear]	FCC #2	0.779	6	98.1	0.921	1.140	1.019	**1.070**	A68
5500.0	100	802.11a (MIMO)	19.00	18.43	0.180	0 mm [Left]	FCC #2	0.321	6	98.1	0.312	1.140	1.019	0.362	
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							

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)	Plots #
MHz	Ch														
5825.0	165	802.11a (Ant.1)	16.00	15.49	-0.020	0 mm [Top]	FCC #2	0.033	6	98.1	0.022	1.125	1.019	0.025	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.070	0 mm [Front]	FCC #2	0.017	6	98.1	0.012	1.125	1.019	0.014	
5825.0	165	802.11a (Ant.1)	16.00	15.49	0.180	0 mm [Rear]	FCC #2	0.237	6	98.1	0.228	1.125	1.019	**0.261**	A69
5825.0	165	802.11a (Ant.1)	16.00	15.49	-0.040	0 mm [Left]	FCC #2	0.055	6	98.1	0.051	1.125	1.019	0.058	
5825.0	165	802.11a (Ant.2)	16.00	15.76	-0.170	0 mm [Top]	FCC #2	0.072	6	98.1	0.075	1.057	1.019	0.081	
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.150	0 mm [Front]	FCC #2	0.219	6	98.1	0.203	1.057	1.019	0.219	
5825.0	165	802.11a (Ant.2)	16.00	15.76	-0.170	0 mm [Rear]	FCC #2	0.279	6	98.1	0.245	1.057	1.019	**0.264**	A70
5825.0	165	802.11a (Ant.2)	16.00	15.76	0.020	0 mm [Left]	FCC #2	0.111	6	98.1	0.093	1.057	1.019	0.100	
5825.0	165	802.11a (MIMO)	19.00	18.64	-0.070	0 mm [Top]	FCC #2	0.068	6	98.1	0.066	1.125	1.019	0.076	
5825.0	165	802.11a (MIMO)	19.00	18.64	0.040	0 mm [Front]	FCC #2	0.126	6	98.1	0.137	1.125	1.019	0.157	
5825.0	165	802.11a (MIMO)	19.00	18.64	-0.010	0 mm [Rear]	FCC #2	0.402	6	98.1	0.473	1.125	1.019	**0.542**	A71
5825.0	165	802.11a (MIMO)	19.00	18.64	0.010	0 mm [Left]	FCC #2	0.134	6	98.1	0.130	1.125	1.019	0.149	
ANSI / IEEE C95.1-1992– SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure								Phablet 4.0 W/kg (mW/g) averaged over 10 gram							

Note: 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 October 2013 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 > ½ 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 > ½ 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 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.
6. 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).
7. 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 duo 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 a physical test configuration is $\leq$ 1.6 W/kg. The different test positon 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^	Yes	N/A	Yes	^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 5GHz Ant.2	Yes	Yes	N/A	Yes	
7	GSM Voice + BT 2.4 GHz Ant.1 + Wi-Fi 2.4 GHz Ant.2	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered.
8	GSM Voice + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered.
9	GSM Voice + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered.
10	WCDMA + Wi-Fi 2.4 GHz	Yes	Yes	Yes	Yes	
11	WCDMA + Wi-Fi 5 GHz	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
12	WCDMA + Bluetooth 2.4 GHz	Yes^	Yes	Yes	Yes	^Bluetooth Tethering is considered.
13	WCDMA + Wi-Fi 2.4 GHz MIMO	Yes	Yes	Yes	Yes	
14	WCDMA + Wi-Fi 5 GHz MIMO	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
15	WCMDA + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5GHz Ant.2	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
16	WCMDA + BT 2.4 GHz Ant.1 + Wi-Fi 2.4 GHz Ant.2	Yes^	Yes	Yes	Yes	^Bluetooth Tethering is considered.
17	WCMDA + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes^	Yes	Yes`	Yes	^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
18	WCMDA + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes^	Yes	Yes`	Yes	^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
19	LTE + Wi-Fi 2.4 GHz	Yes	Yes	Yes	Yes	
20	LTE + Wi-Fi 5 GHz	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
21	LTE + Bluetooth 2.4 GHz	Yes^	Yes	Yes	Yes	^Bluetooth Tethering is considered.
22	LTE + Wi-Fi 2.4 GHz MIMO	Yes	Yes	Yes	Yes	
23	LTE + Wi-Fi 5 GHz MIMO	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
24	LTE + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5GHz Ant.2	Yes	Yes	Yes`	Yes	` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
25	LTE + BT 2.4 GHz Ant.1 + Wi-Fi 2.4 GHz Ant.2	Yes^	Yes	Yes	Yes	^Bluetooth Tethering is considered.
26	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes^	Yes	Yes`	Yes	^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
27	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes^	Yes	Yes`	Yes	^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
28	GPRS/EDGE + Wi-Fi 2.4 GHz	Yes*	Yes*	Yes	Yes	*Pre-installed VOIP applications are considered.
29	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.
30	GPRS/EDGE + Bluetooth 2.4 GHz	Yes*^	Yes*	Yes	Yes	*Pre-installed VOIP applications are considered. ^Bluetooth Tethering is considered.
31	GPRS/EDGE + Wi-Fi 2.4 GHz MIMO	Yes*	Yes*	Yes	Yes	*Pre-installed VOIP applications are considered.
32	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.
33	GPRS/EDGE + Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5GHz Ant.2	Yes*	Yes*	Yes`	Yes	*Pre-installed VOIP applications are considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
34	GPRS/EDGE + BT 2.4 GHz Ant.1 + Wi-Fi 2.4 GHz Ant.2	Yes*^	Yes*	Yes	Yes	*Pre-installed VOIP applications are considered. ^Bluetooth Tethering is considered.
35	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes*^	Yes*	Yes`	Yes	*Pre-installed VOIP applications are considered. ^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
36	GPRS/EDGE + Bluetooth 2.4 GHz + Wi-Fi 5GHz MIMO	Yes*^	Yes*	Yes`	Yes	*Pre-installed VOIP applications are considered. ^Bluetooth Tethering is considered. ` Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission.
37	Wi-Fi 2.4 GHz Ant.1 + Wi-Fi 5GHz Ant.2	Yes	Yes	N/A	Yes	
38	Bluetooth 2.4GHz Ant.1 + Wi-Fi 2.4GHz Ant.2	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered.
39	Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered.
40	Bluetooth 2.4GHz + Wi-Fi 5GHz MIMO	Yes^	Yes	N/A	Yes	^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. GSM, WCDMA and LTE can not transmit simultaneously since they share the same chip.
6. WiFi direct and Hotspot cannot transmit simultaneously.
7. VoWiFi and VoLTE are supported.
8. 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.
9. Per the manufacturer, WIFI Direct is expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Simultaneous transmission scenarios involving WIFI direct are included in the above table.

12.4 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.098	0.061	0.208	0.171	0.269
		Right Touch	0.096	0.389	0.219	0.485	0.315	**0.704**
		Left Tilt	0.051	0.118	0.045	0.169	0.096	0.214
		Right Tilt	0.058	0.317	0.157	0.375	0.215	0.532
	GPRS 850	Left Touch	0.157	0.098	0.061	0.255	0.218	0.316
		Right Touch	0.125	0.389	0.219	0.514	0.344	**0.733**
		Left Tilt	0.058	0.118	0.045	0.176	0.103	0.221
		Right Tilt	0.069	0.317	0.157	0.386	0.226	0.543
	GSM 1900	Left Touch	0.034	0.098	0.061	0.132	0.095	0.193
		Right Touch	0.044	0.389	0.219	0.433	0.263	**0.652**
		Left Tilt	0.030	0.118	0.045	0.148	0.075	0.193
		Right Tilt	0.019	0.317	0.157	0.336	0.176	0.493
	GPRS 1900	Left Touch	0.042	0.098	0.061	0.140	0.103	0.201
		Right Touch	0.063	0.389	0.219	0.452	0.282	**0.671**
		Left Tilt	0.040	0.118	0.045	0.158	0.085	0.203
		Right Tilt	0.025	0.317	0.157	0.342	0.182	0.499
	WCDMA 850	Left Touch	0.162	0.098	0.061	0.260	0.223	0.321
		Right Touch	0.149	0.389	0.219	0.538	0.368	**0.757**
		Left Tilt	0.075	0.118	0.045	0.193	0.120	0.238
		Right Tilt	0.100	0.317	0.157	0.417	0.257	0.574
	WCDMA 1900	Left Touch	0.078	0.098	0.061	0.176	0.139	0.237
		Right Touch	0.109	0.389	0.219	0.498	0.328	**0.717**
		Left Tilt	0.075	0.118	0.045	0.193	0.120	0.238
		Right Tilt	0.047	0.317	0.157	0.364	0.204	0.521
	LTE Band 12	Left Touch	0.143	0.098	0.061	0.241	0.204	0.302
		Right Touch	0.120	0.389	0.219	0.509	0.339	**0.728**
		Left Tilt	0.039	0.118	0.045	0.157	0.084	0.202
		Right Tilt	0.062	0.317	0.157	0.379	0.219	0.536
	LTE Band 5	Left Touch	0.178	0.098	0.061	0.276	0.239	0.337
		Right Touch	0.149	0.389	0.219	0.538	0.368	**0.757**
		Left Tilt	0.073	0.118	0.045	0.191	0.118	0.236
		Right Tilt	0.097	0.317	0.157	0.414	0.254	0.571
	LTE Band 4	Left Touch	0.065	0.098	0.061	0.163	0.126	0.224
		Right Touch	0.106	0.389	0.219	0.495	0.325	0.714
		Left Tilt	0.059	0.118	0.045	0.177	0.104	0.222
		Right Tilt	0.056	0.317	0.157	0.373	0.213	0.530
	LTE Band 2	Left Touch	0.066	0.098	0.061	0.164	0.127	0.225
		Right Touch	0.090	0.389	0.219	0.479	0.309	**0.698**
		Left Tilt	0.054	0.118	0.045	0.172	0.099	0.217
		Right Tilt	0.043	0.317	0.157	0.360	0.200	0.517
	LTE Band 41	Left Touch	0.040	0.098	0.061	0.138	0.101	0.199
		Right Touch	0.038	0.389	0.219	0.427	0.257	**0.646**
		Left Tilt	0.012	0.118	0.045	0.130	0.057	0.175
		Right Tilt	0.021	0.317	0.157	0.338	0.178	0.495

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.098	0.173	0.208	0.283	0.381
		Right Touch	0.096	0.389	0.275	0.485	0.371	**0.760**
		Left Tilt	0.051	0.118	0.170	0.169	0.221	0.339
		Right Tilt	0.058	0.317	0.238	0.375	0.296	0.613
	GPRS 850	Left Touch	0.157	0.098	0.173	0.255	0.330	0.428
		Right Touch	0.125	0.389	0.275	0.514	0.400	**0.789**
		Left Tilt	0.058	0.118	0.170	0.176	0.228	0.346
		Right Tilt	0.069	0.317	0.238	0.386	0.307	0.624
	GSM 1900	Left Touch	0.034	0.098	0.173	0.132	0.207	0.305
		Right Touch	0.044	0.389	0.275	0.433	0.319	**0.708**
		Left Tilt	0.030	0.118	0.170	0.148	0.200	0.318
		Right Tilt	0.019	0.317	0.238	0.336	0.257	0.574
	GPRS 1900	Left Touch	0.042	0.098	0.173	0.140	0.215	0.313
		Right Touch	0.063	0.389	0.275	0.452	0.338	**0.727**
		Left Tilt	0.040	0.118	0.170	0.158	0.210	0.328
		Right Tilt	0.025	0.317	0.238	0.342	0.263	0.580
	WCDMA 850	Left Touch	0.162	0.098	0.173	0.260	0.335	0.433
		Right Touch	**0.149**	**0.389**	**0.275**	**0.538**	**0.424**	0.813
		Left Tilt	0.075	0.118	0.170	0.193	0.245	0.363
		Right Tilt	0.100	0.317	0.238	0.417	0.338	0.655
	WCDMA 1900	Left Touch	0.078	0.098	0.173	0.176	0.251	0.349
		Right Touch	0.109	0.389	0.275	0.498	0.384	**0.773**
		Left Tilt	0.075	0.118	0.170	0.193	0.245	0.363
		Right Tilt	0.047	0.317	0.238	0.364	0.285	0.602
	LTE Band 12	Left Touch	0.143	0.098	0.173	0.241	0.316	0.414
		Right Touch	0.120	0.389	0.275	0.509	0.395	**0.784**
		Left Tilt	0.039	0.118	0.170	0.157	0.209	0.327
		Right Tilt	0.062	0.317	0.238	0.379	0.300	0.617
	LTE Band 5	Left Touch	0.178	0.098	0.173	0.276	0.351	0.449
		Right Touch	**0.149**	**0.389**	**0.275**	**0.538**	**0.424**	0.813
		Left Tilt	0.073	0.118	0.170	0.191	0.243	0.361
		Right Tilt	0.097	0.317	0.238	0.414	0.335	0.652
	LTE Band 4	Left Touch	0.065	0.098	0.173	0.163	0.238	0.336
		Right Touch	0.106	0.389	0.275	0.495	0.381	**0.770**
		Left Tilt	0.059	0.118	0.170	0.177	0.229	0.347
		Right Tilt	0.056	0.317	0.238	0.373	0.294	0.611
	LTE Band 2	Left Touch	0.066	0.098	0.173	0.164	0.239	0.337
		Right Touch	0.090	0.389	0.275	0.479	0.365	**0.754**
		Left Tilt	0.054	0.118	0.170	0.172	0.224	0.342
		Right Tilt	0.043	0.317	0.238	0.360	0.281	0.598
	LTE Band 41	Left Touch	0.040	0.098	0.173	0.138	0.213	0.311
		Right Touch	0.038	0.389	0.275	0.427	0.313	**0.702**
		Left Tilt	0.012	0.118	0.170	0.130	0.182	0.300
		Right Tilt	0.021	0.317	0.238	0.338	0.259	0.576

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.098	0.233	0.208	0.343	0.441
		Right Touch	0.096	0.389	0.265	0.485	0.361	**0.750**
		Left Tilt	0.051	0.118	0.228	0.169	0.279	0.397
		Right Tilt	0.058	0.317	0.267	0.375	0.325	0.642
	GPRS 850	Left Touch	0.157	0.098	0.233	0.255	0.390	0.488
		Right Touch	0.125	0.389	0.265	0.514	0.390	**0.779**
		Left Tilt	0.058	0.118	0.228	0.176	0.286	0.404
		Right Tilt	0.069	0.317	0.267	0.386	0.336	0.653
	GSM 1900	Left Touch	0.034	0.098	0.233	0.132	0.267	0.365
		Right Touch	0.044	0.389	0.265	0.433	0.309	**0.698**
		Left Tilt	0.030	0.118	0.228	0.148	0.258	0.376
		Right Tilt	0.019	0.317	0.267	0.336	0.286	0.603
	GPRS 1900	Left Touch	0.042	0.098	0.233	0.140	0.275	0.373
		Right Touch	0.063	0.389	0.265	0.452	0.328	**0.717**
		Left Tilt	0.040	0.118	0.228	0.158	0.268	0.386
		Right Tilt	0.025	0.317	0.267	0.342	0.292	0.609
	WCDMA 850	Left Touch	0.162	0.098	0.233	0.260	0.395	0.493
		Right Touch	0.149	0.389	0.265	0.538	0.414	**0.803**
		Left Tilt	0.075	0.118	0.228	0.193	0.303	0.421
		Right Tilt	0.100	0.317	0.267	0.417	0.367	0.684
	WCDMA 1900	Left Touch	0.078	0.098	0.233	0.176	0.311	0.409
		Right Touch	0.109	0.389	0.265	0.498	0.374	**0.763**
		Left Tilt	0.075	0.118	0.228	0.193	0.303	0.421
		Right Tilt	0.047	0.317	0.267	0.364	0.314	0.631
	LTE Band 12	Left Touch	0.143	0.098	0.233	0.241	0.376	0.474
		Right Touch	0.120	0.389	0.265	0.509	0.385	**0.774**
		Left Tilt	0.039	0.118	0.228	0.157	0.267	0.385
		Right Tilt	0.062	0.317	0.267	0.379	0.329	0.646
	LTE Band 5	Left Touch	0.178	0.098	0.233	0.276	0.411	0.509
		Right Touch	0.149	0.389	0.265	0.538	0.414	**0.803**
		Left Tilt	0.073	0.118	0.228	0.191	0.301	0.419
		Right Tilt	0.097	0.317	0.267	0.414	0.364	0.681
	LTE Band 4	Left Touch	0.065	0.098	0.233	0.163	0.298	0.396
		Right Touch	0.106	0.389	0.265	0.495	0.371	**0.760**
		Left Tilt	0.059	0.118	0.228	0.177	0.287	0.405
		Right Tilt	0.056	0.317	0.267	0.373	0.323	0.640
	LTE Band 2	Left Touch	0.066	0.098	0.233	0.164	0.299	0.397
		Right Touch	0.090	0.389	0.265	0.479	0.355	**0.744**
		Left Tilt	0.054	0.118	0.228	0.172	0.282	0.400
		Right Tilt	0.043	0.317	0.267	0.360	0.310	0.627
	LTE Band 41	Left Touch	0.040	0.098	0.233	0.138	0.273	0.371
		Right Touch	0.038	0.389	0.265	0.427	0.303	**0.692**
		Left Tilt	0.012	0.118	0.228	0.130	0.240	0.358
		Right Tilt	0.021	0.317	0.267	0.338	0.288	0.605

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.089	0.131	0.199	0.220
		Right Touch	0.096	0.080	0.228	0.176	0.324	**0.404**
		Left Tilt	0.051	0.024	0.107	0.075	0.158	0.182
		Right Tilt	0.058	0.065	0.203	0.123	0.261	0.326
	GPRS 850	Left Touch	0.157	0.021	0.089	0.178	0.246	0.267
		Right Touch	0.125	0.080	0.228	0.205	0.353	**0.433**
		Left Tilt	0.058	0.024	0.107	0.082	0.165	0.189
		Right Tilt	0.069	0.065	0.203	0.134	0.272	0.337
	GSM 1900	Left Touch	0.034	0.021	0.089	0.055	0.123	0.144
		Right Touch	0.044	0.080	0.228	0.124	0.272	**0.352**
		Left Tilt	0.030	0.024	0.107	0.054	0.137	0.161
		Right Tilt	0.019	0.065	0.203	0.084	0.222	0.267
	GPRS 1900	Left Touch	0.042	0.021	0.089	0.063	0.131	0.152
		Right Touch	0.063	0.080	0.228	0.143	0.291	**0.371**
		Left Tilt	0.040	0.024	0.107	0.064	0.147	0.171
		Right Tilt	0.025	0.065	0.203	0.090	0.228	0.293
	WCDMA 850	Left Touch	0.162	0.021	0.089	0.183	0.251	0.272
		Right Touch	0.149	0.080	0.228	0.229	0.377	**0.457**
		Left Tilt	0.075	0.024	0.107	0.099	0.182	0.206
		Right Tilt	0.100	0.065	0.203	0.165	0.303	0.368
	WCDMA 1900	Left Touch	0.078	0.021	0.089	0.099	0.167	0.188
		Right Touch	0.109	0.080	0.228	0.189	0.337	**0.417**
		Left Tilt	0.075	0.024	0.107	0.099	0.182	0.206
		Right Tilt	0.047	0.065	0.203	0.112	0.250	0.315
	LTE Band 12	Left Touch	0.143	0.021	0.089	0.164	0.232	0.253
		Right Touch	0.120	0.080	0.228	0.200	0.348	**0.428**
		Left Tilt	0.039	0.024	0.107	0.063	0.146	0.170
		Right Tilt	0.062	0.065	0.203	0.127	0.265	0.330
	LTE Band 5	Left Touch	0.178	0.021	0.089	0.199	0.267	0.288
		Right Touch	0.149	0.080	0.228	0.229	0.377	**0.457**
		Left Tilt	0.073	0.024	0.107	0.097	0.180	0.204
		Right Tilt	0.097	0.065	0.203	0.162	0.300	0.365
	LTE Band 4	Left Touch	0.065	0.021	0.089	0.086	0.154	0.175
		Right Touch	0.106	0.080	0.228	0.186	0.334	**0.414**
		Left Tilt	0.059	0.024	0.107	0.083	0.166	0.190
		Right Tilt	0.056	0.065	0.203	0.121	0.259	0.324
	LTE Band 2	Left Touch	0.066	0.021	0.089	0.087	0.155	0.176
		Right Touch	0.090	0.080	0.228	0.170	0.318	**0.398**
		Left Tilt	0.054	0.024	0.107	0.078	0.161	0.185
		Right Tilt	0.043	0.065	0.203	0.108	0.246	0.311
	LTE Band 41	Left Touch	0.040	0.021	0.089	0.061	0.129	0.150
		Right Touch	0.038	0.080	0.228	0.118	0.266	**0.346**
		Left Tilt	0.012	0.024	0.107	0.036	0.119	0.143
		Right Tilt	0.021	0.065	0.203	0.086	0.224	0.289

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.061	0.131	0.171	0.192
		Right Touch	0.096	0.080	0.219	0.176	0.315	**0.395**
		Left Tilt	0.051	0.024	0.045	0.075	0.096	0.120
		Right Tilt	0.058	0.065	0.157	0.123	0.215	0.280
	GPRS 850	Left Touch	0.157	0.021	0.061	0.178	0.218	0.239
		Right Touch	0.125	0.080	0.219	0.205	0.344	**0.424**
		Left Tilt	0.058	0.024	0.045	0.082	0.103	0.127
		Right Tilt	0.069	0.065	0.157	0.134	0.226	0.291
	GSM 1900	Left Touch	0.034	0.021	0.061	0.055	0.095	0.116
		Right Touch	0.044	0.080	0.219	0.124	0.263	**0.343**
		Left Tilt	0.030	0.024	0.045	0.054	0.075	0.099
		Right Tilt	0.019	0.065	0.157	0.084	0.176	0.241
	GPRS 1900	Left Touch	0.042	0.021	0.061	0.063	0.103	0.124
		Right Touch	0.063	0.080	0.219	0.143	0.282	**0.362**
		Left Tilt	0.040	0.024	0.045	0.064	0.085	0.109
		Right Tilt	0.025	0.065	0.157	0.090	0.182	0.247
	WCDMA 850	Left Touch	0.162	0.021	0.061	0.183	0.223	0.244
		Right Touch	0.149	0.080	0.219	0.229	0.368	**0.448**
		Left Tilt	0.075	0.024	0.045	0.099	0.120	0.144
		Right Tilt	0.100	0.065	0.157	0.165	0.257	0.322
	WCDMA 1900	Left Touch	0.078	0.021	0.061	0.099	0.139	0.160
		Right Touch	0.109	0.080	0.219	0.189	0.328	**0.408**
		Left Tilt	0.075	0.024	0.045	0.099	0.120	0.144
		Right Tilt	0.047	0.065	0.157	0.112	0.204	0.269
	LTE Band 12	Left Touch	0.143	0.021	0.061	0.164	0.204	0.225
		Right Touch	0.120	0.080	0.219	0.200	0.339	**0.419**
		Left Tilt	0.039	0.024	0.045	0.063	0.084	0.108
		Right Tilt	0.062	0.065	0.157	0.127	0.219	0.284
	LTE Band 5	Left Touch	0.178	0.021	0.061	0.199	0.239	0.260
		Right Touch	0.149	0.080	0.219	0.229	0.368	**0.448**
		Left Tilt	0.073	0.024	0.045	0.097	0.118	0.142
		Right Tilt	0.097	0.065	0.157	0.162	0.254	0.319
	LTE Band 4	Left Touch	0.065	0.021	0.061	0.086	0.126	0.147
		Right Touch	0.106	0.080	0.219	0.186	0.325	**0.405**
		Left Tilt	0.059	0.024	0.045	0.083	0.104	0.128
		Right Tilt	0.056	0.065	0.157	0.121	0.213	0.278
	LTE Band 2	Left Touch	0.066	0.021	0.061	0.087	0.127	0.148
		Right Touch	0.090	0.080	0.219	0.170	0.309	**0.389**
		Left Tilt	0.054	0.024	0.045	0.078	0.099	0.123
		Right Tilt	0.043	0.065	0.157	0.108	0.200	0.265
	LTE Band 41	Left Touch	0.040	0.021	0.061	0.061	0.101	0.122
		Right Touch	0.038	0.080	0.219	0.118	0.257	**0.337**
		Left Tilt	0.012	0.024	0.045	0.036	0.057	0.081
		Right Tilt	0.021	0.065	0.157	0.086	0.178	0.243

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.120	0.131	0.230	0.251
		Right Touch	0.096	0.080	0.458	0.176	0.554	**0.634**
		Left Tilt	0.051	0.024	0.127	0.075	0.178	0.202
		Right Tilt	0.058	0.065	0.289	0.123	0.347	0.412
	GPRS 850	Left Touch	0.157	0.021	0.120	0.178	0.277	0.298
		Right Touch	0.125	0.080	0.458	0.205	0.583	**0.663**
		Left Tilt	0.058	0.024	0.127	0.082	0.185	0.209
		Right Tilt	0.069	0.065	0.289	0.134	0.358	0.423
	GSM 1900	Left Touch	0.034	0.021	0.120	0.055	0.154	0.175
		Right Touch	0.044	0.080	0.458	0.124	0.502	**0.582**
		Left Tilt	0.030	0.024	0.127	0.054	0.157	0.181
		Right Tilt	0.019	0.065	0.289	0.084	0.308	0.373
	GPRS 1900	Left Touch	0.042	0.021	0.120	0.063	0.162	0.183
		Right Touch	0.063	0.080	0.458	0.143	0.521	**0.601**
		Left Tilt	0.040	0.024	0.127	0.064	0.167	0.191
		Right Tilt	0.025	0.065	0.289	0.090	0.314	0.379
	WCDMA 850	Left Touch	0.162	0.021	0.120	0.183	0.282	0.303
		Right Touch	0.149	0.080	0.458	0.229	0.607	**0.687**
		Left Tilt	0.075	0.024	0.127	0.099	0.202	0.226
		Right Tilt	0.100	0.065	0.289	0.165	0.389	0.454
	WCDMA 1900	Left Touch	0.078	0.021	0.120	0.099	0.198	0.219
		Right Touch	0.109	0.080	0.458	0.189	0.567	**0.647**
		Left Tilt	0.075	0.024	0.127	0.099	0.202	0.226
		Right Tilt	0.047	0.065	0.289	0.112	0.336	0.401
	LTE Band 12	Left Touch	0.143	0.021	0.120	0.164	0.263	0.284
		Right Touch	0.120	0.080	0.458	0.200	0.578	**0.658**
		Left Tilt	0.039	0.024	0.127	0.063	0.166	0.190
		Right Tilt	0.062	0.065	0.289	0.127	0.351	0.416
	LTE Band 5	Left Touch	0.178	0.021	0.120	0.199	0.298	0.319
		Right Touch	0.149	0.080	0.458	0.229	0.607	**0.687**
		Left Tilt	0.073	0.024	0.127	0.097	0.200	0.224
		Right Tilt	0.097	0.065	0.289	0.162	0.386	0.451
	LTE Band 4	Left Touch	0.065	0.021	0.120	0.086	0.185	0.206
		Right Touch	0.106	0.080	0.458	0.186	0.564	**0.644**
		Left Tilt	0.059	0.024	0.127	0.083	0.186	0.210
		Right Tilt	0.056	0.065	0.289	0.121	0.345	0.410
	LTE Band 2	Left Touch	0.066	0.021	0.120	0.087	0.186	0.207
		Right Touch	0.090	0.080	0.458	0.170	0.548	**0.628**
		Left Tilt	0.054	0.024	0.127	0.078	0.181	0.205
		Right Tilt	0.043	0.065	0.289	0.108	0.332	0.397
	LTE Band 41	Left Touch	0.040	0.021	0.120	0.061	0.160	0.181
		Right Touch	0.038	0.080	0.458	0.118	0.496	**0.576**
		Left Tilt	0.012	0.024	0.127	0.036	0.139	0.163
		Right Tilt	0.021	0.065	0.289	0.086	0.310	0.375

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.6G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.096	0.131	0.206	0.227
		Right Touch	0.096	0.080	0.127	0.176	0.223	**0.303**
		Left Tilt	0.051	0.024	0.077	0.075	0.128	0.152
		Right Tilt	0.058	0.065	0.124	0.123	0.182	0.247
	GPRS 850	Left Touch	0.157	0.021	0.096	0.178	0.253	0.274
		Right Touch	0.125	0.080	0.127	0.205	0.252	**0.332**
		Left Tilt	0.058	0.024	0.077	0.082	0.135	0.159
		Right Tilt	0.069	0.065	0.124	0.134	0.193	0.258
	GSM 1900	Left Touch	0.034	0.021	0.096	0.055	0.130	0.151
		Right Touch	0.044	0.080	0.127	0.124	0.171	**0.251**
		Left Tilt	0.030	0.024	0.077	0.054	0.107	0.131
		Right Tilt	0.019	0.065	0.124	0.084	0.143	0.208
	GPRS 1900	Left Touch	0.042	0.021	0.096	0.063	0.138	0.159
		Right Touch	0.063	0.080	0.127	0.143	0.190	**0.270**
		Left Tilt	0.040	0.024	0.077	0.064	0.117	0.141
		Right Tilt	0.025	0.065	0.124	0.090	0.149	0.214
	WCDMA 850	Left Touch	0.162	0.021	0.096	0.183	0.258	0.279
		Right Touch	0.149	0.080	0.127	0.229	0.276	**0.356**
		Left Tilt	0.075	0.024	0.077	0.099	0.152	0.176
		Right Tilt	0.100	0.065	0.124	0.165	0.224	0.289
	WCDMA 1900	Left Touch	0.078	0.021	0.096	0.099	0.174	0.195
		Right Touch	0.109	0.080	0.127	0.189	0.236	**0.316**
		Left Tilt	0.075	0.024	0.077	0.099	0.152	0.176
		Right Tilt	0.047	0.065	0.124	0.112	0.171	0.236
	LTE Band 12	Left Touch	0.143	0.021	0.096	0.164	0.239	0.260
		Right Touch	0.120	0.080	0.127	0.200	0.247	**0.327**
		Left Tilt	0.039	0.024	0.077	0.063	0.116	0.140
		Right Tilt	0.062	0.065	0.124	0.127	0.186	0.251
	LTE Band 5	Left Touch	0.178	0.021	0.096	0.199	0.274	0.295
		Right Touch	0.149	0.080	0.127	0.229	0.276	**0.356**
		Left Tilt	0.073	0.024	0.077	0.097	0.150	0.174
		Right Tilt	0.097	0.065	0.124	0.162	0.221	0.286
	LTE Band 4	Left Touch	0.065	0.021	0.096	0.086	0.161	0.182
		Right Touch	0.106	0.080	0.127	0.186	0.233	**0.313**
		Left Tilt	0.059	0.024	0.077	0.083	0.136	0.160
		Right Tilt	0.056	0.065	0.124	0.121	0.180	0.245
	LTE Band 2	Left Touch	0.066	0.021	0.096	0.087	0.162	0.183
		Right Touch	0.090	0.080	0.127	0.170	0.217	**0.297**
		Left Tilt	0.054	0.024	0.077	0.078	0.131	0.155
		Right Tilt	0.043	0.065	0.124	0.108	0.167	0.232
	LTE Band 41	Left Touch	0.040	0.021	0.096	0.061	0.136	0.157
		Right Touch	0.038	0.080	0.127	0.118	0.165	**0.245**
		Left Tilt	0.012	0.024	0.077	0.036	0.089	0.113
		Right Tilt	0.021	0.065	0.124	0.086	0.145	0.210

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.173	0.131	0.283	0.304
		Right Touch	0.096	0.080	0.275	0.176	0.371	**0.451**
		Left Tilt	0.051	0.024	0.170	0.075	0.221	0.245
		Right Tilt	0.058	0.065	0.238	0.123	0.296	0.361
	GPRS 850	Left Touch	0.157	0.021	0.173	0.178	0.330	0.351
		Right Touch	0.125	0.080	0.275	0.205	0.400	**0.480**
		Left Tilt	0.058	0.024	0.170	0.082	0.228	0.252
		Right Tilt	0.069	0.065	0.238	0.134	0.307	0.372
	GSM 1900	Left Touch	0.034	0.021	0.173	0.055	0.207	0.228
		Right Touch	0.044	0.080	0.275	0.124	0.319	**0.399**
		Left Tilt	0.030	0.024	0.170	0.054	0.200	0.224
		Right Tilt	0.019	0.065	0.238	0.084	0.257	0.322
	GPRS 1900	Left Touch	0.042	0.021	0.173	0.063	0.215	0.236
		Right Touch	0.063	0.080	0.275	0.143	0.338	**0.418**
		Left Tilt	0.040	0.024	0.170	0.064	0.210	0.234
		Right Tilt	0.025	0.065	0.238	0.090	0.263	0.328
	WCDMA 850	Left Touch	0.162	0.021	0.173	0.183	0.335	0.356
		Right Touch	0.149	0.080	0.275	0.229	0.424	**0.504**
		Left Tilt	0.075	0.024	0.170	0.099	0.245	0.269
		Right Tilt	0.100	0.065	0.238	0.165	0.338	0.403
	WCDMA 1900	Left Touch	0.078	0.021	0.173	0.099	0.251	0.272
		Right Touch	0.109	0.080	0.275	0.189	0.384	**0.464**
		Left Tilt	0.075	0.024	0.170	0.099	0.245	0.269
		Right Tilt	0.047	0.065	0.238	0.112	0.285	0.350
	LTE Band 12	Left Touch	0.143	0.021	0.173	0.164	0.316	0.337
		Right Touch	0.120	0.080	0.275	0.200	0.395	**0.475**
		Left Tilt	0.039	0.024	0.170	0.063	0.209	0.233
		Right Tilt	0.062	0.065	0.238	0.127	0.300	0.365
	LTE Band 5	Left Touch	0.178	0.021	0.173	0.199	0.351	0.372
		Right Touch	0.149	0.080	0.275	0.229	0.424	**0.504**
		Left Tilt	0.073	0.024	0.170	0.097	0.243	0.267
		Right Tilt	0.097	0.065	0.238	0.162	0.335	0.400
	LTE Band 4	Left Touch	0.065	0.021	0.173	0.086	0.259	0.238
		Right Touch	0.106	0.080	0.275	0.186	0.381	**0.461**
		Left Tilt	0.059	0.024	0.170	0.083	0.229	0.253
		Right Tilt	0.056	0.065	0.238	0.121	0.294	0.359
	LTE Band 2	Left Touch	0.066	0.021	0.173	0.087	0.239	0.260
		Right Touch	0.090	0.080	0.275	0.170	0.365	**0.445**
		Left Tilt	0.054	0.024	0.170	0.078	0.224	0.248
		Right Tilt	0.043	0.065	0.238	0.108	0.281	0.346
	LTE Band 41	Left Touch	0.040	0.021	0.173	0.061	0.213	0.234
		Right Touch	0.038	0.080	0.275	0.118	0.313	**0.393**
		Left Tilt	0.012	0.024	0.170	0.036	0.182	0.206
		Right Tilt	0.021	0.065	0.238	0.086	0.259	0.324

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.6G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.187	0.131	0.297	0.318
		Right Touch	0.096	0.080	0.581	0.176	0.677	**0.757**
		Left Tilt	0.051	0.024	0.162	0.075	0.213	0.237
		Right Tilt	0.058	0.065	0.401	0.123	0.459	0.524
	GPRS 850	Left Touch	0.157	0.021	0.187	0.178	0.344	0.365
		Right Touch	0.125	0.080	0.581	0.205	0.706	**0.786**
		Left Tilt	0.058	0.024	0.162	0.082	0.220	0.244
		Right Tilt	0.069	0.065	0.401	0.134	0.470	0.535
	GSM 1900	Left Touch	0.034	0.021	0.187	0.055	0.221	0.242
		Right Touch	0.044	0.080	0.581	0.124	0.625	**0.705**
		Left Tilt	0.030	0.024	0.162	0.054	0.192	0.216
		Right Tilt	0.019	0.065	0.401	0.084	0.420	0.485
	GPRS 1900	Left Touch	0.042	0.021	0.187	0.063	0.229	0.250
		Right Touch	0.063	0.080	0.581	0.143	0.644	**0.724**
		Left Tilt	0.040	0.024	0.162	0.064	0.202	0.226
		Right Tilt	0.025	0.065	0.401	0.090	0.426	0.491
	WCDMA 850	Left Touch	0.162	0.021	0.187	0.183	0.349	0.370
		Right Touch	0.149	0.080	0.581	0.229	0.730	**0.810**
		Left Tilt	0.075	0.024	0.162	0.099	0.237	0.261
		Right Tilt	0.100	0.065	0.401	0.165	0.501	0.566
	WCDMA 1900	Left Touch	0.078	0.021	0.187	0.099	0.265	0.286
		Right Touch	0.109	0.080	0.581	0.189	0.690	**0.770**
		Left Tilt	0.075	0.024	0.162	0.099	0.237	0.261
		Right Tilt	0.047	0.065	0.401	0.112	0.448	0.513
	LTE Band 12	Left Touch	0.143	0.021	0.187	0.164	0.330	0.351
		Right Touch	0.120	0.080	0.581	0.200	0.701	**0.781**
		Left Tilt	0.039	0.024	0.162	0.063	0.201	0.225
		Right Tilt	0.062	0.065	0.401	0.127	0.463	0.528
	LTE Band 5	Left Touch	0.178	0.021	0.187	0.199	0.365	0.386
		Right Touch	0.149	0.080	0.581	0.229	0.730	**0.810**
		Left Tilt	0.073	0.024	0.162	0.097	0.235	0.259
		Right Tilt	0.097	0.065	0.401	0.162	0.498	0.563
	LTE Band 4	Left Touch	0.065	0.021	0.187	0.086	0.252	0.273
		Right Touch	0.106	0.080	0.581	0.186	0.687	**0.767**
		Left Tilt	0.059	0.024	0.162	0.083	0.221	0.245
		Right Tilt	0.056	0.065	0.401	0.121	0.457	0.522
	LTE Band 2	Left Touch	0.066	0.021	0.187	0.087	0.253	0.274
		Right Touch	0.090	0.080	0.581	0.170	0.671	**0.751**
		Left Tilt	0.054	0.024	0.162	0.078	0.216	0.240
		Right Tilt	0.043	0.065	0.401	0.108	0.444	0.509
	LTE Band 41	Left Touch	0.040	0.021	0.187	0.061	0.227	0.248
		Right Touch	0.038	0.080	0.581	0.118	0.619	**0.699**
		Left Tilt	0.012	0.024	0.162	0.036	0.174	0.198
		Right Tilt	0.021	0.065	0.401	0.086	0.422	0.487

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.028	0.131	0.138	0.159
		Right Touch	0.096	0.080	0.039	0.176	0.135	**0.215**
		Left Tilt	0.051	0.024	0.040	0.075	0.091	0.115
		Right Tilt	0.058	0.065	0.041	0.123	0.099	0.164
	GPRS 850	Left Touch	0.157	0.021	0.028	0.178	0.185	0.206
		Right Touch	0.125	0.080	0.039	0.205	0.164	**0.244**
		Left Tilt	0.058	0.024	0.040	0.082	0.098	0.122
		Right Tilt	0.069	0.065	0.041	0.134	0.110	0.175
	GSM 1900	Left Touch	0.034	0.021	0.028	0.055	0.062	0.083
		Right Touch	0.044	0.080	0.039	0.124	0.083	**0.163**
		Left Tilt	0.030	0.024	0.040	0.054	0.070	0.094
		Right Tilt	0.019	0.065	0.041	0.084	0.060	0.125
	GPRS 1900	Left Touch	0.042	0.021	0.028	0.063	0.070	0.091
		Right Touch	0.063	0.080	0.039	0.143	0.102	**0.182**
		Left Tilt	0.040	0.024	0.040	0.064	0.080	0.104
		Right Tilt	0.025	0.065	0.041	0.090	0.066	0.131
	WCDMA 850	Left Touch	0.162	0.021	0.028	0.183	0.190	0.211
		Right Touch	0.149	0.080	0.039	0.229	0.188	**0.268**
		Left Tilt	0.075	0.024	0.040	0.099	0.115	0.139
		Right Tilt	0.100	0.065	0.041	0.165	0.141	0.206
	WCDMA 1900	Left Touch	0.078	0.021	0.028	0.099	0.106	0.127
		Right Touch	0.109	0.080	0.039	0.189	0.148	**0.228**
		Left Tilt	0.075	0.024	0.040	0.099	0.115	0.139
		Right Tilt	0.047	0.065	0.041	0.112	0.088	0.153
	LTE Band 12	Left Touch	0.143	0.021	0.028	0.164	0.171	0.192
		Right Touch	0.120	0.080	0.039	0.200	0.159	**0.239**
		Left Tilt	0.039	0.024	0.040	0.063	0.079	0.103
		Right Tilt	0.062	0.065	0.041	0.127	0.103	0.168
	LTE Band 5	Left Touch	0.178	0.021	0.028	0.199	0.206	0.227
		Right Touch	0.149	0.080	0.039	0.229	0.188	**0.268**
		Left Tilt	0.073	0.024	0.040	0.097	0.113	0.137
		Right Tilt	0.097	0.065	0.041	0.162	0.138	0.203
	LTE Band 4	Left Touch	0.065	0.021	0.028	0.086	0.093	0.114
		Right Touch	0.106	0.080	0.039	0.186	0.145	**0.225**
		Left Tilt	0.059	0.024	0.040	0.083	0.099	0.123
		Right Tilt	0.056	0.065	0.041	0.121	0.097	0.162
	LTE Band 2	Left Touch	0.066	0.021	0.028	0.087	0.094	0.115
		Right Touch	0.090	0.080	0.039	0.170	0.129	**0.209**
		Left Tilt	0.054	0.024	0.040	0.078	0.094	0.118
		Right Tilt	0.043	0.065	0.041	0.108	0.084	0.149
	LTE Band 41	Left Touch	0.040	0.021	0.028	0.061	0.068	0.089
		Right Touch	0.038	0.080	0.039	0.118	0.077	**0.157**
		Left Tilt	0.012	0.024	0.040	0.036	0.052	0.076
		Right Tilt	0.021	0.065	0.041	0.086	0.062	0.127

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.233	0.131	0.343	0.364
		Right Touch	0.096	0.080	0.265	0.176	0.361	**0.441**
		Left Tilt	0.051	0.024	0.228	0.075	0.279	0.303
		Right Tilt	0.058	0.065	0.267	0.123	0.325	0.390
	GPRS 850	Left Touch	0.157	0.021	0.233	0.178	0.390	0.411
		Right Touch	0.125	0.080	0.265	0.205	0.390	**0.470**
		Left Tilt	0.058	0.024	0.228	0.082	0.286	0.310
		Right Tilt	0.069	0.065	0.267	0.134	0.336	0.401
	GSM 1900	Left Touch	0.034	0.021	0.233	0.055	0.267	0.288
		Right Touch	0.044	0.080	0.265	0.124	0.309	**0.389**
		Left Tilt	0.030	0.024	0.228	0.054	0.258	0.282
		Right Tilt	0.019	0.065	0.267	0.084	0.286	0.351
	GPRS 1900	Left Touch	0.042	0.021	0.233	0.063	0.275	0.296
		Right Touch	0.063	0.080	0.265	0.143	0.328	**0.408**
		Left Tilt	0.040	0.024	0.228	0.064	0.268	0.292
		Right Tilt	0.025	0.065	0.267	0.090	0.292	0.357
	WCDMA 850	Left Touch	0.162	0.021	0.233	0.183	0.395	0.416
		Right Touch	0.149	0.080	0.265	0.229	0.414	**0.494**
		Left Tilt	0.075	0.024	0.228	0.099	0.303	0.327
		Right Tilt	0.100	0.065	0.267	0.165	0.367	0.432
	WCDMA 1900	Left Touch	0.078	0.021	0.233	0.099	0.311	0.332
		Right Touch	0.109	0.080	0.265	0.189	0.374	**0.454**
		Left Tilt	0.075	0.024	0.228	0.099	0.303	0.327
		Right Tilt	0.047	0.065	0.267	0.112	0.314	0.379
	LTE Band 12	Left Touch	0.143	0.021	0.233	0.164	0.376	0.397
		Right Touch	0.120	0.080	0.265	0.200	0.385	**0.465**
		Left Tilt	0.039	0.024	0.228	0.063	0.267	0.291
		Right Tilt	0.062	0.065	0.267	0.127	0.329	0.394
	LTE Band 5	Left Touch	0.178	0.021	0.233	0.199	0.411	0.432
		Right Touch	0.149	0.080	0.265	0.229	0.414	**0.494**
		Left Tilt	0.073	0.024	0.228	0.097	0.301	0.325
		Right Tilt	0.097	0.065	0.267	0.162	0.364	0.429
	LTE Band 4	Left Touch	0.065	0.021	0.233	0.086	0.298	0.319
		Right Touch	0.106	0.080	0.265	0.186	0.371	**0.451**
		Left Tilt	0.059	0.024	0.228	0.083	0.287	0.311
		Right Tilt	0.056	0.065	0.267	0.121	0.323	0.388
	LTE Band 2	Left Touch	0.066	0.021	0.233	0.087	0.299	0.320
		Right Touch	0.090	0.080	0.265	0.170	0.355	**0.435**
		Left Tilt	0.054	0.024	0.228	0.078	0.282	0.306
		Right Tilt	0.043	0.065	0.267	0.108	0.310	0.375
	LTE Band 41	Left Touch	0.040	0.021	0.233	0.061	0.273	0.294
		Right Touch	0.038	0.080	0.265	0.118	0.303	**0.383**
		Left Tilt	0.012	0.024	0.228	0.036	0.240	0.264
		Right Tilt	0.021	0.065	0.267	0.086	0.288	0.353

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.271	0.131	0.381	0.402
		Right Touch	0.096	0.080	0.360	0.176	0.456	**0.536**
		Left Tilt	0.051	0.024	0.259	0.075	0.310	0.334
		Right Tilt	0.058	0.065	0.343	0.123	0.401	0.466
	GPRS 850	Left Touch	0.157	0.021	0.271	0.178	0.428	0.449
		Right Touch	0.125	0.080	0.360	0.205	0.485	**0.565**
		Left Tilt	0.058	0.024	0.259	0.082	0.317	0.341
		Right Tilt	0.069	0.065	0.343	0.134	0.412	0.477
	GSM 1900	Left Touch	0.034	0.021	0.271	0.055	0.305	0.326
		Right Touch	0.044	0.080	0.360	0.124	0.404	**0.484**
		Left Tilt	0.030	0.024	0.259	0.054	0.289	0.313
		Right Tilt	0.019	0.065	0.343	0.084	0.362	0.427
	GPRS 1900	Left Touch	0.042	0.021	0.271	0.063	0.313	0.334
		Right Touch	0.063	0.080	0.360	0.143	0.423	**0.503**
		Left Tilt	0.040	0.024	0.259	0.064	0.299	0.323
		Right Tilt	0.025	0.065	0.343	0.090	0.368	0.433
	WCDMA 850	Left Touch	0.162	0.021	0.271	0.183	0.433	0.454
		Right Touch	0.149	0.080	0.360	0.229	0.509	**0.589**
		Left Tilt	0.075	0.024	0.259	0.099	0.334	0.358
		Right Tilt	0.100	0.065	0.343	0.165	0.443	0.508
	WCDMA 1900	Left Touch	0.078	0.021	0.271	0.099	0.349	0.370
		Right Touch	0.109	0.080	0.360	0.189	0.469	**0.549**
		Left Tilt	0.075	0.024	0.259	0.099	0.334	0.358
		Right Tilt	0.047	0.065	0.343	0.112	0.390	0.455
	LTE Band 12	Left Touch	0.143	0.021	0.271	0.164	0.414	0.435
		Right Touch	0.120	0.080	0.360	0.200	0.480	**0.560**
		Left Tilt	0.039	0.024	0.259	0.063	0.298	0.322
		Right Tilt	0.062	0.065	0.343	0.127	0.405	0.470
	LTE Band 5	Left Touch	0.178	0.021	0.271	0.199	0.449	0.470
		Right Touch	0.149	0.080	0.360	0.229	0.509	**0.589**
		Left Tilt	0.073	0.024	0.259	0.097	0.332	0.356
		Right Tilt	0.097	0.065	0.343	0.162	0.440	0.505
	LTE Band 4	Left Touch	0.065	0.021	0.271	0.086	0.336	0.357
		Right Touch	0.106	0.080	0.360	0.186	0.466	**0.546**
		Left Tilt	0.059	0.024	0.259	0.083	0.318	0.342
		Right Tilt	0.056	0.065	0.343	0.121	0.399	0.464
	LTE Band 2	Left Touch	0.066	0.021	0.271	0.087	0.337	0.358
		Right Touch	0.090	0.080	0.360	0.170	0.450	**0.530**
		Left Tilt	0.054	0.024	0.259	0.078	0.313	0.337
		Right Tilt	0.043	0.065	0.343	0.108	0.386	0.451
	LTE Band 41	Left Touch	0.040	0.021	0.271	0.061	0.311	0.332
		Right Touch	0.038	0.080	0.360	0.118	0.398	**0.478**
		Left Tilt	0.012	0.024	0.259	0.036	0.271	0.295
		Right Tilt	0.021	0.065	0.343	0.086	0.364	0.429

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	Left Touch	0.110	0.021	0.307	0.131	0.417	0.438
		Right Touch	0.096	0.080	0.492	0.176	0.588	**0.668**
		Left Tilt	0.051	0.024	0.353	0.075	0.404	0.428
		Right Tilt	0.058	0.065	0.412	0.123	0.470	0.535
	GPRS 850	Left Touch	0.157	0.021	0.307	0.178	0.464	0.485
		Right Touch	0.125	0.080	0.492	0.205	0.617	**0.697**
		Left Tilt	0.058	0.024	0.353	0.082	0.411	0.435
		Right Tilt	0.069	0.065	0.412	0.134	0.481	0.546
	GSM 1900	Left Touch	0.034	0.021	0.307	0.055	0.341	0.362
		Right Touch	0.044	0.080	0.492	0.124	0.536	**0.616**
		Left Tilt	0.030	0.024	0.353	0.054	0.383	0.407
		Right Tilt	0.019	0.065	0.412	0.084	0.431	0.496
	GPRS 1900	Left Touch	0.042	0.021	0.307	0.063	0.349	0.370
		Right Touch	0.063	0.080	0.492	0.143	0.555	**0.635**
		Left Tilt	0.040	0.024	0.353	0.064	0.393	0.417
		Right Tilt	0.025	0.065	0.412	0.090	0.437	0.502
	WCDMA 850	Left Touch	0.162	0.021	0.307	0.183	0.469	0.490
		Right Touch	0.149	0.080	0.492	0.229	0.641	**0.721**
		Left Tilt	0.075	0.024	0.353	0.099	0.428	0.452
		Right Tilt	0.100	0.065	0.412	0.165	0.512	0.577
	WCDMA 1900	Left Touch	0.078	0.021	0.307	0.099	0.385	0.406
		Right Touch	0.109	0.080	0.492	0.189	0.601	**0.681**
		Left Tilt	0.075	0.024	0.353	0.099	0.428	0.452
		Right Tilt	0.047	0.065	0.412	0.112	0.459	0.524
	LTE Band 12	Left Touch	0.143	0.021	0.307	0.164	0.450	0.471
		Right Touch	0.120	0.080	0.492	0.200	0.612	**0.692**
		Left Tilt	0.039	0.024	0.353	0.063	0.392	0.416
		Right Tilt	0.062	0.065	0.412	0.127	0.474	0.539
	LTE Band 5	Left Touch	0.178	0.021	0.307	0.199	0.485	0.506
		Right Touch	0.149	0.080	0.492	0.229	0.641	**0.721**
		Left Tilt	0.073	0.024	0.353	0.097	0.426	0.450
		Right Tilt	0.097	0.065	0.412	0.162	0.509	0.574
	LTE Band 4	Left Touch	0.065	0.021	0.307	0.086	0.372	0.393
		Right Touch	0.106	0.080	0.492	0.186	0.598	**0.678**
		Left Tilt	0.059	0.024	0.353	0.083	0.412	0.436
		Right Tilt	0.056	0.065	0.412	0.121	0.468	0.533
	LTE Band 2	Left Touch	0.066	0.021	0.307	0.087	0.373	0.394
		Right Touch	0.090	0.080	0.492	0.170	0.582	**0.662**
		Left Tilt	0.054	0.024	0.353	0.078	0.407	0.431
		Right Tilt	0.043	0.065	0.412	0.108	0.455	0.520
	LTE Band 41	Left Touch	0.040	0.021	0.307	0.061	0.347	0.368
		Right Touch	0.038	0.080	0.492	0.118	0.530	**0.610**
		Left Tilt	0.012	0.024	0.353	0.036	0.365	0.389
		Right Tilt	0.021	0.065	0.412	0.086	0.433	0.498

Table 12.4.14 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	0.110	0.098	0.208
		Right Touch	0.096	0.389	**0.485**
		Left Tilt	0.051	0.118	0.169
		Right Tilt	0.058	0.317	0.375
	GPRS 850	Left Touch	0.157	0.098	0.255
		Right Touch	0.125	0.389	**0.514**
		Left Tilt	0.058	0.118	0.176
		Right Tilt	0.069	0.317	0.386
	GSM 1900	Left Touch	0.034	0.098	0.132
		Right Touch	0.044	0.389	**0.433**
		Left Tilt	0.030	0.118	0.148
		Right Tilt	0.019	0.317	0.336
	GPRS 1900	Left Touch	0.042	0.098	0.140
		Right Touch	0.063	0.389	**0.452**
		Left Tilt	0.040	0.118	0.158
		Right Tilt	0.025	0.317	0.342
	WCDMA 850	Left Touch	0.162	0.098	0.260
		Right Touch	0.149	0.389	**0.538**
		Left Tilt	0.075	0.118	0.193
		Right Tilt	0.100	0.317	0.417
	WCDMA 1900	Left Touch	0.078	0.098	0.176
		Right Touch	0.109	0.389	**0.498**
		Left Tilt	0.075	0.118	0.193
		Right Tilt	0.047	0.317	0.364
	LTE Band 12	Left Touch	0.143	0.098	0.241
		Right Touch	0.120	0.389	**0.509**
		Left Tilt	0.039	0.118	0.157
		Right Tilt	0.062	0.317	0.379
	LTE Band 5	Left Touch	0.178	0.098	0.276
		Right Touch	0.149	0.389	**0.538**
		Left Tilt	0.073	0.118	0.191
		Right Tilt	0.097	0.317	0.414
	LTE Band 4	Left Touch	0.065	0.098	0.163
		Right Touch	0.106	0.389	**0.495**
		Left Tilt	0.059	0.118	0.177
		Right Tilt	0.056	0.317	0.373
	LTE Band 2	Left Touch	0.066	0.098	0.164
		Right Touch	0.090	0.389	**0.479**
		Left Tilt	0.054	0.118	0.172
		Right Tilt	0.043	0.317	0.360
	LTE Band 41	Left Touch	0.040	0.098	0.138
		Right Touch	0.038	0.389	**0.427**
		Left Tilt	0.012	0.118	0.130
		Right Tilt	0.021	0.317	0.338

Table 12.4.15 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	0.110	0.307	0.417
		Right Touch	0.096	0.492	**0.588**
		Left Tilt	0.051	0.353	0.404
		Right Tilt	0.058	0.412	0.470
	GPRS 850	Left Touch	0.157	0.307	0.464
		Right Touch	0.125	0.492	**0.617**
		Left Tilt	0.058	0.353	0.411
		Right Tilt	0.069	0.412	0.481
	GSM 1900	Left Touch	0.034	0.307	0.341
		Right Touch	0.044	0.492	**0.536**
		Left Tilt	0.030	0.353	0.383
		Right Tilt	0.019	0.412	0.431
	GPRS 1900	Left Touch	0.042	0.307	0.349
		Right Touch	0.063	0.492	**0.555**
		Left Tilt	0.040	0.353	0.393
		Right Tilt	0.025	0.412	0.437
	WCDMA 850	Left Touch	0.162	0.307	0.469
		Right Touch	0.149	0.492	**0.641**
		Left Tilt	0.075	0.353	0.428
		Right Tilt	0.100	0.412	0.512
	WCDMA 1900	Left Touch	0.078	0.307	0.385
		Right Touch	0.109	0.492	**0.601**
		Left Tilt	0.075	0.353	0.428
		Right Tilt	0.047	0.412	0.459
	LTE Band 12	Left Touch	0.143	0.307	0.450
		Right Touch	0.120	0.492	**0.612**
		Left Tilt	0.039	0.353	0.392
		Right Tilt	0.062	0.412	0.474
	LTE Band 5	Left Touch	0.178	0.307	0.485
		Right Touch	0.149	0.492	**0.641**
		Left Tilt	0.073	0.353	0.426
		Right Tilt	0.097	0.412	0.509
	LTE Band 4	Left Touch	0.065	0.307	0.372
		Right Touch	0.106	0.492	**0.598**
		Left Tilt	0.059	0.353	0.412
		Right Tilt	0.056	0.412	0.468
	LTE Band 2	Left Touch	0.066	0.307	0.373
		Right Touch	0.090	0.492	**0.582**
		Left Tilt	0.054	0.353	0.407
		Right Tilt	0.043	0.412	0.455
	LTE Band 41	Left Touch	0.040	0.307	0.347
		Right Touch	0.038	0.492	**0.530**
		Left Tilt	0.012	0.353	0.365
		Right Tilt	0.021	0.412	0.433

Table 12.4.16 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	0.110	0.320	0.430
		Right Touch	0.096	0.671	**0.767**
		Left Tilt	0.051	0.347	0.398
		Right Tilt	0.058	0.575	0.633
	GPRS 850	Left Touch	0.157	0.320	0.477
		Right Touch	0.125	0.671	**0.796**
		Left Tilt	0.058	0.347	0.405
		Right Tilt	0.069	0.575	0.644
	GSM 1900	Left Touch	0.034	0.320	0.354
		Right Touch	0.044	0.671	**0.715**
		Left Tilt	0.030	0.347	0.377
		Right Tilt	0.019	0.575	0.594
	GPRS 1900	Left Touch	0.042	0.320	0.362
		Right Touch	0.063	0.671	**0.734**
		Left Tilt	0.040	0.347	0.387
		Right Tilt	0.025	0.575	0.600
	WCDMA 850	Left Touch	0.162	0.320	0.482
		Right Touch	0.149	0.671	**0.820**
		Left Tilt	0.075	0.347	0.422
		Right Tilt	0.100	0.575	0.675
	WCDMA 1900	Left Touch	0.078	0.320	0.398
		Right Touch	0.109	0.671	**0.780**
		Left Tilt	0.075	0.347	0.422
		Right Tilt	0.047	0.575	0.622
	LTE Band 12	Left Touch	0.143	0.320	0.463
		Right Touch	0.120	0.671	**0.791**
		Left Tilt	0.039	0.347	0.386
		Right Tilt	0.062	0.575	0.637
	LTE Band 5	Left Touch	0.178	0.320	0.498
		Right Touch	0.149	0.671	**0.820**
		Left Tilt	0.073	0.347	0.420
		Right Tilt	0.097	0.575	0.672
	LTE Band 4	Left Touch	0.065	0.320	0.385
		Right Touch	0.106	0.671	**0.777**
		Left Tilt	0.059	0.347	0.406
		Right Tilt	0.056	0.575	0.631
	LTE Band 2	Left Touch	0.066	0.320	0.386
		Right Touch	0.090	0.671	**0.761**
		Left Tilt	0.054	0.347	0.401
		Right Tilt	0.043	0.575	0.618
	LTE Band 41	Left Touch	0.040	0.320	0.360
		Right Touch	0.038	0.671	**0.709**
		Left Tilt	0.012	0.347	0.359
		Right Tilt	0.021	0.575	0.596

Table 12.4.17 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	0.110	0.089	0.199
		Right Touch	0.096	0.228	**0.324**
		Left Tilt	0.051	0.107	0.158
		Right Tilt	0.058	0.203	0.261
	GPRS 850	Left Touch	0.157	0.089	0.246
		Right Touch	0.125	0.228	**0.353**
		Left Tilt	0.058	0.107	0.165
		Right Tilt	0.069	0.203	0.272
	GSM 1900	Left Touch	0.034	0.089	0.123
		Right Touch	0.044	0.228	**0.272**
		Left Tilt	0.030	0.107	0.137
		Right Tilt	0.019	0.203	0.222
	GPRS 1900	Left Touch	0.042	0.089	0.131
		Right Touch	0.063	0.228	**0.291**
		Left Tilt	0.040	0.107	0.147
		Right Tilt	0.025	0.203	0.228
	WCDMA 850	Left Touch	0.162	0.089	0.251
		Right Touch	0.149	0.228	**0.377**
		Left Tilt	0.075	0.107	0.182
		Right Tilt	0.100	0.203	0.303
	WCDMA 1900	Left Touch	0.078	0.089	0.167
		Right Touch	0.109	0.228	**0.337**
		Left Tilt	0.075	0.107	0.182
		Right Tilt	0.047	0.203	0.250
	LTE Band 12	Left Touch	0.143	0.089	0.232
		Right Touch	0.120	0.228	**0.348**
		Left Tilt	0.039	0.107	0.146
		Right Tilt	0.062	0.203	0.265
	LTE Band 5	Left Touch	0.178	0.089	0.267
		Right Touch	0.149	0.228	**0.377**
		Left Tilt	0.073	0.107	0.180
		Right Tilt	0.097	0.203	0.300
	LTE Band 4	Left Touch	0.065	0.089	0.154
		Right Touch	0.106	0.228	**0.334**
		Left Tilt	0.059	0.107	0.166
		Right Tilt	0.056	0.203	0.259
	LTE Band 2	Left Touch	0.066	0.089	0.155
		Right Touch	0.090	0.228	**0.318**
		Left Tilt	0.054	0.107	0.161
		Right Tilt	0.043	0.203	0.246
	LTE Band 41	Left Touch	0.040	0.089	0.129
		Right Touch	0.038	0.228	**0.266**
		Left Tilt	0.012	0.107	0.119
		Right Tilt	0.021	0.203	0.224

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.110	0.061	0.171
		Right Touch	0.096	0.219	**0.315**
		Left Tilt	0.051	0.045	0.096
		Right Tilt	0.058	0.157	0.215
	GPRS 850	Left Touch	0.157	0.061	0.218
		Right Touch	0.125	0.219	**0.344**
		Left Tilt	0.058	0.045	0.103
		Right Tilt	0.069	0.157	0.226
	GSM 1900	Left Touch	0.034	0.061	0.095
		Right Touch	0.044	0.219	**0.263**
		Left Tilt	0.030	0.045	0.075
		Right Tilt	0.019	0.157	0.176
	GPRS 1900	Left Touch	0.042	0.061	0.103
		Right Touch	0.063	0.219	**0.282**
		Left Tilt	0.040	0.045	0.085
		Right Tilt	0.025	0.157	0.182
	WCDMA 850	Left Touch	0.162	0.061	0.223
		Right Touch	0.149	0.219	**0.368**
		Left Tilt	0.075	0.045	0.120
		Right Tilt	0.100	0.157	0.257
	WCDMA 1900	Left Touch	0.078	0.061	0.139
		Right Touch	0.109	0.219	**0.328**
		Left Tilt	0.075	0.045	0.120
		Right Tilt	0.047	0.157	0.204
	LTE Band 12	Left Touch	0.143	0.061	0.204
		Right Touch	0.120	0.219	**0.339**
		Left Tilt	0.039	0.045	0.084
		Right Tilt	0.062	0.157	0.219
	LTE Band 5	Left Touch	0.178	0.061	0.239
		Right Touch	0.149	0.219	**0.368**
		Left Tilt	0.073	0.045	0.118
		Right Tilt	0.097	0.157	0.254
	LTE Band 4	Left Touch	0.065	0.061	0.126
		Right Touch	0.106	0.219	**0.325**
		Left Tilt	0.059	0.045	0.104
		Right Tilt	0.056	0.157	0.213
	LTE Band 2	Left Touch	0.066	0.061	0.127
		Right Touch	0.090	0.219	**0.309**
		Left Tilt	0.054	0.045	0.099
		Right Tilt	0.043	0.157	0.200
	LTE Band 41	Left Touch	0.040	0.061	0.101
		Right Touch	0.038	0.219	**0.257**
		Left Tilt	0.012	0.045	0.057
		Right Tilt	0.021	0.157	0.178

Table 12.4.19 Simultaneous Transmission Scenario: 2G/3G/4G + 5.3 GHz W-LAN MIMO (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	GSM 850	Left Touch	0.110	0.120	0.230
		Right Touch	0.096	0.458	**0.554**
		Left Tilt	0.051	0.127	0.178
		Right Tilt	0.058	0.289	0.347
	GPRS 850	Left Touch	0.157	0.120	0.277
		Right Touch	0.125	0.458	**0.583**
		Left Tilt	0.058	0.127	0.185
		Right Tilt	0.069	0.289	0.358
	GSM 1900	Left Touch	0.034	0.120	0.154
		Right Touch	0.044	0.458	**0.502**
		Left Tilt	0.030	0.127	0.157
		Right Tilt	0.019	0.289	0.308
	GPRS 1900	Left Touch	0.042	0.120	0.162
		Right Touch	0.063	0.458	**0.521**
		Left Tilt	0.040	0.127	0.167
		Right Tilt	0.025	0.289	0.314
	WCDMA 850	Left Touch	0.162	0.120	0.282
		Right Touch	0.149	0.458	**0.607**
		Left Tilt	0.075	0.127	0.202
		Right Tilt	0.100	0.289	0.389
	WCDMA 1900	Left Touch	0.078	0.120	0.198
		Right Touch	0.109	0.458	**0.567**
		Left Tilt	0.075	0.127	0.202
		Right Tilt	0.047	0.289	0.336
	LTE Band 12	Left Touch	0.143	0.120	0.263
		Right Touch	0.120	0.458	**0.578**
		Left Tilt	0.039	0.127	0.166
		Right Tilt	0.062	0.289	0.351
	LTE Band 5	Left Touch	0.178	0.120	0.298
		Right Touch	0.149	0.458	**0.607**
		Left Tilt	0.073	0.127	0.200
		Right Tilt	0.097	0.289	0.386
	LTE Band 4	Left Touch	0.065	0.120	0.185
		Right Touch	0.106	0.458	**0.564**
		Left Tilt	0.059	0.127	0.186
		Right Tilt	0.056	0.289	0.345
	LTE Band 2	Left Touch	0.066	0.120	0.186
		Right Touch	0.090	0.458	**0.548**
		Left Tilt	0.054	0.127	0.181
		Right Tilt	0.043	0.289	0.332
	LTE Band 41	Left Touch	0.040	0.120	0.160
		Right Touch	0.038	0.458	**0.496**
		Left Tilt	0.012	0.127	0.139
		Right Tilt	0.021	0.289	0.310

Table 12.4.20 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	0.110	0.096	0.206
		Right Touch	0.096	0.127	**0.223**
		Left Tilt	0.051	0.077	0.128
		Right Tilt	0.058	0.124	0.182
	GPRS 850	Left Touch	0.157	0.096	**0.253**
		Right Touch	0.125	0.127	0.252
		Left Tilt	0.058	0.077	0.135
		Right Tilt	0.069	0.124	0.193
	GSM 1900	Left Touch	0.034	0.096	0.130
		Right Touch	0.044	0.127	**0.171**
		Left Tilt	0.030	0.077	0.107
		Right Tilt	0.019	0.124	0.143
	GPRS 1900	Left Touch	0.042	0.096	0.138
		Right Touch	0.063	0.127	**0.190**
		Left Tilt	0.040	0.077	0.117
		Right Tilt	0.025	0.124	0.149
	WCDMA 850	Left Touch	0.162	0.096	0.258
		Right Touch	0.149	0.127	**0.276**
		Left Tilt	0.075	0.077	0.152
		Right Tilt	0.100	0.124	0.224
	WCDMA 1900	Left Touch	0.078	0.096	0.174
		Right Touch	0.109	0.127	**0.236**
		Left Tilt	0.075	0.077	0.152
		Right Tilt	0.047	0.124	0.171
	LTE Band 12	Left Touch	0.143	0.096	0.239
		Right Touch	0.120	0.127	**0.247**
		Left Tilt	0.039	0.077	0.116
		Right Tilt	0.062	0.124	0.186
	LTE Band 5	Left Touch	0.178	0.096	0.274
		Right Touch	0.149	0.127	**0.276**
		Left Tilt	0.073	0.077	0.150
		Right Tilt	0.097	0.124	0.221
	LTE Band 4	Left Touch	0.065	0.096	0.161
		Right Touch	0.106	0.127	**0.233**
		Left Tilt	0.059	0.077	0.136
		Right Tilt	0.056	0.124	0.180
	LTE Band 2	Left Touch	0.066	0.096	0.162
		Right Touch	0.090	0.127	**0.217**
		Left Tilt	0.054	0.077	0.131
		Right Tilt	0.043	0.124	0.167
	LTE Band 41	Left Touch	0.040	0.096	0.136
		Right Touch	0.038	0.127	**0.165**
		Left Tilt	0.012	0.077	0.089
		Right Tilt	0.021	0.124	0.145

Table 12.4.21 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	0.110	0.173	0.283
		Right Touch	0.096	0.275	**0.371**
		Left Tilt	0.051	0.170	0.221
		Right Tilt	0.058	0.238	0.296
	GPRS 850	Left Touch	0.157	0.173	0.330
		Right Touch	0.125	0.275	**0.400**
		Left Tilt	0.058	0.170	0.228
		Right Tilt	0.069	0.238	0.307
	GSM 1900	Left Touch	0.034	0.173	0.207
		Right Touch	0.044	0.275	**0.319**
		Left Tilt	0.030	0.170	0.200
		Right Tilt	0.019	0.238	0.257
	GPRS 1900	Left Touch	0.042	0.173	0.215
		Right Touch	0.063	0.275	**0.338**
		Left Tilt	0.040	0.170	0.210
		Right Tilt	0.025	0.238	0.263
	WCDMA 850	Left Touch	0.162	0.173	0.335
		Right Touch	0.149	0.275	**0.424**
		Left Tilt	0.075	0.170	0.245
		Right Tilt	0.100	0.238	0.338
	WCDMA 1900	Left Touch	0.078	0.173	0.251
		Right Touch	0.109	0.275	**0.384**
		Left Tilt	0.075	0.170	0.245
		Right Tilt	0.047	0.238	0.285
	LTE Band 12	Left Touch	0.143	0.173	0.316
		Right Touch	0.120	0.275	**0.395**
		Left Tilt	0.039	0.170	0.209
		Right Tilt	0.062	0.238	0.300
	LTE Band 5	Left Touch	0.178	0.173	0.351
		Right Touch	0.149	0.275	**0.424**
		Left Tilt	0.073	0.170	0.243
		Right Tilt	0.097	0.238	0.335
	LTE Band 4	Left Touch	0.065	0.173	0.238
		Right Touch	0.106	0.275	**0.381**
		Left Tilt	0.059	0.170	0.229
		Right Tilt	0.056	0.238	0.294
	LTE Band 2	Left Touch	0.066	0.173	0.239
		Right Touch	0.090	0.275	**0.365**
		Left Tilt	0.054	0.170	0.224
		Right Tilt	0.043	0.238	0.281
	LTE Band 41	Left Touch	0.040	0.173	0.213
		Right Touch	0.038	0.275	**0.313**
		Left Tilt	0.012	0.170	0.182
		Right Tilt	0.021	0.238	0.259

Table 12.4.22 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	0.110	0.187	0.297
		Right Touch	0.096	0.581	**0.677**
		Left Tilt	0.051	0.162	0.213
		Right Tilt	0.058	0.401	0.459
	GPRS 850	Left Touch	0.157	0.187	0.344
		Right Touch	0.125	0.581	**0.706**
		Left Tilt	0.058	0.162	0.220
		Right Tilt	0.069	0.401	0.470
	GSM 1900	Left Touch	0.034	0.187	0.221
		Right Touch	0.044	0.581	**0.625**
		Left Tilt	0.030	0.162	0.192
		Right Tilt	0.019	0.401	0.420
	GPRS 1900	Left Touch	0.042	0.187	0.229
		Right Touch	0.063	0.581	**0.644**
		Left Tilt	0.040	0.162	0.202
		Right Tilt	0.025	0.401	0.426
	WCDMA 850	Left Touch	0.162	0.187	0.349
		Right Touch	0.149	0.581	**0.730**
		Left Tilt	0.075	0.162	0.237
		Right Tilt	0.100	0.401	0.501
	WCDMA 1900	Left Touch	0.078	0.187	0.265
		Right Touch	0.109	0.581	**0.690**
		Left Tilt	0.075	0.162	0.237
		Right Tilt	0.047	0.401	0.448
	LTE Band 12	Left Touch	0.143	0.187	0.330
		Right Touch	0.120	0.581	**0.701**
		Left Tilt	0.039	0.162	0.201
		Right Tilt	0.062	0.401	0.463
	LTE Band 5	Left Touch	0.178	0.187	0.365
		Right Touch	0.149	0.581	**0.730**
		Left Tilt	0.073	0.162	0.235
		Right Tilt	0.097	0.401	0.498
	LTE Band 4	Left Touch	0.065	0.187	0.252
		Right Touch	0.106	0.581	**0.687**
		Left Tilt	0.059	0.162	0.221
		Right Tilt	0.056	0.401	0.457
	LTE Band 2	Left Touch	0.066	0.187	0.253
		Right Touch	0.090	0.581	**0.671**
		Left Tilt	0.054	0.162	0.216
		Right Tilt	0.043	0.401	0.444
	LTE Band 41	Left Touch	0.040	0.187	0.227
		Right Touch	0.038	0.581	**0.619**
		Left Tilt	0.012	0.162	0.174
		Right Tilt	0.021	0.401	0.422

Table 12.4.23 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	0.110	0.028	**0.138**
		Right Touch	0.096	0.039	0.135
		Left Tilt	0.051	0.040	0.091
		Right Tilt	0.058	0.041	0.099
	GPRS 850	Left Touch	0.157	0.028	**0.185**
		Right Touch	0.125	0.039	0.164
		Left Tilt	0.058	0.040	0.098
		Right Tilt	0.069	0.041	0.110
	GSM 1900	Left Touch	0.034	0.028	0.062
		Right Touch	0.044	0.039	**0.083**
		Left Tilt	0.030	0.040	0.070
		Right Tilt	0.019	0.041	0.060
	GPRS 1900	Left Touch	0.042	0.028	0.070
		Right Touch	0.063	0.039	**0.102**
		Left Tilt	0.040	0.040	0.080
		Right Tilt	0.025	0.041	0.066
	WCDMA 850	Left Touch	0.162	0.028	**0.190**
		Right Touch	0.149	0.039	0.188
		Left Tilt	0.075	0.040	0.115
		Right Tilt	0.100	0.041	0.141
	WCDMA 1900	Left Touch	0.078	0.028	0.106
		Right Touch	0.109	0.039	**0.148**
		Left Tilt	0.075	0.040	0.115
		Right Tilt	0.047	0.041	0.088
	LTE Band 12	Left Touch	0.143	0.028	**0.171**
		Right Touch	0.120	0.039	0.159
		Left Tilt	0.039	0.040	0.079
		Right Tilt	0.062	0.041	0.103
	LTE Band 5	Left Touch	0.178	0.028	**0.206**
		Right Touch	0.149	0.039	0.188
		Left Tilt	0.073	0.040	0.113
		Right Tilt	0.097	0.041	0.138
	LTE Band 4	Left Touch	0.065	0.028	0.093
		Right Touch	0.106	0.039	**0.145**
		Left Tilt	0.059	0.040	0.099
		Right Tilt	0.056	0.041	0.097
	LTE Band 2	Left Touch	0.066	0.028	0.094
		Right Touch	0.090	0.039	**0.129**
		Left Tilt	0.054	0.040	0.094
		Right Tilt	0.043	0.041	0.084
	LTE Band 41	Left Touch	0.040	0.028	0.068
		Right Touch	0.038	0.039	**0.077**
		Left Tilt	0.012	0.040	0.052
		Right Tilt	0.021	0.041	0.062

Table 12.4.24 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	0.110	0.233	0.343
		Right Touch	0.096	0.265	**0.361**
		Left Tilt	0.051	0.228	0.279
		Right Tilt	0.058	0.267	0.325
	GPRS 850	Left Touch	0.157	0.233	**0.390**
		Right Touch	0.125	0.265	**0.390**
		Left Tilt	0.058	0.228	0.286
		Right Tilt	0.069	0.267	0.336
	GSM 1900	Left Touch	0.034	0.233	0.267
		Right Touch	0.044	0.265	**0.309**
		Left Tilt	0.030	0.228	0.258
		Right Tilt	0.019	0.267	0.286
	GPRS 1900	Left Touch	0.042	0.233	0.275
		Right Touch	0.063	0.265	**0.328**
		Left Tilt	0.040	0.228	0.268
		Right Tilt	0.025	0.267	0.292
	WCDMA 850	Left Touch	0.162	0.233	0.395
		Right Touch	0.149	0.265	**0.414**
		Left Tilt	0.075	0.228	0.303
		Right Tilt	0.100	0.267	0.367
	WCDMA 1900	Left Touch	0.078	0.233	0.311
		Right Touch	0.109	0.265	**0.374**
		Left Tilt	0.075	0.228	0.303
		Right Tilt	0.047	0.267	0.314
	LTE Band 12	Left Touch	0.143	0.233	0.376
		Right Touch	0.120	0.265	**0.385**
		Left Tilt	0.039	0.228	0.267
		Right Tilt	0.062	0.267	0.329
	LTE Band 5	Left Touch	0.178	0.233	0.411
		Right Touch	0.149	0.265	**0.414**
		Left Tilt	0.073	0.228	0.301
		Right Tilt	0.097	0.267	0.364
	LTE Band 4	Left Touch	0.065	0.233	0.298
		Right Touch	0.106	0.265	**0.371**
		Left Tilt	0.059	0.228	0.287
		Right Tilt	0.056	0.267	0.323
	LTE Band 2	Left Touch	0.066	0.233	0.299
		Right Touch	0.090	0.265	**0.355**
		Left Tilt	0.054	0.228	0.282
		Right Tilt	0.043	0.267	0.310
	LTE Band 41	Left Touch	0.040	0.233	0.273
		Right Touch	0.038	0.265	**0.303**
		Left Tilt	0.012	0.228	0.240
		Right Tilt	0.021	0.267	0.288

Table 12.4.25 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) 1	5.8G W-LAN MIMO SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	GSM 850	Left Touch	0.110	0.271	0.381
		Right Touch	0.096	0.360	**0.456**
		Left Tilt	0.051	0.259	0.310
		Right Tilt	0.058	0.343	0.401
	GPRS 850	Left Touch	0.157	0.271	0.428
		Right Touch	0.125	0.360	**0.485**
		Left Tilt	0.058	0.259	0.317
		Right Tilt	0.069	0.343	0.412
	GSM 1900	Left Touch	0.034	0.271	0.305
		Right Touch	0.044	0.360	**0.404**
		Left Tilt	0.030	0.259	0.289
		Right Tilt	0.019	0.343	0.362
	GPRS 1900	Left Touch	0.042	0.271	0.313
		Right Touch	0.063	0.360	**0.423**
		Left Tilt	0.040	0.259	0.299
		Right Tilt	0.025	0.343	0.368
	WCDMA 850	Left Touch	0.162	0.271	0.433
		Right Touch	0.149	0.360	**0.509**
		Left Tilt	0.075	0.259	0.334
		Right Tilt	0.100	0.343	0.443
	WCDMA 1900	Left Touch	0.078	0.271	0.349
		Right Touch	0.109	0.360	**0.469**
		Left Tilt	0.075	0.259	0.334
		Right Tilt	0.047	0.343	0.390
	LTE Band 12	Left Touch	0.143	0.271	0.414
		Right Touch	0.120	0.360	**0.480**
		Left Tilt	0.039	0.259	0.298
		Right Tilt	0.062	0.343	0.405
	LTE Band 5	Left Touch	0.178	0.271	0.449
		Right Touch	0.149	0.360	**0.509**
		Left Tilt	0.073	0.259	0.332
		Right Tilt	0.097	0.343	0.440
	LTE Band 4	Left Touch	0.065	0.271	0.336
		Right Touch	0.106	0.360	**0.466**
		Left Tilt	0.059	0.259	0.318
		Right Tilt	0.056	0.343	0.399
	LTE Band 2	Left Touch	0.066	0.271	0.337
		Right Touch	0.090	0.360	**0.450**
		Left Tilt	0.054	0.259	0.313
		Right Tilt	0.043	0.343	0.386
	LTE Band 41	Left Touch	0.040	0.271	0.311
		Right Touch	0.038	0.360	**0.398**
		Left Tilt	0.012	0.259	0.271
		Right Tilt	0.021	0.343	0.364

Table 12.4.26 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg) 1	Bluetooth SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	GSM 850	Left Touch	0.110	0.021	0.131
		Right Touch	0.096	0.080	**0.176**
		Left Tilt	0.051	0.024	0.075
		Right Tilt	0.058	0.065	0.123
	GPRS 850	Left Touch	0.157	0.021	0.178
		Right Touch	0.125	0.080	**0.205**
		Left Tilt	0.058	0.024	0.082
		Right Tilt	0.069	0.065	0.134
	GSM 1900	Left Touch	0.034	0.021	0.055
		Right Touch	0.044	0.080	**0.124**
		Left Tilt	0.030	0.024	0.054
		Right Tilt	0.019	0.065	0.084
	GPRS 1900	Left Touch	0.042	0.021	0.063
		Right Touch	0.063	0.080	**0.143**
		Left Tilt	0.040	0.024	0.064
		Right Tilt	0.025	0.065	0.090
	WCDMA 850	Left Touch	0.162	0.021	0.183
		Right Touch	0.149	0.080	**0.229**
		Left Tilt	0.075	0.024	0.099
		Right Tilt	0.100	0.065	0.165
	WCDMA 1900	Left Touch	0.078	0.021	0.099
		Right Touch	0.109	0.080	**0.189**
		Left Tilt	0.075	0.024	0.099
		Right Tilt	0.047	0.065	0.112
	LTE Band 12	Left Touch	0.143	0.021	0.164
		Right Touch	0.120	0.080	**0.200**
		Left Tilt	0.039	0.024	0.063
		Right Tilt	0.062	0.065	0.127
	LTE Band 5	Left Touch	0.178	0.021	0.199
		Right Touch	0.149	0.080	**0.229**
		Left Tilt	0.073	0.024	0.097
		Right Tilt	0.097	0.065	0.162
	LTE Band 4	Left Touch	0.065	0.021	0.086
		Right Touch	0.106	0.080	**0.186**
		Left Tilt	0.059	0.024	0.083
		Right Tilt	0.056	0.065	0.121
	LTE Band 2	Left Touch	0.066	0.021	0.087
		Right Touch	0.090	0.080	**0.170**
		Left Tilt	0.054	0.024	0.078
		Right Tilt	0.043	0.065	0.108
	LTE Band 41	Left Touch	0.040	0.021	0.061
		Right Touch	0.038	0.080	**0.118**
		Left Tilt	0.012	0.024	0.036
		Right Tilt	0.021	0.065	0.086

Table 12.4.27 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) 1	5G W-LAN Ant.2 SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	5.3G W-LAN Ant.2	Left Touch	0.098	0.061	0.159
		Right Touch	0.389	0.219	**0.608**
		Left Tilt	0.118	0.045	0.163
		Right Tilt	0.317	0.157	0.474
	5.6G W-LAN Ant.2	Left Touch	0.098	0.173	0.271
		Right Touch	0.389	0.275	**0.664**
		Left Tilt	0.118	0.170	0.288
		Right Tilt	0.317	0.238	0.555
	5.8G W-LAN Ant.2	Left Touch	0.098	0.233	0.331
		Right Touch	0.389	0.265	**0.654**
		Left Tilt	0.118	0.228	0.346
		Right Tilt	0.317	0.267	0.584

Table 12.4.28 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) 1	5G W-LAN Ant.1 SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	5.3G W-LAN Ant.1	Left Touch	0.021	0.089	0.110
		Right Touch	0.080	0.228	**0.308**
		Left Tilt	0.024	0.107	0.131
		Right Tilt	0.065	0.203	0.268
	5.6G W-LAN Ant.1	Left Touch	0.021	0.096	0.117
		Right Touch	0.080	0.127	**0.207**
		Left Tilt	0.024	0.077	0.101
		Right Tilt	0.065	0.124	0.189
	5.8G W-LAN Ant.1	Left Touch	0.021	0.028	0.049
		Right Touch	0.080	0.039	**0.119**
		Left Tilt	0.024	0.040	0.064
		Right Tilt	0.065	0.041	0.106

Table 12.4.29 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) 1	5G W-LAN Ant.2 SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	5.3G W-LAN Ant.2	Left Touch	0.021	0.061	0.082
		Right Touch	0.080	0.219	**0.299**
		Left Tilt	0.024	0.045	0.069
		Right Tilt	0.065	0.157	0.222
	5.6G W-LAN Ant.2	Left Touch	0.021	0.173	0.194
		Right Touch	0.080	0.275	**0.355**
		Left Tilt	0.024	0.170	0.194
		Right Tilt	0.065	0.238	0.303
	5.8G W-LAN Ant.2	Left Touch	0.021	0.233	0.254
		Right Touch	0.080	0.265	**0.345**
		Left Tilt	0.024	0.228	0.252
		Right Tilt	0.065	0.267	0.332

Table 12.4.30 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN MIMO (Held to Ear)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg) 1	5G W-LAN MIMO SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	5.3G W-LAN MIMO	Left Touch	0.021	0.120	0.141
		Right Touch	0.080	0.458	**0.538**
		Left Tilt	0.024	0.127	0.151
		Right Tilt	0.065	0.289	0.354
	5.6G W-LAN MIMO	Left Touch	0.021	0.187	0.208
		Right Touch	0.080	0.581	**0.661**
		Left Tilt	0.024	0.162	0.186
		Right Tilt	0.065	0.401	0.466
	5.8G W-LAN MIMO	Left Touch	0.021	0.271	0.292
		Right Touch	0.080	0.360	**0.440**
		Left Tilt	0.024	0.259	0.283
		Right Tilt	0.065	0.343	0.408

Table 12.4.31 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 2.4 GHz W-LAN Ant.2 (Held to Ear)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg) 1	2.4G W-LAN Ant.2 SAR (W/kg) 2	ΣSAR (W/kg) 1+2
Head SAR	2.4G W-LAN Ant.2	Left Touch	0.021	0.307	0.328
		Right Touch	0.080	0.492	**0.572**
		Left Tilt	0.024	0.353	0.377
		Right Tilt	0.065	0.412	0.477

12.5 Body-Worn Simultaneous Transmission Analysis

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.087	0.045	0.361	0.319	0.406
		Rear	0.361	0.091	0.309	0.452	0.670	**0.761**
	GPRS 850	Front	0.352	0.087	0.045	0.439	0.397	0.484
		Rear	0.589	0.091	0.309	0.680	0.898	**0.989**
	GSM 1900	Front	0.287	0.087	0.045	0.374	0.332	0.419
		Rear	0.344	0.091	0.309	0.435	0.653	**0.744**
	GPRS 1900	Front	0.369	0.087	0.045	0.456	0.414	0.501
		Rear	0.439	0.091	0.309	0.530	0.748	**0.839**
	WCDMA 850	Front	0.492	0.087	0.045	0.579	0.537	0.624
		Rear	0.678	0.091	0.309	0.769	0.987	**1.078**
	WCDMA 1900	Front	0.691	0.087	0.045	0.778	0.736	0.823
		Rear	**0.797**	**0.091**	**0.309**	**0.888**	**1.106**	1.197
	LTE Band 12	Front	0.288	0.087	0.045	0.375	0.333	0.420
		Rear	0.393	0.091	0.309	0.484	0.702	**0.793**
	LTE Band 5	Front	0.510	0.087	0.045	0.597	0.555	0.642
		Rear	0.685	0.091	0.309	0.776	0.994	**1.085**
	LTE Band 4	Front	0.485	0.087	0.045	0.572	0.530	0.617
		Rear	0.528	0.091	0.309	0.619	0.837	**0.928**
	LTE Band 2	Front	0.518	0.087	0.045	0.605	0.563	0.650
		Rear	0.634	0.091	0.309	0.725	0.943	**1.034**
	LTE Band 41	Front	0.195	0.087	0.045	0.282	0.240	0.327
		Rear	0.259	0.091	0.309	0.350	0.568	**0.659**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.6G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.087	0.029	0.361	0.303	0.390
		Rear	0.361	0.091	0.046	0.452	0.407	**0.498**
	GPRS 850	Front	0.352	0.087	0.029	0.439	0.381	0.468
		Rear	0.589	0.091	0.046	0.680	0.635	**0.726**
	GSM 1900	Front	0.287	0.087	0.029	0.374	0.316	0.403
		Rear	0.344	0.091	0.046	0.435	0.390	**0.481**
	GPRS 1900	Front	0.369	0.087	0.029	0.456	0.398	0.485
		Rear	0.439	0.091	0.046	0.530	0.485	**0.576**
	WCDMA 850	Front	0.492	0.087	0.029	0.579	0.521	0.608
		Rear	0.678	0.091	0.046	0.769	0.724	**0.815**
	WCDMA 1900	Front	0.691	0.087	0.029	0.778	0.720	0.807
		Rear	0.797	0.091	0.046	0.888	0.843	**0.934**
	LTE Band 12	Front	0.288	0.087	0.029	0.375	0.317	0.404
		Rear	0.393	0.091	0.046	0.484	0.439	**0.530**
	LTE Band 5	Front	0.510	0.087	0.029	0.597	0.539	0.626
		Rear	0.685	0.091	0.046	0.776	0.731	**0.822**
	LTE Band 4	Front	0.485	0.087	0.029	0.572	0.514	0.601
		Rear	0.528	0.091	0.046	0.619	0.574	**0.665**
	LTE Band 2	Front	0.518	0.087	0.029	0.605	0.547	0.634
		Rear	0.634	0.091	0.046	0.725	0.680	**0.771**
	LTE Band 41	Front	0.195	0.087	0.029	0.282	0.224	0.311
		Rear	0.259	0.091	0.046	0.350	0.305	**0.396**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.087	0.026	0.361	0.300	0.387
		Rear	0.361	0.091	0.062	0.452	0.423	**0.514**
	GPRS 850	Front	0.352	0.087	0.026	0.439	0.378	0.465
		Rear	0.589	0.091	0.062	0.680	0.651	**0.742**
	GSM 1900	Front	0.287	0.087	0.026	0.374	0.313	0.400
		Rear	0.344	0.091	0.062	0.435	0.406	**0.497**
	GPRS 1900	Front	0.369	0.087	0.026	0.456	0.395	0.482
		Rear	0.439	0.091	0.062	0.530	0.501	**0.592**
	WCDMA 850	Front	0.492	0.087	0.026	0.579	0.518	0.605
		Rear	0.678	0.091	0.062	0.769	0.740	**0.831**
	WCDMA 1900	Front	0.691	0.087	0.026	0.778	0.717	0.804
		Rear	0.797	0.091	0.062	0.888	0.859	**0.950**
	LTE Band 12	Front	0.288	0.087	0.026	0.375	0.314	0.401
		Rear	0.393	0.091	0.062	0.484	0.455	**0.546**
	LTE Band 5	Front	0.510	0.087	0.026	0.597	0.536	0.623
		Rear	0.685	0.091	0.062	0.776	0.747	**0.838**
	LTE Band 4	Front	0.485	0.087	0.026	0.572	0.511	0.598
		Rear	0.528	0.091	0.062	0.619	0.590	**0.681**
	LTE Band 2	Front	0.518	0.087	0.026	0.605	0.544	0.631
		Rear	0.634	0.091	0.062	0.725	0.696	**0.787**
	LTE Band 41	Front	0.195	0.087	0.026	0.282	0.221	0.308
		Rear	0.259	0.091	0.062	0.350	0.321	**0.412**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.047	0.295	0.321	0.342
		Rear	0.361	0.018	0.346	0.379	0.707	**0.725**
	GPRS 850	Front	0.352	0.021	0.047	0.373	0.399	0.420
		Rear	0.589	0.018	0.346	0.607	0.935	**0.953**
	GSM 1900	Front	0.287	0.021	0.047	0.308	0.334	0.355
		Rear	0.344	0.018	0.346	0.362	0.690	**0.708**
	GPRS 1900	Front	0.369	0.021	0.047	0.390	0.416	0.437
		Rear	0.439	0.018	0.346	0.457	0.785	**0.803**
	WCDMA 850	Front	0.492	0.021	0.047	0.513	0.539	0.560
		Rear	0.678	0.018	0.346	0.696	1.024	**1.042**
	WCDMA 1900	Front	0.691	0.021	0.047	0.712	0.738	0.759
		Rear	0.797	0.018	0.346	0.815	1.143	**1.161**
	LTE Band 12	Front	0.288	0.021	0.047	0.309	0.335	0.356
		Rear	0.393	0.018	0.346	0.411	0.739	**0.757**
	LTE Band 5	Front	0.510	0.021	0.047	0.531	0.557	0.578
		Rear	0.685	0.018	0.346	0.703	1.031	**1.049**
	LTE Band 4	Front	0.485	0.021	0.047	0.506	0.532	0.553
		Rear	0.528	0.018	0.346	0.546	0.874	**0.892**
	LTE Band 2	Front	0.518	0.021	0.047	0.539	0.565	0.586
		Rear	0.634	0.018	0.346	0.652	0.980	**0.998**
	LTE Band 41	Front	0.195	0.021	0.047	0.216	0.242	0.263
		Rear	0.259	0.018	0.346	0.277	0.605	**0.623**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.045	0.295	0.319	0.340
		Rear	0.361	0.018	0.309	0.379	0.670	**0.688**
	GPRS 850	Front	0.352	0.021	0.045	0.373	0.397	0.418
		Rear	0.589	0.018	0.309	0.607	0.898	**0.916**
	GSM 1900	Front	0.287	0.021	0.045	0.308	0.332	0.353
		Rear	0.344	0.018	0.309	0.362	0.653	**0.671**
	GPRS 1900	Front	0.369	0.021	0.045	0.390	0.414	0.435
		Rear	0.439	0.018	0.309	0.457	0.748	**0.766**
	WCDMA 850	Front	0.492	0.021	0.045	0.513	0.537	0.558
		Rear	0.678	0.018	0.309	0.696	0.987	**1.005**
	WCDMA 1900	Front	0.691	0.021	0.045	0.712	0.736	0.757
		Rear	0.797	0.018	0.309	0.815	1.106	**1.124**
	LTE Band 12	Front	0.288	0.021	0.045	0.309	0.333	0.354
		Rear	0.393	0.018	0.309	0.411	0.702	**0.720**
	LTE Band 5	Front	0.510	0.021	0.045	0.531	0.555	0.576
		Rear	0.685	0.018	0.309	0.703	0.994	**1.012**
	LTE Band 4	Front	0.485	0.021	0.045	0.506	0.530	0.551
		Rear	0.528	0.018	0.309	0.546	0.837	**0.855**
	LTE Band 2	Front	0.518	0.021	0.045	0.539	0.563	0.584
		Rear	0.634	0.018	0.309	0.652	0.943	**0.961**
	LTE Band 41	Front	0.195	0.021	0.045	0.216	0.240	0.261
		Rear	0.259	0.018	0.309	0.277	0.568	**0.586**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.3G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.077	0.295	0.351	0.372
		Rear	0.361	0.018	0.356	0.379	0.717	**0.735**
	GPRS 850	Front	0.352	0.021	0.077	0.373	0.429	0.450
		Rear	0.589	0.018	0.356	0.607	0.945	**0.963**
	GSM 1900	Front	0.287	0.021	0.077	0.308	0.364	0.385
		Rear	0.344	0.018	0.356	0.362	0.700	**0.718**
	GPRS 1900	Front	0.369	0.021	0.077	0.390	0.446	0.467
		Rear	0.439	0.018	0.356	0.457	0.795	**0.813**
	WCDMA 850	Front	0.492	0.021	0.077	0.513	0.569	0.590
		Rear	0.678	0.018	0.356	0.696	1.034	**1.052**
	WCDMA 1900	Front	0.691	0.021	0.077	0.712	0.768	0.789
		Rear	0.797	0.018	0.356	0.815	1.153	**1.171**
	LTE Band 12	Front	0.288	0.021	0.077	0.309	0.365	0.386
		Rear	0.393	0.018	0.356	0.411	0.749	**0.767**
	LTE Band 5	Front	0.510	0.021	0.077	0.531	0.587	0.608
		Rear	0.685	0.018	0.356	0.703	1.041	**1.059**
	LTE Band 4	Front	0.485	0.021	0.077	0.506	0.562	0.583
		Rear	0.528	0.018	0.356	0.546	0.884	**0.902**
	LTE Band 2	Front	0.518	0.021	0.077	0.539	0.595	0.616
		Rear	0.634	0.018	0.356	0.652	0.990	**1.008**
	LTE Band 41	Front	0.195	0.021	0.077	0.216	0.272	0.293
		Rear	0.259	0.018	0.356	0.277	0.615	**0.633**

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	0.274	0.021	0.015	0.295	0.289	0.310
		Rear	0.361	0.018	0.231	0.379	0.592	**0.610**
	GPRS 850	Front	0.352	0.021	0.015	0.373	0.367	0.388
		Rear	0.589	0.018	0.231	0.607	0.820	**0.838**
	GSM 1900	Front	0.287	0.021	0.015	0.308	0.302	0.323
		Rear	0.344	0.018	0.231	0.362	0.575	**0.593**
	GPRS 1900	Front	0.369	0.021	0.015	0.390	0.384	0.405
		Rear	0.439	0.018	0.231	0.457	0.670	**0.688**
	WCDMA 850	Front	0.492	0.021	0.015	0.513	0.507	0.528
		Rear	0.678	0.018	0.231	0.696	0.909	**0.927**
	WCDMA 1900	Front	0.691	0.021	0.015	0.712	0.706	0.727
		Rear	0.797	0.018	0.231	0.815	1.028	**1.046**
	LTE Band 12	Front	0.288	0.021	0.015	0.309	0.303	0.324
		Rear	0.393	0.018	0.231	0.411	0.624	**0.642**
	LTE Band 5	Front	0.510	0.021	0.015	0.531	0.525	0.546
		Rear	0.685	0.018	0.231	0.703	0.916	**0.934**
	LTE Band 4	Front	0.485	0.021	0.015	0.506	0.500	0.521
		Rear	0.528	0.018	0.231	0.546	0.759	**0.777**
	LTE Band 2	Front	0.518	0.021	0.015	0.539	0.533	0.554
		Rear	0.634	0.018	0.231	0.652	0.865	**0.883**
	LTE Band 41	Front	0.195	0.021	0.015	0.216	0.210	0.231
		Rear	0.259	0.018	0.231	0.277	0.490	**0.508**

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	0.274	0.021	0.029	0.295	0.303	0.324
		Rear	0.361	0.018	0.046	0.379	0.407	**0.425**
	GPRS 850	Front	0.352	0.021	0.029	0.373	0.381	0.402
		Rear	0.589	0.018	0.046	0.607	0.635	**0.653**
	GSM 1900	Front	0.287	0.021	0.029	0.308	0.316	0.337
		Rear	0.344	0.018	0.046	0.362	0.390	**0.408**
	GPRS 1900	Front	0.369	0.021	0.029	0.390	0.398	0.419
		Rear	0.439	0.018	0.046	0.457	0.485	**0.503**
	WCDMA 850	Front	0.492	0.021	0.029	0.513	0.521	0.542
		Rear	0.678	0.018	0.046	0.696	0.724	**0.742**
	WCDMA 1900	Front	0.691	0.021	0.029	0.712	0.720	0.741
		Rear	0.797	0.018	0.046	0.815	0.843	**0.861**
	LTE Band 12	Front	0.288	0.021	0.029	0.309	0.317	0.338
		Rear	0.393	0.018	0.046	0.411	0.439	**0.457**
	LTE Band 5	Front	0.510	0.021	0.029	0.531	0.539	0.560
		Rear	0.685	0.018	0.046	0.703	0.731	**0.749**
	LTE Band 4	Front	0.485	0.021	0.029	0.506	0.514	0.535
		Rear	0.528	0.018	0.046	0.546	0.574	**0.592**
	LTE Band 2	Front	0.518	0.021	0.029	0.539	0.547	0.568
		Rear	0.634	0.018	0.046	0.652	0.680	**0.698**
	LTE Band 41	Front	0.195	0.021	0.029	0.216	0.224	0.245
		Rear	0.259	0.018	0.046	0.277	0.305	**0.323**

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	0.274	0.021	0.081	0.295	0.355	0.376
		Rear	0.361	0.018	0.360	0.379	0.721	**0.739**
	GPRS 850	Front	0.352	0.021	0.081	0.373	0.433	0.454
		Rear	0.589	0.018	0.360	0.607	0.949	**0.967**
	GSM 1900	Front	0.287	0.021	0.081	0.308	0.368	0.389
		Rear	0.344	0.018	0.360	0.362	0.704	**0.722**
	GPRS 1900	Front	0.369	0.021	0.081	0.390	0.450	0.471
		Rear	0.439	0.018	0.360	0.457	0.799	**0.817**
	WCDMA 850	Front	0.492	0.021	0.081	0.513	0.573	0.594
		Rear	0.678	0.018	0.360	0.696	1.038	**1.056**
	WCDMA 1900	Front	0.691	0.021	0.081	0.712	0.772	0.793
		Rear	0.797	0.018	0.360	0.815	1.157	**1.175**
	LTE Band 12	Front	0.288	0.021	0.081	0.309	0.369	0.390
		Rear	0.393	0.018	0.360	0.411	0.753	**0.771**
	LTE Band 5	Front	0.510	0.021	0.081	0.531	0.591	0.612
		Rear	0.685	0.018	0.360	0.703	1.045	**1.063**
	LTE Band 4	Front	0.485	0.021	0.081	0.506	0.566	0.587
		Rear	0.528	0.018	0.360	0.546	0.888	**0.906**
	LTE Band 2	Front	0.518	0.021	0.081	0.539	0.599	0.620
		Rear	0.634	0.018	0.360	0.652	0.994	**1.012**
	LTE Band 41	Front	0.195	0.021	0.081	0.216	0.276	0.297
		Rear	0.259	0.018	0.360	0.277	0.619	**0.637**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.003	0.295	0.277	0.298
		Rear	0.361	0.018	0.068	0.379	0.429	**0.447**
	GPRS 850	Front	0.352	0.021	0.003	0.373	0.355	0.376
		Rear	0.589	0.018	0.068	0.607	0.657	**0.675**
	GSM 1900	Front	0.287	0.021	0.003	0.308	0.290	0.311
		Rear	0.344	0.018	0.068	0.362	0.412	**0.430**
	GPRS 1900	Front	0.369	0.021	0.003	0.390	0.372	0.393
		Rear	0.439	0.018	0.068	0.457	0.507	**0.525**
	WCDMA 850	Front	0.492	0.021	0.003	0.513	0.495	0.516
		Rear	0.678	0.018	0.068	0.696	0.746	**0.764**
	WCDMA 1900	Front	0.691	0.021	0.003	0.712	0.694	0.715
		Rear	0.797	0.018	0.068	0.815	0.865	**0.883**
	LTE Band 12	Front	0.288	0.021	0.003	0.309	0.291	0.312
		Rear	0.393	0.018	0.068	0.411	0.461	**0.479**
	LTE Band 5	Front	0.510	0.021	0.003	0.531	0.513	0.534
		Rear	0.685	0.018	0.068	0.703	0.753	**0.771**
	LTE Band 4	Front	0.485	0.021	0.003	0.506	0.488	0.509
		Rear	0.528	0.018	0.068	0.546	0.596	**0.614**
	LTE Band 2	Front	0.518	0.021	0.003	0.539	0.521	0.542
		Rear	0.634	0.018	0.068	0.652	0.702	**0.720**
	LTE Band 41	Front	0.195	0.021	0.003	0.216	0.198	0.219
		Rear	0.259	0.018	0.068	0.277	0.327	**0.345**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.026	0.295	0.300	0.321
		Rear	0.361	0.018	0.062	0.379	0.423	**0.441**
	GPRS 850	Front	0.352	0.021	0.026	0.373	0.378	0.399
		Rear	0.589	0.018	0.062	0.607	0.651	**0.669**
	GSM 1900	Front	0.287	0.021	0.026	0.308	0.313	0.334
		Rear	0.344	0.018	0.062	0.362	0.406	**0.424**
	GPRS 1900	Front	0.369	0.021	0.026	0.390	0.395	0.416
		Rear	0.439	0.018	0.062	0.457	0.501	**0.519**
	WCDMA 850	Front	0.492	0.021	0.026	0.513	0.518	0.539
		Rear	0.678	0.018	0.062	0.696	0.740	**0.758**
	WCDMA 1900	Front	0.691	0.021	0.026	0.712	0.717	0.738
		Rear	0.797	0.018	0.062	0.815	0.859	**0.877**
	LTE Band 12	Front	0.288	0.021	0.026	0.309	0.314	0.335
		Rear	0.393	0.018	0.062	0.411	0.455	**0.473**
	LTE Band 5	Front	0.510	0.021	0.026	0.531	0.536	0.557
		Rear	0.685	0.018	0.062	0.703	0.747	**0.765**
	LTE Band 4	Front	0.485	0.021	0.026	0.506	0.511	0.532
		Rear	0.528	0.018	0.062	0.546	0.590	**0.608**
	LTE Band 2	Front	0.518	0.021	0.026	0.539	0.544	0.565
		Rear	0.634	0.018	0.062	0.652	0.696	**0.714**
	LTE Band 41	Front	0.195	0.021	0.026	0.216	0.221	0.242
		Rear	0.259	0.018	0.062	0.277	0.321	**0.339**

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth Ant.1 SAR (W/kg)	5.8G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.030	0.295	0.304	0.325
		Rear	0.361	0.018	0.115	0.379	0.476	**0.494**
	GPRS 850	Front	0.352	0.021	0.030	0.373	0.382	0.403
		Rear	0.589	0.018	0.115	0.607	0.704	**0.722**
	GSM 1900	Front	0.287	0.021	0.030	0.308	0.317	0.338
		Rear	0.344	0.018	0.115	0.362	0.459	**0.477**
	GPRS 1900	Front	0.369	0.021	0.030	0.390	0.399	0.420
		Rear	0.439	0.018	0.115	0.457	0.554	**0.572**
	WCDMA 850	Front	0.492	0.021	0.030	0.513	0.522	0.543
		Rear	0.678	0.018	0.115	0.696	0.793	**0.811**
	WCDMA 1900	Front	0.691	0.021	0.030	0.712	0.721	0.742
		Rear	0.797	0.018	0.115	0.815	0.912	**0.930**
	LTE Band 12	Front	0.288	0.021	0.030	0.309	0.318	0.339
		Rear	0.393	0.018	0.115	0.411	0.508	**0.526**
	LTE Band 5	Front	0.510	0.021	0.030	0.531	0.540	0.561
		Rear	0.685	0.018	0.115	0.703	0.800	**0.818**
	LTE Band 4	Front	0.485	0.021	0.030	0.506	0.515	0.536
		Rear	0.528	0.018	0.115	0.546	0.643	**0.661**
	LTE Band 2	Front	0.518	0.021	0.030	0.539	0.548	0.569
		Rear	0.634	0.018	0.115	0.652	0.749	**0.767**
	LTE Band 41	Front	0.195	0.021	0.030	0.216	0.225	0.246
		Rear	0.259	0.018	0.115	0.277	0.374	**0.392**

Table 12.5.13 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 2.4 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)	2.4G 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	0.274	0.021	0.092	0.295	0.366	0.387
		Rear	0.361	0.018	0.129	0.379	0.490	**0.508**
	GPRS 850	Front	0.352	0.021	0.092	0.373	0.444	0.465
		Rear	0.589	0.018	0.129	0.607	0.718	**0.736**
	GSM 1900	Front	0.287	0.021	0.092	0.308	0.379	0.400
		Rear	0.344	0.018	0.129	0.362	0.473	**0.491**
	GPRS 1900	Front	0.369	0.021	0.092	0.390	0.461	0.482
		Rear	0.439	0.018	0.129	0.457	0.568	**0.586**
	WCDMA 850	Front	0.492	0.021	0.092	0.513	0.584	0.605
		Rear	0.678	0.018	0.129	0.696	0.807	**0.825**
	WCDMA 1900	Front	0.691	0.021	0.092	0.712	0.783	0.804
		Rear	0.797	0.018	0.129	0.815	0.926	**0.944**
	LTE Band 12	Front	0.288	0.021	0.092	0.309	0.380	0.401
		Rear	0.393	0.018	0.129	0.411	0.522	**0.540**
	LTE Band 5	Front	0.510	0.021	0.092	0.531	0.602	0.623
		Rear	0.685	0.018	0.129	0.703	0.814	**0.832**
	LTE Band 4	Front	0.485	0.021	0.092	0.506	0.577	0.598
		Rear	0.528	0.018	0.129	0.546	0.657	**0.675**
	LTE Band 2	Front	0.518	0.021	0.092	0.539	0.610	0.631
		Rear	0.634	0.018	0.129	0.652	0.763	**0.781**
	LTE Band 41	Front	0.195	0.021	0.092	0.216	0.287	0.308
		Rear	0.259	0.018	0.129	0.277	0.388	**0.406**

Table 12.5.14 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	0.274	0.087	0.361
		Rear	0.361	0.091	**0.452**
	GPRS 850	Front	0.352	0.087	0.439
		Rear	0.589	0.091	**0.680**
	GSM 1900	Front	0.287	0.087	0.374
		Rear	0.344	0.091	**0.435**
	GPRS 1900	Front	0.369	0.087	0.456
		Rear	0.439	0.091	**0.530**
	WCDMA 850	Front	0.492	0.087	0.579
		Rear	0.678	0.091	**0.769**
	WCDMA 1900	Front	0.691	0.087	0.778
		Rear	0.797	0.091	**0.888**
	LTE Band 12	Front	0.288	0.087	0.375
		Rear	0.393	0.091	**0.484**
	LTE Band 5	Front	0.510	0.087	0.597
		Rear	0.685	0.091	**0.776**
	LTE Band 4	Front	0.485	0.087	0.572
		Rear	0.528	0.091	**0.619**
	LTE Band 2	Front	0.518	0.087	0.605
		Rear	0.634	0.091	**0.725**
	LTE Band 41	Front	0.195	0.087	0.282
		Rear	0.259	0.091	**0.350**

Table 12.5.15 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	0.274	0.092	0.366
		Rear	0.361	0.129	**0.490**
	GPRS 850	Front	0.352	0.092	0.444
		Rear	0.589	0.129	**0.718**
	GSM 1900	Front	0.287	0.092	0.379
		Rear	0.344	0.129	**0.473**
	GPRS 1900	Front	0.369	0.092	0.461
		Rear	0.439	0.129	**0.568**
	WCDMA 850	Front	0.492	0.092	0.584
		Rear	0.678	0.129	**0.807**
	WCDMA 1900	Front	0.691	0.092	0.783
		Rear	0.797	0.129	**0.926**
	LTE Band 12	Front	0.288	0.092	0.380
		Rear	0.393	0.129	**0.522**
	LTE Band 5	Front	0.510	0.092	0.602
		Rear	0.685	0.129	**0.814**
	LTE Band 4	Front	0.485	0.092	0.577
		Rear	0.528	0.129	**0.657**
	LTE Band 2	Front	0.518	0.092	0.610
		Rear	0.634	0.129	**0.763**
	LTE Band 41	Front	0.195	0.092	0.287
		Rear	0.259	0.129	**0.388**

Table 12.5.16 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	0.274	0.131	0.405
		Rear	0.361	0.177	**0.538**
	GPRS 850	Front	0.352	0.131	0.483
		Rear	0.589	0.177	**0.766**
	GSM 1900	Front	0.287	0.131	0.418
		Rear	0.344	0.177	**0.521**
	GPRS 1900	Front	0.369	0.131	0.500
		Rear	0.439	0.177	**0.616**
	WCDMA 850	Front	0.492	0.131	0.623
		Rear	0.678	0.177	**0.855**
	WCDMA 1900	Front	0.691	0.131	0.822
		Rear	0.797	0.177	**0.974**
	LTE Band 12	Front	0.288	0.131	0.419
		Rear	0.393	0.177	**0.570**
	LTE Band 5	Front	0.510	0.131	0.641
		Rear	0.685	0.177	**0.862**
	LTE Band 4	Front	0.485	0.131	0.616
		Rear	0.528	0.177	**0.705**
	LTE Band 2	Front	0.518	0.131	0.649
		Rear	0.634	0.177	**0.811**
	LTE Band 41	Front	0.195	0.131	0.326
		Rear	0.259	0.177	**0.436**

Table 12.5.17 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	0.274	0.047	0.321
		Rear	0.361	0.346	**0.707**
	GPRS 850	Front	0.352	0.047	0.399
		Rear	0.589	0.346	**0.935**
	GSM 1900	Front	0.287	0.047	0.334
		Rear	0.344	0.346	**0.690**
	GPRS 1900	Front	0.369	0.047	0.416
		Rear	0.439	0.346	**0.785**
	WCDMA 850	Front	0.492	0.047	0.539
		Rear	0.678	0.346	**1.024**
	WCDMA 1900	Front	0.691	0.047	0.738
		Rear	0.797	0.346	**1.143**
	LTE Band 12	Front	0.288	0.047	0.335
		Rear	0.393	0.346	**0.739**
	LTE Band 5	Front	0.510	0.047	0.557
		Rear	0.685	0.346	**1.031**
	LTE Band 4	Front	0.485	0.047	0.532
		Rear	0.528	0.346	**0.874**
	LTE Band 2	Front	0.518	0.047	0.565
		Rear	0.634	0.346	**0.980**
	LTE Band 41	Front	0.195	0.047	0.242
		Rear	0.259	0.346	**0.605**

Table 12.5.18 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	0.274	0.045	0.319
		Rear	0.361	0.309	**0.670**
	GPRS 850	Front	0.352	0.045	0.397
		Rear	0.589	0.309	**0.898**
	GSM 1900	Front	0.287	0.045	0.332
		Rear	0.344	0.309	**0.653**
	GPRS 1900	Front	0.369	0.045	0.414
		Rear	0.439	0.309	**0.748**
	WCDMA 850	Front	0.492	0.045	0.537
		Rear	0.678	0.309	**0.987**
	WCDMA 1900	Front	0.691	0.045	0.736
		Rear	0.797	0.309	**1.106**
	LTE Band 12	Front	0.288	0.045	0.333
		Rear	0.393	0.309	**0.702**
	LTE Band 5	Front	0.510	0.045	0.555
		Rear	0.685	0.309	**0.994**
	LTE Band 4	Front	0.485	0.045	0.530
		Rear	0.528	0.309	**0.837**
	LTE Band 2	Front	0.518	0.045	0.563
		Rear	0.634	0.309	**0.943**
	LTE Band 41	Front	0.195	0.045	0.240
		Rear	0.259	0.309	**0.568**

Table 12.5.19 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	0.274	0.077	0.351
		Rear	0.361	0.356	**0.717**
	GPRS 850	Front	0.352	0.077	0.429
		Rear	0.589	0.356	**0.945**
	GSM 1900	Front	0.287	0.077	0.364
		Rear	0.344	0.356	**0.700**
	GPRS 1900	Front	0.369	0.077	0.446
		Rear	0.439	0.356	**0.795**
	WCDMA 850	Front	0.492	0.077	0.569
		Rear	0.678	0.356	**1.034**
	WCDMA 1900	Front	0.691	0.077	0.768
		Rear	0.797	0.356	**1.153**
	LTE Band 12	Front	0.288	0.077	0.365
		Rear	0.393	0.356	**0.749**
	LTE Band 5	Front	0.510	0.077	0.587
		Rear	0.685	0.356	**1.041**
	LTE Band 4	Front	0.485	0.077	0.562
		Rear	0.528	0.356	**0.884**
	LTE Band 2	Front	0.518	0.077	0.595
		Rear	0.634	0.356	**0.990**
	LTE Band 41	Front	0.195	0.077	0.272
		Rear	0.259	0.356	**0.615**

Table 12.5.20 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	0.274	0.015	0.289
		Rear	0.361	0.231	**0.592**
	GPRS 850	Front	0.352	0.015	0.367
		Rear	0.589	0.231	**0.820**
	GSM 1900	Front	0.287	0.015	0.302
		Rear	0.344	0.231	**0.575**
	GPRS 1900	Front	0.369	0.015	0.384
		Rear	0.439	0.231	**0.670**
	WCDMA 850	Front	0.492	0.015	0.507
		Rear	0.678	0.231	**0.909**
	WCDMA 1900	Front	0.691	0.015	0.706
		Rear	0.797	0.231	**1.028**
	LTE Band 12	Front	0.288	0.015	0.303
		Rear	0.393	0.231	**0.624**
	LTE Band 5	Front	0.510	0.015	0.525
		Rear	0.685	0.231	**0.916**
	LTE Band 4	Front	0.485	0.015	0.500
		Rear	0.528	0.231	**0.759**
	LTE Band 2	Front	0.518	0.015	0.533
		Rear	0.634	0.231	**0.865**
	LTE Band 41	Front	0.195	0.015	0.210
		Rear	0.259	0.231	**0.490**

Table 12.5.21 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	0.274	0.029	0.303
		Rear	0.361	0.046	**0.407**
	GPRS 850	Front	0.352	0.029	0.381
		Rear	0.589	0.046	**0.635**
	GSM 1900	Front	0.287	0.029	0.316
		Rear	0.344	0.046	**0.390**
	GPRS 1900	Front	0.369	0.029	0.398
		Rear	0.439	0.046	**0.485**
	WCDMA 850	Front	0.492	0.029	0.521
		Rear	0.678	0.046	**0.724**
	WCDMA 1900	Front	0.691	0.029	0.720
		Rear	0.797	0.046	**0.843**
	LTE Band 12	Front	0.288	0.029	0.317
		Rear	0.393	0.046	**0.439**
	LTE Band 5	Front	0.510	0.029	0.539
		Rear	0.685	0.046	**0.731**
	LTE Band 4	Front	0.485	0.029	0.514
		Rear	0.528	0.046	**0.574**
	LTE Band 2	Front	0.518	0.029	0.547
		Rear	0.634	0.046	**0.680**
	LTE Band 41	Front	0.195	0.029	0.224
		Rear	0.259	0.046	**0.305**

Table 12.5.22 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	0.274	0.081	0.355
		Rear	0.361	0.360	**0.721**
	GPRS 850	Front	0.352	0.081	0.433
		Rear	0.589	0.360	**0.949**
	GSM 1900	Front	0.287	0.081	0.368
		Rear	0.344	0.360	**0.704**
	GPRS 1900	Front	0.369	0.081	0.450
		Rear	0.439	0.360	**0.799**
	WCDMA 850	Front	0.492	0.081	0.573
		Rear	0.678	0.360	**1.038**
	WCDMA 1900	Front	0.691	0.081	0.772
		Rear	0.797	0.360	**1.157**
	LTE Band 12	Front	0.288	0.081	0.369
		Rear	0.393	0.360	**0.753**
	LTE Band 5	Front	0.510	0.081	0.591
		Rear	0.685	0.360	**1.045**
	LTE Band 4	Front	0.485	0.081	0.566
		Rear	0.528	0.360	**0.888**
	LTE Band 2	Front	0.518	0.081	0.599
		Rear	0.634	0.360	**0.994**
	LTE Band 41	Front	0.195	0.081	0.276
		Rear	0.259	0.360	**0.619**

Table 12.5.23 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	0.274	0.003	0.277
		Rear	0.361	0.068	**0.429**
	GPRS 850	Front	0.352	0.003	0.355
		Rear	0.589	0.068	**0.657**
	GSM 1900	Front	0.287	0.003	0.290
		Rear	0.344	0.068	**0.412**
	GPRS 1900	Front	0.369	0.003	0.372
		Rear	0.439	0.068	**0.507**
	WCDMA 850	Front	0.492	0.003	0.495
		Rear	0.678	0.068	**0.746**
	WCDMA 1900	Front	0.691	0.003	0.694
		Rear	0.797	0.068	**0.865**
	LTE Band 12	Front	0.288	0.003	0.291
		Rear	0.393	0.068	**0.461**
	LTE Band 5	Front	0.510	0.003	0.513
		Rear	0.685	0.068	**0.753**
	LTE Band 4	Front	0.485	0.003	0.488
		Rear	0.528	0.068	**0.596**
	LTE Band 2	Front	0.518	0.003	0.521
		Rear	0.634	0.068	**0.702**
	LTE Band 41	Front	0.195	0.003	0.198
		Rear	0.259	0.068	**0.327**

Table 12.5.24 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	0.274	0.026	0.300
		Rear	0.361	0.062	**0.423**
	GPRS 850	Front	0.352	0.026	0.378
		Rear	0.589	0.062	**0.651**
	GSM 1900	Front	0.287	0.026	0.313
		Rear	0.344	0.062	**0.406**
	GPRS 1900	Front	0.369	0.026	0.395
		Rear	0.439	0.062	**0.501**
	WCDMA 850	Front	0.492	0.026	0.518
		Rear	0.678	0.062	**0.740**
	WCDMA 1900	Front	0.691	0.026	0.717
		Rear	0.797	0.062	**0.859**
	LTE Band 12	Front	0.288	0.026	0.314
		Rear	0.393	0.062	**0.455**
	LTE Band 5	Front	0.510	0.026	0.536
		Rear	0.685	0.062	**0.747**
	LTE Band 4	Front	0.485	0.026	0.511
		Rear	0.528	0.062	**0.590**
	LTE Band 2	Front	0.518	0.026	0.544
		Rear	0.634	0.062	**0.696**
	LTE Band 41	Front	0.195	0.026	0.221
		Rear	0.259	0.062	**0.321**

Table 12.5.25 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	0.274	0.030	0.304
		Rear	0.361	0.115	**0.476**
	GPRS 850	Front	0.352	0.030	0.382
		Rear	0.589	0.115	**0.704**
	GSM 1900	Front	0.287	0.030	0.317
		Rear	0.344	0.115	**0.459**
	GPRS 1900	Front	0.369	0.030	0.399
		Rear	0.439	0.115	**0.554**
	WCDMA 850	Front	0.492	0.030	0.522
		Rear	0.678	0.115	**0.793**
	WCDMA 1900	Front	0.691	0.030	0.721
		Rear	0.797	0.115	**0.912**
	LTE Band 12	Front	0.288	0.030	0.318
		Rear	0.393	0.115	**0.508**
	LTE Band 5	Front	0.510	0.030	0.540
		Rear	0.685	0.115	**0.800**
	LTE Band 4	Front	0.485	0.030	0.515
		Rear	0.528	0.115	**0.643**
	LTE Band 2	Front	0.518	0.030	0.548
		Rear	0.634	0.115	**0.749**
	LTE Band 41	Front	0.195	0.030	0.225
		Rear	0.259	0.115	**0.374**

Table 12.5.26 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	GSM 850	Front	0.274	0.021	0.295
		Rear	0.361	0.018	**0.379**
	GPRS 850	Front	0.352	0.021	0.373
		Rear	0.589	0.018	**0.607**
	GSM 1900	Front	0.287	0.021	0.308
		Rear	0.344	0.018	**0.362**
	GPRS 1900	Front	0.369	0.021	0.390
		Rear	0.439	0.018	**0.457**
	WCDMA 850	Front	0.492	0.021	0.513
		Rear	0.678	0.018	**0.696**
	WCDMA 1900	Front	0.691	0.021	0.712
		Rear	0.797	0.018	**0.815**
	LTE Band 12	Front	0.288	0.021	0.309
		Rear	0.393	0.018	**0.411**
	LTE Band 5	Front	0.510	0.021	0.531
		Rear	0.685	0.018	**0.703**
	LTE Band 4	Front	0.485	0.021	0.506
		Rear	0.528	0.018	**0.546**
	LTE Band 2	Front	0.518	0.021	0.539
		Rear	0.634	0.018	**0.652**
	LTE Band 41	Front	0.195	0.021	0.216
		Rear	0.259	0.018	**0.277**

Table 12.5.27 Simultaneous Transmission Scenario : 2.4 GHz W-LAN Ant.1 + 5 GHz W-LAN Ant.2 (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2.4G W-LAN Ant.1 SAR (W/kg)	5G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN Ant.2	Front	0.087	0.045	0.132
		Rear	0.091	0.309	**0.400**
	5.6G W-LAN Ant.2	Front	0.087	0.029	0.116
		Rear	0.091	0.046	**0.137**
	5.8G W-LAN Ant.2	Front	0.087	0.026	0.113
		Rear	0.091	0.062	**0.153**

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

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN Ant.1	Front	0.021	0.047	0.068
		Rear	0.018	0.346	**0.364**
	5.6G W-LAN Ant.1	Front	0.021	0.015	0.036
		Rear	0.018	0.231	**0.249**
	5.8G W-LAN Ant.1	Front	0.021	0.003	0.024
		Rear	0.018	0.068	**0.086**

Table 12.5.29 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN Ant.2 (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN Ant.2	Front	0.021	0.045	0.066
		Rear	0.018	0.309	**0.327**
	5.6G W-LAN Ant.2	Front	0.021	0.029	0.050
		Rear	0.018	0.046	**0.064**
	5.8G W-LAN Ant.2	Front	0.021	0.026	0.047
		Rear	0.018	0.062	**0.080**

Table 12.5.30 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 5 GHz W-LAN MIMO (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	5G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN MIMO	Front	0.021	0.077	0.098
		Rear	0.018	0.356	**0.374**
	5.6G W-LAN MIMO	Front	0.021	0.081	0.102
		Rear	0.018	0.360	**0.378**
	5.8G W-LAN MIMO	Front	0.021	0.030	0.051
		Rear	0.018	0.115	**0.133**

Table 12.5.31 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 2.4 GHz W-LAN Ant.2 (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN MIMO	Front	0.021	0.092	0.113
		Rear	0.018	0.129	**0.147**

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.087	0.038	0.439	0.390	0.477
		Rear	0.589	0.091	0.258	0.680	0.847	**0.938**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.173	0.028	0.173	0.028	0.201
	GPRS 1900	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.660	-	-	0.660	0.660	0.660
		Front	0.369	0.087	0.038	0.456	0.407	0.494
		Rear	0.439	0.091	0.258	0.530	0.697	**0.788**
		Right	-	-	-	-	-	-
		Left	0.153	0.173	0.028	0.326	0.181	0.354
	WCDMA 850	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.087	0.038	0.579	0.530	0.617
		Rear	0.678	0.091	0.258	0.769	0.936	**1.027**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.173	0.028	0.173	0.028	0.201
	WCDMA 1900	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.087	0.038	0.778	0.729	0.816
		Rear	**0.797**	0.091	0.258	0.888	1.055	1.146
		Right	-	-	-	-	-	-
		Left	0.248	0.173	0.028	0.421	0.276	0.449
	LTE Band 12	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.087	0.038	0.375	0.326	0.413
		Rear	0.393	0.091	0.258	0.484	0.651	**0.742**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.173	0.028	0.173	0.028	0.201
	LTE Band 5	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.087	0.038	0.597	0.548	0.635
		Rear	0.685	0.091	0.258	0.776	0.943	**1.034**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.173	0.028	0.173	0.028	0.201
	LTE Band 4	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.729	-	-	0.729	0.729	0.729
		Front	0.485	0.087	0.038	0.572	0.523	0.610
		Rear	0.528	0.091	0.258	0.619	0.786	**0.877**
		Right	-	-	-	-	-	-
		Left	0.182	0.173	0.028	0.355	0.210	0.383
	LTE Band 2	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.976	-	-	0.976	0.976	0.976
		Front	0.518	0.087	0.038	0.605	0.556	0.643
		Rear	0.634	0.091	0.258	0.725	0.892	**0.983**
		Right	-	-	-	-	-	-
		Left	0.249	0.173	0.028	0.422	0.277	0.450
	LTE Band 41	Top	-	0.074	0.007	0.074	0.007	0.081
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.087	0.038	0.282	0.233	0.320
		Rear	0.259	0.091	0.258	0.350	0.517	**0.608**
		Right	-	-	-	-	-	-
		Left	0.052	0.173	0.028	0.225	0.080	0.253

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.087	0.023	0.439	0.375	0.462
		Rear	0.589	0.091	0.047	0.680	0.636	**0.727**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.173	0.020	0.173	0.020	0.193
	GPRS 1900	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.660	-	-	0.660	0.660	**0.660**
		Front	0.369	0.087	0.023	0.456	0.392	0.479
		Rear	0.439	0.091	0.047	0.530	0.486	0.577
		Right	-	-	-	-	-	-
		Left	0.153	0.173	0.020	0.326	0.173	0.346
	WCDMA 850	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.087	0.023	0.579	0.515	0.602
		Rear	0.678	0.091	0.047	0.769	0.725	**0.816**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.173	0.020	0.173	0.020	0.193
	WCDMA 1900	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.087	0.023	0.778	0.714	0.801
		Rear	**0.797**	0.091	0.047	0.888	0.844	0.935
		Right	-	-	-	-	-	-
		Left	0.248	0.173	0.020	0.421	0.268	0.441
	LTE Band 12	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.087	0.023	0.375	0.311	0.398
		Rear	0.393	0.091	0.047	0.484	0.440	**0.531**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.173	0.020	0.173	0.020	0.193
	LTE Band 5	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.087	0.023	0.597	0.533	0.620
		Rear	0.685	0.091	0.047	0.776	0.732	**0.823**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.173	0.020	0.173	0.020	0.193
	LTE Band 4	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.729	-	-	0.729	0.729	**0.729**
		Front	0.485	0.087	0.023	0.572	0.508	0.595
		Rear	0.528	0.091	0.047	0.619	0.575	0.666
		Right	-	-	-	-	-	-
		Left	0.182	0.173	0.020	0.355	0.202	0.375
	LTE Band 2	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.087	0.023	0.605	0.541	0.628
		Rear	0.634	0.091	0.047	0.725	0.681	0.772
		Right	-	-	-	-	-	-
		Top	0.249	0.173	0.020	0.422	0.269	0.442
	LTE Band 41	Top	-	0.074	0.023	0.074	0.023	0.097
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.087	0.023	0.282	0.218	0.305
		Rear	0.259	0.091	0.047	0.350	0.306	**0.397**
		Right	-	-	-	-	-	-
		Left	0.052	0.173	0.020	0.225	0.072	0.245

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.043	0.373	0.395	0.416
		Rear	0.589	0.018	0.291	0.607	0.880	**0.898**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.116	0.038	0.116	0.154
	GPRS 1900	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.660	-	-	0.660	0.660	0.660
		Front	0.369	0.021	0.043	0.390	0.412	0.433
		Rear	0.439	0.018	0.291	0.457	0.730	**0.748**
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.116	0.191	0.269	0.307
	WCDMA 850	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.043	0.513	0.535	0.556
		Rear	0.678	0.018	0.291	0.696	0.969	**0.987**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.116	0.038	0.116	0.154
	WCDMA 1900	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.043	0.712	0.734	0.755
		Rear	**0.797**	0.018	0.291	0.815	1.088	1.106
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.116	0.286	0.364	0.402
	LTE Band 12	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.043	0.309	0.331	0.352
		Rear	0.393	0.018	0.291	0.411	0.684	**0.702**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.116	0.038	0.116	0.154
	LTE Band 5	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.043	0.531	0.553	0.574
		Rear	0.685	0.018	0.291	0.703	0.976	**0.994**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.116	0.038	0.116	0.154
	LTE Band 4	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.729	-	-	0.729	0.729	0.729
		Front	0.485	0.021	0.043	0.506	0.528	0.549
		Rear	0.528	0.018	0.291	0.546	0.819	**0.837**
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.116	0.220	0.298	0.336
	LTE Band 2	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.043	0.539	0.561	0.582
		Rear	0.634	0.018	0.291	0.652	0.925	0.943
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.116	0.287	0.365	0.403
	LTE Band 41	Top	-	0.014	0.075	0.014	0.075	0.089
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.021	0.043	0.216	0.238	0.259
		Rear	0.259	0.018	0.291	0.277	0.550	**0.568**
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.116	0.090	0.168	0.206

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.362	0.021	0.038	0.373	0.390	0.411
		Rear	0.589	0.018	0.258	0.607	0.847	**0.865**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.028	0.038	0.028	0.066
	GPRS 1900	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.660	-	-	0.660	0.660	0.660
		Front	0.369	0.021	0.038	0.390	0.407	0.428
		Rear	0.439	0.018	0.258	0.457	0.697	**0.715**
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.028	0.191	0.181	0.219
	WCDMA 850	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.038	0.513	0.530	0.551
		Rear	0.678	0.018	0.258	0.696	0.936	**0.954**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.028	0.038	0.028	0.066
	WCDMA 1900	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.038	0.712	0.729	0.750
		Rear	**0.797**	0.018	0.258	0.815	1.055	1.073
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.028	0.286	0.276	0.314
	LTE Band 12	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.038	0.309	0.326	0.347
		Rear	0.393	0.018	0.258	0.411	0.651	**0.669**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.028	0.038	0.028	0.066
	LTE Band 5	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.038	0.531	0.548	0.569
		Rear	0.685	0.018	0.258	0.703	0.943	**0.961**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.028	0.038	0.028	0.066
	LTE Band 4	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.729	-	-	0.729	0.729	0.729
		Front	0.485	0.021	0.038	0.506	0.523	0.544
		Rear	0.528	0.018	0.258	0.546	0.786	**0.804**
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.028	0.220	0.210	0.248
	LTE Band 2	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.038	0.539	0.556	0.577
		Rear	0.634	0.018	0.258	0.652	0.892	0.910
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.028	0.287	0.277	0.315
	LTE Band 41	Top	-	0.014	0.007	0.014	0.007	0.021
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.021	0.038	0.216	0.233	0.254
		Rear	0.259	0.018	0.258	0.277	0.517	**0.535**
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.028	0.090	0.080	0.118

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.069	0.373	0.421	0.442
		Rear	0.589	0.018	0.308	0.607	0.897	**0.915**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.125	0.038	0.125	0.163
	GPRS 1900	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.660	-	-	0.660	0.660	0.660
		Front	0.369	0.021	0.069	0.390	0.438	0.459
		Rear	0.439	0.018	0.308	0.457	0.747	**0.765**
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.125	0.191	0.278	0.316
	WCDMA 850	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.069	0.513	0.561	0.582
		Rear	0.678	0.018	0.308	0.696	0.986	**1.004**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.125	0.038	0.125	0.163
	WCDMA 1900	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.069	0.712	0.760	0.781
		Rear	**0.797**	0.018	0.308	0.815	1.105	1.123
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.125	0.286	0.373	0.411
	LTE Band 12	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.069	0.309	0.357	0.378
		Rear	0.393	0.018	0.308	0.411	0.701	**0.719**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.125	0.038	0.125	0.163
	LTE Band 5	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.069	0.531	0.579	0.600
		Rear	0.685	0.018	0.308	0.703	0.993	**1.011**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.125	0.038	0.125	0.163
	LTE Band 4	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.729	-	-	0.729	0.729	0.729
		Front	0.485	0.021	0.069	0.506	0.554	0.575
		Rear	0.528	0.018	0.308	0.546	0.836	**0.854**
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.125	0.220	0.307	0.345
	LTE Band 2	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.976	-	-	0.976	0.976	0.976
		Front	0.518	0.021	0.069	0.539	0.587	0.608
		Rear	0.634	0.018	0.308	0.652	0.942	**0.960**
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.125	0.287	0.374	0.412
	LTE Band 41	Top	-	0.014	0.085	0.014	0.085	0.099
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.021	0.069	0.216	0.264	0.285
		Rear	0.259	0.018	0.308	0.277	0.567	**0.585**
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.125	0.090	0.177	0.215

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)	Σ SAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.003	0.373	0.355	0.376
		Rear	0.589	0.018	0.061	0.607	0.650	**0.668**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.033	0.038	0.033	0.071
	GPRS 1900	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.660	-	-	0.660	0.660	**0.660**
		Front	0.369	0.021	0.003	0.390	0.372	0.393
		Rear	0.439	0.018	0.061	0.457	0.500	0.518
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.033	0.191	0.186	0.224
	WCDMA 850	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.003	0.513	0.495	0.516
		Rear	0.678	0.018	0.061	0.696	0.739	**0.757**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.033	0.038	0.033	0.071
	WCDMA 1900	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.003	0.712	0.694	0.715
		Rear	**0.797**	0.018	0.061	0.815	0.858	0.876
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.033	0.286	0.281	0.319
	LTE Band 12	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.003	0.309	0.291	0.312
		Rear	0.393	0.018	0.061	0.411	0.454	**0.472**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.033	0.038	0.033	0.071
	LTE Band 5	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.003	0.531	0.513	0.534
		Rear	0.685	0.018	0.061	0.703	0.746	**0.764**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.033	0.038	0.033	0.071
	LTE Band 4	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.729	-	-	0.729	0.729	**0.729**
		Front	0.485	0.021	0.003	0.506	0.488	0.509
		Rear	0.528	0.018	0.061	0.546	0.589	0.607
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.033	0.220	0.215	0.253
	LTE Band 2	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.003	0.539	0.521	0.542
		Rear	0.634	0.018	0.061	0.652	0.695	0.713
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.033	0.287	0.282	0.320
	LTE Band 41	Top	-	0.014	0.019	0.014	0.019	0.033
		Bottom	0.369	-	-	0.369	0.369	**0.369**
		Front	0.195	0.021	0.003	0.216	0.198	0.219
		Rear	0.259	0.018	0.061	0.277	0.320	0.338
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.033	0.090	0.085	0.123

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	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.023	0.373	0.375	0.396
		Rear	0.589	0.018	0.047	0.607	0.636	**0.654**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.020	0.038	0.020	0.058
	GPRS 1900	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.660	-	-	0.660	0.660	**0.660**
		Front	0.369	0.021	0.023	0.390	0.392	0.413
		Rear	0.439	0.018	0.047	0.457	0.486	0.504
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.020	0.191	0.173	0.211
	WCDMA 850	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.023	0.513	0.515	0.536
		Rear	0.678	0.018	0.047	0.696	0.725	**0.743**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.020	0.038	0.020	0.058
	WCDMA 1900	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.023	0.712	0.714	0.735
		Rear	**0.797**	0.018	0.047	0.815	0.844	0.862
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.020	0.286	0.268	0.306
	LTE Band 12	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.023	0.309	0.311	0.332
		Rear	0.393	0.018	0.047	0.411	0.440	**0.458**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.020	0.038	0.020	0.058
	LTE Band 5	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.023	0.531	0.533	0.554
		Rear	0.685	0.018	0.047	0.703	0.732	**0.750**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.020	0.038	0.020	0.058
	LTE Band 4	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.729	-	-	0.729	0.729	**0.729**
		Front	0.485	0.021	0.023	0.506	0.508	0.529
		Rear	0.528	0.018	0.047	0.546	0.575	0.593
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.020	0.220	0.202	0.240
	LTE Band 2	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.023	0.539	0.541	0.562
		Rear	0.634	0.018	0.047	0.652	0.681	0.699
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.020	0.287	0.269	0.307
	LTE Band 41	Top	-	0.014	0.023	0.014	0.023	0.037
		Bottom	0.369	-	-	0.369	0.369	**0.369**
		Front	0.195	0.021	0.023	0.216	0.218	0.239
		Rear	0.259	0.018	0.047	0.277	0.306	0.324
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.020	0.090	0.072	0.110

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	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.028	0.373	0.380	0.401
		Rear	0.589	0.018	0.111	0.607	0.700	**0.718**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.042	0.038	0.042	0.080
	GPRS 1900	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.660	-	-	0.660	0.660	**0.660**
		Front	0.369	0.021	0.028	0.390	0.397	0.418
		Rear	0.439	0.018	0.111	0.457	0.550	0.568
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.042	0.191	0.195	0.233
	WCDMA 850	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.028	0.513	0.520	0.541
		Rear	0.678	0.018	0.111	0.696	0.789	**0.807**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.042	0.038	0.042	0.080
	WCDMA 1900	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.028	0.712	0.719	0.740
		Rear	**0.797**	0.018	0.111	0.815	0.908	0.926
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.042	0.286	0.290	0.328
	LTE Band 12	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.028	0.309	0.316	0.337
		Rear	0.393	0.018	0.111	0.411	0.504	**0.522**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.042	0.038	0.042	0.080
	LTE Band 5	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.028	0.531	0.538	0.559
		Rear	0.685	0.018	0.111	0.703	0.796	**0.814**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.042	0.038	0.042	0.080
	LTE Band 4	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.729	-	-	0.729	0.729	**0.729**
		Front	0.485	0.021	0.028	0.506	0.513	0.534
		Rear	0.528	0.018	0.111	0.546	0.639	0.657
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.042	0.220	0.224	0.262
	LTE Band 2	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.028	0.539	0.546	0.567
		Rear	0.634	0.018	0.111	0.652	0.745	0.763
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.042	0.287	0.291	0.329
	LTE Band 41	Top	-	0.014	0.034	0.014	0.034	0.048
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.021	0.028	0.216	0.223	0.244
		Rear	0.259	0.018	0.111	0.277	0.370	**0.388**
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.042	0.090	0.094	0.132

Table 12.6.9 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth Ant.1 + 2.4 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)	2.4G 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	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.233	-	-	0.233	0.233	0.233
		Front	0.352	0.021	0.092	0.373	0.444	0.465
		Rear	0.589	0.018	0.129	0.607	0.718	**0.736**
		Right	0.189	-	-	0.189	0.189	0.189
		Left	-	0.038	0.022	0.038	0.022	0.060
	GPRS 1900	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.660	-	-	0.660	0.660	**0.660**
		Front	0.369	0.021	0.092	0.390	0.461	0.482
		Rear	0.439	0.018	0.129	0.457	0.568	0.586
		Right	-	-	-	-	-	-
		Left	0.153	0.038	0.022	0.191	0.175	0.213
	WCDMA 850	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.339	-	-	0.339	0.339	0.339
		Front	0.492	0.021	0.092	0.513	0.584	0.605
		Rear	0.678	0.018	0.129	0.696	0.807	**0.825**
		Right	0.195	-	-	0.195	0.195	0.195
		Left	-	0.038	0.022	0.038	0.022	0.060
	WCDMA 1900	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	**1.162**	-	-	**1.162**	**1.162**	1.162
		Front	0.691	0.021	0.092	0.712	0.783	0.804
		Rear	**0.797**	0.018	0.129	0.815	0.926	0.944
		Right	-	-	-	-	-	-
		Left	0.248	0.038	0.022	0.286	0.270	0.308
	LTE Band 12	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.170	-	-	0.170	0.170	0.170
		Front	0.288	0.021	0.092	0.309	0.380	0.401
		Rear	0.393	0.018	0.129	0.411	0.522	**0.540**
		Right	0.139	-	-	0.139	0.139	0.139
		Left	-	0.038	0.022	0.038	0.022	0.060
	LTE Band 5	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.367	-	-	0.367	0.367	0.367
		Front	0.510	0.021	0.092	0.531	0.602	0.623
		Rear	0.685	0.018	0.129	0.703	0.814	**0.832**
		Right	0.225	-	-	0.225	0.225	0.225
		Left	-	0.038	0.022	0.038	0.022	0.060
	LTE Band 4	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.729	-	-	0.729	0.729	**0.729**
		Front	0.485	0.021	0.092	0.506	0.577	0.598
		Rear	0.528	0.018	0.129	0.546	0.657	0.675
		Right	-	-	-	-	-	-
		Left	0.182	0.038	0.022	0.220	0.204	0.242
	LTE Band 2	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.976	-	-	0.976	0.976	**0.976**
		Front	0.518	0.021	0.092	0.539	0.610	0.631
		Rear	0.634	0.018	0.129	0.652	0.763	0.781
		Right	-	-	-	-	-	-
		Left	0.249	0.038	0.022	0.287	0.271	0.309
	LTE Band 41	Top	-	0.014	0.106	0.014	0.106	0.120
		Bottom	0.369	-	-	0.369	0.369	0.369
		Front	0.195	0.021	0.092	0.216	0.287	0.308
		Rear	0.259	0.018	0.129	0.277	0.388	**0.406**
		Right	-	-	-	-	-	-
		Left	0.052	0.038	0.022	0.090	0.074	0.112

Table 12.6.10 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN Ant.1 (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.074	0.074
		Bottom	0.233	-	0.233
		Front	0.352	0.087	0.439
		Rear	0.589	0.091	**0.680**
		Right	0.189	-	0.189
		Left	-	0.173	0.173
	GPRS 1900	Top	-	0.074	0.074
		Bottom	0.660	-	**0.660**
		Front	0.369	0.087	0.456
		Rear	0.439	0.091	0.530
		Right	-	-	-
		Left	0.153	0.173	0.326
	WCDMA 850	Top	-	0.074	0.074
		Bottom	0.339	-	0.339
		Front	0.492	0.087	0.579
		Rear	0.678	0.091	**0.769**
		Right	0.195	-	0.195
		Left	-	0.173	0.173
	WCDMA 1900	Top	-	0.074	0.074
		Bottom	**1.162**	-	1.162
		Front	0.691	0.087	0.778
		Rear	**0.797**	0.091	0.888
		Right	-	-	-
		Left	0.248	0.173	0.421
	LTE Band 12	Top	-	0.074	0.074
		Bottom	0.170	-	0.170
		Front	0.288	0.087	0.375
		Rear	0.393	0.091	**0.484**
		Right	0.139	-	0.139
		Left	-	0.173	0.173
	LTE Band 5	Top	-	0.074	0.074
		Bottom	0.367	-	0.367
		Front	0.510	0.087	0.597
		Rear	0.685	0.091	**0.776**
		Right	0.225	-	0.225
		Left	-	0.173	0.173
	LTE Band 4	Top	-	0.074	**0.074**
		Bottom	0.729	-	**0.729**
		Front	0.485	0.087	0.572
		Rear	0.528	0.091	0.619
		Right	-	-	-
		Left	0.182	0.173	0.355
	LTE Band 2	Top	-	0.074	0.074
		Bottom	0.976	-	**0.976**
		Front	0.518	0.087	0.605
		Rear	0.634	0.091	0.725
		Right	-	-	-
		Left	0.249	0.173	0.422
	LTE Band 41	Top	-	0.074	0.074
		Bottom	0.369	-	**0.369**
		Front	0.195	0.087	0.282
		Rear	0.259	0.091	0.350
		Right	-	-	-
		Left	0.052	0.173	0.225

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.106	0.106
		Bottom	0.233	-	0.233
		Front	0.352	0.092	0.444
		Rear	0.589	0.129	**0.718**
		Right	0.189	-	0.189
		Left	-	0.022	0.022
	GPRS 1900	Top	-	0.106	0.106
		Bottom	0.660	-	**0.660**
		Front	0.369	0.092	0.461
		Rear	0.439	0.129	0.568
		Right	-	-	-
		Left	0.153	0.022	0.175
	WCDMA 850	Top	-	0.106	0.106
		Bottom	0.339	-	0.339
		Front	0.492	0.092	0.584
		Rear	0.678	0.129	**0.807**
		Right	0.195	-	0.195
		Left	-	0.022	0.022
	WCDMA 1900	Top	-	0.106	0.106
		Bottom	**1.162**	-	1.162
		Front	0.691	0.092	0.783
		Rear	**0.797**	0.129	0.926
		Right	-	-	-
		Left	0.248	0.022	0.270
	LTE Band 12	Top	-	0.106	0.106
		Bottom	0.170	-	0.170
		Front	0.288	0.092	0.380
		Rear	0.393	0.129	**0.522**
		Right	0.139	-	0.139
		Left	-	0.022	0.022
	LTE Band 5	Top	-	0.106	0.106
		Bottom	0.367	-	0.367
		Front	0.510	0.092	0.602
		Rear	0.685	0.129	**0.814**
		Right	0.225	-	0.225
		Left	-	0.022	0.022
	LTE Band 4	Top	-	0.106	0.106
		Bottom	0.729	-	**0.729**
		Front	0.485	0.092	0.577
		Rear	0.528	0.129	0.657
		Right	-	-	-
		Left	0.182	0.022	0.204
	LTE Band 2	Top	-	0.106	0.106
		Bottom	0.976	-	**0.976**
		Front	0.518	0.092	0.610
		Rear	0.634	0.129	0.763
		Right	-	-	-
		Left	0.249	0.022	0.271
	LTE Band 41	Top	-	0.106	0.106
		Bottom	0.369	-	0.369
		Front	0.195	0.092	0.287
		Rear	0.259	0.129	**0.388**
		Right	-	-	-
		Left	0.052	0.022	0.074

Table 12.6.12 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	-	0.135	0.135
		Bottom	0.233	-	0.233
		Front	0.352	0.131	0.483
		Rear	0.589	0.177	**0.766**
		Right	0.189	-	0.189
		Left	-	0.222	0.222
	GPRS 1900	Top	-	0.135	0.135
		Bottom	0.660	-	**0.660**
		Front	0.369	0.131	0.500
		Rear	0.439	0.177	0.616
		Right	-	-	-
		Left	0.153	0.222	0.375
	WCDMA 850	Top	-	0.135	0.135
		Bottom	0.339	-	0.339
		Front	0.492	0.131	0.623
		Rear	0.678	0.177	**0.855**
		Right	0.195	-	0.195
		Left	-	0.222	0.222
	WCDMA 1900	Top	-	0.135	0.135
		Bottom	**1.162**	-	1.162
		Front	0.691	0.131	0.822
		Rear	**0.797**	0.177	0.974
		Right	-	-	-
		Left	0.248	0.222	0.470
	LTE Band 12	Top	-	0.135	0.135
		Bottom	0.170	-	0.170
		Front	0.288	0.131	0.419
		Rear	0.393	0.177	**0.570**
		Right	0.139	-	0.139
		Left	-	0.222	0.222
	LTE Band 5	Top	-	0.135	0.135
		Bottom	0.367	-	0.367
		Front	0.510	0.131	0.641
		Rear	0.685	0.177	**0.862**
		Right	0.225	-	0.225
		Left	-	0.222	0.222
	LTE Band 4	Top	-	0.135	0.135
		Bottom	0.729	-	**0.729**
		Front	0.485	0.131	0.616
		Rear	0.528	0.177	0.705
		Right	-	-	-
		Left	0.182	0.222	0.404
	LTE Band 2	Top	-	0.135	0.135
		Bottom	0.976	-	**0.976**
		Front	0.518	0.131	0.649
		Rear	0.634	0.177	0.811
		Right	-	-	-
		Left	0.249	0.222	0.471
	LTE Band 41	Top	-	0.135	0.135
		Bottom	0.369	-	0.369
		Front	0.195	0.131	0.326
		Rear	0.259	0.177	**0.436**
		Right	-	-	-
		Left	0.052	0.222	0.274

Table 12.6.13 Simultaneous Transmission Scenario : 2G/3G/4G + 5.2 GHz W-LAN Ant.1 (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.075	0.075
		Bottom	0.233	-	0.233
		Front	0.352	0.043	0.395
		Rear	0.589	0.291	**0.880**
		Right	0.189	-	0.189
		Left	-	0.116	0.116
	GPRS 1900	Top	-	0.075	0.075
		Bottom	0.660	-	0.660
		Front	0.369	0.043	0.412
		Rear	0.439	0.291	**0.730**
		Right	-	-	-
		Left	0.153	0.116	0.269
	WCDMA 850	Top	-	0.075	0.075
		Bottom	0.339	-	0.339
		Front	0.492	0.043	0.535
		Rear	0.678	0.291	**0.969**
		Right	0.195	-	0.195
		Left	-	0.116	0.116
	WCDMA 1900	Top	-	0.075	0.075
		Bottom	**1.162**	-	1.162
		Front	0.691	0.043	0.734
		Rear	**0.797**	0.291	1.088
		Right	-	-	-
		Left	0.248	0.116	0.364
	LTE Band 12	Top	-	0.075	0.075
		Bottom	0.170	-	0.170
		Front	0.288	0.043	0.331
		Rear	0.393	0.291	**0.684**
		Right	0.139	-	0.139
		Left	-	0.116	0.116
	LTE Band 5	Top	-	0.075	0.075
		Bottom	0.367	-	0.367
		Front	0.510	0.043	0.553
		Rear	0.685	0.291	**0.976**
		Right	0.225	-	0.225
		Left	-	0.116	0.116
	LTE Band 4	Top	-	0.075	0.075
		Bottom	0.729	-	0.729
		Front	0.485	0.043	0.528
		Rear	0.528	0.291	**0.819**
		Right	-	-	-
		Left	0.182	0.116	0.298
	LTE Band 2	Top	-	0.075	0.075
		Bottom	0.976	-	**0.976**
		Front	0.518	0.043	0.561
		Rear	0.634	0.291	0.925
		Right	-	-	-
		Left	0.249	0.116	0.365
	LTE Band 41	Top	-	0.075	0.075
		Bottom	0.369	-	0.369
		Front	0.195	0.043	0.238
		Rear	0.259	0.291	**0.550**
		Right	-	-	-
		Left	0.052	0.116	0.168

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN Ant.2 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.007	0.007
		Bottom	0.233	-	0.233
		Front	0.352	0.038	0.390
		Rear	0.589	0.258	**0.847**
		Right	0.189	-	0.189
		Left	-	0.028	0.028
	GPRS 1900	Top	-	0.007	0.007
		Bottom	0.660	-	0.660
		Front	0.369	0.038	0.407
		Rear	0.439	0.258	**0.697**
		Right	-	-	-
		Left	0.153	0.028	0.181
	WCDMA 850	Top	-	0.007	0.007
		Bottom	0.339	-	0.339
		Front	0.492	0.038	0.530
		Rear	0.678	0.258	**0.936**
		Right	0.195	-	0.195
		Left	-	0.028	0.028
	WCDMA 1900	Top	-	0.007	0.007
		Bottom	**1.162**	-	1.162
		Front	0.691	0.038	0.729
		Rear	**0.797**	0.258	1.055
		Right	-	-	-
		Left	0.248	0.028	0.276
	LTE Band 12	Top	-	0.007	0.007
		Bottom	0.170	-	0.170
		Front	0.288	0.038	0.326
		Rear	0.393	0.258	**0.651**
		Right	0.139	-	0.139
		Left	-	0.028	0.028
	LTE Band 5	Top	-	0.007	0.007
		Bottom	0.367	-	0.367
		Front	0.510	0.038	0.548
		Rear	0.685	0.258	**0.943**
		Right	0.225	-	0.225
		Left	-	0.028	0.028
	LTE Band 4	Top	-	0.007	0.007
		Bottom	0.729	-	0.729
		Front	0.485	0.038	0.523
		Rear	0.528	0.258	**0.786**
		Right	-	-	-
		Left	0.182	0.028	0.210
	LTE Band 2	Top	-	0.007	0.007
		Bottom	0.976	-	**0.976**
		Front	0.518	0.038	0.556
		Rear	0.634	0.258	0.892
		Right	-	-	-
		Left	0.249	0.028	0.277
	LTE Band 41	Top	-	0.007	0.007
		Bottom	0.369	-	0.369
		Front	0.195	0.038	0.233
		Rear	0.259	0.258	**0.517**
		Right	-	-	-
		Left	0.052	0.028	0.080

Table 12.6.15 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	-	0.085	0.085
		Bottom	0.233	-	0.233
		Front	0.352	0.069	0.421
		Rear	0.589	0.308	**0.897**
		Right	0.189	-	0.189
		Left	-	0.125	0.125
	GPRS 1900	Top	-	0.085	0.085
		Bottom	0.660	-	0.660
		Front	0.369	0.069	0.438
		Rear	0.439	0.308	**0.747**
		Right	-	-	-
		Left	0.153	0.125	0.278
	WCDMA 850	Top	-	0.085	0.085
		Bottom	0.339	-	0.339
		Front	0.492	0.069	0.561
		Rear	0.678	0.308	**0.986**
		Right	0.195	-	0.195
		Left	-	0.125	0.125
	WCDMA 1900	Top	-	0.085	0.085
		Bottom	**1.162**	-	1.162
		Front	0.691	0.069	0.760
		Rear	**0.797**	0.308	1.105
		Right	-	-	-
		Left	0.248	0.125	0.373
	LTE Band 12	Top	-	0.085	0.085
		Bottom	0.170	-	0.170
		Front	0.288	0.069	0.357
		Rear	0.393	0.308	**0.701**
		Right	0.139	-	0.139
		Left	-	0.125	0.125
	LTE Band 5	Top	-	0.085	0.085
		Bottom	0.367	-	0.367
		Front	0.510	0.069	0.579
		Rear	0.685	0.308	**0.993**
		Right	0.225	-	0.225
		Left	-	0.125	0.125
	LTE Band 4	Top	-	0.085	0.085
		Bottom	0.729	-	0.729
		Front	0.485	0.069	0.554
		Rear	0.528	0.308	**0.836**
		Right	-	-	-
		Left	0.182	0.125	0.307
	LTE Band 2	Top	-	0.085	0.085
		Bottom	0.976	-	**0.976**
		Front	0.518	0.069	0.587
		Rear	0.634	0.308	0.942
		Right	-	-	-
		Left	0.249	0.125	0.374
	LTE Band 41	Top	-	0.085	0.085
		Bottom	0.369	-	0.369
		Front	0.195	0.069	0.264
		Rear	0.259	0.308	**0.567**
		Right	-	-	-
		Left	0.052	0.125	0.177

Table 12.6.16 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN Ant.1 (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN Ant.1 SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.019	0.019
		Bottom	0.233	-	0.233
		Front	0.352	0.003	0.355
		Rear	0.589	0.061	**0.650**
		Right	0.189	-	0.189
		Left	-	0.033	0.033
	GPRS 1900	Top	-	0.019	0.019
		Bottom	0.660	-	**0.660**
		Front	0.369	0.003	0.372
		Rear	0.439	0.061	0.500
		Right	-	-	-
		Left	0.153	0.033	0.186
	WCDMA 850	Top	-	0.019	0.019
		Bottom	0.339	-	0.339
		Front	0.492	0.003	0.495
		Rear	0.678	0.061	**0.739**
		Right	0.195	-	0.195
		Left	-	0.033	0.033
	WCDMA 1900	Top	-	0.019	0.019
		Bottom	**1.162**	-	1.162
		Front	0.691	0.003	0.694
		Rear	**0.797**	0.061	0.858
		Right	-	-	-
		Left	0.248	0.033	0.281
	LTE Band 12	Top	-	0.019	0.019
		Bottom	0.170	-	0.170
		Front	0.288	0.003	0.291
		Rear	0.393	0.061	**0.454**
		Right	0.139	-	0.139
		Left	-	0.033	0.033
	LTE Band 5	Top	-	0.019	0.019
		Bottom	0.367	-	0.367
		Front	0.510	0.003	0.513
		Rear	0.685	0.061	**0.746**
		Right	0.225	-	0.225
		Left	-	0.033	0.033
	LTE Band 4	Top	-	0.019	0.019
		Bottom	0.729	-	**0.729**
		Front	0.485	0.003	0.488
		Rear	0.528	0.061	0.589
		Right	-	-	-
		Left	0.182	0.033	0.215
	LTE Band 2	Top	-	0.019	0.019
		Bottom	0.976	-	**0.976**
		Front	0.518	0.003	0.521
		Rear	0.634	0.061	0.695
		Right	-	-	-
		Left	0.249	0.033	0.282
	LTE Band 41	Top	-	0.019	0.019
		Bottom	0.369	-	**0.369**
		Front	0.195	0.003	0.198
		Rear	0.259	0.061	0.320
		Right	-	-	-
		Left	0.052	0.033	0.085

Table 12.6.17 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	-	0.023	0.023
		Bottom	0.233	-	0.233
		Front	0.352	0.023	0.375
		Rear	0.589	0.047	**0.636**
		Right	0.189	-	0.189
		Left	-	0.020	0.020
	GPRS 1900	Top	-	0.023	0.023
		Bottom	0.660	-	**0.660**
		Front	0.369	0.023	0.392
		Rear	0.439	0.047	0.486
		Right	-	-	-
		Left	0.153	0.020	0.173
	WCDMA 850	Top	-	0.023	0.023
		Bottom	0.339	-	0.339
		Front	0.492	0.023	0.515
		Rear	0.678	0.047	**0.725**
		Right	0.195	-	0.195
		Left	-	0.020	0.020
	WCDMA 1900	Top	-	0.023	0.023
		Bottom	**1.162**	-	1.162
		Front	0.691	0.023	0.714
		Rear	**0.797**	0.047	0.844
		Right	-	-	-
		Left	0.248	0.020	0.268
	LTE Band 12	Top	-	0.023	0.023
		Bottom	0.170	-	0.170
		Front	0.288	0.023	0.311
		Rear	0.393	0.047	**0.440**
		Right	0.139	-	0.139
		Left	-	0.020	0.020
	LTE Band 5	Top	-	0.023	0.023
		Bottom	0.367	-	0.367
		Front	0.510	0.023	0.533
		Rear	0.685	0.047	**0.732**
		Right	0.225	-	0.225
		Left	-	0.020	0.020
	LTE Band 4	Top	-	0.023	0.023
		Bottom	0.729	-	**0.729**
		Front	0.485	0.023	0.508
		Rear	0.528	0.047	0.575
		Right	-	-	-
		Left	0.182	0.020	0.202
	LTE Band 2	Top	-	0.023	0.023
		Bottom	0.976	-	**0.976**
		Front	0.518	0.023	0.541
		Rear	0.634	0.047	0.681
		Right	-	-	-
		Left	0.249	0.020	0.269
	LTE Band 41	Top	-	0.023	0.023
		Bottom	0.369	-	**0.369**
		Front	0.195	0.023	0.218
		Rear	0.259	0.047	0.306
		Right	-	-	-
		Left	0.052	0.020	0.072

Table 12.6.18 Simultaneous Transmission Scenario : 2G/3G/4G + 5.8 GHz W-LAN MIMO (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN MIMO SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.034	0.034
		Bottom	0.233	-	0.233
		Front	0.352	0.028	0.380
		Rear	0.589	0.111	**0.700**
		Right	0.189	-	0.189
		Left	-	0.042	0.042
	GPRS 1900	Top	-	0.034	0.034
		Bottom	0.660	-	**0.660**
		Front	0.369	0.028	0.397
		Rear	0.439	0.111	0.550
		Right	-	-	-
		Left	0.153	0.042	0.195
	WCDMA 850	Top	-	0.034	0.034
		Bottom	0.339	-	0.339
		Front	0.492	0.028	0.520
		Rear	0.678	0.111	**0.789**
		Right	0.195	-	0.195
		Left	-	0.042	0.042
	WCDMA 1900	Top	-	0.034	0.034
		Bottom	**1.162**	-	1.162
		Front	0.691	0.028	0.719
		Rear	**0.797**	0.111	0.908
		Right	-	-	-
		Left	0.248	0.042	0.290
	LTE Band 12	Top	-	0.034	0.034
		Bottom	0.170	-	0.170
		Front	0.288	0.028	0.316
		Rear	0.393	0.111	**0.504**
		Right	0.139	-	0.139
		Left	-	0.042	0.042
	LTE Band 5	Top	-	0.034	0.034
		Bottom	0.367	-	0.367
		Front	0.510	0.028	0.538
		Rear	0.685	0.111	**0.796**
		Right	0.225	-	0.225
		Left	-	0.042	0.042
	LTE Band 4	Top	-	0.034	0.034
		Bottom	0.729	-	**0.729**
		Front	0.485	0.028	0.513
		Rear	0.528	0.111	0.639
		Right	-	-	-
		Left	0.182	0.042	0.224
	LTE Band 2	Top	-	0.034	0.034
		Bottom	0.976	-	**0.976**
		Front	0.518	0.028	0.546
		Rear	0.634	0.111	0.745
		Right	-	-	-
		Left	0.249	0.042	0.291
	LTE Band 41	Top	-	0.034	0.034
		Bottom	0.369	-	0.369
		Front	0.195	0.028	0.223
		Rear	0.259	0.111	**0.370**
		Right	-	-	-
		Left	0.052	0.042	0.094

Table 12.6.19 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)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	GPRS 850	Top	-	0.014	0.014
		Bottom	0.233	-	0.233
		Front	0.352	0.021	0.373
		Rear	0.589	0.018	**0.607**
		Right	0.189	-	0.189
		Left	-	0.038	0.038
	GPRS 1900	Top	-	0.014	0.014
		Bottom	0.660	-	**0.660**
		Front	0.369	0.021	0.390
		Rear	0.439	0.018	0.457
		Right	-	-	-
		Left	0.153	0.038	0.191
	WCDMA 850	Top	-	0.014	0.014
		Bottom	0.339	-	0.339
		Front	0.492	0.021	0.513
		Rear	0.678	0.018	**0.696**
		Right	0.195	-	0.195
		Left	-	0.038	0.038
	WCDMA 1900	Top	-	0.014	0.014
		Bottom	**1.162**	-	**1.162**
		Front	0.691	0.021	0.712
		Rear	**0.797**	0.018	0.815
		Right	-	-	-
		Left	0.248	0.038	0.286
	LTE Band 12	Top	-	0.014	0.014
		Bottom	0.170	-	0.170
		Front	0.288	0.021	0.309
		Rear	0.393	0.018	**0.411**
		Right	0.139	-	0.139
		Left	-	0.038	0.038
	LTE Band 5	Top	-	0.014	0.014
		Bottom	0.367	-	0.367
		Front	0.510	0.021	0.531
		Rear	0.685	0.018	**0.703**
		Right	0.225	-	0.225
		Left	-	0.038	0.038
	LTE Band 4	Top	-	0.014	0.014
		Bottom	0.729	-	**0.729**
		Front	0.485	0.021	0.506
		Rear	0.528	0.018	0.546
		Right	-	-	-
		Left	0.182	0.038	0.220
	LTE Band 2	Top	-	0.014	0.014
		Bottom	0.976	-	**0.976**
		Front	0.518	0.021	0.539
		Rear	0.634	0.018	0.652
		Right	-	-	-
		Left	0.249	0.038	0.287
	LTE Band 41	Top	-	0.014	0.014
		Bottom	0.369	-	**0.369**
		Front	0.195	0.021	0.216
		Rear	0.259	0.018	0.277
		Right	-	-	-
		Left	0.052	0.038	0.090

Table 12.6.20 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 MIMO SAR (W/kg)	5G W-LAN Ant.2 SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.2	Top	0.074	0.007	0.081
		Bottom	-	-	-
		Front	0.087	0.038	0.125
		Rear	0.091	0.258	**0.349**
		Right	-	-	-
		Left	0.173	0.028	0.201
	5.8G W-LAN Ant.2	Top	0.074	0.023	0.097
		Bottom	-	-	-
		Front	0.087	0.023	0.110
		Rear	0.091	0.047	0.138
		Right	-	-	-
		Left	0.173	0.020	**0.193**

Table 12.6.21 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)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.1	Top	0.014	0.075	0.089
		Bottom	-	-	-
		Front	0.021	0.043	0.064
		Rear	0.018	0.291	**0.309**
		Right	-	-	-
		Left	0.038	0.116	0.154
	5.8G W-LAN Ant.1	Top	0.014	0.019	0.033
		Bottom	-	-	-
		Front	0.021	0.003	0.024
		Rear	0.018	0.061	**0.079**
		Right	-	-	-
		Left	0.038	0.033	0.071

Table 12.6.22 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 MIMO SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN Ant.2	Top	0.014	0.007	0.021
		Bottom	-	-	-
		Front	0.021	0.038	0.059
		Rear	0.018	0.258	**0.276**
		Right	-	-	-
		Left	0.038	0.028	0.066
	5.8G W-LAN Ant.2	Top	0.014	0.023	0.037
		Bottom	-	-	-
		Front	0.021	0.023	0.044
		Rear	0.018	0.047	**0.065**
		Right	-	-	-
		Left	0.038	0.020	0.058

Table 12.6.23 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)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	5.2G W-LAN MIMO	Top	0.014	0.085	0.099
		Bottom	-	-	-
		Front	0.021	0.069	0.090
		Rear	0.018	0.308	**0.326**
		Right	-	-	-
		Left	0.038	0.125	0.163
	5.8G W-LAN MIMO	Top	0.014	0.034	0.048
		Bottom	-	-	-
		Front	0.021	0.028	0.049
		Rear	0.018	0.111	**0.129**
		Right	-	-	-
		Left	0.038	0.042	0.080

Table 12.6.24 Simultaneous Transmission Scenario : Bluetooth Ant.1 + 2.4 GHz W-LAN Ant.2 (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth Ant.1 SAR (W/kg)	2.4G W-LAN Ant.2 SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Hotspot SAR	2.4G W-LAN Ant.2	Top	0.014	0.106	0.120
		Bottom	-	-	-
		Front	0.021	0.092	0.113
		Rear	0.018	0.129	**0.147**
		Right	-	-	-
		Left	0.038	0.022	0.060

12.7 Phablet SAR Simultaneous Transmission Analysis

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required of Hotspot 1g SAR (scaled to maximum output power, including tolerance) < 1.2 W/kg. Therefore no further analysis was required to for Phablet Simultaneous Transmission Analysis.

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)	
1852.4	9262	WCDMA 1900	RMC	-	10 mm [Bottom]	0.998	0.989	1.01	-	-	-	-
1860.0	18700	LTE B2	-	-	10 mm [Bottom]	0.974	0.969	1.01	-	-	-	-
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					

13.2 Measurement Uncertainty

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

14. EQUIPMENT LIST

Table 14.1.1 Test Equipment Calibration

	Type	Manufacturer	Model	Cal.Date	Next.Cal.Date	S/N
☒	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
☒	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
☒	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	EX3DV4	2019-05-28	2020-05-28	3866
☒	750MHz SAR Dipole	SPEAG	D835V2	2020-01-22	2022-01-22	1049
☒	835MHz SAR Dipole	SPEAG	D835V2	2019-07-18	2020-07-18	464
☒	1800MHz SAR Dipole	SPEAG	D1800V2	2019-04-24	2021-04-24	2d047
☒	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
☒	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):
1. The E-field probe was calibrated by SPEAG, by temperature measurement procedure. Dipole Verification measurement is performed by DT&C before each test. The brain and muscle simulating material are calibrated by DT&C using the dielectric probe system and network analyzer to determine the conductivity and permittivity (dielectric constant) of the brain and muscle-equivalent material. Each equipment item was used solely within its respective calibration period.
2. CBT(Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

15. MEASUREMENT UNCERTAINTIES

750 MHz Head (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

750 MHz Body (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

835 MHz Head (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

835 MHz Body (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

1800 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.7	Normal	1	0.78	0.71	± 2.9 %	± 2.6 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	± 1.0 %	± 1.1 %	10
Temp. unc. - Conductivity	± 1.9	Rectangular	√3	0.78	0.71	± 0.9 %	± 0.8 %	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	√3	0.23	0.26	± 0.3 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

1800 MHz Body (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	± 3.0 %	± 2.8 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	± 0.9 %	± 1.1 %	10
Temp. unc. - Conductivity	± 1.8	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

1900 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.8	Normal	1	0.78	0.71	± 3.0 %	± 2.7 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 3.9	Normal	1	0.23	0.26	± 0.9 %	± 1.0 %	10
Temp. unc. - Conductivity	± 1.8	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

1900 MHz Body (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 4.2	Normal	1	0.78	0.71	± 3.3 %	± 3.0 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 3.7	Normal	1	0.23	0.26	± 0.9 %	± 1.0 %	10
Temp. unc. - Conductivity	± 1.7	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.8	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

2450 MHz Head (SN: 3866)

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

The above measurement uncertainties are according to IEEE Std 1528

2450 MHz Body (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.8	Normal	1	0.78	0.71	± 3.0 %	± 2.7 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	± 0.9 %	± 1.1 %	10
Temp. unc. - Conductivity	± 1.6	Rectangular	√3	0.78	0.71	± 0.7 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

2600 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.0 %	± 6.0 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	± 3.1 %	± 2.8 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 3.9	Normal	1	0.23	0.26	± 0.9 %	± 1.0 %	10
Temp. unc. - Conductivity	± 1.8	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	√3	0.23	0.26	± 0.3 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.6 %**	**± 11.4 %**	330
Expanded Uncertainty (k=2)						**± 23.2 %**	**± 22.8 %**	

The above measurement uncertainties are according to IEEE Std 1528

2600 MHz Body (SN: 3866)

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

The above measurement uncertainties are according to IEEE Std 1528

5200 MHz Body (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

5300 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.6 %	± 6.6 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.9	Normal	1	0.78	0.71	± 3.0 %	± 2.8 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.2	Normal	1	0.23	0.26	± 1.0 %	± 1.1 %	10
Temp. unc. - Conductivity	± 1.9	Rectangular	√3	0.78	0.71	± 0.9 %	± 0.8 %	∞
Temp. unc. - Permittivity	± 1.9	Rectangular	√3	0.23	0.26	± 0.3 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.9 %**	**± 11.7 %**	330
Expanded Uncertainty (k=2)						**± 23.8 %**	**± 23.4 %**	

The above measurement uncertainties are according to IEEE Std 1528

5300 MHz Body (SN: 3933)

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

The above measurement uncertainties are according to IEEE Std 1528

5500 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.6 %	± 6.6 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	± 3.1 %	± 2.8 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.1	Normal	1	0.23	0.26	± 0.9 %	± 1.1 %	10
Temp. unc. - Conductivity	± 1.7	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.9 %**	**± 11.7 %**	330
Expanded Uncertainty (k=2)						**± 23.8 %**	**± 23.4 %**	

The above measurement uncertainties are according to IEEE Std 1528

5500 MHz Body (SN: 3933)

Error Description	Uncertainty value ±%	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	± 6.6 %	± 6.6 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 4.0	Normal	1	0.78	0.71	± 3.1 %	± 2.8 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 3.8	Normal	1	0.23	0.26	± 0.9 %	± 1.0 %	10
Temp. unc. - Conductivity	± 2.0	Rectangular	√3	0.78	0.71	± 0.9 %	± 0.8 %	∞
Temp. unc. - Permittivity	± 2.0	Rectangular	√3	0.23	0.26	± 0.3 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.9 %**	**± 11.7 %**	330
Expanded Uncertainty (k=2)						**± 23.8 %**	**± 23.4 %**	

The above measurement uncertainties are according to IEEE Std 1528

5800 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	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	± 6.6 %	± 6.6 %	∞
Isotropy	± 1.3	Normal	1	1	1	± 1.3 %	± 1.3 %	∞
Boundary Effects	± 2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %	∞
Probe Linearity	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Probe modulation response	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Detection limits	± 0.25	Rectangular	√3	1	1	± 0.14 %	± 0.14 %	∞
Readout Electronics	± 0.3	Normal	1	1	1	± 0.3 %	± 0.3 %	∞
Response time	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Integration time	± 2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Conditions – Noise	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Conditions – Reflections	± 3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.8	Rectangular	√3	1	1	± 0.46 %	± 0.46 %	∞
Probe Positioning	± 6.7	Rectangular	√3	1	1	± 3.9 %	± 3.9 %	∞
Algorithms for Max. SAR Eval.	± 4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %	∞
Test Sample Related								
Device Positioning	± 2.9	Normal	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6	Normal	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %	∞
SAR Scaling	± 0.0	Rectangular	√3	1	1	± 0.0 %	± 0.0 %	∞
Physical Parameters								
Phantom Shell	± 7.6	Rectangular	√3	1	1	± 4.4 %	± 4.4 %	∞
SAR correction	± 0.0	Normal	1	1	0.84	± 0.0 %	± 0.0 %	∞
Liquid conductivity (Target)	± 5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %	∞
Liquid conductivity (Meas.)	± 3.6	Normal	1	0.78	0.71	± 2.8 %	± 2.6 %	10
Liquid permittivity (Target)	± 5.0	Rectangular	√3	0.60	0.49	± 1.7 %	± 1.4 %	∞
Liquid permittivity (Meas.)	± 4.0	Normal	1	0.23	0.26	± 0.9 %	± 1.0 %	10
Temp. unc. - Conductivity	± 1.8	Rectangular	√3	0.78	0.71	± 0.8 %	± 0.7 %	∞
Temp. unc. - Permittivity	± 1.7	Rectangular	√3	0.23	0.26	± 0.2 %	± 0.3 %	∞
Combined Standard Uncertainty						**± 11.8 %**	**± 11.7 %**	330
Expanded Uncertainty (k=2)						**± 23.6 %**	**± 23.4 %**	

The above measurement uncertainties are according to IEEE Std 1528

5800 MHz Body (SN: 3933)

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

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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
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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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
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

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 30, 2019

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

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,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., ϑ = 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:

a) 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
b) 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
c) 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
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,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*.
- *DCPx,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
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,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 ≤ 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 *NORMx,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 *NORMx* (no uncertainty required).

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

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[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 E^2-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.

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

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.

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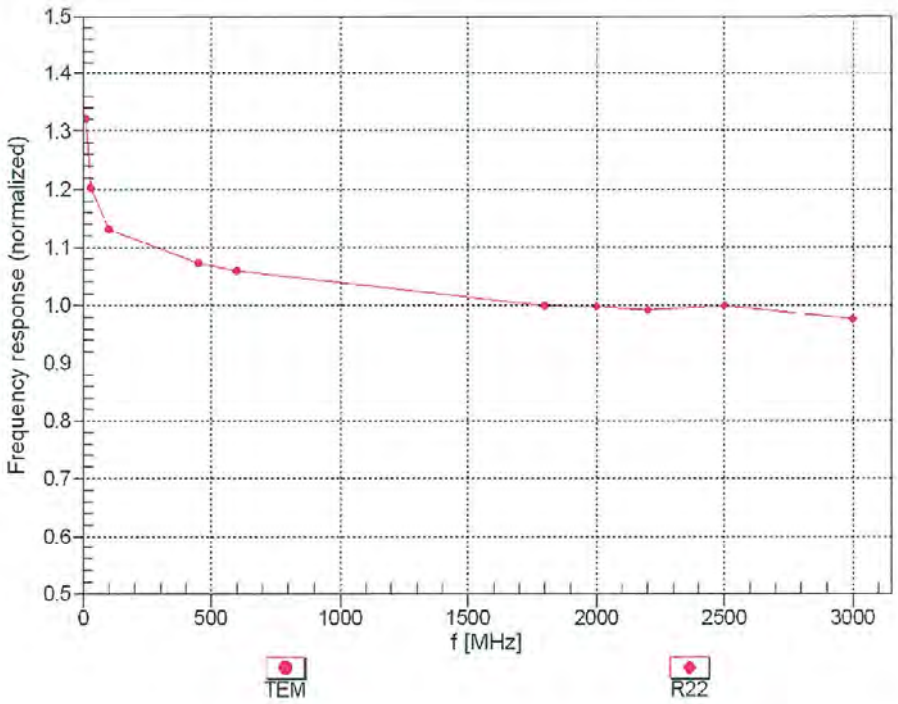
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

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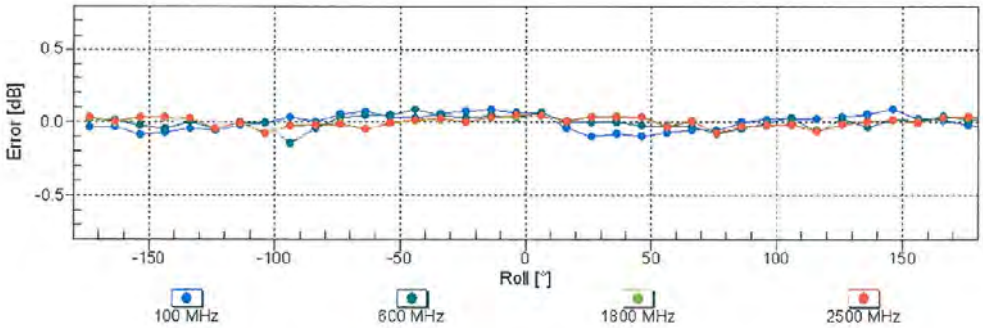
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM

f=1800 MHz,R22



Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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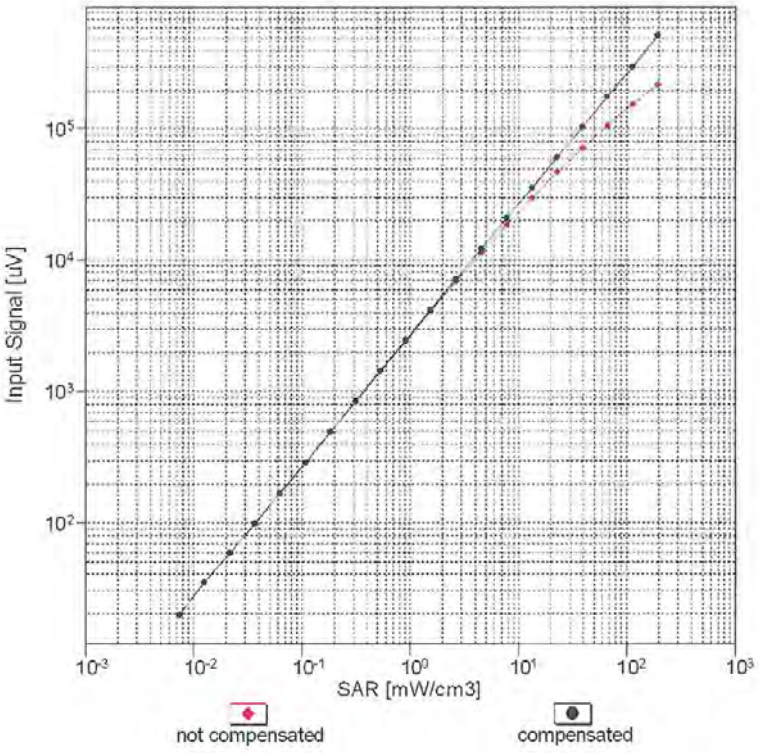
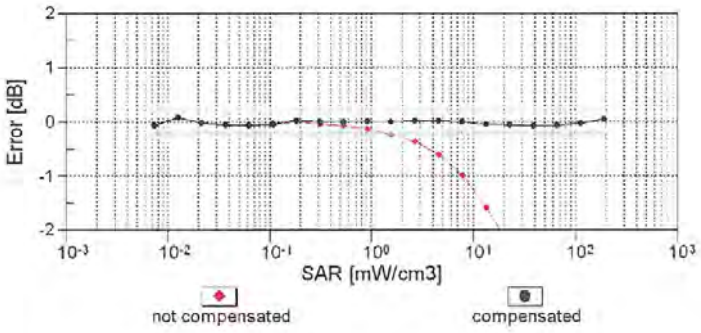
Dynamic Range f(SAR$_{head}$)

(TEM cell , f_{eval}= 1900 MHz)





Uncertainty of Linearity Assessment: ± 0.6% (k=2)

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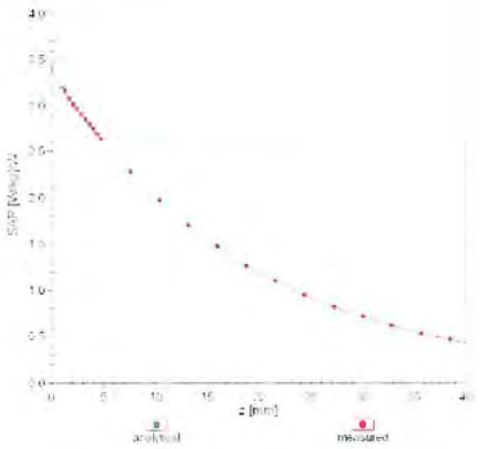
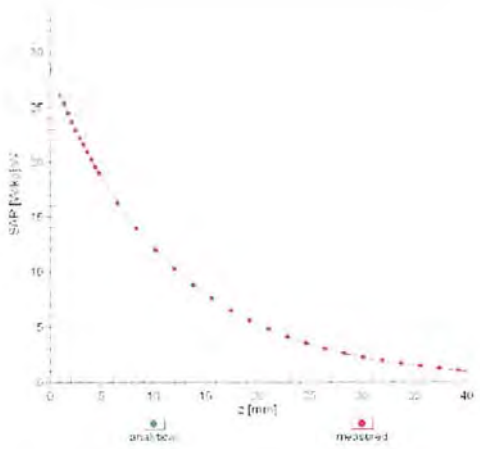
Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

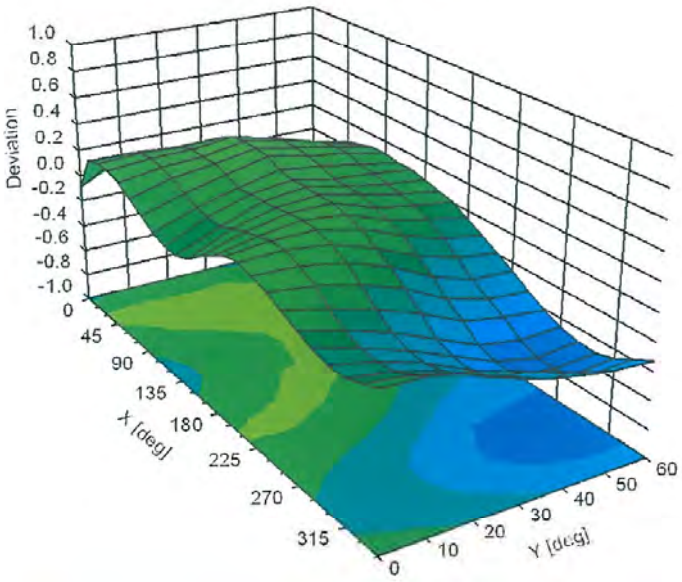


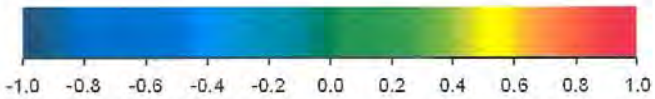
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

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 %

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 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %