

TEST REPORT



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1. Report No : DRRFCC2201-0021

2. Customer

• Name : Janam Technologies LLC

• Address : 100 Crossways Park West Suite 105, Woodbury New York United States 11797

3. Use of Report : FCC Original Grant

4. Product Name / Model Name : Mobile Computer / XM75P

FCC ID : UTWXM75P

5. FCC Regulation(s) : CFR 47 Part 2 subpart 2.1093

Test Method Used : IEEE 1528-2013, FCC SAR KDB Publications (Details in test report)
IEC/IEEE 62209-1528

6. Date of Test : 2021.12.15 ~ 2022.01.06



7. Location of Test : Permanent Testing Lab On Site Testing

8. Testing Environment : Refer to appended test report.

9. Test Result : Refer to attached test report.

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

This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Reviewed by
	Name : WonJu Ji 	Name : HakMin Kim 

2022 . 01 . 27 .

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
DRRFCC2201-0021	Jan. 27, 2022	Initial issue	WonJu Ji	HakMin Kim

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1. DESCRIPTION OF DEVICE

1.1 General Information

EUT type	Mobile Computer					
FCC ID	UTWXM75P					
Equipment model name	XM75P					
Equipment add model name	N/A					
Equipment serial no.	Identical prototype					
FVIN (Firmware Version Identification Number)	67.00xx					
FCC & ISED MRA Designation No. ISED#	KR0034 5740A					
Mode(s) of Operation	WCDMA 850, WCDMA 1900, LTE Band 12, 17, 5, 25, 2, 7, 41, 2.4 G W-LAN (802.11b/g/n-HT20/n-HT40/ac-VHT20/ac-VHT40), 5 G W-LAN (802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80), Bluetooth					
TX Frequency Range	Band	Mode	Operating Modes	Bandwidth	Frequency	
	WCDMA 850	WCDMA	Voice/Data	-	826.4 ~ 846.6 MHz	
	WCDMA 1900	WCDMA	Voice/Data	-	1 852.4 ~ 1 907.6 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 25	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 850.7 ~ 1 914.3 MHz	
	LTE Band 2	LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 850.7 ~ 1 909.3 MHz	
	LTE Band 7	LTE	Voice/Data	5/10/15/20MHz	2 502.5 ~ 2 567.5 MHz	
	LTE Band 41	LTE	Voice/Data	5/10/15/20MHz	2 498.5 ~ 2 687.5 MHz	
	2.4 GHz W-LAN	802.11b/g/n/ac	Voice/Data	HT20/VHT20	2 412 ~ 2 462 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	2 422 ~ 2 452 MHz	
	5.2 GHz W-LAN	802.11a/n/ac	Voice/Data	HT20/VHT20	5 180 ~ 5 240 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 190 ~ 5 230 MHz	
	5.3 GHz W-LAN	802.11ac	Voice/Data	VHT80	5 210 MHz	
		802.11a/n/ac	Voice/Data	HT20/VHT20	5 260 ~ 5 320 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 270 ~ 5 310 MHz	
	5.6 GHz W-LAN	802.11ac	Voice/Data	VHT80	5 290 MHz	
		802.11a/n/ac	Voice/Data	HT20/VHT20	5 500 ~ 5 720 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 510 ~ 5 710 MHz	
	5.8 GHz W-LAN	802.11ac	Voice/Data	VHT80	5 530 ~ 5 690 MHz	
		802.11a/n/ac	Voice/Data	HT20/VHT20	5 745 ~ 5 825 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 755 ~ 5 795 MHz	
	Bluetooth	-	Data	-	2 402 ~ 2 480 MHz	
	RX Frequency Range	WCDMA 850	WCDMA	Voice/Data	-	871.4 ~ 891.6 MHz
		WCDMA 1900	WCDMA	Voice/Data	-	1 932.4 ~ 1 987.6 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 25		LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 930.7 ~ 1 994.3 MHz	
LTE Band 2		LTE	Voice/Data	1.4/3/5/10/15/20MHz	1 930.7 ~ 1 989.3 MHz	
LTE Band 7		LTE	Voice/Data	5/10/15/20MHz	2 622.5 ~ 2 687.5 MHz	
LTE Band 41		LTE	Voice/Data	5/10/15/20MHz	2 498.5 ~ 2 687.5 MHz	
2.4 GHz W-LAN		802.11b/g/n/ac	Voice/Data	HT20/VHT20	2 412 ~ 2 462 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	2 422 ~ 2 452 MHz	
5.2 GHz W-LAN		802.11a/n/ac	Voice/Data	HT20/VHT20	5 180 ~ 5 240 MHz	
		802.11ac	Voice/Data	VHT80	5 210 MHz	
5.3 GHz W-LAN		802.11a/n/ac	Voice/Data	HT20/VHT20	5 260 ~ 5 320 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 270 ~ 5 310 MHz	
5.6 GHz W-LAN		802.11ac	Voice/Data	VHT80	5 290 MHz	
		802.11a/n/ac	Voice/Data	HT20/VHT20	5 500 ~ 5 720 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 510 ~ 5 710 MHz	
5.8 GHz W-LAN		802.11ac	Voice/Data	VHT80	5 530 ~ 5 690 MHz	
		802.11a/n/ac	Voice/Data	HT20/VHT20	5 745 ~ 5 825 MHz	
		802.11n/ac	Voice/Data	HT40/VHT40	5 755 ~ 5 795 MHz	
Bluetooth		-	Data	-	2 402 ~ 2 480 MHz	

SAR Summary Table

Equipment Class	Band	Reported SAR			
		1g SAR (W/kg)			10g SAR (W/kg)
		Head	Body-Worn	Hotspot	Phablet
PCE	WCDMA 850	0.48	0.37	0.37	-
PCE	WCDMA 1900	0.20	0.45	0.71	1.32
PCE	LTE Band 12	0.17	0.15	0.15	-
PCE	LTE Band 17	0.22	0.23	0.23	-
PCE	LTE Band 5	0.42	0.37	0.37	-
PCE	LTE Band 25	0.16	0.86	0.86	0.84
PCE	LTE Band 2	-	-	-	-
PCE	LTE Band 7	0.37	0.64	0.67	1.62
PCE	LTE Band 41	0.30	0.66	0.66	1.54
DTS	2.4 GHz W-LAN	0.14	< 0.1	0.22	-
U-NII-1	5.2 GHz W-LAN	-	-	0.10	-
U-NII-2A	5.3 GHz W-LAN	< 0.1	< 0.1	-	0.12
U-NII-2C	5.6 GHz W-LAN	< 0.1	< 0.1	-	0.11
U-NII-3	5.8 GHz W-LAN	0.21	0.33	0.33	-
DSS	Bluetooth	< 0.1	< 0.1	< 0.1	-
DTS	Bluetooth LE	< 0.1	< 0.1	< 0.1	-
Simultaneous SAR per KDB 690783 D01v01r03		0.61	1.21	1.21	1.74
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	2021.12.15 ~ 2022.01.06				
Antenna Type	Internal Antenna				
Functions	<ul style="list-style-type: none"> ● No simultaneous transmission between BT & 2.4GHz WLAN ● Simultaneous transmission between [WCDMA voice & WLAN], [WCDMA & WLAN], [LTE & WLAN]. ● VoIP is supported. ● W-LAN 2.4GHz is supported Hotspot. ● W-LAN 5 GHz is supported Hotspot. 				

1.2 Power Reduction for SAR

This device uses a power reduction mechanism for SAR compliance. The power reduction mechanism (WCDMA 1900, LTE B25, LTE B2, LTE B7, LTE B41) is activated when the device is used in close proximity to the user's body. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device. Detailed descriptions of the power reduction mechanism are included in the operational description.

1.3 Nominal and Maximum Output Power Specifications

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

1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device of the device antenna can be found in (XM75P)_Antenna Location. Since the diagonal dimension of this device is < 160 mm and the diagonal display is < 150 mm, it is not considered a "phablet".

Mode	Device Sides for SAR Testing					
	Top	Bottom	Front	Rear	Right	Left
WCDMA 850	X	O	O	O	O	O
WCDMA 1900	X	O	O	O	O	O
LTE Band 12	X	O	O	O	O	O
LTE Band 17	X	O	O	O	O	O
LTE Band 5	X	O	O	O	O	O
LTE Band 25	X	O	O	O	O	O
LTE Band 2	X	O	O	O	O	O
LTE Band 7	X	O	O	O	O	O
LTE Band 41	X	O	O	O	O	O
2.4G W-LAN	O	X	O	O	X	O
5G W-LAN	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 (XM75P)_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

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.

(B) Licensed Transmitter(s)

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

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

1.7 Guidance Applied

- IEEE 1528-2013
- IEC/IEEE 62209-1528
- 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 616217 D04v01r02 (SAR for laptop and tablets)
- 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)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)

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	UTWXM75P				
Form Factor	Mobile Computer				
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 25 (PCS) (1 850.7 ~ 1 914.3 MHz) LTE Band 2 (PCS) (1 850.7 ~ 1 909.3 MHz) LTE Band 7 (2 502.5 ~ 2 567.5 MHz) LTE Band 41 (2 498.5 ~ 2 687.5 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 25 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 2 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 7 : 5 MHz, 10 MHz, 15 MHz, 20 MHz LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Number and Frequencies(MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 12: 1.4 MHz	699.7 (23017)	N/A	707.5 (23095)	N/A	715.3 (23173)
LTE Band 12: 3 MHz	700.5 (23025)	N/A	707.5 (23095)	N/A	714.5 (23165)
LTE Band 12: 5 MHz	701.5 (23035)	N/A	707.5 (23095)	N/A	713.5 (23155)
LTE Band 12: 10 MHz	704.0 (23060)	N/A	707.5 (23095) ^{Note1}	N/A	711.0 (23130)
LTE Band 17: 5 MHz	706.5(23755)	N/A	710.0(23790)	N/A	713.5(23825)
LTE Band 17: 10 MHz	709.0(23780)	N/A	710.0(23790)	N/A	711.0(23800)
LTE Band 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 25 (PCS): 1.4 MHz	1 850.7 (26047)	N/A	1 882.5 (26365)	N/A	1 914.3 (26683)
LTE Band 25 (PCS): 3 MHz	1 851.5 (26055)	N/A	1 882.5 (26365)	N/A	1 913.5 (26675)
LTE Band 25 (PCS): 5 MHz	1 852.5 (26065)	N/A	1 882.5 (26365)	N/A	1 912.5 (26665)
LTE Band 25 (PCS): 10 MHz	1 855.0 (26090)	N/A	1 882.5 (26365)	N/A	1 910.0 (26640)
LTE Band 25 (PCS): 15 MHz	1 857.5 (26115)	N/A	1 882.5 (26365)	N/A	1 907.5 (26615)
LTE Band 25 (PCS): 20 MHz	1 860.0 (26140)	N/A	1 882.5 (26365)	N/A	1 905.0 (26590)
LTE Band 2 (PCS): 1.4 MHz	1 850.7 (18607)	N/A	1 880.0 (18900)	N/A	1 909.3 (19193)
LTE Band 2 (PCS): 3 MHz	1 851.5 (18615)	N/A	1 880.0 (18900)	N/A	1 908.5 (19185)
LTE Band 2 (PCS): 5 MHz	1 852.5 (18625)	N/A	1 880.0 (18900)	N/A	1 907.5 (19175)
LTE Band 2 (PCS): 10 MHz	1 855.0 (18650)	N/A	1 880.0 (18900)	N/A	1 905.0 (19150)
LTE Band 2 (PCS): 15 MHz	1 857.5 (18675)	N/A	1 880.0 (18900)	N/A	1 902.5 (19125)
LTE Band 2 (PCS): 20 MHz	1 860.0 (18700)	N/A	1 880.0 (18900)	N/A	1 900.0 (19100)
LTE Band 7: 5 MHz	2 502.5 (20775)	N/A	2 535.0 (21100)	N/A	2 567.5 (21425)
LTE Band 7: 10 MHz	2 505.0 (20800)	N/A	2 535.0 (21100)	N/A	2 565.0 (21400)
LTE Band 7: 15 MHz	2 507.5 (20825)	N/A	2 535.0 (21100)	N/A	2 562.5 (21375)
LTE Band 7: 20 MHz	2 510.0 (20850)	N/A	2 535.0 (21100)	N/A	2 560.0 (21350)
LTE Band 41: 5 MHz	2 498.5 (39675)	2 545.8 (40148)	2 593.0 (40620)	2 640.3 (41093)	2 687.5 (41565)
LTE Band 41: 10 MHz	2 501.0 (39700)	2 547.0 (40160)	2 593.0 (40620)	2 639.0 (41080)	2 685.0 (41540)
LTE Band 41: 15 MHz	2 503.5 (39725)	2 548.3 (40173)	2 593.0 (40620)	2 637.8 (41068)	2 682.5 (41515)
LTE Band 41: 20 MHz	2 506.0 (39750)	2 549.5 (40185)	2 593.0 (40620)	2 636.5 (41055)	2 680.0 (41490)
UE Category	LTE Rel.10, UE Cat 4				
Modulations Supported in UL	QPSK, 16QAM				
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 CA features on 3GPP Release 10. All uplink communications are identical to the Release 8 Specifications. The following LTE Release 10 features are not supported: Relay, HetNet, Enhanced MIMO, eCIC, WiFi Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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

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

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

SAR Definition

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

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

Fig. 3.1 SAR Mathematical Equation

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

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

where:

- σ = conductivity of the tissue-simulating material (S/m)
- ρ = mass density of the tissue-simulating material (kg/m³)
- E = Total RMS electric field strength (V/m)

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

4. DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

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

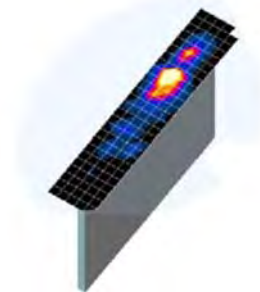


Figure 4.1
Sample SAR Area Scan

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

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

5. DEFINITION OF REFERENCE POINTS

5.1 Ear Reference Point

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

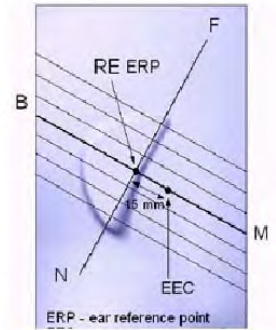


Figure 5.1
Close-up side view of ERP

5.2 Handset Reference Points

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



Figure 5.2 Front, back and side view SAM Twin Phantom

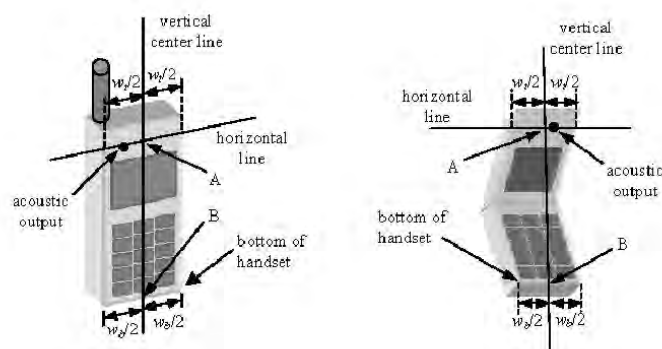


Figure 5.3 Handset Vertical Center & Horizontal Line Reference Points

6. TEST CONFIGURATION POSITIONS FOR HANDSETS

6.1 Device Holder

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

6.2 Positioning for Cheek/Touch

1. The test device was positioned with the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6.1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.



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

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

6.3 Positioning for Ear / 15 ° Tilt

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

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

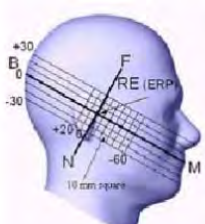


Figure 6.2 Side view w/relevant markings



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

6.4 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6.4). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

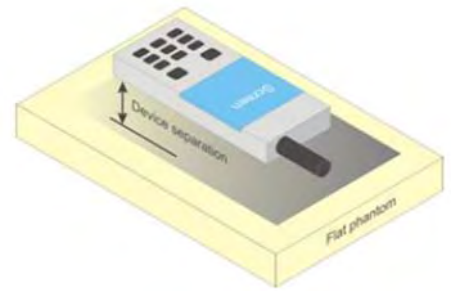


Figure 6.4 Sample Body-Worn Diagram

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

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

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

6.5 Extremity Exposure Configurations

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

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

6.6 Wireless Router Configurations

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

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

7. RF EXPOSURE LIMITS

Uncontrolled Environment:

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

Controlled Environment:

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

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

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

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

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

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e.as a result of employment or occupation).

8. FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 Procedures Used to Establish RF Signal for SAR

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

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

8.3 SAR Measurement Conditions for WCDMA (UMTS)

8.3.1 Output Power Verification

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

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

8.3.2 Head SAR Measurements for Handsets

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

8.3.3 Body SAR Measurements

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

8.3.4 Release 5 HSDPA Data Devices

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

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

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

Figure 9.1 Table 1

8.3.5 Release 6 HSUPA Data Devices

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

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

requirements.

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

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.
 Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.
 Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$.
 Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
 Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

Figure 9.2 Table 2

8.3.6 SAR Measurement Conditions for DC-HSDPA

In the following DB 941225 D01v03r01 procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

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

8.4 SAR Measurement Conditions for LTE

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

8.4.1 Spectrum Plots for RB Configurations

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

8.4.2 MPR

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

8.4.3 A-MPR

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

8.4.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r05:

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

8.4.5 LTE TDD Consideration setup for SAR measurement

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

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

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

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

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

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

8.5 SAR Testing with 802.11 Transmitters

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

8.5.1 General Device Setup

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

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

8.5.2 U-NII and U-NII-2A

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

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

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

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

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

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

8.5.4 Initial Test Position Procedure

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

8.5.5 2.4 GHz SAR Test Requirements

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

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

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

8.5.6 OFDM Transmission Mode and SAR Test Channel Selection

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

8.5.7 Initial Test Configuration Procedure

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

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

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

8.5.8 Subsequent Test Configuration Procedures

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

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 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	23.3		23.7		-
			Nominal	22.8		23.2		
5	HSDPA	Subtest 1	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
5		Subtest 2	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
5		Subtest 3	Maximum	22.8		23.2		0.5
			Nominal	22.3		22.7		
5		Subtest 4	Maximum	22.8		23.2		0.5
			Nominal	22.3		22.7		
6	HSUPA	Subtest 1	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
6		Subtest 2	Maximum	21.3		21.7		2
			Nominal	20.8		20.2		
6		Subtest 3	Maximum	22.3		22.7		1
			Nominal	21.8		21.2		
6		Subtest 4	Maximum	21.3		21.7		2
			Nominal	20.8		20.2		
6		Subtest 5	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
8	DC-HSDPA	Subtest 1	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
8		Subtest 2	Maximum	23.3		23.7		0
			Nominal	22.8		23.2		
8		Subtest 3	Maximum	22.8		23.2		0.5
			Nominal	22.3		22.7		
8		Subtest 4	Maximum	22.8		23.2		0.5
			Nominal	22.3		22.7		

Table 9.1.1 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	23.27	23.29	23.28	23.67	23.69	23.68	-
99		12.2 kbps AMR	23.18	23.23	23.16	23.61	23.68	23.65	-
5	HSDPA	Subtest 1	22.11	22.19	22.14	22.41	22.40	22.43	0
5		Subtest 2	22.14	22.21	22.16	22.32	22.35	22.38	0
5		Subtest 3	21.54	21.71	21.67	21.80	21.94	21.83	0.5
5		Subtest 4	21.55	21.72	21.67	21.83	21.95	21.97	0.5
6	HSUPA	Subtest 1	22.10	22.24	22.10	22.35	22.39	22.36	0
6		Subtest 2	20.19	20.26	20.22	20.46	20.51	20.50	2
6		Subtest 3	21.10	21.13	21.11	21.66	21.70	21.67	1
6		Subtest 4	20.08	20.11	20.10	20.50	20.58	20.56	2
6		Subtest 5	22.10	22.17	22.11	22.39	22.44	22.40	0
8	DC-HSDPA	Subtest 1	22.09	22.18	22.06	22.39	22.43	22.41	0
8		Subtest 2	22.13	22.22	22.14	22.33	22.38	22.36	0
8		Subtest 3	21.63	21.67	21.65	21.73	21.77	21.76	0.5
8		Subtest 4	21.63	21.69	21.66	21.71	21.79	21.76	0.5

Table 9.1.2 WCDMA Conducted Power

3GPP Release Version	Mode		PCS Band (dBm)		3GPP MPR (dB)
			Maximum	Nominal	
99	WCDMA	Voice	Maximum	20.2	-
			Nominal	19.7	
5	HSDPA	Subtest 1	Maximum	20.2	0
			Nominal	19.7	
5		Subtest 2	Maximum	20.2	0
			Nominal	19.7	
5		Subtest 3	Maximum	19.7	0.5
			Nominal	19.2	
5		Subtest 4	Maximum	19.7	0.5
			Nominal	19.2	
6	HSUPA	Subtest 1	Maximum	20.2	0
			Nominal	19.7	
6		Subtest 2	Maximum	18.2	2
			Nominal	17.7	
6		Subtest 3	Maximum	19.2	1
			Nominal	18.7	
6		Subtest 4	Maximum	18.2	2
			Nominal	17.7	
6		Subtest 5	Maximum	20.2	0
			Nominal	19.7	
8	DC-HSDPA	Subtest 1	Maximum	20.2	0
			Nominal	19.7	
8		Subtest 2	Maximum	20.2	0
			Nominal	19.7	
8		Subtest 3	Maximum	19.7	0.5
			Nominal	19.2	
8		Subtest 4	Maximum	19.7	0.5
			Nominal	19.2	

Table 9.1.3 Reduced WCDMA Nominal and Maximum Output Power Spec

3GPP Release Version	Mode	3GPP 34.121 Subtest	PCS Band (dBm)			3GPP MPR (dB)
			9262	9400	9538	
99	WCDMA	12.2 kbps RMC	20.17	20.19	20.18	-
99		12.2 kbps AMR	20.17	20.16	20.17	-
5	HSDPA	Subtest 1	19.11	19.25	19.16	0
5		Subtest 2	19.13	19.23	19.16	0
5		Subtest 3	18.63	18.71	18.65	0.5
5		Subtest 4	18.61	18.66	18.65	0.5
6	HSUPA	Subtest 1	19.14	19.19	19.17	0
6		Subtest 2	17.18	17.30	17.19	2
6		Subtest 3	18.17	18.22	18.19	1
6		Subtest 4	17.13	17.19	17.18	2
6		Subtest 5	19.19	19.23	19.18	0
8	DC-HSDPA	Subtest 1	19.11	19.13	19.12	0
8		Subtest 2	19.09	19.11	19.05	0
8		Subtest 3	18.60	18.69	18.63	0.5
8		Subtest 4	18.58	18.69	18.62	0.5

Table 9.1.4 Reduced WCDMA Conducted Power

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

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

DC-HSDPA considerations

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



Figure 9.2 Power Measurement Setup

9.2 LTE Nominal and Maximum Output Power Spec and Conducted Powers

Band & Mode	Modulated Average[dBm]	
	LTE Band 12	Maximum
	Nominal	22.0

Table 9.2.1.1 Nominal and Maximum Output Power Spec

1) LTE Band 12

LTE Band 12 Conducted Power- 10 MHz Bandwidth						
Modulation	RB Size	RB Offset	Mid Channel		MPR Allowed Per 3GPP(dB)	MPR (dB)
			23095 (707.5 MHz)	Conducted Power (dBm)		
QPSK	1	0		22.11	≤ 1	0
	1	25		22.45		
	1	49		22.25		
	25	0		21.07		1
	25	12		21.27		
	25	25		21.11		
16QAM	50	0		21.16	≤ 1	1
	1	0		20.95		
	1	25		21.29		
	1	49		21.15		
	25	0		20.03	≤ 2	2
	25	12		20.31		
	25	25		20.29		
	50	0		20.09		

Table 9.2.1.2 LTE Conducted Power

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

Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

LTE Band 12 Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	21.91	22.07	22.05	≤ 1	0
	1	12	22.10	22.24	22.17		
	1	24	22.04	22.20	22.09		
	12	0	20.96	21.08	20.99		1
	12	6	21.06	21.17	21.10		
	12	13	21.03	21.13	21.08		
16QAM	25	0	20.99	21.12	21.03	≤ 1	1
	1	0	20.83	21.01	20.89		
	1	12	20.91	21.13	21.01		
	1	24	20.85	21.03	20.91		
	12	0	19.86	19.96	19.88	≤ 2	2
	12	6	20.05	20.13	20.09		
	12	13	19.98	20.04	20.00		
	25	0	19.97	20.04	20.02		

Table 9.2.1.3 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	21.97	22.15	22.01	≤ 1	0	
	1	7	22.12	22.24	22.19			
	1	14	22.07	22.15	22.10			
	8	0	20.94	21.08	21.06		1	
	8	4	21.08	21.14	21.16			
	8	7	20.99	21.10	21.14			
16QAM	15	0	21.03	21.08	21.06	≤ 1	1	
	1	0	20.80	20.97	20.88			
	1	7	20.95	21.11	21.01			
	16QAM	1	14	20.89	21.07	20.95	≤ 2	2
		8	0	19.94	20.16	20.16		
		8	4	20.04	20.29	20.29		
		8	7	19.81	20.27	20.21		
		15	0	19.84	20.23	20.09		2

Table 9.2.1.4 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	21.86	22.23	22.00	≤ 1	0		
	1	2	21.94	22.33	22.11				
	1	5	21.87	22.24	22.03				
	3	0	21.81	22.05	21.99		0		
	3	2	21.85	22.15	22.07				
	3	3	21.83	22.09	22.02				
16QAM	6	0	20.86	21.15	20.97	≤ 1	1		
	1	0	20.83	21.37	21.00				
	1	2	21.05	21.49	21.10				
	16QAM	1	5	20.85	21.43	21.02	≤ 1	1	
		3	0	20.81	20.94	20.88			
		3	2	20.89	21.13	21.04			
		3	3	20.85	21.03	20.91			
		6	0	19.98	20.24	20.08		≤ 2	2

Table 9.2.1.5 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 17	Maximum
	Nominal	23.7

Table 9.2.2.1 Nominal and Maximum Output Power Spec

2) LTE Band 17

LTE Band 17 Conducted Power- 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			23790 (710.0 MHz)		
			Conducted Power (dBm)		
QPSK	1	0	23.92	0	0
	1	25	24.08		
	1	49	24.00		
	25	0	22.75	0-1	1
	25	12	22.82		
	25	25	22.79		
16QAM	50	0	22.80	0-1	1
	1	0	22.73		
	1	25	22.90		
	1	49	22.81	0-2	2
	25	0	21.65		
	25	12	21.81		
	25	25	21.76	0-2	2
	50	0	21.63		

Table 9.2.2.2 LTE Conducted Power

Note : LTE B17 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	Mid Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			23790 (710.0 MHz)		
			Conducted Power (dBm)		
QPSK	1	0	23.74	0	0
	1	12	23.88		
	1	24	23.84		
	12	0	22.68	0-1	1
	12	6	22.72		
	12	13	22.70		
16QAM	25	0	22.65	0-1	1
	1	0	22.59		
	1	12	22.70		
	1	24	22.65	0-2	2
	12	0	21.56		
	12	6	21.77		
	12	13	21.63	0-2	2
	25	0	21.55		

Table 9.2.2.3 LTE Conducted Power

Note: LTE B17 can not contain three non-overlapping channels of 5 MHz bandwidth.

Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Band & Mode	Modulated Average[dBm]	
LTE Band 5	Maximum	23.7
	Nominal	23.2

Table 9.2.3.1 Nominal and Maximum Output Power Spec

3) LTE Band 5 (Cell)

LTE Band 5 (Cell) Conducted Power– 10 MHz Bandwidth						
Modulation	RB Size	RB Offset	Mid Channel		MPR Allowed Per 3GPP(dB)	MPR (dB)
			20525 (836.5 MHz)	Conducted Power (dBm)		
QPSK	1	0		23.44	≤ 1	0
	1	25		23.68		
	1	49		23.31		
	25	0		22.37		1
	25	12		22.33		
	25	25		22.25		
16QAM	50	0		22.26	≤ 1	1
	1	0		22.33		
	1	25		22.59		
	1	49		22.25		≤ 2
	25	0		21.39		
	25	12		21.16		
	25	25		21.13	2	
	50	0		21.14		

Table 9.2.3.2 LTE Conducted Power

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

Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

LTE Band 5 (Cell) Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)		
Conducted Power (dBm)							
QPSK	1	0	23.17	23.26	23.36	≤ 1	0
	1	12	23.25	23.43	23.49		
	1	24	23.12	23.13	23.26		
	12	0	22.16	22.32	22.33		1
	12	6	22.13	22.27	22.29		
	12	13	22.05	22.25	22.27		
16QAM	25	0	22.12	22.22	22.26	≤ 1	1
	1	0	22.08	22.24	22.25		
	1	12	22.16	22.28	22.33		
	1	24	22.01	22.06	22.17		≤ 2
	12	0	21.26	21.35	21.38		
	12	6	21.11	21.25	21.33		
	12	13	21.02	21.19	21.24	2	
	25	0	21.05	21.29	21.31		

Table 9.2.3.3 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	23.16	23.33	23.43	≤ 1	0
	1	7	23.27	23.34	23.45		
	1	14	23.12	23.32	23.37		
	8	0	22.18	22.30	22.38		1
	8	4	22.15	22.27	22.35		
	8	7	22.12	22.20	22.33		
	15	0	22.22	22.24	22.34		
16QAM	1	0	22.03	22.21	22.27	≤ 1	1
	1	7	22.09	22.31	22.39		
	1	14	22.01	22.13	22.21		
	8	0	21.12	21.15	21.30		
	8	4	21.09	21.13	21.18	≤ 2	2
	8	7	21.06	21.11	21.16		
	15	0	21.10	21.23	21.37		

Table 9.2.3.4 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	23.30	23.40	23.58	≤ 1	0
	1	2	23.35	23.43	23.59		
	1	5	23.16	23.35	23.44		
	3	0	23.20	23.29	23.37		0
	3	2	23.19	23.28	23.34		
	3	3	23.13	23.21	23.30		
	6	0	22.14	22.30	22.34		
16QAM	1	0	22.12	22.21	22.60	≤ 1	1
	1	2	22.38	22.40	22.66		
	1	5	22.08	22.17	22.56		
	3	0	22.24	22.27	22.31		1
	3	2	22.19	22.23	22.28		
	3	3	22.10	22.17	22.18		
	6	0	21.04	21.16	21.21		
					≤ 2	2	

Table 9.2.3.5 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 25(PCS)	Maximum
	Nominal	22.7

Table 9.2.4.1 Nominal and Maximum Output Power Spec

4) LTE Band 25 (PCS)

LTE Band 25 (PCS) Conducted Power–20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			26140 (1 860.0 MHz)	26365 (1 882.5 MHz)	26590 (1 905.0 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	22.71	22.77	22.79	≤ 1	0	
	1	50	22.82	23.08	23.09			
	1	99	22.59	22.73	22.76			
	50	0	21.66	21.79	21.85		1	
	50	25	21.80	21.84	21.89			
	50	50	21.62	21.67	21.81			
16QAM	100	0	21.62	21.71	21.80	≤ 1	1	
	1	0	21.56	21.59	21.63			
	1	50	21.69	21.91	21.97			
	1	99	21.51	21.55	21.59		≤ 2	2
	50	0	20.64	20.65	20.68			
	50	25	20.69	20.75	20.78			
	50	50	20.53	20.59	20.65	2		
	100	0	20.54	20.63	20.73			

Table 9.2.4.2 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power–15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			26115 (1 857.5 MHz)	26365 (1 882.5 MHz)	26615 (1 907.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	22.72	22.73	22.78	≤ 1	0	
	1	36	22.74	22.77	22.80			
	1	74	22.67	22.71	22.77			
	36	0	21.67	21.72	21.76		1	
	36	18	21.69	21.79	21.82			
	36	37	21.61	21.70	21.75			
16QAM	75	0	21.59	21.72	21.76	≤ 1	1	
	1	0	21.55	21.63	21.76			
	1	36	21.57	21.73	21.80			
	1	74	21.53	21.59	21.68		≤ 2	2
	36	0	20.56	20.62	20.65			
	36	18	20.59	20.64	20.72			
	36	37	20.53	20.55	20.56	2		
	75	0	20.50	20.56	20.58			

Table 9.2.4.3 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power–10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			26090 (1 855.0 MHz)	26365 (1 882.5 MHz)	26640 (1 910.0 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	22.74	22.75	22.79	≤ 1	0	
	1	25	22.82	22.86	23.05			
	1	49	22.71	22.72	22.77			
	25	0	21.59	21.77	21.79		1	
	25	12	21.60	21.80	21.84			
	25	25	21.54	21.67	21.75			
16QAM	50	0	21.57	21.73	21.75	≤ 1	1	
	1	0	21.58	21.60	21.65			
	1	25	21.66	21.69	21.87			
	1	49	21.55	21.57	21.60		≤ 2	2
	25	0	20.58	20.59	20.68			
	25	12	20.64	20.69	20.75			
	25	25	20.53	20.56	20.57	2		
	50	0	20.52	20.58	20.69			

Table 9.2.4.4 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26065 (1 852.5 MHz)	26365 (1 882.5 MHz)	26665 (1 912.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	22.69	22.73	22.85	≤ 1	0
	1	12	22.74	22.76	22.89		
	1	24	22.56	22.72	22.81		
	12	0	21.65	21.73	21.77		1
	12	6	21.70	21.81	21.82		
	12	13	21.64	21.72	21.75		
16QAM	25	0	21.65	21.76	21.77	≤ 1	1
	1	0	21.55	21.65	21.66		
	1	12	21.59	21.67	21.72		
	1	24	21.54	21.62	21.64		≤ 2
	12	0	20.54	20.59	20.67		
	12	6	20.65	20.69	20.76		
16QAM	12	13	20.54	20.58	20.61	≤ 2	2
	25	0	20.56	20.62	20.67		

Table 9.2.4.5 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26055 (1 851.5 MHz)	26365 (1 882.5 MHz)	26675 (1 913.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	22.72	22.76	22.84	≤ 1	0
	1	7	22.74	22.87	22.95		
	1	14	22.71	22.75	22.83		
	8	0	21.69	21.76	21.81		1
	8	4	21.73	21.80	21.85		
	8	7	21.60	21.71	21.74		
16QAM	15	0	21.67	21.76	21.77	≤ 1	1
	1	0	21.58	21.66	21.69		
	1	7	21.60	21.72	21.77		
	1	14	21.57	21.60	21.65		≤ 2
	8	0	20.63	20.77	20.79		
	8	4	20.67	20.78	20.80		
16QAM	8	7	20.54	20.64	20.75	≤ 2	2
	15	0	20.54	20.59	20.65		

Table 9.2.4.6 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26047 (1 850.7 MHz)	26365 (1 882.5 MHz)	26683 (1 914.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	22.64	22.68	22.84	≤ 1	0
	1	2	22.70	22.81	22.90		
	1	5	22.62	22.65	22.70		
	3	0	22.59	22.65	22.71		0
	3	2	22.61	22.69	22.78		
	3	3	22.57	22.62	22.64		
16QAM	6	0	21.66	21.74	21.75	≤ 1	1
	1	0	21.56	21.63	21.80		
	1	2	21.66	21.81	21.87		
	1	5	21.54	21.60	21.78		≤ 1
	3	0	21.51	21.52	21.58		
	3	2	21.55	21.62	21.70		
16QAM	3	3	21.50	21.51	21.53	≤ 2	1
	6	0	20.52	20.57	20.63		

Table 9.2.4.7 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 25(PCS)	Maximum
	Nominal	19.5

Table 9.2.5.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)
5) LTE Band 25 (PCS)

LTE Band 25 (PCS) Conducted Power–20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26140 (1 860.0 MHz)	26365 (1 882.5 MHz)	26590 (1 905.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.60	19.68	19.92	≤ 1	0
	1	50	19.71	19.95	19.99		
	1	99	19.42	19.54	19.83		
	50	0	19.55	19.62	19.69		
	50	25	19.60	19.65	19.75		
	50	50	19.49	19.59	19.65		
16QAM	100	0	19.52	19.59	19.65	≤ 1	0
	1	0	19.57	19.64	19.77		
	1	50	19.61	19.75	19.90		
	1	99	19.38	19.50	19.74		
	50	0	18.41	18.68	18.82		
	50	25	18.59	18.69	18.95		
16QAM	50	50	18.32	18.52	18.76	≤ 2	1
	100	0	18.40	18.56	18.69		

Table 9.2.5.2 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power–15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26115 (1 857.5 MHz)	26365 (1 882.5 MHz)	26615 (1 907.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.55	19.58	19.82	≤ 1	0
	1	36	19.63	19.73	19.86		
	1	74	19.36	19.49	19.76		
	36	0	19.37	19.41	19.60		
	36	18	19.50	19.63	19.69		
	36	37	19.31	19.36	19.56		
16QAM	75	0	19.34	19.47	19.61	≤ 1	0
	1	0	19.41	19.42	19.69		
	1	36	19.49	19.54	19.74		
	1	74	19.30	19.31	19.61		
	36	0	18.46	18.48	18.51		
	36	18	18.54	18.56	18.67		
16QAM	36	37	18.31	18.33	18.40	≤ 2	1
	75	0	18.40	18.47	18.48		

Table 9.2.5.3 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power–10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26090 (1 855.0 MHz)	26365 (1 882.5 MHz)	26640 (1 910.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.53	19.59	19.82	≤ 1	0
	1	25	19.60	19.76	19.88		
	1	49	19.40	19.56	19.79		
	25	0	19.41	19.43	19.58		
	25	12	19.50	19.59	19.60		
	25	25	19.36	19.38	19.50		
16QAM	50	0	19.31	19.34	19.57	≤ 1	0
	1	0	19.36	19.45	19.68		
	1	25	19.47	19.59	19.73		
	1	49	19.31	19.41	19.63		
	25	0	18.37	18.39	18.52		
	25	12	18.40	18.51	18.59		
16QAM	25	25	18.30	18.35	18.50	≤ 2	1
	50	0	18.35	18.37	18.42		

Table 9.2.5.4 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26065 (1 852.5 MHz)	26365 (1 882.5 MHz)	26665 (1 912.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.62	19.63	19.85	≤ 1	0
	1	12	19.82	19.85	19.89		
	1	24	19.52	19.53	19.74		
	12	0	19.33	19.44	19.58		
	12	6	19.38	19.50	19.67		
	12	13	19.31	19.38	19.52		
	25	0	19.33	19.40	19.54		
16QAM	1	0	19.47	19.61	19.68	≤ 1	0
	1	12	19.64	19.69	19.70		
	1	24	19.41	19.45	19.60		
	12	0	18.35	18.41	18.66		
	12	6	18.36	18.48	18.71		
	12	13	18.31	18.35	18.53		
	25	0	18.30	18.35	18.47		

Table 9.2.5.5 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26055 (1 851.5 MHz)	26365 (1 882.5 MHz)	26675 (1 913.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.43	19.45	19.80	≤ 1	0
	1	7	19.51	19.52	19.87		
	1	14	19.36	19.38	19.75		
	8	0	19.36	19.43	19.67		
	8	4	19.37	19.47	19.71		
	8	7	19.35	19.37	19.65		
	15	0	19.31	19.38	19.63		
16QAM	1	0	19.33	19.34	19.61	≤ 1	0
	1	7	19.37	19.38	19.74		
	1	14	19.32	19.34	19.60		
	8	0	18.36	18.37	18.53		
	8	4	18.40	18.44	18.74		
	8	7	18.33	18.36	18.51		
	15	0	18.34	18.37	18.56		

Table 9.2.5.6 LTE Conducted Power

LTE Band 25 (PCS) Conducted Power- 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			26047 (1 850.7 MHz)	26365 (1 882.5 MHz)	26683 (1 914.3 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.42	19.55	19.56	≤ 1	0
	1	2	19.56	19.58	19.59		
	1	5	19.40	19.46	19.49		
	3	0	19.39	19.48	19.50		
	3	2	19.43	19.54	19.58		
	3	3	19.35	19.37	19.46		
	6	0	19.38	19.40	19.43		
16QAM	1	0	19.37	19.39	19.41	≤ 1	0
	1	2	19.48	19.53	19.54		
	1	5	19.30	19.33	19.35		
	3	0	19.34	19.42	19.44		
	3	2	19.40	19.44	19.48		
	3	3	19.33	19.35	19.37		
	6	0	18.34	18.53	18.59		

Table 9.2.5.7 LTE Conducted Power

Band & Mode	Modulated Average(dBm)	
	LTE Band 7	Maximum
	Nominal	22.7

Table 9.2.6.1 Nominal and Maximum Output Power Spec

6) LTE Band 7

Modulation	RB Size	RB Offset	LTE Band 7 Conducted Power- 20 MHz Bandwidth			MPR Allowed Per 3GPP(dB)	MPR (dB)
			Low Channel	Mid Channel	High Channel		
			20850 (2 510.0 MHz)	21100 (2 535.0 MHz)	21350 (2 560.0 MHz)		
Conducted Power (dBm)							
QPSK	1	0	22.58	22.65	23.04	≤ 1	0
	1	50	23.15	23.16	23.19		
	1	99	22.92	22.99	23.15		
	50	0	21.83	21.88	21.91		1
	50	25	21.86	21.93	22.03		
	50	50	21.85	21.92	22.00		
100	0	21.84	21.90	21.95	1		
16QAM	1	0	21.71	21.76	21.92	≤ 1	1
	1	50	22.00	22.03	22.07		
	1	99	21.91	21.96	21.99		
	50	0	20.69	20.70	20.82	≤ 2	2
	50	25	20.82	20.89	20.94		
	50	50	20.75	20.81	20.85		
100	0	20.75	20.83	20.92	2		

Table 9.2.6.2 LTE Conducted Power

Modulation	RB Size	RB Offset	LTE Band 7 Conducted Power- 15 MHz Bandwidth			MPR Allowed Per 3GPP(dB)	MPR (dB)
			Low Channel	Mid Channel	High Channel		
			20825 (2 507.5 MHz)	21100 (2 535.0 MHz)	21375 (2 562.5 MHz)		
Conducted Power (dBm)							
QPSK	1	0	22.83	22.95	22.98	≤ 1	0
	1	36	22.98	23.02	23.08		
	1	74	22.96	23.01	23.07		
	36	0	21.84	21.85	21.91		1
	36	18	21.91	21.95	21.96		
	36	37	21.89	21.90	21.94		
75	0	21.87	21.88	21.91	1		
16QAM	1	0	21.71	21.81	21.88	≤ 1	1
	1	36	21.83	21.85	21.96		
	1	74	21.82	21.84	21.90		
	36	0	20.76	20.79	20.81	≤ 2	2
	36	18	20.84	20.90	20.91		
	36	37	20.82	20.87	20.89		
75	0	20.74	20.82	20.83	2		

Table 9.2.6.3 LTE Conducted Power

LTE Band 7 Conducted Power– 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20800 (2 505.0 MHz)	21100 (2 535.0 MHz)	21400 (2 565.0 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	22.93	22.95	23.00	≤ 1	0	
	1	25	22.99	23.04	23.09			
	1	49	22.97	23.01	23.07			
	25	0	21.81	21.90	21.91		1	
	25	12	21.90	21.98	21.99			
	25	25	21.87	21.91	21.95			
16QAM	50	0	21.85	21.92	21.94	≤ 1	1	
	1	0	21.78	21.81	21.82			
	1	25	21.97	22.01	22.03			
	1	49	21.82	21.87	21.90			
	25	0	20.77	20.85	20.88		≤ 2	2
	25	12	20.92	20.97	21.08			
	25	25	20.86	20.89	20.90			
	50	0	20.76	20.85	20.92			

Table 9.2.6.4 LTE Conducted Power

LTE Band 7 Conducted Power– 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			20775 (2 502.5 MHz)	21100 (2 535.0 MHz)	21425 (2 567.5 MHz)			
			Conducted Power (dBm)					
QPSK	1	0	22.64	22.73	22.75	≤ 1	0	
	1	12	22.77	22.89	22.97			
	1	24	22.74	22.82	22.89			
	12	0	21.74	21.76	21.81		1	
	12	6	21.87	21.92	21.96			
	12	13	21.78	21.79	21.86			
16QAM	25	0	21.75	21.83	21.90	≤ 1	1	
	1	0	21.56	21.57	21.61			
	1	12	21.63	21.70	21.79			
	1	24	21.62	21.66	21.77			
	12	0	20.70	20.78	20.95		≤ 2	2
	12	6	20.87	20.90	21.11			
	12	13	20.81	20.82	21.05			
	25	0	20.67	20.77	20.85			

Table 9.2.6.5 LTE Conducted Power

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

Table 9.2.7.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)

7) LTE Band 7

Modulation	RB Size	RB Offset	LTE Band 7 Conducted Power– 20 MHz Bandwidth			MPR Allowed Per 3GPP(dB)	MPR (dB)
			Low Channel	Mid Channel	High Channel		
			20850 (2 510.0 MHz)	21100 (2 535.0 MHz)	21350 (2 560.0 MHz)		
Conducted Power (dBm)							
QPSK	1	0	19.40	19.41	19.44	≤ 1	0
	1	50	19.43	19.45	19.49		
	1	99	19.41	19.43	19.45		
	50	0	19.08	19.14	19.15		0
	50	25	19.12	19.17	19.19		
	50	50	19.10	19.15	19.18		
	100	0	19.10	19.13	19.18		
16QAM	1	0	19.38	19.40	19.43	≤ 1	0
	1	50	19.41	19.44	19.45		
	1	99	19.40	19.42	19.44		
	50	0	18.07	18.10	18.13	≤ 2	1
	50	25	18.14	18.16	18.17		
	50	50	18.08	18.12	18.14		
	100	0	18.13	18.14	18.16		

Table 9.2.7.2 LTE Conducted Power

Modulation	RB Size	RB Offset	LTE Band 7 Conducted Power– 15 MHz Bandwidth			MPR Allowed Per 3GPP(dB)	MPR (dB)
			Low Channel	Mid Channel	High Channel		
			20825 (2 507.5 MHz)	21100 (2 535.0 MHz)	21375 (2 562.5 MHz)		
Conducted Power (dBm)							
QPSK	1	0	19.35	19.37	19.40	≤ 1	0
	1	36	19.45	19.46	19.48		
	1	74	19.44	19.45	19.47		
	36	0	19.06	19.07	19.11		0
	36	18	19.08	19.11	19.14		
	36	37	19.07	19.10	19.13		
	75	0	19.03	19.06	19.07		
16QAM	1	0	19.31	19.36	19.39	≤ 1	0
	1	36	19.37	19.41	19.45		
	1	74	19.32	19.39	19.41		
	36	0	18.05	18.06	18.08	≤ 2	1
	36	18	18.10	18.11	18.15		
	36	37	18.08	18.10	18.12		
	75	0	18.03	18.09	18.11		

Table 9.2.7.3 LTE Conducted Power

LTE Band 7 Conducted Power– 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20800 (2 505.0 MHz)	21100 (2 535.0 MHz)	21400 (2 565.0 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.37	19.39	19.43	≤ 1	0
	1	25	19.42	19.44	19.47		
	1	49	19.39	19.41	19.44		
	25	0	19.11	19.13	19.16		0
	25	12	19.15	19.16	19.18		
	25	25	19.14	19.15	19.17		
	50	0	19.13	19.14	19.16		
16QAM	1	0	19.36	19.38	19.40	≤ 1	0
	1	25	19.40	19.41	19.46		
	1	49	19.38	19.40	19.41		
	25	0	18.07	18.10	18.15	≤ 2	1
	25	12	18.13	18.14	18.17		
	25	25	18.11	18.12	18.16		
	50	0	18.10	18.13	18.16		

Table 9.2.7.4 LTE Conducted Power

LTE Band 7 Conducted Power– 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			20775 (2 502.5 MHz)	21100 (2 535.0 MHz)	21425 (2 567.5 MHz)		
			Conducted Power (dBm)				
QPSK	1	0	19.38	19.39	19.41	≤ 1	0
	1	12	19.40	19.44	19.46		
	1	24	19.39	19.41	19.45		
	12	0	19.07	19.10	19.14		0
	12	6	19.09	19.13	19.17		
	12	13	19.08	19.11	19.15		
	25	0	19.03	19.10	19.14		
16QAM	1	0	19.37	19.38	19.41	≤ 1	0
	1	12	19.40	19.42	19.45		
	1	24	19.39	19.41	19.42		
	12	0	18.06	18.13	18.14	≤ 2	1
	12	6	18.15	18.17	18.19		
	12	13	18.11	18.14	18.18		
	25	0	18.10	18.13	18.15		

Table 9.2.7.5 LTE Conducted Power

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

Table 9.2.8.1 Nominal and Maximum Output Power Spec

8) LTE Band 41

LTE Band 41 Conducted Power– 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39750 (2 506.0 MHz)	40185 (2 549.5 MHz)	40620 (2 593.0 MHz)	41055 (2 636.5 MHz)	41490 (2 680.0 MHz)		
Conducted Power (dBm)									
QPSK	1	0	22.62	22.63	22.64	22.67	22.69	≤ 1	0
	1	50	22.60	22.62	22.63	22.66	22.68		
	1	99	22.40	22.45	22.49	22.56	22.62		
	50	0	21.57	21.60	21.61	21.63	21.69		1
	50	25	21.45	21.50	21.55	21.62	21.68		
	50	50	21.44	21.47	21.49	21.59	21.66		
16QAM	100	0	21.45	21.49	21.50	21.53	21.68	≤ 2	1
	1	0	21.48	21.54	21.60	21.65	21.66		
	1	50	21.44	21.51	21.53	21.55	21.64		
	1	99	21.41	21.42	21.45	21.47	21.49		2
	50	0	20.44	20.48	20.49	20.56	20.68		
	50	25	20.32	20.42	20.46	20.47	20.49		
	50	50	20.26	20.30	20.37	20.43	20.48		2
	100	0	20.35	20.37	20.42	20.55	20.62		

Table 9.2.8.2 LTE Conducted Power

LTE Band 41 Conducted Power– 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39725 (2 503.5 MHz)	40173 (2 548.3 MHz)	40620 (2 593.0 MHz)	41068 (2 637.8 MHz)	41515 (2 682.5 MHz)		
Conducted Power (dBm)									
QPSK	1	0	22.45	22.46	22.57	22.67	22.68	≤ 1	0
	1	36	22.40	22.43	22.54	22.60	22.65		
	1	74	22.39	22.41	22.49	22.59	22.61		
	36	0	21.53	21.56	21.61	21.62	21.65		1
	36	18	21.49	21.54	21.58	21.61	21.64		
	36	37	21.46	21.48	21.50	21.57	21.61		
16QAM	75	0	21.51	21.52	21.53	21.61	21.63	≤ 2	1
	1	0	21.40	21.43	21.44	21.52	21.61		
	1	36	21.35	21.38	21.39	21.43	21.49		
	1	74	21.31	21.32	21.35	21.42	21.48		2
	36	0	20.40	20.44	20.50	20.56	20.62		
	36	18	20.31	20.36	20.39	20.42	20.50		
	36	37	20.27	20.29	20.33	20.40	20.49		2
	75	0	20.34	20.36	20.39	20.43	20.52		

Table 9.2.8.3 LTE Conducted Power

LTE Band 41 Conducted Power-- 10 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39700 (2 501.0 MHz)	40160 (2 547.0 MHz)	40620 (2 593.0 MHz)	41080 (2 639.0 MHz)	41540 (2 685.0 MHz)			
Conducted Power (dBm)										
QPSK	1	0	22.51	22.57	22.61	22.65	22.66	≤ 1	0	
	1	25	22.50	22.55	22.60	22.61	22.63			
	1	49	22.39	22.47	22.51	22.54	22.58			
	25	0	21.60	21.61	21.62	21.65	21.68		1	
	25	12	21.55	21.59	21.60	21.64	21.66			
	25	25	21.53	21.55	21.58	21.58	21.63			
16QAM	50	0	21.49	21.51	21.56	21.60	21.63	≤ 1	1	
	1	0	21.46	21.53	21.58	21.59	21.67			
	1	25	21.40	21.43	21.44	21.56	21.63			
	1	49	21.38	21.41	21.43	21.50	21.56			
	25	0	20.60	20.63	20.65	20.69	20.70		≤ 2	2
	25	12	20.59	20.60	20.63	20.66	20.67			
	25	25	20.51	20.56	20.57	20.65	20.66			
	50	0	20.39	20.40	20.42	20.47	20.54			2

Table 9.2.8.4 LTE Conducted Power

LTE Band 41 Conducted Power-- 5 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39675 (2 498.5 MHz)	40148 (2 545.8 MHz)	40620 (2 593.0 MHz)	41093 (2 640.3 MHz)	41565 (2 687.5 MHz)			
Conducted Power (dBm)										
QPSK	1	0	22.57	22.60	22.65	22.67	22.69	≤ 1	0	
	1	12	22.53	22.55	22.62	22.63	22.68			
	1	24	22.51	22.54	22.60	22.61	22.67			
	12	0	21.58	21.64	21.65	21.67	21.68		1	
	12	6	21.56	21.60	21.62	21.66	21.67			
	12	13	21.51	21.53	21.58	21.60	21.63			
16QAM	25	0	21.54	21.61	21.63	21.66	21.67	≤ 1	1	
	1	0	21.40	21.43	21.50	21.51	21.56			
	1	12	21.38	21.41	21.47	21.49	21.55			
	1	24	21.35	21.37	21.43	21.43	21.49			
	12	0	20.62	20.63	20.65	20.67	20.69		≤ 2	2
	12	6	20.43	20.45	20.54	20.59	20.63			
	12	13	20.35	20.39	20.40	20.43	20.49			
	25	0	20.51	20.55	20.57	20.58	20.65			2

Table 9.2.8.5 LTE Conducted Power

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

Table 9.2.9.1 Nominal and Maximum Output Power Spec (Reduced Conducted Powers – Proximity Sensor Triggering Active)
9) LTE Band 41

LTE Band 41 Conducted Power– 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39750 (2 506.0 MHz)	40185 (2 549.5 MHz)	40620 (2 593.0 MHz)	41055 (2 636.5 MHz)	41490 (2 680.0 MHz)		
Conducted Power (dBm)									
QPSK	1	0	21.60	21.62	21.64	21.66	21.69	≤ 1	0
	1	50	21.55	21.60	21.62	21.63	21.67		
	1	99	21.53	21.55	21.61	21.62	21.66		
	50	0	21.50	21.53	21.56	21.57	21.59		0
	50	25	21.48	21.51	21.55	21.56	21.57		
	50	50	21.43	21.45	21.47	21.54	21.55		
16QAM	100	0	21.45	21.46	21.47	21.55	21.56	≤ 1	0
	1	0	21.58	21.60	21.63	21.64	21.68		
	1	50	21.54	21.59	21.61	21.63	21.66		
	1	99	21.51	21.55	21.59	21.61	21.65		≤ 2
	50	0	20.50	20.53	20.56	20.58	20.59		
	50	25	20.46	20.50	20.52	20.56	20.58		
50	50	20.45	20.48	20.50	20.53	20.56	1		
100	0	20.48	20.49	20.52	20.56	20.57			

Table 9.2.9.2 LTE Conducted Power

LTE Band 41 Conducted Power– 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)
			39725 (2 503.5 MHz)	40173 (2 548.3 MHz)	40620 (2 593.0 MHz)	41068 (2 637.8 MHz)	41515 (2 682.5 MHz)		
Conducted Power (dBm)									
QPSK	1	0	21.41	21.44	21.50	21.56	21.60	≤ 1	0
	1	36	21.35	21.41	21.49	21.50	21.51		
	1	74	21.30	21.35	21.40	21.42	21.43		
	36	0	21.37	21.38	21.42	21.46	21.51		0
	36	18	21.31	21.33	21.35	21.37	21.43		
	36	37	21.12	21.16	21.21	21.24	21.29		
16QAM	75	0	21.33	21.34	21.41	21.45	21.50	≤ 1	0
	1	0	21.40	21.43	21.49	21.56	21.59		
	1	36	21.34	21.41	21.48	21.49	21.50		
	1	74	21.26	21.34	21.37	21.38	21.40		≤ 2
	36	0	20.43	20.45	20.47	20.50	20.53		
	36	18	20.26	20.31	20.34	20.37	20.40		
36	37	20.22	20.26	20.30	20.32	20.33	1		
75	0	20.20	20.37	20.40	20.42	20.43			

Table 9.2.9.3 LTE Conducted Power

LTE Band 41 Conducted Power-- 10 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39700 (2 501.0 MHz)	40160 (2 547.0 MHz)	40620 (2 593.0 MHz)	41080 (2 639.0 MHz)	41540 (2 685.0 MHz)			
Conducted Power (dBm)										
QPSK	1	0	21.29	21.30	21.33	21.36	21.41	≤ 1	0	
	1	25	21.23	21.26	21.31	21.34	21.40			
	1	49	21.20	21.21	21.30	21.32	21.39			
	25	0	21.14	21.18	21.21	21.24	21.28		0	
	25	12	21.10	21.15	21.20	21.23	21.25			
	25	25	21.09	21.14	21.18	21.21	21.23			
16QAM	50	0	21.09	21.16	21.19	21.23	21.25	≤ 1	0	
	1	0	21.22	21.23	21.28	21.31	21.39			
	1	25	21.20	21.22	21.26	21.30	21.35			
	1	49	21.18	21.20	21.25	21.28	21.31		≤ 2	1
	25	0	20.15	20.17	20.23	20.26	20.29			
	25	12	20.13	20.15	20.21	20.25	20.26			
	25	25	20.11	20.12	20.20	20.23	20.25	1		
	50	0	20.10	20.13	20.22	20.24	20.27			

Table 9.2.9.4 LTE Conducted Power

LTE Band 41 Conducted Power-- 5 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed Per 3GPP(dB)	MPR (dB)	
			39675 (2 498.5 MHz)	40148 (2 545.8 MHz)	40620 (2 593.0 MHz)	41093 (2 640.3 MHz)	41565 (2 687.5 MHz)			
Conducted Power (dBm)										
QPSK	1	0	21.50	21.52	21.57	21.63	21.65	≤ 1	0	
	1	12	21.43	21.46	21.48	21.54	21.59			
	1	24	21.30	21.32	21.38	21.42	21.44			
	12	0	21.10	21.13	21.21	21.23	21.26		0	
	12	6	21.08	21.11	21.20	21.21	21.23			
	12	13	21.07	21.09	21.16	21.17	21.19			
16QAM	25	0	21.01	21.03	21.12	21.16	21.17	≤ 1	0	
	1	0	21.48	21.49	21.53	21.55	21.56			
	1	12	21.36	21.37	21.41	21.45	21.47			
	1	24	21.28	21.31	21.33	21.39	21.43		≤ 2	1
	12	0	20.21	20.25	20.26	20.27	20.30			
	12	6	20.14	20.17	20.20	20.23	20.25			
	12	13	20.12	20.14	20.15	20.18	20.21	1		
	25	0	20.17	20.20	20.22	20.25	20.29			

Table 9.2.9.5 LTE Conducted Power

9.3 WLAN Nominal and Maximum Output Power Spec and Conducted Powers

Band (GHz)	Mode	Ch	Modulated Average[dBm]	
			Maximum	Nominal
2.4	802.11b	1	16.5	16.0
		6	16.5	16.0
		11	16.5	16.0
	802.11g	1	15.5	15.0
		6	15.5	15.0
		11	15.5	15.0
	802.11n (HT20)	1	15.0	14.5
		6	15.0	14.5
		11	15.0	14.5
	802.11ac (VHT20)	1	15.0	14.5
		6	15.0	14.5
		11	15.0	14.5
	802.11n (HT40)	3	14.0	13.5
		6	16.0	15.5
		9	16.0	15.5
	802.11ac (VHT40)	3	14.0	13.5
		6	15.0	14.5
		9	15.0	14.5

Table 9.3.1 Nominal and Maximum Output Power Spec

Mode	Freq. (MHz)	Channel	IEEE 802.11 (2.4 GHz) Conducted Power[dBm]
802.11b	2 412	1	16.37
	2 437	6	16.07
	2 462	11	16.38
802.11g	2 412	1	14.31
	2 437	6	14.41
	2 462	11	14.40
802.11n (HT-20)	2 412	1	13.68
	2 437	6	13.81
	2 462	11	13.92
802.11ac (VHT20)	2 412	1	13.84
	2 437	6	13.92
	2 462	11	13.85
802.11n (HT40)	2 422	3	13.70
	2 437	6	15.83
	2 452	9	14.98
802.11ac (VHT40)	2 422	3	13.54
	2 437	6	14.46
	2 452	9	13.36

Table 9.3.2 IEEE 802.11 Average RF Power

Band (GHz)	Mode	Ch	Modulated Average[dBm]	
			Maximum	Nominal
5 (UNII)	802.11a	36-64	13.5	13.0
		100-144	11.0	10.5
		149-165	11.5	11.0
	802.11n (20MHz)	36-64	14.0	13.5
		100-144	12.5	12.0
		149-165	11.5	11.0
	802.11ac (20MHz)	38-62	13.5	13.0
		102-142	11.0	10.5
		151-159	10.0	9.5
	802.11n (40MHz)	36-64	14.0	13.5
		100-144	12.0	11.5
		149-165	11.0	10.5
	802.11ac (40MHz)	38-62	12.5	12.0
		102-142	10.0	9.5
		151-159	10.0	9.5
	802.11ac (80MHz)	42-58	12.0	11.5
		106-138	10.0	9.5
		155	9.0	8.5

Table 9.3.3 Nominal and Maximum Output Power Spec

Mode	Freq.	Channel	IEEE 802.11a (5 GHz) Conducted Power[dBm]
	(MHz)		
802.11a	5 180	36	13.45
	5 200	40	13.21
	5 220	44	13.11
	5 240	48	13.28
	5 260	52	13.18
	5 280	56	13.08
	5 300	60	13.25
	5 320	64	12.98
	5 500	100	10.97
	5 580	116	10.83
	5 660	132	10.68
	5 720	144	10.81
	5 745	149	10.03
	5 785	157	10.21
	5 825	165	10.38

Table 9.3.4 IEEE 802.11a Average RF Power

Mode	Freq.	Channel	IEEE 802.11n HT20 (5 GHz) Conducted Power[dBm]
	(MHz)		
802.11n (HT-20)	5 180	36	13.61
	5 200	40	13.46
	5 220	44	13.45
	5 240	48	13.53
	5 260	52	13.54
	5 280	56	13.67
	5 300	60	13.73
	5 320	64	13.82
	5 500	100	12.15
	5 580	116	10.51
	5 660	132	10.54
	5 720	144	10.72
	5 745	149	10.63
	5 785	157	11.08
	5 825	165	11.24

Table 9.3.5 IEEE 802.11n HT20 Average RF Power

Mode	Freq.	Channel	IEEE 802.11ac VHT20 (5 GHz) Conducted Power[dBm]
	(MHz)		
802.11ac (VHT-20)	5 180	36	12.63
	5 200	40	12.64
	5 220	44	12.70
	5 240	48	12.81
	5 260	52	12.89
	5 280	56	12.92
	5 300	60	13.12
	5 320	64	13.14
	5 500	100	10.51
	5 580	116	9.51
	5 660	132	9.23
	5 720	144	9.36
	5 745	149	9.34
	5 785	157	9.22
	5 825	165	9.32

Table 9.3.6 IEEE 802.11ac VHT20 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11n HT40 (5 GHz) Conducted Power[dBm]
802.11n (HT-40)	<u>5 190</u>	<u>38</u>	<u>13.43</u>
	5 230	46	13.27
	5 270	54	13.45
	<u>5 310</u>	<u>62</u>	<u>13.92</u>
	5 510	102	11.67
	5 550	110	11.16
	5 670	134	10.31
	5 710	142	10.47
	5 755	151	10.58
	5 795	159	10.38

Table 9.3.7 IEEE 802.11n HT40 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11ac VHT40 (5 GHz) Conducted Power[dBm]
802.11ac (VHT-40)	5 190	38	11.85
	5 230	46	11.79
	5 270	54	12.17
	5 310	62	12.48
	5 510	102	9.97
	5 550	110	9.31
	5 670	134	8.97
	5 710	142	8.98
	5 755	151	8.84
	5 795	159	8.58

Table 9.3.8 IEEE 802.11ac VHT40 Average RF Power

Mode	Freq. (MHz)	Channel	IEEE 802.11ac VHT80 (5 GHz) Conducted Power[dBm]
802.11ac (VHT-80)	5 210	42	11.31
	5 290	58	11.56
	5 530	106	9.65
	5 690	138	8.64
	5 775	155	8.73

Table 9.3.9 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, due to an even number of channels, both channels were measured.
- Output Power and SAR is not required for 802.11 g/n HT20/ac VHT20/n HT40/ac VHT40 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.

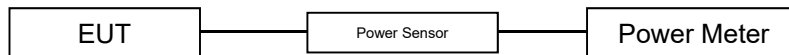


Figure 9.4 Power Measurement Setup

9.4 Bluetooth Conducted Powers

Frame Modulated Average[dBm]		
Bluetooth 1 Mbps	Maximum	6.85
	Nominal	6.35
Bluetooth 2 Mbps	Maximum	7.35
	Nominal	6.85
Bluetooth 3 Mbps	Maximum	6.85
	Nominal	6.35
Bluetooth (LE / 1Mbps)	Maximum	8.62
	Nominal	8.12
Bluetooth (LE / 2Mbps)	Maximum	6.89
	Nominal	6.39

Table 9.4.2 Nominal and Maximum Output Power Spec (Frame)

Channel	Frequency	Frame AVG Output Power (1Mbps)	Frame AVG Output Power (2Mbps)	Frame AVG Output Power (3Mbps)
	(MHz)	(dBm)	(dBm)	(dBm)
Low	2 402	5.98	6.46	6.39
Mid	2 441	6.14	6.70	6.56
High	2 480	6.30	6.90	6.79

Table 9.4.3 Bluetooth Burst and Frame Average RF Power

Channel	Frequency	Frame AVG Output Power(LE / 1Mbps)	Frame AVG Output Power(LE / 2Mbps)
	(MHz)	(dBm)	(dBm)
Low	2 402	8.29	6.54
Mid	2 440	8.43	6.68
High	2 480	8.53	6.74

Table 9.4.4 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 9.4. 1.

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.

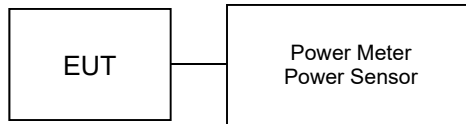


Figure 9.4.1 Average Power Measurement Setup

Bluetooth Transmission Plot

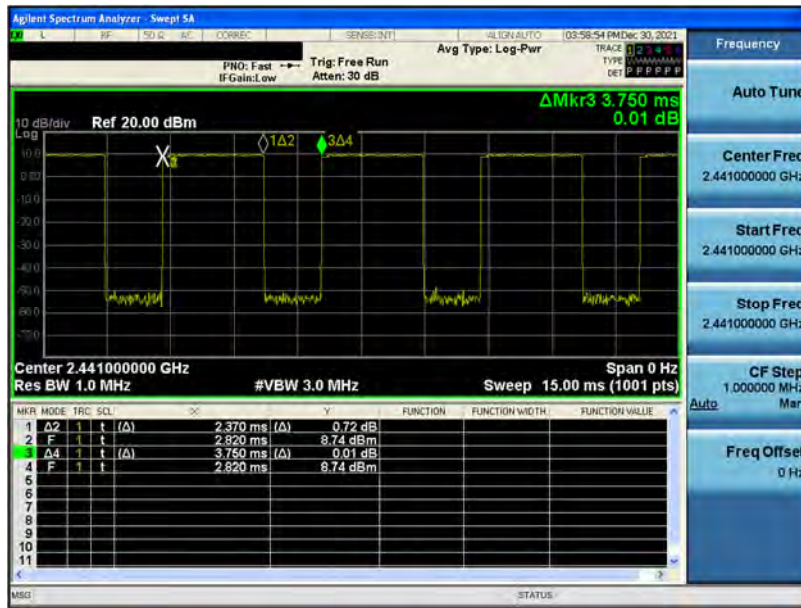


Figure 9.4.2 Bluetooth Transmission Plot

Bluetooth Duty Cycle Calculation

$$\text{Duty Cycle} = \text{Pulse/Period} * 100\% = (2.370/3.750) * 100 = 63.2\%$$

Bluetooth LE Transmission Plot

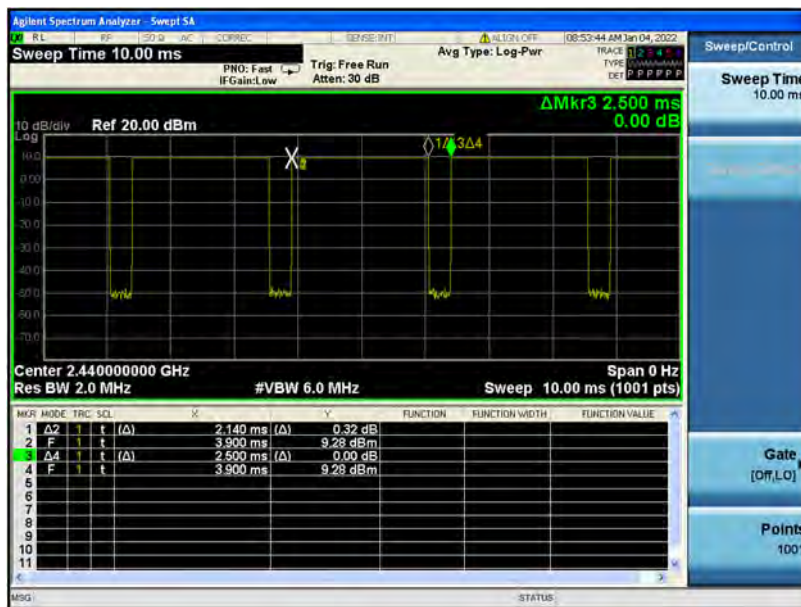


Figure 9.4.3 Bluetooth Transmission Plot

Bluetooth LE Duty Cycle Calculation

$$\text{Duty Cycle} = \text{Pulse/Period} * 100\% = (2.140/2.500) * 100 = 85.6\%$$

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, ϵ_r	Target Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ_r	Measured Conductivity, σ (S/m)	ϵ_r Deviation [%]	σ Deviation [%]
Dec. 16. 2021	750 Head	21.7	21.6	704.0	42.145	0.887	43.186	0.854	2.47	-3.72
				707.5	42.129	0.887	43.146	0.858	2.41	-3.27
				709.0	42.119	0.887	43.132	0.859	2.41	-3.16
				710.0	42.113	0.887	43.126	0.860	2.41	-3.04
				711.0	42.108	0.887	43.110	0.861	2.38	-2.93
				750.0	41.900	0.890	42.606	0.899	1.68	1.01
				782.0	41.749	0.894	42.220	0.929	1.13	3.91
Jan. 3. 2022	750 Head	21.1	21.0	709.0	42.119	0.887	42.111	0.859	-0.02	-3.16
				710.0	42.113	0.887	42.095	0.860	-0.04	-3.04
				711.0	42.108	0.887	42.081	0.861	-0.06	-2.93
				750.0	41.900	0.890	41.481	0.893	-1.00	0.34
				824.2	41.552	0.899	42.920	0.893	3.29	-0.67
Dec. 15. 2021	835 Head	21.6	21.5	826.4	41.542	0.899	42.898	0.896	3.26	-0.33
				829.0	41.528	0.899	42.871	0.898	3.23	-0.11
				835.0	41.500	0.900	42.806	0.903	3.15	0.33
				836.5	41.500	0.901	42.789	0.905	3.11	0.44
				836.6	41.500	0.901	42.788	0.905	3.10	0.44
				844.0	41.500	0.910	42.712	0.911	2.92	0.11
				846.6	41.500	0.912	42.685	0.913	2.86	0.11
				848.8	41.500	0.914	42.666	0.915	2.81	0.11
Dec. 29. 2021	1 900 Head	22.3	22.1	1852.4	40.000	1.400	39.708	1.359	-0.73	-2.93
				1880.0	40.000	1.400	39.547	1.385	-1.13	-1.07
				1900.0	40.000	1.400	39.417	1.402	-1.46	0.14
				1907.6	40.000	1.400	39.372	1.408	-1.57	0.57
				1860.0	40.000	1.400	38.818	1.372	-2.96	-2.00
Dec. 30. 2021	1 900 Head	22.2	22.1	1882.5	40.000	1.400	38.725	1.393	-3.19	-0.50
				1900.0	40.000	1.400	38.654	1.409	-3.36	0.64
				1905.0	40.000	1.400	38.637	1.414	-3.41	1.00
				2412.0	39.265	1.766	39.861	1.783	1.52	0.96
Jan. 3. 2022	2 450 Head	20.3	20.5	2437.0	39.222	1.788	39.783	1.814	1.43	1.45
				2450.0	39.200	1.800	39.758	1.829	1.42	1.61
				2462.0	39.184	1.813	39.731	1.841	1.40	1.54
				2402.0	39.282	1.757	38.184	1.756	-2.80	-0.06
Jan. 6. 2022	2 450 Head	21.6	21.5	2440.0	39.217	1.791	38.172	1.799	-2.66	0.45
				2441.0	39.215	1.792	38.170	1.800	-2.66	0.45
				2450.0	39.200	1.800	38.158	1.809	-2.66	0.50
				2480.0	39.160	1.832	38.080	1.836	-2.76	0.22

MEASURED TISSUE PARAMETERS										
Date(s)	Tissue Type	Ambient Temp.[°C]	Liquid Temp.[°C]	Measured Frequency [MHz]	Target Dielectric Constant, ϵ_r	Target Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ_r	Measured Conductivity, σ (S/m)	Er Deviation [%]	σ Deviation [%]
Dec. 23. 2021	2 600 Head	22.4	22.3	2 506.0	39.125	1.860	39.534	1.887	1.05	1.45
				2 549.5	39.068	1.906	39.335	1.905	0.68	-0.05
				2 593.0	39.009	1.953	39.144	1.972	0.35	0.97
				2 600.0	39.000	1.960	39.123	1.982	0.32	1.12
				2 636.5	38.955	2.000	39.033	2.013	0.20	0.65
2 680.0	38.900	2.048	38.870	2.051	-0.08	0.15				
Dec. 21. 2021	2 600 Head	21.5	21.4	2 510.0	39.120	1.864	38.666	1.923	-1.16	3.17
				2 535.0	39.087	1.891	38.567	1.954	-1.33	3.33
				2 560.0	39.053	1.917	38.494	1.984	-1.43	3.50
2 600.0	39.000	1.960	38.354	2.026	-1.66	3.37				
Jan. 3. 2022	5 200 Head	21.2	21.4	5 180.0	36.020	4.639	35.584	4.663	-1.21	0.52
				5 190.0	36.010	4.650	35.562	4.675	-1.24	0.54
				5 200.0	36.000	4.660	35.539	4.690	-1.28	0.64
				5 210.0	35.990	4.670	35.527	4.704	-1.29	0.73
				5 220.0	35.980	4.680	35.516	4.715	-1.29	0.75
				5 230.0	35.970	4.690	35.498	4.724	-1.31	0.72
5 240.0	35.960	4.700	35.480	4.736	-1.33	0.77				
Jan. 4. 2022	5 300 Head	21.3	21.4	5 260.0	35.940	4.720	36.476	4.687	1.49	-0.70
				5 270.0	35.930	4.730	36.468	4.697	1.50	-0.70
				5 280.0	35.920	4.740	36.450	4.706	1.48	-0.72
				5 290.0	35.910	4.750	36.429	4.717	1.45	-0.69
				5 300.0	35.900	4.760	36.408	4.731	1.42	-0.61
				5 310.0	35.890	4.770	36.391	4.746	1.40	-0.50
5 320.0	35.880	4.780	36.383	4.760	1.40	-0.42				
Jan. 5. 2022	5 600 Head	21.4	21.6	5 500.0	35.650	4.965	35.706	5.016	0.16	1.03
				5 510.0	35.635	4.976	35.704	5.025	0.19	0.98
				5 530.0	35.605	4.997	35.663	5.047	0.16	1.00
				5 550.0	35.575	5.018	35.637	5.071	0.17	1.06
				5 580.0	35.530	5.049	35.574	5.095	0.12	0.91
				5 600.0	35.500	5.070	35.528	5.121	0.08	1.01
				5 660.0	35.440	5.130	36.464	5.196	2.89	1.29
				5 670.0	35.430	5.140	35.455	5.202	0.07	1.21
				5 690.0	35.410	5.160	35.406	5.217	-0.01	1.10
				5 710.0	35.390	5.180	35.353	5.239	-0.10	1.14
				5 720.0	35.380	5.190	35.340	5.252	-0.11	1.19
				5 825.0	35.275	5.296	35.243	5.342	-0.09	0.87
Jan. 6. 2022	5 800 Head	21.1	21.4	5 745.0	35.355	5.215	35.872	5.343	1.46	2.45
				5 755.0	35.345	5.225	35.856	5.355	1.45	2.49
				5 775.0	35.325	5.245	35.817	5.374	1.39	2.46
				5 785.0	35.315	5.255	35.792	5.388	1.35	2.53
				5 795.0	35.305	5.265	35.773	5.404	1.33	2.64
				5 800.0	35.300	5.270	35.765	5.412	1.32	2.69
5 825.0	35.275	5.296	35.752	5.440	1.35	2.72				

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

Measurement Procedure for Tissue verification:

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

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

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

10.2 Test System Verification

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

Table 10.2.1 System Verification Results (1g)

SYSTEM DIPOLE VERIFICATION TARGET & MEASURED												
SAR System #	Freq. [MHz]	SAR Dipole kits	Date(s)	Tissue Type	Ambient Temp. [°C]	Liquid Temp. [°C]	Probe S/N	Input Power (mW)	1 W Target SAR _{1g} (W/kg)	Measured SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation [%]
D	750	D750V3, SN:1049	Dec. 16. 2021	Head	21.7	21.6	3327	250	8.39	2.13	8.52	1.55
D	750	D750V3, SN:1049	Jan. 3. 2022	Head	21.1	21.0	3866	250	8.39	2.16	8.64	2.98
D	835	D835V2, SN:464	Dec. 15. 2021	Head	21.6	21.5	3327	250	9.75	2.43	9.72	-0.31
E	1 900	D1900V2, SN:5d029	Dec. 29. 2021	Head	22.3	22.1	7368	100	40.5	4.19	41.9	3.46
E	1 900	D1900V2, SN:5d029	Dec. 30. 2021	Head	22.2	22.1	7368	100	40.5	4.26	42.6	5.19
C	2 450	D2450V2, SN: 726	Jan. 3. 2022	Head	20.3	20.5	3916	100	51.8	5.05	50.5	-2.51
C	2 450	D2450V2, SN: 726	Jan. 6. 2022	Head	21.6	21.5	3916	100	51.8	5.29	52.9	2.12
D	2 600	D2600V2, SN: 1016	Dec. 21. 2021	Head	21.5	21.4	3327	100	55.9	5.81	58.1	3.94
D	2 600	D2600V2, SN: 1016	Dec. 23. 2021	Head	22.4	22.3	3327	100	55.9	5.89	58.9	5.37
F	5 200	D5GH2V2, SN:1103	Jan. 3. 2022	Head	21.2	21.4	7337	100	82.3	7.82	78.2	-4.98
F	5 300	D5GH2V2, SN:1103	Jan. 4. 2022	Head	21.3	21.4	3933	100	84.7	8.23	82.3	-2.83
F	5 500	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	87.7	8.61	86.1	-1.82
F	5 600	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	86.4	8.31	83.1	-3.82
F	5 800	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	83.5	8.27	82.7	-0.96
F	5 800	D5GH2V2, SN:1103	Jan. 6. 2022	Head	21.1	21.4	3933	100	83.5	8.39	83.9	0.48

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 [%]
E	1 900	D1900V2, SN:5d029	Dec. 29. 2021	Head	22.3	22.1	7368	100	21.3	2.25	22.5	5.63
E	1 900	D1900V2, SN:5d029	Dec. 30. 2021	Head	22.2	22.1	7368	100	21.3	2.25	22.5	5.63
D	2 600	D2600V2, SN: 1016	Dec. 21. 2021	Head	21.5	21.4	3327	100	25.0	2.61	26.1	4.40
D	2 600	D2600V2, SN: 1016	Dec. 23. 2021	Head	22.4	22.3	3327	100	25.0	2.66	26.6	6.40
F	5 300	D5GH2V2, SN:1103	Jan. 4. 2022	Head	21.3	21.4	3933	100	24.1	2.37	23.7	-1.66
F	5 500	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	24.8	2.45	24.5	-1.21
F	5 600	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	24.5	2.36	23.6	-3.67
F	5 800	D5GH2V2, SN:1103	Jan. 5. 2022	Head	21.4	21.6	3933	100	23.5	2.33	23.3	-0.85
F	5 800	D5GH2V2, SN:1103	Jan. 6. 2022	Head	21.1	21.4	3933	100	23.5	2.37	23.7	0.85

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.

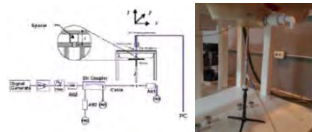


Figure 10.1 Dipole Verification Test Setup Diagram & Photo

11. SAR TEST RESULTS

11.1 Head SAR Results

Table 11.1.1 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	23.30	23.29	0.130	Left Touch	FCC #1	1:1	0.457	1.002	0.458	A1
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.120	Right Touch	FCC #1	1:1	0.480	1.002	0.481	
836.6	4183	WCDMA 850	RMC	23.30	23.29	0.130	Left Tilt	FCC #1	1:1	0.270	1.002	0.271	
836.6	4183	WCDMA 850	RMC	23.30	23.29	0.100	Right Tilt	FCC #1	1:1	0.266	1.002	0.267	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.120	Right Touch	FCC #1	1:1	0.431	1.002	0.432	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.2 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	23.70	23.69	0.110	Left Touch	FCC #1	1:1	0.107	1.002	0.107	A2
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.050	Right Touch	FCC #1	1:1	0.200	1.002	0.200	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.090	Left Tilt	FCC #1	1:1	0.049	1.002	0.049	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	-0.050	Right Tilt	FCC #1	1:1	0.030	1.002	0.030	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	-0.150	Right Touch	FCC #1	1:1	0.197	1.002	0.197	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.3 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	22.50	22.45	0.180	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.164	1.012	0.166	A3
707.5	23095	LTE B12	10	21.50	21.27	0.130	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.138	1.054	0.145	
707.5	23095	LTE B12	10	22.50	22.45	0.070	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.165	1.012	0.167	
707.5	23095	LTE B12	10	21.50	21.27	0.130	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.142	1.054	0.150	
707.5	23095	LTE B12	10	22.50	22.45	0.050	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.099	1.012	0.100	
707.5	23095	LTE B12	10	21.50	21.27	0.080	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.078	1.054	0.082	
707.5	23095	LTE B12	10	22.50	22.45	0.120	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.095	1.012	0.096	
707.5	23095	LTE B12	10	21.50	21.27	0.160	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.077	1.054	0.081	
707.5	23095	LTE B12	10	22.50	22.45	-0.170	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.121	1.012	0.122	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.4 LTE Band 17 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																
710.0	23790	LTE B17	10	24.20	24.08	0.100	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.211	1.028	0.217	A4
710.0	23790	LTE B17	10	23.20	22.82	-0.170	1	Left Touch	FCC #1	QPSK	25	12	1:1	0.170	1.091	0.185	
710.0	23790	LTE B17	10	24.20	24.08	-0.010	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.216	1.028	0.222	
710.0	23790	LTE B17	10	23.20	22.82	0.070	1	Right Touch	FCC #1	QPSK	25	12	1:1	0.189	1.091	0.206	
710.0	23790	LTE B17	10	24.20	24.08	0.170	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.138	1.028	0.142	
710.0	23790	LTE B17	10	23.20	22.82	0.200	1	Left Tilt	FCC #1	QPSK	25	12	1:1	0.109	1.091	0.119	
710.0	23790	LTE B17	10	24.20	24.08	-0.040	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.123	1.028	0.126	
710.0	23790	LTE B17	10	23.20	22.82	0.110	1	Right Tilt	FCC #1	QPSK	25	12	1:1	0.102	1.091	0.111	
710.0	23790	LTE B17	10	24.20	24.08	-0.120	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.213	1.028	0.219	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.5 LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
836.5	20525	LTE B5	10	23.70	23.68	-0.020	0	Left Touch	FCC #1	QPSK	1	25	1:1	0.400	1.005	0.402	A5
836.5	20525	LTE B5	10	22.70	22.37	-0.010	1	Left Touch	FCC #1	QPSK	25	0	1:1	0.363	1.079	0.392	
836.5	20525	LTE B5	10	23.70	23.68	0.010	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.415	1.005	0.417	
836.5	20525	LTE B5	10	22.70	22.37	-0.020	1	Right Touch	FCC #1	QPSK	25	0	1:1	0.365	1.079	0.394	
836.5	20525	LTE B5	10	23.70	23.68	0.030	0	Left Tilt	FCC #1	QPSK	1	25	1:1	0.248	1.005	0.249	
836.5	20525	LTE B5	10	22.70	22.37	0.070	1	Left Tilt	FCC #1	QPSK	25	0	1:1	0.222	1.079	0.240	
836.5	20525	LTE B5	10	23.70	23.68	0.100	0	Right Tilt	FCC #1	QPSK	1	25	1:1	0.232	1.005	0.233	
836.5	20525	LTE B5	10	22.70	22.37	0.110	1	Right Tilt	FCC #1	QPSK	25	0	1:1	0.196	1.079	0.211	
836.5	20525	LTE B5	10	23.70	23.68	0.070	0	Right Touch	FCC #1	QPSK	1	25	1:1	0.380	1.005	0.382	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.6 LTE Band 25 (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																
1905.0	26590	LTE B25	20	23.20	23.09	0.050	0	Left Touch	FCC #1	QPSK	1	50	1:1	0.068	1.026	0.070	
1905.0	26590	LTE B25	20	22.20	21.89	0.140	1	Left Touch	FCC #1	QPSK	50	25	1:1	0.064	1.074	0.069	
1905.0	26590	LTE B25	20	23.20	23.09	0.040	0	Right Touch	FCC #1	QPSK	1	50	1:1	0.153	1.026	0.157	A6
1905.0	26590	LTE B25	20	22.20	21.89	0.090	1	Right Touch	FCC #1	QPSK	50	25	1:1	0.098	1.074	0.105	
1905.0	26590	LTE B25	20	23.20	23.09	0.170	0	Left Tilt	FCC #1	QPSK	1	50	1:1	0.042	1.026	0.043	
1905.0	26590	LTE B25	20	22.20	21.89	-0.160	1	Left Tilt	FCC #1	QPSK	50	25	1:1	0.035	1.074	0.038	
1905.0	26590	LTE B25	20	23.20	23.09	-0.100	0	Right Tilt	FCC #1	QPSK	1	50	1:1	0.021	1.026	0.022	
1905.0	26590	LTE B25	20	22.20	21.89	-0.160	1	Right Tilt	FCC #1	QPSK	50	25	1:1	0.015	1.074	0.016	
1905.0	26590	LTE B25	20	23.20	23.09	0.120	0	Right Touch	FCC #1	QPSK	1	0	1:1	0.144	1.026	0.148	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak													Head 1.6 W/kg (mW/g) averaged over 1 gram				
Uncontrolled Exposure/General Population Exposure																	

Note: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.7 LTE Band 7 Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2560.0	21350	LTE B7	20	23.20	23.19	0.150	0	Left Touch	FCC #1	QPSK	1	50	1:1	0.372	1.002	0.373	A7
2560.0	21350	LTE B7	20	22.20	22.03	-0.030	1	Left Touch	FCC #1	QPSK	50	25	1:1	0.308	1.040	0.320	
2560.0	21350	LTE B7	20	23.20	23.19	0.140	0	Right Touch	FCC #1	QPSK	1	50	1:1	0.191	1.002	0.191	
2560.0	21350	LTE B7	20	22.20	22.03	-0.110	1	Right Touch	FCC #1	QPSK	50	25	1:1	0.160	1.040	0.166	
2560.0	21350	LTE B7	20	23.20	23.19	-0.020	0	Left Tilt	FCC #1	QPSK	1	50	1:1	0.078	1.002	0.078	
2560.0	21350	LTE B7	20	22.20	22.03	0.190	1	Left Tilt	FCC #1	QPSK	50	25	1:1	0.069	1.040	0.072	
2560.0	21350	LTE B7	20	23.20	23.19	0.050	0	Right Tilt	FCC #1	QPSK	1	50	1:1	0.073	1.002	0.073	
2560.0	21350	LTE B7	20	22.20	22.03	0.140	1	Right Tilt	FCC #1	QPSK	50	25	1:1	0.058	1.040	0.060	
2560.0	21350	LTE B7	20	23.20	23.19	-0.180	0	Left Touch	FCC #1	QPSK	1	50	1:1	0.362	1.002	0.363	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak													Head 1.6 W/kg (mW/g) averaged over 1 gram				
Uncontrolled Exposure/General Population Exposure																	

Note: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.8 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	22.70	22.69	-0.020	0	Left Touch	FCC #1	QPSK	1	0	1:1.58	0.295	1.002	0.296	A8
2680.0	41490	LTE B41	20	21.70	21.69	0.050	1	Left Touch	FCC #1	QPSK	50	0	1:1.58	0.193	1.002	0.193	
2680.0	41490	LTE B41	20	22.70	22.69	0.090	0	Right Touch	FCC #1	QPSK	1	0	1:1.58	0.108	1.002	0.108	
2680.0	41490	LTE B41	20	21.70	21.69	0.170	1	Right Touch	FCC #1	QPSK	50	0	1:1.58	0.102	1.002	0.102	
2680.0	41490	LTE B41	20	22.70	22.69	0.060	0	Left Tilt	FCC #1	QPSK	1	0	1:1.58	0.039	1.002	0.039	
2680.0	41490	LTE B41	20	21.70	21.69	0.020	1	Left Tilt	FCC #1	QPSK	50	0	1:1.58	0.036	1.002	0.036	
2680.0	41490	LTE B41	20	22.70	22.69	0.050	0	Right Tilt	FCC #1	QPSK	1	0	1:1.58	0.040	1.002	0.040	
2680.0	41490	LTE B41	20	21.70	21.69	0.070	1	Right Tilt	FCC #1	QPSK	50	0	1:1.58	0.038	1.002	0.038	
2680.0	41490	LTE B41	20	22.70	22.69	0.120	0	Left Touch	FCC #1	QPSK	1	0	1:1.58	0.225	1.002	0.225	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak													Head 1.6 W/kg (mW/g) averaged over 1 gram				
Uncontrolled Exposure/General Population Exposure																	

Note: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.9 DTS 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															
2462.0	11	802.11b	16.50	16.38	-0.190	Left Touch	FCC #2	0.113	1	99.0	0.105	1.028	1.010	0.109		
2462.0	11	802.11b	16.50	16.38	0.100	Right Touch	FCC #2	0.126	1	99.0	0.121	1.028	1.010	0.126		
2462.0	11	802.11b	16.50	16.38	0.130	Left Tilt	FCC #2	0.116	1	99.0	0.109	1.028	1.010	0.113		
2462.0	11	802.11b	16.50	16.38	-0.020	Right Tilt	FCC #2	0.141	1	99.0	0.137	1.028	1.010	0.142	A9	
2462.0	11	802.11b	16.50	16.38	0.030	Right Tilt	FCC #2	0.139	1	99.0	0.135	1.028	1.010	0.140		
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak													Head 1.6 W/kg (mW/g) averaged over 1 gram			
Uncontrolled Exposure/General Population Exposure																

Note: Yellow entries represent additional Head SAR Test (with hand strap) 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											
2462.0	11	802.11b	DSSS	16.50	0.142	2437.0	802.11g	OFDM	15.50	0.794	0.113	X
2462.0	11	802.11b	DSSS	16.50	0.142	2437.0	802.11n (HT20)	OFDM	15.00	0.708	0.101	X
2462.0	11	802.11b	DSSS	16.50	0.142	2437.0	802.11ac (VHT20)	OFDM	15.00	0.708	0.101	X
2462.0	11	802.11b	DSSS	16.50	0.142	2437.0	802.11n (VHT40)	OFDM	15.00	0.891	0.127	X
2462.0	11	802.11b	DSSS	16.50	0.142	2437.0	802.11ac (VHT40)	OFDM	15.00	0.708	0.101	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Head 1.6 W/kg (mW/g) averaged over 1 gram	
Uncontrolled Exposure/General Population Exposure												

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 11.1.10 UNII Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode (Antenna)	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 310.0	62	802.11n	14.00	13.92	-0.010	Left Touch	FCC #2	0.108	MCS0	96.8	0.070	1.019	1.033	0.074	
5 310.0	62	802.11n	14.00	13.92	0.020	Right Touch	FCC #2	0.101	MCS0	96.8	0.064	1.019	1.033	0.067	
5 310.0	62	802.11n	14.00	13.92	0.030	Left Tilt	FCC #2	0.098	MCS0	96.8	0.084	1.019	1.033	0.088	A10
5 310.0	62	802.11n	14.00	13.92	-0.070	Right Tilt	FCC #2	0.082	MCS0	96.8	0.074	1.019	1.033	0.078	
5 310.0	62	802.11n	14.00	13.92	0.050	Left Tilt	FCC #2	0.074	MCS0	96.8	0.062	1.019	1.033	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				

Note: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Adjusted SAR results for UNII-1 and UNII-2A SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5 310.0	62	802.11n	OFDM	14.0	0.088	5 190.0	802.11n	OFDM	14.0	1.000	0.088	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 11.1.11 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														
5 500.0	100	802.11n	12.50	12.15	0.050	Left Touch	FCC #2	0.077	MCS0	99.0	0.061	1.084	1.010	0.067	
5 500.0	100	802.11n	12.50	12.15	-0.170	Right Touch	FCC #2	0.038	MCS0	99.0	0.046	1.084	1.010	0.050	
5 500.0	100	802.11n	12.50	12.15	0.180	Left Tilt	FCC #2	0.098	MCS0	99.0	0.062	1.084	1.010	0.068	A11
5 500.0	100	802.11n	12.50	12.15	0.020	Right Tilt	FCC #2	0.096	MCS0	99.0	0.052	1.084	1.010	0.057	
5 500.0	100	802.11n	12.50	12.15	0.130	Left Tilt	FCC #2	0.097	MCS0	99.0	0.059	1.084	1.010	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				

Note: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

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														
5 825.0	165	802.11a	11.50	10.38	0.110	Left Touch	FCC #2	0.107	6	98.6	0.090	1.294	1.014	0.118	
5 825.0	165	802.11a	11.50	10.38	0.190	Right Touch	FCC #2	0.074	6	98.6	0.076	1.294	1.014	0.100	
5 825.0	165	802.11a	11.50	10.38	0.120	Left Tilt	FCC #2	0.163	6	98.6	0.138	1.294	1.014	0.181	
5 825.0	165	802.11a	11.50	10.38	0.040	Right Tilt	FCC #2	0.205	6	98.6	0.158	1.294	1.014	0.207	A12
5 825.0	165	802.11a	11.50	10.38	0.080	Right Tilt	FCC #2	0.198	6	98.6	0.153	1.294	1.014	0.201	
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

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														
2 441.0	39	Bluetooth	7.35	6.70	0.150	Left Touch	FCC #2	2	63.2	0.003	1.161	1.582	0.006		
2 441.0	39	Bluetooth	7.35	6.70	0.050	Right Touch	FCC #2	2	63.2	0.011	1.161	1.582	0.020		
2 441.0	39	Bluetooth	7.35	6.70	0.010	Left Tilt	FCC #2	2	63.2	0.006	1.161	1.582	0.011		
2 441.0	39	Bluetooth	7.35	6.70	0.170	Right Tilt	FCC #2	2	63.2	0.012	1.161	1.582	0.022	A13	
2 441.0	39	Bluetooth	7.35	6.70	0.050	Right Tilt	FCC #2	2	63.2	0.011	1.161	1.582	0.020		
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

Table 11.1.14 Bluetooth LE Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
MHz	Ch														
2 440.0	19	Bluetooth LE	8.62	8.43	0.000	Left Touch	FCC #2	1	85.6	0.015	1.045	1.168	0.018		
2 440.0	19	Bluetooth LE	8.62	8.43	0.040	Right Touch	FCC #2	1	85.6	0.021	1.045	1.168	0.026		
2 440.0	19	Bluetooth LE	8.62	8.43	0.000	Left Tilt	FCC #2	1	85.6	0.017	1.045	1.168	0.021		
2 440.0	19	Bluetooth LE	8.62	8.43	0.060	Right Tilt	FCC #2	1	85.6	0.023	1.045	1.168	0.028	A14	
2 440.0	19	Bluetooth LE	8.62	8.43	0.030	Right Tilt	FCC #2	1	85.6	0.020	1.045	1.168	0.024		
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: Yellow entries represent additional Head SAR Test (with hand strap) with the worst case position.

11.2 Standalone Body-Worn SAR Worn SAR Results

Table 11.2.1 WCDMA Body-Worn SAR

FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.346	1.002	0.347	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.050	10 mm [Rear]	FCC #1	N/A	1:1	0.364	1.002	0.365	A15
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.302	1.002	0.303	
1.880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.000	10 mm [Front]	FCC #1	N/A	1:1	0.225	1.002	0.225	
1.880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.010	10 mm [Rear]	FCC #1	N/A	1:1	0.445	1.002	0.446	A16
1.880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.030	10 mm [Rear]	FCC #1	N/A	1:1	0.385	1.002	0.386	
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):
- Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 - In WCDMA 1900, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.2.2 LTE B12, B17, B5 Body-Worn SAR

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	22.50	22.45	-0.000	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.134	1.012	0.136	
707.5	23095	LTE B12	10	21.50	21.27	-0.020	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.113	1.054	0.119	
707.5	23095	LTE B12	10	22.50	22.45	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.146	1.012	0.148	A17
707.5	23095	LTE B12	10	21.50	21.27	0.080	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.116	1.054	0.122	
707.5	23095	LTE B12	10	22.50	22.45	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.100	1.012	0.101	
710.0	23790	LTE B17	10	24.20	24.08	0.120	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.180	1.028	0.185	
710.0	23790	LTE B17	10	23.20	22.82	-0.020	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.151	1.091	0.165	
710.0	23790	LTE B17	10	24.20	24.08	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.224	1.028	0.230	A18
710.0	23790	LTE B17	10	23.20	22.82	-0.020	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.178	1.091	0.194	
710.0	23790	LTE B17	10	24.20	24.08	0.090	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.159	1.028	0.163	
836.5	20525	LTE B5	10	23.70	23.68	0.000	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.293	1.005	0.294	
836.5	20525	LTE B5	10	22.70	22.37	-0.080	1	10 mm [Front]	FCC #1	QPSK	25	0	1:1	0.238	1.079	0.257	
836.5	20525	LTE B5	10	23.70	23.68	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.366	1.005	0.368	A19
836.5	20525	LTE B5	10	22.70	22.37	-0.020	1	10 mm [Rear]	FCC #1	QPSK	25	0	1:1	0.309	1.079	0.333	
836.5	20525	LTE B5	10	23.70	23.68	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.255	1.005	0.256	
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.2.3 LTE B25, B7, B41 Body-Worn SAR

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																
1.905.0	26590	LTE B25	20	20.00	19.99	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.197	1.002	0.197	
1.905.0	26590	LTE B25	20	20.00	19.75	-0.010	0	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.180	1.059	0.169	
1.860.0	26140	LTE B25	20	20.00	19.71	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.392	1.069	0.419	
1.882.5	26365	LTE B25	20	20.00	19.95	-0.060	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.512	1.012	0.518	
1.905.0	26590	LTE B25	20	20.00	19.99	0.160	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.862	1.002	0.864	A20
1.905.0	26590	LTE B25	20	20.00	19.75	-0.080	0	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.654	1.059	0.693	
1.905.0	26590	LTE B25	20	20.00	19.65	-0.100	0	10 mm [Rear]	FCC #1	QPSK	100	0	1:1	0.621	1.084	0.673	
1.905.0	26590	LTE B25	20	20.00	19.99	-0.090	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.849	1.002	0.851	
1.905.0	26590	LTE B25	20	20.00	19.99	0.050	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.856	1.002	0.858	
2.560.0	21350	LTE B7	20	19.50	19.49	-0.050	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.442	1.002	0.443	
2.560.0	21350	LTE B7	20	19.50	19.19	-0.000	0	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.423	1.074	0.454	
2.560.0	21350	LTE B7	20	19.50	19.49	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.643	1.002	0.644	A21
2.560.0	21350	LTE B7	20	19.50	19.19	0.010	0	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.580	1.074	0.623	
2.560.0	21350	LTE B7	20	19.50	19.49	-0.060	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.602	1.002	0.603	
2.680.0	41490	LTE B41	20	21.70	21.69	0.010	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1.58	0.268	1.002	0.269	
2.680.0	41490	LTE B41	20	21.70	21.59	-0.100	0	10 mm [Front]	FCC #1	QPSK	50	0	1:1.58	0.261	1.026	0.268	
2.506.0	39750	LTE B41	20	21.70	21.60	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.557	1.023	0.570	
2.549.5	40185	LTE B41	20	21.70	21.62	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.470	1.019	0.479	
2.593.0	40620	LTE B41	20	21.70	21.64	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.333	1.014	0.338	
2.636.5	41055	LTE B41	20	21.70	21.66	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.465	1.009	0.469	
2.680.0	41490	LTE B41	20	21.70	21.69	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.659	1.002	0.660	A22
2.680.0	41490	LTE B41	20	21.70	21.59	0.060	0	10 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.403	1.026	0.413	
2.680.0	41490	LTE B41	20	21.70	21.56	0.130	0	10 mm [Rear]	FCC #1	QPSK	100	0	1:1.58	0.391	1.033	0.404	
2.680.0	41490	LTE B41	20	21.70	21.69	0.110	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.324	1.002	0.325	
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):
- Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 - Blue entries represent variability measurements.
 - In LTE B25, B7, and B41, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.2.4 DTS Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	SAR (W/kg)	Plots #
MHz	Ch														
2 462.0	11	802.11b	16.50	16.38	0.040	10 mm [Front]	FCC #2	0.049	1	99.0	0.046	1.028	1.010	0.048	
2 462.0	11	802.11b	16.50	16.38	-0.080	10 mm [Rear]	FCC #2	0.088	1	99.0	0.086	1.028	1.010	0.089	A23
2 462.0	11	802.11b	16.50	16.38	0.120	10 mm [Rear]	FCC #2	0.074	1	99.0	0.072	1.028	1.010	0.075	
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 additional Body SAR Test (with hand strap) with the worst case position.

Adjusted SAR results for OFDM SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR
MHz	Ch											
2 462.0	11	802.11b	DSSS	16.50	0.089	2 437.0	802.11g	OFDM	15.50	0.794	0.071	X
2 462.0	11	802.11b	DSSS	16.50	0.089	2 437.0	802.11n (HT20)	OFDM	15.00	0.708	0.063	X
2 462.0	11	802.11b	DSSS	16.50	0.089	2 437.0	802.11ac (VHT20)	OFDM	15.00	0.708	0.063	X
2 462.0	11	802.11b	DSSS	16.50	0.089	2 437.0	802.11n (HT40)	OFDM	16.00	0.891	0.079	X
2 462.0	11	802.11b	DSSS	16.50	0.089	2 437.0	802.11ac (VHT40)	OFDM	15.00	0.708	0.063	X
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram	

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

Table 11.2.5 UNII Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 310.0	62	802.11n	14.00	13.92	0.150	10 mm [Front]	FCC #2	0.019	MCS0	96.8	0.017	1.019	1.033	0.018	
5 310.0	62	802.11n	14.00	13.92	0.110	10 mm [Rear]	FCC #2	0.061	MCS0	96.8	0.057	1.019	1.033	0.060	A24
5 310.0	62	802.11n	14.00	13.92	0.000	10 mm [Rear]	FCC #2	0.066	MCS0	96.8	0.053	1.019	1.033	0.056	
ANSI / IEEE C95.1-2005- SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population Exposure											Body 1.6 W/kg (mW/g) averaged over 1 gram				

Note: Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.

Adjusted SAR results for UNII-1 and UNII-2A SAR												
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Adjusted Factor	1g Adjusted SAR (W/kg)	SAR for the band with lower maximum output power
MHz	Ch											
5 310.0	62	802.11n	OFDM	14.0	0.060	5 190.0	802.11n	OFDM	14.0	1.000	0.060	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 11.2.6 UNII Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #
MHz	Ch														
5 500.0	100	802.11n	12.50	12.15	0.180	10 mm [Front]	FCC #2	0.002	MCS0	99.0	0.014	1.084	1.010	0.015	
5 500.0	100	802.11n	12.50	12.15	-0.000	10 mm [Rear]	FCC #2	0.064	MCS0	99.0	0.060	1.084	1.010	0.066	A25
5 500.0	100	802.11n	12.50	12.15	-0.140	10 mm [Rear]	FCC #2	0.067	MCS0	99.0	0.056	1.084	1.010	0.061	
5 825.0	165	802.11a	11.50	10.38	0.180	10 mm [Front]	FCC #2	0.039	6	98.6	0.028	1.294	1.014	0.037	
5 825.0	165	802.11a	11.50	10.38	-0.010	10 mm [Rear]	FCC #2	0.246	6	98.6	0.254	1.294	1.014	0.333	A26
5 825.0	165	802.11a	11.50	10.38	-0.060	10 mm [Rear]	FCC #2	0.245	6	98.6	0.252	1.294	1.014	0.331	
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.2.7 Bluetooth Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
MHz	Ch														
2 441.0	39	Bluetooth	7.35	6.70	0.000	10 mm [Front]	FCC #2	2	63.2	0.002	1.161	1.582	0.004		
2 441.0	39	Bluetooth	7.35	6.70	0.140	10 mm [Rear]	FCC #2	2	63.2	0.007	1.161	1.582	0.013	A27	
2 441.0	39	Bluetooth	7.35	6.70	0.000	10 mm [Rear]	FCC #2	2	63.2	0.002	1.161	1.582	0.004		
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.2.8 Bluetooth LE Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Rate [Mbps]	Duty Cycle (%)	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
MHz	Ch														
2 440.0	19	Bluetooth LE	8.62	8.43	-0.120	10 mm [Front]	FCC #2	1	85.6	0.009	1.045	1.168	0.011		
2 440.0	19	Bluetooth LE	8.62	8.43	0.010	10 mm [Rear]	FCC #2	1	85.6	0.012	1.045	1.168	0.015	A28	
2 440.0	19	Bluetooth LE	8.62	8.43	0.100	10 mm [Rear]	FCC #2	1	85.6	0.006	1.045	1.168	0.007		
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 additional Body SAR Test (with hand strap) with the worst case position.

11.3 Standalone Hotspot SAR Results

Table 11.3.1 WCDMA Hotspot SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
836.6	4183	WCDMA 850	RMC	23.30	23.29	0.050	10 mm [Bottom]	FCC #1	N/A	1:1	0.151	1.002	0.151	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.030	10 mm [Front]	FCC #1	N/A	1:1	0.346	1.002	0.347	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.050	10 mm [Rear]	FCC #1	N/A	1:1	0.364	1.002	0.365	A15
836.6	4183	WCDMA 850	RMC	23.30	23.29	0.020	10 mm [Right]	FCC #1	N/A	1:1	0.265	1.002	0.266	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.190	10 mm [Left]	FCC #1	N/A	1:1	0.338	1.002	0.339	
836.6	4183	WCDMA 850	RMC	23.30	23.29	-0.000	10 mm [Rear]	FCC #1	N/A	1:1	0.302	1.002	0.303	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	-0.040	10 mm [Bottom]	FCC #1	N/A	1:1	0.708	1.002	0.709	A29
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.000	10 mm [Front]	FCC #1	N/A	1:1	0.225	1.002	0.225	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.010	10 mm [Rear]	FCC #1	N/A	1:1	0.445	1.002	0.446	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.010	10 mm [Right]	FCC #1	N/A	1:1	0.187	1.002	0.187	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	-0.010	10 mm [Left]	FCC #1	N/A	1:1	0.276	1.002	0.277	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	-0.040	10 mm [Bottom]	FCC #1	N/A	1:1	0.689	1.002	0.689	
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. Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 2. In WCDMA 1900, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.3.2 LTE B12, B17, B5 Hotspot SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MP R	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	22.50	22.45	0.110	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.036	1.012	0.036	
707.5	23095	LTE B12	10	21.50	21.27	-0.000	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.029	1.054	0.031	
707.5	23095	LTE B12	10	22.50	22.45	-0.000	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.134	1.012	0.136	
707.5	23095	LTE B12	10	21.50	21.27	0.020	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.113	1.054	0.119	
707.5	23095	LTE B12	10	22.50	22.45	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.146	1.012	0.148	A17
707.5	23095	LTE B12	10	21.50	21.27	0.080	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.116	1.054	0.122	
707.5	23095	LTE B12	10	22.50	22.45	-0.080	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.098	1.012	0.099	
707.5	23095	LTE B12	10	21.50	21.27	0.010	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.081	1.054	0.085	
707.5	23095	LTE B12	10	22.50	22.45	-0.070	0	10 mm [Left]	FCC #1	QPSK	1	25	1:1	0.098	1.012	0.099	
707.5	23095	LTE B12	10	21.50	21.27	0.010	1	10 mm [Left]	FCC #1	QPSK	25	12	1:1	0.086	1.054	0.091	
707.5	23095	LTE B12	10	22.50	22.45	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.100	1.012	0.101	
710.0	23790	LTE B17	10	24.20	24.08	-0.140	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.036	1.028	0.037	
710.0	23790	LTE B17	10	23.20	22.82	0.040	1	10 mm [Bottom]	FCC #1	QPSK	25	12	1:1	0.029	1.091	0.032	
710.0	23790	LTE B17	10	24.20	24.08	0.120	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.180	1.028	0.185	
710.0	23790	LTE B17	10	23.20	22.82	-0.020	1	10 mm [Front]	FCC #1	QPSK	25	12	1:1	0.151	1.091	0.165	
710.0	23790	LTE B17	10	24.20	24.08	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.224	1.028	0.230	A18
710.0	23790	LTE B17	10	23.20	22.82	-0.020	1	10 mm [Rear]	FCC #1	QPSK	25	12	1:1	0.178	1.091	0.194	
710.0	23790	LTE B17	10	24.20	24.08	0.000	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.145	1.028	0.149	
710.0	23790	LTE B17	10	23.20	22.82	-0.080	1	10 mm [Right]	FCC #1	QPSK	25	12	1:1	0.130	1.091	0.142	
710.0	23790	LTE B17	10	24.20	24.08	-0.050	0	10 mm [Left]	FCC #1	QPSK	1	25	1:1	0.161	1.028	0.166	
710.0	23790	LTE B17	10	23.20	22.82	0.110	1	10 mm [Left]	FCC #1	QPSK	25	12	1:1	0.132	1.091	0.144	
710.0	23790	LTE B17	10	24.20	24.08	0.090	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.159	1.028	0.163	
836.5	20525	LTE B5	10	23.70	23.68	-0.000	0	10 mm [Bottom]	FCC #1	QPSK	1	25	1:1	0.146	1.005	0.147	
836.5	20525	LTE B5	10	22.70	22.37	-0.000	1	10 mm [Bottom]	FCC #1	QPSK	25	0	1:1	0.124	1.079	0.134	
836.5	20525	LTE B5	10	23.70	23.68	0.000	0	10 mm [Front]	FCC #1	QPSK	1	25	1:1	0.293	1.005	0.294	
836.5	20525	LTE B5	10	22.70	22.37	-0.080	1	10 mm [Front]	FCC #1	QPSK	25	0	1:1	0.238	1.079	0.257	
836.5	20525	LTE B5	10	23.70	23.68	-0.010	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.366	1.005	0.368	A19
836.5	20525	LTE B5	10	22.70	22.37	-0.020	1	10 mm [Rear]	FCC #1	QPSK	25	0	1:1	0.309	1.079	0.333	
836.5	20525	LTE B5	10	23.70	23.68	-0.000	0	10 mm [Right]	FCC #1	QPSK	1	25	1:1	0.318	1.005	0.320	
836.5	20525	LTE B5	10	22.70	22.37	-0.010	1	10 mm [Right]	FCC #1	QPSK	25	0	1:1	0.264	1.079	0.285	
836.5	20525	LTE B5	10	23.70	23.68	-0.000	0	10 mm [Left]	FCC #1	QPSK	1	25	1:1	0.235	1.005	0.236	
836.5	20525	LTE B5	10	22.70	22.37	-0.010	1	10 mm [Left]	FCC #1	QPSK	25	0	1:1	0.213	1.079	0.230	
836.5	20525	LTE B5	10	23.70	23.68	0.020	0	10 mm [Rear]	FCC #1	QPSK	1	25	1:1	0.255	1.005	0.256	
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.3.3 LTE B25 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																
1905.0	26590	LTE B25	20	20.00	19.99	0.010	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.373	1.002	0.374	
1905.0	26590	LTE B25	20	20.00	19.75	-0.090	0	10 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.293	1.059	0.310	
1905.0	26590	LTE B25	20	20.00	19.99	-0.060	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.197	1.002	0.197	
1905.0	26590	LTE B25	20	20.00	19.75	0.010	0	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.160	1.059	0.169	
1860.0	26140	LTE B25	20	20.00	19.71	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.392	1.069	0.419	
1882.5	26365	LTE B25	20	20.00	19.95	-0.060	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.512	1.012	0.518	
1905.0	26590	LTE B25	20	20.00	19.99	0.160	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.862	1.002	0.864	A20
1905.0	26590	LTE B25	20	20.00	19.75	-0.080	0	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.654	1.059	0.693	
1905.0	26590	LTE B25	20	20.00	19.65	-0.100	0	10 mm [Rear]	FCC #1	QPSK	100	0	1:1	0.621	1.084	0.673	
1905.0	26590	LTE B25	20	20.00	19.99	-0.020	0	10 mm [Right]	FCC #1	QPSK	1	50	1:1	0.133	1.002	0.133	
1905.0	26590	LTE B25	20	20.00	19.75	-0.040	0	10 mm [Right]	FCC #1	QPSK	50	25	1:1	0.117	1.059	0.124	
1905.0	26590	LTE B25	20	20.00	19.99	0.190	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1	0.218	1.002	0.218	
1905.0	26590	LTE B25	20	20.00	19.75	0.010	0	10 mm [Left]	FCC #1	QPSK	50	25	1:1	0.192	1.059	0.203	
1905.0	26590	LTE B25	20	20.00	19.99	-0.090	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.849	1.002	0.851	
1905.0	26590	LTE B25	20	20.00	19.99	0.050	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.856	1.002	0.858	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

- Note(s):
1. Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 2. Blue entries represent variability measurements.
 3. In LTE B25, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.3.4 LTE B7 Hotspot SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2560.0	21350	LTE B7	20	19.50	19.49	-0.060	0	10 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.281	1.002	0.282	
2560.0	21350	LTE B7	20	19.50	19.19	0.080	0	10 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.271	1.074	0.291	
2560.0	21350	LTE B7	20	19.50	19.49	-0.050	0	10 mm [Front]	FCC #1	QPSK	1	50	1:1	0.442	1.002	0.443	
2560.0	21350	LTE B7	20	19.50	19.19	-0.000	0	10 mm [Front]	FCC #1	QPSK	50	25	1:1	0.429	1.074	0.454	
2560.0	21350	LTE B7	20	19.50	19.49	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.643	1.002	0.644	
2560.0	21350	LTE B7	20	19.50	19.19	0.010	1	10 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.580	1.074	0.623	
2560.0	21350	LTE B7	20	19.50	19.49	0.070	0	10 mm [Right]	FCC #1	QPSK	1	50	1:1	0.195	1.002	0.195	
2560.0	21350	LTE B7	20	19.50	19.19	0.190	0	10 mm [Right]	FCC #1	QPSK	50	25	1:1	0.152	1.074	0.163	
2560.0	21350	LTE B7	20	19.50	19.49	-0.020	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1	0.673	1.002	0.674	A30
2560.0	21350	LTE B7	20	19.50	19.19	0.020	0	10 mm [Left]	FCC #1	QPSK	50	25	1:1	0.571	1.074	0.613	
2560.0	21350	LTE B7	20	19.50	19.49	-0.000	0	10 mm [Left]	FCC #1	QPSK	1	50	1:1	0.593	1.002	0.594	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

- Note(s):
1. Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 2. In LTE B7, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.3.5 LTE B41 Hotspot SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode/ Band	BW [MHz]	Max Allowed Power [dBm]	Cond. PWR [dBm]	Drift Power [dB]	MPR	Position	Device Serial Number	Mod.	RB Size	RB Offs.	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch																
2680.0	41490	LTE B41	20	21.70	21.69	0.090	0	10 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.198	1.002	0.198	
2680.0	41490	LTE B41	20	21.70	21.59	0.040	0	10 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.189	1.026	0.194	
2680.0	41490	LTE B41	20	21.70	21.69	0.010	0	10 mm [Front]	FCC #1	QPSK	1	0	1:1.58	0.268	1.002	0.269	
2680.0	41490	LTE B41	20	21.70	21.59	-0.100	0	10 mm [Front]	FCC #1	QPSK	50	0	1:1.58	0.261	1.026	0.268	
2506.0	39750	LTE B41	20	21.70	21.60	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.557	1.023	0.570	
2549.5	40185	LTE B41	20	21.70	21.62	-0.040	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.470	1.019	0.479	
2593.0	40620	LTE B41	20	21.70	21.64	0.010	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.333	1.014	0.338	
2636.5	41055	LTE B41	20	21.70	21.66	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.465	1.009	0.469	
2680.0	41490	LTE B41	20	21.70	21.69	-0.030	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.659	1.002	0.660	A22
2680.0	41490	LTE B41	20	21.70	21.59	0.060	0	10 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.403	1.026	0.413	
2680.0	41490	LTE B41	20	21.70	21.56	0.130	0	10 mm [Rear]	FCC #1	QPSK	100	0	1:1.58	0.391	1.033	0.404	
2680.0	41490	LTE B41	20	21.70	21.69	0.010	0	10 mm [Right]	FCC #1	QPSK	1	0	1:1.58	0.090	1.002	0.090	
2680.0	41490	LTE B41	20	21.70	21.59	0.110	0	10 mm [Right]	FCC #1	QPSK	50	0	1:1.58	0.080	1.026	0.082	
2680.0	41490	LTE B41	20	21.70	21.69	-0.010	0	10 mm [Left]	FCC #1	QPSK	1	0	1:1.58	0.395	1.002	0.396	
2680.0	41490	LTE B41	20	21.70	21.59	0.100	0	10 mm [Left]	FCC #1	QPSK	50	0	1:1.58	0.359	1.026	0.368	
2680.0	41490	LTE B41	20	21.70	21.69	0.110	0	10 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.324	1.002	0.325	
ANSI / IEEE C95.1-1992- SAFETY LIMIT Spatial Peak											Body 1.6 W/kg (mW/g) averaged over 1 gram						
Uncontrolled Exposure/General Population Exposure																	

- Note(s):
1. Yellow entries represent additional Body SAR Test (with hand strap) with the worst case position.
 2. In LTE B41, a cap sensor (proximity sensor) operates and the trigger distance is 20 mm, so power reduction is applied.

Table 11.3.6 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															
2 462.0	11	802.11b	16.50	16.38	-0.020	10 mm [Top]	FCC #2	0.228	1	99.0	0.215	1.028	1.010	0.223	A31	
2 462.0	11	802.11b	16.50	16.38	0.040	10 mm [Front]	FCC #2	0.049	1	99.0	0.046	1.028	1.010	0.048		
2 462.0	11	802.11b	16.50	16.38	-0.080	10 mm [Rear]	FCC #2	0.088	1	99.0	0.086	1.028	1.010	0.089		
2 462.0	11	802.11b	16.50	16.38	0.040	10 mm [Left]	FCC #2	0.081	1	99.0	0.080	1.028	1.010	0.083		
2 462.0	11	802.11b	16.50	16.38	0.010	10 mm [Top]	FCC #2	0.224	1	99.0	0.211	1.028	1.010	0.219		
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 additional Body SAR Test (with hand strap) with the worst case position.

Adjusted SAR results for OFDM SAR													
FREQUENCY		Mode/ Antenna	Service	Maximum Allowed Power [dBm]	1g Scaled SAR (W/kg)	FREQUENCY [MHz]	Mode	Service	Maximum Allowed Power [dBm]	Ratio of OFDM to DSSS	1g Adjusted SAR (W/kg)	Determine OFDM SAR	
Mhz	Ch												
2 462.0	11	802.11b	DSSS	16.50	0.223	2 437.0	802.11g	OFDM	15.50	0.794	0.177	X	
2 462.0	11	802.11b	DSSS	16.50	0.223	2 437.0	802.11n (HT20)	OFDM	15.00	0.708	0.158	X	
2 462.0	11	802.11b	DSSS	16.50	0.223	2 437.0	802.11ac (VHT20)	OFDM	15.00	0.708	0.158	X	
2 462.0	11	802.11b	DSSS	16.50	0.223	2 437.0	802.11n (HT40)	OFDM	16.00	0.891	0.199	X	
2 462.0	11	802.11b	DSSS	16.50	0.223	2 437.0	802.11ac (VHT40)	OFDM	15.00	0.708	0.158	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 11.3.7 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															
5 190.0	38	802.11n	14.00	13.43	-0.130	10 mm [Top]	FCC #2	0.032	MCS0	96.8	0.026	1.140	1.033	0.031		
5 190.0	38	802.11n	14.00	13.43	0.130	10 mm [Front]	FCC #2	0.016	MCS0	96.8	0.010	1.140	1.033	0.012		
5 190.0	38	802.11n	14.00	13.43	0.100	10 mm [Rear]	FCC #2	0.091	MCS0	96.8	0.085	1.140	1.033	0.100	A32	
5 190.0	38	802.11n	14.00	13.43	-0.070	10 mm [Left]	FCC #2	0.047	MCS0	96.8	0.046	1.140	1.033	0.054		
5 190.0	38	802.11n	14.00	13.43	-0.010	10 mm [Rear]	FCC #2	0.098	MCS0	96.8	0.092	1.140	1.033	0.108		
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.3.8 UNII Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Phantom Position	Device Serial Number	Peak SAR of Area Scan	Data Rate [Mbps]	Duty Cycle	1g SAR (W/kg)	Scaling Factor	Scaling Factor (Duty Cycle)	1g Scaled SAR (W/kg)	Plots #	
Mhz	Ch															
5 825.0	165	802.11a	11.50	10.38	0.080	10 mm [Top]	FCC #2	0.051	6	98.6	0.043	1.294	1.014	0.056		
5 825.0	165	802.11a	11.50	10.38	0.180	10 mm [Front]	FCC #2	0.039	6	98.6	0.028	1.294	1.014	0.037		
5 825.0	165	802.11a	11.50	10.38	-0.010	10 mm [Rear]	FCC #2	0.246	6	98.6	0.254	1.294	1.014	0.333	A26	
5 825.0	165	802.11a	11.50	10.38	0.010	10 mm [Left]	FCC #2	0.068	6	98.6	0.054	1.294	1.014	0.071		
5 825.0	165	802.11a	11.50	10.38	-0.060	10 mm [Rear]	FCC #2	0.245	6	98.6	0.252	1.294	1.014	0.331		
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.3.9 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															
2 441.0	39	Bluetooth	7.35	6.70	0.080	10 mm [Top]	FCC #2	2	63.2	0.015	1.161	1.582	0.028	A33		
2 441.0	39	Bluetooth	7.35	6.70	0.000	10 mm [Front]	FCC #2	2	63.2	0.002	1.161	1.582	0.004			
2 441.0	39	Bluetooth	7.35	6.70	0.140	10 mm [Rear]	FCC #2	2	63.2	0.007	1.161	1.582	0.013			
2 441.0	39	Bluetooth	7.35	6.70	0.000	10 mm [Left]	FCC #2	2	63.2	0.003	1.161	1.582	0.006			
2 441.0	39	Bluetooth	7.35	6.70	-0.060	10 mm [Top]	FCC #2	2	63.2	0.014	1.161	1.582	0.026			
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 additional Body SAR Test (with hand strap) with the worst case position.

Table 11.3.10 Bluetooth LE 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															
2 440.0	19	Bluetooth LE	8.62	8.43	-0.090	10 mm [Top]	FCC #2	1	85.6	0.028	1.045	1.168	0.034	A34		
2 440.0	19	Bluetooth LE	8.62	8.43	-0.120	10 mm [Front]	FCC #2	1	85.6	0.009	1.045	1.168	0.011			
2 440.0	19	Bluetooth LE	8.62	8.43	0.010	10 mm [Rear]	FCC #2	1	85.6	0.012	1.045	1.168	0.015			
2 440.0	19	Bluetooth LE	8.62	8.43	0.120	10 mm [Left]	FCC #2	1	85.6	0.010	1.045	1.168	0.012			
2 440.0	19	Bluetooth LE	8.62	8.43	0.110	10 mm [Top]	FCC #2	1	85.6	0.026	1.045	1.168	0.032			
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 additional Body SAR Test (with hand strap) with the worst case position.

11.4 Standalone Phablet SAR Results

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

Since the proximity sensor is enabled in WCDMA 1900, LTE B25, LTE B2, LTE B7 and LTE B41 of this device, Phablet SAR Evaluation was performed.

Table 11.4.1 WCDMA Phablet SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/ Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Drift Power [dB]	Spacing [Side]	Device Serial Number	# of Time Slots	Duty Cycle	1g SAR (W/kg)	Scaling Factor	1g Scaled SAR (W/kg)	Plots #
MHz	Ch													
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.010	0 mm [Bottom]	FCC #1	N/A	1:1	1.320	1.002	1.323	A35
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	-0.000	0 mm [Front]	FCC #1	N/A	1:1	0.308	1.002	0.309	
1880.0	9400	WCDMA 1900	RMC	20.20	20.19	0.040	0 mm [Rear]	FCC #1	N/A	1:1	0.854	1.002	0.856	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.010	19 mm [Rear]	FCC #1	N/A	1:1	0.486	1.002	0.487	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.010	0 mm [Right]	FCC #1	N/A	1:1	0.220	1.002	0.220	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.000	0 mm [Left]	FCC #1	N/A	1:1	0.485	1.002	0.486	
1880.0	9400	WCDMA 1900	RMC	23.70	23.69	0.020	0 mm [Bottom]	FCC #1	N/A	1:1	1.310	1.002	1.313	
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. Yellow entries represent additional Phablet SAR Test (with hand strap) with the worst case position.
2. Green entries represent to phablet SAR test with 0mm in reduced power mode with cap sensor (proximity sensor) working.

Table 11.4.2 LTE Phablet 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	10g SAR (W/kg)	Scaling Factor	10g Scaled SAR (W/kg)	Plots #
MHz	Ch																
1905.0	26590	LTE B25	20	23.20	23.09	0.180	0	0 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.447	1.026	0.459	
1905.0	26590	LTE B25	20	22.20	21.89	-0.040	1	0 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.369	1.074	0.396	
1905.0	26590	LTE B25	20	23.20	23.09	-0.080	0	0 mm [Front]	FCC #1	QPSK	1	50	1:1	0.326	1.026	0.334	
1905.0	26590	LTE B25	20	22.20	21.89	0.010	1	0 mm [Front]	FCC #1	QPSK	50	25	1:1	0.232	1.074	0.249	
1905.0	26590	LTE B25	20	20.00	19.99	-0.010	0	0 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.834	1.002	0.836	A36
1905.0	26590	LTE B25	20	20.00	19.75	-0.020	0	0 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.627	1.059	0.664	
1905.0	26590	LTE B25	20	23.20	23.09	-0.020	0	19 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.528	1.026	0.542	
1905.0	26590	LTE B25	20	22.20	21.89	0.010	1	19 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.383	1.074	0.411	
1905.0	26590	LTE B25	20	23.20	23.09	-0.000	0	0 mm [Right]	FCC #1	QPSK	1	50	1:1	0.384	1.026	0.394	
1905.0	26590	LTE B25	20	22.20	21.89	-0.030	1	0 mm [Right]	FCC #1	QPSK	50	25	1:1	0.341	1.074	0.366	
1905.0	26590	LTE B25	20	23.20	23.09	-0.110	0	0 mm [Left]	FCC #1	QPSK	1	50	1:1	0.166	1.026	0.170	
1905.0	26590	LTE B25	20	22.20	21.89	-0.000	1	0 mm [Left]	FCC #1	QPSK	50	25	1:1	0.144	1.074	0.155	
1905.0	26590	LTE B25	20	20.00	19.99	0.010	0	0 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.711	1.002	0.712	
2560.0	21350	LTE B7	20	23.20	23.19	-0.060	0	0 mm [Bottom]	FCC #1	QPSK	1	50	1:1	0.713	1.002	0.714	
2560.0	21350	LTE B7	20	22.20	22.03	0.110	1	0 mm [Bottom]	FCC #1	QPSK	50	25	1:1	0.625	1.040	0.650	
2560.0	21350	LTE B7	20	23.20	23.19	0.010	0	0 mm [Front]	FCC #1	QPSK	1	50	1:1	0.876	1.002	0.878	
2560.0	21350	LTE B7	20	22.20	22.03	0.070	1	0 mm [Front]	FCC #1	QPSK	50	25	1:1	0.743	1.040	0.773	
2560.0	21350	LTE B7	20	19.50	19.49	-0.070	0	0 mm [Rear]	FCC #1	QPSK	1	50	1:1	1.620	1.002	1.623	A37
2560.0	21350	LTE B7	20	19.50	19.19	0.020	0	0 mm [Rear]	FCC #1	QPSK	50	25	1:1	1.500	1.074	1.611	
2560.0	21350	LTE B7	20	23.20	23.19	-0.050	0	19 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.254	1.002	0.255	
2560.0	21350	LTE B7	20	22.20	22.03	0.040	1	19 mm [Rear]	FCC #1	QPSK	50	25	1:1	0.226	1.040	0.235	
2560.0	21350	LTE B7	20	23.20	23.19	0.030	0	0 mm [Right]	FCC #1	QPSK	1	50	1:1	0.234	1.002	0.234	
2560.0	21350	LTE B7	20	22.20	22.03	-0.050	1	0 mm [Right]	FCC #1	QPSK	50	25	1:1	0.194	1.040	0.202	
2560.0	21350	LTE B7	20	23.20	23.19	0.030	0	0 mm [Left]	FCC #1	QPSK	1	50	1:1	0.763	1.002	0.765	
2560.0	21350	LTE B7	20	22.20	22.03	0.030	1	0 mm [Left]	FCC #1	QPSK	50	25	1:1	0.652	1.040	0.678	
2560.0	21350	LTE B7	20	19.50	19.49	0.030	0	0 mm [Rear]	FCC #1	QPSK	1	50	1:1	0.530	1.002	0.531	
2680.0	41490	LTE B41	20	22.70	22.69	0.150	0	0 mm [Bottom]	FCC #1	QPSK	1	0	1:1.58	0.466	1.002	0.467	
2680.0	41490	LTE B41	20	21.70	21.69	0.060	1	0 mm [Bottom]	FCC #1	QPSK	50	0	1:1.58	0.420	1.002	0.421	
2680.0	41490	LTE B41	20	22.70	22.69	0.070	0	0 mm [Front]	FCC #1	QPSK	1	0	1:1.58	0.469	1.002	0.470	
2680.0	41490	LTE B41	20	21.70	21.69	0.040	1	0 mm [Front]	FCC #1	QPSK	50	0	1:1.58	0.433	1.002	0.434	
2506.0	39750	LTE B41	20	21.70	21.60	0.010	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	1.280	1.023	1.309	
2549.5	40185	LTE B41	20	21.70	21.62	-0.030	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.860	1.019	0.876	
2593.0	40620	LTE B41	20	21.70	21.64	0.040	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.863	1.014	0.875	
2636.5	41055	LTE B41	20	21.70	21.66	-0.010	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	1.050	1.009	1.059	
2680.0	41490	LTE B41	20	21.70	21.69	-0.080	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	1.540	1.002	1.543	A38
2680.0	41490	LTE B41	20	21.70	21.59	-0.080	0	0 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.906	1.026	0.930	
2680.0	41490	LTE B41	20	22.70	22.69	-0.030	0	19 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.161	1.002	0.161	
2680.0	41490	LTE B41	20	21.70	21.69	0.090	1	19 mm [Rear]	FCC #1	QPSK	50	0	1:1.58	0.142	1.002	0.142	
2680.0	41490	LTE B41	20	22.70	22.69	0.030	0	0 mm [Right]	FCC #1	QPSK	1	0	1:1.58	0.111	1.002	0.111	
2680.0	41490	LTE B41	20	21.70	21.69	0.050	1	0 mm [Right]	FCC #1	QPSK	50	0	1:1.58	0.103	1.002	0.103	
2680.0	41490	LTE B41	20	22.70	22.69	0.040	0	0 mm [Left]	FCC #1	QPSK	1	0	1:1.58	0.465	1.002	0.466	
2680.0	41490	LTE B41	20	21.70	21.69	0.080	1	0 mm [Left]	FCC #1	QPSK	50	0	1:1.58	0.426	1.002	0.427	
2680.0	41490	LTE B41	20	21.70	21.69	0.100	0	0 mm [Rear]	FCC #1	QPSK	1	0	1:1.58	0.882	1.002	0.884	
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. Yellow entries represent additional Phablet SAR Test (with hand strap) with the worst case position.
2. Green entries represent to phablet SAR test with 0mm in reduced power mode with cap sensor (proximity sensor) working.

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														
5 310.0	62	802.11n	14.00	13.92	0.150	0 mm Top	FCC #2	0.034	MCS0	96.8	0.030	1.019	1.033	0.032	
5 310.0	62	802.11n	14.00	13.92	-0.180	0 mm Front	FCC #2	0.022	MCS0	96.8	0.011	1.019	1.033	0.012	
5 310.0	62	802.11n	14.00	13.92	-0.020	0 mm Rear	FCC #2	0.121	MCS0	96.8	0.110	1.019	1.033	0.116	A39
5 310.0	62	802.11n	14.00	13.92	0.020	0 mm Left	FCC #2	0.070	MCS0	96.8	0.061	1.019	1.033	0.064	
5 310.0	62	802.11n	14.00	13.92	-0.160	0 mm Rear	FCC #2	0.035	MCS0	96.8	0.027	1.019	1.033	0.028	
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: Yellow entries represent additional Phablet SAR Test (with hand strap) with the worst case position.

Table 11.4.4 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														
5 500.0	100	802.11a	12.50	12.15	-0.190	0 mm Top	FCC #2	0.104	MCS0	99.0	0.101	1.084	1.019	0.112	A40
5 500.0	100	802.11a	12.50	12.15	0.040	0 mm Front	FCC #2	0.024	MCS0	99.0	0.013	1.084	1.019	0.014	
5 500.0	100	802.11a	12.50	12.15	-0.040	0 mm Rear	FCC #2	0.069	MCS0	99.0	0.060	1.084	1.019	0.066	
5 500.0	100	802.11a	12.50	12.15	-0.080	0 mm Left	FCC #2	0.068	MCS0	99.0	0.062	1.084	1.019	0.068	
5 500.0	100	802.11a	12.50	12.15	0.060	0 mm Top	FCC #2	0.094	MCS0	99.0	0.100	1.084	1.019	0.110	
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: Yellow entries represent additional Phablet SAR Test (with hand strap) with the worst case position.

11.5 SAR Test Notes

General Notes:

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

WCDMA (UMTS) Notes:

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

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r05. The general test procedures used for testing can be found in Section 8.4.4.
2. According to FCC KDB 941225 D05v02r05, when the reported SAR is ≤ 0.8 W/kg, testing of the 100% RB allocation and required test channels is not required.
Otherwise, SAR is required for the remaining required test channels using the 1 RB, 50% RB and 100% RB allocation with highest output power for that channel.
Only one channel, and as reported SAR values for 1 RB allocation and 50% RB allocation were less than 1.45 W/kg only the highest power RB offset for each allocation was required.
3. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
4. A-MPR was disabled for all SAR tests by setting NS=1 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
5. Per 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 due to the maximum allowed powers and the highest reported DSSS SAR when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output and the adjust SAR is ≤ 1.2 W/kg.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg.
4. When the maximum reported 1g averaged SAR ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor to determine compliance.

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 9.4 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 ≤ 1.6 W/kg. The different test position in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR.

12.3 Simultaneous Transmission Capabilities

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

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

Table 12.3.1 Simultaneous SAR Cases

No.	Capable Transmit Configuration	Power conditions								Note
		Head		Body-Worn		Hotspot		Phablet		
		Licensed	Wi-Fi	Licensed	Wi-Fi	Licensed	Wi-Fi	Licensed	Wi-Fi	
1	WCDMA + Wi-Fi 2.4 GHz	Yes		Yes		Yes		Yes		* Hotspot of UNII-1 & UNII-3 can be operated simultaneous transmission. ^ Reduced - Power reduction is applied by a proximity sensor (Cap sensor). - WCDMA 1900, LTE B25, B2, B7, B41
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
2	WCDMA + Wi-Fi 5 GHz	Yes		Yes		Yes*		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
3	WCDMA + Bluetooth 2.4 GHz	Yes		Yes		Yes		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
4	WCDMA + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes		Yes		Yes*		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
5	LTE + Wi-Fi 2.4 GHz	Yes		Yes		Yes		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
6	LTE + Wi-Fi 5 GHz	Yes		Yes		Yes*		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
7	LTE + Bluetooth 2.4 GHz	Yes		Yes		Yes		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	
8	LTE + Bluetooth 2.4 GHz + Wi-Fi 5GHz	Yes		Yes		Yes*		Yes		
		Normal	Normal	Reduced [^]	Normal	Reduced [^]	Normal	Reduced [^]	Normal	

Notes:

- WiFi 2.4GHz is supported Hotspot and WiFi-Direct(GO/GC).
- WiFi 5GHz is supported Hotspot in UNII B1,B3 and WiFi-Direct(GO/GC) in UNII B1,B3.
- LTE, WCDMA is supported Hotspot.
- VoIP is supported in LTE, WCDMA.
- Bluetooth and WiFi can not transmit simultaneously at 2.4G band.
- WCDMA and LTE can not transmit simultaneously since they share the same chip.

12.4 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.3G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3						
Head SAR	WCDMA 850	Left Touch	0.458	0.006	0.074	0.464	0.532	0.538						
		Right Touch	0.481	0.020	0.067	0.501	0.548	0.568						
		Left Tilt	0.271	0.011	0.088	0.282	0.359	0.370						
		Right Tilt	0.267	0.022	0.078	0.289	0.345	0.367						
	WCDMA 1900	Left Touch	0.107	0.006	0.074	0.113	0.181	0.187						
		Right Touch	0.200	0.020	0.067	0.220	0.267	0.287						
		Left Tilt	0.049	0.011	0.088	0.060	0.137	0.148						
		Right Tilt	0.030	0.022	0.078	0.037	0.108	0.130						
	LTE Band 12	Left Touch	0.166	0.006	0.074	0.172	0.240	0.246						
		Right Touch	0.167	0.020	0.067	0.187	0.234	0.254						
		Left Tilt	0.100	0.011	0.088	0.111	0.188	0.199						
		Right Tilt	0.096	0.022	0.078	0.118	0.174	0.196						
	LTE Band 17	Left Touch	0.217	0.006	0.074	0.223	0.291	0.297						
		Right Touch	0.222	0.020	0.067	0.242	0.289	0.309						
		Left Tilt	0.142	0.011	0.088	0.153	0.230	0.241						
		Right Tilt	0.126	0.022	0.078	0.148	0.204	0.226						
	LTE Band 5	Left Touch	0.402	0.006	0.074	0.408	0.476	0.482						
		Right Touch	0.417	0.020	0.067	0.437	0.484	0.504						
		Left Tilt	0.249	0.011	0.088	0.260	0.337	0.348						
		Right Tilt	0.233	0.022	0.078	0.255	0.311	0.333						
	LTE Band 25	Left Touch	0.070	0.006	0.074	0.076	0.144	0.150						
		Right Touch	0.157	0.020	0.067	0.177	0.224	0.244						
		Left Tilt	0.043	0.011	0.088	0.054	0.131	0.142						
		Right Tilt	0.022	0.022	0.078	0.044	0.100	0.122						
	LTE Band 7	Left Touch	0.373	0.006	0.074	0.379	0.447	0.453						
		Right Touch	0.191	0.020	0.067	0.211	0.258	0.278						
		Left Tilt	0.078	0.011	0.088	0.089	0.166	0.177						
		Right Tilt	0.073	0.022	0.078	0.095	0.151	0.173						
	LTE Band 41	Left Touch	0.296	0.006	0.074	0.302	0.370	0.376						
		Right Touch	0.108	0.020	0.067	0.128	0.175	0.195						
		Left Tilt	0.039	0.011	0.088	0.050	0.127	0.138						
		Right Tilt	0.040	0.022	0.078	0.062	0.118	0.140						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.6G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3						
Head SAR	WCDMA 850	Left Touch	0.458	0.006	0.067	0.464	0.525	0.531						
		Right Touch	0.481	0.020	0.050	0.501	0.531	0.551						
		Left Tilt	0.271	0.011	0.068	0.282	0.339	0.350						
		Right Tilt	0.267	0.022	0.057	0.289	0.324	0.346						
	WCDMA 1900	Left Touch	0.107	0.006	0.067	0.113	0.174	0.180						
		Right Touch	0.200	0.020	0.050	0.220	0.250	0.270						
		Left Tilt	0.049	0.011	0.068	0.060	0.117	0.128						
		Right Tilt	0.030	0.022	0.057	0.052	0.087	0.109						
	LTE Band 12	Left Touch	0.166	0.006	0.067	0.172	0.233	0.239						
		Right Touch	0.167	0.020	0.050	0.187	0.217	0.237						
		Left Tilt	0.100	0.011	0.068	0.111	0.168	0.179						
		Right Tilt	0.096	0.022	0.057	0.118	0.153	0.175						
	LTE Band 17	Left Touch	0.217	0.006	0.067	0.223	0.284	0.290						
		Right Touch	0.222	0.020	0.050	0.242	0.272	0.292						
		Left Tilt	0.142	0.011	0.068	0.153	0.210	0.221						
		Right Tilt	0.126	0.022	0.057	0.148	0.183	0.205						
	LTE Band 5	Left Touch	0.402	0.006	0.067	0.408	0.469	0.475						
		Right Touch	0.417	0.020	0.050	0.437	0.467	0.487						
		Left Tilt	0.249	0.011	0.068	0.260	0.317	0.328						
		Right Tilt	0.233	0.022	0.057	0.255	0.290	0.312						
	LTE Band 25	Left Touch	0.070	0.006	0.067	0.076	0.137	0.143						
		Right Touch	0.157	0.020	0.050	0.177	0.207	0.227						
		Left Tilt	0.043	0.011	0.068	0.054	0.111	0.122						
		Right Tilt	0.022	0.022	0.057	0.044	0.079	0.101						
	LTE Band 7	Left Touch	0.373	0.006	0.067	0.379	0.440	0.446						
		Right Touch	0.191	0.020	0.050	0.211	0.241	0.261						
		Left Tilt	0.078	0.011	0.068	0.089	0.146	0.157						
		Right Tilt	0.073	0.022	0.057	0.095	0.130	0.152						
	LTE Band 41	Left Touch	0.296	0.006	0.067	0.302	0.363	0.369						
		Right Touch	0.108	0.020	0.050	0.128	0.158	0.178						
		Left Tilt	0.039	0.011	0.068	0.050	0.107	0.118						
		Right Tilt	0.040	0.022	0.057	0.062	0.097	0.119						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.8G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3						
Head SAR	WCDMA 850	Left Touch	0.458	0.006	0.118	0.464	0.576	0.582						
		Right Touch	0.481	0.020	0.100	0.501	0.581	0.601						
		Left Tilt	0.271	0.011	0.181	0.282	0.452	0.463						
		Right Tilt	0.267	0.022	0.207	0.289	0.474	0.496						
	WCDMA 1900	Left Touch	0.107	0.006	0.118	0.113	0.225	0.231						
		Right Touch	0.200	0.020	0.100	0.220	0.300	0.320						
		Left Tilt	0.049	0.011	0.181	0.060	0.230	0.241						
		Right Tilt	0.030	0.022	0.207	0.052	0.237	0.259						
	LTE Band 12	Left Touch	0.166	0.006	0.118	0.172	0.284	0.290						
		Right Touch	0.167	0.020	0.100	0.187	0.267	0.287						
		Left Tilt	0.100	0.011	0.181	0.111	0.281	0.292						
		Right Tilt	0.096	0.022	0.207	0.118	0.303	0.325						
	LTE Band 17	Left Touch	0.217	0.006	0.118	0.223	0.335	0.341						
		Right Touch	0.222	0.020	0.100	0.242	0.322	0.342						
		Left Tilt	0.142	0.011	0.181	0.153	0.323	0.334						
		Right Tilt	0.126	0.022	0.207	0.148	0.333	0.355						
	LTE Band 5	Left Touch	0.402	0.006	0.118	0.408	0.520	0.526						
		Right Touch	0.417	0.020	0.100	0.437	0.517	0.537						
		Left Tilt	0.249	0.011	0.181	0.260	0.430	0.441						
		Right Tilt	0.233	0.022	0.207	0.255	0.440	0.462						
	LTE Band 25	Left Touch	0.070	0.006	0.118	0.076	0.188	0.194						
		Right Touch	0.157	0.020	0.100	0.177	0.257	0.277						
		Left Tilt	0.043	0.011	0.181	0.054	0.224	0.235						
		Right Tilt	0.022	0.022	0.207	0.044	0.229	0.251						
	LTE Band 7	Left Touch	0.373	0.006	0.118	0.379	0.491	0.497						
		Right Touch	0.191	0.020	0.100	0.211	0.291	0.311						
		Left Tilt	0.078	0.011	0.181	0.089	0.259	0.270						
		Right Tilt	0.073	0.022	0.207	0.095	0.280	0.302						
	LTE Band 41	Left Touch	0.296	0.006	0.118	0.302	0.414	0.420						
		Right Touch	0.108	0.020	0.100	0.128	0.208	0.228						
		Left Tilt	0.039	0.011	0.181	0.050	0.220	0.231						
		Right Tilt	0.040	0.022	0.207	0.062	0.247	0.269						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	5.3G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	WCDMA 850	Left Touch	0.458	0.018	0.074	0.476	0.532	0.550
		Right Touch	0.481	0.026	0.067	0.507	0.548	0.574
		Left Tilt	0.271	0.021	0.088	0.292	0.359	0.380
		Right Tilt	0.267	0.028	0.078	0.295	0.345	0.373
	WCDMA 1900	Left Touch	0.107	0.018	0.074	0.125	0.181	0.199
		Right Touch	0.200	0.026	0.067	0.226	0.267	0.293
		Left Tilt	0.049	0.021	0.088	0.070	0.137	0.158
		Right Tilt	0.030	0.028	0.078	0.058	0.108	0.136
	LTE Band 12	Left Touch	0.166	0.018	0.074	0.184	0.240	0.258
		Right Touch	0.167	0.026	0.067	0.193	0.234	0.260
		Left Tilt	0.100	0.021	0.088	0.121	0.188	0.209
		Right Tilt	0.096	0.028	0.078	0.124	0.174	0.202
	LTE Band 17	Left Touch	0.217	0.018	0.074	0.235	0.291	0.309
		Right Touch	0.222	0.026	0.067	0.248	0.289	0.315
		Left Tilt	0.142	0.021	0.088	0.163	0.230	0.251
		Right Tilt	0.126	0.028	0.078	0.154	0.204	0.232
	LTE Band 5	Left Touch	0.402	0.018	0.074	0.420	0.476	0.494
		Right Touch	0.417	0.026	0.067	0.443	0.484	0.510
		Left Tilt	0.249	0.021	0.088	0.270	0.337	0.358
		Right Tilt	0.233	0.028	0.078	0.261	0.311	0.339
	LTE Band 25	Left Touch	0.070	0.018	0.074	0.088	0.144	0.162
		Right Touch	0.157	0.026	0.067	0.183	0.224	0.250
		Left Tilt	0.043	0.021	0.088	0.064	0.131	0.152
		Right Tilt	0.022	0.028	0.078	0.050	0.100	0.128
	LTE Band 7	Left Touch	0.373	0.018	0.074	0.391	0.447	0.465
		Right Touch	0.191	0.026	0.067	0.217	0.258	0.284
		Left Tilt	0.078	0.021	0.088	0.099	0.166	0.187
		Right Tilt	0.073	0.028	0.078	0.101	0.151	0.179
	LTE Band 41	Left Touch	0.296	0.018	0.074	0.314	0.370	0.388
		Right Touch	0.108	0.026	0.067	0.134	0.175	0.201
		Left Tilt	0.039	0.021	0.088	0.060	0.127	0.148
		Right Tilt	0.040	0.028	0.078	0.068	0.118	0.146

Table 12.4.5 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE + 5.6 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	5.6G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	WCDMA 850	Left Touch	0.458	0.018	0.067	0.476	0.525	0.543
		Right Touch	0.481	0.026	0.050	0.507	0.531	0.557
		Left Tilt	0.271	0.021	0.068	0.292	0.339	0.360
		Right Tilt	0.267	0.028	0.057	0.295	0.324	0.352
	WCDMA 1900	Left Touch	0.107	0.018	0.067	0.125	0.174	0.192
		Right Touch	0.200	0.026	0.050	0.226	0.250	0.276
		Left Tilt	0.049	0.021	0.068	0.070	0.117	0.138
		Right Tilt	0.030	0.028	0.057	0.058	0.097	0.115
	LTE Band 12	Left Touch	0.166	0.018	0.067	0.184	0.233	0.251
		Right Touch	0.167	0.026	0.050	0.193	0.217	0.243
		Left Tilt	0.100	0.021	0.068	0.121	0.168	0.189
		Right Tilt	0.096	0.028	0.057	0.124	0.153	0.181
	LTE Band 17	Left Touch	0.217	0.018	0.067	0.235	0.284	0.302
		Right Touch	0.222	0.026	0.050	0.248	0.272	0.298
		Left Tilt	0.142	0.021	0.068	0.163	0.210	0.231
		Right Tilt	0.126	0.028	0.057	0.154	0.183	0.211
	LTE Band 5	Left Touch	0.402	0.018	0.067	0.420	0.469	0.487
		Right Touch	0.417	0.026	0.050	0.443	0.467	0.493
		Left Tilt	0.249	0.021	0.068	0.270	0.317	0.338
		Right Tilt	0.233	0.028	0.057	0.261	0.290	0.318
	LTE Band 25	Left Touch	0.070	0.018	0.067	0.088	0.137	0.155
		Right Touch	0.157	0.026	0.050	0.183	0.207	0.233
		Left Tilt	0.043	0.021	0.068	0.064	0.111	0.132
		Right Tilt	0.022	0.028	0.057	0.050	0.079	0.107
	LTE Band 7	Left Touch	0.373	0.018	0.067	0.391	0.440	0.458
		Right Touch	0.191	0.026	0.050	0.217	0.241	0.267
		Left Tilt	0.078	0.021	0.068	0.099	0.146	0.167
		Right Tilt	0.073	0.028	0.057	0.101	0.130	0.158
	LTE Band 41	Left Touch	0.296	0.018	0.067	0.314	0.363	0.381
		Right Touch	0.108	0.026	0.050	0.134	0.158	0.184
		Left Tilt	0.039	0.021	0.068	0.060	0.107	0.128
		Right Tilt	0.040	0.028	0.057	0.068	0.097	0.125

Table 12.4.6 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE + 5.8 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	5.8G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Head SAR	WCDMA 850	Left Touch	0.458	0.018	0.118	0.476	0.576	0.594
		Right Touch	0.481	0.026	0.100	0.507	0.561	0.607
		Left Tilt	0.271	0.021	0.181	0.292	0.452	0.473
		Right Tilt	0.267	0.028	0.207	0.295	0.474	0.502
	WCDMA 1900	Left Touch	0.107	0.018	0.118	0.125	0.225	0.243
		Right Touch	0.200	0.026	0.100	0.226	0.300	0.326
		Left Tilt	0.049	0.021	0.181	0.070	0.230	0.251
		Right Tilt	0.030	0.028	0.207	0.058	0.237	0.265
	LTE Band 12	Left Touch	0.166	0.018	0.118	0.184	0.284	0.302
		Right Touch	0.167	0.026	0.100	0.193	0.267	0.293
		Left Tilt	0.100	0.021	0.181	0.121	0.281	0.302
		Right Tilt	0.096	0.028	0.207	0.124	0.303	0.331
	LTE Band 17	Left Touch	0.217	0.018	0.118	0.235	0.335	0.353
		Right Touch	0.222	0.026	0.100	0.248	0.322	0.348
		Left Tilt	0.142	0.021	0.181	0.163	0.323	0.344
		Right Tilt	0.126	0.028	0.207	0.154	0.333	0.361
	LTE Band 5	Left Touch	0.402	0.018	0.118	0.420	0.520	0.538
		Right Touch	0.417	0.026	0.100	0.443	0.517	0.543
		Left Tilt	0.249	0.021	0.181	0.270	0.430	0.451
		Right Tilt	0.233	0.028	0.207	0.261	0.440	0.468
	LTE Band 25	Left Touch	0.070	0.018	0.118	0.088	0.188	0.206
		Right Touch	0.157	0.026	0.100	0.183	0.257	0.283
		Left Tilt	0.043	0.021	0.181	0.064	0.224	0.245
		Right Tilt	0.022	0.028	0.207	0.050	0.229	0.257
	LTE Band 7	Left Touch	0.373	0.018	0.118	0.391	0.491	0.509
		Right Touch	0.191	0.026	0.100	0.217	0.291	0.317
		Left Tilt	0.078	0.021	0.181	0.099	0.259	0.280
		Right Tilt	0.073	0.028	0.207	0.101	0.290	0.308
	LTE Band 41	Left Touch	0.296	0.018	0.118	0.314	0.414	0.432
		Right Touch	0.108	0.026	0.100	0.134	0.208	0.234
		Left Tilt	0.039	0.021	0.181	0.060	0.220	0.241
		Right Tilt	0.040	0.028	0.207	0.068	0.247	0.275

Table 12.4.7 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.109	0.567
		Right Touch	0.481	0.126	0.607
		Left Tilt	0.271	0.113	0.384
		Right Tilt	0.267	0.142	0.409
	WCDMA 1900	Left Touch	0.107	0.109	0.216
		Right Touch	0.200	0.126	0.326
		Left Tilt	0.049	0.113	0.162
		Right Tilt	0.030	0.142	0.172
	LTE Band 12	Left Touch	0.166	0.109	0.275
		Right Touch	0.167	0.126	0.293
		Left Tilt	0.100	0.113	0.213
		Right Tilt	0.096	0.142	0.238
	LTE Band 17	Left Touch	0.217	0.109	0.326
		Right Touch	0.222	0.126	0.348
		Left Tilt	0.142	0.113	0.255
		Right Tilt	0.126	0.142	0.268
	LTE Band 5	Left Touch	0.402	0.109	0.511
		Right Touch	0.417	0.126	0.543
		Left Tilt	0.249	0.113	0.362
		Right Tilt	0.233	0.142	0.375
	LTE Band 25	Left Touch	0.070	0.109	0.179
		Right Touch	0.157	0.126	0.283
		Left Tilt	0.043	0.113	0.156
		Right Tilt	0.022	0.142	0.164
	LTE Band 7	Left Touch	0.373	0.109	0.482
		Right Touch	0.191	0.126	0.317
		Left Tilt	0.078	0.113	0.191
		Right Tilt	0.073	0.142	0.215
	LTE Band 41	Left Touch	0.296	0.109	0.405
		Right Touch	0.108	0.126	0.234
Left Tilt		0.039	0.113	0.152	
Right Tilt		0.040	0.142	0.182	

Table 12.4.8 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.074	0.532
		Right Touch	0.481	0.087	0.568
		Left Tilt	0.271	0.088	0.359
		Right Tilt	0.267	0.078	0.345
	WCDMA 1900	Left Touch	0.107	0.074	0.181
		Right Touch	0.200	0.067	0.267
		Left Tilt	0.049	0.088	0.137
		Right Tilt	0.030	0.078	0.108
	LTE Band 12	Left Touch	0.166	0.074	0.240
		Right Touch	0.167	0.067	0.234
		Left Tilt	0.100	0.088	0.188
		Right Tilt	0.096	0.078	0.174
	LTE Band 17	Left Touch	0.217	0.074	0.291
		Right Touch	0.222	0.067	0.289
		Left Tilt	0.142	0.088	0.230
		Right Tilt	0.126	0.078	0.204
	LTE Band 5	Left Touch	0.402	0.074	0.476
		Right Touch	0.417	0.067	0.484
		Left Tilt	0.249	0.088	0.337
		Right Tilt	0.233	0.078	0.311
	LTE Band 25	Left Touch	0.070	0.074	0.144
		Right Touch	0.157	0.067	0.224
		Left Tilt	0.043	0.088	0.131
		Right Tilt	0.022	0.078	0.100
	LTE Band 7	Left Touch	0.373	0.074	0.447
		Right Touch	0.191	0.067	0.258
		Left Tilt	0.078	0.088	0.166
		Right Tilt	0.073	0.078	0.151
	LTE Band 41	Left Touch	0.296	0.074	0.370
		Right Touch	0.108	0.067	0.175
Left Tilt		0.039	0.088	0.127	
Right Tilt		0.040	0.078	0.118	

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.6G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.067	0.525
		Right Touch	0.481	0.050	0.531
		Left Tilt	0.271	0.068	0.339
		Right Tilt	0.267	0.057	0.324
	WCDMA 1900	Left Touch	0.107	0.067	0.174
		Right Touch	0.200	0.050	0.250
		Left Tilt	0.049	0.068	0.117
		Right Tilt	0.030	0.057	0.087
	LTE Band 12	Left Touch	0.166	0.067	0.233
		Right Touch	0.167	0.050	0.217
		Left Tilt	0.100	0.068	0.168
		Right Tilt	0.096	0.057	0.153
	LTE Band 17	Left Touch	0.217	0.067	0.284
		Right Touch	0.222	0.050	0.272
		Left Tilt	0.142	0.068	0.210
		Right Tilt	0.126	0.057	0.183
	LTE Band 5	Left Touch	0.402	0.067	0.469
		Right Touch	0.417	0.050	0.467
		Left Tilt	0.249	0.068	0.317
		Right Tilt	0.233	0.057	0.290
	LTE Band 25	Left Touch	0.070	0.067	0.137
		Right Touch	0.157	0.050	0.207
		Left Tilt	0.043	0.068	0.111
		Right Tilt	0.022	0.057	0.079
	LTE Band 7	Left Touch	0.373	0.067	0.440
		Right Touch	0.191	0.050	0.241
		Left Tilt	0.078	0.068	0.146
		Right Tilt	0.073	0.057	0.130
	LTE Band 41	Left Touch	0.296	0.067	0.363
		Right Touch	0.108	0.050	0.158
Left Tilt		0.039	0.068	0.107	
Right Tilt		0.040	0.057	0.097	

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.118	0.576
		Right Touch	0.491	0.100	0.591
		Left Tilt	0.271	0.181	0.452
		Right Tilt	0.267	0.207	0.474
		Left Touch	0.107	0.118	0.225
		Right Touch	0.200	0.100	0.300
	WCDMA 1900	Left Tilt	0.049	0.181	0.230
		Right Tilt	0.030	0.207	0.237
		Left Touch	0.166	0.118	0.284
		Right Touch	0.167	0.100	0.267
		Left Tilt	0.100	0.181	0.281
		Right Tilt	0.096	0.207	0.303
	LTE Band 12	Left Touch	0.217	0.118	0.335
		Right Touch	0.222	0.100	0.322
		Left Tilt	0.142	0.181	0.323
		Right Tilt	0.126	0.207	0.333
		Left Touch	0.402	0.118	0.520
		Right Touch	0.417	0.100	0.517
	LTE Band 17	Left Tilt	0.249	0.181	0.430
		Right Tilt	0.233	0.207	0.440
		Left Touch	0.070	0.118	0.188
		Right Touch	0.157	0.100	0.257
		Left Tilt	0.043	0.181	0.224
		Right Tilt	0.022	0.207	0.229
	LTE Band 5	Left Touch	0.373	0.118	0.491
		Right Touch	0.191	0.100	0.291
		Left Tilt	0.078	0.181	0.259
		Right Tilt	0.073	0.207	0.280
		Left Touch	0.296	0.118	0.414
		Right Touch	0.108	0.100	0.208
	LTE Band 25	Left Tilt	0.039	0.181	0.220
		Right Tilt	0.038	0.207	0.245
		Left Touch	0.040	0.207	0.247

Table 12.4.11 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.006	0.464
		Right Touch	0.481	0.020	0.501
		Left Tilt	0.271	0.011	0.282
		Right Tilt	0.267	0.022	0.289
		Left Touch	0.107	0.006	0.113
		Right Touch	0.200	0.020	0.220
	WCDMA 1900	Left Tilt	0.049	0.011	0.060
		Right Tilt	0.030	0.022	0.052
		Left Touch	0.166	0.006	0.172
		Right Touch	0.167	0.020	0.187
		Left Tilt	0.100	0.011	0.111
		Right Tilt	0.096	0.022	0.118
	LTE Band 12	Left Touch	0.217	0.006	0.223
		Right Touch	0.222	0.020	0.242
		Left Tilt	0.142	0.011	0.153
		Right Tilt	0.126	0.022	0.148
		Left Touch	0.402	0.006	0.408
		Right Touch	0.417	0.020	0.437
	LTE Band 17	Left Tilt	0.249	0.011	0.260
		Right Tilt	0.233	0.022	0.255
		Left Touch	0.070	0.006	0.076
		Right Touch	0.157	0.020	0.177
		Left Tilt	0.043	0.011	0.054
		Right Tilt	0.022	0.022	0.044
	LTE Band 5	Left Touch	0.373	0.006	0.379
		Right Touch	0.191	0.020	0.211
		Left Tilt	0.078	0.011	0.089
		Right Tilt	0.073	0.022	0.095
		Left Touch	0.296	0.006	0.302
		Right Touch	0.108	0.020	0.128
	LTE Band 25	Left Tilt	0.039	0.011	0.050
		Right Tilt	0.040	0.022	0.062

Table 12.4.12 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE (Held to Ear)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Head SAR	WCDMA 850	Left Touch	0.458	0.018	0.476
		Right Touch	0.481	0.026	0.507
		Left Tilt	0.271	0.021	0.292
		Right Tilt	0.267	0.028	0.295
		Left Touch	0.107	0.018	0.125
		Right Touch	0.200	0.026	0.226
	WCDMA 1900	Left Tilt	0.049	0.021	0.070
		Right Tilt	0.030	0.028	0.058
		Left Touch	0.166	0.018	0.184
		Right Touch	0.167	0.026	0.193
		Left Tilt	0.100	0.021	0.121
		Right Tilt	0.096	0.028	0.124
	LTE Band 12	Left Touch	0.217	0.018	0.235
		Right Touch	0.222	0.026	0.248
		Left Tilt	0.142	0.021	0.163
		Right Tilt	0.126	0.028	0.154
		Left Touch	0.402	0.018	0.420
		Right Touch	0.417	0.026	0.443
	LTE Band 17	Left Tilt	0.249	0.021	0.270
		Right Tilt	0.233	0.028	0.261
		Left Touch	0.070	0.018	0.088
		Right Touch	0.157	0.026	0.183
		Left Tilt	0.043	0.021	0.064
		Right Tilt	0.022	0.028	0.050
	LTE Band 5	Left Touch	0.373	0.018	0.391
		Right Touch	0.191	0.026	0.217
		Left Tilt	0.078	0.021	0.099
		Right Tilt	0.073	0.028	0.101
		Left Touch	0.296	0.018	0.314
		Right Touch	0.108	0.026	0.134
	LTE Band 25	Left Tilt	0.039	0.021	0.060
		Right Tilt	0.040	0.028	0.068

Table 12.4.13 Simultaneous Transmission Scenario : Bluetooth + 5 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	Bluetooth SAR (W/kg)		5G W-LAN SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Head SAR	5.3G W-LAN	Left Touch	0.006		0.074		0.080
		Right Touch	0.020		0.067		0.087
		Left Tilt	0.011		0.088		0.099
		Right Tilt	0.022		0.078		0.100
	5.6G W-LAN	Left Touch	0.006		0.067		0.073
		Right Touch	0.020		0.050		0.070
		Left Tilt	0.011		0.108		0.119
		Right Tilt	0.022		0.057		0.079
	5.8G W-LAN	Left Touch	0.006		0.118		0.124
		Right Touch	0.020		0.100		0.120
		Left Tilt	0.011		0.181		0.192
		Right Tilt	0.022		0.207		0.229

Table 12.4.14 Simultaneous Transmission Scenario : Bluetooth LE + 5 GHz W-LAN (Held to Ear)

Exposure Condition	Mode	Configuration	Bluetooth LE SAR (W/kg)		5G W-LAN SAR (W/kg)		ΣSAR (W/kg)
			1	2	1	2	
Head SAR	5.3G W-LAN	Left Touch	0.018		0.074		0.092
		Right Touch	0.028		0.067		0.095
		Left Tilt	0.021		0.088		0.109
		Right Tilt	0.028		0.078		0.106
	5.6G W-LAN	Left Touch	0.018		0.067		0.085
		Right Touch	0.026		0.050		0.076
		Left Tilt	0.021		0.108		0.129
		Right Tilt	0.028		0.057		0.085
	5.8G W-LAN	Left Touch	0.018		0.118		0.136
		Right Touch	0.026		0.100		0.126
		Left Tilt	0.021		0.181		0.202
		Right Tilt	0.028		0.207		0.235

12.5 Body-Worn Simultaneous Transmission Analysis

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.3G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.004	0.018	0.351	0.365	0.369						
		Rear	0.365	0.013	0.060	0.378	0.425	0.438						
	WCDMA 1900	Front	0.225	0.004	0.018	0.229	0.243	0.247						
		Rear	0.446	0.013	0.060	0.459	0.506	0.519						
	LTE Band 12	Front	0.136	0.004	0.018	0.140	0.154	0.158						
		Rear	0.148	0.013	0.060	0.161	0.208	0.221						
	LTE Band 17	Front	0.185	0.004	0.018	0.189	0.203	0.207						
		Rear	0.230	0.013	0.060	0.243	0.290	0.303						
	LTE Band 5	Front	0.294	0.004	0.018	0.298	0.312	0.316						
		Rear	0.368	0.013	0.060	0.381	0.428	0.441						
	LTE Band 25	Front	0.197	0.004	0.018	0.201	0.215	0.219						
		Rear	0.864	0.013	0.060	0.877	0.924	0.937						
	LTE Band 7	Front	0.454	0.004	0.018	0.458	0.472	0.476						
		Rear	0.644	0.013	0.060	0.657	0.704	0.717						
	LTE Band 41	Front	0.269	0.004	0.018	0.273	0.287	0.291						
		Rear	0.660	0.013	0.060	0.673	0.720	0.733						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.6G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.004	0.015	0.351	0.362	0.366						
		Rear	0.365	0.013	0.066	0.378	0.431	0.444						
	WCDMA 1900	Front	0.225	0.004	0.015	0.229	0.240	0.244						
		Rear	0.446	0.013	0.066	0.459	0.512	0.525						
	LTE Band 12	Front	0.136	0.004	0.015	0.140	0.151	0.155						
		Rear	0.148	0.013	0.066	0.161	0.214	0.227						
	LTE Band 17	Front	0.185	0.004	0.015	0.189	0.200	0.204						
		Rear	0.230	0.013	0.066	0.243	0.296	0.309						
	LTE Band 5	Front	0.294	0.004	0.015	0.298	0.309	0.313						
		Rear	0.368	0.013	0.066	0.381	0.434	0.447						
	LTE Band 25	Front	0.197	0.004	0.015	0.201	0.212	0.216						
		Rear	0.864	0.013	0.066	0.877	0.930	0.943						
	LTE Band 7	Front	0.454	0.004	0.015	0.458	0.469	0.473						
		Rear	0.644	0.013	0.066	0.657	0.710	0.723						
	LTE Band 41	Front	0.269	0.004	0.015	0.273	0.284	0.288						
		Rear	0.660	0.013	0.066	0.673	0.726	0.739						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth SAR (W/kg)			5.8G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.004	0.037	0.351	0.384	0.388						
		Rear	0.365	0.013	0.333	0.378	0.698	0.711						
	WCDMA 1900	Front	0.225	0.004	0.037	0.229	0.262	0.266						
		Rear	0.446	0.013	0.333	0.459	0.779	0.792						
	LTE Band 12	Front	0.136	0.004	0.037	0.140	0.173	0.177						
		Rear	0.148	0.013	0.333	0.161	0.481	0.494						
	LTE Band 17	Front	0.185	0.004	0.037	0.189	0.222	0.226						
		Rear	0.230	0.013	0.333	0.243	0.563	0.576						
	LTE Band 5	Front	0.294	0.004	0.037	0.298	0.331	0.335						
		Rear	0.368	0.013	0.333	0.381	0.701	0.714						
	LTE Band 25	Front	0.197	0.004	0.037	0.201	0.234	0.238						
		Rear	0.864	0.013	0.333	0.877	1.197	1.210						
	LTE Band 7	Front	0.454	0.004	0.037	0.458	0.491	0.495						
		Rear	0.644	0.013	0.333	0.657	0.977	0.990						
	LTE Band 41	Front	0.269	0.004	0.037	0.273	0.306	0.310						
		Rear	0.660	0.013	0.333	0.673	0.993	1.006						

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth LE SAR (W/kg)			5.3G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.011	0.018	0.358	0.365	0.376						
		Rear	0.365	0.015	0.060	0.380	0.425	0.440						
	WCDMA 1900	Front	0.225	0.011	0.018	0.236	0.243	0.254						
		Rear	0.446	0.015	0.060	0.461	0.506	0.521						
	LTE Band 12	Front	0.136	0.011	0.018	0.147	0.154	0.165						
		Rear	0.148	0.015	0.060	0.163	0.208	0.223						
	LTE Band 17	Front	0.185	0.011	0.018	0.196	0.203	0.214						
		Rear	0.230	0.015	0.060	0.245	0.290	0.305						
	LTE Band 5	Front	0.294	0.011	0.018	0.305	0.312	0.323						
		Rear	0.368	0.015	0.060	0.383	0.428	0.443						
	LTE Band 25	Front	0.197	0.011	0.018	0.208	0.215	0.226						
		Rear	0.864	0.015	0.060	0.879	0.924	0.939						
	LTE Band 7	Front	0.454	0.011	0.018	0.465	0.472	0.483						
		Rear	0.644	0.015	0.060	0.659	0.704	0.719						
	LTE Band 41	Front	0.269	0.011	0.018	0.280	0.287	0.298						
		Rear	0.660	0.015	0.060	0.675	0.720	0.735						

Table 12.5.5 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE + 5.6 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth LE SAR (W/kg)			5.6G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.011	0.015	0.358	0.362	0.373						
		Rear	0.365	0.015	0.066	0.380	0.431	0.446						
	WCDMA 1900	Front	0.225	0.011	0.015	0.236	0.240	0.251						
		Rear	0.446	0.015	0.066	0.461	0.512	0.527						
	LTE Band 12	Front	0.136	0.011	0.015	0.147	0.151	0.162						
		Rear	0.148	0.015	0.066	0.163	0.214	0.229						
	LTE Band 17	Front	0.185	0.011	0.015	0.196	0.200	0.211						
		Rear	0.230	0.015	0.066	0.245	0.296	0.311						
	LTE Band 5	Front	0.294	0.011	0.015	0.305	0.309	0.320						
		Rear	0.368	0.015	0.066	0.383	0.434	0.449						
	LTE Band 25	Front	0.197	0.011	0.015	0.208	0.212	0.223						
		Rear	0.864	0.015	0.066	0.879	0.930	0.945						
	LTE Band 7	Front	0.454	0.011	0.015	0.465	0.469	0.480						
		Rear	0.644	0.015	0.066	0.659	0.710	0.725						
	LTE Band 41	Front	0.269	0.011	0.015	0.280	0.284	0.295						
		Rear	0.660	0.015	0.066	0.675	0.726	0.741						

Table 12.5.6 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE + 5.8 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)			Bluetooth LE SAR (W/kg)			5.8G W-LAN SAR (W/kg)			ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3	1+2	1+3	1+2+3			
Body-Worn SAR	WCDMA 850	Front	0.347	0.011	0.037	0.358	0.384	0.395						
		Rear	0.365	0.015	0.333	0.380	0.698	0.713						
	WCDMA 1900	Front	0.225	0.011	0.037	0.236	0.262	0.273						
		Rear	0.446	0.015	0.333	0.461	0.779	0.794						
	LTE Band 12	Front	0.136	0.011	0.037	0.147	0.173	0.184						
		Rear	0.148	0.015	0.333	0.163	0.491	0.496						
	LTE Band 17	Front	0.185	0.011	0.037	0.196	0.222	0.233						
		Rear	0.230	0.015	0.333	0.245	0.563	0.578						
	LTE Band 5	Front	0.294	0.011	0.037	0.305	0.331	0.342						
		Rear	0.368	0.015	0.333	0.383	0.701	0.716						
	LTE Band 25	Front	0.197	0.011	0.037	0.208	0.234	0.245						
		Rear	0.864	0.015	0.333	0.879	1.197	1.212						
	LTE Band 7	Front	0.454	0.011	0.037	0.465	0.491	0.502						
		Rear	0.644	0.015	0.333	0.659	0.977	0.992						
	LTE Band 41	Front	0.269	0.011	0.037	0.280	0.306	0.317						
		Rear	0.660	0.015	0.333	0.675	0.993	1.008						

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Table 12.5.7 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4 GHz W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	WCDMA 850	Front	0.347	0.048	0.395
		Rear	0.365	0.089	0.454
	WCDMA 1900	Front	0.225	0.048	0.273
		Rear	0.446	0.089	0.535
	LTE Band 12	Front	0.136	0.048	0.184
		Rear	0.148	0.089	0.237
	LTE Band 17	Front	0.185	0.048	0.233
		Rear	0.230	0.089	0.319
	LTE Band 5	Front	0.294	0.048	0.342
		Rear	0.368	0.089	0.457
	LTE Band 25	Front	0.197	0.048	0.245
		Rear	0.864	0.089	0.953
	LTE Band 7	Front	0.454	0.048	0.502
		Rear	0.644	0.089	0.733
	LTE Band 41	Front	0.269	0.048	0.317
		Rear	0.660	0.089	0.749

Table 12.5.8 Simultaneous Transmission Scenario : 2G/3G/4G + 5.3 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.3 GHz W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	WCDMA 850	Front	0.347	0.018	0.365
		Rear	0.365	0.060	0.425
	WCDMA 1900	Front	0.225	0.018	0.243
		Rear	0.446	0.060	0.506
	LTE Band 12	Front	0.136	0.018	0.154
		Rear	0.148	0.060	0.208
	LTE Band 17	Front	0.185	0.018	0.203
		Rear	0.230	0.060	0.290
	LTE Band 5	Front	0.294	0.018	0.312
		Rear	0.368	0.060	0.428
	LTE Band 25	Front	0.197	0.018	0.215
		Rear	0.864	0.060	0.924
	LTE Band 7	Front	0.454	0.018	0.472
		Rear	0.644	0.060	0.704
	LTE Band 41	Front	0.269	0.018	0.287
		Rear	0.660	0.060	0.720

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.6 GHz W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	WCDMA 850	Front	0.347	0.015	0.362
		Rear	0.365	0.066	0.431
	WCDMA 1900	Front	0.225	0.015	0.240
		Rear	0.446	0.066	0.512
	LTE Band 12	Front	0.136	0.015	0.151
		Rear	0.148	0.066	0.214
	LTE Band 17	Front	0.185	0.015	0.200
		Rear	0.230	0.066	0.296
	LTE Band 5	Front	0.294	0.015	0.309
		Rear	0.368	0.066	0.434
	LTE Band 25	Front	0.197	0.015	0.212
		Rear	0.864	0.066	0.930
	LTE Band 7	Front	0.454	0.015	0.469
		Rear	0.644	0.066	0.710
	LTE Band 41	Front	0.269	0.015	0.284
		Rear	0.660	0.066	0.726

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.8 GHz W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	WCDMA 850	Front	0.347	0.037	0.384
		Rear	0.365	0.333	0.698
	WCDMA 1900	Front	0.225	0.037	0.262
		Rear	0.446	0.333	0.779
	LTE Band 12	Front	0.136	0.037	0.173
		Rear	0.148	0.333	0.481
	LTE Band 17	Front	0.185	0.037	0.222
		Rear	0.230	0.333	0.563
	LTE Band 5	Front	0.294	0.037	0.331
		Rear	0.368	0.333	0.701
	LTE Band 25	Front	0.197	0.037	0.234
		Rear	0.864	0.333	1.197
	LTE Band 7	Front	0.454	0.037	0.491
		Rear	0.644	0.333	0.977
	LTE Band 41	Front	0.269	0.037	0.306
		Rear	0.660	0.333	0.993

Table 12.5.11 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	WCDMA 850	Front	0.347	0.004	0.351
		Rear	0.365	0.013	0.378
	WCDMA 1900	Front	0.225	0.004	0.229
		Rear	0.446	0.013	0.459
	LTE Band 12	Front	0.136	0.004	0.140
		Rear	0.148	0.013	0.161
	LTE Band 17	Front	0.185	0.004	0.189
		Rear	0.230	0.013	0.243
	LTE Band 5	Front	0.294	0.004	0.298
		Rear	0.368	0.013	0.381
	LTE Band 25	Front	0.197	0.004	0.201
		Rear	0.864	0.013	0.877
	LTE Band 7	Front	0.454	0.004	0.458
		Rear	0.644	0.013	0.657
	LTE Band 41	Front	0.269	0.004	0.273
		Rear	0.660	0.013	0.673

Table 12.5.12 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	WCDMA 850	Front	0.347	0.011	0.358
		Rear	0.365	0.015	0.380
	WCDMA 1900	Front	0.225	0.011	0.236
		Rear	0.446	0.015	0.461
	LTE Band 12	Front	0.136	0.011	0.147
		Rear	0.148	0.015	0.163
	LTE Band 17	Front	0.185	0.011	0.196
		Rear	0.230	0.015	0.245
	LTE Band 5	Front	0.294	0.011	0.305
		Rear	0.368	0.015	0.383
	LTE Band 25	Front	0.197	0.011	0.208
		Rear	0.864	0.015	0.879
	LTE Band 7	Front	0.454	0.011	0.465
		Rear	0.644	0.015	0.659
	LTE Band 41	Front	0.269	0.011	0.280
		Rear	0.660	0.015	0.675

Table 12.5.13 Simultaneous Transmission Scenario : Bluetooth + 5 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth SAR (W/kg)	5G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN	Front	0.004	0.018	0.022
		Rear	0.013	0.060	0.073
	5.6G W-LAN	Front	0.004	0.015	0.019
		Rear	0.013	0.066	0.079
	5.8G W-LAN	Front	0.004	0.037	0.041
		Rear	0.013	0.333	0.346

Table 12.5.14 Simultaneous Transmission Scenario : Bluetooth LE + 5 GHz W-LAN (Body-Worn at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth LE SAR (W/kg)	5G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Body-Worn SAR	5.3G W-LAN	Front	0.011	0.018	0.029
		Rear	0.015	0.060	0.075
	5.6G W-LAN	Front	0.011	0.015	0.026
		Rear	0.015	0.066	0.081
	5.8G W-LAN	Front	0.011	0.037	0.048
		Rear	0.015	0.333	0.348

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 + Bluetooth + 5.2 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5.2G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	WCDMA 850	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.151	-	-	0.151	0.151	0.151
		Front	0.347	0.004	0.012	0.351	0.359	0.363
		Rear	0.365	0.013	0.100	0.378	0.465	0.478
		Right	0.266	-	-	0.266	0.266	0.266
		Left	0.339	0.006	0.054	0.345	0.353	0.399
	WCDMA 1900	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.709	-	-	0.709	0.709	0.709
		Front	0.225	0.004	0.012	0.229	0.237	0.241
		Rear	0.446	0.013	0.100	0.459	0.546	0.559
		Right	0.187	-	-	0.187	0.187	0.187
		Left	0.277	0.006	0.054	0.283	0.331	0.337
	LTE Band 12	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.036	-	-	0.036	0.036	0.036
		Front	0.136	0.004	0.012	0.140	0.148	0.152
		Rear	0.148	0.013	0.100	0.161	0.248	0.261
		Right	0.099	-	-	0.099	0.099	0.099
		Left	0.099	0.006	0.054	0.105	0.153	0.159
	LTE Band 17	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.037	-	-	0.037	0.037	0.037
		Front	0.185	0.004	0.012	0.189	0.197	0.201
		Rear	0.230	0.013	0.100	0.243	0.330	0.343
		Right	0.149	-	-	0.149	0.149	0.149
		Left	0.166	0.006	0.054	0.172	0.220	0.226
	LTE Band 5	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.147	-	-	0.147	0.147	0.147
		Front	0.294	0.004	0.012	0.298	0.306	0.310
		Rear	0.368	0.013	0.100	0.381	0.468	0.481
		Right	0.320	-	-	0.320	0.320	0.320
		Left	0.236	0.006	0.054	0.242	0.290	0.296
	LTE Band 25	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.374	-	-	0.374	0.374	0.374
		Front	0.197	0.004	0.012	0.201	0.209	0.213
		Rear	0.864	0.013	0.100	0.877	0.964	0.977
		Right	0.133	-	-	0.133	0.133	0.133
		Left	0.218	0.006	0.054	0.224	0.272	0.278
	LTE Band 7	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.291	-	-	0.291	0.291	0.291
		Front	0.454	0.004	0.012	0.458	0.466	0.470
		Rear	0.644	0.013	0.100	0.657	0.744	0.757
		Right	0.195	-	-	0.195	0.195	0.195
		Left	0.674	0.006	0.054	0.680	0.728	0.734
	LTE Band 41	Top	-	0.028	0.031	0.028	0.031	0.059
		Bottom	0.198	-	-	0.198	0.198	0.198
		Front	0.269	0.004	0.012	0.273	0.281	0.285
		Rear	0.660	0.013	0.100	0.673	0.760	0.773
		Right	0.090	-	-	0.090	0.090	0.090
		Left	0.396	0.006	0.054	0.402	0.450	0.456

Table 12.6.2 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth + 5.8 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5.8G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	WCDMA 850	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.151	-	-	0.151	0.151	0.151
		Front	0.347	0.004	0.037	0.351	0.364	0.368
		Rear	0.365	0.013	0.333	0.378	0.698	0.711
		Right	0.266	-	-	0.266	0.266	0.266
		Left	0.339	0.006	0.071	0.345	0.410	0.416
	WCDMA 1900	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.709	-	-	0.709	0.709	0.709
		Front	0.225	0.004	0.037	0.229	0.262	0.266
		Rear	0.446	0.013	0.333	0.459	0.779	0.792
		Right	0.187	-	-	0.187	0.187	0.187
		Left	0.277	0.006	0.071	0.283	0.348	0.354
	LTE Band 12	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.036	-	-	0.036	0.036	0.036
		Front	0.136	0.004	0.037	0.140	0.173	0.177
		Rear	0.148	0.013	0.333	0.161	0.481	0.494
		Right	0.099	-	-	0.099	0.099	0.099
		Left	0.099	0.006	0.071	0.105	0.170	0.176
	LTE Band 17	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.037	-	-	0.037	0.037	0.037
		Front	0.185	0.004	0.037	0.189	0.222	0.226
		Rear	0.230	0.013	0.333	0.243	0.563	0.576
		Right	0.149	-	-	0.149	0.149	0.149
		Left	0.166	0.006	0.071	0.172	0.237	0.243
	LTE Band 5	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.147	-	-	0.147	0.147	0.147
		Front	0.294	0.004	0.037	0.298	0.331	0.335
		Rear	0.368	0.013	0.333	0.381	0.701	0.714
		Right	0.320	-	-	0.320	0.320	0.320
		Left	0.236	0.006	0.071	0.242	0.307	0.313
	LTE Band 25	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.374	-	-	0.374	0.374	0.374
		Front	0.197	0.004	0.037	0.201	0.234	0.238
		Rear	0.864	0.013	0.333	0.877	1.197	1.210
		Right	0.133	-	-	0.133	0.133	0.133
		Left	0.218	0.006	0.071	0.224	0.289	0.295
	LTE Band 7	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.291	-	-	0.291	0.291	0.291
		Front	0.454	0.004	0.037	0.458	0.491	0.495
		Rear	0.644	0.013	0.333	0.657	0.977	0.990
		Right	0.195	-	-	0.195	0.195	0.195
		Left	0.674	0.006	0.071	0.680	0.745	0.751
	LTE Band 41	Top	-	0.028	0.056	0.028	0.056	0.084
		Bottom	0.198	-	-	0.198	0.198	0.198
		Front	0.269	0.004	0.037	0.273	0.306	0.310
		Rear	0.660	0.013	0.333	0.673	0.993	1.006
		Right	0.090	-	-	0.090	0.090	0.090
		Left	0.396	0.006	0.071	0.402	0.467	0.473

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	5.2G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	WCDMA 850	Top	-	-	-	-	-	-
		Bottom	0.151	0.034	0.031	0.034	0.031	0.065
		Front	0.347	0.011	0.012	0.358	0.359	0.370
		Rear	0.365	0.015	0.100	0.380	0.465	0.480
		Right	0.266	-	-	0.266	0.266	0.266
		Left	0.339	0.012	0.054	0.351	0.393	0.405
	WCDMA 1900	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.709	-	-	0.709	0.709	0.709
		Front	0.225	0.011	0.012	0.236	0.237	0.248
		Rear	0.446	0.015	0.100	0.461	0.546	0.581
		Right	0.187	-	-	0.187	0.187	0.187
		Left	0.277	0.012	0.054	0.289	0.331	0.343
	LTE Band 12	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.036	-	-	0.036	0.036	0.036
		Front	0.136	0.011	0.012	0.147	0.148	0.159
		Rear	0.148	0.015	0.100	0.163	0.248	0.263
		Right	0.099	-	-	0.099	0.099	0.099
		Left	0.099	0.012	0.054	0.111	0.153	0.165
	LTE Band 17	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.037	-	-	0.037	0.037	0.037
		Front	0.185	0.011	0.012	0.196	0.197	0.208
		Rear	0.230	0.015	0.100	0.245	0.330	0.345
		Right	0.149	-	-	0.149	0.149	0.149
		Left	0.166	0.012	0.054	0.178	0.220	0.232
	LTE Band 5	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.147	-	-	0.147	0.147	0.147
		Front	0.294	0.011	0.012	0.305	0.306	0.317
		Rear	0.368	0.015	0.100	0.383	0.468	0.483
		Right	0.320	-	-	0.320	0.320	0.320
		Left	0.236	0.012	0.054	0.248	0.290	0.302
	LTE Band 25	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.374	-	-	0.374	0.374	0.374
		Front	0.197	0.011	0.012	0.208	0.209	0.220
		Rear	0.864	0.015	0.100	0.879	0.964	0.979
		Right	0.133	-	-	0.133	0.133	0.133
		Left	0.218	0.012	0.054	0.230	0.272	0.284
	LTE Band 7	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.291	-	-	0.291	0.291	0.291
		Front	0.454	0.011	0.012	0.465	0.466	0.477
		Rear	0.644	0.015	0.100	0.659	0.744	0.759
		Right	0.195	-	-	0.195	0.195	0.195
		Left	0.674	0.012	0.054	0.686	0.728	0.740
	LTE Band 41	Top	-	0.034	0.031	0.034	0.031	0.065
		Bottom	0.198	-	-	0.198	0.198	0.198
		Front	0.269	0.011	0.012	0.280	0.281	0.292
		Rear	0.660	0.015	0.100	0.675	0.760	0.775
		Right	0.090	-	-	0.090	0.090	0.090
		Left	0.396	0.012	0.054	0.408	0.450	0.462

Table 12.6.4 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE + 5.8 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	Bluetooth LE SAR (W/kg)	5.8G W-LAN SAR (W/kg)	ΣSAR (W/kg)		
			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	WCDMA 850	Top	-	-	-	-	-	-
		Bottom	0.151	0.034	0.056	0.034	0.056	0.090
		Front	0.347	0.011	0.037	0.358	0.384	0.395
		Rear	0.365	0.015	0.333	0.380	0.648	0.713
		Right	0.266	-	-	0.266	0.266	0.266
		Left	0.339	0.012	0.071	0.351	0.410	0.422
	WCDMA 1900	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.709	-	-	0.709	0.709	0.709
		Front	0.225	0.011	0.037	0.236	0.262	0.273
		Rear	0.446	0.015	0.333	0.461	0.779	0.794
		Right	0.187	-	-	0.187	0.187	0.187
		Left	0.277	0.012	0.071	0.289	0.348	0.360
	LTE Band 12	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.036	-	-	0.036	0.036	0.036
		Front	0.136	0.011	0.037	0.147	0.173	0.184
		Rear	0.148	0.015	0.333	0.163	0.481	0.496
		Right	0.099	-	-	0.099	0.099	0.099
		Left	0.099	0.012	0.071	0.111	0.170	0.182
	LTE Band 17	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.037	-	-	0.037	0.037	0.037
		Front	0.185	0.011	0.037	0.196	0.222	0.233
		Rear	0.230	0.015	0.333	0.245	0.563	0.578
		Right	0.149	-	-	0.149	0.149	0.149
		Left	0.166	0.012	0.071	0.178	0.237	0.249
	LTE Band 5	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.147	-	-	0.147	0.147	0.147
		Front	0.294	0.011	0.037	0.305	0.331	0.342
		Rear	0.368	0.015	0.333	0.383	0.701	0.716
		Right	0.320	-	-	0.320	0.320	0.320
		Left	0.236	0.012	0.071	0.248	0.307	0.319
	LTE Band 25	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.374	-	-	0.374	0.374	0.374
		Front	0.197	0.011	0.037	0.208	0.234	0.245
		Rear	0.864	0.015	0.333	0.879	1.197	1.212
		Right	0.133	-	-	0.133	0.133	0.133
		Left	0.218	0.012	0.071	0.230	0.289	0.301
	LTE Band 7	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.291	-	-	0.291	0.291	0.291
		Front	0.454	0.011	0.037	0.465	0.491	0.502
		Rear	0.644	0.015	0.333	0.659	0.977	0.992
		Right	0.195	-	-	0.195	0.195	0.195
		Left	0.674	0.012	0.071	0.686	0.745	0.757
	LTE Band 41	Top	-	0.034	0.056	0.034	0.056	0.090
		Bottom	0.198	-	-	0.198	0.198	0.198
		Front	0.269	0.011	0.037	0.280	0.306	0.317
		Rear	0.660	0.015	0.333	0.675	0.993	1.008
		Right	0.090	-	-	0.090	0.090	0.090
		Left	0.396	0.012	0.071	0.408	0.467	0.479

Table 12.6.5 Simultaneous Transmission Scenario : 2G/3G/4G + 2.4 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	2.4G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	WCDMA 850	Top	-	0.223	0.223
		Bottom	0.151	-	0.151
		Front	0.347	0.048	0.395
		Rear	0.365	0.089	0.454
		Right	0.266	-	0.266
		Left	0.339	0.083	0.422
	WCDMA 1900	Top	-	0.223	0.223
		Bottom	0.709	-	0.709
		Front	0.225	0.048	0.273
		Rear	0.446	0.089	0.535
		Right	0.187	-	0.187
		Left	0.277	0.083	0.360
	LTE Band 12	Top	-	0.223	0.223
		Bottom	0.036	-	0.036
		Front	0.136	0.048	0.184
		Rear	0.148	0.089	0.237
		Right	0.099	-	0.099
		Left	0.099	0.083	0.182
	LTE Band 17	Top	-	0.223	0.223
		Bottom	0.037	-	0.037
		Front	0.185	0.048	0.233
		Rear	0.230	0.089	0.319
		Right	0.149	-	0.149
		Left	0.166	0.083	0.249
	LTE Band 5	Top	-	0.223	0.223
		Bottom	0.147	-	0.147
		Front	0.294	0.048	0.342
		Rear	0.368	0.089	0.457
		Right	0.320	-	0.320
		Left	0.236	0.083	0.319
	LTE Band 25	Top	-	0.223	0.223
		Bottom	0.374	-	0.374
		Front	0.197	0.048	0.245
		Rear	0.864	0.089	0.953
		Right	0.133	-	0.133
		Left	0.218	0.083	0.301
	LTE Band 7	Top	-	0.223	0.223
		Bottom	0.291	-	0.291
		Front	0.454	0.048	0.502
		Rear	0.644	0.089	0.733
		Right	0.195	-	0.195
		Left	0.674	0.083	0.757
	LTE Band 41	Top	-	0.223	0.223
		Bottom	0.198	-	0.198
		Front	0.269	0.048	0.317
		Rear	0.660	0.089	0.749
		Right	0.090	-	0.090
		Left	0.396	0.083	0.479

Table 12.6.6 Simultaneous Transmission Scenario : 2G/3G/4G + 5.2 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)	5.2G W-LAN SAR (W/kg)	ΣSAR (W/kg)
			1	2	1+2
Hotspot SAR	WCDMA 850	Top	-	0.031	0.031
		Bottom	0.151	-	0.151
		Front	0.347	0.012	0.359
		Rear	0.365	0.100	0.465
		Right	0.266	-	0.266
		Left	0.339	0.054	0.393
	WCDMA 1900	Top	-	0.031	0.031
		Bottom	0.709	-	0.709
		Front	0.225	0.012	0.237
		Rear	0.446	0.100	0.546
		Right	0.187	-	0.187
		Left	0.277	0.054	0.331
	LTE Band 12	Top	-	0.031	0.031
		Bottom	0.036	-	0.036
		Front	0.136	0.012	0.148
		Rear	0.148	0.100	0.248
		Right	0.099	-	0.099
		Left	0.099	0.054	0.153
	LTE Band 17	Top	-	0.031	0.031
		Bottom	0.037	-	0.037
		Front	0.185	0.012	0.197
		Rear	0.230	0.100	0.330
		Right	0.149	-	0.149
		Left	0.166	0.054	0.220
	LTE Band 5	Top	-	0.031	0.031
		Bottom	0.147	-	0.147
		Front	0.294	0.012	0.306
		Rear	0.368	0.100	0.468
		Right	0.320	-	0.320
		Left	0.236	0.054	0.290
	LTE Band 25	Top	-	0.031	0.031
		Bottom	0.374	-	0.374
		Front	0.197	0.012	0.209
		Rear	0.864	0.100	0.964
		Right	0.133	-	0.133
		Left	0.218	0.054	0.272
	LTE Band 7	Top	-	0.031	0.031
		Bottom	0.291	-	0.291
		Front	0.454	0.012	0.466
		Rear	0.644	0.100	0.744
		Right	0.195	-	0.195
		Left	0.674	0.054	0.728
	LTE Band 41	Top	-	0.031	0.031
		Bottom	0.198	-	0.198
		Front	0.269	0.012	0.281
		Rear	0.660	0.100	0.760
		Right	0.090	-	0.090
		Left	0.396	0.054	0.450

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

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		5.8G W-LAN SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Hotspot SAR	WCDMA 850	Top	-	-	0.056	-	0.056
		Bottom	0.151	-	-	-	0.151
		Front	0.347	-	0.037	-	0.384
		Rear	0.365	-	0.333	-	0.698
		Right	0.266	-	-	-	0.266
		Left	0.339	-	0.071	-	0.410
	WCDMA 1900	Top	-	-	0.056	-	0.056
		Bottom	0.709	-	-	-	0.709
		Front	0.225	-	0.037	-	0.262
		Rear	0.446	-	0.333	-	0.779
		Right	0.187	-	-	-	0.187
		Left	0.277	-	0.071	-	0.348
	LTE Band 12	Top	-	-	0.056	-	0.056
		Bottom	0.036	-	-	-	0.036
		Front	0.136	-	0.037	-	0.173
		Rear	0.148	-	0.333	-	0.481
		Right	0.099	-	-	-	0.099
		Left	0.099	-	0.071	-	0.170
	LTE Band 17	Top	-	-	0.056	-	0.056
		Bottom	0.037	-	-	-	0.037
		Front	0.185	-	0.037	-	0.222
		Rear	0.230	-	0.333	-	0.563
		Right	0.149	-	-	-	0.149
		Left	0.166	-	0.071	-	0.237
	LTE Band 5	Top	-	-	0.056	-	0.056
		Bottom	0.147	-	-	-	0.147
		Front	0.294	-	0.037	-	0.331
		Rear	0.368	-	0.333	-	0.701
		Right	0.320	-	-	-	0.320
		Left	0.236	-	0.071	-	0.307
	LTE Band 25	Top	-	-	0.056	-	0.056
		Bottom	0.374	-	-	-	0.374
		Front	0.197	-	0.037	-	0.234
		Rear	0.864	-	0.333	-	1.197
		Right	0.133	-	-	-	0.133
		Left	0.218	-	0.071	-	0.289
	LTE Band 7	Top	-	-	0.056	-	0.056
		Bottom	0.291	-	-	-	0.291
		Front	0.454	-	0.037	-	0.491
		Rear	0.644	-	0.333	-	0.977
		Right	0.195	-	-	-	0.195
		Left	0.674	-	0.071	-	0.745
	LTE Band 41	Top	-	-	0.056	-	0.056
		Bottom	0.198	-	-	-	0.198
		Front	0.269	-	0.037	-	0.306
		Rear	0.660	-	0.333	-	0.993
		Right	0.090	-	-	-	0.090
		Left	0.396	-	0.071	-	0.467

Table 12.6.8 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth SAR (W/kg)		ΣSAR (W/kg)
			1	2	1+2		
Hotspot SAR	WCDMA 850	Top	-	-	0.028	-	0.028
		Bottom	0.151	-	-	-	0.151
		Front	0.347	-	0.004	-	0.351
		Rear	0.365	-	0.013	-	0.378
		Right	0.266	-	-	-	0.266
		Left	0.339	-	0.006	-	0.345
	WCDMA 1900	Top	-	-	0.028	-	0.028
		Bottom	0.709	-	-	-	0.709
		Front	0.225	-	0.004	-	0.229
		Rear	0.446	-	0.013	-	0.459
		Right	0.187	-	-	-	0.187
		Left	0.277	-	0.006	-	0.283
	LTE Band 12	Top	-	-	0.028	-	0.028
		Bottom	0.036	-	-	-	0.036
		Front	0.136	-	0.004	-	0.140
		Rear	0.148	-	0.013	-	0.161
		Right	0.099	-	-	-	0.099
		Left	0.099	-	0.006	-	0.105
	LTE Band 17	Top	-	-	0.028	-	0.028
		Bottom	0.037	-	-	-	0.037
		Front	0.185	-	0.004	-	0.189
		Rear	0.230	-	0.013	-	0.243
		Right	0.149	-	-	-	0.149
		Left	0.166	-	0.006	-	0.172
	LTE Band 5	Top	-	-	0.028	-	0.028
		Bottom	0.147	-	-	-	0.147
		Front	0.294	-	0.004	-	0.298
		Rear	0.368	-	0.013	-	0.381
		Right	0.320	-	-	-	0.320
		Left	0.236	-	0.006	-	0.242
	LTE Band 25	Top	-	-	0.028	-	0.028
		Bottom	0.374	-	-	-	0.374
		Front	0.197	-	0.004	-	0.201
		Rear	0.864	-	0.013	-	0.877
		Right	0.133	-	-	-	0.133
		Left	0.218	-	0.006	-	0.224
	LTE Band 7	Top	-	-	0.028	-	0.028
		Bottom	0.291	-	-	-	0.291
		Front	0.454	-	0.004	-	0.458
		Rear	0.644	-	0.013	-	0.657
		Right	0.195	-	-	-	0.195
		Left	0.674	-	0.006	-	0.680
	LTE Band 41	Top	-	-	0.028	-	0.028
		Bottom	0.198	-	-	-	0.198
		Front	0.269	-	0.004	-	0.273
		Rear	0.660	-	0.013	-	0.673
		Right	0.090	-	-	-	0.090
		Left	0.396	-	0.006	-	0.402

Table 12.6.9 Simultaneous Transmission Scenario : 2G/3G/4G + Bluetooth LE (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	2G/3G/4G SAR (W/kg)		Bluetooth LE SAR (W/kg)		ΣSAR (W/kg)	
			1	2	1	2	1+2	
Hotspot SAR	WCDMA 850	Top	-	-	0.035	-	0.035	-
		Bottom	0.151	-	-	-	-	0.151
		Front	0.347	-	0.011	-	0.011	0.358
		Rear	0.365	-	0.015	-	0.015	0.380
		Right	0.266	-	-	-	-	0.266
		Left	0.339	-	0.012	-	0.012	0.351
	WCDMA 1900	Top	-	-	0.035	-	0.035	-
		Bottom	0.709	-	-	-	-	0.709
		Front	0.225	-	0.011	-	0.011	0.236
		Rear	0.446	-	0.015	-	0.015	0.461
		Right	0.187	-	-	-	-	0.187
		Left	0.277	-	0.012	-	0.012	0.289
	LTE Band 12	Top	-	-	0.035	-	0.035	-
		Bottom	0.036	-	-	-	-	0.036
		Front	0.136	-	0.011	-	0.011	0.147
		Rear	0.148	-	0.015	-	0.015	0.163
		Right	0.099	-	-	-	-	0.099
		Left	0.099	-	0.012	-	0.012	0.111
	LTE Band 17	Top	-	-	0.035	-	0.035	-
		Bottom	0.037	-	-	-	-	0.037
		Front	0.185	-	0.011	-	0.011	0.196
		Rear	0.230	-	0.015	-	0.015	0.245
		Right	0.149	-	-	-	-	0.149
		Left	0.166	-	0.012	-	0.012	0.178
	LTE Band 5	Top	-	-	0.035	-	0.035	-
		Bottom	0.147	-	-	-	-	0.147
		Front	0.294	-	0.011	-	0.011	0.305
		Rear	0.368	-	0.015	-	0.015	0.383
		Right	0.320	-	-	-	-	0.320
		Left	0.236	-	0.012	-	0.012	0.248
	LTE Band 25	Top	-	-	0.035	-	0.035	-
		Bottom	0.374	-	-	-	-	0.374
		Front	0.197	-	0.011	-	0.011	0.208
		Rear	0.864	-	0.015	-	0.015	0.879
		Right	0.133	-	-	-	-	0.133
		Left	0.218	-	0.012	-	0.012	0.230
	LTE Band 7	Top	-	-	0.035	-	0.035	-
		Bottom	0.291	-	-	-	-	0.291
		Front	0.454	-	0.011	-	0.011	0.465
		Rear	0.644	-	0.015	-	0.015	0.659
		Right	0.195	-	-	-	-	0.195
		Left	0.674	-	0.012	-	0.012	0.686
	LTE Band 41	Top	-	-	0.035	-	0.035	-
		Bottom	0.198	-	-	-	-	0.198
		Front	0.269	-	0.011	-	0.011	0.280
		Rear	0.660	-	0.015	-	0.015	0.675
		Right	0.050	-	-	-	-	0.050
		Left	0.396	-	0.012	-	0.012	0.408

Table 12.6.10 Simultaneous Transmission Scenario : Bluetooth + 5 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth SAR (W/kg)		5G W-LAN SAR (W/kg)		ΣSAR (W/kg)	
			1	2	1	2	1+2	
Hotspot SAR	5.2G W-LAN	Top	-	-	0.028	0.031	0.028	0.059
		Bottom	-	-	-	-	-	-
		Front	0.004	-	0.012	-	0.012	0.016
		Rear	0.013	-	0.116	-	0.116	0.129
		Right	-	-	-	-	-	-
		Left	0.006	-	0.054	-	0.054	0.060
	5.8G W-LAN	Top	-	-	0.028	0.056	0.028	0.084
		Bottom	-	-	-	-	-	-
		Front	0.004	-	0.037	-	0.037	0.041
		Rear	0.013	-	0.333	-	0.333	0.346
		Right	-	-	-	-	-	-
		Left	0.006	-	0.071	-	0.071	0.077

Table 12.6.11 Simultaneous Transmission Scenario : Bluetooth LE + 5 GHz W-LAN (Hotspot at 10 mm)

Exposure Condition	Mode	Configuration	Bluetooth LE SAR (W/kg)		5G W-LAN SAR (W/kg)		ΣSAR (W/kg)	
			1	2	1	2	1+2	
Hotspot SAR	5.2G W-LAN	Top	-	-	0.034	0.031	0.034	0.065
		Bottom	-	-	-	-	-	-
		Front	0.011	-	0.012	-	0.012	0.023
		Rear	0.015	-	0.116	-	0.116	0.131
		Right	-	-	-	-	-	-
		Left	0.012	-	0.054	-	0.054	0.066
	5.8G W-LAN	Top	-	-	0.034	0.056	0.034	0.090
		Bottom	-	-	-	-	-	-
		Front	0.011	-	0.037	-	0.037	0.048
		Rear	0.015	-	0.333	-	0.333	0.348
		Right	-	-	-	-	-	-
		Left	0.012	-	0.071	-	0.071	0.083

12.7 Phablet SAR Simultaneous Transmission Analysis with proximity sensor enabled

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

Since the proximity sensor is enabled in WCDMA 1900, LTE B25, LTE B2, LTE B7 and LTE B41 of this device, Phablet SAR Evaluation was performed.

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

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.3G W-LAN SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1900	Top	-	0.032	0.032
		Bottom	1.323	-	1.323
		Front	0.309	0.012	0.321
		Rear	0.856	0.116	0.972
		Right	0.220	-	0.220
		Left	0.486	0.064	0.550
	LTE Band 25	Top	-	0.032	0.032
		Bottom	0.459	-	0.459
		Front	0.334	0.012	0.346
		Rear	0.836	0.116	0.952
		Right	0.394	-	0.394
		Left	0.170	0.064	0.234
	LTE Band 7	Top	-	0.032	0.032
		Bottom	0.714	-	0.714
		Front	0.878	0.012	0.890
		Rear	1.623	0.116	1.739
		Right	0.234	-	0.234
		Left	0.765	0.064	0.829
	LTE Band 41	Top	-	0.032	0.032
		Bottom	0.467	-	0.467
		Front	0.470	0.012	0.482
		Rear	1.543	0.116	1.659
		Right	0.111	-	0.111
		Left	0.466	0.064	0.530

Table 12.7.2 Simultaneous Transmission Scenario : 3G/4G + 5.6 GHz W-LAN (Phablet at 0 mm)

Exposure Condition	Mode	Configuration	3G/4G SAR (W/kg)	5.6G W-LAN SAR (W/kg)	Σ SAR (W/kg)
			1	2	1+2
Phablet SAR	WCDMA 1900	Top	-	0.112	0.112
		Bottom	1.323	-	1.323
		Front	0.309	0.014	0.323
		Rear	0.856	0.066	0.922
		Right	0.220	-	0.220
		Left	0.486	0.068	0.554
	LTE Band 25	Top	-	0.112	0.112
		Bottom	0.459	-	0.459
		Front	0.334	0.014	0.348
		Rear	0.836	0.066	0.902
		Right	0.394	-	0.394
		Left	0.170	0.068	0.238
	LTE Band 7	Top	-	0.112	0.112
		Bottom	0.714	-	0.714
		Front	0.878	0.014	0.892
		Rear	1.623	0.066	1.689
		Right	0.234	-	0.234
		Left	0.765	0.068	0.833
	LTE Band 41	Top	-	0.112	0.112
		Bottom	0.467	-	0.467
		Front	0.470	0.014	0.484
		Rear	1.543	0.066	1.609
		Right	0.111	-	0.111
		Left	0.466	0.068	0.534

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 Body 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)	
1905.0	26590	LTE B25	-	-	10 mm [Rear]	0.862	0.856	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
<input checked="" type="checkbox"/>	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
<input checked="" type="checkbox"/>	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
<input checked="" type="checkbox"/>	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
<input checked="" type="checkbox"/>	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
<input checked="" type="checkbox"/>	SEMITEC Engineering	SEMITEC	N/A	N/A	N/A	Shield Room
<input checked="" type="checkbox"/>	Robot	SPEAG	TX90XL	N/A	N/A	F13/5RR2A1/A/01
<input checked="" type="checkbox"/>	Robot	SPEAG	TX60L	N/A	N/A	F15/50NHA1/A/01
<input checked="" type="checkbox"/>	Robot	SPEAG	TX90XL	N/A	N/A	F13/5P9GA1/A/01
<input checked="" type="checkbox"/>	Robot	SPEAG	TX60L	N/A	N/A	F14/5WV5D1/A/01
<input checked="" type="checkbox"/>	Robot	SPEAG	TX60L	N/A	N/A	F12/5LP5A1/A/01
<input checked="" type="checkbox"/>	Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5RR2A1/C/01
<input checked="" type="checkbox"/>	Robot Controller	SPEAG	CS8C	N/A	N/A	F15/50NHA1/C/01
<input checked="" type="checkbox"/>	Robot Controller	SPEAG	CS8C	N/A	N/A	F13/5P9GA1/C/01
<input checked="" type="checkbox"/>	Robot Controller	SPEAG	CS8C	N/A	N/A	F14/5WV5D1/C/01
<input checked="" type="checkbox"/>	Robot Controller	SPEAG	CS8C	N/A	N/A	F12/5LP5A1/C/01
<input checked="" type="checkbox"/>	Joystick	SPEAG	N/A	N/A	N/A	S-13200990
<input checked="" type="checkbox"/>	Joystick	SPEAG	N/A	N/A	N/A	D21142605A
<input checked="" type="checkbox"/>	Joystick	SPEAG	N/A	N/A	N/A	S-12450905
<input checked="" type="checkbox"/>	Joystick	SPEAG	P21142605A	N/A	N/A	005695
<input checked="" type="checkbox"/>	Joystick	SPEAG	N/A	N/A	N/A	S-12030401
<input checked="" type="checkbox"/>	Intel Core i7-3 770 3.40 GHz Windows 7 Professional	N/A	N/A	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Intel Core i7-8 700K 3.70 GHz Window 10 Pro	N/A	N/A	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Intel Core i7-3 770 3.40 GHz Window 7 Professional	N/A	N/A	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Intel Core i7-4 770 3.40 GHz Window 7 Professional	N/A	N/A	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Intel Core i7-2 600 3.40 GHz Window 7 Professional	N/A	N/A	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
<input checked="" type="checkbox"/>	Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
<input checked="" type="checkbox"/>	Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
<input checked="" type="checkbox"/>	Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
<input checked="" type="checkbox"/>	Probe Alignment Unit LB	N/A	N/A	N/A	N/A	SE UKS 030 AA
<input checked="" type="checkbox"/>	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Device Holder	SPEAG	SD000H01KA	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Device Holder	SPEAG	SD000H01HA	N/A	N/A	N/A
<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1785
<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1895
<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1786
<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1837
<input checked="" type="checkbox"/>	Twin SAM Phantom	SPEAG	QD000P40CD	N/A	N/A	1679
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE3V1	2021-11-23	2022-11-23	520
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE4V1	2021-07-27	2022-07-27	1335
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE4V1	2021-04-26	2022-04-26	1485
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE4V1	2021-03-23	2022-03-23	1394
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE4V1	2021-04-27	2022-04-27	1391
<input checked="" type="checkbox"/>	Data Acquisition Electronics	SPEAG	DAE4V1	2021-08-23	2022-08-23	1396
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	ES3DV3	2021-01-27	2022-01-27	3327
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	EX3DV4	2021-11-22	2022-11-22	7368
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	EX3DV4	2021-04-30	2022-04-30	3916
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	EX3DV4	2021-10-19	2022-10-19	3933
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	EX3DV4	2021-05-31	2022-05-31	3866
<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	SPEAG	EX3DV4	2021-06-23	2022-06-23	7337
<input checked="" type="checkbox"/>	750MHz SAR Dipole	SPEAG	D750V3	2021-01-21	2023-01-21	1049
<input checked="" type="checkbox"/>	835MHz SAR Dipole	SPEAG	D835V2	2021-07-21	2023-07-21	464
<input checked="" type="checkbox"/>	1 900MHz SAR Dipole	SPEAG	D1900V2	2021-07-23	2023-07-23	5029
<input checked="" type="checkbox"/>	2450MHz SAR Dipole	SPEAG	D2450V2	2021-09-22	2023-09-22	726
<input checked="" type="checkbox"/>	2 600MHz SAR Dipole	SPEAG	D2600V2	2021-02-18	2023-02-18	1016
<input checked="" type="checkbox"/>	5GHz SAR Dipole	SPEAG	D5GHV2	2021-02-23	2023-02-23	1103
<input checked="" type="checkbox"/>	Network Analyzer	Agilent	E5071C	2021-06-24	2022-06-24	MY46106970
<input checked="" type="checkbox"/>	Signal Generator	Agilent	E4438C	2021-06-24	2022-06-24	US41461520
<input checked="" type="checkbox"/>	Amplifier	RFBAY,Inc	MPA-40-40	2021-12-16	2022-12-16	21151801
<input checked="" type="checkbox"/>	Amplifier	EMPOWER	BBS3Q7ELU	2021-06-24	2022-06-24	1020
<input checked="" type="checkbox"/>	High Power RF Amplifier	EMPOWER	BBS3Q8CCJ	2021-06-24	2022-06-24	1005
<input checked="" type="checkbox"/>	Power Meter	HP	EPM-442A	2021-12-16	2022-12-16	GB37170267
<input checked="" type="checkbox"/>	Power Meter	HP	EPM-442A	2021-12-16	2022-12-16	GB37170413
<input checked="" type="checkbox"/>	Power Sensor	HP	8481A	2021-12-16	2022-12-16	US37294267
<input checked="" type="checkbox"/>	Power Sensor	HP	8481A	2021-12-16	2022-12-16	2702A61707
<input checked="" type="checkbox"/>	Power Sensor	HP	8481A	2021-12-16	2022-12-16	2702A65976
<input checked="" type="checkbox"/>	Dual Directional Coupler	Agilent	778D-012	2021-12-16	2022-12-16	50228
<input checked="" type="checkbox"/>	Directional Coupler	HP	772D	2021-06-24	2022-06-24	2889A01064
<input checked="" type="checkbox"/>	Low Pass Filter 1GHz	Wainwright Instruments	WLK6-1000-1400-9000-60SS	2021-06-24	2022-06-24	165
<input checked="" type="checkbox"/>	Low Pass Filter 1.5GHz	Micro LAB	LA-15N	2021-06-24	2022-06-24	2
<input checked="" type="checkbox"/>	Low Pass Filter 3.0GHz	Micro LAB	LA-30N	2021-06-24	2022-06-24	2
<input checked="" type="checkbox"/>	Low Pass Filter 6.0GHz	Micro LAB	LA-60N	2021-12-16	2022-12-16	03942
<input checked="" type="checkbox"/>	Attenuators(10 dB)	WEINSCHTEL	23-10-34	2021-12-16	2022-12-16	BP4387
<input checked="" type="checkbox"/>	Step Attenuator	H/P	8494A	2021-06-24	2022-06-24	3308A33341
<input checked="" type="checkbox"/>	Dielectric Probe kit	SPEAG	DAKS-3.5	2021-07-22	2022-07-22	1046
<input checked="" type="checkbox"/>		SPEAG	R140	2021-07-29	2022-07-29	0101213
<input checked="" type="checkbox"/>	8960 Series 10 Wireless Comms. Test Set	Agilent	E5515C	2021-06-24	2022-06-24	GB41321164
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	Rohde Schwarz	CMW500	2021-12-16	2022-12-16	101414
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	Rohde Schwarz	CMW500	2021-04-23	2022-04-23	166448
<input checked="" type="checkbox"/>	Power Splitter	Anritsu	K241B	2021-12-16	2022-12-16	1301183
<input checked="" type="checkbox"/>	Bluetooth Tester	TESCOM	TC-3000C	2021-06-24	2022-06-24	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: 3327)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
Liquid conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid conductivity (Meas.)	3.9	Normal	1	0.78	0.71	3.0	2.8	10
Liquid permittivity (Target)	5.0	Rectangular	√3	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	4.0	Normal	1	0.23	0.26	0.92	1.0	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.90	0.82	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.27	0.30	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

$$= 26\% \text{ (The confidence level is about 95\% } k=2)$$

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

$$= 2 \cdot 13\%$$

$$= 26\% \text{ (The confidence level is about 95\% } k=2)$$

750 ~ 2 600 MHz Head (SN: 3866)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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.)	4.1	Normal	1	0.23	0.26	0.94	1.1	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.86	0.78	∞
Temp. unc. - Permittivity	1.9	Rectangular	√3	0.23	0.26	0.25	0.29	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

835 MHz Head (SN: 3327)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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.)	3.9	Normal	1	0.23	0.26	0.90	1.0	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.86	0.78	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.27	0.30	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k=2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k=2$)

750 ~ 2 600 MHz Head (SN: 7368)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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.)	4.1	Normal	1	0.23	0.26	0.94	1.1	10
Temp. unc. - Conductivity	2.1	Rectangular	√3	0.78	0.71	0.95	0.86	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.27	0.30	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

2 450 ~ 2 600 MHz Head (SN: 3916)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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	0.97	1.1	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.90	0.82	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.27	0.30	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

2 600 MHz Head (SN: 3327)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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	0.94	1.1	10
Temp. unc. - Conductivity	2.0	Rectangular	√3	0.78	0.71	0.90	0.81	∞
Temp. unc. - Permittivity	2.0	Rectangular	√3	0.23	0.26	0.27	0.30	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

3 300 ~ 5 800 MHz Head (SN: 7337)

Error Description	Uncertainty value ±%	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g (± %)	Standard 10 g (± %)	vi 2 or Veff
Measurement System								
Probe calibration	6.5	Normal	1	1	1	6.5	6.5	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	√3	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	√3	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	√3	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
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	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	√3	1	1	0.58	0.58	∞
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	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	√3	1	1	4.4	4.4	∞
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.)	4.0	Normal	1	0.23	0.26	0.92	1.0	10
Temp. unc. - Conductivity	1.9	Rectangular	√3	0.78	0.71	0.86	0.78	∞
Temp. unc. - Permittivity	2.1	Rectangular	√3	0.23	0.26	0.28	0.32	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

3 500 ~ 5 800 MHz Head (SN: 3933)

Error Description	Uncertainty value $\pm\%$	Probability Distribution	Divisor	(Ci) 1 g	(Ci) 10 g	Standard 1 g ($\pm\%$)	Standard 10 g ($\pm\%$)	vi 2 or Veff
Measurement System								
Probe calibration	6.5	Normal	1	1	1	6.5	6.5	∞
Axial isotropy	4.7	Rectangular	$\sqrt{3}$	1	1	2.7	2.7	∞
Hemispherical isotropy	9.6	Rectangular	$\sqrt{3}$	1	1	5.5	5.5	∞
Boundary Effects	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	∞
Probe Linearity	4.7	Rectangular	$\sqrt{3}$	1	1	2.7	2.7	∞
Probe modulation response	2.4	Rectangular	$\sqrt{3}$	1	1	1.4	1.4	∞
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	1	0.14	0.14	∞
Readout Electronics	1.0	Normal	1	1	1	1.0	1.0	∞
Response time	0.8	Rectangular	$\sqrt{3}$	1	1	0.46	0.46	∞
Integration time	2.6	Rectangular	$\sqrt{3}$	1	1	1.5	1.5	∞
RF Ambient Conditions – Noise	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	∞
Probe Positioner	0.4	Rectangular	$\sqrt{3}$	1	1	0.23	0.23	∞
Probe Positioning	2.9	Rectangular	$\sqrt{3}$	1	1	1.7	1.7	∞
Algorithms for Max. SAR Eval.	1.0	Rectangular	$\sqrt{3}$	1	1	0.58	0.58	∞
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	$\sqrt{3}$	1	1	2.9	2.9	∞
SAR Scaling	2.0	Rectangular	$\sqrt{3}$	1	1	1.2	1.2	∞
Physical Parameters								
Phantom Shell	7.6	Rectangular	$\sqrt{3}$	1	1	4.4	4.4	∞
Liquid conductivity (Target)	5.0	Rectangular	$\sqrt{3}$	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	$\sqrt{3}$	0.60	0.49	1.7	1.4	∞
Liquid permittivity (Meas.)	3.9	Normal	1	0.23	0.26	0.90	1.0	10
Temp. unc. - Conductivity	2.1	Rectangular	$\sqrt{3}$	0.78	0.71	0.95	0.86	∞
Temp. unc. - Permittivity	1.9	Rectangular	$\sqrt{3}$	0.23	0.26	0.25	0.29	∞
Combined Standard Uncertainty						13	13	330
Expanded Uncertainty (k=2)						26	26	

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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

$$= 2 \cdot 13\%$$

= 26 % (The confidence level is about 95 % $k = 2$)

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
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Accreditation No.: **SCS 0108**

Client **DT&C (Dymstec)**

Certificate No: **ES3-3327_Jan21**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3327**
 Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v7**
Calibration procedure for dosimetric E-field probes
 Calibration date: **January 27, 2021**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	23-Dec-20 (No. DAE4-660_Dec20)	Dec-21
Reference Probe ES3DV2	SN: 3013	30-Dec-20 (No. ES3-3013_Dec20)	Dec-21
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

	Name	Function	Signature
Calibrated by:	Jeffrey Katzman	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 28, 2021
 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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



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Accreditation No.: SCS 0108

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

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

ES3DV3 – SN:3327

January 27, 2021

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3327

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.15	1.09	1.03	± 10.1 %
DCP (mV) ^B	103.6	106.2	107.2	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	193.6	± 2.5 %	± 4.7 %
		Y	0.0	0.0	1.0		202.9		
		Z	0.0	0.0	1.0		195.9		

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.

ES3DV3- SN:3327

January 27, 2021

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3327

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-125.9
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

Note: Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

ES3DV3- SN:3327

January 27, 2021

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3327

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	6.49	6.49	6.49	0.80	1.26	± 12.0 %
835	41.5	0.90	6.26	6.26	6.26	0.77	1.23	± 12.0 %
900	41.5	0.97	6.08	6.08	6.08	0.40	1.75	± 12.0 %
1750	40.1	1.37	5.41	5.41	5.41	0.73	1.31	± 12.0 %
1900	40.0	1.40	5.13	5.13	5.13	0.68	1.32	± 12.0 %
2450	39.2	1.80	4.68	4.68	4.68	0.80	1.40	± 12.0 %
2600	39.0	1.96	4.47	4.47	4.47	0.80	1.37	± 12.0 %
3500	37.9	2.91	4.23	4.23	4.23	0.90	1.40	± 13.1 %
3700	37.7	3.12	4.13	4.13	4.13	0.90	1.40	± 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.

ES3DV3- SN:3327

January 27, 2021

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3327

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	6.51	6.51	6.51	0.43	1.58	± 12.0 %
835	55.2	0.97	6.34	6.34	6.34	0.80	1.18	± 12.0 %
900	55.0	1.05	6.23	6.23	6.23	0.57	1.39	± 12.0 %
1750	53.4	1.49	5.26	5.26	5.26	0.48	1.59	± 12.0 %
1900	53.3	1.52	5.01	5.01	5.01	0.48	1.64	± 12.0 %
2450	52.7	1.95	4.49	4.49	4.49	0.80	1.28	± 12.0 %
2600	52.5	2.16	4.34	4.34	4.34	0.80	1.25	± 12.0 %
3500	51.3	3.31	3.81	3.81	3.81	0.80	1.60	± 13.1 %
3700	51.0	3.55	3.71	3.71	3.71	0.80	1.60	± 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.

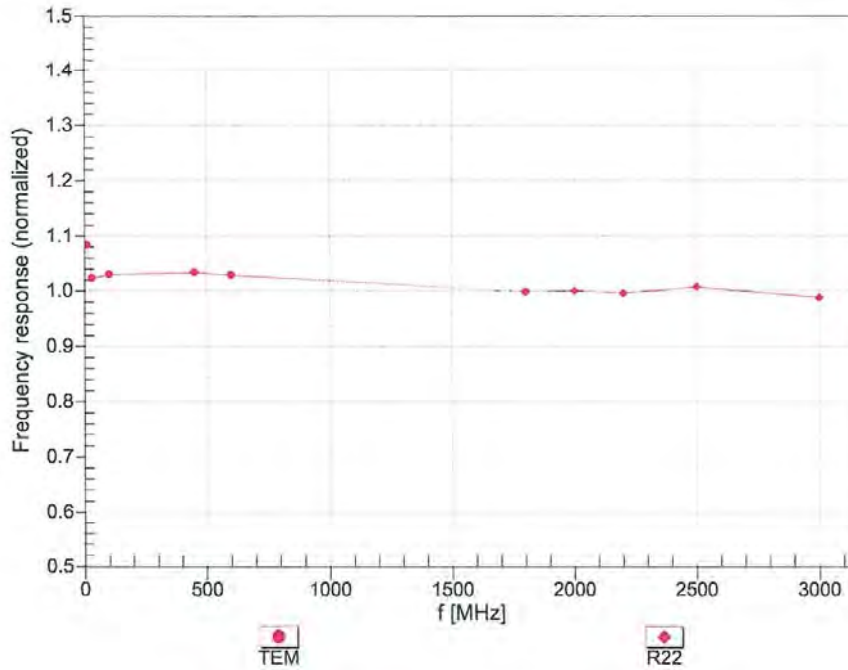
^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty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

ES3DV3-SN:3327

January 27, 2021

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

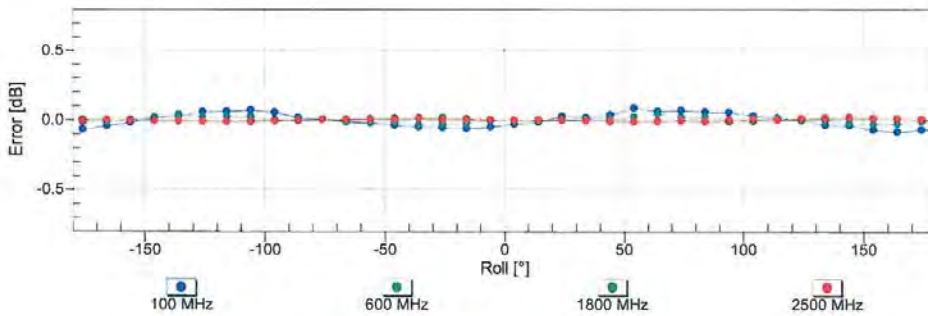
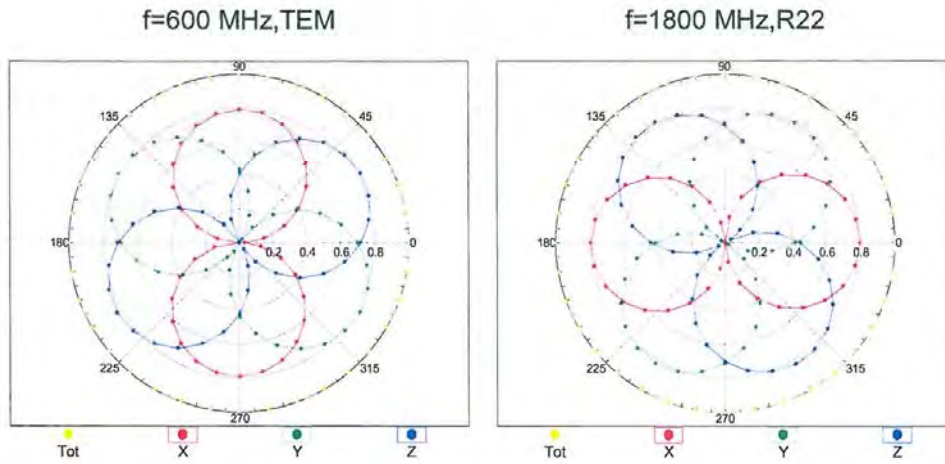


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

ES3DV3- SN:3327

January 27, 2021

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

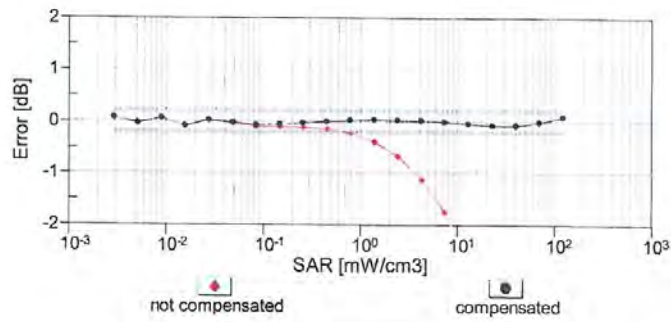
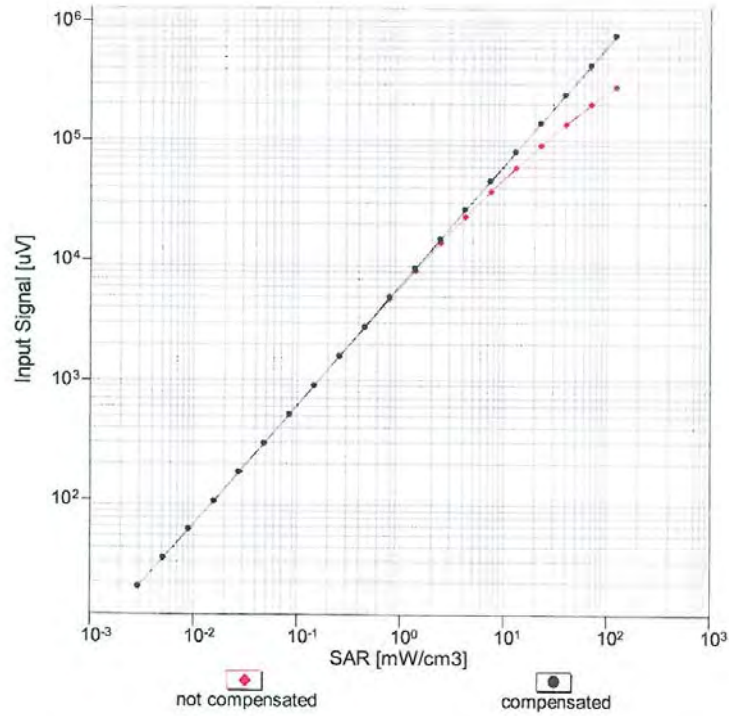


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

ES3DV3- SN:3327

January 27, 2021

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

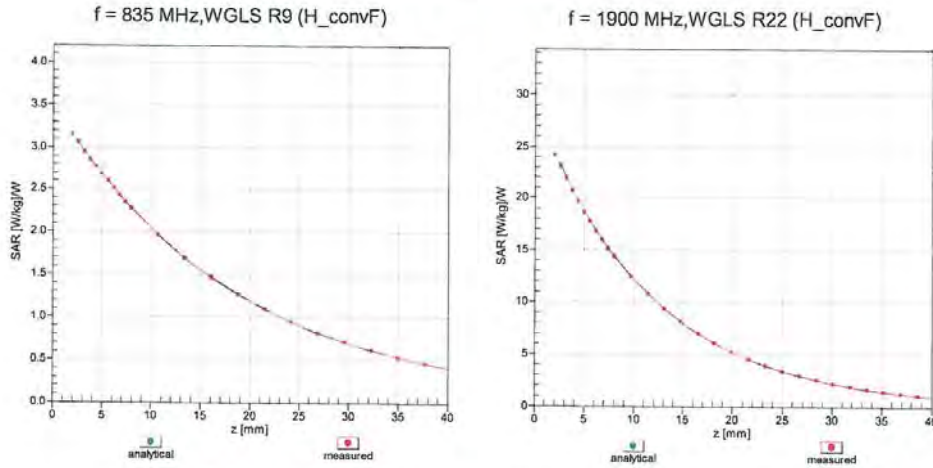


Uncertainty of Linearity Assessment: $\pm 0.6\%$ (k=2)

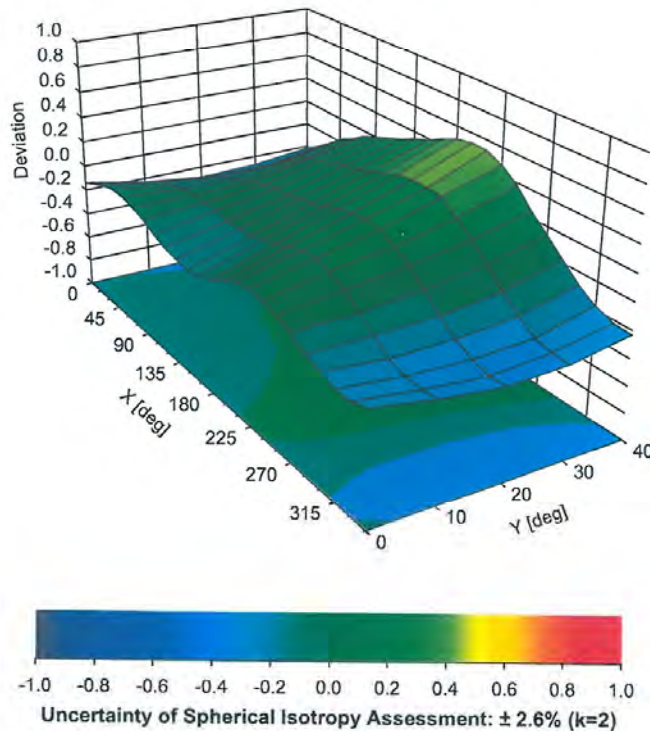
ES3DV3- SN:3327

January 27, 2021

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, ϑ), f = 900 MHz



Calibration Laboratory of
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 Zeughausstrasse 43, 8004 Zurich, Switzerland



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Accreditation No.: SCS 0108

 Client **DT&C (Dymstec)**

 Certificate No: **EX3-7368_Nov21**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7368
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v Calibration procedure for dosimetric E-field probes
Calibration date:	November 22, 2021
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	09-Apr-21 (No. 217-03291/03292)	Apr-22
Power sensor NRP-Z91	SN: 103244	09-Apr-21 (No. 217-03291)	Apr-22
Power sensor NRP-Z91	SN: 103245	09-Apr-21 (No. 217-03292)	Apr-22
Reference 20 dB Attenuator	SN: CC2552 (20x)	09-Apr-21 (No. 217-03343)	Apr-22
DAE4	SN: 660	23-Dec-20 (No. DAE4-660_Dec20)	Dec-21
Reference Probe ES3DV2	SN: 3013	30-Dec-20 (No. ES3-3013_Dec20)	Dec-21
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-98 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-22

Calibrated by:	Name Leif Klysnner	Function Laboratory Technician	Signature
Approved by:	Name Niels Kuster	Function Quality Manager	Signature
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			Issued: November 24, 2021

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



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

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

Accreditation No.: SCS 0108

Glossary:

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

Calibration is Performed According to the Following Standards:

- a) IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- **NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- **NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- **DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- **PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- **A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}; A, B, C, D** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- **ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- **Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- **Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- **Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

EX3DV4 – SN:7368

November 22, 2021

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7368

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.48	0.56	0.42	± 10.1 %
DCP (mV) ^B	101.2	100.0	101.0	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	134.3	± 2.5 %	± 4.7 %
		Y	0.00	0.00	1.00		147.0		
		Z	0.00	0.00	1.00		131.3		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	2.20	64.87	9.52	10.00	60.0	± 3.8 %	± 9.6 %
		Y	4.28	71.93	13.04		60.0		
		Z	2.35	65.26	9.69		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	1.42	64.01	8.32	6.99	80.0	± 2.6 %	± 9.6 %
		Y	12.14	82.95	15.42		80.0		
		Z	1.47	64.48	8.48		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	1.24	66.34	8.61	3.98	95.0	± 1.3 %	± 9.6 %
		Y	20.00	89.33	16.24		95.0		
		Z	1.30	67.14	8.85		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	20.00	87.03	14.16	2.22	120.0	± 0.9 %	± 9.6 %
		Y	20.00	92.54	16.72		120.0		
		Z	20.00	88.50	14.66		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	1.69	66.67	15.23	1.00	150.0	± 2.0 %	± 9.6 %
		Y	1.64	65.25	14.34		150.0		
		Z	1.64	67.79	15.39		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	2.23	68.18	15.89	0.00	150.0	± 1.2 %	± 9.6 %
		Y	2.16	67.01	15.08		150.0		
		Z	2.12	67.99	15.84		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	2.83	70.96	19.01	3.01	150.0	± 0.8 %	± 9.6 %
		Y	2.57	68.31	17.63		150.0		
		Z	2.30	68.32	17.74		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.53	67.31	15.88	0.00	150.0	± 0.9 %	± 9.6 %
		Y	3.34	66.03	15.14		150.0		
		Z	3.31	66.57	15.53		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.69	65.19	15.29	0.00	150.0	± 1.9 %	± 9.6 %
		Y	4.74	65.02	15.14		150.0		
		Z	4.57	65.32	15.34		150.0		

Note: For details on UID parameters see Appendix

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

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

^B Numerical linearization parameter: uncertainty not required.

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

EX3DV4- SN:7368

November 22, 2021

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7368

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	41.8	307.23	34.57	8.18	0.00	4.97	1.73	0.05	1.01
Y	44.8	335.07	35.50	6.55	0.00	5.00	0.89	0.21	1.01
Z	31.9	233.24	34.18	6.12	0.00	4.96	1.34	0.00	1.00

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	156.8
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

Note: Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

EX3DV4- SN:7368

November 22, 2021

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7368

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 (mm) ^G	Unc (k=2)
750	41.9	0.89	9.84	9.84	9.84	0.47	0.99	± 12.0 %
835	41.5	0.90	9.52	9.52	9.52	0.51	0.90	± 12.0 %
900	41.5	0.97	9.37	9.37	9.37	0.63	0.80	± 12.0 %
1750	40.1	1.37	8.48	8.48	8.48	0.36	0.86	± 12.0 %
1900	40.0	1.40	8.15	8.15	8.15	0.36	0.86	± 12.0 %
2450	39.2	1.80	7.89	7.89	7.89	0.35	0.90	± 12.0 %
2600	39.0	1.96	7.43	7.43	7.43	0.38	0.90	± 12.0 %
3500	37.9	2.91	7.00	7.00	7.00	0.35	1.30	± 13.1 %
3700	37.7	3.12	6.90	6.90	6.90	0.35	1.30	± 13.1 %
5200	36.0	4.66	5.65	5.65	5.65	0.40	1.80	± 13.1 %
5300	35.9	4.76	5.40	5.40	5.40	0.40	1.80	± 13.1 %
5500	35.6	4.96	5.05	5.05	5.05	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.85	4.85	4.85	0.40	1.80	± 13.1 %
5800	35.3	5.27	5.03	5.03	5.03	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.

EX3DV4– SN:7368

November 22, 2021

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7368

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)
6500	34.5	6.07	5.45	5.45	5.45	0.20	2.50	± 18.6 %

^c Frequency validity above 6GHz is ± 700 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

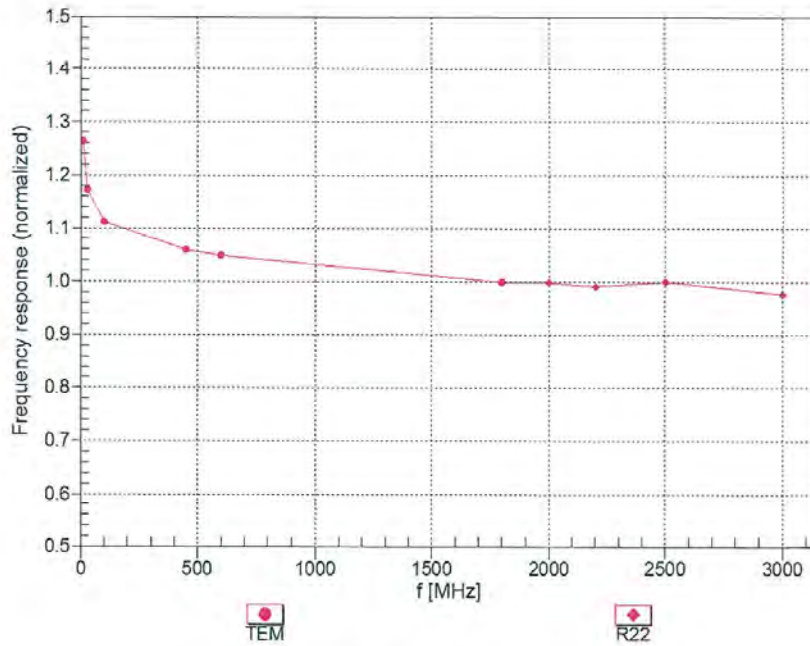
^f At frequencies 6-10 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^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; below ± 2% for frequencies between 3-6 GHz; and below ± 4% for frequencies between 6-10 GHz at any distance larger than half the probe tip diameter from the boundary.

EX3DV4- SN:7368

November 22, 2021

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

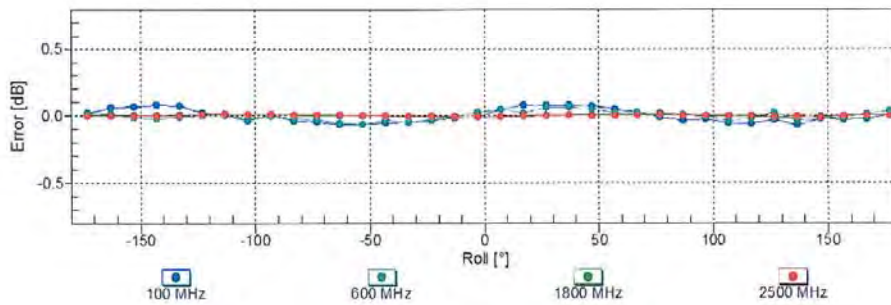
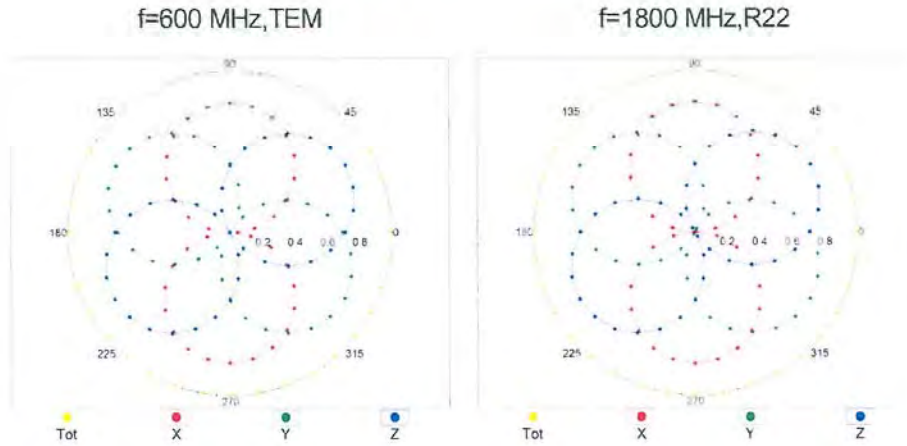


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

EX3DV4- SN:7368

November 22, 2021

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

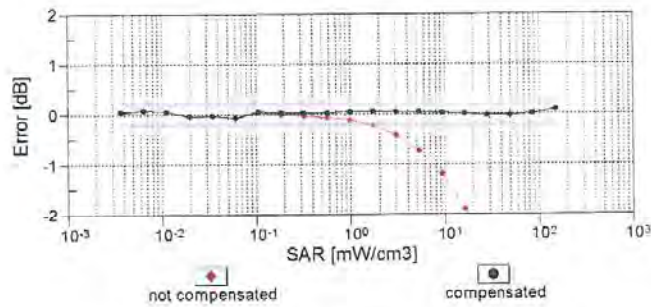
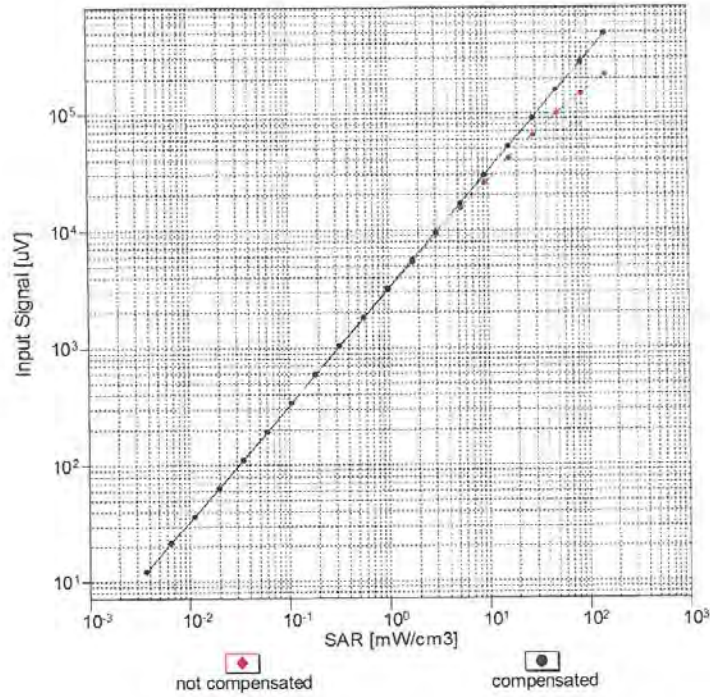


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

EX3DV4- SN:7368

November 22, 2021

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

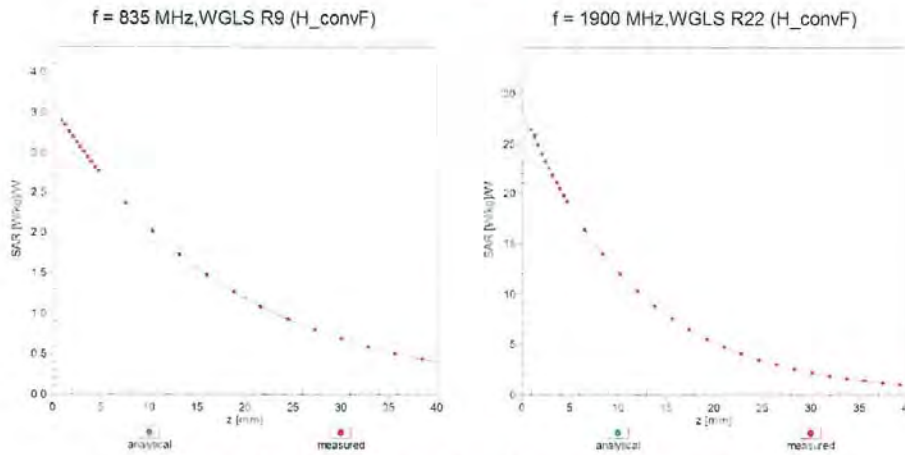


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

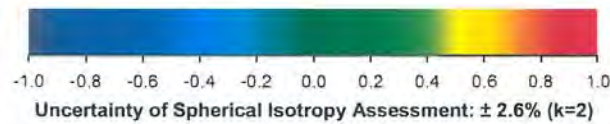
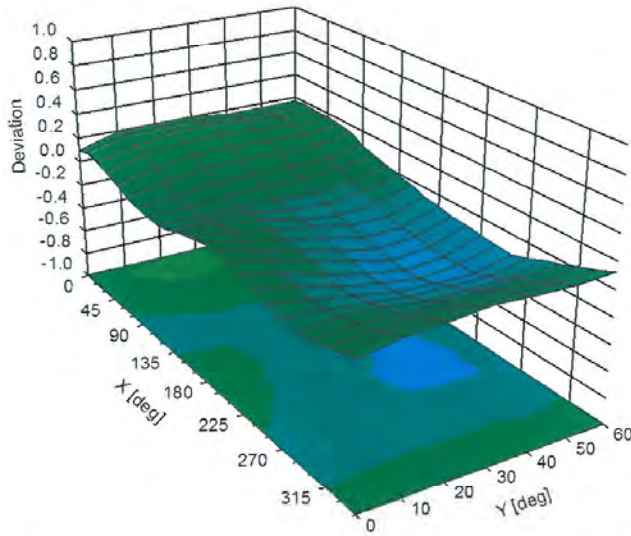
EX3DV4- SN:7368

November 22, 2021

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), $f = 900$ MHz



EX3DV4-- SN:7368

November 22, 2021

Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^k (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	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAD	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 %

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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	CAD	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAD	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAD	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAD	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	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	5.73	± 9.6 %

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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	CAD	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAD	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAD	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAD	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAD	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAD	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	CAD	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAD	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAD	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	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 %

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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 %
10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3)	WiMAX	14.57	± 9.6 %
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAA	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAA	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAD	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAE	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAE	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAE	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %

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10414	AAA	WLAN CCDF, 84-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10417	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short)	WLAN	8.19	± 9.6 %
10422	AAC	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAC	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAC	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAC	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAC	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAC	IEEE 802.11n (HT Greenfield, 150 Mbps, 84-QAM)	WLAN	8.41	± 9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %
10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10453	AAD	Validation (Square, 10ms, 1ms)	Test	10.00	± 9.6 %
10456	AAC	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10462	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.30	± 9.6 %
10463	AAB	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10464	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10467	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10469	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10470	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10471	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10472	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10479	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10480	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.18	± 9.6 %
10481	AAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10482	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.71	± 9.6 %
10483	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)	LTE-TDD	8.39	± 9.6 %
10484	AAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.47	± 9.6 %
10485	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.59	± 9.6 %
10486	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.38	± 9.6 %
10487	AAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.60	± 9.6 %
10488	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.70	± 9.6 %

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10489	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10497	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10498	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.40	± 9.6 %
10499	AAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.68	± 9.6 %
10500	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10501	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.44	± 9.6 %
10502	AAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.52	± 9.6 %
10503	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.72	± 9.6 %
10504	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10505	AAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10506	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10507	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.36	± 9.6 %
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10518	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10519	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)	WLAN	8.39	± 9.6 %
10520	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)	WLAN	8.12	± 9.6 %
10521	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)	WLAN	7.97	± 9.6 %
10522	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10523	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)	WLAN	8.08	± 9.6 %
10524	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)	WLAN	8.27	± 9.6 %
10525	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)	WLAN	8.36	± 9.6 %
10526	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)	WLAN	8.42	± 9.6 %
10527	AAC	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)	WLAN	8.21	± 9.6 %
10528	AAC	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)	WLAN	8.36	± 9.6 %
10529	AAC	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)	WLAN	8.36	± 9.6 %
10531	AAC	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)	WLAN	8.43	± 9.6 %
10532	AAC	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10533	AAC	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)	WLAN	8.38	± 9.6 %
10534	AAC	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)	WLAN	8.45	± 9.6 %
10535	AAC	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)	WLAN	8.45	± 9.6 %
10536	AAC	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)	WLAN	8.32	± 9.6 %
10537	AAC	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)	WLAN	8.44	± 9.6 %
10538	AAC	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)	WLAN	8.54	± 9.6 %
10540	AAC	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10541	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)	WLAN	8.46	± 9.6 %
10542	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)	WLAN	8.65	± 9.6 %
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)	WLAN	8.65	± 9.6 %
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)	WLAN	8.47	± 9.6 %
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)	WLAN	8.35	± 9.6 %

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10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)	WLAN	8.49	± 9.6 %
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)	WLAN	8.37	± 9.6 %
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)	WLAN	8.50	± 9.6 %
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)	WLAN	8.42	± 9.6 %
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)	WLAN	8.45	± 9.6 %
10554	AAD	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)	WLAN	8.48	± 9.6 %
10555	AAD	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)	WLAN	8.47	± 9.6 %
10556	AAD	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)	WLAN	8.50	± 9.6 %
10557	AAD	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)	WLAN	8.52	± 9.6 %
10558	AAD	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)	WLAN	8.61	± 9.6 %
10560	AAD	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)	WLAN	8.73	± 9.6 %
10561	AAD	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)	WLAN	8.56	± 9.6 %
10562	AAD	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)	WLAN	8.69	± 9.6 %
10563	AAD	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)	WLAN	8.25	± 9.6 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc)	WLAN	8.13	± 9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc)	WLAN	8.00	± 9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc)	WLAN	8.37	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc)	WLAN	8.10	± 9.6 %
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc)	WLAN	8.30	± 9.6 %
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10583	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10584	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10585	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10586	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10587	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10588	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10589	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10590	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10591	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)	WLAN	8.63	± 9.6 %
10592	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10593	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)	WLAN	8.64	± 9.6 %
10594	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10595	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)	WLAN	8.74	± 9.6 %
10596	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)	WLAN	8.71	± 9.6 %
10597	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)	WLAN	8.72	± 9.6 %
10598	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)	WLAN	8.50	± 9.6 %
10599	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)	WLAN	8.79	± 9.6 %
10600	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10601	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)	WLAN	8.82	± 9.6 %
10602	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)	WLAN	8.94	± 9.6 %
10603	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)	WLAN	9.03	± 9.6 %
10604	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)	WLAN	8.76	± 9.6 %

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10605	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)	WLAN	8.97	± 9.6 %
10606	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10607	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)	WLAN	8.64	± 9.6 %
10608	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)	WLAN	8.77	± 9.6 %
10609	AAC	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)	WLAN	8.57	± 9.6 %
10610	AAC	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)	WLAN	8.78	± 9.6 %
10611	AAC	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10612	AAC	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10613	AAC	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)	WLAN	8.94	± 9.6 %
10614	AAC	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)	WLAN	8.59	± 9.6 %
10615	AAC	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10616	AAC	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)	WLAN	8.82	± 9.6 %
10617	AAC	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)	WLAN	8.81	± 9.6 %
10618	AAC	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)	WLAN	8.58	± 9.6 %
10619	AAC	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)	WLAN	8.86	± 9.6 %
10620	AAC	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)	WLAN	8.87	± 9.6 %
10621	AAC	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10622	AAC	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)	WLAN	8.68	± 9.6 %
10623	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10624	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)	WLAN	8.96	± 9.6 %
10625	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)	WLAN	8.96	± 9.6 %
10626	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10627	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10628	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)	WLAN	8.71	± 9.6 %
10629	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10630	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)	WLAN	8.72	± 9.6 %
10631	AAC	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)	WLAN	8.81	± 9.6 %
10632	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10633	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)	WLAN	8.83	± 9.6 %
10634	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)	WLAN	8.80	± 9.6 %
10635	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10636	AAD	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10637	AAD	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10638	AAD	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc)	WLAN	8.86	± 9.6 %
10639	AAD	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10640	AAD	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)	WLAN	8.98	± 9.6 %
10641	AAD	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)	WLAN	9.06	± 9.6 %
10642	AAD	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)	WLAN	9.06	± 9.6 %
10643	AAD	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)	WLAN	8.89	± 9.6 %
10644	AAD	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc)	WLAN	9.05	± 9.6 %
10645	AAD	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)	WLAN	9.11	± 9.6 %
10646	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAE	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAE	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAC	IEEE 802.11ax (20MHz, MCS0, 90pc dc)	WLAN	9.09	± 9.6 %
10672	AAC	IEEE 802.11ax (20MHz, MCS1, 90pc dc)	WLAN	8.57	± 9.6 %

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10673	AAC	IEEE 802.11ax (20MHz, MCS2, 90pc dc)	WLAN	8.78	± 9.6 %
10674	AAC	IEEE 802.11ax (20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10675	AAC	IEEE 802.11ax (20MHz, MCS4, 90pc dc)	WLAN	8.90	± 9.6 %
10676	AAC	IEEE 802.11ax (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10677	AAC	IEEE 802.11ax (20MHz, MCS6, 90pc dc)	WLAN	8.73	± 9.6 %
10678	AAC	IEEE 802.11ax (20MHz, MCS7, 90pc dc)	WLAN	8.78	± 9.6 %
10679	AAC	IEEE 802.11ax (20MHz, MCS8, 90pc dc)	WLAN	8.89	± 9.6 %
10680	AAC	IEEE 802.11ax (20MHz, MCS9, 90pc dc)	WLAN	8.80	± 9.6 %
10681	AAC	IEEE 802.11ax (20MHz, MCS10, 90pc dc)	WLAN	8.62	± 9.6 %
10682	AAC	IEEE 802.11ax (20MHz, MCS11, 90pc dc)	WLAN	8.83	± 9.6 %
10683	AAC	IEEE 802.11ax (20MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10684	AAC	IEEE 802.11ax (20MHz, MCS1, 99pc dc)	WLAN	8.26	± 9.6 %
10685	AAC	IEEE 802.11ax (20MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10686	AAC	IEEE 802.11ax (20MHz, MCS3, 99pc dc)	WLAN	8.28	± 9.6 %
10687	AAC	IEEE 802.11ax (20MHz, MCS4, 99pc dc)	WLAN	8.45	± 9.6 %
10688	AAC	IEEE 802.11ax (20MHz, MCS5, 99pc dc)	WLAN	8.29	± 9.6 %
10689	AAC	IEEE 802.11ax (20MHz, MCS6, 99pc dc)	WLAN	8.55	± 9.6 %
10690	AAC	IEEE 802.11ax (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10691	AAC	IEEE 802.11ax (20MHz, MCS8, 99pc dc)	WLAN	8.25	± 9.6 %
10692	AAC	IEEE 802.11ax (20MHz, MCS9, 99pc dc)	WLAN	8.29	± 9.6 %
10693	AAC	IEEE 802.11ax (20MHz, MCS10, 99pc dc)	WLAN	8.25	± 9.6 %
10694	AAC	IEEE 802.11ax (20MHz, MCS11, 99pc dc)	WLAN	8.57	± 9.6 %
10695	AAC	IEEE 802.11ax (40MHz, MCS0, 90pc dc)	WLAN	8.78	± 9.6 %
10696	AAC	IEEE 802.11ax (40MHz, MCS1, 90pc dc)	WLAN	8.91	± 9.6 %
10697	AAC	IEEE 802.11ax (40MHz, MCS2, 90pc dc)	WLAN	8.61	± 9.6 %
10698	AAC	IEEE 802.11ax (40MHz, MCS3, 90pc dc)	WLAN	8.89	± 9.6 %
10699	AAC	IEEE 802.11ax (40MHz, MCS4, 90pc dc)	WLAN	8.82	± 9.6 %
10700	AAC	IEEE 802.11ax (40MHz, MCS5, 90pc dc)	WLAN	8.73	± 9.6 %
10701	AAC	IEEE 802.11ax (40MHz, MCS6, 90pc dc)	WLAN	8.86	± 9.6 %
10702	AAC	IEEE 802.11ax (40MHz, MCS7, 90pc dc)	WLAN	8.70	± 9.6 %
10703	AAC	IEEE 802.11ax (40MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10704	AAC	IEEE 802.11ax (40MHz, MCS9, 90pc dc)	WLAN	8.56	± 9.6 %
10705	AAC	IEEE 802.11ax (40MHz, MCS10, 90pc dc)	WLAN	8.69	± 9.6 %
10706	AAC	IEEE 802.11ax (40MHz, MCS11, 90pc dc)	WLAN	8.66	± 9.6 %
10707	AAC	IEEE 802.11ax (40MHz, MCS0, 99pc dc)	WLAN	8.32	± 9.6 %
10708	AAC	IEEE 802.11ax (40MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10709	AAC	IEEE 802.11ax (40MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10710	AAC	IEEE 802.11ax (40MHz, MCS3, 99pc dc)	WLAN	8.29	± 9.6 %
10711	AAC	IEEE 802.11ax (40MHz, MCS4, 99pc dc)	WLAN	8.39	± 9.6 %
10712	AAC	IEEE 802.11ax (40MHz, MCS5, 99pc dc)	WLAN	8.67	± 9.6 %
10713	AAC	IEEE 802.11ax (40MHz, MCS6, 99pc dc)	WLAN	8.33	± 9.6 %
10714	AAC	IEEE 802.11ax (40MHz, MCS7, 99pc dc)	WLAN	8.26	± 9.6 %
10715	AAC	IEEE 802.11ax (40MHz, MCS8, 99pc dc)	WLAN	8.45	± 9.6 %
10716	AAC	IEEE 802.11ax (40MHz, MCS9, 99pc dc)	WLAN	8.30	± 9.6 %
10717	AAC	IEEE 802.11ax (40MHz, MCS10, 99pc dc)	WLAN	8.48	± 9.6 %
10718	AAC	IEEE 802.11ax (40MHz, MCS11, 99pc dc)	WLAN	8.24	± 9.6 %
10719	AAC	IEEE 802.11ax (80MHz, MCS0, 90pc dc)	WLAN	8.81	± 9.6 %
10720	AAC	IEEE 802.11ax (80MHz, MCS1, 90pc dc)	WLAN	8.87	± 9.6 %
10721	AAC	IEEE 802.11ax (80MHz, MCS2, 90pc dc)	WLAN	8.76	± 9.6 %
10722	AAC	IEEE 802.11ax (80MHz, MCS3, 90pc dc)	WLAN	8.55	± 9.6 %
10723	AAC	IEEE 802.11ax (80MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10724	AAC	IEEE 802.11ax (80MHz, MCS5, 90pc dc)	WLAN	8.90	± 9.6 %
10725	AAC	IEEE 802.11ax (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10726	AAC	IEEE 802.11ax (80MHz, MCS7, 90pc dc)	WLAN	8.72	± 9.6 %
10727	AAC	IEEE 802.11ax (80MHz, MCS8, 90pc dc)	WLAN	8.66	± 9.6 %
10728	AAC	IEEE 802.11ax (80MHz, MCS9, 90pc dc)	WLAN	8.65	± 9.6 %

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10729	AAC	IEEE 802.11ax (80MHz, MCS10, 90pc dc)	WLAN	8.64	± 9.6 %
10730	AAC	IEEE 802.11ax (80MHz, MCS11, 90pc dc)	WLAN	8.67	± 9.6 %
10731	AAC	IEEE 802.11ax (80MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10732	AAC	IEEE 802.11ax (80MHz, MCS1, 99pc dc)	WLAN	8.46	± 9.6 %
10733	AAC	IEEE 802.11ax (80MHz, MCS2, 99pc dc)	WLAN	8.40	± 9.6 %
10734	AAC	IEEE 802.11ax (80MHz, MCS3, 99pc dc)	WLAN	8.25	± 9.6 %
10735	AAC	IEEE 802.11ax (80MHz, MCS4, 99pc dc)	WLAN	8.33	± 9.6 %
10736	AAC	IEEE 802.11ax (80MHz, MCS5, 99pc dc)	WLAN	8.27	± 9.6 %
10737	AAC	IEEE 802.11ax (80MHz, MCS6, 99pc dc)	WLAN	8.36	± 9.6 %
10738	AAC	IEEE 802.11ax (80MHz, MCS7, 99pc dc)	WLAN	8.42	± 9.6 %
10739	AAC	IEEE 802.11ax (80MHz, MCS8, 99pc dc)	WLAN	8.29	± 9.6 %
10740	AAC	IEEE 802.11ax (80MHz, MCS9, 99pc dc)	WLAN	8.48	± 9.6 %
10741	AAC	IEEE 802.11ax (80MHz, MCS10, 99pc dc)	WLAN	8.40	± 9.6 %
10742	AAC	IEEE 802.11ax (80MHz, MCS11, 99pc dc)	WLAN	8.43	± 9.6 %
10743	AAC	IEEE 802.11ax (160MHz, MCS0, 90pc dc)	WLAN	8.94	± 9.6 %
10744	AAC	IEEE 802.11ax (160MHz, MCS1, 90pc dc)	WLAN	9.16	± 9.6 %
10745	AAC	IEEE 802.11ax (160MHz, MCS2, 90pc dc)	WLAN	8.93	± 9.6 %
10746	AAC	IEEE 802.11ax (160MHz, MCS3, 90pc dc)	WLAN	9.11	± 9.6 %
10747	AAC	IEEE 802.11ax (160MHz, MCS4, 90pc dc)	WLAN	9.04	± 9.6 %
10748	AAC	IEEE 802.11ax (160MHz, MCS5, 90pc dc)	WLAN	8.93	± 9.6 %
10749	AAC	IEEE 802.11ax (160MHz, MCS6, 90pc dc)	WLAN	8.90	± 9.6 %
10750	AAC	IEEE 802.11ax (160MHz, MCS7, 90pc dc)	WLAN	8.79	± 9.6 %
10751	AAC	IEEE 802.11ax (160MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10752	AAC	IEEE 802.11ax (160MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10753	AAC	IEEE 802.11ax (160MHz, MCS10, 90pc dc)	WLAN	9.00	± 9.6 %
10754	AAC	IEEE 802.11ax (160MHz, MCS11, 90pc dc)	WLAN	8.94	± 9.6 %
10755	AAC	IEEE 802.11ax (160MHz, MCS0, 99pc dc)	WLAN	8.64	± 9.6 %
10756	AAC	IEEE 802.11ax (160MHz, MCS1, 99pc dc)	WLAN	8.77	± 9.6 %
10757	AAC	IEEE 802.11ax (160MHz, MCS2, 99pc dc)	WLAN	8.77	± 9.6 %
10758	AAC	IEEE 802.11ax (160MHz, MCS3, 99pc dc)	WLAN	8.69	± 9.6 %
10759	AAC	IEEE 802.11ax (160MHz, MCS4, 99pc dc)	WLAN	8.58	± 9.6 %
10760	AAC	IEEE 802.11ax (160MHz, MCS5, 99pc dc)	WLAN	8.49	± 9.6 %
10761	AAC	IEEE 802.11ax (160MHz, MCS6, 99pc dc)	WLAN	8.58	± 9.6 %
10762	AAC	IEEE 802.11ax (160MHz, MCS7, 99pc dc)	WLAN	8.49	± 9.6 %
10763	AAC	IEEE 802.11ax (160MHz, MCS8, 99pc dc)	WLAN	8.53	± 9.6 %
10764	AAC	IEEE 802.11ax (160MHz, MCS9, 99pc dc)	WLAN	8.54	± 9.6 %
10765	AAC	IEEE 802.11ax (160MHz, MCS10, 99pc dc)	WLAN	8.54	± 9.6 %
10766	AAC	IEEE 802.11ax (160MHz, MCS11, 99pc dc)	WLAN	8.51	± 9.6 %
10767	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	± 9.6 %
10768	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10769	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10770	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10771	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10772	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	± 9.6 %
10773	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	± 9.6 %
10774	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10775	AAD	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10776	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10778	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10780	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10781	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10782	AAD	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10783	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10784	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	± 9.6 %

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10785	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10786	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10787	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	± 9.6 %
10788	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10789	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10790	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10791	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	± 9.6 %
10792	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	± 9.6 %
10793	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	± 9.6 %
10794	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10795	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	± 9.6 %
10796	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10797	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10798	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10799	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10801	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10802	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	± 9.6 %
10803	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10805	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10809	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10810	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10812	AAD	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10817	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10818	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	± 9.6 %
10820	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10821	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10822	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10823	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10824	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10825	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10827	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10828	AAD	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10829	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10830	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	± 9.6 %
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	± 9.6 %
10832	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	± 9.6 %
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10834	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	± 9.6 %
10835	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10836	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	± 9.6 %
10837	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	± 9.6 %
10839	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10840	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	± 9.6 %
10841	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	± 9.6 %
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	± 9.6 %
10844	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10846	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10854	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10856	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10858	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10859	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10860	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %

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10861	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10863	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10864	AAD	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10865	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10866	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10868	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	± 9.6 %
10869	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10870	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	± 9.6 %
10871	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10872	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	± 9.6 %
10873	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10874	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10875	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10876	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	± 9.6 %
10877	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	± 9.6 %
10878	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10879	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	± 9.6 %
10880	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	± 9.6 %
10881	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10882	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	± 9.6 %
10883	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	± 9.6 %
10884	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	± 9.6 %
10885	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10886	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10887	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10888	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	± 9.6 %
10889	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	± 9.6 %
10890	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	± 9.6 %
10891	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	± 9.6 %
10892	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10897	AAC	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	± 9.6 %
10898	AAB	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %
10899	AAB	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %
10900	AAB	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10901	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10902	AAB	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10903	AAB	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10904	AAB	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10905	AAB	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10906	AAB	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10907	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	± 9.6 %
10908	AAB	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10909	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	± 9.6 %
10910	AAB	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10911	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10912	AAB	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10913	AAB	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10914	AAB	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	± 9.6 %
10915	AAB	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10916	AAB	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10917	AAB	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10918	AAC	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10919	AAB	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10920	AAB	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10921	AAB	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10922	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	± 9.6 %

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10923	AAB	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10924	AAB	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10925	AAB	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	± 9.6 %
10926	AAB	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10927	AAB	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10928	AAC	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10929	AAC	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10930	AAC	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10931	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10932	AAC	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10933	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10934	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10935	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10936	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10937	AAC	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	± 9.6 %
10938	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10939	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	± 9.6 %
10940	AAC	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	± 9.6 %
10941	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10942	AAC	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10943	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	± 9.6 %
10944	AAC	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	± 9.6 %
10945	AAC	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10947	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10948	AAC	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10949	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10950	AAC	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10951	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	± 9.6 %
10952	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	± 9.6 %
10953	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	± 9.6 %
10954	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	± 9.6 %
10955	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	± 9.6 %
10956	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	± 9.6 %
10957	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	± 9.6 %
10958	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	± 9.6 %
10959	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	± 9.6 %
10960	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	± 9.6 %
10961	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	± 9.6 %
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	± 9.6 %
10963	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10964	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	± 9.6 %
10965	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	± 9.6 %
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10967	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	± 9.6 %
10968	AAB	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	± 9.6 %
10972	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	± 9.6 %
10973	AAB	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	± 9.6 %
10974	AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	± 9.6 %
10978	AAA	ULLA BDR	ULLA	2.23	± 9.6 %
10979	AAA	ULLA HDR4	ULLA	7.02	± 9.6 %
10980	AAA	ULLA HDR8	ULLA	8.82	± 9.6 %
10981	AAA	ULLA HDRp4	ULLA	1.50	± 9.6 %
10982	AAA	ULLA HDRp8	ULLA	1.44	± 9.6 %

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