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SAR EVALUATION REPORT

Applicant Name:
Apple, Inc.
1 Infinite Loop
Cupertino, CA 95014

Date of Testing:
12/26/17 - 01/22/18
Test Site/Location:
PCTEST Lab, San Jose, CA, USA
Document Serial No.:
1C1710060006-01-R4.BCG

FCC ID: **BCGA1954**

APPLICANT: **APPLE, INC.**

DUT Type: Tablet Device
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: A1954

Equipment Class	Band & Mode	Tx Frequency	SAR
			1g Body (W/kg)
PCB	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	1.16
PCB	UMTS 850	826.40 - 846.60 MHz	1.15
PCB	CDMA/EVDO BC10 (§90S)	817.25 - 822.75 MHz	1.03
PCB	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	1.09
PCB	UMTS 1750	1712.4 - 1752.6 MHz	0.98
PCB	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	1.11
PCB	UMTS 1900	1852.4 - 1907.6 MHz	1.07
PCB	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	1.14
PCB	LTE Band 12	699.7 - 715.3 MHz	1.18
PCB	LTE Band 17	706.5 - 713.5 MHz	N/A
PCB	LTE Band 13	779.5 - 784.5 MHz	1.15
PCB	LTE Band 5 (Cell)	824.7 - 848.3 MHz	1.13
PCB	LTE Band 26 (Cell)	814.7 - 848.3 MHz	1.03
PCB	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	1.04
PCB	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	1.09
PCB	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A
PCB	LTE Band 30	2307.5 - 2312.5 MHz	1.07
PCB	LTE Band 7	2502.5 - 2567.5 MHz	1.17
PCB	LTE Band 41	2498.5 - 2687.5 MHz	1.10
DTS	2.4 GHz WLAN	2412 - 2472MHz	1.16
NII	U-NII-1	5180 - 5240 MHz	N/A
NII	U-NII-2A	5260 - 5320 MHz	1.16
NII	U-NII-2C	5500 - 5720 MHz	1.18
NII	U-NII-3	5745 - 5825 MHz	1.07
DSS/DTS	Bluetooth	2402 - 2480 MHz	1.18
Simultaneous SAR per KDB 690783 D01v01r03:			1.43

Note: This revised Test Report (S/N: 1C1710060006-01-R4.BCG) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.7 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
CDMA/EVDO BC10 (§90S)	Voice/Data	817.25 - 822.75 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
LTE Band 12	Data	699.7 - 715.3 MHz
LTE Band 17	Data	706.5 - 713.5 MHz
LTE Band 13	Data	779.5 - 784.5 MHz
LTE Band 5 (Cell)	Data	824.7 - 848.3 MHz
LTE Band 26 (Cell)	Data	814.7 - 848.3 MHz
LTE Band 4 (AWS)	Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Data	1850.7 - 1909.3 MHz
LTE Band 30	Data	2307.5 - 2312.5 MHz
LTE Band 7	Data	2502.5 - 2567.5 MHz
LTE Band 41	Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2472MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz

1.2 Power Reduction for SAR

Detect Mode: This device uses the manufacturer's proprietary Detect Mode to determine when it is being used on the body or held in the hand by the user. When being used on the body or held in the hand by the user, the output power for licensed transmitters will always be reduced to meet SAR compliance. Per FCC KDB Guidance, SAR testing was performed only using reduced output powers following the test positions in KDB Publication 616217.

Bluetooth Power Reduction: This device additionally utilizes an independent single step power reduction mechanism for Bluetooth operations. When Bluetooth is operating simultaneously with 5 GHz WLAN, the output power of Bluetooth is reduced for the duration of simultaneous operation. SAR evaluation was additionally performed at the maximum allowed output power for Bluetooth which is applicable for all other use cases.

Detailed description of the mechanisms and the verification procedures are included in the operational description document. Appendix G and Section 8.6.1 contain a summary of the verification results.

1.3 Nominal and Maximum Output Power Specifications

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.

1.3.1 Maximum Output Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)		Burst Average 8-PSK (dBm)	
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*1 TX Slots*	*2 TX Slots*
GSM/GPRS/EDGE 850	Maximum	**33.5**	**33.5**	**32.5**	**29.0**	**29.0**
	Nominal	**32.5**	**32.5**	**31.5**	**27.0**	**27.0**
GSM/GPRS/EDGE 1900	Maximum	**29.0**	**29.0**	**29.0**	**28.0**	**28.0**
	Nominal	**28.0**	**28.0**	**28.0**	**26.0**	**26.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**
UMTS Band 4 (1750 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**
UMTS Band 2 (1900 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**25.0**
	Nominal	**24.0**
CDMA/EVDO BC0 (§22H)	Maximum	**24.5**
	Nominal	**23.5**
PCS CDMA/EVDO	Maximum	**25.0**
	Nominal	**24.0**

Mode / Band		Modulated Average (dBm)
LTE Band 12	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 17	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 13	Maximum	**24.0**
	Nominal	**23.0**
LTE Band 5 (Cell)	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 26 (Cell)	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 4 (AWS)	Maximum	**24.0**
	Nominal	**23.0**
LTE Band 25 (PCS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 2 (PCS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 30	Maximum	**22.3**
	Nominal	**21.3**
LTE Band 7	Maximum	**24.0**
	Nominal	**23.0**
LTE Band 41	Maximum	**22.5**
	Nominal	**21.5**

Mode / Band		Modulated Average - Single Tx Chain (dBm)				
		Ch. 1	Ch. 2-10	Ch. 11	Ch. 12	Ch. 13
IEEE 802.11b (2.4 GHz)	Maximum	**15.5**				**14.5**
IEEE 802.11g (2.4 GHz)	Maximum	**15.0**	**15.5**	**13.5**	**12.0**	**1.5**
IEEE 802.11n (2.4 GHz)	Maximum	**15.0**	**15.5**	**13.5**	**12.0**	**1.5**

Mode / Band		Modulated Average - MIMO (dBm)				
		Ch. 1	Ch. 2-10	Ch. 11	Ch. 12	Ch. 13
IEEE 802.11g/n (2.4 GHz)	Maximum	**13.0**	**15.5**	**12.5**	**10.5**	**0.0**

Note: In MIMO operations, each Antenna A and Antenna B transmits at maximum allowed powers as indicated above.

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth BDR/LE (P_{High})	Maximum	**17.0**
Bluetooth EDR (P_{High})	Maximum	**12.5**

Mode / Band		Modulated Average - Single Tx Chain (dBm)													
		20 MHz Bandwidth				40 MHz Bandwidth						80 MHz Bandwidth			
		Ch. 36, 64	Ch. 40-48, 149-165	Ch. 100, 140	Ch. 52-60, 104-136, 144	Ch. 38	Ch. 46, 151,159	Ch. 54, 110-126, 142	Ch. 62	Ch. 102	Ch. 134	Ch. 42-58	Ch. 106	Ch. 122-138	Ch. 155
IEEE 802.11a (5 GHz)	Maximum	**16.0**	**16.5**	**15.0**	**17.0**										
IEEE 802.11n (5 GHz)	Maximum	**16.0**	**16.5**	**15.0**	**17.0**	**14.0**	**16.5**	**17.0**	**14.5**	**14.0**	**15.5**				
IEEE 802.11ac (5 GHz)	Maximum	**16.0**	**16.5**	**15.0**	**17.0**	**14.0**	**16.5**	**17.0**	**14.5**	**14.0**	**15.5**	**13.0**	**14.0**	**17.0**	**16.5**

Mode / Band		Modulated Average - MIMO (CDD) (dBm)														
		20 MHz Bandwidth						40 MHz Bandwidth						80 MHz Bandwidth			
		Ch. 36	Ch. 40-60, 149-165	Ch. 64, 100	Ch. 104-136	Ch. 140	Ch. 144	Ch. 38	Ch. 46, 151-159	Ch. 54, 110-126, 142	Ch. 62	Ch. 102	Ch. 134	Ch. 42-58	Ch. 106	Ch. 122-138	Ch. 155
IEEE 802.11a (5 GHz)	Maximum	**14.5**	**16.5**	**14.5**	**15.5**	**14.0**	**17.0**										
IEEE 802.11n (5 GHz)	Maximum	**14.5**	**16.5**	**14.5**	**15.5**	**14.0**	**17.0**	**12.5**	**16.5**	**17.0**	**13.5**	**13.0**	**14.0**				
IEEE 802.11ac (5 GHz)	Maximum	**14.5**	**16.5**	**14.5**	**15.5**	**14.0**	**17.0**	**12.5**	**16.5**	**17.0**	**13.5**	**13.0**	**14.0**	**12.0**	**13.0**	**17.0**	**16.0**

Mode / Band		Modulated Average - MIMO (SDM) (dBm)															
		20 MHz Bandwidth							40 MHz Bandwidth						80 MHz Bandwidth			
		Ch. 36	Ch. 40-48, 149-165	Ch. 52-60	Ch. 64, 100	Ch. 104-136	Ch. 140	Ch. 144	Ch. 38	Ch. 46, 151-159	Ch. 54, 110-126, 142	Ch. 62	Ch. 102	Ch. 134	Ch. 42-58	Ch. 106	Ch. 122-138	Ch. 155
IEEE 802.11n (5 GHz)	Maximum	**14.5**	**16.5**	**17.0**	**14.5**	**17.0**	**14.0**	**17.0**	**12.5**	**16.5**	**17.0**	**13.5**	**13.0**	**14.0**				
IEEE 802.11ac (5 GHz)	Maximum	**14.5**	**16.5**	**17.0**	**14.5**	**17.0**	**14.0**	**17.0**	**12.5**	**16.5**	**17.0**	**13.5**	**13.0**	**14.0**	**12.0**	**13.0**	**17.0**	**16.0**

Note: In MIMO operations, each Antenna A and Antenna B transmits at maximum allowed powers as indicated above for both 2 Tx CDD and 2 Tx SDM except otherwise noted.

1.3.2 Reduced Output Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)		Burst Average 8-PSK (dBm)	
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*1 TX Slots*	*2 TX Slots*
GSM/GPRS/EDGE 850	Maximum	**28.3**	**28.3**	**25.3**	**28.3**	**25.3**
	Nominal	**26.3**	**26.3**	**23.3**	**26.3**	**23.3**
GSM/GPRS/EDGE 1900	Maximum	**23.0**	**23.0**	**20.0**	**23.0**	**20.0**
	Nominal	**21.0**	**21.0**	**18.0**	**21.0**	**18.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**18.0**	**18.0**	**18.0**	**18.0**
	Nominal	**17.0**	**17.0**	**17.0**	**17.0**
UMTS Band 4 (1750 MHz)	Maximum	**13.5**	**13.5**	**13.5**	**13.5**
	Nominal	**12.5**	**12.5**	**12.5**	**12.5**
UMTS Band 2 (1900 MHz)	Maximum	**13.0**	**13.0**	**13.0**	**13.0**
	Nominal	**12.0**	**12.0**	**12.0**	**12.0**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**18.0**
	Nominal	**17.0**
CDMA/EVDO BC0 (§22H)	Maximum	**18.0**
	Nominal	**17.0**
PCS CDMA/EVDO	Maximum	**13.0**
	Nominal	**12.0**

Mode / Band		Modulated Average (dBm)
LTE Band 12	Maximum	**19.6**
	Nominal	**18.6**
LTE Band 17	Maximum	**19.6**
	Nominal	**18.6**
LTE Band 13	Maximum	**18.1**
	Nominal	**17.1**
LTE Band 5 (Cell)	Maximum	**18.0**
	Nominal	**17.0**
LTE Band 26 (Cell)	Maximum	**18.0**
	Nominal	**17.0**
LTE Band 4 (AWS)	Maximum	**14.0**
	Nominal	**13.0**
LTE Band 25 (PCS)	Maximum	**13.0**
	Nominal	**12.0**
LTE Band 2 (PCS)	Maximum	**13.0**
	Nominal	**12.0**
LTE Band 30	Maximum	**14.5**
	Nominal	**13.5**
LTE Band 7	Maximum	**14.5**
	Nominal	**13.5**
LTE Band 41	Maximum	**16.0**
	Nominal	**15.0**

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth BDR (P_{Low})	Maximum	**9.5**
Bluetooth LE (P_{Low})	Maximum	**7.0**
Bluetooth EDR (P_{Low})	Maximum	**7.5**

Note: Bluetooth P_{Low} is the reduced output power of Bluetooth when it is operating simultaneously with 5 GHz WLAN. Detailed description of the power reduction mechanism is included in the operational description.

1.4 DUT Antenna Locations

The overall diagonal dimension of the device is > 200 mm. A diagram showing the location of the device antennas can be found in Appendix F. Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC filings.

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	Yes	Yes	No
UMTS 850	Yes	Yes	Yes	Yes	No
EVDO BC10 (§90S)	Yes	Yes	Yes	Yes	No
EVDO BC0 (§22H)	Yes	Yes	Yes	Yes	No
UMTS 1750	Yes	Yes	Yes	Yes	No
GPRS 1900	Yes	Yes	Yes	Yes	No
UMTS 1900	Yes	Yes	Yes	Yes	No
PCS EVDO	Yes	Yes	Yes	Yes	No
LTE Band 12	Yes	Yes	Yes	Yes	No
LTE Band 13	Yes	Yes	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	Yes	Yes	No
LTE Band 26 (Cell)	Yes	Yes	Yes	Yes	No
LTE Band 4 (AWS)	Yes	Yes	Yes	Yes	No
LTE Band 25 (PCS)	Yes	Yes	Yes	Yes	No
LTE Band 30	Yes	Yes	Yes	Yes	No
LTE Band 7	Yes	Yes	Yes	Yes	No
LTE Band 41	Yes	Yes	Yes	Yes	No
2.4 GHz WLAN Ant A	Yes	Yes	Yes	No	Yes
2.4 GHz WLAN Ant B	Yes	Yes	Yes	Yes	No
5 GHz WLAN Ant A	Yes	Yes	Yes	No	Yes
5 GHz WLAN Ant B	Yes	Yes	Yes	Yes	No
Bluetooth	Yes	Yes	Yes	No	Yes

Note: Per FCC KDB Publication 616217 D04v01r01, particular edges were not required to be evaluated for SAR based on the SAR exclusion threshold in KDB 447498 D01V06. Additional edges may have been evaluated for simultaneous transmission analysis.

1.5 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 4.3.2 procedures.

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Body
1	UMTS + 2.4 GHz WI-FI	Yes
2	UMTS + 5 GHz WI-FI	Yes
3	UMTS + 2.4 GHz Bluetooth	Yes
4	UMTS + 2.4 GHz WI-FI MIMO	Yes
5	UMTS + 5 GHz WI-FI MIMO	Yes
6	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
7	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes
8	LTE + 2.4 GHz WI-FI	Yes
9	LTE + 5 GHz WI-FI	Yes
10	LTE + 2.4 GHz Bluetooth	Yes
11	LTE + 2.4 GHz WI-FI MIMO	Yes
12	LTE + 5 GHz WI-FI MIMO	Yes
13	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
14	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes
15	CDMA/EVDO voice/data + 2.4 GHz WI-FI	Yes
16	CDMA/EVDO voice/data + 5 GHz WI-FI	Yes
17	CDMA/EVDO voice/data + 2.4 GHz Bluetooth	Yes
18	CDMA/EVDO voice/data + 2.4 GHz WI-FI MIMO	Yes
19	CDMA/EVDO voice/data + 5 GHz WI-FI MIMO	Yes
20	CDMA/EVDO voice/data + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
21	CDMA/EVDO voice/data + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes
22	GSM/GPRS/EDGE + 2.4 GHz WI-FI	Yes
23	GSM/GPRS/EDGE + 5 GHz WI-FI	Yes
24	GSM/GPRS/EDGE + 2.4 GHz Bluetooth	Yes
25	GSM/GPRS/EDGE + 2.4 GHz WI-FI MIMO	Yes
26	GSM/GPRS/EDGE + 5 GHz WI-FI MIMO	Yes
27	GSM/GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
28	GSM/GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. This device supports 2x2 MIMO Tx for WLAN. 802.11a/g/n/ac supports CDD/STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
4. This device supports VoWIFI.

1.6 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

The WLAN/Bluetooth chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.

WLAN/Bluetooth SAR testing was completely performed on Variant 1, and Variant 2 is additionally evaluated for WLAN/Bluetooth SAR with the same configuration of the highest reported SAR of Variant 1.

This device supports channel 1-13 for 2.4 GHz WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, channels 1, 6 and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02.

This device supports IEEE 802.11ac with the following features:
a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) TDWR and Band gap channels are supported

(B) Licensed Transmitter(s)

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

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

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

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

- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02 (2G/3G/4G)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 616217 D04v01r02 (Tablet)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)

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 10.

2 LTE INFORMATION

LTE Information					
FCC ID	**BCGA1954**				
Form Factor	Tablet Device				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	6				
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	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 10. It supports a maximum of 2 carriers in the downlink. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 10 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

3 INTRODUCTION

The FCC and Innovation, Science, and Economic Development 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. [1]

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 [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (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 International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. 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.

3.1 SAR Definition

Specific Absorption Rate 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 Equation 3-1).

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation 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.[6]

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:

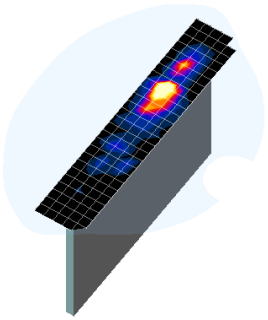

Figure 4-1
Sample SAR Area Scan

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 IEEE 1528-2013.
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.

Table 4-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

5 TEST CONFIGURATION POSITIONS

5.1 Device Holder

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

5.2 SAR Testing for Tablet per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

6 RF EXPOSURE LIMITS

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. 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 6-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

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.

7 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

7.1 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.

7.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is $\leq$ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is $\leq$ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

7.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is 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 are 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 is 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 deviates by more than 5%, the SAR test and drift measurements are repeated.

7.4 SAR Measurement Conditions for CDMA2000

The following procedures were performed according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

7.4.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.” Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in the “All Up” condition.

1. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH_0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
2. Under RC3, C.S0011 Table 4.4.5.2-2,
3. Table 7-1 was applied.

Table 7-1
Parameters for Max. Power for RC3

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

4. FCHs were configured at full rate for maximum SAR with “All Up” power control bits.

7.4.2 Body SAR Measurements for EVDO

Hotspot Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. The 3G SAR test reduction procedure is applied to Rev. A, Subtype 2 Physical layer configuration, with Rev. 0 as the primary mode; otherwise, SAR is measured for Rev. A using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations.

For EVDO data devices that also support 1x RTT voice and/or data operations, the 3G SAR test reduction procedure is applied to 1x RTT RC3 and RC1 with EVDO Rev. 0 and Rev. A as the respective primary modes. Otherwise, the ‘Body-Worn Accessory SAR’ procedures in the ‘3GPP2 CDMA 2000 1x Handsets’ section are applied.

7.4.3 CDMA2000 1x Advanced

This device additionally supports 1x Advanced. Conducted powers are measured using SO75 with RC8 on the uplink and RC11 on the downlink per FCC KDB Publication 941225 D01v03r01. Smart blanking is disabled for all measurements. The EUT is configured with forward power control Mode 000 and reverse power control at 400 bps. Conducted powers are measured on an Agilent 8960 Series 10 Wireless Communications Test Set, Model E5515C using the CDMA2000 1x Advanced application, Option E1962B-410.

The 3G SAR test reduction procedure is applied to the 1x-Advanced transmission mode with 1x RTT RC3 as the primary mode. When SAR measurement is required, the 1x-Advanced power measurement configurations are used. The1x Advanced SAR procedures are applied separately to head, body-worn accessory and other exposure conditions.

7.5 SAR Measurement Conditions for UMTS

7.5.1 Output Power Verification

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, 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.

7.5.2 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or $DPDCH_n$, for the highest reported SAR configuration in 12.2 kbps RMC.

7.5.3 SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

7.5.4 SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

7.5.5 SAR Measurement Conditions for DC-HSDPA

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.

7.6 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements 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).

7.6.1 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.

7.6.2 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.

7.6.3 A-MPR

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

7.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

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 channels 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.
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 ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

According to FCC KDB 447498 D01v06, when the reported (scaled) SAR for LTE Band 41 is ≤ 0.6 W/kg, testing of the remaining RB offset configurations and required test channels 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.

7.6.5 TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r04. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r04. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

7.6.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell,

the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

7.7 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. 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 248227 D01v02r02 for more details.

7.7.1 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.

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.

7.7.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg.

7.7.3 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 Radar (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. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

7.7.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the 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 position 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.

7.7.5 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac 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 and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are 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.

7.7.6 Initial Test Configuration Procedure

For OFDM, 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 power 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, lowest data rate and lowest order IEEE 802.11 mode. 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. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 7.7.5).

7.7.7 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 the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required.

7.7.8 MIMO SAR considerations

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

8 RF CONDUCTED POWERS

8.1 CDMA Conducted Powers

Table 8-1
Maximum Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	560	90S	820	24.73	24.74	24.76	24.80	24.79	24.82	24.80
Cellular	1013	22H	824.7	24.03	24.09	24.23	23.98	24.06	24.13	24.13
	384	22H	836.52	24.00	24.06	24.18	23.93	23.97	24.10	24.13
	777	22H	848.31	24.02	24.10	24.22	24.00	23.94	24.15	24.16
PCS	25	24E	1851.25	24.33	24.28	24.71	24.31	24.37	24.43	24.42
	600	24E	1880	24.67	24.63	24.72	24.53	24.65	24.75	24.70
	1175	24E	1908.75	24.60	24.58	24.74	24.58	24.70	24.64	24.62

Table 8-2
Reduced Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	560	90S	820	18.00	18.00	17.97	17.99	17.96	17.97	17.93
Cellular	1013	22H	824.7	18.00	18.00	18.00	17.92	18.00	17.92	17.94
	384	22H	836.52	18.00	18.00	17.97	17.97	17.99	17.98	17.99
	777	22H	848.31	18.00	17.99	18.00	17.95	17.94	17.91	17.90
PCS	25	24E	1851.25	13.00	12.99	13.00	12.95	12.94	12.98	12.97
	600	24E	1880	12.95	12.98	13.00	12.91	12.98	12.95	12.93
	1175	24E	1908.75	12.97	13.00	13.00	12.91	12.91	12.94	12.93

Note: RC1 is only applicable for IS-95 compatibility. For FCC Rule Part 90S, Per FCC KDB Publication 447498 D01v06 4.1.g), only one channel is required since the device operates within the transmission range of 817.90 – 823.10 MHz.

Figure 8-1
Power Measurement Setup

8.2 GSM Conducted Powers

Table 8-3
Maximum Conducted Power

Maximum Burst-Averaged Output Power						
		Voice	*GPRS/EDGE Data (GMSK)*		*EDGE Data (8-PSK)*	
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	33.10	33.12	**32.47**	28.51	28.33
	190	33.10	33.10	**32.40**	28.61	28.15
	251	33.15	33.12	**32.42**	28.42	28.20
GSM 1900	512	28.93	28.92	**28.52**	27.35	27.12
	661	28.96	28.96	**28.53**	27.40	27.14
	810	29.00	29.00	**28.61**	27.32	27.07

Calculated Maximum Frame-Averaged Output Power						
		Voice	*GPRS/EDGE Data (GMSK)*		*EDGE Data (8-PSK)*	
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	24.07	24.09	**26.45**	19.48	22.31
	190	24.07	24.07	**26.38**	19.58	22.13
	251	24.12	24.09	**26.40**	19.39	22.18
GSM 1900	512	19.90	19.89	**22.50**	18.32	21.10
	661	19.93	19.93	**22.51**	18.37	21.12
	810	19.97	19.97	**22.59**	18.29	21.05

GSM 850	**Frame Avg.Targets:**	23.47	23.47	**25.48**	17.97	20.98
GSM 1900		18.97	18.97	**21.98**	16.97	19.98

Table 8-4
Reduced Conducted Power

Maximum Burst-Averaged Output Power						
		Voice	*GPRS/EDGE Data (GMSK)*		*EDGE Data (8-PSK)*	
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	28.26	27.61	**25.24**	26.48	24.99
	190	28.26	27.72	**25.25**	26.49	24.98
	251	28.27	27.66	**25.23**	26.46	24.94
GSM 1900	512	22.98	22.90	**19.88**	22.42	19.50
	661	22.92	22.80	**19.91**	22.50	19.42
	810	22.92	22.75	**19.99**	22.43	19.47

Calculated Maximum Frame-Averaged Output Power						
		Voice	*GPRS/EDGE Data (GMSK)*		*EDGE Data (8-PSK)*	
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	19.23	18.58	**19.22**	17.45	18.97
	190	19.23	18.69	**19.23**	17.46	18.96
	251	19.24	18.63	**19.21**	17.43	18.92
GSM 1900	512	13.95	13.87	**13.86**	13.39	13.48
	661	13.89	13.77	**13.89**	13.47	13.40
	810	13.89	13.72	**13.97**	13.40	13.45

GSM 850	**Frame Avg.Targets:**	17.27	17.27	**17.28**	17.27	17.28
GSM 1900		11.97	11.97	**11.98**	11.97	11.98

Note:

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

GSM Class: B
GPRS Multislot class: 10 (Max 2 Tx uplink slots)
EDGE Multislot class: 10 (Max 2 Tx uplink slots)
DTM Multislot Class: N/A

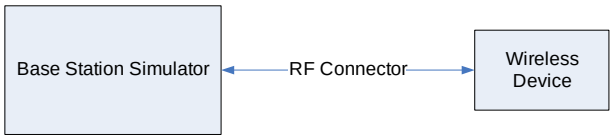

Figure 8-2
Power Measurement Setup

8.3 UMTS Conducted Powers

Table 8-5
Maximum Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]	βc	βd	AG Index	E-TFCI
			4132	4183	4233	1312	1412	1513	9262	9400	9538					
99	WCDMA	12.2 kbps RMC	24.96	24.80	24.78	24.92	24.86	24.83	24.96	24.85	24.77	-	-	-	-	-
99		12.2 kbps AMR	24.91	24.74	24.75	24.87	24.88	24.86	24.96	24.82	24.77	-	-	-	-	-
6	HSDPA	Subtest 1	23.95	23.80	23.78	23.95	23.91	23.88	23.92	23.89	23.84	0	2	15	-	-
6		Subtest 2	23.98	23.81	23.81	23.94	23.87	23.90	23.87	23.77	23.74	0	11	15	-	-
6		Subtest 3	23.41	23.24	23.26	23.42	23.28	23.27	23.46	23.37	23.32	0.5	15	8	-	-
6		Subtest 4	23.43	23.26	23.26	23.41	23.38	23.30	23.47	23.37	23.26	0.5	15	4	-	-
6	HSUPA	Subtest 1	23.87	23.80	23.77	23.76	23.70	23.68	23.98	23.92	23.87	0	10	15	20	75
6		Subtest 2	22.55	22.56	22.44	22.43	22.40	22.35	22.61	22.47	22.56	2	6	15	12	67
6		Subtest 3	22.79	22.68	22.70	22.61	22.50	22.58	22.58	22.50	22.51	1	15	9	15	92
6		Subtest 4	22.87	22.80	22.78	22.71	22.69	22.67	22.74	22.70	22.61	2	2	15	17	71
6		Subtest 5	23.98	23.82	23.80	23.92	23.90	23.85	23.94	23.88	23.82	0	15	1	12	67
8	DC-HSDPA	Subtest 1	23.55	23.42	23.37	22.36	22.30	22.25	23.29	23.18	23.15	0	2	15	-	-
8		Subtest 2	23.52	23.51	23.42	22.26	22.28	22.24	23.20	23.13	23.16	0	11	15	-	-
8		Subtest 3	23.17	23.00	22.95	21.82	21.77	21.73	22.78	22.65	22.63	0.5	15	8	-	-
8		Subtest 4	23.11	22.98	22.91	21.83	21.75	21.74	22.73	22.68	22.62	0.5	15	4	-	-

Table 8-6
Reduced Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]	βc	βd	AG Index	E-TFCI
			4132	4183	4233	1312	1412	1513	9262	9400	9538					
99	WCDMA	12.2 kbps RMC	17.94	18.00	18.00	13.49	13.48	13.43	12.95	12.94	12.93	-	-	-	-	-
99		12.2 kbps AMR	18.00	17.97	17.96	13.50	13.42	13.48	12.98	12.96	12.97	-	-	-	-	-
6	HSDPA	Subtest 1	17.98	17.90	17.91	13.48	13.46	13.44	12.91	12.97	12.95	0	2	15	-	-
6		Subtest 2	18.00	17.93	17.96	13.46	13.43	13.48	12.94	12.96	12.92	0	11	15	-	-
6		Subtest 3	17.50	17.42	17.44	12.97	12.95	12.96	12.46	12.49	12.42	0.5	15	8	-	-
6		Subtest 4	17.49	17.41	17.43	12.99	12.96	12.95	12.45	12.48	12.40	0.5	15	4	-	-
6	HSUPA	Subtest 1	17.90	17.98	17.99	13.46	13.49	13.47	12.96	12.92	12.99	0	10	15	20	75
6		Subtest 2	15.90	15.98	15.91	11.50	11.41	11.48	10.90	10.98	10.99	2	6	15	12	67
6		Subtest 3	16.90	16.90	16.91	12.50	12.49	12.42	11.97	11.99	11.90	1	15	9	15	92
6		Subtest 4	15.90	15.91	15.90	11.46	11.43	11.40	10.90	11.00	10.99	2	2	15	17	71
6		Subtest 5	17.98	17.94	17.93	13.48	13.45	13.41	12.96	12.92	12.92	0	15	1	12	67
8	DC-HSDPA	Subtest 1	17.98	18.00	17.92	13.46	13.43	13.45	12.98	12.96	12.93	0	2	15	-	-
8		Subtest 2	17.92	17.92	17.95	13.45	13.42	13.42	13.00	12.91	12.94	0	11	15	-	-
8		Subtest 3	17.41	17.42	17.43	12.97	12.92	12.90	12.49	12.47	12.42	0.5	15	8	-	-
8		Subtest 4	17.40	17.41	17.42	12.96	12.94	12.91	12.48	12.49	12.43	0.5	15	4	-	-

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 8-3
Power Measurement Setup

8.4 LTE Conducted Powers

8.4.1 LTE Band 12

Table 8-7
LTE Band 12 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.45	0	0
	1	25	24.39		0
	1	49	24.43		0
	25	0	23.43	0-1	1
	25	12	23.35		1
	25	25	23.46		1
	50	0	23.45		1
16QAM	1	0	23.80	0-1	1
	1	25	23.84		1
	1	49	23.79		1
	25	0	22.35	0-2	2
	25	12	22.39		2
	25	25	22.47		2
	50	0	22.45		2

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-8
LTE Band 12 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.78	24.65	24.77	0	0
	1	12	24.95	24.80	24.94		0
	1	24	24.89	24.73	24.78		0
	12	0	23.54	23.30	23.44	0-1	1
	12	6	23.60	23.44	23.47		1
	12	13	23.57	23.39	23.46		1
	25	0	23.56	23.38	23.41		1
16QAM	1	0	23.90	23.90	24.00	0-1	1
	1	12	24.00	24.00	23.96		1
	1	24	23.99	23.98	23.98		1
	12	0	22.59	22.42	22.43	0-2	2
	12	6	22.70	22.53	22.48		2
	12	13	22.64	22.43	22.46		2
	25	0	22.56	22.46	22.47		2

Table 8-9
LTE Band 12 Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.33	24.10	24.26	0	0
	1	7	24.55	24.42	24.62		0
	1	14	24.38	24.15	24.23		0
	8	0	23.28	23.05	23.16	0-1	1
	8	4	23.36	23.23	23.22		1
	8	7	23.31	23.16	23.16		1
	15	0	23.27	23.16	23.18		1
16QAM	1	0	23.81	23.44	23.54	0-1	1
	1	7	23.82	23.66	23.81		1
	1	14	23.86	23.46	23.55		1
	8	0	22.31	22.15	22.10	0-2	2
	8	4	22.34	22.31	22.22		2
	8	7	22.33	22.21	22.20		2
	15	0	22.30	22.15	22.18		2

Table 8-10
LTE Band 12 Maximum Conducted Powers -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.74	24.48	24.56	0	0
	1	2	24.79	24.63	24.57		0
	1	5	24.74	24.50	24.56		0
	3	0	24.38	24.48	24.44		0
	3	2	24.45	24.50	24.56		0
	3	3	24.42	24.46	24.47		0
	6	0	23.53	23.44	23.40	0-1	1
16QAM	1	0	23.69	23.73	23.60	0-1	1
	1	2	23.76	23.81	23.65		1
	1	5	23.70	23.73	23.64		1
	3	0	23.53	23.64	23.32		1
	3	2	23.55	23.63	23.39		1
	3	3	23.53	23.62	23.31		1
	6	0	22.68	22.44	22.65	0-2	2

Table 8-11
LTE Band 12 Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**19.60**	0	0
	1	25	19.51		0
	1	49	19.54		0
	25	0	19.50	0-1	0
	25	12	**19.60**		0
	25	25	19.53		0
	50	0	19.59		0
16QAM	1	0	19.53	0-1	0
	1	25	19.59		0
	1	49	19.58		0
	25	0	19.52	0-2	0
	25	12	19.56		0
	25	25	19.58		0
	50	0	19.52		0

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-12
LTE Band 12 Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.57	19.52	19.58	0	0
	1	12	19.56	19.55	19.55		0
	1	24	19.53	19.54	19.52		0
	12	0	19.54	19.53	19.54	0-1	0
	12	6	19.56	19.59	19.51		0
	12	13	19.58	19.57	19.57		0
	25	0	19.55	19.53	19.52		0
16QAM	1	0	19.53	19.51	19.58	0-1	0
	1	12	19.52	19.56	19.52		0
	1	24	19.57	19.53	19.51		0
	12	0	19.56	19.51	19.54	0-2	0
	12	6	19.59	19.56	19.54		0
	12	13	19.55	19.57	19.55		0
	25	0	19.57	19.57	19.51		0

Table 8-13
LTE Band 12 Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.55	19.57	19.51	0	0
	1	7	19.54	19.55	19.57		0
	1	14	19.54	19.52	19.52		0
	8	0	19.57	19.54	19.52	0-1	0
	8	4	19.58	19.58	19.56		0
	8	7	19.52	19.54	19.55		0
	15	0	19.53	19.57	19.56		0
16QAM	1	0	19.54	19.57	19.53	0-1	0
	1	7	19.53	19.54	19.56		0
	1	14	19.57	19.51	19.52		0
	8	0	19.52	19.51	19.51	0-2	0
	8	4	19.58	19.53	19.54		0
	8	7	19.52	19.51	19.52		0
	15	0	19.55	19.58	19.51		0

Table 8-14
LTE Band 12 Reduced Conducted Powers -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.56	19.51	19.57	0	0
	1	2	19.57	19.53	19.54		0
	1	5	19.54	19.51	19.53		0
	3	0	19.52	19.57	19.51		0
	3	2	19.53	19.55	19.51		0
	3	3	19.51	19.56	19.57		0
	6	0	19.57	19.53	19.52	0-1	0
16QAM	1	0	19.58	19.58	19.51	0-1	0
	1	2	19.56	19.57	19.53		0
	1	5	19.52	19.56	19.52		0
	3	0	19.51	19.53	19.51		0
	3	2	19.58	19.57	19.51		0
	3	3	19.51	19.52	19.56		0
	6	0	19.53	19.52	19.57	0-2	0

8.4.2 LTE Band 13

Table 8-15
LTE Band 13 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.20	0	0
	1	25	23.40		0
	1	49	23.22		0
	25	0	22.40	0-1	1
	25	12	22.48		1
	25	25	22.40		1
	50	0	22.50		1
16QAM	1	0	22.93	0-1	1
	1	25	22.97		1
	1	49	22.99		1
	25	0	21.43	0-2	2
	25	12	21.47		2
	25	25	21.42		2
	50	0	21.51		2

Table 8-16
LTE Band 13 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.77	0	0
	1	12	23.90		0
	1	24	23.78		0
	12	0	22.70	0-1	1
	12	6	22.69		1
	12	13	22.68		1
	25	0	22.64		1
16QAM	1	0	22.87	0-1	1
	1	12	22.91		1
	1	24	22.90		1
	12	0	21.75	0-2	2
	12	6	21.74		2
	12	13	21.69		2
	25	0	21.67		2

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-17
LTE Band 13 Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**18.10**	0	0
	1	25	18.08		0
	1	49	18.09		0
	25	0	**18.10**	0-1	0
	25	12	18.08		0
	25	25	18.07		0
	50	0	18.09		0
16QAM	1	0	18.09	0-1	0
	1	25	18.10		0
	1	49	18.07		0
	25	0	18.09	0-2	0
	25	12	18.09		0
	25	25	18.08		0
	50	0	18.10		0

Table 8-18
LTE Band 13 Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	18.01	0	0
	1	12	18.03		0
	1	24	18.07		0
	12	0	18.04	0-1	0
	12	6	18.08		0
	12	13	18.01		0
	25	0	18.01		0
16QAM	1	0	18.06	0-1	0
	1	12	18.08		0
	1	24	18.04		0
	12	0	18.06	0-2	0
	12	6	18.04		0
	12	13	18.06		0
	25	0	18.07		0

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

8.4.3 LTE Band 5 (Cell)

Table 8-19
LTE Band 5 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.90	0	0
	1	25	23.76		0
	1	49	23.75		0
	25	0	22.90	0-1	1
	25	12	22.89		1
	25	25	22.82		1
	50	0	22.72		1
16QAM	1	0	22.98	0-1	1
	1	25	23.13		1
	1	49	23.13		1
	25	0	21.80	0-2	2
	25	12	21.80		2
	25	25	21.72		2
	50	0	21.82		2

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-20
LTE Band 5 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.35	23.88	23.99	0	0
	1	12	24.40	24.01	24.17		0
	1	24	24.37	24.02	24.11		0
	12	0	23.04	23.06	23.02	0-1	1
	12	6	23.10	23.07	23.10		1
	12	13	23.10	23.05	23.05		1
	25	0	23.06	23.03	22.99		1
16QAM	1	0	23.39	23.35	23.24	0-1	1
	1	12	23.45	23.48	23.36		1
	1	24	23.44	23.50	23.37		1
	12	0	22.17	21.99	21.93	0-2	2
	12	6	22.22	22.10	21.94		2
	12	13	22.22	22.06	21.96		2
	25	0	22.03	22.04	22.06		2

Table 8-21
LTE Band 5 (Cell) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.90	23.72	23.96	0	0
	1	7	23.98	23.96	24.06		0
	1	14	23.91	23.82	23.97		0
	8	0	22.92	22.83	22.90	0-1	1
	8	4	22.99	22.93	22.92		1
	8	7	22.95	22.89	22.92		1
	15	0	22.91	22.88	22.86		1
16QAM	1	0	23.26	22.78	23.00	0-1	1
	1	7	23.31	23.17	23.36		1
	1	14	23.30	22.97	23.13		1
	8	0	22.02	21.91	21.79	0-2	2
	8	4	22.01	21.99	21.86		2
	8	7	22.03	21.92	21.81		2
	15	0	21.86	21.90	21.84		2

Table 8-22
LTE Band 5 (Cell) Maximum Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.33	24.19	24.24	0	0
	1	2	24.33	24.31	24.28		0
	1	5	24.33	24.23	24.29		0
	3	0	24.39	24.28	24.26		0
	3	2	24.29	24.29	24.33		0
	3	3	24.28	24.23	24.26		0
	6	0	23.45	23.44	23.43	0-1	1
16QAM	1	0	23.48	23.38	23.50	0-1	1
	1	2	23.50	23.46	23.49		1
	1	5	23.45	23.41	23.19		1
	3	0	23.33	23.40	23.29		1
	3	2	23.38	23.39	23.30		1
	3	3	23.36	23.40	23.22		1
	6	0	22.18	22.18	22.03	0-2	2

Table 8-23
LTE Band 5 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.99	0	0
	1	25	**18.00**		0
	1	49	17.90		0
	25	0	17.90	0-1	0
	25	12	**18.00**		0
	25	25	17.97		0
	50	0	17.92		0
16QAM	1	0	17.95	0-1	0
	1	25	17.95		0
	1	49	17.96		0
	25	0	17.92	0-2	0
	25	12	18.00		0
	25	25	18.00		0
	50	0	17.91		0

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-24
LTE Band 5 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.97	17.94	17.97	0	0
	1	12	17.97	17.91	17.91		0
	1	24	17.91	17.97	17.90		0
	12	0	17.91	17.91	17.97	0-1	0
	12	6	17.99	17.94	17.94		0
	12	13	17.98	17.99	17.93		0
	25	0	17.96	17.96	17.99		0
16QAM	1	0	17.95	17.91	17.95	0-1	0
	1	12	17.91	17.93	17.91		0
	1	24	17.92	17.93	17.98		0
	12	0	17.93	17.92	17.95	0-2	0
	12	6	17.94	17.99	17.93		0
	12	13	17.90	17.92	17.92		0
	25	0	17.94	17.95	17.94		0

Table 8-25
LTE Band 5 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.94	17.92	17.93	0	0
	1	7	17.99	17.91	17.97		0
	1	14	17.92	17.95	17.92		0
	8	0	17.94	17.92	17.93	0-1	0
	8	4	17.98	17.91	17.94		0
	8	7	17.96	17.98	17.92		0
	15	0	17.97	17.91	17.99		0
16QAM	1	0	17.95	17.96	17.98	0-1	0
	1	7	17.96	17.97	17.95		0
	1	14	17.94	17.93	17.92		0
	8	0	17.93	17.93	17.94	0-2	0
	8	4	17.98	17.99	17.91		0
	8	7	17.95	17.97	17.91		0
	15	0	17.90	17.94	17.96		0

Table 8-26
LTE Band 5 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.94	17.96	17.94	0	0
	1	2	17.94	17.97	17.96		0
	1	5	17.98	17.93	17.98		0
	3	0	17.91	17.95	17.97		0
	3	2	17.96	17.94	17.98		0
	3	3	17.91	17.90	17.95		0
	6	0	17.96	17.91	17.94	0-1	0
16QAM	1	0	17.95	17.91	17.91	0-1	0
	1	2	17.98	17.93	17.96		0
	1	5	17.92	17.92	17.95		0
	3	0	17.90	17.93	17.95		0
	3	2	17.92	17.98	17.96		0
	3	3	17.94	17.94	17.91		0
	6	0	17.95	17.92	17.94	0-2	0

8.4.4 LTE Band 26 (Cell)

Table 8-27
LTE Band 26 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.44	24.40	24.41	0	0
	1	25	24.49	24.43	24.46		0
	1	49	24.43	24.38	24.10		0
	25	0	23.31	23.26	23.28	0-1	1
	25	12	23.45	23.39	23.37		1
	25	25	23.41	23.30	23.35		1
	50	0	23.38	23.31	23.31		1
16QAM	1	0	23.29	23.49	23.42	0-1	1
	1	25	23.39	23.50	23.49		1
	1	49	23.30	23.48	23.22		1
	25	0	22.35	22.31	22.24	0-2	2
	25	12	22.46	22.37	22.35		2
	25	25	22.50	22.31	22.36		2
	50	0	22.41	22.35	22.38		2

Table 8-28
LTE Band 26 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.37	24.49	24.48	0	0
	1	12	24.46	24.49	24.43		0
	1	24	24.44	24.46	24.23		0
	12	0	23.35	23.33	23.31	0-1	1
	12	6	23.44	23.41	23.37		1
	12	13	23.43	23.39	23.37		1
	25	0	23.37	23.37	23.35		1
16QAM	1	0	23.50	23.45	23.49	0-1	1
	1	12	23.47	23.49	23.46		1
	1	24	23.41	23.50	23.31		1
	12	0	22.27	22.33	22.46	0-2	2
	12	6	22.41	22.36	22.45		2
	12	13	22.38	22.38	22.39		2
	25	0	22.38	22.29	22.36		2

Table 8-29
LTE Band 26 (Cell) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.44	24.27	24.36	0	0
	1	7	24.49	24.40	24.32		0
	1	14	24.42	24.32	24.15		0
	8	0	23.36	23.31	23.28	0-1	1
	8	4	23.43	23.40	23.29		1
	8	7	23.36	23.36	23.34		1
	15	0	23.37	23.34	23.30		1
16QAM	1	0	23.31	23.50	23.37	0-1	1
	1	7	23.44	23.46	23.50		1
	1	14	23.33	23.39	23.35		1
	8	0	22.33	22.42	22.46	0-2	2
	8	4	22.40	22.47	22.36		2
	8	7	22.30	22.46	22.44		2
	15	0	22.38	22.31	22.35		2

Table 8-30
LTE Band 26 (Cell) Maximum Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.32	24.42	24.28	0	0
	1	2	24.44	24.48	24.16		0
	1	5	24.36	24.47	24.06		0
	3	0	24.36	24.31	24.18		0
	3	2	24.43	24.33	24.20		0
	3	3	24.37	24.30	24.13		0
	6	0	23.33	23.35	23.30	0-1	1
16QAM	1	0	23.30	23.36	23.32	0-1	1
	1	2	23.39	23.43	23.31		1
	1	5	23.27	23.38	23.25		1
	3	0	23.35	23.38	23.29		1
	3	2	23.45	23.39	23.22		1
	3	3	23.40	23.44	23.18		1
	6	0	22.29	22.32	22.27	0-2	2

Table 8-31
LTE Band 26 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.94	**17.99**	17.94	0	0
	1	25	17.93	17.93	17.96		0
	1	49	17.95	17.95	17.96		0
	25	0	**18.00**	17.95	17.91	0-1	0
	25	12	17.99	17.93	17.93		0
	25	25	17.99	17.96	17.95		0
	50	0	17.98	17.95	17.93		0
16QAM	1	0	17.99	17.98	17.98	0-1	0
	1	25	17.98	17.97	17.95		0
	1	49	17.95	17.99	17.94		0
	25	0	17.93	17.93	17.91	0-2	0
	25	12	17.97	17.92	17.90		0
	25	25	17.98	17.98	17.92		0
	50	0	17.98	17.98	17.94		0

Table 8-32
LTE Band 26 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.93	17.94	17.95	0	0
	1	12	17.96	17.94	17.98		0
	1	24	17.96	17.96	17.97		0
	12	0	17.99	17.97	17.98	0-1	0
	12	6	17.94	17.92	17.96		0
	12	13	17.93	17.95	17.94		0
	25	0	17.99	17.99	17.99		0
16QAM	1	0	17.99	17.96	17.94	0-1	0
	1	12	17.95	17.97	17.97		0
	1	24	17.95	17.91	17.95		0
	12	0	17.99	17.93	17.94	0-2	0
	12	6	17.94	17.95	17.99		0
	12	13	17.98	17.91	17.95		0
	25	0	17.97	17.92	17.94		0

Table 8-33
LTE Band 26 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.97	17.93	17.95	0	0
	1	7	17.98	17.98	17.96		0
	1	14	17.97	17.96	17.95		0
	8	0	17.96	17.99	17.97	0-1	0
	8	4	17.99	17.95	17.95		0
	8	7	17.99	17.94	17.93		0
	15	0	17.99	17.92	17.93		0
16QAM	1	0	17.92	17.96	17.95	0-1	0
	1	7	17.99	17.95	17.95		0
	1	14	17.99	17.98	17.93		0
	8	0	17.96	17.96	17.98	0-2	0
	8	4	18.00	17.98	17.97		0
	8	7	17.99	17.94	17.91		0
	15	0	18.00	17.98	17.96		0

Table 8-34
LTE Band 26 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.96	17.97	17.90	0	0
	1	2	17.96	17.96	17.95		0
	1	5	17.90	17.94	17.96		0
	3	0	17.93	17.97	17.91		0
	3	2	17.99	17.92	17.97		0
	3	3	17.93	17.98	17.92		0
	6	0	17.91	17.98	17.97	0-1	0
16QAM	1	0	17.93	17.94	17.93	0-1	0
	1	2	17.91	17.92	17.92		0
	1	5	17.92	17.91	17.98		0
	3	0	17.94	17.96	17.95		0
	3	2	17.95	17.93	17.91		0
	3	3	17.93	17.97	17.94		0
	6	0	17.98	17.96	17.98	0-2	0

8.4.5 LTE Band 4 (AWS)

Table 8-35
LTE Band 4 (AWS) Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 4 (AWS) 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20175 (1732.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.82	0	0
	1	49	23.76		0
	1	99	24.00		0
	50	0	22.61	0-1	1
	50	24	22.76		1
	50	50	22.87		1
	100	0	22.80		1
16QAM	1	0	22.59	0-1	1
	1	49	22.65		1
	1	99	23.00		1
	50	0	21.60	0-2	2
	50	24	21.56		2
	50	50	21.40		2
	100	0	21.60		2

Note: LTE Band 4 (AWS) at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-36
LTE Band 4 (AWS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 4 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20025 (1717.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20325 (1747.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.73	23.58	23.72	0	0
	1	37	23.81	23.52	23.66		0
	1	74	23.87	23.66	23.76		0
	36	0	22.67	22.62	22.71	0-1	1
	36	20	22.64	22.53	22.67		1
	36	39	22.63	22.61	22.67		1
	75	0	22.64	22.58	22.75		1
16QAM	1	0	23.00	22.87	23.00	0-1	1
	1	37	22.84	22.73	22.82		1
	1	74	23.00	23.00	22.98		1
	36	0	21.92	21.69	21.72	0-2	2
	36	20	21.61	21.60	21.80		2
	36	39	21.65	21.65	21.72		2
	75	0	21.67	21.59	21.69		2

Table 8-37
LTE Band 4 (AWS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 4 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20000 (1715.0 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20350 (1750.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.84	23.91	23.92	0	0
	1	25	23.64	23.64	23.94		0
	1	49	23.74	23.74	23.96		0
	25	0	22.68	22.74	22.84	0-1	1
	25	12	22.70	22.64	22.79		1
	25	25	22.73	22.72	22.72		1
	50	0	22.69	22.69	22.72		1
16QAM	1	0	22.99	23.00	23.00	0-1	1
	1	25	23.00	22.94	22.98		1
	1	49	23.00	23.00	22.99		1
	25	0	21.93	21.61	21.74	0-2	2
	25	12	21.74	21.61	21.74		2
	25	25	21.75	21.64	21.73		2
	50	0	21.73	21.66	21.79		2

Table 8-38
LTE Band 4 (AWS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 4 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19975 (1712.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20375 (1752.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.91	23.78	23.68	0	0
	1	12	23.93	23.68	23.66		0
	1	24	23.98	23.60	23.69		0
	12	0	22.68	22.64	22.73	0-1	1
	12	7	22.70	22.69	22.72		1
	12	13	22.69	22.69	22.73		1
	25	0	22.67	22.66	22.88		1
16QAM	1	0	23.00	23.00	23.00	0-1	1
	1	12	23.00	22.99	22.98		1
	1	24	22.78	23.00	23.00		1
	12	0	21.75	21.85	21.71	0-2	2
	12	7	21.77	21.69	21.71		2
	12	13	21.76	21.73	21.76		2
	25	0	21.76	21.62	21.71		2

Table 8-39
LTE Band 4 (AWS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 4 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19965 (1711.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20385 (1753.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.60	23.76	23.60	0	0
	1	8	23.76	23.61	23.84		0
	1	14	23.64	23.64	23.64		0
	8	0	22.94	22.60	22.94	0-1	1
	8	4	22.60	22.61	22.75		1
	8	7	22.61	22.64	22.73		1
	15	0	22.69	22.60	22.69		1
16QAM	1	0	22.69	22.89	22.68	0-1	1
	1	8	22.87	22.87	22.88		1
	1	14	22.70	22.96	22.70		1
	8	0	21.74	21.69	21.74	0-2	2
	8	4	21.82	21.69	21.82		2
	8	7	21.71	21.73	21.71		2
	15	0	21.74	21.74	21.73		2

Table 8-40
LTE Band 4 (AWS) Maximum Conducted Powers -1.4 MHz Bandwidth

LTE Band 4 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19957 (1710.7 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20393 (1754.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.81	23.87	23.94	0	0
	1	3	23.69	23.78	24.00		0
	1	5	23.68	23.75	23.90		0
	3	0	23.67	23.69	23.77		0
	3	1	23.70	23.75	23.78		0
	3	3	23.71	23.67	23.74		0
	6	0	22.69	22.67	22.81	0-1	1
16QAM	1	0	22.98	23.00	23.00	0-1	1
	1	3	22.94	22.90	22.96		1
	1	5	22.93	22.93	22.88		1
	3	0	22.74	22.83	22.91		1
	3	1	22.78	22.90	22.92		1
	3	3	22.77	22.87	22.93		1
	6	0	21.85	21.65	21.71	0-2	2

Table 8-41
LTE Band 4 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth

LTE Band 4 (AWS) 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20175 (1732.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**14.00**	0	0
	1	50	13.97		0
	1	99	**14.00**		0
	50	0	13.98	0-1	0
	50	25	13.99		0
	50	50	**14.00**		0
	100	0	13.99		0
16QAM	1	0	13.96	0-1	0
	1	50	13.92		0
	1	99	13.97		0
	50	0	14.00	0-2	0
	50	25	13.96		0
	50	50	14.00		0
	100	0	13.93		0

Note: LTE Band 4 (AWS) at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-42
LTE Band 4 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth

LTE Band 4 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20025 (1717.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20325 (1747.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.91	13.93	13.97	0	0
	1	36	13.91	13.97	13.97		0
	1	74	13.95	13.95	13.96		0
	36	0	13.96	13.98	13.98	0-1	1
	36	18	13.91	13.97	13.91		1
	36	37	13.96	13.90	13.97		1
	75	0	13.98	13.91	13.94		1
16QAM	1	0	13.90	13.97	13.98	0-1	1
	1	36	13.95	13.98	13.93		1
	1	74	13.92	13.94	13.94		1
	36	0	13.94	13.91	13.93	0-2	2
	36	18	13.98	13.95	13.91		2
	36	37	13.95	13.94	13.97		2
	75	0	13.92	13.92	13.93		2

Table 8-43
LTE Band 4 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 4 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20000 (1715.0 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20350 (1750.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.94	13.95	13.98	0	0
	1	25	13.92	13.95	13.93		0
	1	49	13.97	13.92	13.92		0
	25	0	13.95	13.96	13.93	0-1	1
	25	12	13.96	13.91	13.95		1
	25	25	13.98	13.96	13.98		1
	50	0	13.97	13.98	13.96		1
16QAM	1	0	13.91	13.97	13.98	0-1	1
	1	25	13.94	13.94	13.93		1
	1	49	13.96	13.92	13.91		1
	25	0	13.95	13.98	13.96	0-2	2
	25	12	13.93	13.93	13.91		2
	25	25	13.92	13.92	13.91		2
	50	0	13.91	13.93	13.92		2

Table 8-44
LTE Band 4 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 4 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19975 (1712.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20375 (1752.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.95	13.92	13.97	0	0
	1	12	13.96	13.95	13.95		0
	1	24	13.92	13.97	13.96		0
	12	0	13.96	13.90	13.98	0-1	1
	12	6	13.97	13.97	13.95		1
	12	13	13.91	13.92	13.96		1
	25	0	13.95	13.97	13.95		1
16QAM	1	0	13.95	13.93	13.93	0-1	1
	1	12	13.96	13.92	13.97		1
	1	24	13.97	13.94	13.92		1
	12	0	13.93	13.91	13.93	0-2	2
	12	6	13.98	13.92	13.96		2
	12	13	13.95	13.96	13.95		2
	25	0	13.94	13.95	13.91		2

Table 8-45
LTE Band 4 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 4 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19965 (1711.5 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20385 (1753.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.94	13.92	13.92	0	0
	1	7	13.98	13.96	13.95		0
	1	14	13.92	13.92	13.91		0
	8	0	13.93	13.94	13.93	0-1	1
	8	4	13.92	13.96	13.94		1
	8	7	13.93	13.95	13.97		1
	15	0	13.96	13.93	13.93		1
16QAM	1	0	13.94	13.93	13.95	0-1	1
	1	7	13.98	13.98	13.97		1
	1	14	13.96	13.92	13.94		1
	8	0	13.90	13.91	13.91	0-2	2
	8	4	13.92	13.94	13.96		2
	8	7	13.93	13.91	13.91		2
	15	0	13.97	13.98	13.99		2

Table 8-46
LTE Band 4 (AWS) Reduced Conducted Powers -1.4 MHz Bandwidth

LTE Band 4 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 19957 (1710.7 MHz)	Mid Channel 20175 (1732.5 MHz)	High Channel 20393 (1754.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	13.95	13.97	13.95	0	0
	1	2	13.92	13.95	13.96		0
	1	5	13.91	13.92	13.97		0
	3	0	13.92	13.92	13.92		0
	3	2	13.94	13.97	13.96		0
	3	3	13.98	13.91	13.93		0
	6	0	13.98	13.94	13.91	0-1	1
16QAM	1	0	13.62	13.93	13.92	0-1	1
	1	2	13.91	13.95	13.95		1
	1	5	13.94	13.92	13.98		1
	3	0	13.98	13.91	13.92		1
	3	2	13.97	13.98	13.98		1
	3	3	13.94	13.92	13.92		1
	6	0	13.95	13.96	13.91	0-2	2

8.4.6 LTE Band 25 (PCS)

Table 8-47
LTE Band 25 (PCS) Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.40	24.47	24.44	0	0
	1	50	24.25	24.17	24.36		0
	1	99	24.51	24.73	24.59		0
	50	0	23.94	23.98	23.99	0-1	1
	50	25	23.86	23.94	23.97		1
	50	50	23.99	23.97	23.92		1
	100	0	23.93	24.00	23.99		1
16QAM	1	0	24.00	23.96	23.90	0-1	1
	1	50	23.84	23.99	23.89		1
	1	99	23.93	24.00	23.86		1
	50	0	22.88	22.98	22.97	0-2	2
	50	25	22.91	22.90	22.87		2
	50	50	22.86	23.00	22.90		2
	100	0	22.99	22.94	23.00		2

Table 8-48
LTE Band 25 (PCS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.23	24.20	24.12	0	0
	1	36	24.20	24.20	24.02		0
	1	74	24.25	24.31	24.14		0
	36	0	23.93	23.90	23.96	0-1	1
	36	18	23.95	23.87	23.94		1
	36	37	23.89	23.85	23.91		1
	75	0	23.98	23.91	23.93		1
16QAM	1	0	23.99	23.92	24.00	0-1	1
	1	36	24.00	23.79	23.99		1
	1	74	23.94	24.00	23.96		1
	36	0	22.91	22.95	22.99	0-2	2
	36	18	22.92	22.99	22.97		2
	36	37	22.88	22.97	22.91		2
	75	0	22.95	22.92	22.90		2

Table 8-49
LTE Band 25 (PCS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.26	24.10	24.17	0	0
	1	25	24.15	24.20	24.09		0
	1	49	24.11	24.03	24.01		0
	25	0	23.99	24.00	23.94	0-1	1
	25	12	23.97	24.00	23.91		1
	25	25	23.97	23.96	23.94		1
	50	0	23.97	23.99	23.97		1
16QAM	1	0	23.99	24.00	23.98	0-1	1
	1	25	23.93	23.92	23.88		1
	1	49	23.91	23.87	23.96		1
	25	0	22.97	22.91	22.94	0-2	2
	25	12	23.00	22.96	22.92		2
	25	25	23.00	22.97	22.90		2
	50	0	22.98	22.94	22.95		2

Table 8-50
LTE Band 25 (PCS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.20	24.16	24.05	0	0
	1	12	24.30	24.25	24.11		0
	1	24	24.28	24.26	24.02		0
	12	0	23.92	23.88	23.89	0-1	1
	12	6	23.95	23.97	23.93		1
	12	13	23.91	23.89	23.91		1
	25	0	23.97	23.95	23.94		1
16QAM	1	0	24.00	23.96	23.90	0-1	1
	1	12	23.97	23.99	23.91		1
	1	24	23.94	23.92	23.87		1
	12	0	22.91	22.95	22.93	0-2	2
	12	6	22.91	22.94	23.00		2
	12	13	22.92	22.99	22.94		2
	25	0	22.99	22.92	22.94		2

Table 8-51
LTE Band 25 (PCS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.00	24.01	24.19	0	0
	1	7	24.25	24.03	24.04		0
	1	14	24.03	24.00	24.10		0
	8	0	23.92	23.95	23.87	0-1	1
	8	4	23.97	23.99	23.94		1
	8	7	23.93	23.91	23.90		1
	15	0	23.92	23.91	23.90		1
16QAM	1	0	23.97	23.87	23.72	0-1	1
	1	7	24.00	23.98	23.83		1
	1	14	23.99	23.92	23.74		1
	8	0	22.86	22.96	22.95	0-2	2
	8	4	22.97	22.90	22.81		2
	8	7	22.91	22.95	22.98		2
	15	0	22.86	22.87	22.97		2

Table 8-52
LTE Band 25 (PCS) Maximum Conducted Powers -1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.24	24.22	24.12	0	0
	1	2	24.24	24.26	24.18		0
	1	5	24.21	24.18	24.11		0
	3	0	24.89	24.94	24.79		0
	3	2	24.95	24.93	24.73		0
	3	3	24.90	24.90	24.64		0
	6	0	23.87	23.92	23.90	0-1	1
16QAM	1	0	23.89	23.99	23.94	0-1	1
	1	2	23.99	23.98	23.97		1
	1	5	23.92	23.99	23.96		1
	3	0	23.91	23.97	23.79		1
	3	2	23.92	23.97	23.77		1
	3	3	23.93	23.91	23.68		1
	6	0	23.00	22.78	22.87	0-2	2

Table 8-53
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.94	**13.00**	12.93	0	0
	1	50	12.93	12.96	12.97		0
	1	99	12.98	12.99	12.99		0
	50	0	12.98	12.97	12.90	0-1	0
	50	25	12.92	12.92	12.90		0
	50	50	**13.00**	**13.00**	12.96		0
	100	0	12.98	12.99	12.95		0
16QAM	1	0	12.98	12.96	12.97	0-1	0
	1	50	13.00	12.95	12.96		0
	1	99	12.97	13.00	12.91		0
	50	0	12.93	12.98	13.00	0-2	0
	50	25	12.92	12.97	12.90		0
	50	50	12.97	13.00	12.97		0
	100	0	13.00	12.99	12.97		0

Table 8-54
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.98	12.93	12.95	0	0
	1	36	12.93	12.99	12.93		0
	1	74	13.00	12.98	12.91		0
	36	0	12.91	12.90	12.97	0-1	0
	36	18	12.90	12.96	12.92		0
	36	37	12.92	12.95	12.95		0
	75	0	12.99	12.92	12.97		0
16QAM	1	0	13.00	12.91	12.97	0-1	0
	1	36	12.99	12.92	12.98		0
	1	74	12.93	12.99	12.94		0
	36	0	12.90	12.91	12.93	0-2	0
	36	18	12.98	12.93	12.92		0
	36	37	12.95	12.93	12.91		0
	75	0	12.98	12.94	12.98		0

Table 8-55
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.96	12.97	12.99	0	0
	1	25	12.92	12.97	12.97		0
	1	49	12.93	12.92	12.98		0
	25	0	12.97	13.00	13.00	0-1	0
	25	12	12.94	12.91	13.00		0
	25	25	12.95	12.90	12.97		0
	50	0	12.94	12.93	12.99		0
16QAM	1	0	12.95	12.95	12.98	0-1	0
	1	25	12.97	12.98	12.91		0
	1	49	12.93	12.99	12.92		0
	25	0	12.92	12.91	12.98	0-2	0
	25	12	12.90	12.95	13.00		0
	25	25	12.92	12.94	12.95		0
	50	0	12.92	12.91	12.90		0

Table 8-56
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.99	12.95	12.96	0	0
	1	12	12.93	12.91	12.95		0
	1	24	12.91	12.93	12.93		0
	12	0	12.96	12.91	12.95	0-1	0
	12	6	12.95	12.98	12.97		0
	12	13	12.94	12.94	12.91		0
	25	0	12.92	12.95	12.93		0
16QAM	1	0	12.95	12.93	12.92	0-1	0
	1	12	12.98	12.90	12.94		0
	1	24	12.92	12.99	12.90		0
	12	0	12.97	12.91	12.94	0-2	0
	12	6	12.91	12.99	12.97		0
	12	13	12.97	12.96	12.93		0
	25	0	12.91	12.95	12.97		0

Table 8-57
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.96	12.96	12.97	0	0
	1	7	12.91	12.99	12.95		0
	1	14	12.91	12.92	12.93		0
	8	0	12.95	12.97	12.97	0-1	0
	8	4	12.99	13.00	13.00		0
	8	7	12.98	12.96	12.99		0
	15	0	12.98	12.94	12.94		0
16QAM	1	0	12.94	12.99	12.93	0-1	0
	1	7	13.00	12.98	12.91		0
	1	14	12.92	12.93	12.91		0
	8	0	12.94	12.91	12.93	0-2	0
	8	4	12.96	12.96	12.94		0
	8	7	12.95	12.95	12.95		0
	15	0	12.90	12.98	12.91		0

Table 8-58
LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.94	12.98	12.95	0	0
	1	2	12.98	12.92	12.92		0
	1	5	12.97	12.90	12.91		0
	3	0	12.91	12.92	12.94		0
	3	2	12.94	12.96	12.99		0
	3	3	12.90	12.98	12.96		0
	6	0	12.93	12.98	12.90	0-1	0
16QAM	1	0	12.92	12.93	12.97	0-1	0
	1	2	12.98	12.91	12.97		0
	1	5	12.99	12.96	12.91		0
	3	0	12.93	12.90	12.90		0
	3	2	12.96	12.95	12.92		0
	3	3	12.92	12.91	12.96		0
	6	0	12.98	12.92	12.93	0-2	0

8.4.7 LTE Band 30

Table 8-59
LTE Band 30 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	22.30	0	0
	1	25	22.24		0
	1	49	22.29		0
	25	0	21.14	0-1	1
	25	12	21.11		1
	25	25	21.09		1
	50	0	21.21		1
16QAM	1	0	21.26	0-1	1
	1	25	21.21		1
	1	49	21.10		1
	25	0	20.17	0-2	2
	25	12	20.09		2
	25	25	20.07		2
	50	0	20.02		2

Table 8-60
LTE Band 30 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	21.86	0	0
	1	12	22.21		0
	1	24	22.13		0
	12	0	20.90	0-1	1
	12	6	20.91		1
	12	13	20.95		1
	25	0	20.90		1
16QAM	1	0	21.20	0-1	1
	1	12	21.26		1
	1	24	21.29		1
	12	0	20.07	0-2	2
	12	6	20.09		2
	12	13	20.05		2
	25	0	19.91		2

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

Table 8-61
LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	14.41	0	0
	1	25	14.43		0
	1	49	**14.49**		0
	25	0	**14.48**	0-1	0
	25	12	14.42		0
	25	25	14.42		0
	50	0	14.44		0
16QAM	1	0	14.42	0-1	0
	1	25	14.43		0
	1	49	14.45		0
	25	0	14.40	0-2	0
	25	12	14.42		0
	25	25	14.45		0
	50	0	14.46		0

Table 8-62
LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	14.49	0	0
	1	12	14.44		0
	1	24	14.42		0
	12	0	14.43	0-1	0
	12	6	14.47		0
	12	13	14.43		0
	25	0	14.46		0
16QAM	1	0	14.47	0-1	0
	1	12	14.42		0
	1	24	14.48		0
	12	0	14.42	0-2	0
	12	6	14.44		0
	12	13	14.47		0
	25	0	14.46		0

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, 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.

8.4.8 LTE Band 7

Table 8-63
LTE Band 7 Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.04	23.15	23.02	0	0
	1	50	23.17	23.25	23.08		0
	1	99	23.46	23.60	23.40		0
	50	0	22.04	22.01	22.10	0-1	1
	50	25	22.12	22.04	22.10		1
	50	50	22.09	22.10	22.22		1
	100	0	22.16	22.08	22.08		1
16QAM	1	0	22.24	22.20	22.28	0-1	1
	1	50	22.42	22.40	22.50		1
	1	99	22.68	22.54	22.68		1
	50	0	21.04	20.93	21.06	0-2	2
	50	25	21.13	20.98	21.05		2
	50	50	21.09	21.00	21.17		2
	100	0	21.14	21.00	21.07		2

Table 8-64
LTE Band 7 Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.07	23.00	22.86	0	0
	1	36	23.03	22.99	22.90		0
	1	74	23.33	23.12	23.09		0
	36	0	21.96	22.06	22.04	0-1	1
	36	18	21.94	21.96	22.06		1
	36	37	22.05	22.03	22.10		1
	75	0	22.00	22.00	22.04		1
16QAM	1	0	22.61	22.42	22.43	0-1	1
	1	36	22.64	22.45	22.46		1
	1	74	22.85	22.56	22.71		1
	36	0	20.98	20.70	20.96	0-2	2
	36	18	21.00	20.86	21.00		2
	36	37	21.06	20.98	21.05		2
	75	0	20.99	20.96	21.01		2

Table 8-65
LTE Band 7 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.03	23.16	23.28	0	0
	1	25	22.94	23.01	23.17		0
	1	49	22.97	23.04	23.14		0
	25	0	21.95	22.01	21.95	0-1	1
	25	12	22.00	21.97	22.05		1
	25	25	21.96	22.03	22.02		1
	50	0	21.95	21.98	22.00		1
16QAM	1	0	22.74	22.62	22.62	0-1	1
	1	25	22.56	22.42	22.60		1
	1	49	22.82	22.52	22.52		1
	25	0	21.00	20.92	20.95	0-2	2
	25	12	21.00	20.93	21.00		2
	25	25	20.98	20.98	21.01		2
	50	0	20.99	20.93	21.05		2

Table 8-66
LTE Band 7 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.15	23.20	23.24	0	0
	1	12	23.22	23.26	23.42		0
	1	24	23.24	23.19	23.41		0
	12	0	21.93	21.94	22.00	0-1	1
	12	6	21.98	21.94	22.06		1
	12	13	21.97	21.95	22.02		1
	25	0	21.94	21.96	22.00		1
16QAM	1	0	22.28	22.51	22.51	0-1	1
	1	12	22.31	22.66	22.46		1
	1	24	22.38	22.62	22.56		1
	12	0	21.01	20.92	20.94	0-2	2
	12	6	21.09	20.96	21.00		2
	12	13	21.06	20.97	21.00		2
	25	0	20.95	20.92	21.02		2

Table 8-67
LTE Band 7 Reduced Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	14.47	**14.50**	14.42	0	0
	1	50	14.46	14.49	14.49		0
	1	99	14.49	14.47	14.45		0
	50	0	14.47	**14.48**	14.47	0-1	0
	50	25	14.44	14.47	14.46		0
	50	50	14.45	14.43	14.46		0
	100	0	14.44	14.43	14.46		0
16QAM	1	0	14.46	14.43	14.49	0-1	0
	1	50	14.49	14.44	14.42		0
	1	99	14.45	14.45	14.44		0
	50	0	14.42	14.49	14.42	0-2	0
	50	25	14.46	14.48	14.43		0
	50	50	14.43	14.48	14.44		0
	100	0	14.46	14.44	14.49		0

Table 8-68
LTE Band 7 Reduced Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	14.44	14.46	14.43	0	0
	1	36	14.45	14.41	14.47		0
	1	74	14.43	14.43	14.48		0
	36	0	14.41	14.42	14.42	0-1	0
	36	18	14.42	14.41	14.41		0
	36	37	14.45	14.47	14.49		0
	75	0	14.46	14.43	14.48		0
16QAM	1	0	14.46	14.47	14.44	0-1	0
	1	36	14.49	14.49	14.45		0
	1	74	14.45	14.46	14.46		0
	36	0	14.44	14.42	14.48	0-2	0
	36	18	14.47	14.46	14.43		0
	36	37	14.49	14.47	14.46		0
	75	0	14.42	14.42	14.41		0

Table 8-69
LTE Band 7 Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	14.47	14.45	14.44	0	0
	1	25	14.41	14.46	14.42		0
	1	49	14.43	14.47	14.46		0
	25	0	14.48	14.41	14.47	0-1	0
	25	12	14.49	14.42	14.48		0
	25	25	14.46	14.43	14.46		0
	50	0	14.47	14.42	14.47		0
16QAM	1	0	14.47	14.47	14.43	0-1	0
	1	25	14.44	14.48	14.45		0
	1	49	14.43	14.48	14.44		0
	25	0	14.47	14.41	14.48	0-2	0
	25	12	14.45	14.44	14.46		0
	25	25	14.43	14.47	14.41		0
	50	0	14.45	14.42	14.48		0

Table 8-70
LTE Band 7 Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	14.46	14.45	14.48	0	0
	1	12	14.46	14.48	14.42		0
	1	24	14.42	14.42	14.46		0
	12	0	14.48	14.41	14.42	0-1	0
	12	6	14.47	14.47	14.45		0
	12	13	14.41	14.46	14.48		0
	25	0	14.48	14.47	14.44		0
16QAM	1	0	14.47	14.47	14.47	0-1	0
	1	12	14.46	14.44	14.48		0
	1	24	14.48	14.47	14.46		0
	12	0	14.41	14.42	14.42	0-2	0
	12	6	14.45	14.43	14.43		0
	12	13	14.43	14.48	14.47		0
	25	0	14.43	14.44	14.44		0

8.4.9 LTE Band 41

Table 8-71
LTE Band 41 Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.01	21.88	22.50	22.21	22.47	0	0
	1	50	22.00	21.94	22.40	22.22	22.20		0
	1	99	22.37	22.23	22.48	22.34	22.46		0
	50	0	21.24	21.00	21.24	21.23	21.36	0-1	1
	50	25	21.29	21.26	21.31	21.32	21.31		1
	50	50	21.34	21.27	21.36	21.32	21.40		1
	100	0	21.30	21.09	21.35	21.31	21.38		1
16QAM	1	0	21.22	20.87	21.35	20.73	21.28	0-1	1
	1	50	21.10	20.95	21.13	20.81	21.24		1
	1	99	21.19	21.21	21.34	20.89	21.33		1
	50	0	20.25	20.03	20.23	20.25	20.41	0-2	2
	50	25	20.26	20.30	20.28	20.34	20.33		2
	50	50	20.26	20.28	20.33	20.36	20.41		2
	100	0	20.29	20.06	20.34	20.38	20.34		2

Table 8-72
LTE Band 41 Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.14	21.88	22.02	22.08	22.21	0	0
	1	36	22.10	21.99	22.17	22.21	22.16		0
	1	74	22.28	22.11	22.14	22.18	22.20		0
	36	0	21.21	21.05	21.30	21.17	21.40	0-1	1
	36	18	21.22	21.22	21.30	21.30	21.38		1
	36	37	21.26	21.22	21.31	21.29	21.33		1
	75	0	21.23	21.07	21.29	21.26	21.35		1
16QAM	1	0	21.04	20.91	21.12	21.24	21.10	0-1	1
	1	36	21.26	21.17	21.27	21.38	21.04		1
	1	74	21.34	21.21	21.46	21.33	21.07		1
	36	0	20.15	20.12	20.27	20.19	20.31	0-2	2
	36	18	20.25	20.32	20.36	20.26	20.24		2
	36	37	20.35	20.35	20.40	20.28	20.25		2
	75	0	20.25	20.11	20.30	20.26	20.33		2

Table 8-73
LTE Band 41 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.13	22.13	22.30	22.24	22.20	0	0
	1	25	22.27	22.30	22.34	22.37	22.46		0
	1	49	22.35	22.31	22.35	22.36	22.48		0
	25	0	21.30	21.04	21.12	21.14	21.30	0-1	1
	25	12	21.18	21.17	21.27	21.17	21.32		1
	25	25	21.24	21.17	21.28	21.17	21.36		1
	50	0	21.16	21.18	21.28	21.20	21.33		1
16QAM	1	0	21.04	21.00	21.01	21.15	21.40	0-1	1
	1	25	21.18	21.16	21.25	21.28	21.50		1
	1	49	21.38	21.21	21.35	21.29	21.42		1
	25	0	20.18	20.02	20.20	20.13	20.23	0-2	2
	25	12	20.22	20.13	20.22	20.26	20.29		2
	25	25	20.20	20.15	20.26	20.25	20.32		2
	50	0	20.23	20.19	20.24	20.18	20.29		2

Table 8-74
LTE Band 41 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.24	22.16	22.50	22.40	22.38	0	0
	1	12	22.38	22.49	22.50	22.46	22.50		0
	1	24	22.42	22.25	22.49	22.36	22.45		0
	12	0	21.11	21.08	21.28	21.06	21.27	0-1	1
	12	6	21.14	21.10	21.31	21.12	21.22		1
	12	13	21.16	21.08	21.31	21.09	21.27		1
	25	0	21.14	21.07	21.28	21.09	21.25		1
16QAM	1	0	21.27	21.25	21.45	21.21	21.47	0-1	1
	1	12	21.45	21.50	21.50	21.49	21.50		1
	1	24	21.48	21.39	21.43	21.25	21.44		1
	12	0	20.20	20.09	20.23	20.21	20.16	0-2	2
	12	6	20.24	20.10	20.23	20.20	20.29		2
	12	13	20.28	20.06	20.24	20.19	20.23		2
	25	0	20.11	20.07	20.23	20.13	20.35		2

Table 8-75
LTE Band 41 Reduced Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.96	15.99	**15.99**	15.99	15.93	0	0
	1	50	15.99	15.93	15.93	15.98	15.92		0
	1	99	15.97	15.97	15.99	15.97	15.97		0
	50	0	15.95	15.91	**15.99**	15.95	15.97	0-1	0
	50	25	15.93	15.98	15.93	15.93	15.92		0
	50	50	15.95	15.97	15.95	15.98	15.98		0
	100	0	15.94	15.97	15.95	15.94	15.96		0
16QAM	1	0	15.96	15.93	15.93	15.98	15.96	0-1	0
	1	50	15.93	15.96	15.96	15.92	15.97		0
	1	99	15.98	15.98	15.95	15.98	15.94		0
	50	0	15.92	15.96	15.99	15.98	15.99	0-2	0
	50	25	15.93	15.96	15.99	15.94	15.93		0
	50	50	15.99	15.95	15.94	15.96	15.91		0
	100	0	15.97	15.94	15.97	15.96	15.99		0

Table 8-76
LTE Band 41 Reduced Conducted Powers - 15 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.92	15.92	15.99	15.93	15.94	0	0
	1	36	15.93	15.99	15.96	15.90	15.90		0
	1	74	15.99	15.98	16.00	16.00	15.92		0
	36	0	15.94	15.90	15.93	15.99	15.96	0-1	0
	36	18	15.99	15.97	15.92	15.96	15.91		0
	36	37	15.97	15.99	15.95	15.98	15.99		0
	75	0	15.94	15.93	15.91	15.92	15.90		0
16QAM	1	0	15.96	15.91	15.90	15.94	15.91	0-1	0
	1	36	15.93	15.97	15.91	15.95	15.94		0
	1	74	15.93	15.99	15.99	15.91	15.97		0
	36	0	15.92	15.94	15.94	15.97	15.99	0-2	0
	36	18	15.99	15.97	15.91	15.95	15.94		0
	36	37	15.96	15.98	15.96	15.98	15.99		0
	75	0	15.92	15.95	15.93	15.93	15.97		0

Table 8-77
LTE Band 41 Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.98	15.98	15.93	15.94	15.96	0	0
	1	25	16.00	15.92	15.92	15.99	15.99		0
	1	49	15.98	16.00	15.95	15.91	15.93		0
	25	0	15.97	15.95	15.92	15.91	15.90	0-1	1
	25	12	15.99	15.97	15.95	15.95	15.93		1
	25	25	15.99	15.95	15.99	15.93	15.91		1
	50	0	15.92	15.94	15.99	15.95	15.95		1
16QAM	1	0	15.90	15.93	15.92	15.90	15.91	0-1	1
	1	25	15.99	15.99	15.95	16.00	15.96		1
	1	49	15.97	15.98	15.94	15.99	15.94		1
	25	0	15.97	15.94	15.91	15.92	15.91	0-2	2
	25	12	15.98	15.98	15.98	15.95	15.95		2
	25	25	15.97	15.93	15.99	15.98	15.93		2
	50	0	15.99	15.92	15.93	15.96	15.94		2

Table 8-78
LTE Band 41 Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 41 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]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.99	15.98	15.91	15.99	15.90	0	0
	1	12	15.95	15.92	15.99	16.00	15.94		0
	1	24	15.93	15.93	15.91	15.92	15.95		0
	12	0	15.92	15.96	15.92	15.99	15.92	0-1	1
	12	6	15.98	15.99	15.95	15.97	15.97		1
	12	13	15.95	15.95	15.93	15.96	15.95		1
	25	0	15.92	15.96	15.93	15.95	15.93		1
16QAM	1	0	15.99	16.00	15.95	15.99	16.00	0-1	1
	1	12	15.92	15.93	15.99	15.98	15.94		1
	1	24	15.97	15.98	15.92	15.97	15.97		1
	12	0	15.94	15.93	15.90	15.91	15.95	0-2	2
	12	6	15.95	15.97	15.99	16.00	15.97		2
	12	13	15.94	15.96	15.97	15.95	15.91		2
	25	0	15.96	15.92	15.98	15.98	15.93		2

8.4.10 LTE Carrier Aggregation Conducted Powers

Table 8-79
LTE Carrier Aggregation Maximum Conducted Powers

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B4	20	2175	2132.5	24.70	24.95
CA_2A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B2	20	900	1960	24.81	24.95
CA_12A-30A	LTE B12	5	23035	701.5	QPSK	1	12	5035	731.5	LTE B30	10	9820	2355	24.75	24.95

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-17A	LTE B17	5	23755	706.5	QPSK	1	12	5755	736.5	LTE B4	10	2175	2132.5	24.88	24.95
CA_2A-17A	LTE B17	5	23755	706.5	QPSK	1	12	5755	736.5	LTE B2	10	900	1960	24.76	24.95

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B4	20	2175	2132.5	23.52	23.40
CA_2A-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B2	20	900	1960	23.55	23.40

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-5A (1)	LTE B5	5	20425	826.5	QPSK	1	12	2425	871.5	LTE B4	20	2175	2132.5	24.17	24.40
CA_2A-5A	LTE B5	5	20425	826.5	QPSK	1	12	2425	871.5	LTE B2	20	900	1960	24.20	24.40

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-12A (1)	LTE B4	20	20175	1732.5	QPSK	1	99	2175	2132.5	LTE B12	10	5095	737.5	24.00	24.00
CA_4A-17A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B17	10	5790	740	23.98	23.98
CA_4A-13A	LTE B4	20	20175	1732.5	QPSK	1	99	2175	2132.5	LTE B13	10	5230	751	24.00	24.00
CA_4A-5A (1)	LTE B4	20	20175	1732.5	QPSK	1	99	2175	2132.5	LTE B5	10	2525	881.5	24.00	24.00
CA_2A-4A	LTE B4	20	20175	1732.5	QPSK	1	99	2175	2132.5	LTE B2	20	900	1960	23.99	24.00
CA_4A-4A	LTE B4	20	20175	1732.5	QPSK	1	99	2175	2132.5	LTE B4	10	2000	2115	23.97	24.00
CA_4A-7A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B7	20	3100	2655	23.53	23.98
CA_4A-29A	LTE B4	5	19975	1712.5	QPSK	1	24	1975	2112.5	LTE B29	10	9715	722.5	23.97	23.98

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B2	20	18925	1882.5	QPSK	1	99	925	1962.5	LTE B12	10	5095	737.5	24.49	24.73
CA_2A-17A	LTE B2	5	18625	1852.5	QPSK	1	12	625	1932.5	LTE B17	10	5790	740	24.07	24.30
CA_2A-4A	LTE B2	1.4	18607	1850.7	QPSK	3	2	607	1930.7	LTE B4	20	2175	2132.5	24.94	24.95
CA_2A-2A	LTE B2	20	18925	1882.5	QPSK	1	99	925	1962.5	LTE B2	20	700	1940	24.50	24.73
CA_2A-13A	LTE B2	20	18925	1882.5	QPSK	1	99	925	1962.5	LTE B13	10	5230	751	24.56	24.73
CA_2A-5A	LTE B2	20	18925	1882.5	QPSK	1	99	925	1962.5	LTE B5	10	2525	881.5	24.54	24.73
CA_2A-29A	LTE B2	5	18625	1852.5	QPSK	1	12	625	1932.5	LTE B29	10	9715	722.5	24.05	24.30

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A	LTE B25	5	26065	1852.5	QPSK	1	12	8065	1932.5	LTE B25	10	8640	1990	24.53	24.30

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7C	LTE B7	20	21100	2535	QPSK	1	99	3100	2655	LTE B7	20	2902	2635.2	23.32	23.60
CA_4A-7A	LTE B7	20	21100	2535	QPSK	1	99	3100	2655	LTE B4	10	2175	2132.5	23.68	23.60
CA_7A-7A	LTE B7	20	21100	2535	QPSK	1	99	3100	2655	LTE B7	20	2850	2630	23.40	23.60

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-30A	LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	22.30	22.30

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	20	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40818	2612.8	22.33	22.50
CA_41C (0)	LTE B41	20	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40818	2612.8	22.33	22.50

Table 8-80
LTE Carrier Aggregation Reduced Conducted Powers

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	19.55	19.60
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	19.52	19.60
CA_12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B30	10	9820	2355	19.52	19.60

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	LTE B4	10	2175	2132.5	19.57	19.60
CA_2A-17A	LTE B17	10	23790	710	QPSK	1	0	5790	740	LTE B2	10	900	1960	19.55	19.60

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	18.04	18.10
CA_2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	18.02	18.10

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-5A (1)	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B4	20	2175	2132.5	17.98	18.00
CA_2A-5A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	17.93	18.00

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_4A-12A (1)	LTE B4	20	20175	1732.5	QPSK	1	0	2175	2132.5	LTE B12	10	5095	737.5	13.96	14.00
CA_4A-17A	LTE B4	10	20000	1715	QPSK	25	25	2000	2115	LTE B17	10	5790	740	13.91	13.98
CA_4A-13A	LTE B4	20	20175	1732.5	QPSK	1	0	2175	2132.5	LTE B13	10	5230	751	13.95	14.00
CA_4A-5A (1)	LTE B4	20	20175	1732.5	QPSK	1	0	2175	2132.5	LTE B5	10	2525	881.5	13.91	14.00
CA_2A-4A	LTE B4	20	20175	1732.5	QPSK	1	0	2175	2132.5	LTE B2	20	900	1960	13.91	14.00
CA_4A-4A	LTE B4	20	20175	1732.5	QPSK	1	0	2175	2132.5	LTE B4	10	2000	2115	13.94	14.00
CA_4A-7A	LTE B4	10	20000	1715	QPSK	25	25	2000	2115	LTE B7	20	3100	2655	13.93	13.98
CA_4A-29A	LTE B4	10	20000	1715	QPSK	25	25	2000	2115	LTE B29	10	9715	722.5	13.95	13.98

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B2	20	18700	1860	QPSK	50	50	700	1940	LTE B12	10	5095	737.5	12.99	13.00
CA_2A-17A	LTE B2	10	18925	1882.5	QPSK	25	0	925	1962.5	LTE B17	10	5790	740	12.93	13.00
CA_2A-4A	LTE B2	20	18700	1860	QPSK	50	50	700	1940	LTE B4	20	2175	2132.5	12.96	13.00
CA_2A-2A	LTE B2	20	18700	1860	QPSK	50	50	700	1940	LTE B2	20	1100	1980	12.93	13.00
CA_2A-13A	LTE B2	20	18700	1860	QPSK	50	50	700	1940	LTE B13	10	5230	751	12.94	13.00
CA_2A-5A	LTE B2	20	18700	1860	QPSK	50	50	700	1940	LTE B5	10	2525	881.5	12.97	13.00
CA_2A-29A	LTE B2	10	18925	1882.5	QPSK	25	0	925	1962.5	LTE B29	10	9715	722.5	12.92	13.00

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A	LTE B25	10	26365	1882.5	QPSK	25	0	8365	1962.5	LTE B25	10	8090	1935	12.91	13.00

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_7C	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2902	2635.2	14.43	14.50
CA_4A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	10	2175	2132.5	14.45	14.50
CA_7A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	20	2850	2630	14.44	14.50

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_12A-30A	LTE B30	10	27710	2310	QPSK	1	49	9820	2355	LTE B12	10	5095	737.5	14.48	14.49

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	15	40620	2593	QPSK	1	74	40620	2593	LTE B41	20	40791	2610.1	15.97	16.00
CA_41C (0)	LTE B41	15	40620	2593	QPSK	1	74	40620	2593	LTE B41	20	40791	2610.1	15.97	16.00

Notes:

1. The device only supports downlink Carrier Aggregation. Uplink Carrier Aggregation is not supported. For every supported combination of downlink carrier aggregation, power measurements were performed with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
2. All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
3. For downlink carrier aggregation combinations, PCC uplink channel was selected based on section C)3)b)ii) of KBD 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers. All selected downlink channels remained fully within the downlink transmission band of the respective component carrier.
4. LTE Band 12 standalone powers were used to select measurement configurations for LTE Band 17, and LTE B25 standalone powers were used to select measurement configurations for LTE Band 2

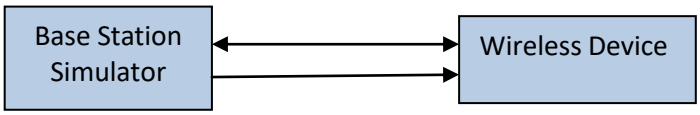

Figure 8-4
Power Measurement Setup

8.5 WLAN Conducted Powers

8.5.1 Variant 1

Table 8-81
2.4 GHz WLAN Average RF Power – Ant A

Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	**1**	**15.50**	14.89	14.92
2437	6	15.48	15.48	15.50
2462	11	15.49	13.50	13.37

Table 8-82
2.4 GHz WLAN Average RF Power – Ant B

Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.36	15.00	14.85
2437	**6**	**15.50**	15.49	15.43
2462	11	15.47	13.30	13.50

Table 8-83
2.4 GHz WLAN Average RF Power – MIMO

2.4GHz Conducted Power [dBm]			
802.11g			
Freq [MHz]	Channel	ANT A	ANT B
2412	1	13.00	12.91
2417	2	15.47	15.36
2437	**6**	**15.50**	**15.50**
2457	10	15.48	15.35
2462	11	12.33	12.30

Table 8-84
5 GHz WLAN Average RF Power – Ant A

5GHz (40MHz) Conducted Power [dBm]			5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode	Freq [MHz]	Channel	IEEE Transmission Mode
		802.11n			802.11ac
		Average			Average
5190	38	13.95	5530	106	13.88
5230	46	16.40	5610	**122**	**17.00**
5270	**54**	**16.00**	5690	138	16.97
5310	62	14.43	5775	**155**	**16.50**

Table 8-85
5 GHz WLAN Average RF Power – Ant B

5GHz (40MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11n
		Average
5190	38	14.00
5230	46	16.41
5270	**54**	**16.92**
5310	62	14.50

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	13.87
5610	**122**	**16.00**
5690	138	16.00
5775	**155**	**16.00**

Table 8-86
5 GHz WLAN Average RF Power – MIMO

5GHz (40MHz) Conducted Power [dBm]			
802.11n			
Freq [MHz]	Channel	ANT A	ANT B
5190	38	12.43	12.45
5230	46	16.40	16.50
5270	**54**	**16.00**	**16.92**
5310	62	13.41	13.40
5755	**151**	**16.50**	**16.46**
5795	159	16.45	16.40
5GHz (80MHz) Conducted Power [dBm]			
802.11ac			
Freq [MHz]	Channel	ANT A	ANT B
5530	106	12.90	13.00
5610	**122**	**17.00**	**16.00**
5690	138	17.00	15.88

8.5.2 Variant 2

Table 8-87
2.4 GHz WLAN Average RF Power – Ant A

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	15.47
2437	6	15.45
2462	11	15.50

Table 8-88
2.4 GHz WLAN Average RF Power – Ant B

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	15.47
2437	6	15.37
2462	11	15.43

Table 8-89
2.4 GHz WLAN Average RF Power – MIMO

2.4GHz Conducted Power [dBm]			
802.11g			
Freq [MHz]	Channel	ANT A	ANT B
2417	2	15.37	15.30
2437	6	15.48	15.35
2457	10	15.44	15.31

Table 8-90
5 GHz WLAN Average RF Power – Ant A

5GHz (40MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11n
		Average
5270	54	15.93
5310	62	14.46

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	13.90
5610	122	16.93
5690	138	17.00
5775	155	16.50

Table 8-91
5 GHz WLAN Average RF Power – Ant B

5GHz (40MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11n
		Average
5270	54	16.96
5310	62	14.49

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	13.92
5610	122	16.00
5690	138	15.92
5775	155	15.92

Table 8-92
5 GHz WLAN Average RF Power – MIMO

5GHz (40MHz) Conducted Power [dBm]			
802.11n			
Freq [MHz]	Channel	ANT A	ANT B
5270	54	15.90	16.95
5310	62	13.50	13.50
5755	151	16.49	16.47
5795	159	16.47	16.32

5GHz (80MHz) Conducted Power [dBm]			
802.11ac			
Freq [MHz]	Channel	ANT A	ANT B
5530	106	13.00	13.00
5610	122	16.97	16.00
5690	138	16.83	16.00

8.5.3 Notes for WLAN

Justification for test configurations for WLAN 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.
- The WLAN chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- WLAN SAR testing was completely performed on Variant 1, and Variant 2 is additionally evaluated for WLAN SAR with the same configuration of the highest reported SAR of Variant 1.
- Full power measurements were performed for variant 1 per FCC KDB Procedures 248227. Additional power measurements for variant 2 were additionally performed to support the SAR test configurations.
- The bolded data rate and channel above were tested for SAR.

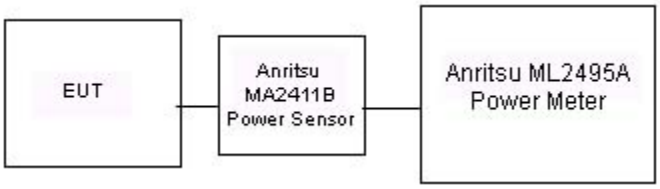

Figure 8-5
Power Measurement Setup for Bandwidths < 50 MHz

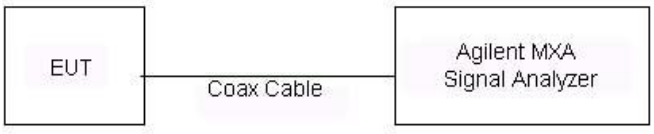

Figure 8-6
Power Measurement Setup for Bandwidths > 50 MHz

8.6 Bluetooth Conducted Powers

Table 8-93
Bluetooth Maximum Average RF Power (P_{High}) – Variant 1

Frequency [MHz]	Modulation	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	GFSK	0	15.62	36.459
2441	GFSK	39	15.53	35.703
2480	GFSK	**78**	**17.00**	50.119
2402	8PSK	0	11.93	15.606
2441	8PSK	39	11.93	15.592
2480	8PSK	78	11.91	15.513

Note: The bolded data rates and channel above were tested for SAR.

Table 8-94
Bluetooth Reduced Average RF Power (P_{Low}) – Variant 1

Frequency [MHz]	Modulation	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	GFSK	0	8.94	7.825
2441	GFSK	**39**	**9.25**	8.410
2480	GFSK	78	8.78	7.544
2402	8PSK	0	5.60	3.633
2441	8PSK	39	5.67	3.688
2480	8PSK	78	5.64	3.663

Note: The bolded data rates and channel above were tested for SAR.

Table 8-95
Bluetooth Maximum Average RF Power (P_{High}) – Variant 2

Frequency [MHz]	Modulation	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	GFSK	0	16.00	39.838
2441	GFSK	39	15.74	37.532
2480	GFSK	78	16.93	49.351
2402	8PSK	0	11.85	15.318
2441	8PSK	39	12.05	16.014
2480	8PSK	78	12.13	16.315

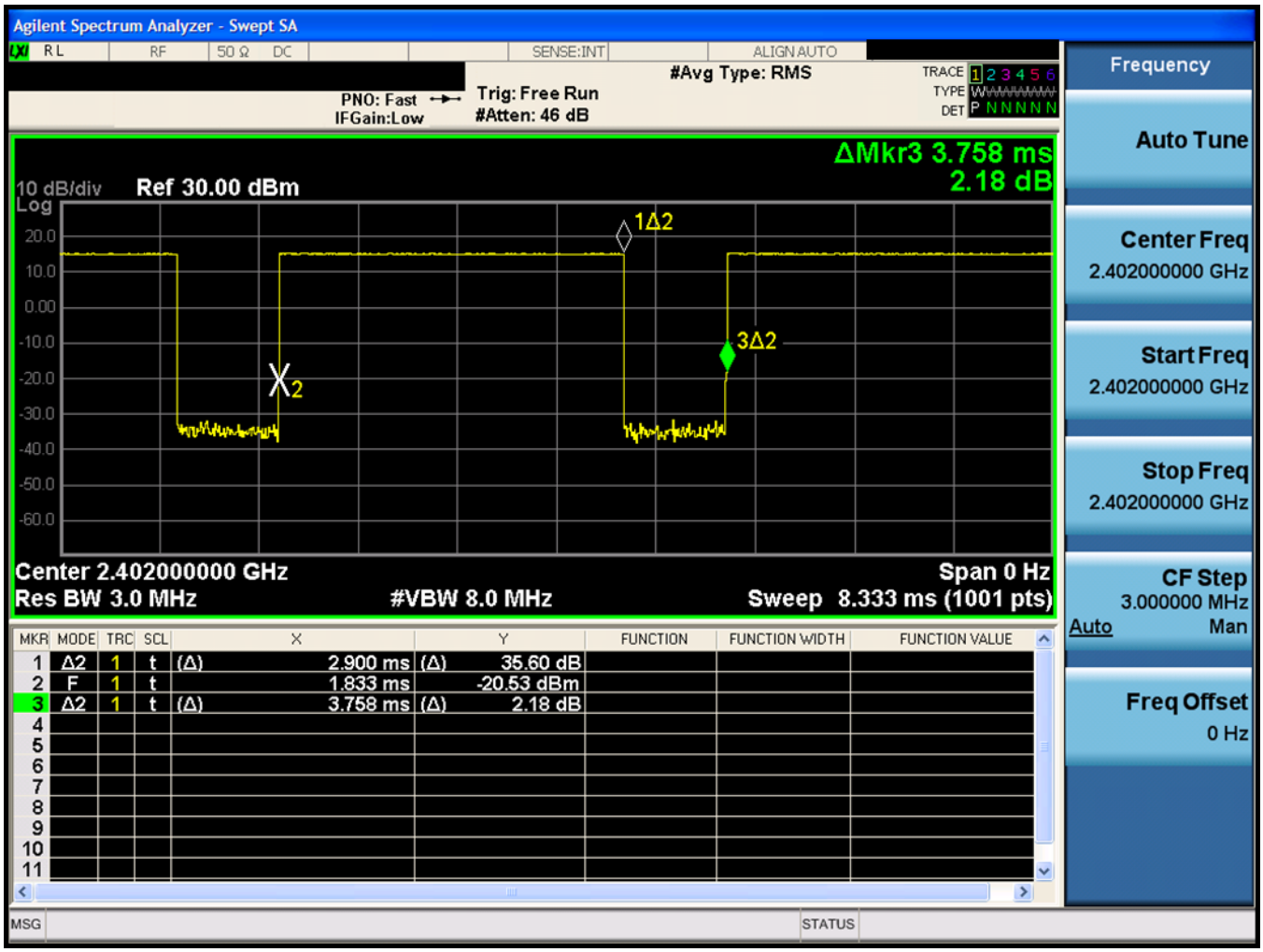

Figure 8-7
Bluetooth P_{High} Transmission Plot & Duty Cycle Calculation – Variant 1

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.900ms}{3.758ms} * 100\% = 77.2\%$$

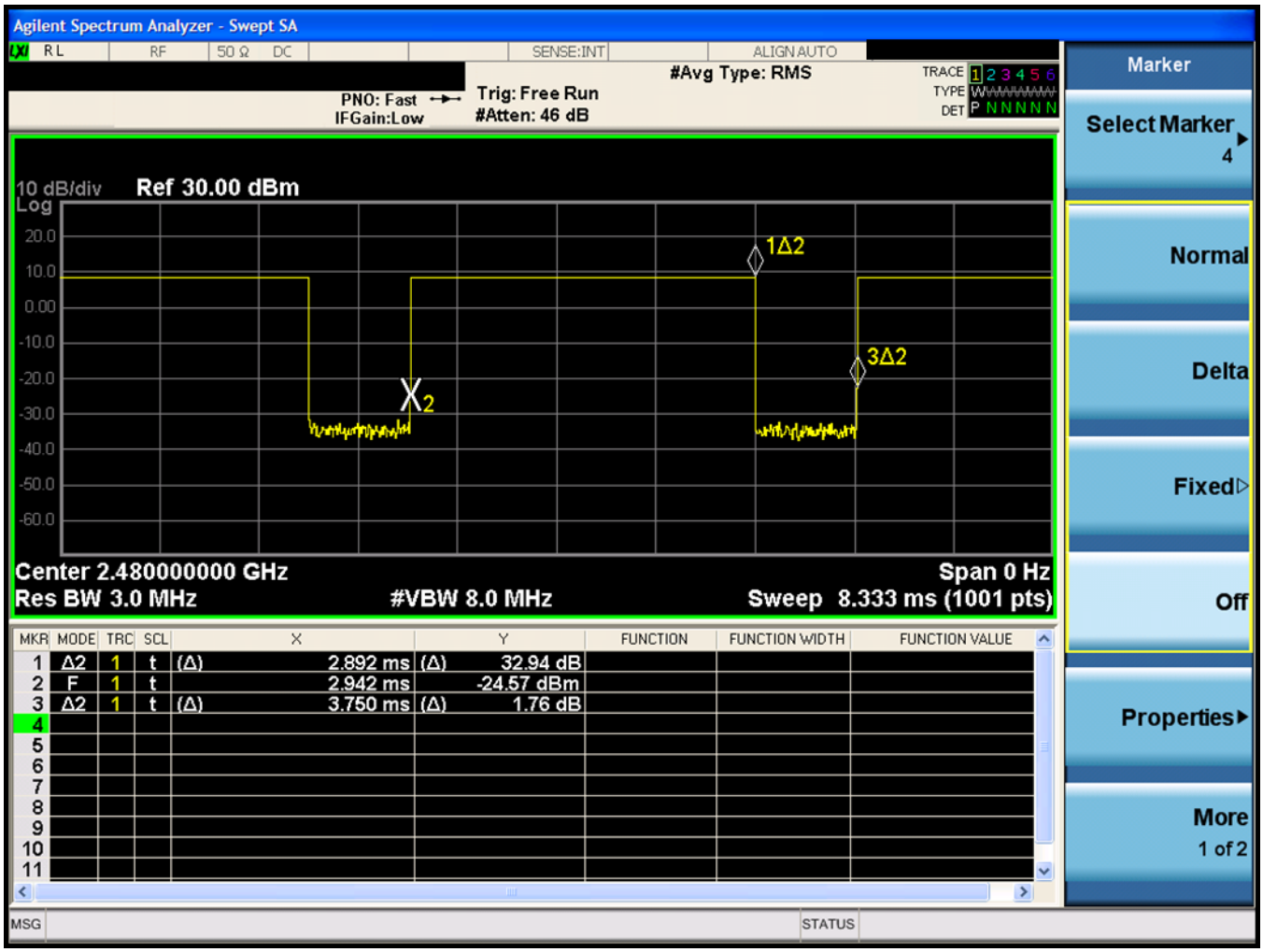

Figure 8-8
Bluetooth P_{Low} Transmission Plot & Duty Cycle Calculation – Variant 1

$$\textbf{Duty Cycle} = \frac{\textbf{Pulse Width}}{\textbf{Period}} * 100\% = \frac{2.892ms}{3.750ms} * 100\% = 77.1\%$$

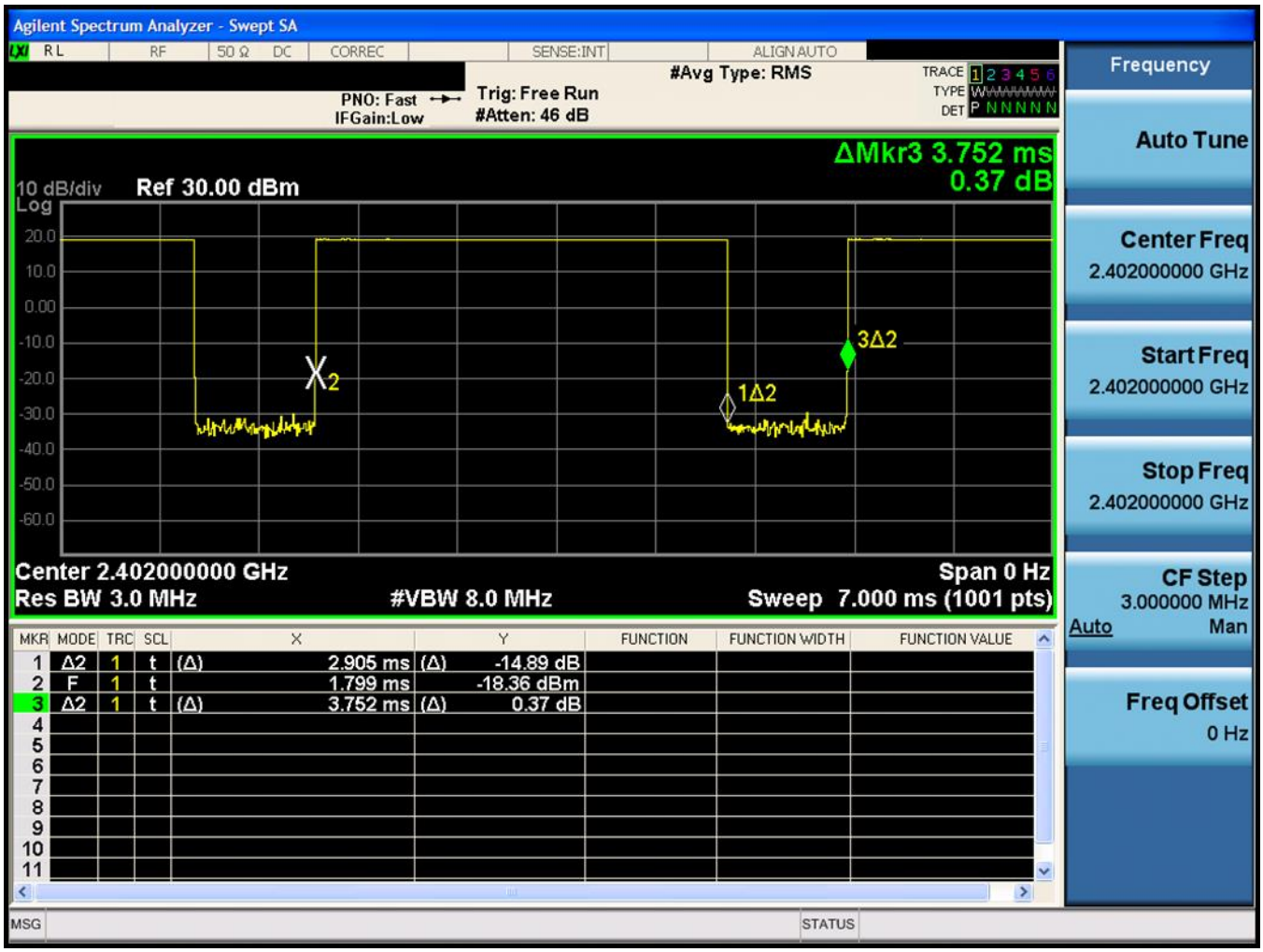

Figure 8-9
Bluetooth P_{High} Transmission Plot & Duty Cycle Calculation – Variant 2

$$\textbf{Duty Cycle} = \frac{\textbf{Pulse Width}}{\textbf{Period}} * 100\% = \frac{2.905ms}{3.752ms} * 100\% = 77.4\%$$

8.6.1 Bluetooth Power Reduction Verification Summary

Table 8-96
Bluetooth Power Reduction Verification

Bluetooth Mode	Data Rate [Mbps]	Maximum	Test Case 1	Maximum		Test Case 1	
		Average Target Power [dBm] (Tolerance [dB])	Average Target Power [dBm] (Tolerance [dB])	Peak Conducted Power		Peak Conducted Power	
				[dBm]	[mW]	[dBm]	[mW]
BT BDR	1.0	15.5 (±1.5)	8.0 (±1.5)	15.35	34.269	7.67	5.849
BT EDR	2.0	11.0 (±1.5)	6.0 (±1.5)	14.06	25.468	11.00	12.589
BT LE	1.0	15.5 (±1.5)	5.5 (±1.5)	16.82	48.084	5.66	3.681

Test Case 1 represents a scenario in which Bluetooth powers would be reduced. Due to test setup conditions, peak powers were used to confirm the power reduction mechanism. According to the expected Peak-to-Average-Ratio of Bluetooth modes, the above measured peak powers confirm that the average powers for both maximum and reduced output power conditions are within allowed tolerance ranges.

8.6.2 Notes for Bluetooth

- The Bluetooth chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- Bluetooth SAR testing was completely performed on Variant 1, and Variant 2 is additionally evaluated for Bluetooth SAR with the same configuration of the highest reported SAR of Variant 1.
- Full power measurements were performed for variant 1 per FCC KDB Procedures 248227. Additional power measurements for variant 2 were additionally performed to support the SAR test configurations

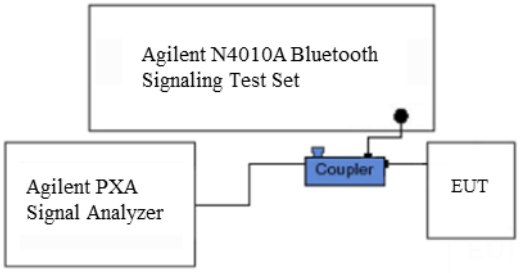

Figure 8-10
Power Measurement Setup

9 SYSTEM VERIFICATION

9.1 Tissue Verification

Table 9-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
1/8/2018	750B	20.0	700	0.924	56.031	0.959	55.726	-3.65%	0.55%
			710	0.936	55.914	0.960	55.687	-2.50%	0.41%
			720	0.947	55.800	0.961	55.648	-1.46%	0.27%
			725	0.952	55.743	0.961	55.629	-0.94%	0.20%
			740	0.968	55.601	0.963	55.570	0.52%	0.06%
			755	0.983	55.457	0.964	55.512	1.97%	-0.10%
			770	0.997	55.291	0.965	55.453	3.32%	-0.29%
			785	1.013	55.093	0.966	55.395	4.87%	-0.55%
1/8/2018	835B	20.5	820	0.992	53.187	0.969	55.258	2.37%	-3.75%
			835	1.007	53.037	0.970	55.200	3.81%	-3.92%
			850	1.022	52.895	0.988	55.154	3.44%	-4.10%
1/9/2018	1750B	20.6	1710	1.450	53.181	1.463	53.537	-0.89%	-0.66%
			1750	1.497	53.081	1.488	53.432	0.60%	-0.66%
			1790	1.540	52.977	1.514	53.326	1.72%	-0.65%
1/5/2018	1900B	23.3	1850	1.530	52.237	1.520	53.300	0.66%	-1.99%
			1880	1.563	52.130	1.520	53.300	2.83%	-2.20%
			1910	1.595	52.010	1.520	53.300	4.93%	-2.42%
1/8/2018	1900B	23.9	1850	1.527	52.270	1.520	53.300	0.46%	-1.93%
			1880	1.561	52.207	1.520	53.300	2.70%	-2.05%
			1910	1.594	52.123	1.520	53.300	4.87%	-2.21%
1/9/2018	2300B	22.3	2300	1.815	51.871	1.809	52.900	0.33%	-1.95%
			2310	1.828	51.843	1.816	52.887	0.66%	-1.97%
			2320	1.843	51.814	1.826	52.873	0.93%	-2.00%
12/26/2017	2450B	23.0	2400	1.878	50.968	1.902	52.767	-1.26%	-3.41%
			2450	1.944	50.790	1.950	52.700	-0.31%	-3.62%
			2500	2.011	50.577	2.021	52.636	-0.49%	-3.91%
1/9/2018	2450B	22.3	2400	1.954	51.515	1.902	52.767	2.73%	-2.37%
			2450	2.026	51.310	1.950	52.700	3.90%	-2.64%
			2500	2.096	51.099	2.021	52.636	3.71%	-2.92%
1/22/2018	2450B	21.6	2400	1.954	51.685	1.902	52.767	2.73%	-2.05%
			2450	2.024	51.495	1.950	52.700	3.79%	-2.29%
			2500	2.095	51.292	2.021	52.636	3.66%	-2.55%
1/9/2018	2600B	22.3	2550	2.162	50.888	2.092	52.573	3.35%	-3.21%
			2600	2.237	50.697	2.163	52.509	3.42%	-3.45%
			2650	2.306	50.495	2.234	52.445	3.22%	-3.72%
			2700	2.375	50.279	2.305	52.382	3.04%	-4.01%
01/02/2018	5200B-5800B	22.3	5520	5.818	48.221	5.673	48.580	2.56%	-0.74%
			5540	5.849	48.155	5.696	48.553	2.69%	-0.82%
			5560	5.879	48.139	5.720	48.526	2.78%	-0.80%
			5580	5.898	48.093	5.743	48.499	2.70%	-0.84%
			5600	5.931	48.089	5.766	48.471	2.86%	-0.79%
			5620	5.959	48.027	5.790	48.444	2.92%	-0.86%
			5640	5.985	48.007	5.813	48.417	2.96%	-0.85%
			5660	6.016	47.970	5.837	48.390	3.07%	-0.87%
			5680	6.039	47.919	5.860	48.363	3.05%	-0.92%
			5700	6.070	47.908	5.883	48.336	3.18%	-0.89%
01/15/2018	5200B-5800B	20.5	5240	5.484	48.365	5.346	48.960	2.58%	-1.22%
			5260	5.488	48.322	5.369	48.933	2.22%	-1.25%
			5280	5.510	48.284	5.393	48.906	2.17%	-1.27%
			5300	5.532	48.248	5.416	48.879	2.14%	-1.29%
			5320	5.579	48.267	5.439	48.851	2.57%	-1.20%
			5520	5.847	47.975	5.673	48.580	3.07%	-1.25%
			5540	5.876	47.856	5.696	48.553	3.16%	-1.44%
			5600	5.947	47.829	5.766	48.471	3.14%	-1.32%
			5620	5.992	47.752	5.790	48.444	3.49%	-1.43%
			5680	6.066	47.566	5.860	48.363	3.52%	-1.65%
			5700	6.104	47.661	5.883	48.336	3.76%	-1.40%
			5745	6.151	47.569	5.936	48.275	3.62%	-1.46%
			5765	6.198	47.460	5.959	48.248	4.01%	-1.63%
			5785	6.214	47.409	5.982	48.220	3.88%	-1.68%
			5800	6.258	47.447	6.000	48.200	4.30%	-1.56%

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 Publication 865664 D01v01r04 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.

9.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

Table 9-2
System Verification Results

SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
CAL4	750	BODY	01/08/2018	22.4	20.0	0.200	1097	3022	1.800	8.560	9.000	5.14%
CAL2	835	BODY	01/08/2018	20.8	20.0	0.200	4d180	3334	2.050	9.610	10.250	6.66%
CAL4	1750	BODY	01/09/2018	24.2	20.6	0.100	1092	3022	3.740	37.000	37.400	1.08%
CAL3	1900	BODY	01/05/2018	22.6	21.5	0.100	5d026	3333	4.000	40.300	40.000	-0.74%
CAL3	1900	BODY	01/08/2018	23.4	22.0	0.100	5d026	3333	4.190	40.300	41.900	3.97%
CAL1	2300	BODY	01/09/2018	22.7	22.3	0.100	1038	7420	5.000	47.500	50.000	5.26%
CAL3	2450	BODY	12/26/2017	23.7	23.0	0.100	945	3333	5.230	50.200	52.300	4.18%
CAL1	2450	BODY	01/09/2018	22.7	22.3	0.100	921	7420	5.190	50.700	51.900	2.37%
CAL4	2450	BODY	01/22/2018	22.4	21.6	0.100	750	3022	4.990	51.200	49.900	-2.54%
CAL1	2600	BODY	01/09/2018	22.7	22.3	0.100	1069	7420	5.880	55.300	58.800	6.33%
CAL4	5250	BODY	01/15/2018	22.2	20.5	0.050	1163	7416	3.640	77.400	72.800	-5.94%
CAL4	5600	BODY	01/02/2018	20.7	22.3	0.050	1123	7416	3.760	78.900	75.200	-4.69%
CAL4	5750	BODY	01/15/2018	22.2	20.5	0.050	1163	7416	3.590	77.400	71.800	-7.24%

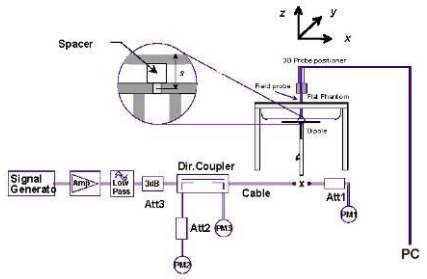

Figure 9-1
System Verification Setup Diagram

Figure 9-2
System Verification Setup Photo

10 SAR DATA SUMMARY

10.1 Standalone Body SAR Data

Table 10-1
850MHz Body SAR Data – 2G/3G

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
824.20	128	GSM 850	GPRS	25.3	25.24	0.02	0 mm	F9FVT00FJM4W	2	1:4.15	back	1.140	1.014	1.156	0.581	0.589	A1
836.60	190	GSM 850	GPRS	25.3	25.25	-0.05	0 mm	F9FVT00FJM4W	2	1:4.15	back	1.070	1.012	1.083	0.549	0.556	
848.80	251	GSM 850	GPRS	25.3	25.23	0.03	0 mm	F9FVT00FJM4W	2	1:4.15	back	1.060	1.016	1.077	0.541	0.550	
824.20	128	GSM 850	GPRS	25.3	25.24	-0.03	0 mm	F9FVT00FJM4W	2	1:4.15	top	0.819	1.014	0.830	0.451	0.457	
836.60	190	GSM 850	GPRS	25.3	25.25	-0.07	0 mm	F9FVT00FJM4W	2	1:4.15	top	0.802	1.012	0.812	0.443	0.448	
848.80	251	GSM 850	GPRS	25.3	25.23	-0.06	0 mm	F9FVT00FJM4W	2	1:4.15	top	0.756	1.016	0.768	0.413	0.420	
836.60	190	GSM 850	GPRS	25.3	25.25	0.18	0 mm	F9FVT00FJM4W	2	1:4.15	bottom	0.025	1.012	0.025	0.013	0.013	
836.60	190	GSM 850	GPRS	25.3	25.25	-0.04	0 mm	F9FVT00FJM4W	2	1:4.15	right	0.100	1.012	0.101	0.059	0.060	
824.20	128	GSM 850	GPRS	25.3	25.24	-0.01	0 mm	F9FVT00FJM4W	2	1:4.15	back	1.070	1.014	1.085	0.552	0.560	
826.40	4132	UMTS 850	RMC	18.0	17.94	-0.02	0 mm	F9FVT00GJM4W	N/A	1:1	back	1.130	1.014	1.146	0.584	0.592	A2
836.60	4183	UMTS 850	RMC	18.0	18.00	-0.02	0 mm	F9FVT00GJM4W	N/A	1:1	back	1.120	1.000	1.120	0.576	0.576	
846.60	4233	UMTS 850	RMC	18.0	18.00	-0.02	0 mm	F9FVT00GJM4W	N/A	1:1	back	1.120	1.000	1.120	0.577	0.577	
836.60	4183	UMTS 850	RMC	18.0	18.00	-0.02	0 mm	F9FVT00GJM4W	N/A	1:1	top	0.689	1.000	0.689	0.381	0.381	
836.60	4183	UMTS 850	RMC	18.0	18.00	0.02	0 mm	F9FVT00GJM4W	N/A	1:1	bottom	0.018	1.000	0.018	0.009	0.009	
836.60	4183	UMTS 850	RMC	18.0	18.00	0.03	0 mm	F9FVT00GJM4W	N/A	1:1	right	0.111	1.000	0.111	0.056	0.056	
820.00	560	CDMA BC10 (§90S)	EVDO Rev. 0	18.0	17.97	-0.04	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.020	1.007	1.027	0.527	0.531	A3
820.00	560	CDMA BC10 (§90S)	EVDO Rev. 0	18.0	17.97	-0.02	0 mm	F9FVT00MJM4W	N/A	1:1	top	0.665	1.007	0.670	0.365	0.368	
820.00	560	CDMA BC10 (§90S)	EVDO Rev. 0	18.0	17.97	-0.15	0 mm	F9FVT00MJM4W	N/A	1:1	bottom	0.022	1.007	0.022	0.011	0.011	
820.00	560	CDMA BC10 (§90S)	EVDO Rev. 0	18.0	17.97	0.03	0 mm	F9FVT00MJM4W	N/A	1:1	right	0.112	1.007	0.113	0.056	0.056	
824.70	1013	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.92	-0.03	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.030	1.019	1.050	0.534	0.544	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.98	-0.02	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.080	1.005	1.085	0.556	0.559	A4
848.31	777	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.91	-0.01	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.070	1.021	1.092	0.550	0.562	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.98	-0.09	0 mm	F9FVT00MJM4W	N/A	1:1	top	0.723	1.005	0.727	0.403	0.405	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.98	0.18	0 mm	F9FVT00MJM4W	N/A	1:1	bottom	0.019	1.005	0.019	0.009	0.009	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	18.0	17.98	0.02	0 mm	F9FVT00MJM4W	N/A	1:1	right	0.113	1.005	0.114	0.057	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entries indicate variability measurements.

Table 10-2
1750MHz Body SAR Data – 2G/3G

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1712.40	1312	UMTS 1750	RMC	13.5	13.49	0.01	0 mm	F9FVT00WJM50	1:1	back	0.886	1.002	0.888	0.423	0.424	
1732.40	1412	UMTS 1750	RMC	13.5	13.48	0.01	0 mm	F9FVT00WJM50	1:1	back	0.930	1.005	0.935	0.444	0.446	
1752.60	1513	UMTS 1750	RMC	13.5	13.43	-0.01	0 mm	F9FVT00WJM50	1:1	back	0.962	1.016	0.977	0.458	0.465	A5
1732.40	1412	UMTS 1750	RMC	13.5	13.48	0.00	0 mm	F9FVT00WJM50	1:1	top	0.696	1.005	0.699	0.340	0.342	
1732.40	1412	UMTS 1750	RMC	13.5	13.48	0.10	0 mm	F9FVT00WJM50	1:1	bottom	0.004	1.005	0.004	0.002	0.002	
1732.40	1412	UMTS 1750	RMC	13.5	13.48	0.07	0 mm	F9FVT00WJM50	1:1	right	0.082	1.005	0.082	0.038	0.038	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-3
1900MHz Body SAR Data – 2G/3G

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1850.20	512	GSM 1900	GPRS	20.0	19.88	0.04	0 mm	F9FVT017JM50	2	1:4.15	back	0.887	1.028	0.912	0.425	0.437	
1880.00	661	GSM 1900	GPRS	20.0	19.91	0.02	0 mm	F9FVT017JM50	2	1:4.15	back	0.908	1.021	0.927	0.435	0.444	
1909.80	810	GSM 1900	GPRS	20.0	19.99	-0.04	0 mm	F9FVT017JM50	2	1:4.15	back	1.110	1.002	1.112	0.533	0.534	A6
1850.20	512	GSM 1900	GPRS	20.0	19.88	0.13	0 mm	F9FVT017JM50	2	1:4.15	top	0.756	1.028	0.777	0.364	0.374	
1880.00	661	GSM 1900	GPRS	20.0	19.91	-0.02	0 mm	F9FVT017JM50	2	1:4.15	top	0.869	1.021	0.887	0.416	0.425	
1909.80	810	GSM 1900	GPRS	20.0	19.99	-0.15	0 mm	F9FVT017JM50	2	1:4.15	top	0.967	1.002	0.969	0.461	0.462	
1880.00	661	GSM 1900	GPRS	20.0	19.91	-0.17	0 mm	F9FVT017JM50	2	1:4.15	bottom	0.000	1.021	0.000	0.000	0.000	
1880.00	661	GSM 1900	GPRS	20.0	19.91	-0.13	0 mm	F9FVT017JM50	2	1:4.15	right	0.123	1.021	0.126	0.058	0.059	
1852.40	9262	UMTS 1900	RMC	13.0	12.95	0.01	0 mm	F9FVT017JM50	N/A	1:1	back	1.060	1.012	1.073	0.502	0.508	A7
1880.00	9400	UMTS 1900	RMC	13.0	12.94	-0.02	0 mm	F9FVT017JM50	N/A	1:1	back	1.040	1.014	1.055	0.497	0.504	
1907.60	9538	UMTS 1900	RMC	13.0	12.93	-0.03	0 mm	F9FVT017JM50	N/A	1:1	back	1.030	1.016	1.046	0.492	0.500	
1852.40	9262	UMTS 1900	RMC	13.0	12.95	-0.02	0 mm	F9FVT017JM50	N/A	1:1	top	0.779	1.012	0.788	0.372	0.376	
1880.00	9400	UMTS 1900	RMC	13.0	12.94	0.00	0 mm	F9FVT017JM50	N/A	1:1	top	0.800	1.014	0.811	0.379	0.384	
1907.60	9538	UMTS 1900	RMC	13.0	12.93	-0.01	0 mm	F9FVT017JM50	N/A	1:1	top	0.860	1.016	0.874	0.406	0.412	
1880.00	9400	UMTS 1900	RMC	13.0	12.94	-0.13	0 mm	F9FVT017JM50	N/A	1:1	bottom	0.001	1.014	0.001	0.000	0.000	
1880.00	9400	UMTS 1900	RMC	13.0	12.94	0.03	0 mm	F9FVT017JM50	N/A	1:1	right	0.118	1.014	0.120	0.053	0.054	
1851.25	25	PCS CDMA	EVDO Rev. 0	13.0	12.98	-0.18	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.020	1.005	1.025	0.485	0.487	
1880.00	600	PCS CDMA	EVDO Rev. 0	13.0	12.95	0.00	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.080	1.012	1.093	0.512	0.518	
1908.75	1175	PCS CDMA	EVDO Rev. 0	13.0	12.94	0.00	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.120	1.014	1.136	0.537	0.545	A8
1851.25	25	PCS CDMA	EVDO Rev. 0	13.0	12.98	-0.01	0 mm	F9FVT00MJM4W	N/A	1:1	top	0.750	1.005	0.754	0.360	0.362	
1880.00	600	PCS CDMA	EVDO Rev. 0	13.0	12.95	0.00	0 mm	F9FVT00MJM4W	N/A	1:1	top	0.822	1.012	0.832	0.392	0.397	
1908.75	1175	PCS CDMA	EVDO Rev. 0	13.0	12.94	-0.03	0 mm	F9FVT00MJM4W	N/A	1:1	top	0.886	1.014	0.898	0.420	0.426	
1880.00	600	PCS CDMA	EVDO Rev. 0	13.0	12.95	0.08	0 mm	F9FVT00MJM4W	N/A	1:1	bottom	0.000	1.012	0.000	0.000	0.000	
1880.00	600	PCS CDMA	EVDO Rev. 0	13.0	12.95	-0.16	0 mm	F9FVT00MJM4W	N/A	1:1	right	0.119	1.012	0.120	0.056	0.057	
1908.75	1175	PCS CDMA	EVDO Rev. 0	13.0	12.94	0.02	0 mm	F9FVT00MJM4W	N/A	1:1	back	1.120	1.014	1.136	0.531	0.538	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram					

Note: Blue entries indicate variability measurements.

Table 10-4
LTE Band 12 Body SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.12	0	F9FVT00DJM4W	QPSK	1	0	0 mm	back	1:1	1.180	1.000	1.180	0.587	0.587	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.03	0	F9FVT00DJM4W	QPSK	25	12	0 mm	back	1:1	1.180	1.000	1.180	0.588	0.588	A9
707.50	23095	Mid	LTE Band 12	10	19.6	19.59	-0.03	0	F9FVT00DJM4W	QPSK	50	0	0 mm	back	1:1	1.180	1.002	**1.182**	0.587	0.588	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.02	0	F9FVT00DJM4W	QPSK	1	0	0 mm	top	1:1	0.847	1.000	0.847	0.406	0.406	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.02	0	F9FVT00DJM4W	QPSK	25	12	0 mm	top	1:1	0.767	1.000	0.767	0.398	0.398	
707.50	23095	Mid	LTE Band 12	10	19.6	19.59	0.04	0	F9FVT00DJM4W	QPSK	50	0	0 mm	top	1:1	0.783	1.002	0.785	0.399	0.400	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.08	0	F9FVT00DJM4W	QPSK	1	0	0 mm	bottom	1:1	0.027	1.000	0.027	0.014	0.014	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	0.07	0	F9FVT00DJM4W	QPSK	25	12	0 mm	bottom	1:1	0.030	1.000	0.030	0.017	0.017	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	0.00	0	F9FVT00DJM4W	QPSK	1	0	0 mm	right	1:1	0.094	1.000	0.094	0.048	0.048	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	0.01	0	F9FVT00DJM4W	QPSK	25	12	0 mm	right	1:1	0.105	1.000	0.105	0.053	0.053	
707.50	23095	Mid	LTE Band 12	10	19.6	19.60	-0.02	0	F9FVT00DJM4W	QPSK	25	12	0 mm	back	1:1	1.180	1.000	1.180	0.588	0.588	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 10-5
LTE Band 13 Body SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.01	0	F9FVT00DJM4W	QPSK	1	0	0 mm	back	1:1	1.040	1.000	1.040	0.515	0.515	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.01	0	F9FVT00DJM4W	QPSK	25	0	0 mm	back	1:1	1.150	1.000	1.150	0.567	0.567	
782.00	23230	Mid	LTE Band 13	10	18.1	18.09	-0.18	0	F9FVT00DJM4W	QPSK	50	0	0 mm	back	1:1	1.150	1.002	1.152	0.586	0.587	A10
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.05	0	F9FVT00DJM4W	QPSK	1	0	0 mm	top	1:1	0.701	1.000	0.701	0.379	0.379	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.04	0	F9FVT00DJM4W	QPSK	25	0	0 mm	top	1:1	0.756	1.000	0.756	0.421	0.421	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.15	0	F9FVT00DJM4W	QPSK	1	0	0 mm	bottom	1:1	0.031	1.000	0.031	0.015	0.015	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	-0.12	0	F9FVT00DJM4W	QPSK	25	0	0 mm	bottom	1:1	0.031	1.000	0.031	0.015	0.015	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	-0.04	0	F9FVT00DJM4W	QPSK	1	0	0 mm	right	1:1	0.114	1.000	0.114	0.056	0.056	
782.00	23230	Mid	LTE Band 13	10	18.1	18.10	0.15	0	F9FVT00DJM4W	QPSK	25	0	0 mm	right	1:1	0.120	1.000	0.120	0.059	0.059	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 10-6
LTE Band 5 (Cell) Body SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	-0.04	0	F9FVT00GJM4W	QPSK	1	25	0 mm	back	1:1	1.130	1.000	1.130	0.582	0.582	A11
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	0.00	0	F9FVT00GJM4W	QPSK	25	12	0 mm	back	1:1	1.130	1.000	1.130	0.578	0.578	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	17.92	-0.03	0	F9FVT00GJM4W	QPSK	50	0	0 mm	back	1:1	1.100	1.019	1.121	0.563	0.574	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	-0.02	0	F9FVT00GJM4W	QPSK	1	25	0 mm	top	1:1	0.690	1.000	0.690	0.379	0.379	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	-0.03	0	F9FVT00GJM4W	QPSK	25	12	0 mm	top	1:1	0.683	1.000	0.683	0.374	0.374	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	0.00	0	F9FVT00GJM4W	QPSK	1	25	0 mm	bottom	1:1	0.021	1.000	0.021	0.011	0.011	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	0.04	0	F9FVT00GJM4W	QPSK	25	12	0 mm	bottom	1:1	0.022	1.000	0.022	0.011	0.011	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	0.01	0	F9FVT00GJM4W	QPSK	1	25	0 mm	right	1:1	0.102	1.000	0.102	0.053	0.053	
836.50	20525	Mid	LTE Band 5 (Cell)	10	18.0	18.00	0.00	0	F9FVT00GJM4W	QPSK	25	12	0 mm	right	1:1	0.103	1.000	0.103	0.053	0.053	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 10-7
LTE Band 26 (Cell) Body SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	17.95	-0.02	0	F9FVT00FJM4W	QPSK	1	49	0 mm	back	1:1	0.988	1.012	1.000	0.512	0.518	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.0	17.99	-0.06	0	F9FVT00FJM4W	QPSK	1	0	0 mm	back	1:1	1.010	1.002	1.012	0.519	0.520	
844.00	26990	High	LTE Band 26 (Cell)	10	18.0	17.96	-0.02	0	F9FVT00FJM4W	QPSK	1	49	0 mm	back	1:1	1.010	1.009	1.019	0.524	0.529	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	18.00	-0.01	0	F9FVT00FJM4W	QPSK	25	0	0 mm	back	1:1	1.010	1.000	1.010	0.512	0.512	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.0	17.96	-0.01	0	F9FVT00FJM4W	QPSK	25	25	0 mm	back	1:1	1.010	1.009	1.019	0.520	0.525	
844.00	26990	High	LTE Band 26 (Cell)	10	18.0	17.95	-0.01	0	F9FVT00FJM4W	QPSK	25	25	0 mm	back	1:1	1.020	1.012	1.032	0.528	0.534	A12
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	17.98	-0.03	0	F9FVT00FJM4W	QPSK	50	0	0 mm	back	1:1	0.986	1.005	0.991	0.510	0.513	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.0	17.99	-0.04	0	F9FVT00FJM4W	QPSK	1	0	0 mm	top	1:1	0.633	1.002	0.634	0.348	0.349	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	18.00	-0.01	0	F9FVT00FJM4W	QPSK	25	0	0 mm	top	1:1	0.610	1.000	0.610	0.338	0.338	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.0	17.99	0.11	0	F9FVT00FJM4W	QPSK	1	0	0 mm	bottom	1:1	0.021	1.002	0.021	0.010	0.010	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	18.00	0.10	0	F9FVT00FJM4W	QPSK	25	0	0 mm	bottom	1:1	0.022	1.000	0.022	0.011	0.011	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.0	17.99	-0.03	0	F9FVT00FJM4W	QPSK	1	0	0 mm	right	1:1	0.112	1.002	0.112	0.056	0.056	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.0	18.00	0.01	0	F9FVT00FJM4W	QPSK	25	0	0 mm	right	1:1	0.110	1.000	0.110	0.056	0.056	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 10-8
LTE Band 4 (AWS) Body SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.11	0	F9FVT017JM50	QPSK	1	0	0 mm	back	1:1	0.993	1.000	0.993	0.476	0.476	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.03	0	F9FVT017JM50	QPSK	50	50	0 mm	back	1:1	1.030	1.000	1.030	0.494	0.494	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	13.99	0.00	0	F9FVT017JM50	QPSK	100	0	0 mm	back	1:1	1.010	1.002	1.012	0.484	0.485	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.09	0	F9FVT017JM50	QPSK	1	0	0 mm	top	1:1	0.716	1.000	0.716	0.350	0.350	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	0.00	0	F9FVT017JM50	QPSK	50	50	0 mm	top	1:1	0.732	1.000	0.732	0.355	0.355	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.18	0	F9FVT017JM50	QPSK	1	0	0 mm	bottom	1:1	0.006	1.000	0.006	0.002	0.002	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.16	0	F9FVT017JM50	QPSK	50	50	0 mm	bottom	1:1	0.003	1.000	0.003	0.001	0.001	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	0.15	0	F9FVT017JM50	QPSK	1	0	0 mm	right	1:1	0.080	1.000	0.080	0.037	0.037	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	0.01	0	F9FVT017JM50	QPSK	50	50	0 mm	right	1:1	0.086	1.000	0.086	0.041	0.041	
1732.50	20175	Mid	LTE Band 4 (AWS)	20	14.0	14.00	-0.06	0	F9FVT017JM50	QPSK	50	50	0 mm	back	1:1	1.040	1.000	1.040	0.495	0.495	A13
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: Blue entries indicate variability measurements.

Table 10-9
LTE Band 25 (PCS) Body SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.0	12.98	0.12	0	F9FVT017JM50	QPSK	1	99	0 mm	back	1:1	1.070	1.005	1.075	0.507	0.510	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	-0.14	0	F9FVT017JM50	QPSK	1	0	0 mm	back	1:1	1.070	1.000	1.070	0.507	0.507	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.0	12.99	0.00	0	F9FVT017JM50	QPSK	1	99	0 mm	back	1:1	1.090	1.002	1.092	0.520	0.521	A14
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.0	13.00	-0.01	0	F9FVT017JM50	QPSK	50	50	0 mm	back	1:1	0.958	1.000	0.958	0.447	0.447	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	0.01	0	F9FVT017JM50	QPSK	50	50	0 mm	back	1:1	1.030	1.000	1.030	0.489	0.489	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.0	12.96	0.00	0	F9FVT017JM50	QPSK	50	50	0 mm	back	1:1	1.030	1.009	1.039	0.490	0.494	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	12.99	0.01	0	F9FVT017JM50	QPSK	100	0	0 mm	back	1:1	1.040	1.002	1.042	0.493	0.494	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.0	12.98	0.14	0	F9FVT017JM50	QPSK	1	99	0 mm	top	1:1	0.814	1.005	0.818	0.390	0.392	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	-0.15	0	F9FVT017JM50	QPSK	1	0	0 mm	top	1:1	0.816	1.000	0.816	0.392	0.392	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.0	12.99	-0.13	0	F9FVT017JM50	QPSK	1	99	0 mm	top	1:1	0.936	1.002	0.938	0.444	0.445	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.0	13.00	0.00	0	F9FVT017JM50	QPSK	50	50	0 mm	top	1:1	0.774	1.000	0.774	0.370	0.370	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	0.01	0	F9FVT017JM50	QPSK	50	50	0 mm	top	1:1	0.811	1.000	0.811	0.385	0.385	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.0	12.96	0.01	0	F9FVT017JM50	QPSK	50	50	0 mm	top	1:1	0.869	1.009	0.877	0.410	0.414	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	12.99	0.01	0	F9FVT017JM50	QPSK	100	0	0 mm	top	1:1	0.806	1.002	0.808	0.384	0.385	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	0.16	0	F9FVT017JM50	QPSK	1	0	0 mm	bottom	1:1	0.000	1.000	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	-0.03	0	F9FVT017JM50	QPSK	50	50	0 mm	bottom	1:1	0.000	1.000	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	0.08	0	F9FVT017JM50	QPSK	1	0	0 mm	right	1:1	0.126	1.000	0.126	0.057	0.057	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.0	13.00	-0.14	0	F9FVT017JM50	QPSK	50	50	0 mm	right	1:1	0.119	1.000	0.119	0.054	0.054	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 10-10
LTE Band 30 Body SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.49	-0.18	0	F9FVT01MJM50	QPSK	1	49	0 mm	back	1:1	0.950	1.002	0.952	0.427	0.428	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.48	0.02	0	F9FVT01MJM50	QPSK	25	0	0 mm	back	1:1	0.984	1.005	0.989	0.443	0.445	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.44	-0.03	0	F9FVT01MJM50	QPSK	50	0	0 mm	back	1:1	0.959	1.014	0.972	0.433	0.439	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.49	-0.01	0	F9FVT01MJM50	QPSK	1	49	0 mm	top	1:1	0.984	1.002	0.986	0.456	0.457	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.48	0.01	0	F9FVT01MJM50	QPSK	25	0	0 mm	top	1:1	1.020	1.005	1.025	0.473	0.475	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.44	-0.02	0	F9FVT01MJM50	QPSK	50	0	0 mm	top	1:1	1.000	1.014	1.014	0.464	0.470	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.49	0.00	0	F9FVT01MJM50	QPSK	1	49	0 mm	bottom	1:1	0.014	1.002	0.014	0.005	0.005	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.48	-0.01	0	F9FVT01MJM50	QPSK	25	0	0 mm	bottom	1:1	0.012	1.005	0.012	0.004	0.004	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.49	0.01	0	F9FVT01MJM50	QPSK	1	49	0 mm	right	1:1	0.152	1.002	0.152	0.065	0.065	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.48	0.03	0	F9FVT01MJM50	QPSK	25	0	0 mm	right	1:1	0.162	1.005	0.163	0.070	0.070	
2310.00	27710	Mid	LTE Band 30	10	14.5	14.48	-0.04	0	F9FVT01MJM50	QPSK	25	0	0 mm	top	1:1	1.060	1.005	1.065	0.484	0.486	A15
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entries indicate variability measurements.

Table 10-11
LTE Band 7 Body SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2510.00	20850	Low	LTE Band 7	20	14.5	14.49	-0.10	0	F9FVT012JM4W	QPSK	1	99	0 mm	back	1:1	0.720	1.002	0.721	0.336	0.337	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.50	0.01	0	F9FVT012JM4W	QPSK	1	0	0 mm	back	1:1	1.170	1.000	1.170	0.483	0.483	
2560.00	21350	High	LTE Band 7	20	14.5	14.49	-0.17	0	F9FVT012JM4W	QPSK	1	50	0 mm	back	1:1	0.890	1.002	0.892	0.393	0.394	
2510.00	20850	Low	LTE Band 7	20	14.5	14.47	-0.01	0	F9FVT012JM4W	QPSK	50	0	0 mm	back	1:1	1.070	1.007	1.077	0.449	0.452	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.48	-0.16	0	F9FVT012JM4W	QPSK	50	0	0 mm	back	1:1	1.090	1.005	1.095	0.450	0.452	
2560.00	21350	High	LTE Band 7	20	14.5	14.47	-0.13	0	F9FVT012JM4W	QPSK	50	0	0 mm	back	1:1	1.110	1.007	1.118	0.458	0.461	
2560.00	21350	High	LTE Band 7	20	14.5	14.46	-0.10	0	F9FVT012JM4W	QPSK	100	0	0 mm	back	1:1	0.820	1.009	0.827	0.371	0.374	
2510.00	20850	Low	LTE Band 7	20	14.5	14.49	-0.05	0	F9FVT012JM4W	QPSK	1	99	0 mm	top	1:1	1.080	1.002	1.082	0.475	0.476	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.50	-0.10	0	F9FVT012JM4W	QPSK	1	0	0 mm	top	1:1	1.170	1.000	1.170	0.519	0.519	A16
2560.00	21350	High	LTE Band 7	20	14.5	14.49	0.00	0	F9FVT012JM4W	QPSK	1	50	0 mm	top	1:1	1.120	1.002	1.122	0.489	0.490	
2510.00	20850	Low	LTE Band 7	20	14.5	14.47	-0.08	0	F9FVT012JM4W	QPSK	50	0	0 mm	top	1:1	1.140	1.007	1.148	0.497	0.500	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.48	0.02	0	F9FVT012JM4W	QPSK	50	0	0 mm	top	1:1	1.110	1.005	1.116	0.482	0.484	
2560.00	21350	High	LTE Band 7	20	14.5	14.47	-0.01	0	F9FVT012JM4W	QPSK	50	0	0 mm	top	1:1	1.150	1.007	1.158	0.496	0.499	
2560.00	21350	High	LTE Band 7	20	14.5	14.46	-0.05	0	F9FVT012JM4W	QPSK	100	0	0 mm	top	1:1	1.100	1.009	1.110	0.477	0.481	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.50	-0.18	0	F9FVT012JM4W	QPSK	1	0	0 mm	bottom	1:1	0.000	1.000	0.000	0.000	0.000	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.48	0.11	0	F9FVT012JM4W	QPSK	50	0	0 mm	bottom	1:1	0.000	1.005	0.000	0.000	0.000	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.50	0.06	0	F9FVT012JM4W	QPSK	1	0	0 mm	right	1:1	0.188	1.000	0.188	0.076	0.076	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.48	0.02	0	F9FVT012JM4W	QPSK	50	0	0 mm	right	1:1	0.165	1.005	0.166	0.067	0.067	
2535.00	21100	Mid	LTE Band 7	20	14.5	14.50	-0.07	0	F9FVT012JM4W	QPSK	1	0	0 mm	top	1:1	1.160	1.000	1.160	0.508	0.508	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entries indicate variability measurements.

Table 10-12
LTE Band 41 Body SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2506.00	39750	Low	LTE Band 41	20	16.0	15.99	0.04	0	F9FVT012JM4W	QPSK	1	50	0 mm	back	1:1.58	0.915	1.002	0.917	0.372	0.373	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.99	-0.11	0	F9FVT012JM4W	QPSK	1	0	0 mm	back	1:1.58	0.888	1.002	0.890	0.374	0.375	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	-0.08	0	F9FVT012JM4W	QPSK	1	0	0 mm	back	1:1.58	0.985	1.002	0.987	0.397	0.398	
2636.50	41055	Mid-High	LTE Band 41	20	16.0	15.99	0.02	0	F9FVT012JM4W	QPSK	1	0	0 mm	back	1:1.58	0.972	1.002	0.974	0.388	0.389	
2680.00	41490	High	LTE Band 41	20	16.0	15.97	0.02	0	F9FVT012JM4W	QPSK	1	99	0 mm	back	1:1.58	0.950	1.007	0.957	0.367	0.370	
2506.00	39750	Low	LTE Band 41	20	16.0	15.95	0.04	0	F9FVT012JM4W	QPSK	50	0	0 mm	back	1:1.58	0.946	1.012	0.957	0.384	0.389	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.98	0.02	0	F9FVT012JM4W	QPSK	50	25	0 mm	back	1:1.58	1.010	1.005	1.015	0.399	0.401	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.00	0	F9FVT012JM4W	QPSK	50	0	0 mm	back	1:1.58	0.980	1.002	0.982	0.393	0.394	
2636.50	41055	Mid-High	LTE Band 41	20	16.0	15.98	0.02	0	F9FVT012JM4W	QPSK	50	50	0 mm	back	1:1.58	0.965	1.005	0.970	0.382	0.384	
2680.00	41490	High	LTE Band 41	20	16.0	15.98	0.00	0	F9FVT012JM4W	QPSK	50	50	0 mm	back	1:1.58	0.929	1.005	0.934	0.359	0.361	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.97	0.05	0	F9FVT012JM4W	QPSK	100	0	0 mm	back	1:1.58	0.964	1.007	0.971	0.365	0.368	
2506.00	39750	Low	LTE Band 41	20	16.0	15.99	-0.01	0	F9FVT012JM4W	QPSK	1	50	0 mm	top	1:1.58	0.908	1.002	0.910	0.397	0.398	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.99	-0.03	0	F9FVT012JM4W	QPSK	1	0	0 mm	top	1:1.58	0.938	1.002	0.940	0.408	0.409	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.01	0	F9FVT012JM4W	QPSK	1	0	0 mm	top	1:1.58	1.070	1.002	1.072	0.454	0.455	
2636.50	41055	Mid-High	LTE Band 41	20	16.0	15.99	0.00	0	F9FVT012JM4W	QPSK	1	0	0 mm	top	1:1.58	1.080	1.002	1.082	0.455	0.456	
2680.00	41490	High	LTE Band 41	20	16.0	15.97	0.02	0	F9FVT012JM4W	QPSK	1	99	0 mm	top	1:1.58	1.040	1.007	1.047	0.425	0.428	
2506.00	39750	Low	LTE Band 41	20	16.0	15.95	-0.01	0	F9FVT012JM4W	QPSK	50	0	0 mm	top	1:1.58	0.948	1.012	0.959	0.413	0.418	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.98	0.03	0	F9FVT012JM4W	QPSK	50	25	0 mm	top	1:1.58	0.992	1.005	0.997	0.426	0.428	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.00	0	F9FVT012JM4W	QPSK	50	0	0 mm	top	1:1.58	1.060	1.002	1.062	0.450	0.451	
2636.50	41055	Mid-High	LTE Band 41	20	16.0	15.98	0.00	0	F9FVT012JM4W	QPSK	50	50	0 mm	top	1:1.58	1.090	1.005	1.095	0.452	0.454	A17
2680.00	41490	High	LTE Band 41	20	16.0	15.98	0.05	0	F9FVT012JM4W	QPSK	50	50	0 mm	top	1:1.58	1.030	1.005	1.035	0.420	0.422	
2549.50	40185	Low-Mid	LTE Band 41	20	16.0	15.97	0.01	0	F9FVT012JM4W	QPSK	100	0	0 mm	top	1:1.58	0.978	1.007	0.985	0.402	0.405	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.12	0	F9FVT012JM4W	QPSK	1	0	0 mm	bottom	1:1.58	0.002	1.002	0.002	0.000	0.000	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.16	0	F9FVT012JM4W	QPSK	50	0	0 mm	bottom	1:1.58	0.001	1.002	0.001	0.000	0.000	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.10	0	F9FVT012JM4W	QPSK	1	0	0 mm	right	1:1.58	0.157	1.002	0.157	0.062	0.062	
2593.00	40620	Mid	LTE Band 41	20	16.0	15.99	0.08	0	F9FVT012JM4W	QPSK	50	0	0 mm	right	1:1.58	0.155	1.002	0.155	0.061	0.061	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-13
2.4GHz WLAN Body SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2412	1	802.11b	DSSS	22	15.5	15.50	0.10	0 mm	A	1	F9FVT00TJM4W	1	back	100.0	0.048	1.000	1.000	0.048	0.023	0.023	
2412	1	802.11b	DSSS	22	15.5	15.50	0.18	0 mm	A	1	F9FVT00TJM4W	1	top	100.0	0.008	1.000	1.000	0.008	0.003	0.003	
2412	1	802.11b	DSSS	22	15.5	15.50	0.01	0 mm	A	1	F9FVT00FJM4W	1	bottom	100.0	0.832	1.000	1.000	0.832	0.264	0.264	
2437	6	802.11b	DSSS	22	15.5	15.48	0.04	0 mm	A	1	F9FVT00FJM4W	1	bottom	100.0	1.050	1.005	1.000	1.055	0.334	0.336	
2437	6	802.11b	DSSS	22	15.5	15.45	-0.03	0 mm	A	2	F9FVT017JM50	1	bottom	99.9	0.903	1.012	1.001	0.915	0.290	0.294	
2462	11	802.11b	DSSS	22	15.5	15.49	0.03	0 mm	A	1	F9FVT00FJM4W	1	bottom	100.0	1.010	1.002	1.000	1.012	0.322	0.323	
2412	1	802.11b	DSSS	22	15.5	15.50	0.06	0 mm	A	1	F9FVT00TJM4W	1	left	100.0	0.114	1.000	1.000	0.114	0.053	0.053	
2437	6	802.11b	DSSS	22	15.5	15.50	0.00	0 mm	B	1	F9FVT00AJM4W	1	back	99.7	0.101	1.000	1.003	0.101	0.048	0.048	
2437	6	802.11b	DSSS	22	15.5	15.50	0.21	0 mm	B	1	F9FVT00AJM4W	1	top	99.7	0.011	1.000	1.003	0.011	0.004	0.004	
2412	1	802.11b	DSSS	22	15.5	15.36	0.16	0 mm	B	1	F9FVT00FJM4W	1	bottom	99.7	0.753	1.033	1.003	0.780	0.241	0.250	
2437	6	802.11b	DSSS	22	15.5	15.50	0.12	0 mm	B	1	F9FVT00FJM4W	1	bottom	99.7	0.802	1.000	1.003	0.804	0.257	0.258	
2462	11	802.11b	DSSS	22	15.5	15.47	0.02	0 mm	B	1	F9FVT00FJM4W	1	bottom	99.7	1.150	1.007	1.003	**1.162**	0.373	0.377	A18
2462	11	802.11b	DSSS	22	15.5	15.43	0.01	0 mm	B	2	F9FVT01MJM50	1	bottom	99.9	1.060	1.016	1.001	1.078	0.345	0.351	
2437	6	802.11b	DSSS	22	15.5	15.50	0.08	0 mm	B	1	F9FVT00AJM4W	1	right	99.7	0.215	1.000	1.003	0.216	0.095	0.095	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-14
U-NII-2A WLAN Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
5270	54	802.11n	OFDM	40	17.0	16.00	0.16	0 mm	A	1	F9FVT00GJM4W	13.5	back	98.5	0.043	1.259	1.016	0.055	0.017	0.022	
5270	54	802.11n	OFDM	40	17.0	16.00	0.19	0 mm	A	1	F9FVT00GJM4W	13.5	top	98.5	0.018	1.259	1.016	0.023	0.005	0.006	
5270	54	802.11n	OFDM	40	17.0	16.00	-0.01	0 mm	A	1	F9FVT00GJM4W	13.5	bottom	98.5	0.801	1.259	1.016	1.025	0.257	0.329	
5270	54	802.11n	OFDM	40	17.0	15.93	-0.04	0 mm	A	2	F9FVT01MJM50	13.5	bottom	98.3	0.786	1.279	1.017	1.022	0.256	0.333	
5310	62	802.11n	OFDM	40	14.5	14.43	-0.17	0 mm	A	1	F9FVT00GJM4W	13.5	bottom	98.5	0.475	1.016	1.016	0.490	0.158	0.163	
5270	54	802.11n	OFDM	40	17.0	16.00	0.19	0 mm	A	1	F9FVT00GJM4W	13.5	left	98.5	0.094	1.259	1.016	0.120	0.035	0.045	
5270	54	802.11n	OFDM	40	17.0	16.92	0.20	0 mm	B	1	F9FVT00AJM4W	13.5	back	98.1	0.090	1.019	1.020	0.094	0.036	0.037	
5270	54	802.11n	OFDM	40	17.0	16.92	0.11	0 mm	B	1	F9FVT00AJM4W	13.5	top	98.1	0.054	1.019	1.020	0.056	0.014	0.015	
5270	54	802.11n	OFDM	40	17.0	16.92	-0.06	0 mm	B	1	F9FVT00GJM4W	13.5	bottom	98.1	1.120	1.019	1.020	1.164	0.385	0.400	
5270	54	802.11n	OFDM	40	17.0	16.96	-0.03	0 mm	B	2	F9FVT01LJM50	13.5	bottom	98.3	1.080	1.009	1.017	1.108	0.369	0.379	
5310	62	802.11n	OFDM	40	14.5	14.50	0.12	0 mm	B	1	F9FVT00GJM4W	13.5	bottom	98.1	0.502	1.000	1.020	0.512	0.171	0.174	
5270	54	802.11n	OFDM	40	17.0	16.92	0.10	0 mm	B	1	F9FVT00AJM4W	13.5	right	98.1	0.131	1.019	1.020	0.136	0.045	0.047	
5270	54	802.11n	OFDM	40	17.0	16.92	-0.06	0 mm	B	1	F9FVT00GJM4W	13.5	bottom	98.1	1.040	1.019	1.020	1.081	0.349	0.363	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

Note: Blue entries indicate variability measurements.

Table 10-15
U-NII-2C WLAN Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
5610	122	802.11ac	OFDM	80	17.0	17.00	0.03	0 mm	A	1	F9FVT00AJM4W	29.3	back	96.5	0.089	1.000	1.037	0.092	0.030	0.031	
5610	122	802.11ac	OFDM	80	17.0	17.00	0.19	0 mm	A	1	F9FVT00AJM4W	29.3	top	96.5	0.041	1.000	1.037	0.043	0.012	0.012	
5530	106	802.11ac	OFDM	80	14.0	13.88	-0.05	0 mm	A	1	F9FVT00DJM4W	29.3	bottom	96.5	0.533	1.028	1.037	0.568	0.179	0.191	
5610	122	802.11ac	OFDM	80	17.0	17.00	-0.12	0 mm	A	1	F9FVT00DJM4W	29.3	bottom	96.5	1.140	1.000	1.037	1.182	0.389	0.403	A19
5610	122	802.11ac	OFDM	80	17.0	16.93	-0.14	0 mm	A	2	F9FVT017JM50	29.3	bottom	96.5	0.976	1.016	1.037	1.028	0.345	0.363	
5690	138	802.11ac	OFDM	80	17.0	16.97	-0.05	0 mm	A	1	F9FVT00DJM4W	29.3	bottom	96.5	0.870	1.007	1.037	0.909	0.298	0.311	
5610	122	802.11ac	OFDM	80	17.0	17.00	0.10	0 mm	A	1	F9FVT00AJM4W	29.3	left	96.5	0.143	1.000	1.037	0.148	0.052	0.054	
5610	122	802.11ac	OFDM	80	17.0	16.00	0.17	0 mm	B	1	F9FVT00AJM4W	29.3	back	96.6	0.060	1.259	1.035	0.078	0.022	0.029	
5610	122	802.11ac	OFDM	80	17.0	16.00	0.12	0 mm	B	1	F9FVT00AJM4W	29.3	top	96.6	0.022	1.259	1.035	0.029	0.006	0.008	
5610	122	802.11ac	OFDM	80	17.0	16.00	0.10	0 mm	B	1	F9FVT00DJM4W	29.3	bottom	96.6	0.837	1.259	1.035	1.091	0.299	0.390	
5610	122	802.11ac	OFDM	80	17.0	16.00	-0.03	0 mm	B	2	F9FVT017JM50	29.3	bottom	96.5	0.875	1.259	1.036	1.141	0.307	0.400	
5690	138	802.11ac	OFDM	80	17.0	16.00	-0.01	0 mm	B	1	F9FVT00DJM4W	29.3	bottom	96.6	0.703	1.259	1.035	0.916	0.252	0.328	
5610	122	802.11ac	OFDM	80	17.0	16.00	0.11	0 mm	B	1	F9FVT00TJM4W	29.3	right	96.6	0.114	1.259	1.035	0.149	0.042	0.055	
5610	122	802.11ac	OFDM	80	17.0	17.00	0.00	0 mm	A	1	F9FVT00DJM4W	29.3	bottom	96.5	1.130	1.000	1.037	1.172	0.397	0.412	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

Note: Blue entries indicate variability measurements.

Table 10-16
U-NII-3 WLAN Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
5775	155	802.11ac	OFDM	80	16.5	16.50	0.04	0 mm	A	1	F9FVT00TJM4W	29.3	back	96.5	0.080	1.000	1.037	0.083	0.027	0.028	
5775	155	802.11ac	OFDM	80	16.5	16.50	0.19	0 mm	A	1	F9FVT00TJM4W	29.3	top	96.5	0.029	1.000	1.037	0.030	0.010	0.010	
5775	155	802.11ac	OFDM	80	16.5	16.50	0.07	0 mm	A	1	F9FVT012JM4W	29.3	bottom	96.5	0.845	1.000	1.037	0.876	0.286	0.297	
5775	155	802.11ac	OFDM	80	16.5	16.50	-0.02	0 mm	A	2	F9FVT00WJM50	29.3	bottom	96.5	0.808	1.000	1.036	0.837	0.286	0.296	
5775	155	802.11ac	OFDM	80	16.5	16.50	0.19	0 mm	A	1	F9FVT00TJM4W	29.3	left	96.5	0.133	1.000	1.037	0.138	0.045	0.047	
5775	155	802.11ac	OFDM	80	16.5	16.00	-0.13	0 mm	B	1	F9FVT00TJM4W	29.3	back	96.6	0.032	1.122	1.035	0.037	0.013	0.015	
5775	155	802.11ac	OFDM	80	16.5	16.00	0.18	0 mm	B	1	F9FVT00TJM4W	29.3	top	96.6	0.021	1.122	1.035	0.024	0.005	0.006	
5775	155	802.11ac	OFDM	80	16.5	16.00	0.10	0 mm	B	1	F9FVT012JM4W	29.3	bottom	96.6	0.922	1.122	1.035	1.071	0.328	0.381	
5775	155	802.11ac	OFDM	80	16.5	15.92	0.13	0 mm	B	2	F9FVT01HJM50	29.3	bottom	96.5	0.790	1.143	1.036	0.935	0.280	0.332	
5775	155	802.11ac	OFDM	80	16.5	16.00	0.18	0 mm	B	1	F9FVT00TJM4W	29.3	right	96.6	0.092	1.122	1.035	0.107	0.033	0.038	
5775	155	802.11ac	OFDM	80	16.5	16.00	-0.02	0 mm	B	1	F9FVT012JM4W	29.3	bottom	96.6	0.818	1.122	1.035	0.950	0.293	0.340	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

Note: Blue entries indicate variability measurements.

Table 10-17
WLAN MIMO Body SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Cube	Device Serial Number	Variant	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2417	2	802.11g	OFDM	20	15.5	15.47	-0.05	0 mm	MIMO	1	F9FVT00FJM4W	1	6	bottom	99.0	0.804	1.007	1.010	0.818	0.266	0.271	
					15.5	15.36				2						0.874	1.033	1.010	0.912	0.291	0.304	
2437	6	802.11g	OFDM	20	15.5	15.50	0.00	0 mm	MIMO	1	F9FVT00FJM4W	1	6	bottom	99.0	0.991	1.000	1.010	1.001	0.319	0.322	
					15.5	15.50				2						0.826	1.000	1.010	0.834	0.266	0.269	
2457	10	802.11g	OFDM	20	15.5	15.48	-0.18	0 mm	MIMO	1	F9FVT00FJM4W	1	6	bottom	99.0	0.939	1.005	1.010	0.953	0.304	0.309	
					15.5	15.35				2						1.110	1.035	1.010	1.160	0.364	0.381	
2457	10	802.11g	OFDM	20	15.5	15.44	-0.10	0 mm	MIMO	1	F9FVT01MJM50	2	6	bottom	98.9	0.751	1.014	1.011	0.770	0.242	0.256	
					15.5	15.31				2						1.070	1.045	1.011	1.130	0.343	0.362	
5270	54	802.11n	OFDM	40	17.0	16.00	0.04	0 mm	MIMO	1	F9FVT00GJM4W	1	13.5	bottom	98.3	0.827	1.259	1.018	1.060	0.262	0.336	
					17.0	16.92				2						1.030	1.019	1.018	1.068	0.347	0.360	
5270	54	802.11n	OFDM	40	17.0	15.90	-0.01	0 mm	MIMO	1	F9FVT01MJM50	2	13.5	bottom	98.3	0.787	1.288	1.017	1.031	0.255	0.334	
					17.0	16.95				2						1.020	1.012	1.017	1.050	0.352	0.362	
5310	62	802.11n	OFDM	40	13.5	13.41	0.11	0 mm	MIMO	1	F9FVT00GJM4W	1	13.5	bottom	98.3	0.397	1.021	1.018	0.413	0.126	0.131	
					13.5	13.40				2						0.413	1.023	1.018	0.430	0.136	0.142	
5610	122	802.11ac	OFDM	80	17.0	17.00	-0.02	0 mm	MIMO	1	F9FVT00DJM4W	1	29.3	bottom	95.6	1.020	1.000	1.046	1.067	0.349	0.365	
					17.0	16.00				2						0.767	1.259	1.046	1.010	0.274	0.361	
5610	122	802.11ac	OFDM	80	17.0	16.97	-0.17	0 mm	MIMO	1	F9FVT017JM50	2	29.3	bottom	95.5	1.010	1.007	1.047	1.065	0.350	0.369	
					17.0	16.00				2						0.737	1.259	1.047	0.971	0.259	0.341	
5690	138	802.11ac	OFDM	80	17.0	17.00	0.14	0 mm	MIMO	1	F9FVT00DJM4W	1	29.3	bottom	95.6	0.842	1.000	1.046	0.881	0.289	0.391	
					17.0	15.88				1						0.765	1.294	1.046	1.035	0.274	0.371	
5755	151	802.11n	OFDM	40	16.5	16.50	0.15	0 mm	MIMO	1	F9FVT012JM4W	1	13.5	bottom	98.3	0.729	1.000	1.018	0.742	0.235	0.239	
					16.5	16.46				2						0.893	1.009	1.018	0.917	0.322	0.331	
5795	159	802.11n	OFDM	40	16.5	16.45	-0.15	0 mm	MIMO	1	F9FVT012JM4W	1	13.5	bottom	98.3	0.823	1.012	1.018	0.848	0.274	0.282	
					16.5	16.40				2						0.905	1.023	1.018	0.942	0.328	0.342	
5795	159	802.11n	OFDM	40	16.5	16.47	-0.09	0 mm	MIMO	1	F9FVT01MJM50	2	13.5	bottom	98.3	0.856	1.007	1.017	0.877	0.298	0.316	
					16.5	16.32				2						0.751	1.042	1.017	0.796	0.273	0.289	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram												

Note: Due to the spatial separation of Antenna A and Antenna B, two measurement cubes were evaluated during MIMO SAR testing. Cube 1 and 2 are located over the SAR distributions produced by Antenna A and B, respectively. Due to the spatial separation of the distributions, the conducted power of each antenna was individually considered for each measurement cube to determine the reported SAR, per manufacturer's request.

Table 10-18
Bluetooth P_{High} Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2480	78	Bluetooth	FHSS	17.0	17.00	-0.11	0 mm	1	F9FVT00FJM4W	1	back	77.2	0.084	1.000	1.004	0.084	0.039	0.039	
2480	78	Bluetooth	FHSS	17.0	17.00	0.13	0 mm	1	F9FVT00FJM4W	1	top	77.2	0.014	1.000	1.004	0.014	0.005	0.005	
2402	0	Bluetooth	FHSS	17.0	15.62	0.14	0 mm	1	F9FVT00FJM4W	1	bottom	77.2	0.788	1.374	1.004	1.087	0.251	0.346	
2441	39	Bluetooth	FHSS	17.0	15.53	0.11	0 mm	1	F9FVT00FJM4W	1	bottom	77.2	0.835	1.403	1.004	**1.176**	0.266	0.375	
2441	39	Bluetooth	FHSS	17.0	15.74	0.06	0 mm	2	F9FVT017JM50	1	bottom	77.4	0.741	1.337	1.001	0.992	0.236	0.316	
2480	78	Bluetooth	FHSS	17.0	17.00	0.07	0 mm	1	F9FVT00FJM4W	1	bottom	77.2	1.170	1.000	1.004	1.175	0.380	0.382	A20
2480	78	Bluetooth	FHSS	17.0	17.00	0.16	0 mm	1	F9FVT00FJM4W	1	left	77.2	0.189	1.000	1.004	0.190	0.082	0.082	
2480	78	Bluetooth	FHSS	17.0	17.00	0.16	0 mm	1	F9FVT00FJM4W	1	bottom	77.2	1.160	1.000	1.004	1.165	0.376	0.378	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 77.5% per the manufacturer. Blue entries indicate variability measurements.

Table 10-19
Bluetooth P_{Low} Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2441	39	Bluetooth	FHSS	9.5	9.25	0.19	0 mm	1	F9FVT00FJM4W	1	back	77.1	0.027	1.060	1.005	0.029	0.012	0.013	
2441	39	Bluetooth	FHSS	9.5	9.25	-0.01	0 mm	1	F9FVT00FJM4W	1	top	77.1	0.004	1.060	1.005	0.004	0.001	0.001	
2441	39	Bluetooth	FHSS	9.5	9.25	0.03	0 mm	1	F9FVT00FJM4W	1	bottom	77.1	0.206	1.060	1.005	0.219	0.064	0.068	
2441	39	Bluetooth	FHSS	9.5	9.25	-0.13	0 mm	1	F9FVT00FJM4W	1	left	77.1	0.025	1.060	1.005	0.027	0.011	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram												

Note: The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 77.5% per the manufacturer.

10.2 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 616217 D04v01r02 and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the 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. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 12 for variability analysis.
7. FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D01v06 was applied to determine SAR test exclusion for adjacent edge configurations.

GSM Test Notes:

1. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
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 for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

CDMA Notes:

1. CDMA SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01..
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 for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

3. CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

UMTS Notes:

1. 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 per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
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 for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 7.6.4.
2. 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.
3. A-MPR was disabled for all SAR tests by setting NS=01 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).
4. 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.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

WLAN Notes:

1. 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. See Section 7.7.4 for more information.
2. 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 for 1g evaluations. See Section 7.7.5 for more information.
3. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 11 for complete analysis.
4. When the maximum reported 1g averaged SAR is ≤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 for 1g evaluations 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 supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

Bluetooth Notes

1. Bluetooth SAR was evaluated with a test mode with hopping disabled with DH5 operation. The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is limited to 77.5% per the manufacturer. See Section 8.6 for the time domain plot and calculation for the duty factor of the device.

11 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

11.1 Introduction

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

11.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 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 1g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

11.3 Body SAR Simultaneous Transmission Analysis

Table 11-1
Simultaneous Transmission Scenario with 2.4 GHz WLAN

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.156	0.048	0.101	1.204	1.257	**1.305**
	Top	0.830	0.008	0.011	0.838	0.841	0.849
	Bottom	0.025	1.055	1.162	1.080	1.187	See Table 11-2
	Right	0.101	0.400*	0.216	0.501	0.317	0.717
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914
Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.146	0.048	0.101	1.194	1.247	**1.295**
	Top	0.689	0.008	0.011	0.697	0.700	0.708
	Bottom	0.018	1.055	1.162	1.073	1.180	See Table 11-2
	Right	0.111	0.400*	0.216	0.511	0.327	0.727
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.027	0.048	0.101	1.075	1.128	1.176
	Top	0.670	0.008	0.011	0.678	0.681	0.689
	Bottom	0.022	1.055	1.162	1.077	1.184	See Table 11-2
	Right	0.113	0.400*	0.216	0.513	0.329	0.729
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.092	0.048	0.101	1.140	1.193	**1.241**
	Top	0.727	0.008	0.011	0.735	0.738	0.746
	Bottom	0.019	1.055	1.162	1.074	1.181	See Table 11-2
	Right	0.114	0.400*	0.216	0.514	0.330	0.730
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	0.977	0.048	0.101	1.025	1.078	1.126
	Top	0.699	0.008	0.011	0.707	0.710	0.718
	Bottom	0.004	1.055	1.162	1.059	**1.166**	See Table 11-2
	Right	0.082	0.400*	0.216	0.482	0.298	0.698
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.112	0.048	0.101	1.160	1.213	**1.261**
	Top	0.969	0.008	0.011	0.977	0.980	0.988
	Bottom	0.000	1.055	1.162	1.055	1.162	See Table 11-2
	Right	0.126	0.400*	0.216	0.526	0.342	0.742
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.073	0.048	0.101	1.121	1.174	**1.222**
	Top	0.874	0.008	0.011	0.882	0.885	0.893
	Bottom	0.001	1.055	1.162	1.056	1.163	See Table 11-2
	Right	0.120	0.400*	0.216	0.520	0.336	0.736
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.136	0.048	0.101	1.184	1.237	**1.285**
	Top	0.898	0.008	0.011	0.906	0.909	0.917
	Bottom	0.000	1.055	1.162	1.055	1.162	See Table 11-2
	Right	0.120	0.400*	0.216	0.520	0.336	0.736
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.182	0.048	0.101	1.230	1.283	**1.331**
	Top	0.847	0.008	0.011	0.855	0.858	0.866
	Bottom	0.030	1.055	1.162	1.085	1.192	See Table 11-2
	Right	0.105	0.400*	0.216	0.505	0.321	0.721
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.152	0.048	0.101	1.200	1.253	**1.301**
	Top	0.756	0.008	0.011	0.764	0.767	0.775
	Bottom	0.031	1.055	1.162	1.086	1.193	See Table 11-2
	Right	0.120	0.400*	0.216	0.520	0.336	0.736
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.130	0.048	0.101	1.178	1.231	**1.279**
	Top	0.690	0.008	0.011	0.698	0.701	0.709
	Bottom	0.022	1.055	1.162	1.077	1.184	See Table 11-2
	Right	0.103	0.400*	0.216	0.503	0.319	0.719
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.032	0.048	0.101	1.080	1.133	1.181
	Top	0.634	0.008	0.011	0.642	0.645	0.653
	Bottom	0.022	1.055	1.162	1.077	**1.184**	See Table 11-2
	Right	0.112	0.400*	0.216	0.512	0.328	0.728
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.040	0.048	0.101	1.088	1.141	**1.189**
	Top	0.732	0.008	0.011	0.740	0.743	0.751
	Bottom	0.006	1.055	1.162	1.061	1.168	See Table 11-2
	Right	0.086	0.400*	0.216	0.486	0.302	0.702
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.092	0.048	0.101	1.140	1.193	**1.241**
	Top	0.938	0.008	0.011	0.946	0.949	0.957
	Bottom	0.000	1.055	1.162	1.055	1.162	See Table 11-2
	Right	0.126	0.400*	0.216	0.526	0.342	0.742
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	0.989	0.048	0.101	1.037	1.090	1.138
	Top	1.065	0.008	0.011	1.073	1.076	1.084
	Bottom	0.014	1.055	1.162	1.069	**1.176**	See Table 11-2
	Right	0.163	0.400*	0.216	0.563	0.379	0.779
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.170	0.048	0.101	1.218	1.271	**1.319**
	Top	1.170	0.008	0.011	1.178	1.181	1.189
	Bottom	0.000	1.055	1.162	1.055	1.162	See Table 11-2
	Right	0.188	0.400*	0.216	0.588	0.404	0.804
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant A SAR (W/kg)	2.4 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.015	0.048	0.101	1.063	1.116	**1.164**
	Top	1.095	0.008	0.011	1.103	1.106	1.114
	Bottom	0.002	1.055	1.162	1.057	**1.164**	See Table 11-2
	Right	0.157	0.400*	0.216	0.557	0.373	0.773
	Left	0.400*	0.114	0.400*	0.514	0.800	0.914

Table 11-2
Bottom Edge Simultaneous Transmission Scenario with 2.4 GHz WLAN

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
Bottom Edge	GPRS 850	0.025	1.160	1.185
Bottom Edge	UMTS 850	0.018	1.160	1.178
Bottom Edge	EVDO BC10 (§90S)	0.022	1.160	1.182
Bottom Edge	EVDO BC0 (§22H)	0.019	1.160	1.179
Bottom Edge	UMTS 1750	0.004	1.160	1.164
Bottom Edge	GPRS 1900	0.000	1.160	1.160
Bottom Edge	UMTS 1900	0.001	1.160	1.161
Bottom Edge	PCS EVDO	0.000	1.160	1.160
Bottom Edge	LTE Band 12	0.030	1.160	1.190
Bottom Edge	LTE Band 13	0.031	1.160	**1.191**
Bottom Edge	LTE Band 5 (Cell)	0.022	1.160	1.182
Bottom Edge	LTE Band 26 (Cell)	0.022	1.160	1.182
Bottom Edge	LTE Band 4 (AWS)	0.006	1.160	1.166
Bottom Edge	LTE Band 25 (PCS)	0.000	1.160	1.160
Bottom Edge	LTE Band 30	0.014	1.160	1.174
Bottom Edge	LTE Band 7	0.000	1.160	1.160
Bottom Edge	LTE Band 41	0.002	1.160	1.162

Table 11-3
Simultaneous Transmission Scenario with 5 GHz WLAN

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.156	0.092	0.094	1.248	1.250	**1.342**
	Top	0.830	0.043	0.056	0.873	0.886	0.929
	Bottom	0.025	1.182	1.164	1.207	1.189	See Table 11-4
	Right	0.101	0.400*	0.149	0.501	0.250	0.650
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948
Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.146	0.092	0.094	1.238	1.240	**1.332**
	Top	0.689	0.043	0.056	0.732	0.745	0.788
	Bottom	0.018	1.182	1.164	1.200	1.182	See Table 11-4
	Right	0.111	0.400*	0.149	0.511	0.260	0.660
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.027	0.092	0.094	1.119	1.121	**1.213**
	Top	0.670	0.043	0.056	0.713	0.726	0.769
	Bottom	0.022	1.182	1.164	1.204	1.186	See Table 11-4
	Right	0.113	0.400*	0.149	0.513	0.262	0.662
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.092	0.092	0.094	1.184	1.186	**1.278**
	Top	0.727	0.043	0.056	0.770	0.783	0.826
	Bottom	0.019	1.182	1.164	1.201	1.183	See Table 11-4
	Right	0.114	0.400*	0.149	0.514	0.263	0.663
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	0.977	0.092	0.094	1.069	1.071	1.163
	Top	0.699	0.043	0.056	0.742	0.755	0.798
	Bottom	0.004	1.182	1.164	**1.186**	1.168	See Table 11-4
	Right	0.082	0.400*	0.149	0.482	0.231	0.631
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.112	0.092	0.094	1.204	1.206	**1.298**
	Top	0.969	0.043	0.056	1.012	1.025	1.068
	Bottom	0.000	1.182	1.164	1.182	1.164	See Table 11-4
	Right	0.126	0.400*	0.149	0.526	0.275	0.675
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.073	0.092	0.094	1.165	1.167	**1.259**
	Top	0.874	0.043	0.056	0.917	0.930	0.973
	Bottom	0.001	1.182	1.164	1.183	1.165	See Table 11-4
	Right	0.120	0.400*	0.149	0.520	0.269	0.669
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.136	0.092	0.094	1.228	1.230	**1.322**
	Top	0.898	0.043	0.056	0.941	0.954	0.997
	Bottom	0.000	1.182	1.164	1.182	1.164	See Table 11-4
	Right	0.120	0.400*	0.149	0.520	0.269	0.669
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.182	0.092	0.094	1.274	1.276	**1.368**
	Top	0.847	0.043	0.056	0.890	0.903	0.946
	Bottom	0.030	1.182	1.164	1.212	1.194	See Table 11-4
	Right	0.105	0.400*	0.149	0.505	0.254	0.654
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.152	0.092	0.094	1.244	1.246	**1.338**
	Top	0.756	0.043	0.056	0.799	0.812	0.855
	Bottom	0.031	1.182	1.164	1.213	1.195	See Table 11-4
	Right	0.120	0.400*	0.149	0.520	0.269	0.669
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.130	0.092	0.094	1.222	1.224	**1.316**
	Top	0.690	0.043	0.056	0.733	0.746	0.789
	Bottom	0.022	1.182	1.164	1.204	1.186	See Table 11-4
	Right	0.103	0.400*	0.149	0.503	0.252	0.652
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.032	0.092	0.094	1.124	1.126	**1.218**
	Top	0.634	0.043	0.056	0.677	0.690	0.733
	Bottom	0.022	1.182	1.164	1.204	1.186	See Table 11-4
	Right	0.112	0.400*	0.149	0.512	0.261	0.661
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 4 (AWS) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.040	0.092	0.094	1.132	1.134	**1.226**
	Top	0.732	0.043	0.056	0.775	0.788	0.831
	Bottom	0.006	1.182	1.164	1.188	1.170	See Table 11-4
	Right	0.086	0.400*	0.149	0.486	0.235	0.635
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.092	0.092	0.094	1.184	1.186	**1.278**
	Top	0.938	0.043	0.056	0.981	0.994	1.037
	Bottom	0.000	1.182	1.164	1.182	1.164	See Table 11-4
	Right	0.126	0.400*	0.149	0.526	0.275	0.675
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	0.989	0.092	0.094	1.081	1.083	1.175
	Top	1.065	0.043	0.056	1.108	1.121	1.164
	Bottom	0.014	1.182	1.164	**1.196**	1.178	See Table 11-4
	Right	0.163	0.400*	0.149	0.563	0.312	0.712
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.170	0.092	0.094	1.262	1.264	**1.356**
	Top	1.170	0.043	0.056	1.213	1.226	1.269
	Bottom	0.000	1.182	1.164	1.182	1.164	See Table 11-4
	Right	0.188	0.400*	0.149	0.588	0.337	0.737
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.015	0.092	0.094	1.107	1.109	**1.201**
	Top	1.095	0.043	0.056	1.138	1.151	1.194
	Bottom	0.002	1.182	1.164	1.184	1.166	See Table 11-4
	Right	0.157	0.400*	0.149	0.557	0.306	0.706
	Left	0.400*	0.148	0.400*	0.548	0.800	0.948

Table 11-4
Bottom Edge Simultaneous Transmission Scenario with 5 GHz WLAN

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
Bottom Edge	GSM 850	0.025	1.068	1.093
Bottom Edge	UMTS 850	0.018	1.068	1.086
Bottom Edge	CDMA BC10 (§90S)	0.022	1.068	1.090
Bottom Edge	CDMA BC0 (§22H)	0.019	1.068	1.087
Bottom Edge	UMTS 1750	0.004	1.068	1.072
Bottom Edge	GSM 1900	0.000	1.068	1.068
Bottom Edge	UMTS 1900	0.001	1.068	1.069
Bottom Edge	PCS CDMA	0.000	1.068	1.068
Bottom Edge	LTE Band 12	0.030	1.068	1.098
Bottom Edge	LTE Band 13	0.031	1.068	**1.099**
Bottom Edge	LTE Band 5 (Cell)	0.022	1.068	1.090
Bottom Edge	LTE Band 26 (Cell)	0.022	1.068	1.090
Bottom Edge	LTE Band 4 (AWS)	0.006	1.068	1.074
Bottom Edge	LTE Band 25 (PCS)	0.000	1.068	1.068
Bottom Edge	LTE Band 30	0.014	1.068	1.082
Bottom Edge	LTE Band 7	0.000	1.068	1.068
Bottom Edge	LTE Band 41	0.002	1.068	1.070

Table 11-5
Simultaneous Transmission Scenario with Bluetooth

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.156	0.084	**1.240**
	Top	0.830	0.014	0.844
	Bottom	0.025	1.176	1.201
	Right	0.101	0.400*	0.501
	Left	0.400*	0.190	0.590
Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.146	0.084	**1.230**
	Top	0.689	0.014	0.703
	Bottom	0.018	1.176	1.194
	Right	0.111	0.400*	0.511
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.027	0.084	1.111
	Top	0.670	0.014	0.684
	Bottom	0.022	1.176	**1.198**
	Right	0.113	0.400*	0.513
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.092	0.084	1.176
	Top	0.727	0.014	0.741
	Bottom	0.019	1.176	**1.195**
	Right	0.114	0.400*	0.514
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.977	0.084	1.061
	Top	0.699	0.014	0.713
	Bottom	0.004	1.176	**1.180**
	Right	0.082	0.400*	0.482
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.112	0.084	**1.196**
	Top	0.969	0.014	0.983
	Bottom	0.000	1.176	1.176
	Right	0.126	0.400*	0.526
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.073	0.084	1.157
	Top	0.874	0.014	0.888
	Bottom	0.001	1.176	**1.177**
	Right	0.120	0.400*	0.520
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.136	0.084	**1.220**
	Top	0.898	0.014	0.912
	Bottom	0.000	1.176	1.176
	Right	0.120	0.400*	0.520
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.182	0.084	**1.266**
	Top	0.847	0.014	0.861
	Bottom	0.030	1.176	1.206
	Right	0.105	0.400*	0.505
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.152	0.084	**1.236**
	Top	0.756	0.014	0.770
	Bottom	0.031	1.176	1.207
	Right	0.120	0.400*	0.520
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.130	0.084	**1.214**
	Top	0.690	0.014	0.704
	Bottom	0.022	1.176	1.198
	Right	0.103	0.400*	0.503
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.032	0.084	1.116
	Top	0.634	0.014	0.648
	Bottom	0.022	1.176	**1.198**
	Right	0.112	0.400*	0.512
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 4 (AWS) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.040	0.084	1.124
	Top	0.732	0.014	0.746
	Bottom	0.006	1.176	**1.182**
	Right	0.086	0.400*	0.486
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.092	0.084	**1.176**
	Top	0.938	0.014	0.952
	Bottom	0.000	1.176	**1.176**
	Right	0.126	0.400*	0.526
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.989	0.084	1.073
	Top	1.065	0.014	1.079
	Bottom	0.014	1.176	**1.190**
	Right	0.163	0.400*	0.563
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.170	0.084	**1.254**
	Top	1.170	0.014	1.184
	Bottom	0.000	1.176	1.176
	Right	0.188	0.400*	0.588
	Left	0.400*	0.190	0.590

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth P_{High} SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	1.015	0.084	1.099
	Top	1.095	0.014	1.109
	Bottom	0.002	1.176	**1.178**
	Right	0.157	0.400*	0.557
	Left	0.400*	0.190	0.590

Table 11-6
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.156	0.029	0.092	0.094	1.277	1.279	1.371
	Top	0.830	0.004	0.043	0.056	0.877	0.890	0.933
	Bottom	0.025	0.219	1.182	1.164	**1.426**	1.408	See Table 11-7
	Right	0.101	0.400*	0.400*	0.149	0.901	0.650	1.050
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.146	0.029	0.092	0.094	1.267	1.269	1.361
	Top	0.689	0.004	0.043	0.056	0.736	0.749	0.792
	Bottom	0.018	0.219	1.182	1.164	**1.419**	1.401	See Table 11-7
	Right	0.111	0.400*	0.400*	0.149	0.911	0.660	1.060
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.027	0.029	0.092	0.094	1.148	1.150	1.242
	Top	0.670	0.004	0.043	0.056	0.717	0.730	0.773
	Bottom	0.022	0.219	1.182	1.164	**1.423**	1.405	See Table 11-7
	Right	0.113	0.400*	0.400*	0.149	0.913	0.662	1.062
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.092	0.029	0.092	0.094	1.213	1.215	1.307
	Top	0.727	0.004	0.043	0.056	0.774	0.787	0.830
	Bottom	0.019	0.219	1.182	1.164	**1.420**	1.402	See Table 11-7
	Right	0.114	0.400*	0.400*	0.149	0.914	0.663	1.063
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	0.977	0.029	0.092	0.094	1.098	1.100	1.192
	Top	0.699	0.004	0.043	0.056	0.746	0.759	0.802
	Bottom	0.004	0.219	1.182	1.164	**1.405**	1.387	See Table 11-7
	Right	0.082	0.400*	0.400*	0.149	0.882	0.631	1.031
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.112	0.029	0.092	0.094	1.233	1.235	1.327
	Top	0.969	0.004	0.043	0.056	1.016	1.029	1.072
	Bottom	0.000	0.219	1.182	1.164	**1.401**	1.383	See Table 11-7
	Right	0.126	0.400*	0.400*	0.149	0.926	0.675	1.075
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.073	0.029	0.092	0.094	1.194	1.196	1.288
	Top	0.874	0.004	0.043	0.056	0.921	0.934	0.977
	Bottom	0.001	0.219	1.182	1.164	**1.402**	1.384	See Table 11-7
	Right	0.120	0.400*	0.400*	0.149	0.920	0.669	1.069
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.136	0.029	0.092	0.094	1.257	1.259	1.351
	Top	0.898	0.004	0.043	0.056	0.945	0.958	1.001
	Bottom	0.000	0.219	1.182	1.164	**1.401**	1.383	See Table 11-7
	Right	0.120	0.400*	0.400*	0.149	0.920	0.669	1.069
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.182	0.029	0.092	0.094	1.303	1.305	1.397
	Top	0.847	0.004	0.043	0.056	0.894	0.907	0.950
	Bottom	0.030	0.219	1.182	1.164	**1.431**	1.413	See Table 11-7
	Right	0.105	0.400*	0.400*	0.149	0.905	0.654	1.054
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.152	0.029	0.092	0.094	1.273	1.275	1.367
	Top	0.756	0.004	0.043	0.056	0.803	0.816	0.859
	Bottom	0.031	0.219	1.182	1.164	**1.432**	1.414	See Table 11-7
	Right	0.120	0.400*	0.400*	0.149	0.920	0.669	1.069
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.130	0.029	0.092	0.094	1.251	1.253	1.345
	Top	0.690	0.004	0.043	0.056	0.737	0.750	0.793
	Bottom	0.022	0.219	1.182	1.164	**1.423**	1.405	See Table 11-7
	Right	0.103	0.400*	0.400*	0.149	0.903	0.652	1.052
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.032	0.029	0.092	0.094	1.153	1.155	1.247
	Top	0.634	0.004	0.043	0.056	0.681	0.694	0.737
	Bottom	0.022	0.219	1.182	1.164	**1.423**	1.405	See Table 11-7
	Right	0.112	0.400*	0.400*	0.149	0.912	0.661	1.061
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 4 (AWS) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.040	0.029	0.092	0.094	1.161	1.163	1.255
	Top	0.732	0.004	0.043	0.056	0.779	0.792	0.835
	Bottom	0.006	0.219	1.182	1.164	**1.407**	1.389	See Table 11-7
	Right	0.086	0.400*	0.400*	0.149	0.886	0.635	1.035
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.092	0.029	0.092	0.094	1.213	1.215	1.307
	Top	0.938	0.004	0.043	0.056	0.985	0.998	1.041
	Bottom	0.000	0.219	1.182	1.164	**1.401**	1.383	See Table 11-7
	Right	0.126	0.400*	0.400*	0.149	0.926	0.675	1.075
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	0.989	0.029	0.092	0.094	1.110	1.112	1.204
	Top	1.065	0.004	0.043	0.056	1.112	1.125	1.168
	Bottom	0.014	0.219	1.182	1.164	**1.415**	1.397	See Table 11-7
	Right	0.163	0.400*	0.400*	0.149	0.963	0.712	1.112
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.170	0.029	0.092	0.094	1.291	1.293	1.385
	Top	1.170	0.004	0.043	0.056	1.217	1.230	1.273
	Bottom	0.000	0.219	1.182	1.164	**1.401**	1.383	See Table 11-7
	Right	0.188	0.400*	0.400*	0.149	0.988	0.737	1.137
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN Ant A SAR (W/kg)	5 GHz WLAN Ant B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body SAR	Back	1.015	0.029	0.092	0.094	1.136	1.138	1.230
	Top	1.095	0.004	0.043	0.056	1.142	1.155	1.198
	Bottom	0.002	0.219	1.182	1.164	**1.403**	1.385	See Table 11-7
	Right	0.157	0.400*	0.400*	0.149	0.957	0.706	1.106
	Left	0.400*	0.027	0.148	0.400*	0.575	0.827	0.975

Table 11-7
Bottom Edge Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth P_{Low} SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
Bottom Edge	GSM 850	0.025	0.219	1.068	1.312
Bottom Edge	UMTS 850	0.018	0.219	1.068	1.305
Bottom Edge	CDMA BC10 (§90S)	0.022	0.219	1.068	1.309
Bottom Edge	CDMA BC0 (§22H)	0.019	0.219	1.068	1.306
Bottom Edge	UMTS 1750	0.004	0.219	1.068	1.291
Bottom Edge	GSM 1900	0.000	0.219	1.068	1.287
Bottom Edge	UMTS 1900	0.001	0.219	1.068	1.288
Bottom Edge	PCS CDMA	0.000	0.219	1.068	1.287
Bottom Edge	LTE Band 12	0.030	0.219	1.068	1.317
Bottom Edge	LTE Band 13	0.031	0.219	1.068	**1.318**
Bottom Edge	LTE Band 5 (Cell)	0.022	0.219	1.068	1.309
Bottom Edge	LTE Band 26 (Cell)	0.022	0.219	1.068	1.309
Bottom Edge	LTE Band 4 (AWS)	0.006	0.219	1.068	1.293
Bottom Edge	LTE Band 25 (PCS)	0.000	0.219	1.068	1.287
Bottom Edge	LTE Band 30	0.014	0.219	1.068	1.301
Bottom Edge	LTE Band 7	0.000	0.219	1.068	1.287
Bottom Edge	LTE Band 41	0.002	0.219	1.068	1.289

(*) - When the antenna separation distance was > 50 mm, an estimated SAR of 0.4 W/kg was used to determine the simultaneous transmission SAR exclusion for test positions excluded per FCC KDB Publication 447498 D01v06. The simultaneous SAR sums using this estimation are highlighted in gray.

11.4 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.

12 SAR MEASUREMENT VARIABILITY

12.1 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 preformed 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 1g 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

Table 12-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Service	# of Time Slots	Data Rate (Mbps)	Side	Spacing	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)	
750	707.50	23095	LTE Band 12, 10 MHz Bandwidth	QPSK, 25 RB, 12 RB Offset	N/A	N/A	back	0 mm	1.180	1.180	1.00	N/A	N/A	N/A	N/A
835	824.20	128	GSM 850	GPRS	2	N/A	back	0 mm	1.140	1.070	1.07	N/A	N/A	N/A	N/A
1750	1732.50	20175	LTE Band 4 (AWS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	N/A	N/A	back	0 mm	1.030	1.040	1.01	N/A	N/A	N/A	N/A
1900	1908.75	1175	PCS CDMA	EVDO Rev. 0	N/A	N/A	back	0 mm	1.120	1.120	1.00	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 0 RB Offset	N/A	N/A	top	0 mm	1.020	1.060	1.04	N/A	N/A	N/A	N/A
2450	2480.00	78	Bluetooth	FHSS	N/A	1	bottom	0 mm	1.170	1.160	1.01	N/A	N/A	N/A	N/A
2600	2535.00	21100	LTE Band 7, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	N/A	top	0 mm	1.170	1.160	1.01	N/A	N/A	N/A	N/A
5250	5270.00	54	802.11n, 40 MHz Bandwidth	OFDM , ANT B	N/A	13.5	bottom	0 mm	1.120	1.040	1.08	N/A	N/A	N/A	N/A
5600	5610.00	122	802.11ac, 80 MHz Bandwidth	OFDM , ANT A	N/A	29.3	bottom	0 mm	1.140	1.130	1.01	N/A	N/A	N/A	N/A
5750	5775.00	155	802.11ac, 80 MHz Bandwidth	OFDM , ANT B	N/A	29.3	bottom	0 mm	0.922	0.818	1.13	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram						

12.2 Measurement Uncertainty

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

13 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E4432B	ESG-D Series Signal Generator	3/24/2017	Annual	3/24/2018	US40053896
Agilent	E5515C	Wireless Communications Test Set	3/4/2016	Biennial	3/4/2018	GB45360985
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/22/2017	Annual	3/22/2018	MY45470194
Agilent	N5182A	MXG Vector Signal Generator	2/28/2017	Annual	2/28/2018	MY47420800
Agilent	N9030A	PXA Signal Analyzer (44GHz)	3/27/2017	Annual	3/27/2018	MY52350166
Agilent	E4438C	ESG Vector Signal Generator	3/24/2017	Biennial	3/24/2019	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	3/23/2017	Annual	3/23/2018	MY47270002
Agilent	8753ES	S-Parameter Network Analyzer	9/14/2017	Annual	9/14/2018	US39170118
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Anritsu	ML2495A	Power Meter	10/22/2017	Annual	10/22/2018	941001
Anritsu	ML2495A	Power Meter	11/28/2017	Annual	11/28/2018	1039008
Anritsu	MA24106A	USB Power Sensor	6/7/2017	Annual	6/7/2018	1231538
Anritsu	MA24106A	USB Power Sensor	6/7/2017	Annual	6/7/2018	1231535
Anritsu	MA2411B	Pulse Power Sensor	10/16/2017	Annual	10/16/2018	1207470
Anritsu	MA2411B	Pulse Power Sensor	2/10/2017	Annual	2/10/2018	1339018
Control Company	4040	Therm./ Clock/ Humidity Monitor	3/1/2017	Biennial	3/1/2019	170152009
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330144
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4040	Therm./ Clock/ Humidity Monitor	3/1/2017	Biennial	3/1/2019	170152009
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330144
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330174
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mitutoyo	CD-6"CSX	Digital Caliper	3/2/2016	Biennial	3/2/2018	13264165
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE5011-1	Torque Wrench	7/19/2017	Biennial	7/19/2019	N/A
Pasternack	PE5011-1	Torque Wrench	7/19/2017	Biennial	7/19/2019	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	11/3/2017	Annual	11/3/2018	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	5/4/2017	Annual	5/4/2018	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	5/4/2017	Annual	5/4/2018	101699
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/10/2017	Annual	5/10/2018	1070
SPEAG	D750V3	750 MHz SAR Dipole	9/8/2017	Annual	9/8/2018	1097
SPEAG	D835V2	850 MHz SAR Dipole	5/11/2017	Annual	5/11/2018	4d180
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2017	Annual	5/9/2018	1092
SPEAG	D1900V2	1900 MHz SAR Dipole	5/10/2017	Annual	5/10/2018	5d026
SPEAG	D2300V2	2300 MHz SAR Dipole	3/7/2017	Annual	3/7/2018	1038
SPEAG	D2450V2	2450 MHz SAR Dipole	5/9/2017	Annual	5/9/2018	945
SPEAG	D2450V2	2450 MHz SAR Dipole	6/7/2017	Annual	6/7/2018	750
SPEAG	D2600V2	2600 MHz SAR Dipole	9/11/2017	Annual	9/11/2018	1069
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/13/2017	Annual	9/13/2018	1163
SPEAG	D5GHzV2	5 GHz SAR Dipole	3/9/2017	Annual	3/9/2018	1123
SPEAG	ES3DV2	SAR Probe	7/17/2017	Annual	7/17/2018	3022
SPEAG	ES3DV3	SAR Probe	11/10/2017	Annual	11/10/2018	3334
SPEAG	ES3DV3	SAR Probe	9/18/2017	Annual	9/18/2018	3333
SPEAG	EX3DV4	SAR Probe	9/20/2017	Annual	9/20/2018	7420
SPEAG	EX3DV4	SAR Probe	7/18/2017	Annual	7/18/2018	7416
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/21/2017	Annual	6/21/2018	701
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/8/2017	Annual	11/8/2018	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/15/2017	Annual	9/15/2018	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/15/2017	Annual	9/15/2018	1449

Note: 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. a 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.

14 MEASUREMENT UNCERTAINTIES

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

15 CONCLUSION

15.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very 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 in possible biological effects 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 various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00FJM4W

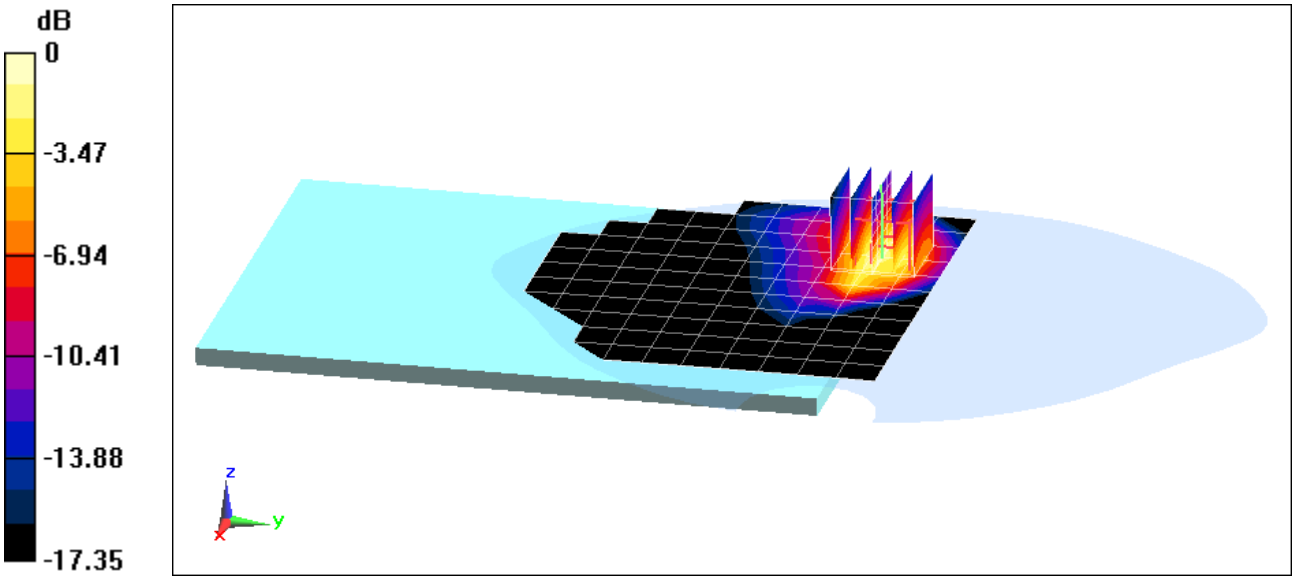
Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 824.2 MHz; Duty Cycle: 1:4.15
Medium: 835 Body Medium parameters used (interpolated):
$f = 824.2$ MHz; $\sigma = 0.996$ S/m; $\varepsilon_r = 53.145$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: GPRS 850, Body SAR, Back side, Low.ch, 2 Tx Slots

Area Scan (12x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 36.31 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.35 W/kg
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.581 W/kg



0 dB = 1.52 W/kg = 1.82 dBW/kg

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00GJM4W

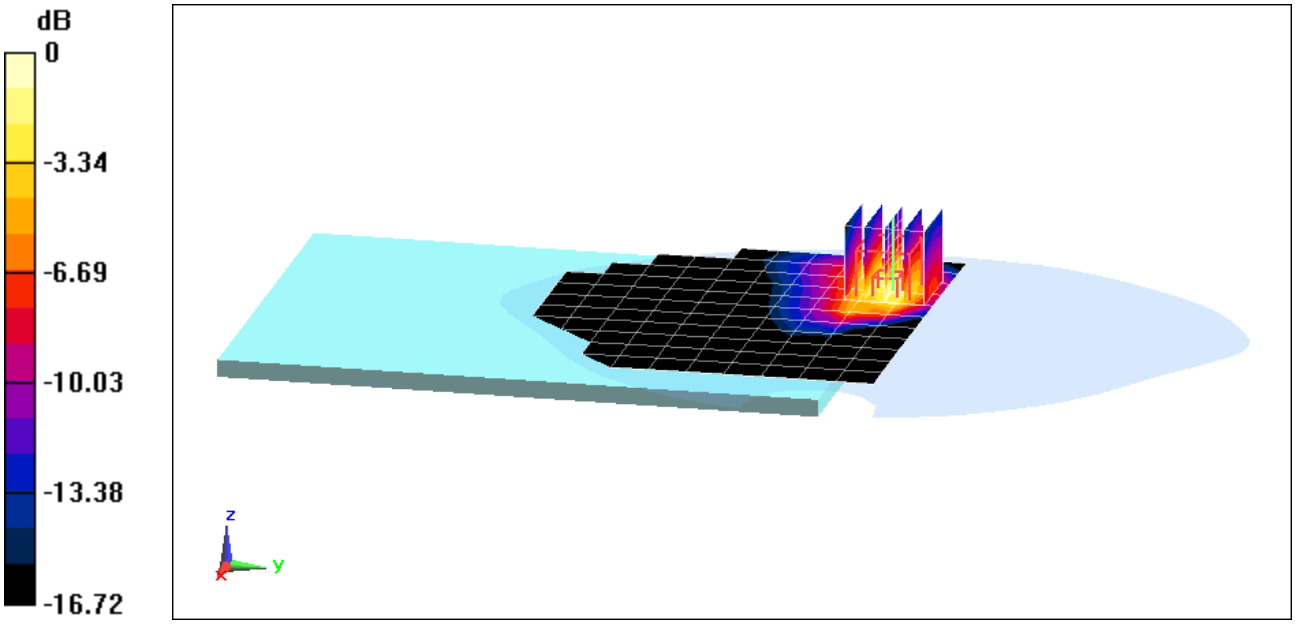
Communication System: UID 0, UMTS; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
$f = 826.4$ MHz; $\sigma = 0.998$ S/m; $\varepsilon_r = 53.123$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: UMTS 850, Body SAR, Back side, Low.ch

Area Scan (12x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.84 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.35 W/kg
SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.584 W/kg



0 dB = 1.43 W/kg = 1.55 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00MJM4W

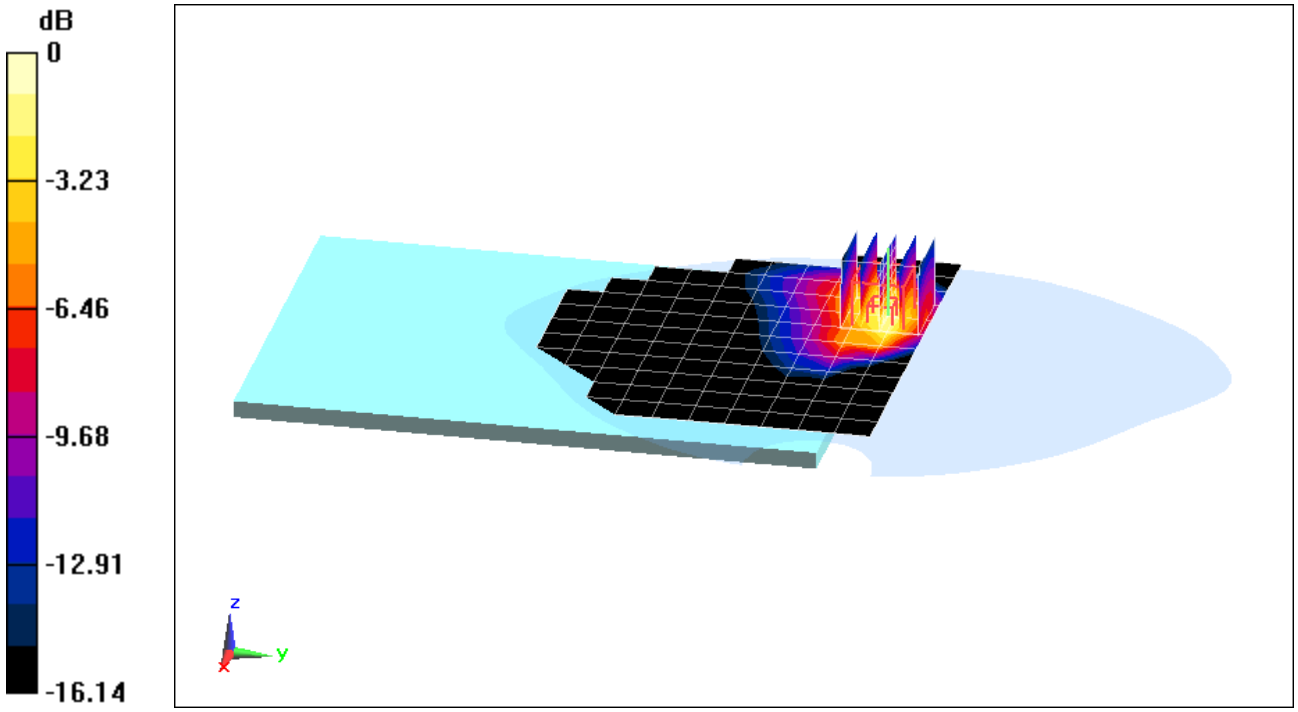
Communication System: UID 0, CDMA; Frequency: 820 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 820 MHz; σ = 0.992 S/m; εr = 53.187; ρ = 1000 kg/m3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Cell. BC10 EVDO, Rule Part 90S, Body SAR, Back side, Mid.ch

Area Scan (13x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.95 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.527 W/kg



0 dB = 1.28 W/kg = 1.07 dBW/kg

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00MJM4W

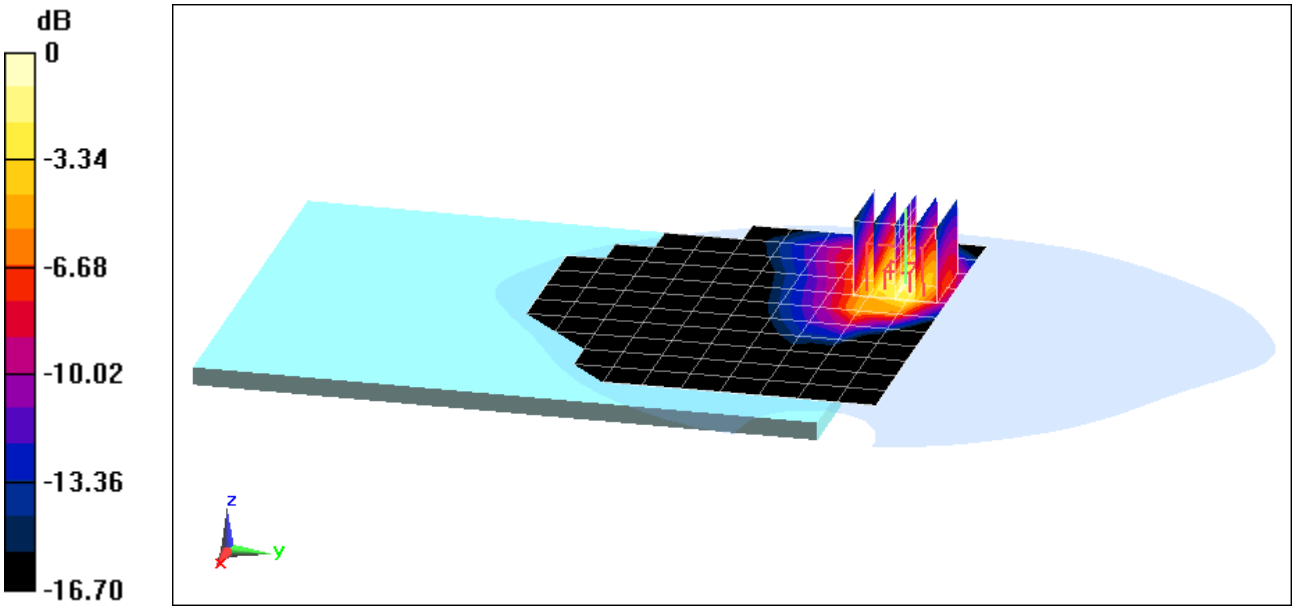
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 1.009 S/m; ε_r = 53.023; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Cell. BC0 EVDO, Rule Part 22H, Body SAR, Back side, Mid.ch

Area Scan (12x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.73 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.556 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00WJM50

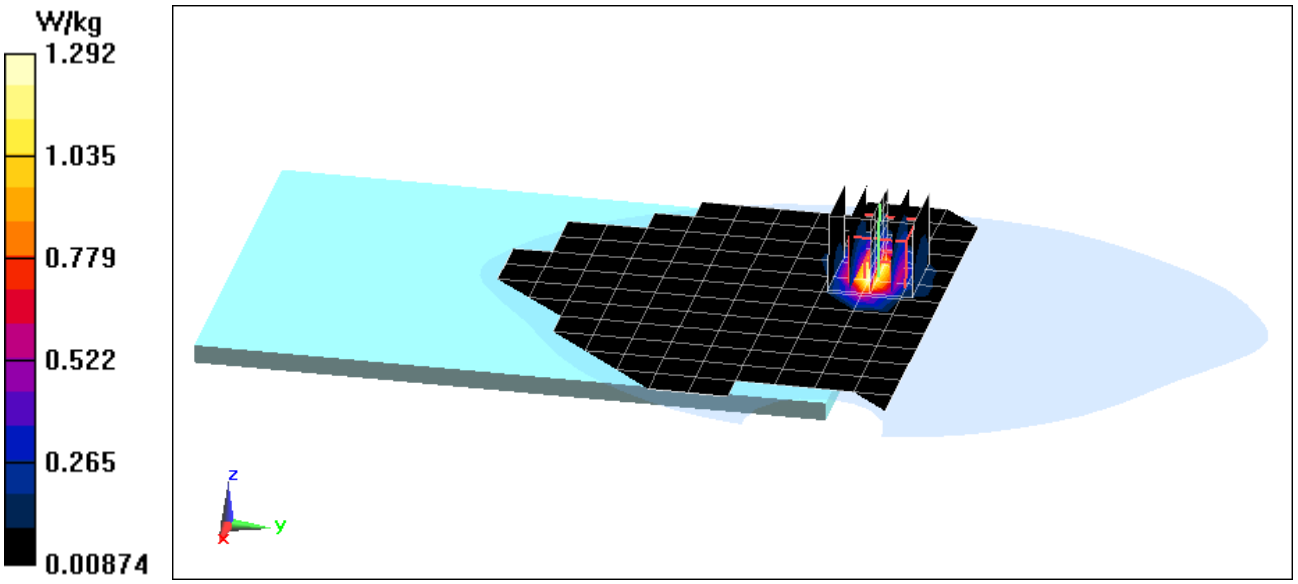
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.5 S/m; ε_r = 53.074; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-9-2018; Ambient Temp: 24.2°C; Tissue Temp: 20.6°C

Probe: ES3DV2 - SN3022; ConvF(5.04, 5.04, 5.04); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: UMTS 1750, Body SAR, Back side, High.ch

Area Scan (15x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.91 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 0.962 W/kg; SAR(10 g) = 0.458 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT017JM50

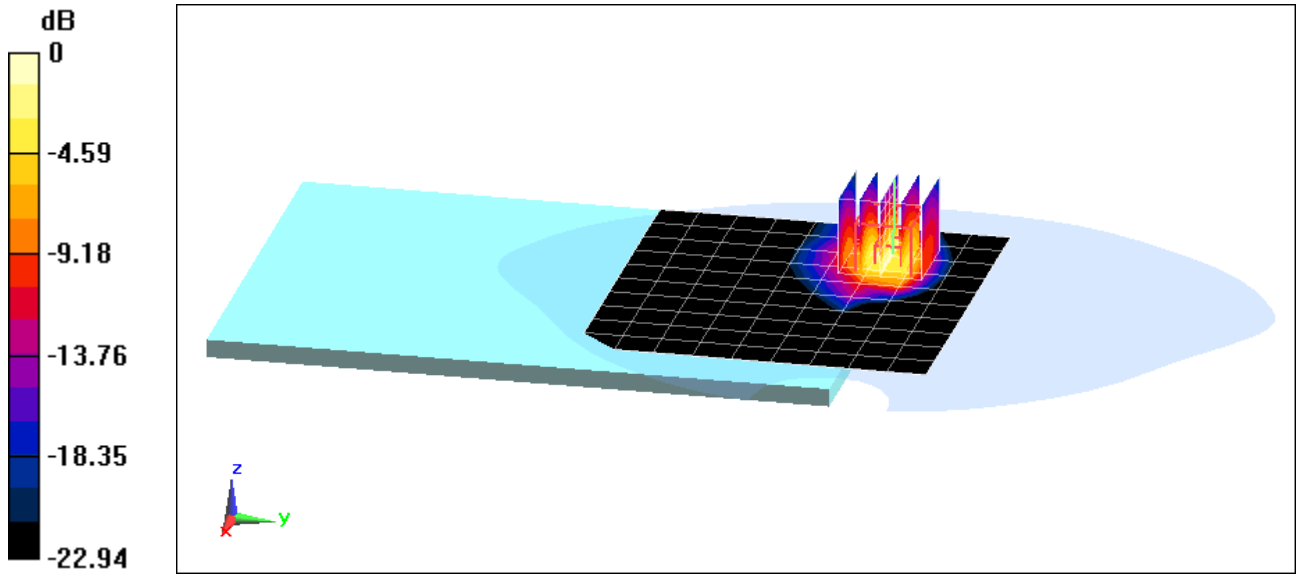
Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15
Medium: 1900 Body Medium parameters used:
f = 1910 MHz; σ = 1.594 S/m; ε_r = 52.123; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 23.4°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: GPRS 1900, Body SAR, Back side, High.ch, 2 Tx Slots

Area Scan (11x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.71 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.21 W/kg
SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.533 W/kg



0 dB = 1.46 W/kg = 1.64 dBW/kg

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT017JM50

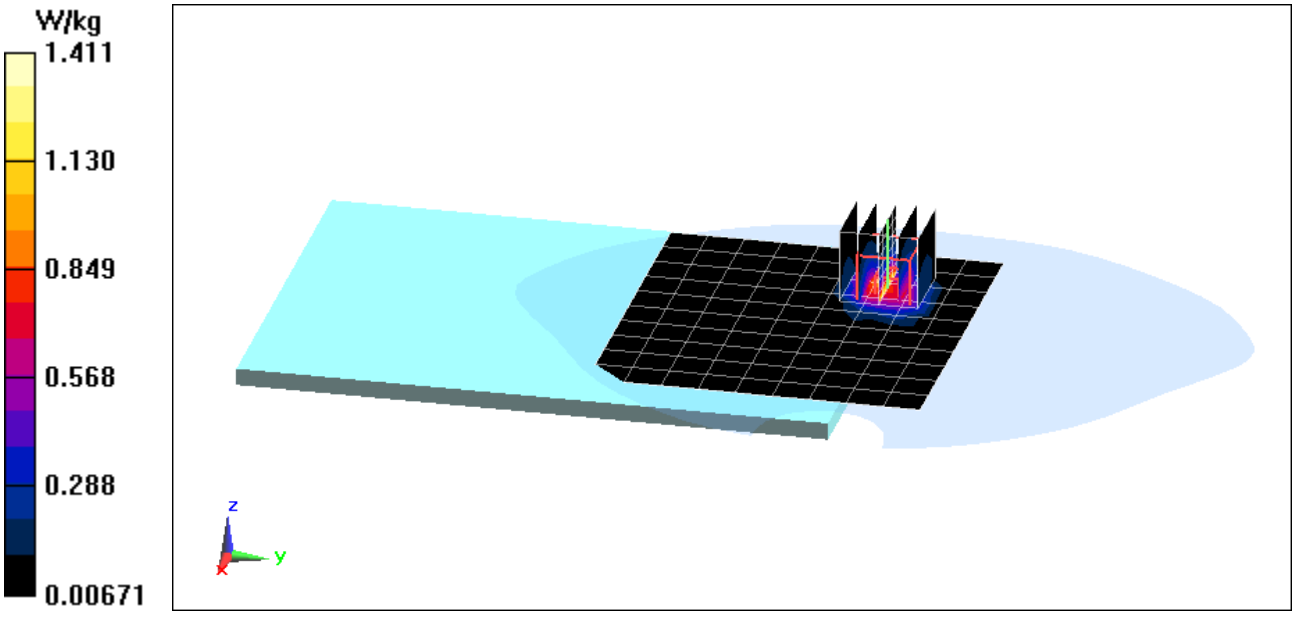
Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1852.4 MHz; σ = 1.53 S/m; ε_r = 52.265; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 23.4°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: UMTS 1900, Body SAR, Back side, Low.ch

Area Scan (11x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.94 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.502 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00MJM4W

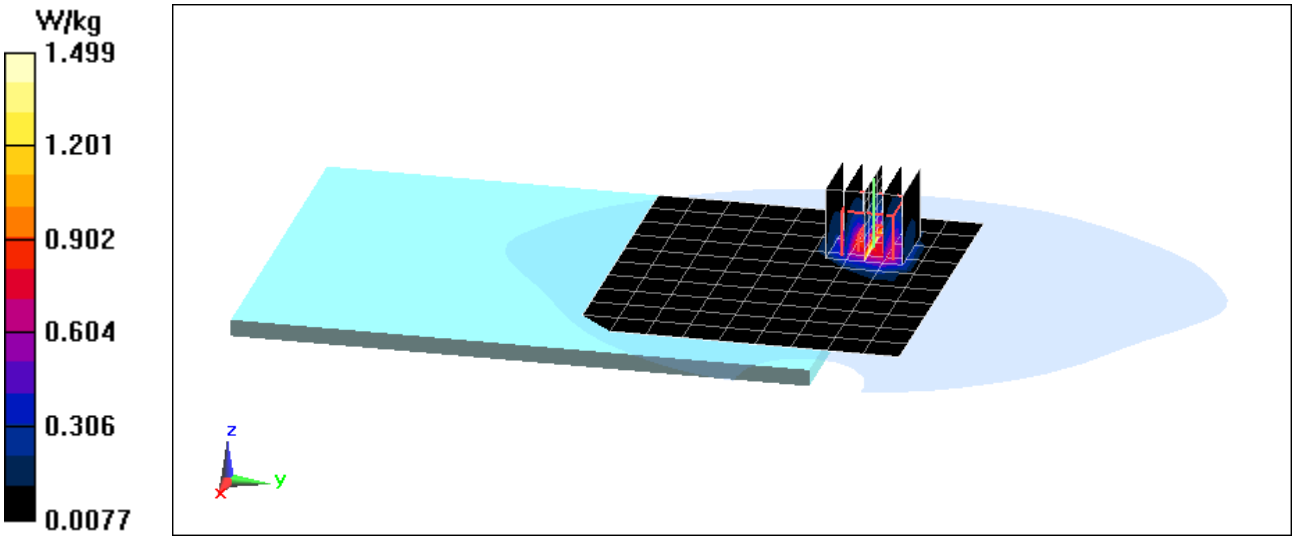
Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1908.75 MHz; σ = 1.593 S/m; ε_r = 52.126; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 23.4°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: PCS EVDO, Body SAR, Back side, High.ch

Area Scan (11x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.28 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 2.13 W/kg
SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.537 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00DJM4W

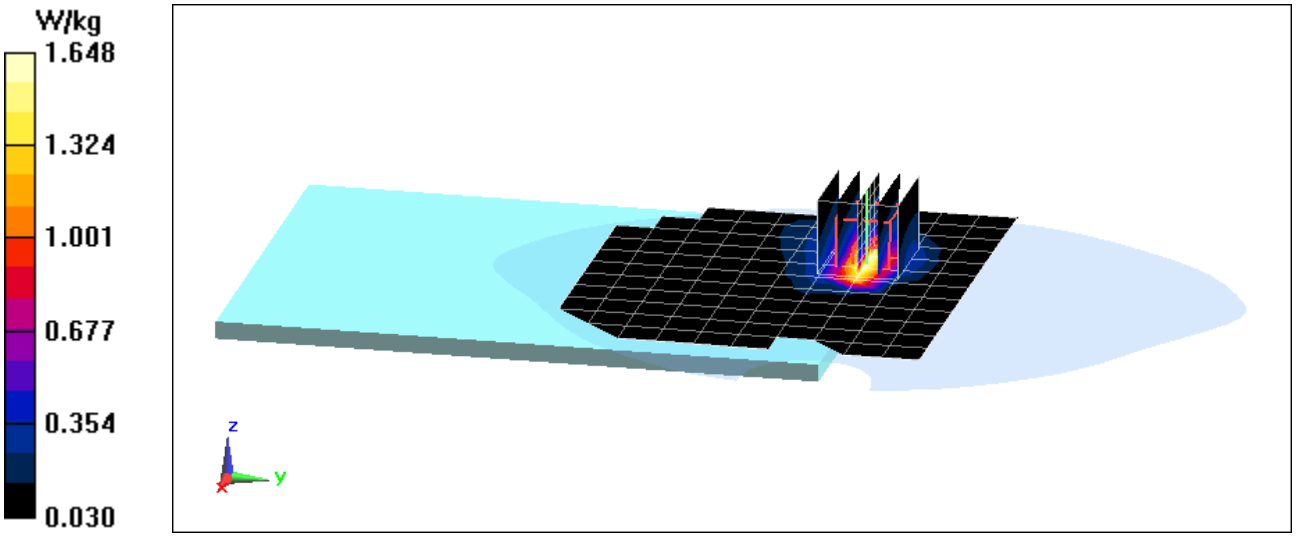
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.933 S/m; ε_r = 55.943; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 22.4°C; Tissue Temp: 20.0°C

Probe: ES3DV2 - SN3022; ConvF(6.29, 6.29, 6.29); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset

Area Scan (13x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.18 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 2.81 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.588 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00DJM4W

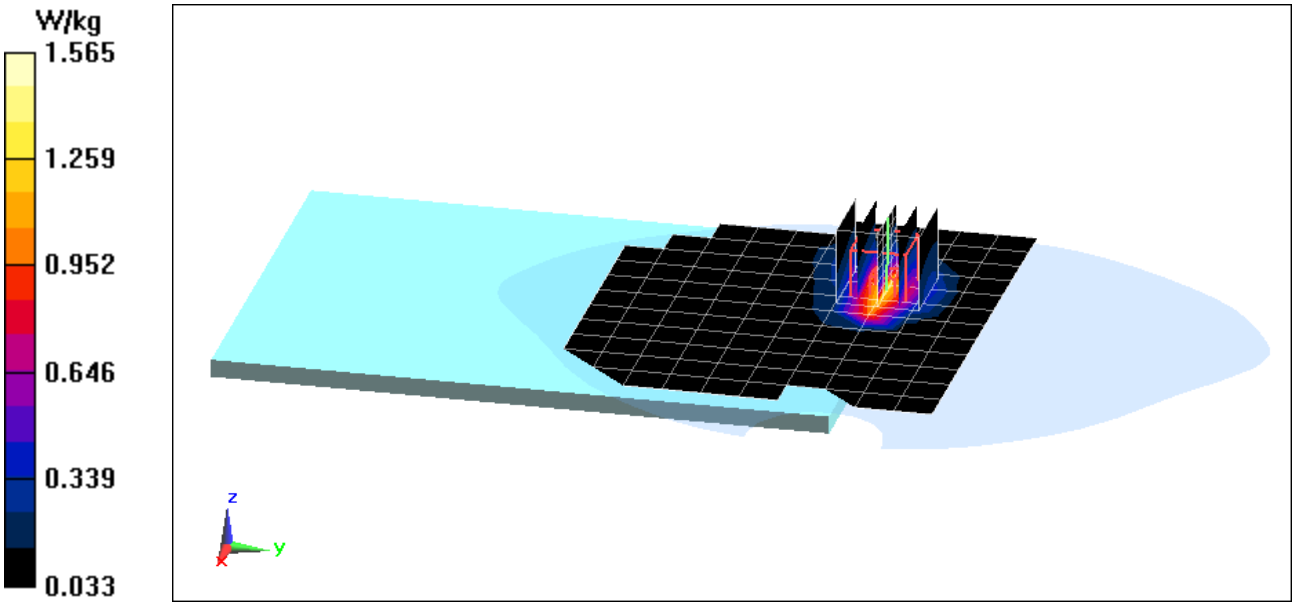
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
$f = 782$ MHz; $\sigma = 1.01$ S/m; $\varepsilon_r = 55.133$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 22.4°C; Tissue Temp: 20.0°C

Probe: ES3DV2 - SN3022; ConvF(6.29, 6.29, 6.29); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (13x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 37.12 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 2.56 W/kg
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.586 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00GJM4W

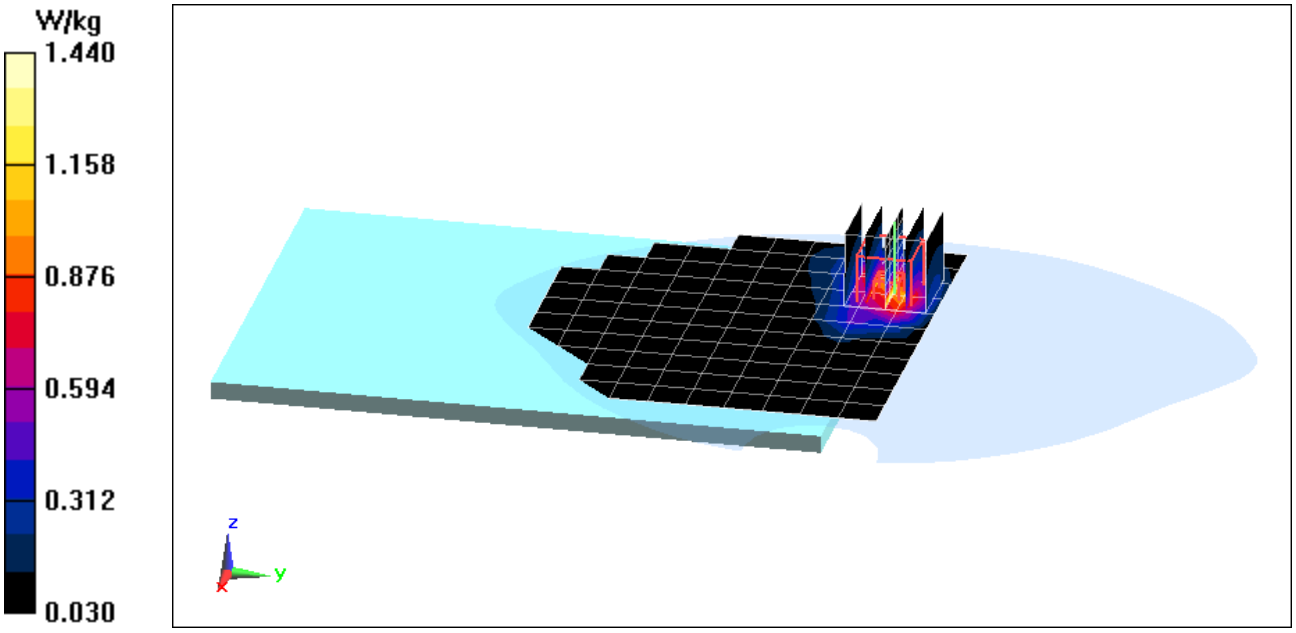
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
$f = 836.5$ MHz; $\sigma = 1.009$ S/m; $\varepsilon_r = 53.023$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset

Area Scan (12x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.77 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.35 W/kg
SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.582 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00FJM4W

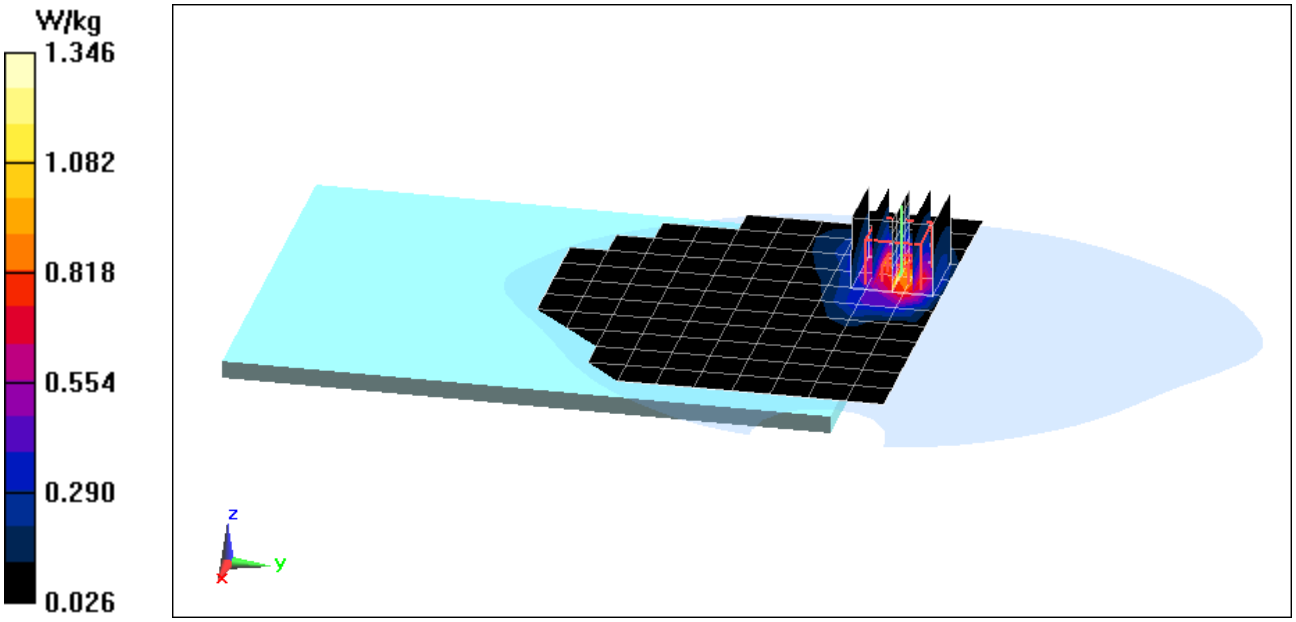
Communication System: UID 0, LTE Band 26; Frequency: 844 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 844 MHz; σ = 1.016 S/m; ε_r = 52.952; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-8-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, High.ch, 10 MHz Bandwidth, QPSK, 25 RB, 25 RB Offset

Area Scan (13x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.30 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.528 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT017JM50

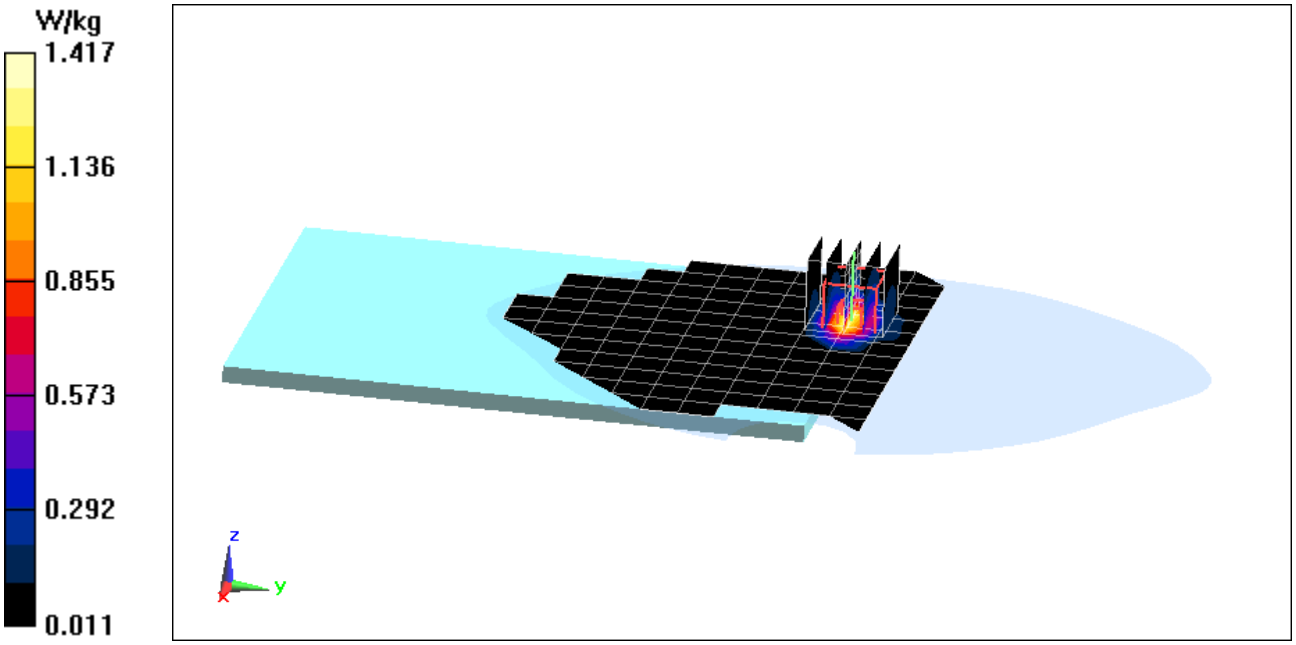
Communication System: UID 0, LTE Band 4 (AWS); Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
$f = 1732.5$ MHz; $\sigma = 1.476$ S/m; $\varepsilon_r = 53.125$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-9-2018; Ambient Temp: 24.2°C; Tissue Temp: 20.6°C

Probe: ES3DV2 - SN3022; ConvF(5.04, 5.04, 5.04); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 4 (AWS), Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (14x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.37 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.495 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT017JM50

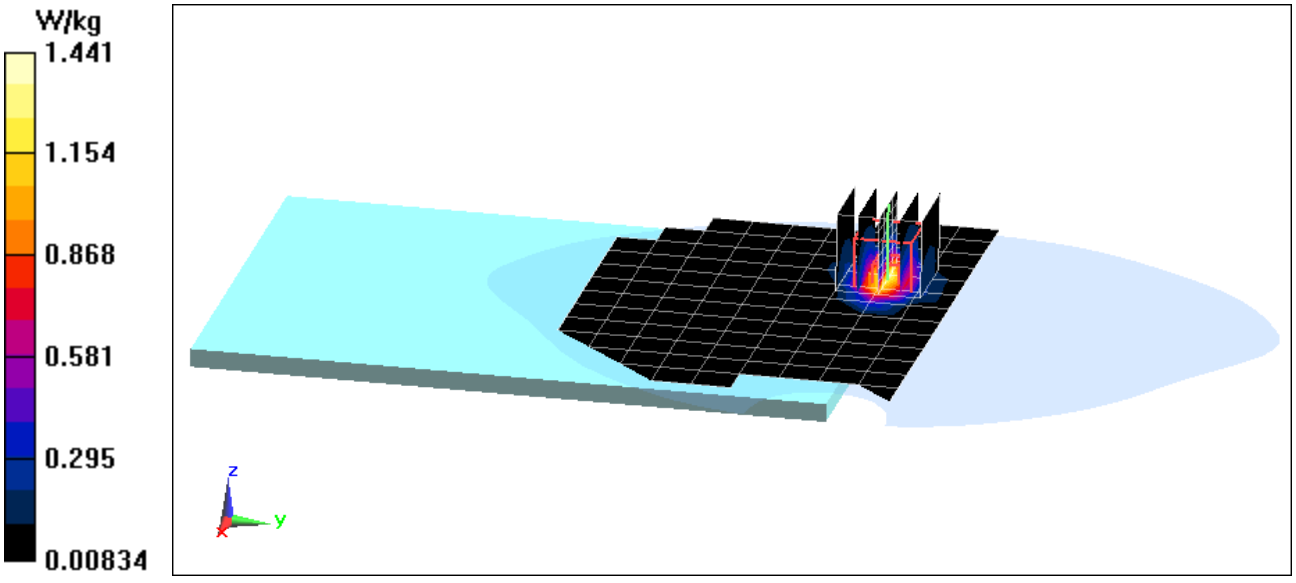
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
$f = 1905$ MHz; $\sigma = 1.59$ S/m; $\varepsilon_r = 52.03$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-5-2018; Ambient Temp: 22.6°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (15x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.25 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.520 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT01MJM50

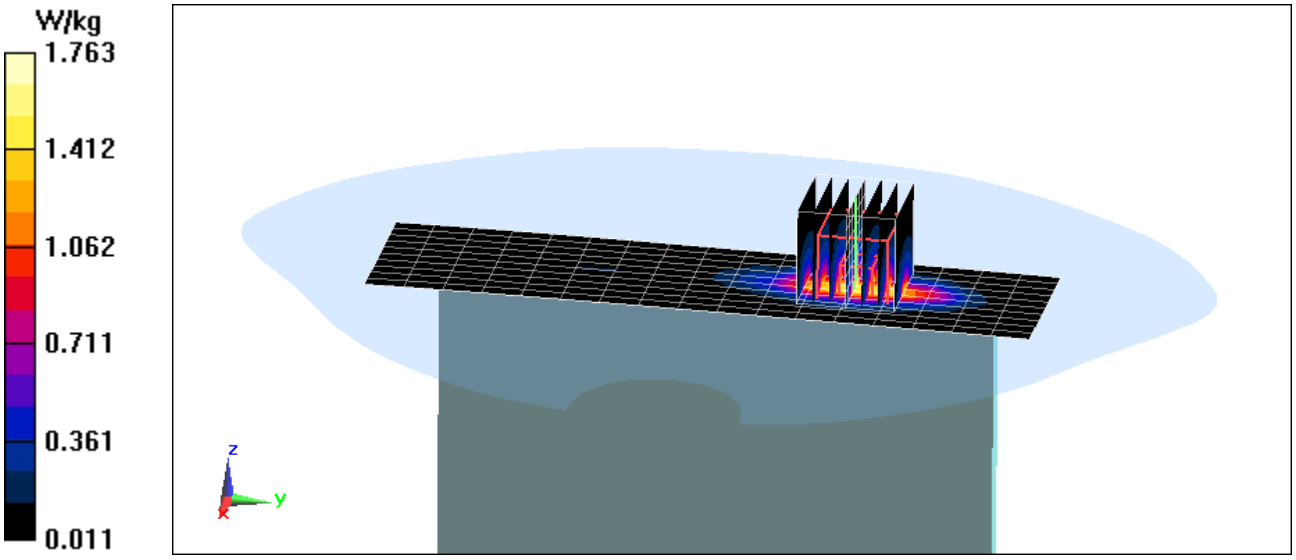
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2300 Body Medium parameters used:
f = 2310 MHz; σ = 1.828 S/m; ε_r = 51.843; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-9-2018; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.65, 7.65, 7.65); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 30, Body SAR, Top Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 25 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.28 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.484 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT012JM4W

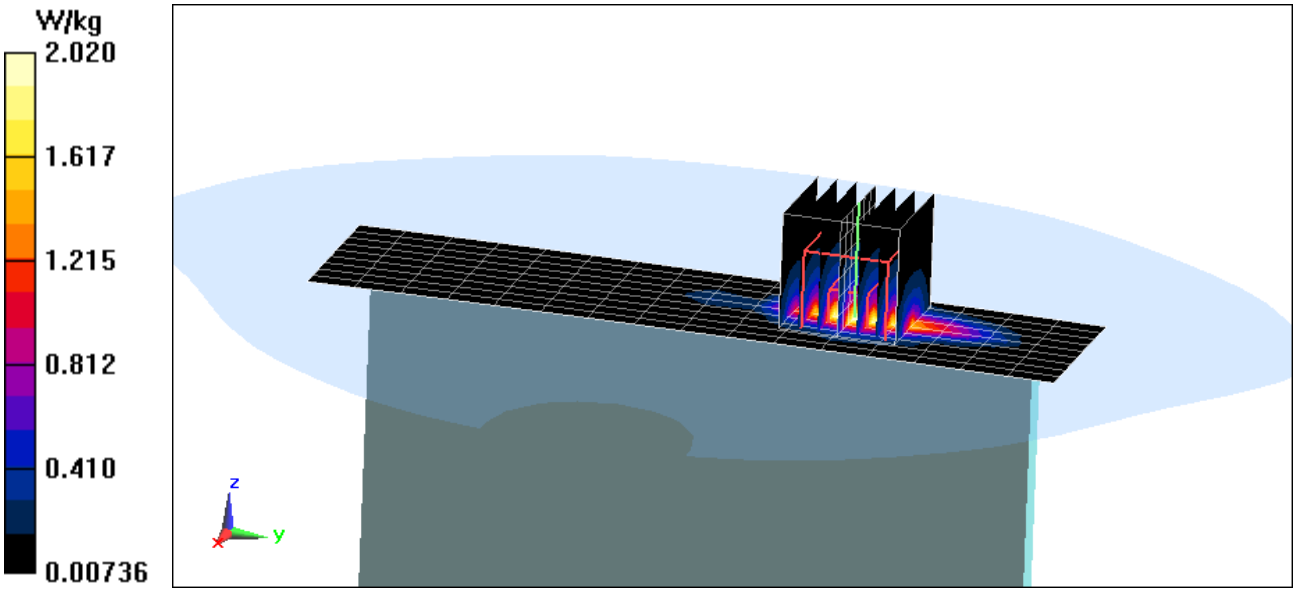
Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium: 2600 Body Medium parameters used (interpolated):
$f = 2535$ MHz; $\sigma = 2.142$ S/m; $\varepsilon_r = 50.951$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-9-2018; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.28, 7.28, 7.28); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 7, Body SAR, Top Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x17x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.06 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.61 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.519 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT012JM4W

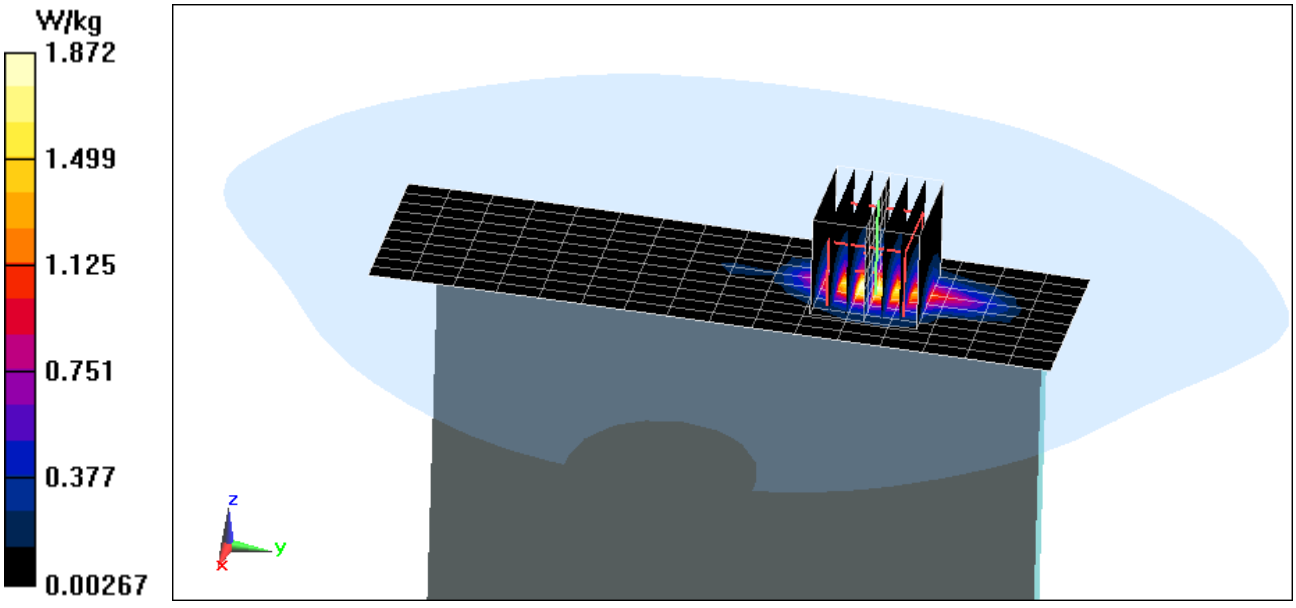
Communication System: UID 0, LTE Band 41; Frequency: 2636.5 MHz; Duty Cycle: 1:1.58
Medium: 2600 Body Medium parameters used (interpolated):
f = 2636.5 MHz; σ = 2.287 S/m; ε_r = 50.55; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-9-2018; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.28, 7.28, 7.28); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 41, Body SAR, Top Edge, Mid-High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (11x17x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.65 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 2.65 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.452 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00FJM4W

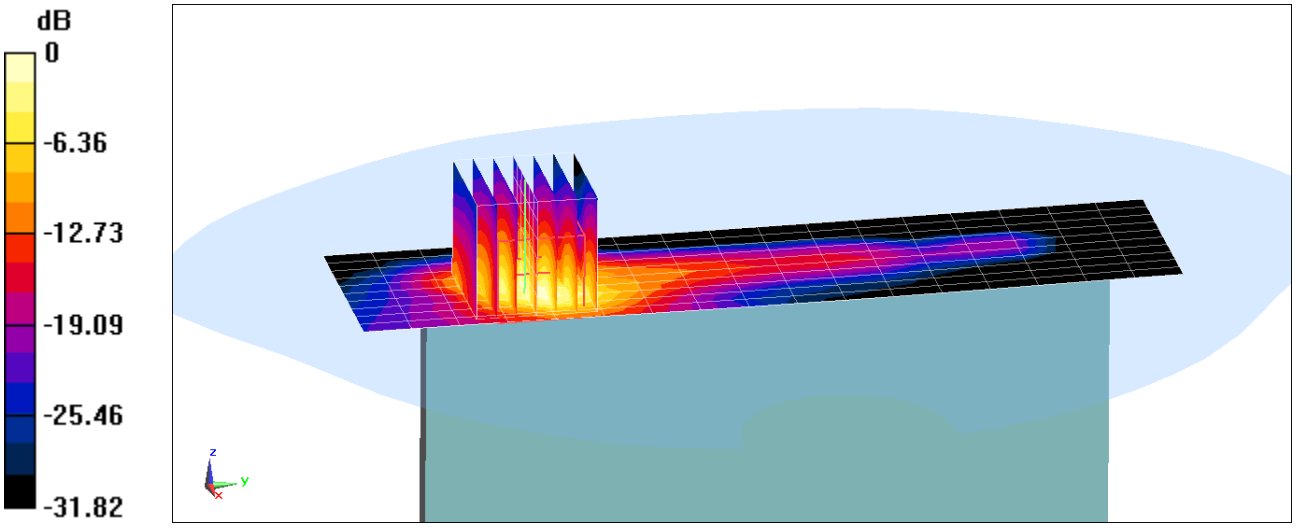
Communication System: UID 0, IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.96 S/m; ε_r = 50.739; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 12-26-2017; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3333; ConvF(4.35, 4.35, 4.35); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Body SAR,
Ch 11, 1 Mbps, Bottom Edge, Antenna B, Variant 1

Area Scan (11x18x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.05 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.62 W/kg
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.373 W/kg



0 dB = 1.78 W/kg = 2.50 dBW/kg

DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00DJM4W

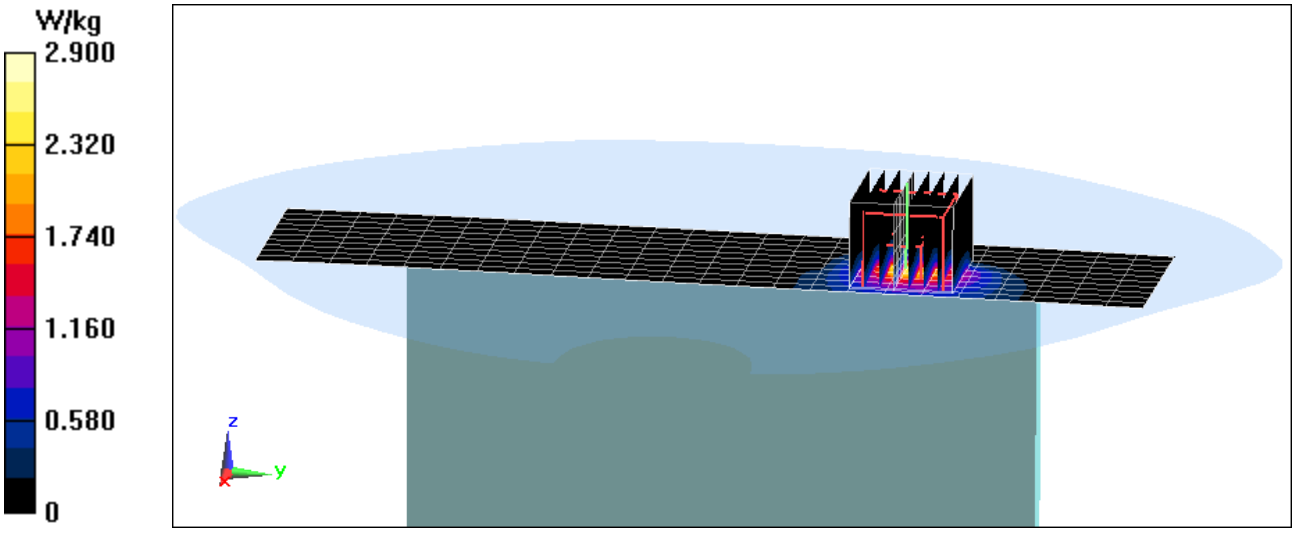
Communication System: UID 0, IEEE 802.11ac; Frequency: 5610 MHz; Duty Cycle: 1:1
Medium: 5 GHz Medium parameters used (interpolated):
f = 5610 MHz; σ = 5.945 S/m; ε_r = 48.058; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-2-2018; Ambient Temp: 20.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7416; ConvF(4.15, 4.15, 4.15); Calibrated: 7/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11ac, U-NII-2C, 80 MHz Bandwidth, Body SAR, Ch 122, 29.3 Mbps, Bottom Edge, Antenna A, Variant 1

Area Scan (11x25x1): Measurement grid: dx=5mm, dy=10mm
Zoom Scan (9x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 13.78 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 5.33 W/kg
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.389 W/kg



DUT: BCGA1954; Type: Tablet Device; Serial: F9FVT00FJM4W

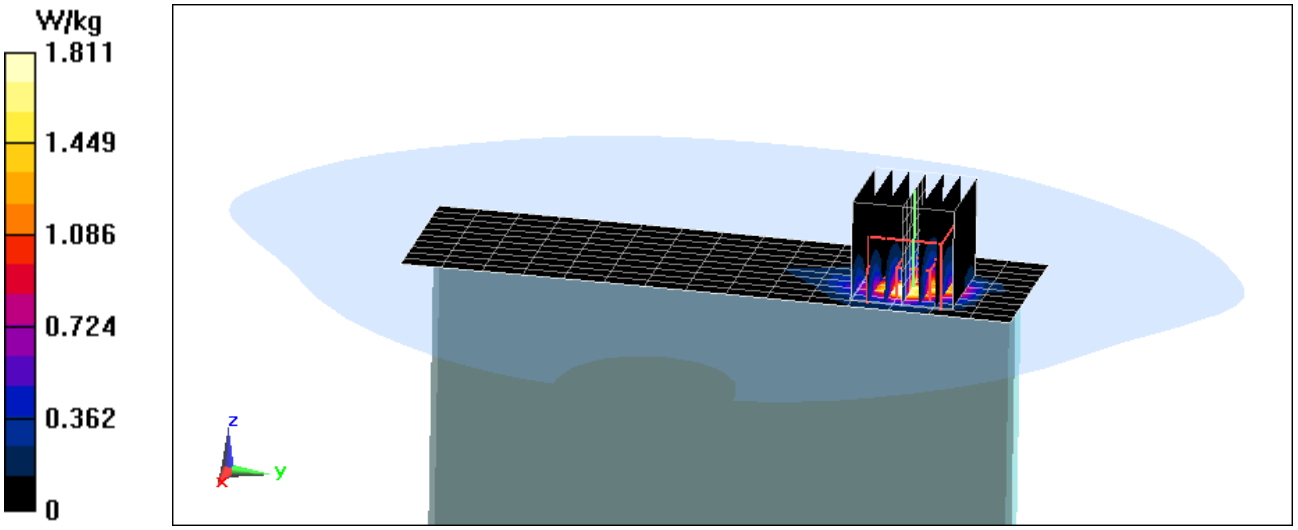
Communication System: UID 0, Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1.2953
Medium: 2450 MHz Body Medium parameters used (interpolated):
$f = 2480$ MHz; $\sigma = 2.067$ S/m; $\varepsilon_r = 51.373$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 1-22-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.6°C

Probe: ES3DV2 - SN3022; ConvF(4.35, 4.35, 4.35); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Bluetooth P_{High}, Body SAR, Ch 78, 1 Mbps, Bottom Edge, Variant 1

Area Scan (11x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.80 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.75 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.380 W/kg



APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1097

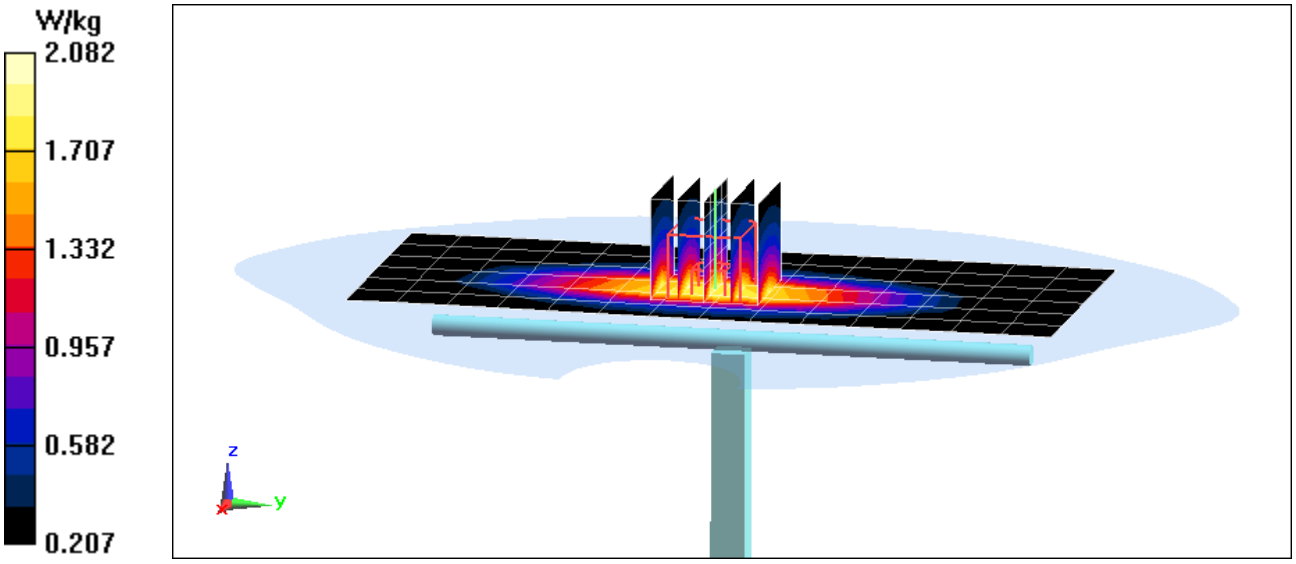
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 750 MHz; σ = 0.978 S/m; ε_r = 55.505; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-08-2018; Ambient Temp: 22.4°C; Tissue Temp: 20.0°C

Probe: ES3DV2 - SN3022; ConvF(6.29, 6.29, 6.29); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.63 W/kg
SAR(1 g) = 1.8 W/kg; SAR(10 g) = 1.19 W/kg
Deviation(1 g) = 5.14%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d180

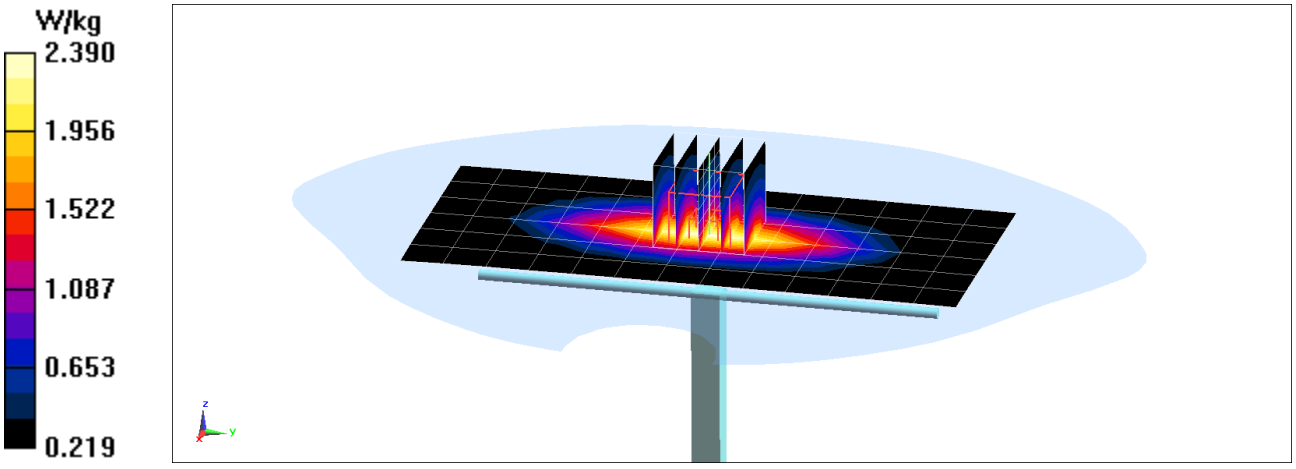
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 1.007 S/m; ε_r = 53.037; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-08-2018; Ambient Temp: 20.8°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3334; ConvF(6.41, 6.41, 6.41); Calibrated: 11/10/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1466; Calibrated: 11/8/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 3.00 W/kg
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.35 W/kg
Deviation(1 g) = 6.66%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092

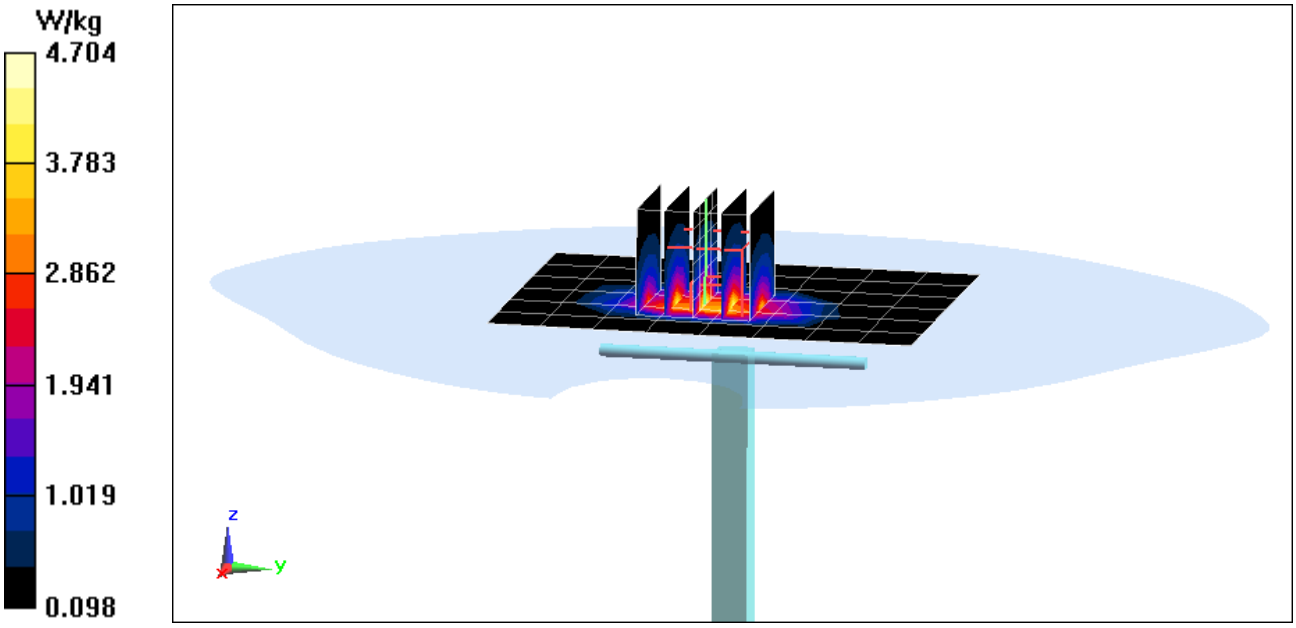
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.497 S/m; ε_r = 53.081; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-09-2018; Ambient Temp: 24.2°C; Tissue Temp: 20.6°C

Probe: ES3DV2 - SN3022; ConvF(5.04, 5.04, 5.04); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.57 W/kg
SAR(1 g) = 3.74 W/kg; SAR(10 g) = 1.99 W/kg
Deviation(1 g) = 1.08%



DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026

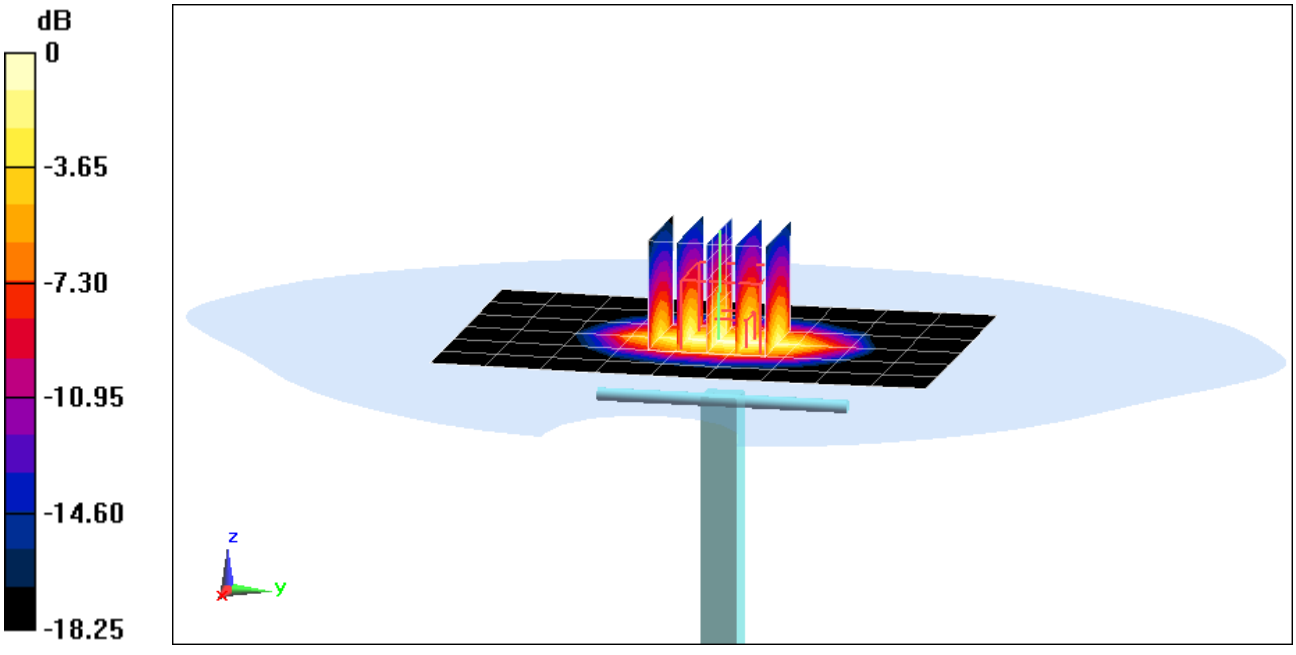
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.584 S/m; ε_r = 52.05; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-05-2018; Ambient Temp: 22.6°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.24 W/kg
SAR(1 g) = 4.00 W/kg; SAR(10 g) = 2.09 W/kg
Deviation(1 g) = -0.74%



0 dB = 4.95 W/kg = 6.95 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026

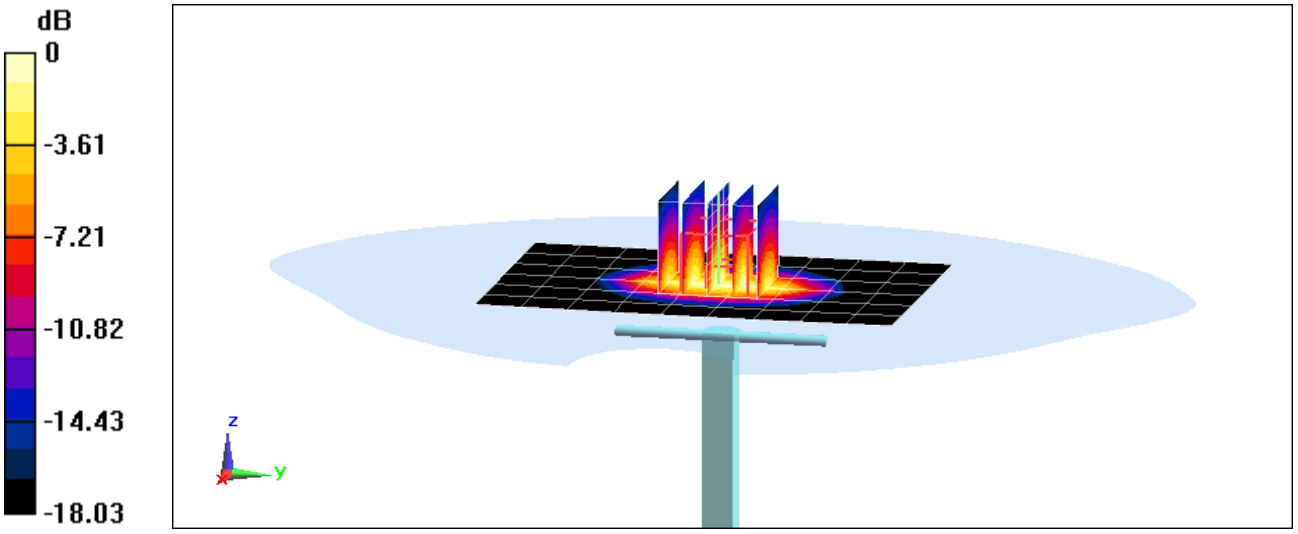
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.583 S/m; ε_r = 52.151; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-08-2018; Ambient Temp: 23.4°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3333; ConvF(4.77, 4.77, 4.77); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.55 W/kg
SAR(1 g) = 4.19 W/kg; SAR(10 g) = 2.16 W/kg
Deviation(1 g) = 3.97%



0 dB = 5.29 W/kg = 7.23 dBW/kg

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1038

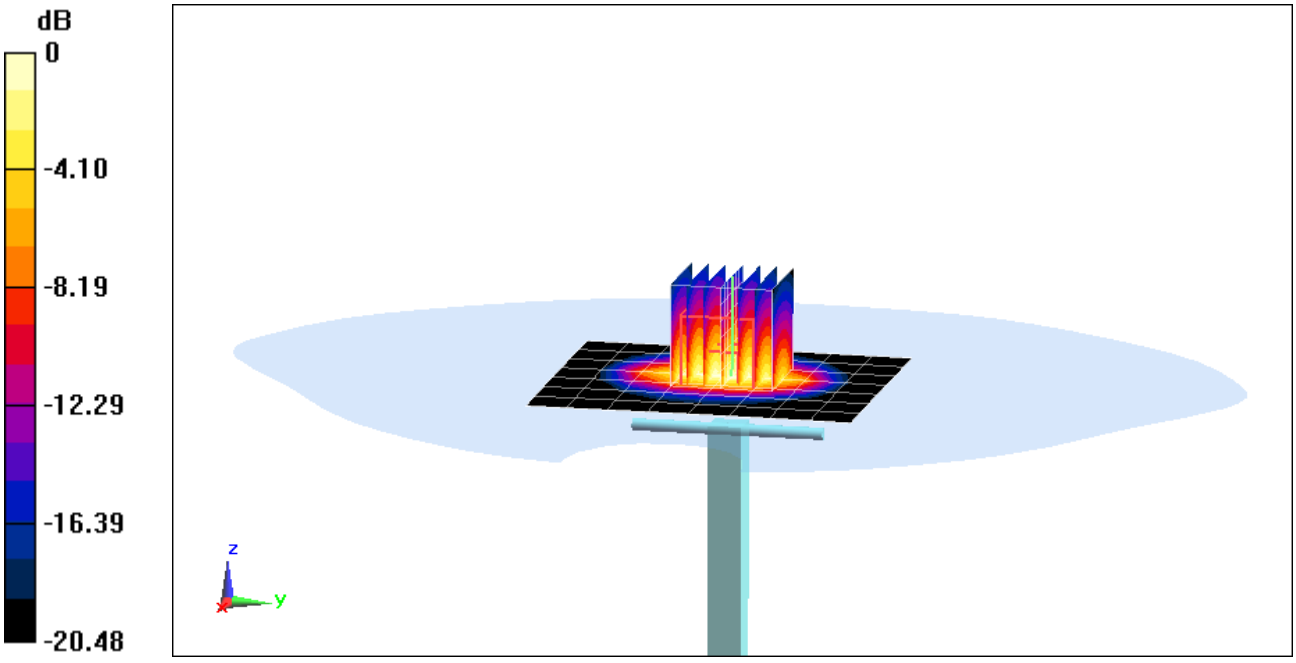
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2300 Body Medium parameters used:
f = 2300 MHz; σ = 1.815 S/m; ε_r = 51.871; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-09-2018; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.65, 7.65, 7.65); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 9.85 W/kg
SAR(1 g) = 5 W/kg; SAR(10 g) = 2.41 W/kg
Deviation(1 g) = 5.26%



0 dB = 8.06 W/kg = 9.06 dBW/kg

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DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 945

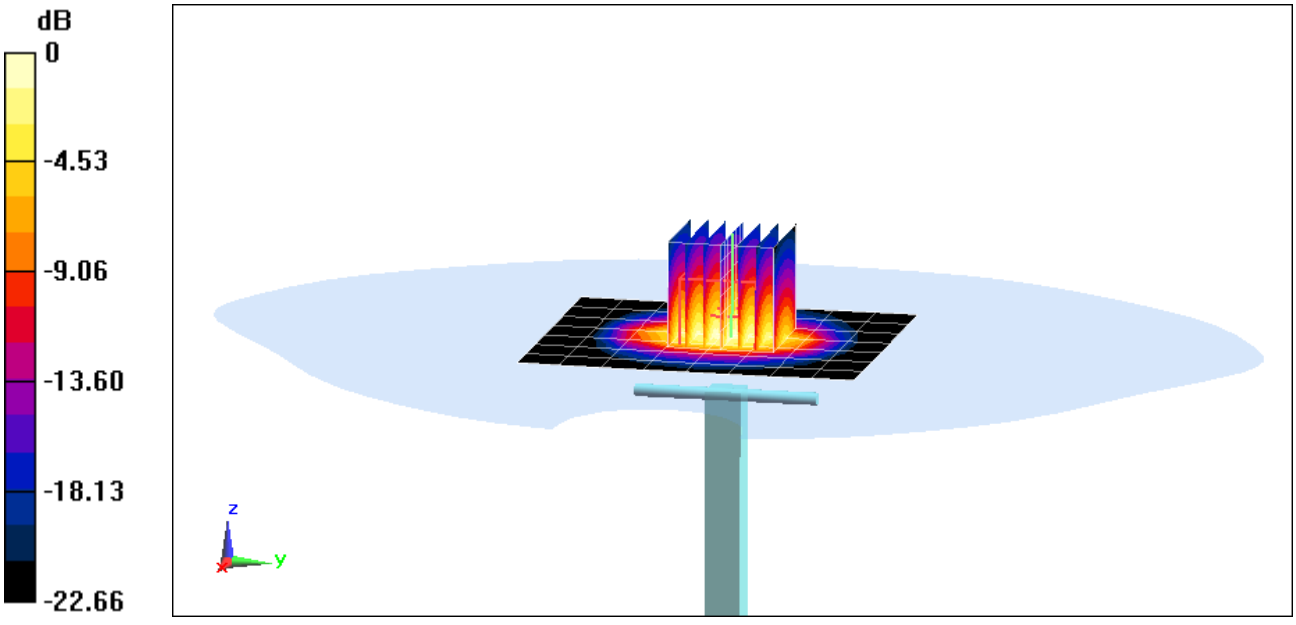
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.944 S/m; ε_r = 50.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-26-2017; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3333; ConvF(4.35, 4.35, 4.35); Calibrated: 9/18/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1408; Calibrated: 9/15/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1868
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 5.23 W/kg; SAR(10 g) = 2.4 W/kg
Deviation(1 g) = 4.18%



0 dB = 6.83 W/kg = 8.34 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 921

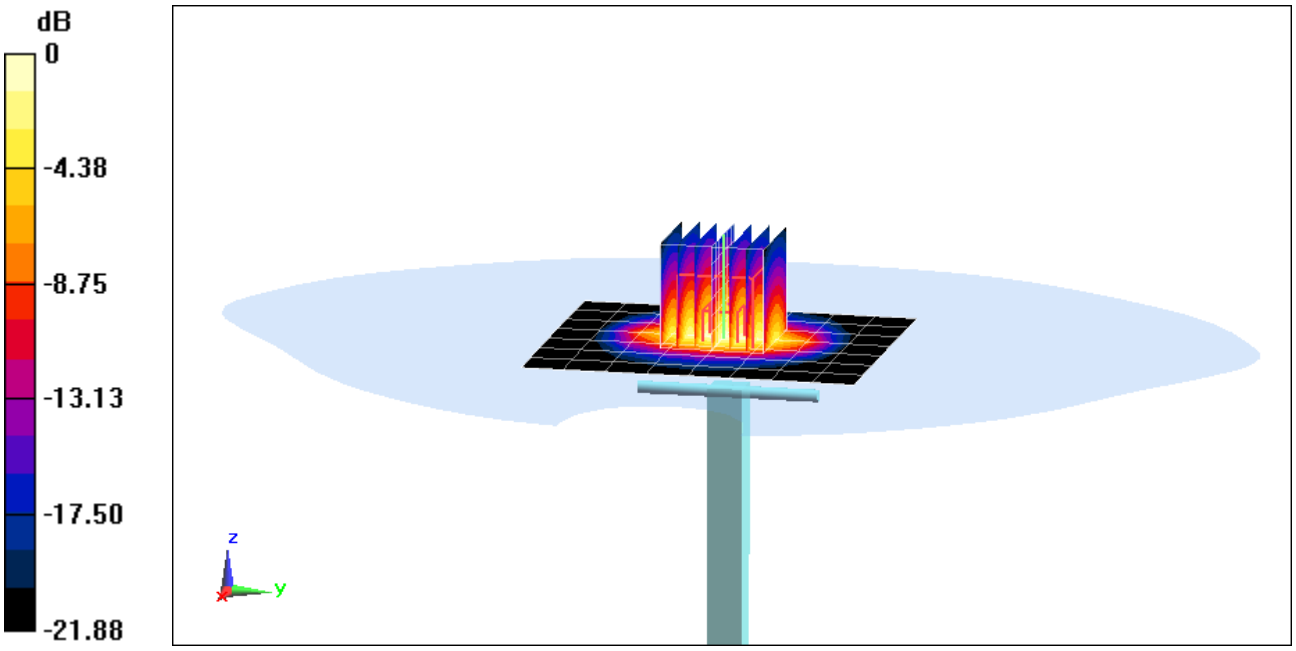
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2300-2600 Body Medium parameters used:
f = 2450 MHz; σ = 2.026 S/m; ε_r = 51.31; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 1-9-2017; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.5, 7.5, 7.5); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.8 W/kg
SAR(1 g) = 5.19 W/kg; SAR(10 g) = 2.4 W/kg
Deviation(1 g) = 2.37%



0 dB = 8.66 W/kg = 9.38 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750

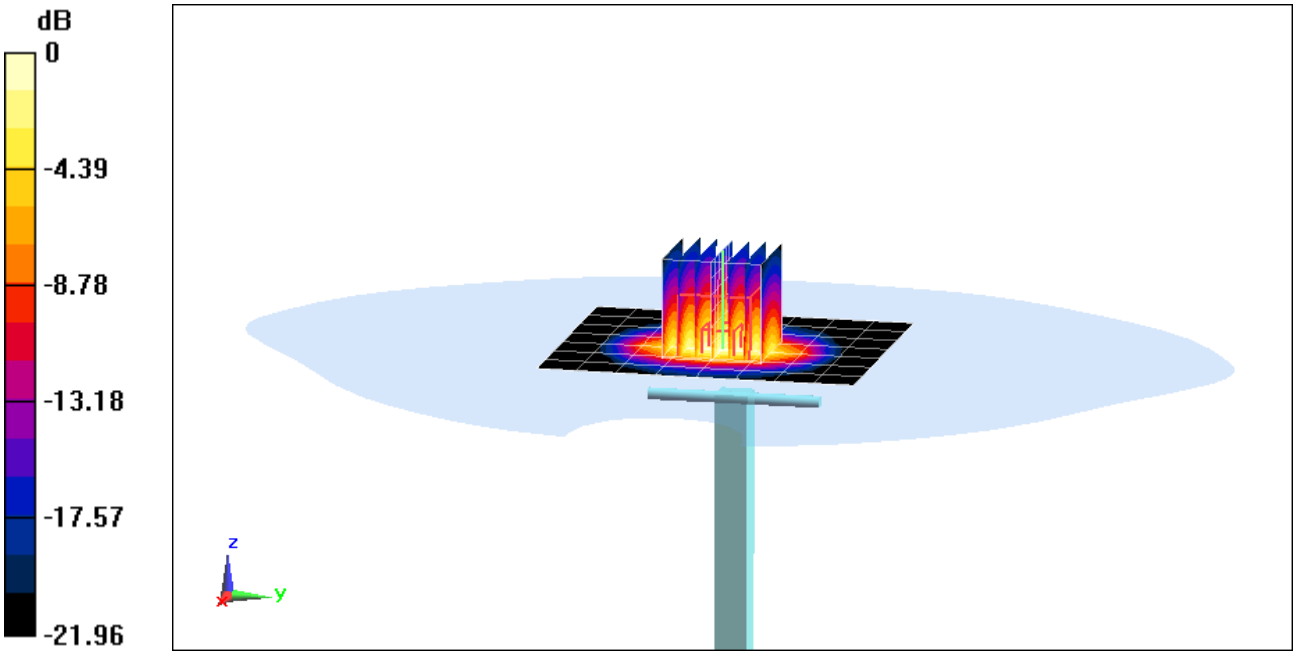
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.024 S/m; ε_r = 51.495; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-22-2018; Ambient Temp: 22.4°C; Tissue Temp: 21.6°C

Probe: ES3DV2 - SN3022; ConvF(4.35, 4.35, 4.35); Calibrated: 7/17/2017;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) = 4.99 W/kg; SAR(10 g) = 2.29 W/kg
Deviation(1 g) = -2.54%



0 dB = 6.63 W/kg = 8.22 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1069

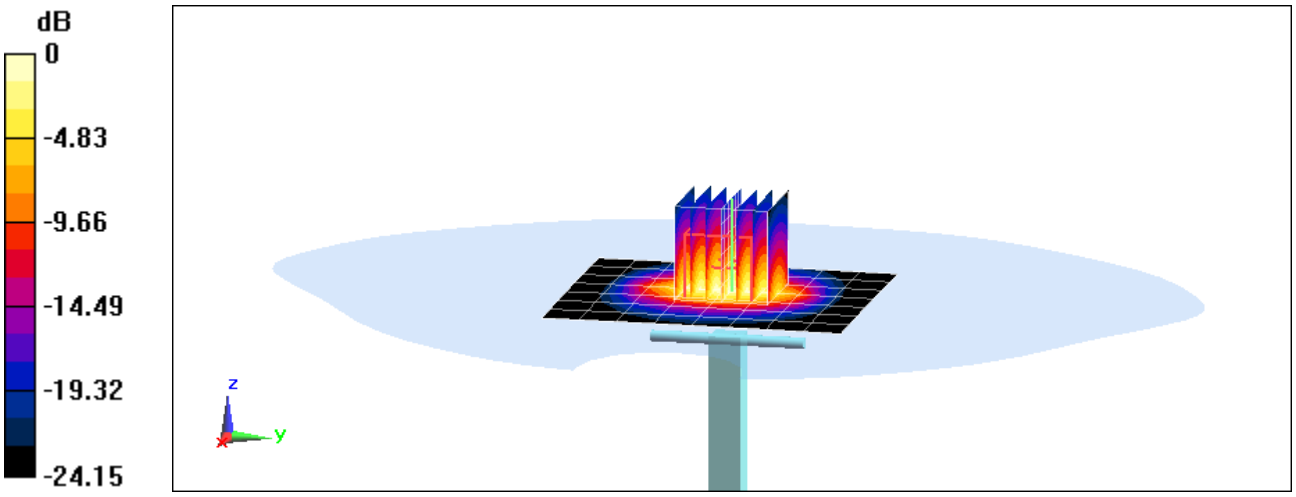
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2600 Body Medium parameters used:
f = 2600 MHz; σ = 2.237 S/m; ε_r = 50.697; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-09-2018; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7420; ConvF(7.28, 7.28, 7.28); Calibrated: 9/20/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/15/2017
Phantom: SAM V5.0 Front; Type: QD000P40CD; Serial: TP:1793
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) = 5.88 W/kg; SAR(10 g) = 2.6 W/kg
Deviation(1 g) = 6.33%



0 dB = 10.1 W/kg = 10.04 dBW/kg

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163

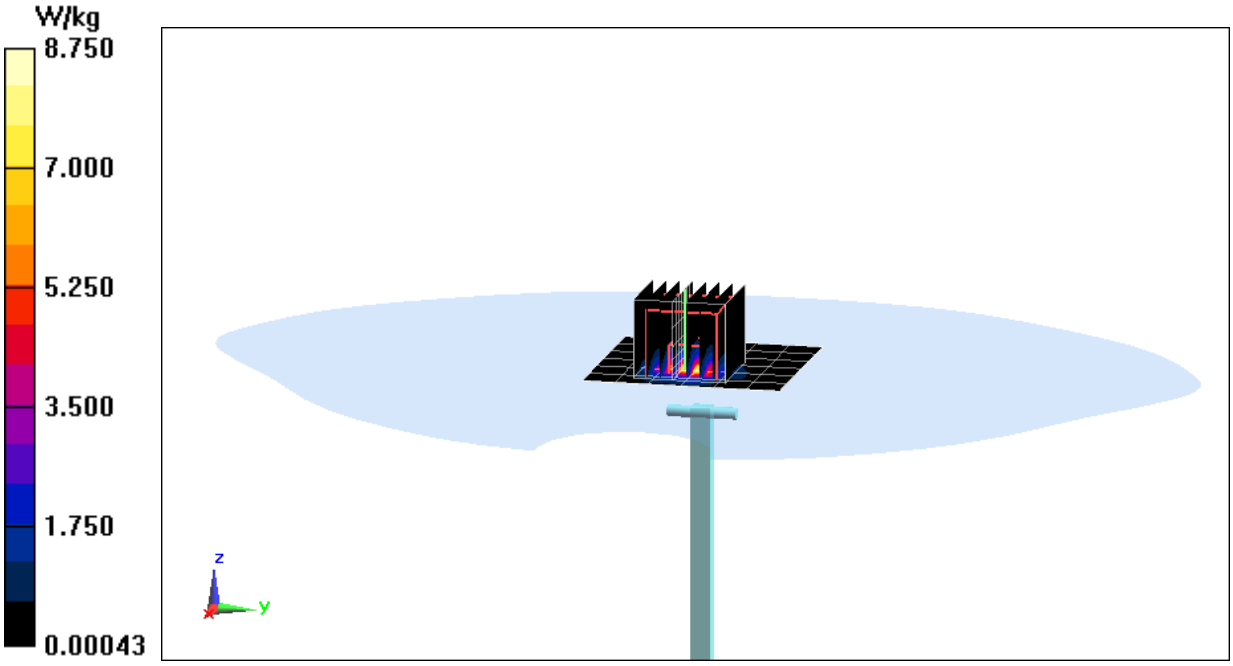
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5 GHz Medium parameters used (interpolated):
f = 5250 MHz; σ = 5.486 S/m; ε_r = 48.344; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 1-15-2018; Ambient Temp: 22.2°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7416; ConvF(4.88, 4.88, 4.88); Calibrated: 7/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) = 3.64 W/kg; SAR(10 g) = 1.02 W/kg
Deviation(1 g) = -5.94%



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DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1123

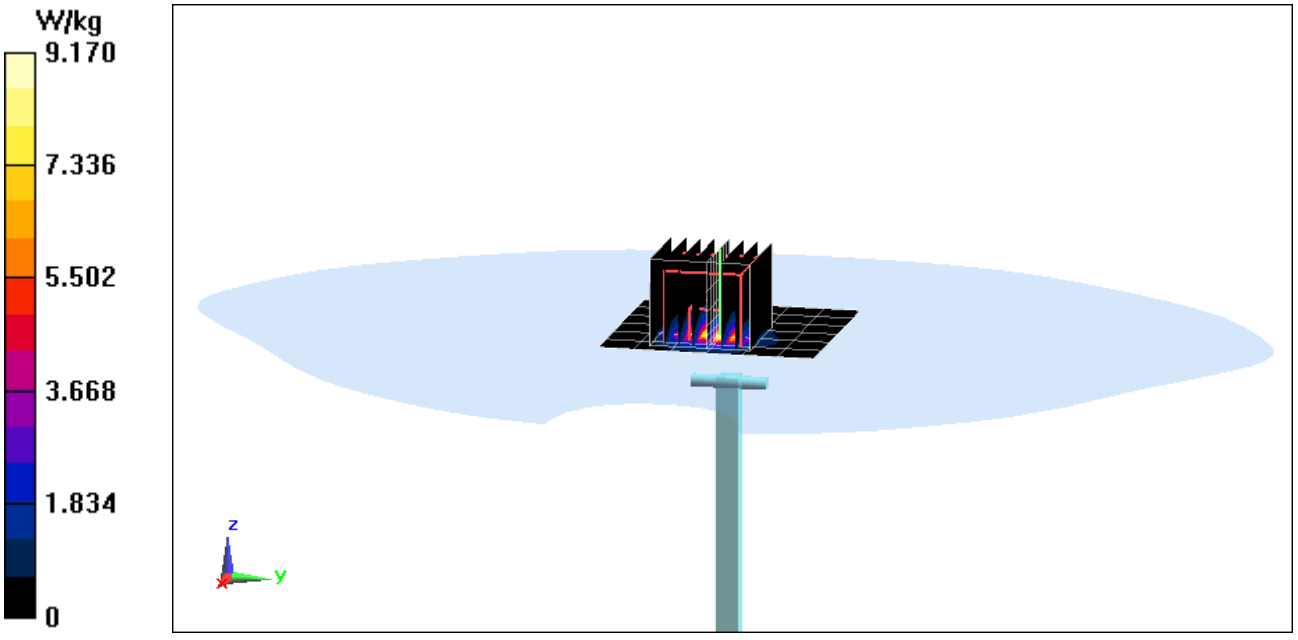
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5 GHz Medium parameters used:
f = 5600 MHz; σ = 5.931 S/m; ε_r = 48.089; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-02-2018; Ambient Temp: 20.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7416; ConvF(4.15, 4.15, 4.15); Calibrated: 7/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 3.76 W/kg; SAR(10 g) = 1.04 W/kg
Deviation(1 g) = -4.69%



DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163

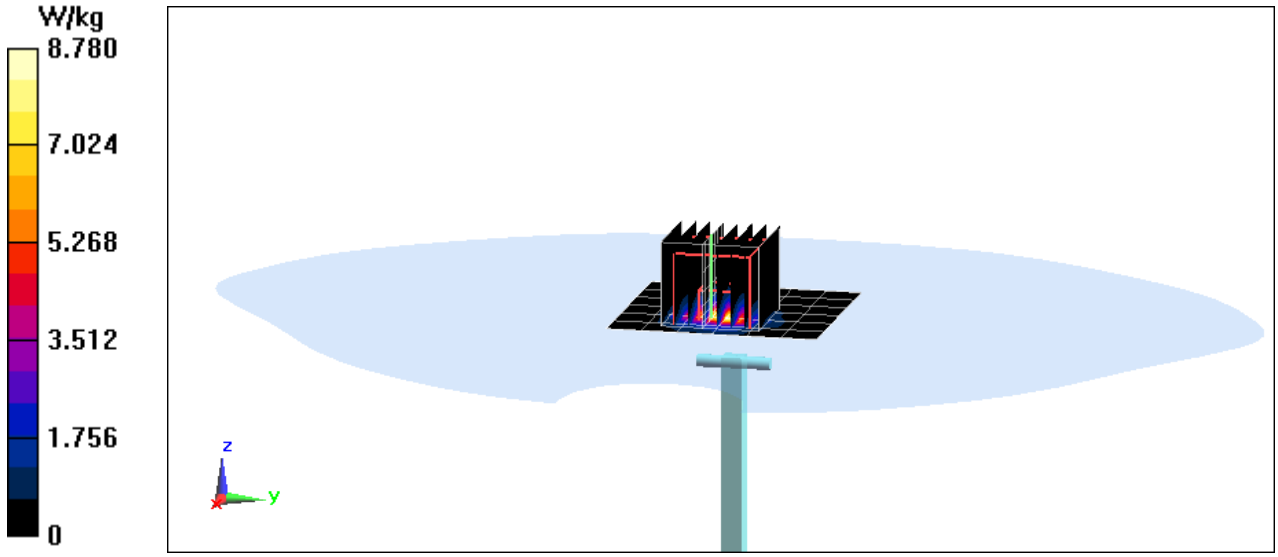
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5 GHz Medium parameters used (interpolated):
f = 5750 MHz; σ = 6.163 S/m; ε_r = 47.542; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 1-15-2018; Ambient Temp: 22.2°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7416; ConvF(4.35, 4.35, 4.35); Calibrated: 7/18/2017;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 6/21/2017
Phantom: SAM (30deg probe tilt) with CRP v5.0; Type: QD000P40CD; Serial: TP:1873
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 3.59 W/kg; SAR(10 g) = 1 W/kg
Deviation(1 g) = -7.24%



APPENDIX C: PROBE CALIBRATION

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

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

Accredited by the Swiss Accreditation Service (SAS)
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 PC Test

Certificate No: ES3-3022_Jul17

CALIBRATION CERTIFICATE

Object ES3DV2 - SN:3022

Calibration procedure(s) QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

BNV
8/3/2017

Calibration date: July 17, 2017

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	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	31-Dec-16 (No. ES3-3013_Dec16)	Dec-17
DAE4	SN: 660	7-Dec-16 (No. DAE4-660_Dec16)	Dec-17
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: July 17, 2017

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

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ 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) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, '', "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

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

Probe ES3DV2

SN:3022

Manufactured: April 15, 2003
Calibrated: July 17, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.97	1.00	0.95	± 10.1 %
DCP (mV)[B]	101.0	98.3	99.3	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	193.8	±3.8 %
		Y	0.0	0.0	1.0		198.4	
		Z	0.0	0.0	1.0		197.6	

Note: For details on UID parameters see Appendix.

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	47.34	345.6	36.48	29.67	3.198	5.1	0.000	0.623	1.010
Y	45.50	331.3	36.31	29.51	2.954	5.1	0.000	0.586	1.008
Z	39.22	283.3	35.92	29.08	2.726	5.1	0.143	0.519	1.007

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

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

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	6.67	6.67	6.67	0.80	1.06	± 12.0 %
835	41.5	0.90	6.32	6.32	6.32	0.24	2.01	± 12.0 %
1750	40.1	1.37	5.42	5.42	5.42	0.31	1.88	± 12.0 %
1900	40.0	1.40	5.19	5.19	5.19	0.40	1.72	± 12.0 %
2300	39.5	1.67	4.90	4.90	4.90	0.52	1.43	± 12.0 %
2450	39.2	1.80	4.59	4.59	4.59	0.64	1.32	± 12.0 %
2600	39.0	1.96	4.39	4.39	4.39	0.69	1.32	± 12.0 %

[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. Above 5 GHz frequency validity can be extended to ± 110 MHz.

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

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

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

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	6.29	6.29	6.29	0.34	1.63	± 12.0 %
835	55.2	0.97	6.16	6.16	6.16	0.74	1.10	± 12.0 %
1750	53.4	1.49	5.04	5.04	5.04	0.56	1.37	± 12.0 %
1900	53.3	1.52	4.79	4.79	4.79	0.36	1.85	± 12.0 %
2300	52.9	1.81	4.53	4.53	4.53	0.62	1.32	± 12.0 %
2450	52.7	1.95	4.35	4.35	4.35	0.80	1.09	± 12.0 %
2600	52.5	2.16	4.16	4.16	4.16	0.80	0.80	± 12.0 %

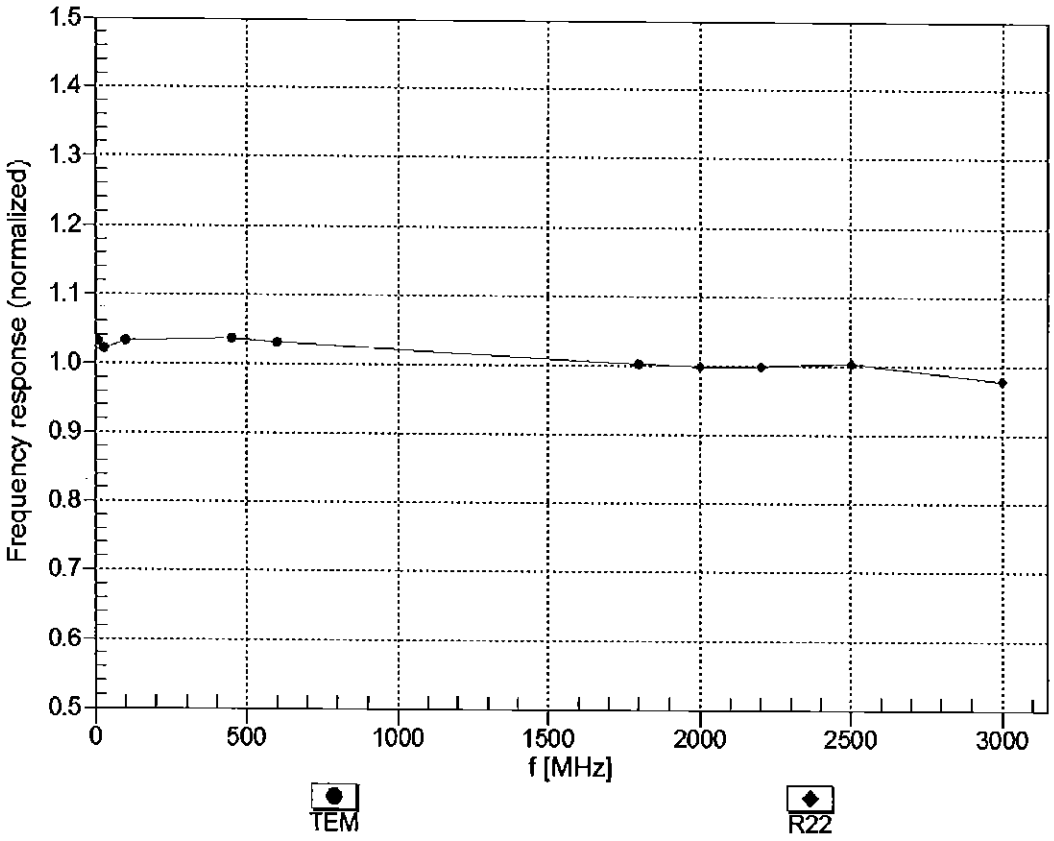
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. 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.

Frequency Response of E-Field

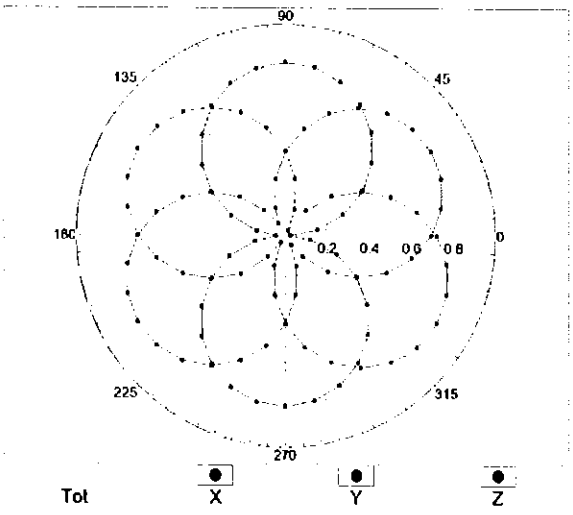
(TEM-Cell:ifi110 EXX, Waveguide: R22)



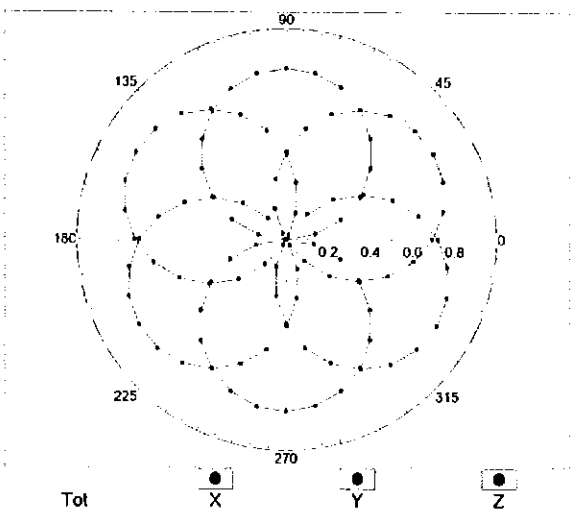
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

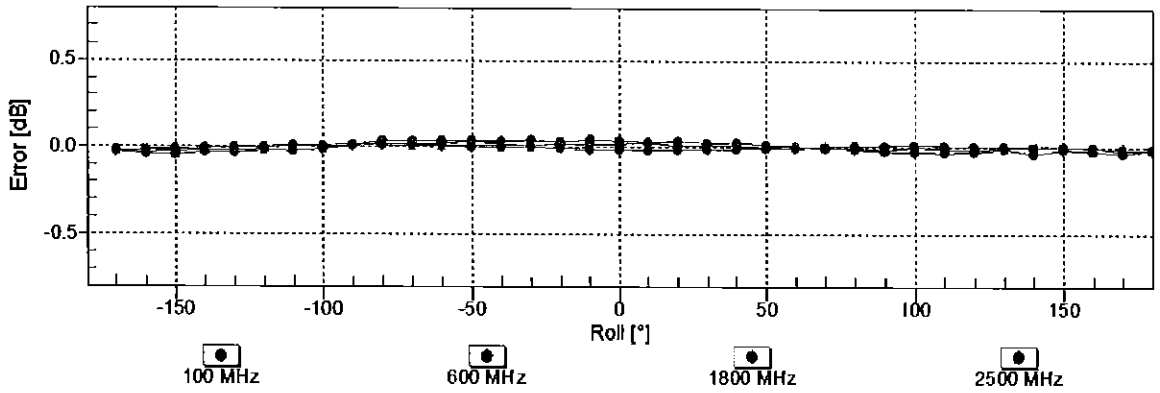
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

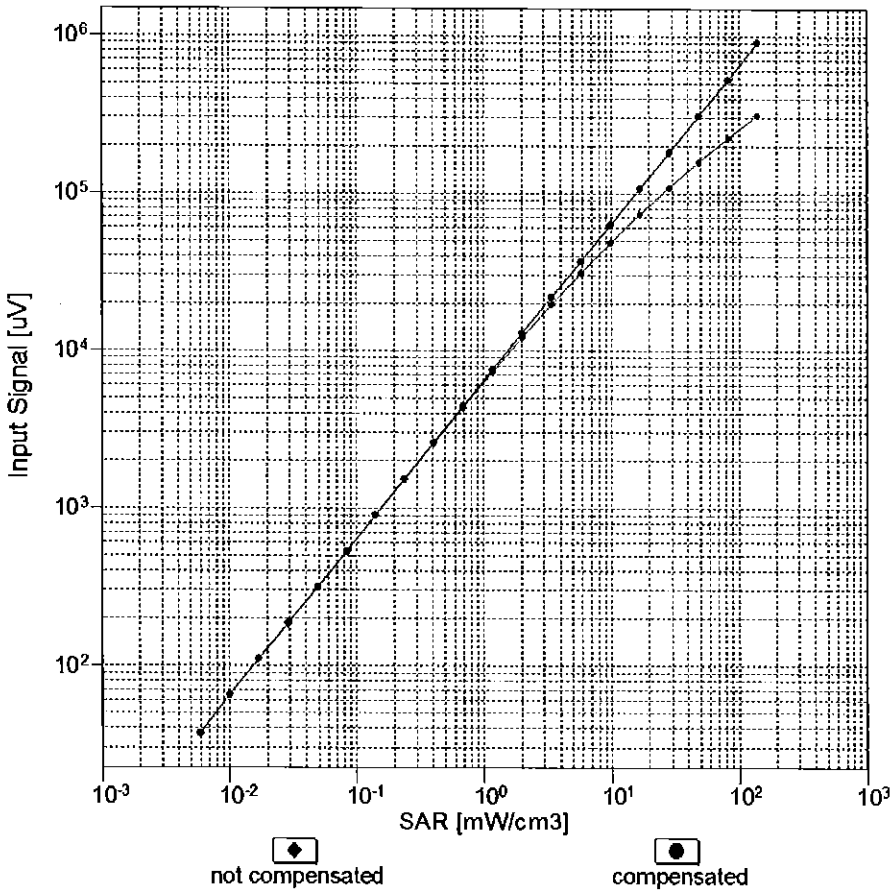


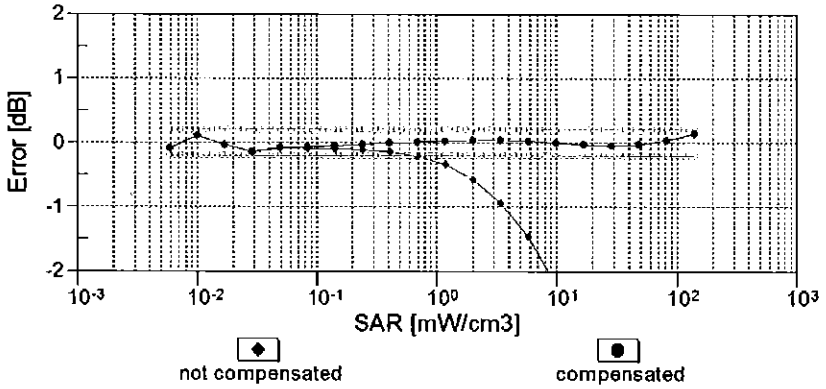


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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

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

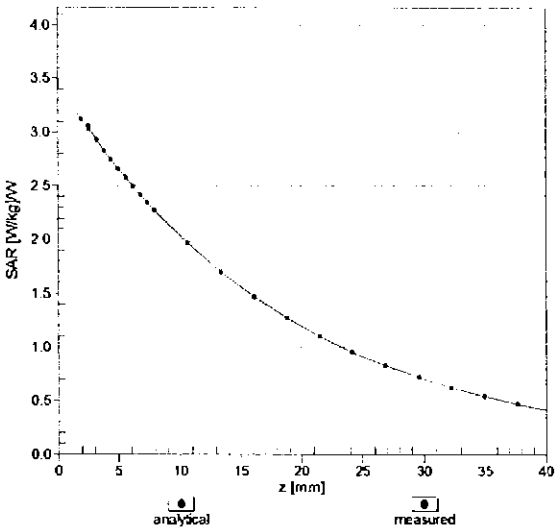




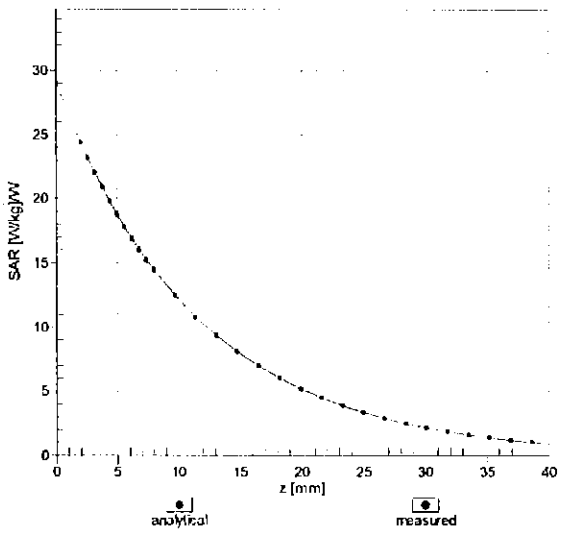
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

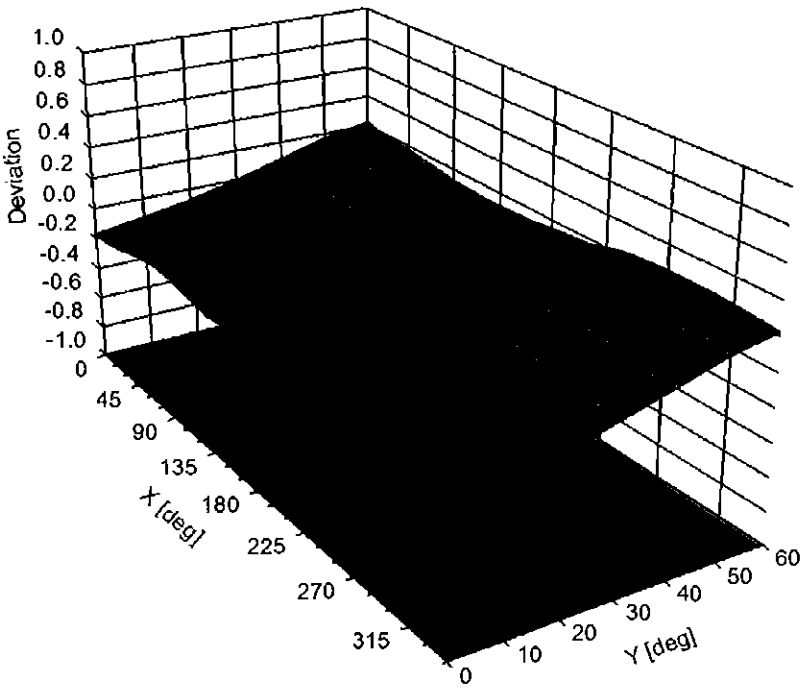


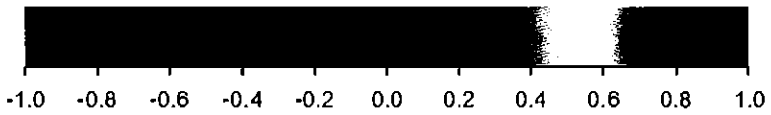
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	99.8
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	193.8	± 3.8 %
		Y	0.00	0.00	1.00		198.4	
		Z	0.00	0.00	1.00		197.6	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	10.15	82.79	20.92	10.00	25.0	± 9.6 %
		Y	11.00	84.18	21.27		25.0	
		Z	13.18	87.26	22.28		25.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.07	67.65	15.42	0.00	150.0	± 9.6 %
		Y	1.03	66.95	15.00		150.0	
		Z	1.17	69.88	16.78		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.33	65.15	15.88	0.41	150.0	± 9.6 %
		Y	1.32	64.91	15.69		150.0	
		Z	1.37	66.00	16.53		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.13	67.46	17.58	1.46	150.0	± 9.6 %
		Y	5.10	67.43	17.52		150.0	
		Z	5.06	67.78	17.74		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	20.37	96.35	27.25	9.39	50.0	± 9.6 %
		Y	30.15	103.40	29.29		50.0	
		Z	41.77	109.26	30.88		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	18.09	94.11	26.57	9.57	50.0	± 9.6 %
		Y	24.69	99.76	28.23		50.0	
		Z	31.82	104.38	29.52		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	121.09	32.13	6.56	60.0	± 9.6 %
		Y	100.00	120.92	31.95		60.0	
		Z	100.00	121.26	32.02		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	16.64	101.52	38.86	12.57	50.0	± 9.6 %
		Y	14.30	96.85	36.79		50.0	
		Z	18.02	105.47	40.62		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	17.53	100.53	34.97	9.56	60.0	± 9.6 %
		Y	15.70	97.79	33.87		60.0	
		Z	18.78	103.59	36.29		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	119.96	30.61	4.80	80.0	± 9.6 %
		Y	100.00	119.86	30.47		80.0	
		Z	100.00	120.68	30.80		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	120.21	29.86	3.55	100.0	± 9.6 %
		Y	100.00	120.13	29.75		100.0	
		Z	100.00	121.64	30.39		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	12.10	92.41	31.01	7.80	80.0	± 9.6 %
		Y	11.04	90.30	30.11		80.0	
		Z	12.29	93.86	31.78		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	119.42	30.71	5.30	70.0	± 9.6 %
		Y	100.00	119.20	30.51		70.0	
		Z	100.00	119.69	30.67		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	121.29	28.69	1.88	100.0	± 9.6 %
		Y	100.00	120.94	28.48		100.0	
		Z	100.00	124.18	29.88		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	125.86	29.49	1.17	100.0	± 9.6 %
		Y	100.00	125.32	29.21		100.0	
		Z	100.00	131.58	31.85		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	13.23	91.21	24.95	5.30	70.0	± 9.6 %
		Y	14.63	92.92	25.38		70.0	
		Z	19.17	97.16	26.47		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	6.92	85.11	21.11	1.88	100.0	± 9.6 %
		Y	7.14	85.43	21.05		100.0	
		Z	15.27	95.64	23.84		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	4.19	79.73	18.91	1.17	100.0	± 9.6 %
		Y	4.08	79.31	18.60		100.0	
		Z	8.20	88.56	21.33		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	15.17	93.63	25.78	5.30	70.0	± 9.6 %
		Y	17.34	95.89	26.37		70.0	
		Z	23.43	100.60	27.54		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	6.49	84.25	20.80	1.88	100.0	± 9.6 %
		Y	6.58	84.34	20.67		100.0	
		Z	12.88	93.39	23.18		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	4.28	80.30	19.21	1.17	100.0	± 9.6 %
		Y	4.18	79.89	18.90		100.0	
		Z	8.48	89.36	21.70		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	1.77	71.50	15.36	0.00	150.0	± 9.6 %
		Y	1.66	70.75	14.87		150.0	
		Z	2.21	75.44	16.46		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	48.24	108.61	29.02	7.78	50.0	± 9.6 %
		Y	100.00	119.74	31.68		50.0	
		Z	100.00	119.87	31.65		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.01	105.78	1.57	0.00	150.0	± 9.6 %
		Y	0.01	93.12	0.05		150.0	
		Z	0.02	60.00	125.29		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	11.48	83.66	24.77	13.80	25.0	± 9.6 %
		Y	12.98	86.43	25.67		25.0	
		Z	13.85	88.07	26.16		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	13.59	88.34	25.05	10.79	40.0	± 9.6 %
		Y	16.07	91.66	26.08		40.0	
		Z	18.23	94.18	26.81		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	12.43	86.66	24.58	9.03	50.0	± 9.6 %
		Y	13.12	87.85	24.89		50.0	
		Z	14.66	90.10	25.55		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	9.05	86.84	28.23	6.55	100.0	± 9.6 %
		Y	8.40	85.23	27.51		100.0	
		Z	9.03	87.73	28.80		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.51	67.27	16.92	0.61	110.0	± 9.6 %
		Y	1.49	66.96	16.70		110.0	
		Z	1.57	68.38	17.68		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	131.76	34.11	1.30	110.0	± 9.6 %
		Y	71.17	126.60	32.90		110.0	
		Z	100.00	134.48	35.28		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	8.26	92.40	25.92	2.04	110.0	± 9.6 %
		Y	7.86	91.67	25.64		110.0	
		Z	13.05	101.28	28.90		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.81	67.11	16.81	0.49	100.0	± 9.6 %
		Y	4.78	67.08	16.75		100.0	
		Z	4.74	67.40	16.96		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.86	67.28	16.95	0.72	100.0	± 9.6 %
		Y	4.83	67.26	16.90		100.0	
		Z	4.78	67.59	17.10		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.15	67.58	17.21	0.86	100.0	± 9.6 %
		Y	5.12	67.54	17.15		100.0	
		Z	5.05	67.83	17.33		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.08	67.64	17.40	1.21	100.0	± 9.6 %
		Y	5.04	67.60	17.34		100.0	
		Z	4.98	67.88	17.52		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.14	67.80	17.64	1.46	100.0	± 9.6 %
		Y	5.10	67.75	17.57		100.0	
		Z	5.04	68.03	17.76		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.49	68.13	18.17	2.04	100.0	± 9.6 %
		Y	5.45	68.07	18.10		100.0	
		Z	5.40	68.44	18.33		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.62	68.39	18.51	2.55	100.0	± 9.6 %
		Y	5.57	68.30	18.42		100.0	
		Z	5.50	68.59	18.61		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.71	68.45	18.74	2.67	100.0	± 9.6 %
		Y	5.66	68.35	18.64		100.0	
		Z	5.60	68.69	18.85		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.29	67.74	17.99	1.99	100.0	± 9.6 %
		Y	5.26	67.69	17.92		100.0	
		Z	5.22	68.04	18.14		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.35	68.29	18.32	2.30	100.0	± 9.6 %
		Y	5.31	68.23	18.25		100.0	
		Z	5.28	68.58	18.48		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.52	68.74	18.79	2.83	100.0	± 9.6 %
		Y	5.47	68.65	18.71		100.0	
		Z	5.45	69.06	18.97		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.59	68.87	19.06	3.30	100.0	± 9.6 %
		Y	5.54	68.78	18.97		100.0	
		Z	5.53	69.22	19.24		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.75	69.32	19.54	3.82	90.0	± 9.6 %
		Y	5.69	69.19	19.42		90.0	
		Z	5.67	69.59	19.68		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.81	69.26	19.74	4.15	90.0	± 9.6 %
		Y	5.75	69.12	19.62		90.0	
		Z	5.75	69.59	19.91		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.86	69.39	19.87	4.30	90.0	± 9.6 %
		Y	5.80	69.25	19.74		90.0	
		Z	5.81	69.74	20.05		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.85	66.00	12.47	0.00	150.0	± 9.6 %
		Y	0.81	65.47	12.03		150.0	
		Z	0.94	68.28	13.16		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	2.43	65.12	9.91	4.77	80.0	± 9.6 %
		Y	2.34	64.85	9.65		80.0	
		Z	2.38	65.28	9.85		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	121.17	32.19	6.56	60.0	± 9.6 %
		Y	100.00	121.01	32.01		60.0	
		Z	100.00	121.33	32.08		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.86	67.76	15.71	0.00	150.0	± 9.6 %
		Y	1.83	67.55	15.52		150.0	
		Z	1.97	69.46	16.51		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.82	67.73	15.68	0.00	150.0	± 9.6 %
		Y	1.79	67.50	15.49		150.0	
		Z	1.93	69.44	16.51		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	17.45	100.38	34.92	9.56	60.0	± 9.6 %
		Y	15.65	97.69	33.83		60.0	
		Z	18.70	103.43	36.23		60.0	
10100-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.14	70.27	16.73	0.00	150.0	± 9.6 %
		Y	3.08	69.98	16.58		150.0	
		Z	3.18	71.07	17.31		150.0	
10101-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.27	67.60	16.02	0.00	150.0	± 9.6 %
		Y	3.24	67.45	15.92		150.0	
		Z	3.25	67.98	16.32		150.0	
10102-CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.37	67.55	16.10	0.00	150.0	± 9.6 %
		Y	3.34	67.44	16.01		150.0	
		Z	3.35	67.93	16.39		150.0	
10103-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	8.45	77.94	21.35	3.98	65.0	± 9.6 %
		Y	8.48	78.19	21.44		65.0	
		Z	8.84	79.49	22.08		65.0	
10104-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.46	76.71	21.64	3.98	65.0	± 9.6 %
		Y	8.36	76.61	21.55		65.0	
		Z	8.48	77.41	21.99		65.0	
10105-CAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	8.01	75.57	21.42	3.98	65.0	± 9.6 %
		Y	7.41	74.17	20.76		65.0	
		Z	8.02	76.24	21.75		65.0	
10108-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.75	69.57	16.59	0.00	150.0	± 9.6 %
		Y	2.69	69.29	16.42		150.0	
		Z	2.77	70.47	17.20		150.0	
10109-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.92	67.46	15.91	0.00	150.0	± 9.6 %
		Y	2.89	67.32	15.79		150.0	
		Z	2.90	67.99	16.24		150.0	
10110-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.24	68.78	16.21	0.00	150.0	± 9.6 %
		Y	2.18	68.45	16.00		150.0	
		Z	2.26	69.90	16.86		150.0	
10111-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.62	68.17	16.09	0.00	150.0	± 9.6 %
		Y	2.59	68.10	16.00		150.0	
		Z	2.64	69.23	16.57		150.0	

10112-CAD	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.04	67.45	15.96	0.00	150.0	± 9.6 %
		Y	3.01	67.33	15.86		150.0	
		Z	3.02	67.99	16.29		150.0	
10113-CAD	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.77	68.30	16.22	0.00	150.0	± 9.6 %
		Y	2.74	68.27	16.14		150.0	
		Z	2.78	69.35	16.67		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.20	67.44	16.63	0.00	150.0	± 9.6 %
		Y	5.18	67.41	16.58		150.0	
		Z	5.11	67.54	16.73		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.49	67.57	16.70	0.00	150.0	± 9.6 %
		Y	5.45	67.52	16.64		150.0	
		Z	5.37	67.63	16.78		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.29	67.63	16.65	0.00	150.0	± 9.6 %
		Y	5.26	67.58	16.59		150.0	
		Z	5.20	67.76	16.77		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.15	67.25	16.55	0.00	150.0	± 9.6 %
		Y	5.13	67.22	16.50		150.0	
		Z	5.10	67.48	16.72		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.59	67.86	16.86	0.00	150.0	± 9.6 %
		Y	5.55	67.77	16.78		150.0	
		Z	5.46	67.90	16.92		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.28	67.60	16.65	0.00	150.0	± 9.6 %
		Y	5.25	67.56	16.60		150.0	
		Z	5.20	67.76	16.78		150.0	
10140-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.41	67.57	16.03	0.00	150.0	± 9.6 %
		Y	3.37	67.45	15.93		150.0	
		Z	3.38	67.96	16.31		150.0	
10141-CAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.53	67.66	16.19	0.00	150.0	± 9.6 %
		Y	3.50	67.56	16.11		150.0	
		Z	3.50	68.06	16.47		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.01	68.74	15.81	0.00	150.0	± 9.6 %
		Y	1.95	68.39	15.56		150.0	
		Z	2.05	70.20	16.46		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.46	68.78	15.69	0.00	150.0	± 9.6 %
		Y	2.42	68.70	15.55		150.0	
		Z	2.52	70.18	16.10		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.25	66.70	14.18	0.00	150.0	± 9.6 %
		Y	2.20	66.47	13.95		150.0	
		Z	2.19	67.27	14.16		150.0	
10145-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.20	64.86	11.51	0.00	150.0	± 9.6 %
		Y	1.14	64.37	11.05		150.0	
		Z	1.05	64.17	10.40		150.0	
10146-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	2.15	67.51	12.50	0.00	150.0	± 9.6 %
		Y	1.81	65.51	11.14		150.0	
		Z	1.50	63.99	9.68		150.0	
10147-CAD	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	2.58	69.81	13.69	0.00	150.0	± 9.6 %
		Y	2.07	67.09	12.05		150.0	
		Z	1.67	65.16	10.38		150.0	

10149-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.93	67.51	15.95	0.00	150.0	± 9.6 %
		Y	2.89	67.37	15.84		150.0	
		Z	2.91	68.06	16.29		150.0	
10150-CAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.05	67.49	16.00	0.00	150.0	± 9.6 %
		Y	3.02	67.39	15.90		150.0	
		Z	3.03	68.05	16.33		150.0	
10151-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.08	80.52	22.42	3.98	65.0	± 9.6 %
		Y	9.13	80.81	22.51		65.0	
		Z	9.76	82.67	23.33		65.0	
10152-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	8.07	76.89	21.41	3.98	65.0	± 9.6 %
		Y	7.96	76.76	21.29		65.0	
		Z	8.13	77.71	21.72		65.0	
10153-CAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.46	77.69	22.06	3.98	65.0	± 9.6 %
		Y	8.40	77.70	22.02		65.0	
		Z	8.58	78.68	22.44		65.0	
10154-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.28	69.12	16.43	0.00	150.0	± 9.6 %
		Y	2.23	68.81	16.23		150.0	
		Z	2.30	70.27	17.09		150.0	
10155-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.62	68.18	16.11	0.00	150.0	± 9.6 %
		Y	2.59	68.12	16.02		150.0	
		Z	2.64	69.26	16.59		150.0	
10156-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.85	68.75	15.54	0.00	150.0	± 9.6 %
		Y	1.78	68.36	15.25		150.0	
		Z	1.89	70.32	16.14		150.0	
10157-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.08	67.19	14.16	0.00	150.0	± 9.6 %
		Y	2.03	66.92	13.89		150.0	
		Z	2.04	67.88	14.11		150.0	
10158-CAD	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.77	68.35	16.26	0.00	150.0	± 9.6 %
		Y	2.74	68.33	16.19		150.0	
		Z	2.79	69.42	16.72		150.0	
10159-CAD	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.17	67.54	14.38	0.00	150.0	± 9.6 %
		Y	2.12	67.30	14.13		150.0	
		Z	2.13	68.22	14.31		150.0	
10160-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.81	68.96	16.49	0.00	150.0	± 9.6 %
		Y	2.76	68.74	16.34		150.0	
		Z	2.82	69.86	17.03		150.0	
10161-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.94	67.43	15.92	0.00	150.0	± 9.6 %
		Y	2.91	67.33	15.82		150.0	
		Z	2.92	68.05	16.24		150.0	
10162-CAC	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.05	67.59	16.03	0.00	150.0	± 9.6 %
		Y	3.02	67.50	15.94		150.0	
		Z	3.03	68.24	16.36		150.0	
10166-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.71	70.07	19.58	3.01	150.0	± 9.6 %
		Y	3.58	69.54	19.20		150.0	
		Z	3.50	70.06	19.64		150.0	
10167-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.56	72.95	20.02	3.01	150.0	± 9.6 %
		Y	4.33	72.21	19.56		150.0	
		Z	4.27	73.08	20.12		150.0	

10168-CAD	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.99	74.96	21.22	3.01	150.0	± 9.6 %
		Y	4.79	74.43	20.89		150.0	
		Z	4.73	75.38	21.47		150.0	
10169-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.13	69.41	19.31	3.01	150.0	± 9.6 %
		Y	2.99	68.61	18.78		150.0	
		Z	2.92	68.79	19.07		150.0	
10170-CAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.17	74.56	21.28	3.01	150.0	± 9.6 %
		Y	3.92	73.66	20.79		150.0	
		Z	3.82	73.97	21.12		150.0	
10171-AAC	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.57	71.25	18.95	3.01	150.0	± 9.6 %
		Y	3.32	70.13	18.28		150.0	
		Z	3.27	70.64	18.73		150.0	
10172-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	17.56	100.63	31.42	6.02	65.0	± 9.6 %
		Y	14.98	97.57	30.29		65.0	
		Z	16.82	101.42	31.85		65.0	
10173-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	21.78	100.59	29.78	6.02	65.0	± 9.6 %
		Y	20.29	99.47	29.30		65.0	
		Z	24.24	104.02	30.87		65.0	
10174-CAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	17.68	95.76	27.82	6.02	65.0	± 9.6 %
		Y	16.71	94.95	27.43		65.0	
		Z	18.60	98.14	28.62		65.0	
10175-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.11	69.16	19.10	3.01	150.0	± 9.6 %
		Y	2.96	68.35	18.55		150.0	
		Z	2.90	68.55	18.86		150.0	
10176-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.17	74.58	21.29	3.01	150.0	± 9.6 %
		Y	3.93	73.68	20.80		150.0	
		Z	3.83	73.99	21.13		150.0	
10177-CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.13	69.28	19.17	3.01	150.0	± 9.6 %
		Y	2.98	68.47	18.64		150.0	
		Z	2.92	68.66	18.93		150.0	
10178-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	4.14	74.42	21.20	3.01	150.0	± 9.6 %
		Y	3.90	73.51	20.70		150.0	
		Z	3.81	73.86	21.06		150.0	
10179-CAD	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.85	72.86	20.02	3.01	150.0	± 9.6 %
		Y	3.60	71.81	19.42		150.0	
		Z	3.53	72.27	19.84		150.0	
10180-CAD	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.56	71.20	18.91	3.01	150.0	± 9.6 %
		Y	3.32	70.08	18.24		150.0	
		Z	3.27	70.61	18.70		150.0	
10181-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	3.12	69.26	19.17	3.01	150.0	± 9.6 %
		Y	2.97	68.46	18.63		150.0	
		Z	2.91	68.64	18.92		150.0	
10182-CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.14	74.40	21.19	3.01	150.0	± 9.6 %
		Y	3.89	73.49	20.69		150.0	
		Z	3.80	73.84	21.05		150.0	
10183-AAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.56	71.18	18.90	3.01	150.0	± 9.6 %
		Y	3.31	70.05	18.23		150.0	
		Z	3.26	70.58	18.69		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.13	69.30	19.18	3.01	150.0	± 9.6 %
		Y	2.98	68.50	18.65		150.0	
		Z	2.92	68.68	18.94		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.15	74.46	21.23	3.01	150.0	± 9.6 %
		Y	3.91	73.55	20.73		150.0	
		Z	3.82	73.90	21.08		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.57	71.24	18.93	3.01	150.0	± 9.6 %
		Y	3.32	70.11	18.27		150.0	
		Z	3.27	70.64	18.72		150.0	
10187-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.14	69.35	19.25	3.01	150.0	± 9.6 %
		Y	2.99	68.55	18.71		150.0	
		Z	2.93	68.74	19.01		150.0	
10188-CAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.25	74.96	21.53	3.01	150.0	± 9.6 %
		Y	4.01	74.10	21.06		150.0	
		Z	3.90	74.38	21.38		150.0	
10189-AAD	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.64	71.59	19.17	3.01	150.0	± 9.6 %
		Y	3.39	70.47	18.51		150.0	
		Z	3.33	70.98	18.95		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.56	66.78	16.26	0.00	150.0	± 9.6 %
		Y	4.54	66.76	16.21		150.0	
		Z	4.49	67.10	16.41		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.73	67.09	16.40	0.00	150.0	± 9.6 %
		Y	4.70	67.06	16.34		150.0	
		Z	4.65	67.36	16.55		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.77	67.12	16.42	0.00	150.0	± 9.6 %
		Y	4.74	67.09	16.36		150.0	
		Z	4.68	67.39	16.57		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.56	66.84	16.28	0.00	150.0	± 9.6 %
		Y	4.54	66.81	16.22		150.0	
		Z	4.48	67.12	16.42		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.74	67.11	16.41	0.00	150.0	± 9.6 %
		Y	4.71	67.08	16.35		150.0	
		Z	4.66	67.37	16.56		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.77	67.14	16.43	0.00	150.0	± 9.6 %
		Y	4.74	67.11	16.37		150.0	
		Z	4.68	67.40	16.58		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.51	66.85	16.24	0.00	150.0	± 9.6 %
		Y	4.48	66.82	16.18		150.0	
		Z	4.44	67.15	16.39		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.74	67.08	16.40	0.00	150.0	± 9.6 %
		Y	4.71	67.05	16.34		150.0	
		Z	4.65	67.33	16.55		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.78	67.07	16.41	0.00	150.0	± 9.6 %
		Y	4.75	67.04	16.36		150.0	
		Z	4.69	67.33	16.56		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.13	67.26	16.54	0.00	150.0	± 9.6 %
		Y	5.10	67.22	16.49		150.0	
		Z	5.06	67.45	16.69		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.46	67.58	16.73	0.00	150.0	± 9.6 %
		Y	5.43	67.54	16.68		150.0	
		Z	5.36	67.71	16.84		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.17	67.37	16.52	0.00	150.0	± 9.6 %
		Y	5.15	67.33	16.48		150.0	
		Z	5.10	67.55	16.67		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.82	66.24	15.35	0.00	150.0	± 9.6 %
		Y	2.79	66.17	15.23		150.0	
		Z	2.78	66.79	15.47		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	22.77	101.50	30.12	6.02	65.0	± 9.6 %
		Y	21.41	100.55	29.70		65.0	
		Z	25.66	105.18	31.28		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	20.66	98.55	28.73	6.02	65.0	± 9.6 %
		Y	19.77	97.95	28.42		65.0	
		Z	23.57	102.34	29.92		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	21.73	105.25	32.91	6.02	65.0	± 9.6 %
		Y	18.56	102.16	31.81		65.0	
		Z	22.09	107.23	33.68		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	21.82	100.60	29.79	6.02	65.0	± 9.6 %
		Y	20.36	99.51	29.32		65.0	
		Z	24.28	104.03	30.88		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	19.85	97.78	28.44	6.02	65.0	± 9.6 %
		Y	18.83	97.02	28.07		65.0	
		Z	22.32	101.31	29.56		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	20.80	104.28	32.55	6.02	65.0	± 9.6 %
		Y	17.68	101.10	31.41		65.0	
		Z	20.96	106.07	33.27		65.0	
10232-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	21.80	100.60	29.78	6.02	65.0	± 9.6 %
		Y	20.34	99.50	29.31		65.0	
		Z	24.27	104.04	30.88		65.0	
10233-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	19.85	97.78	28.44	6.02	65.0	± 9.6 %
		Y	18.81	97.01	28.07		65.0	
		Z	22.30	101.30	29.56		65.0	
10234-CAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	19.96	103.30	32.16	6.02	65.0	± 9.6 %
		Y	16.93	100.08	31.00		65.0	
		Z	20.02	104.97	32.84		65.0	
10235-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	21.86	100.65	29.80	6.02	65.0	± 9.6 %
		Y	20.38	99.55	29.33		65.0	
		Z	24.35	104.11	30.91		65.0	
10236-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	20.00	97.89	28.47	6.02	65.0	± 9.6 %
		Y	18.96	97.12	28.10		65.0	
		Z	22.51	101.44	29.59		65.0	
10237-CAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	20.93	104.44	32.60	6.02	65.0	± 9.6 %
		Y	17.76	101.22	31.45		65.0	
		Z	21.10	106.24	33.32		65.0	
10238-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	21.80	100.60	29.78	6.02	65.0	± 9.6 %
		Y	20.32	99.50	29.31		65.0	
		Z	24.27	104.04	30.88		65.0	

10239-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	19.83	97.78	28.45	6.02	65.0	± 9.6 %
		Y	18.79	97.00	28.07		65.0	
		Z	22.28	101.30	29.56		65.0	
10240-CAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	20.88	104.40	32.59	6.02	65.0	± 9.6 %
		Y	17.72	101.18	31.44		65.0	
		Z	21.06	106.20	33.31		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	12.24	87.14	27.71	6.98	65.0	± 9.6 %
		Y	11.66	86.26	27.23		65.0	
		Z	12.84	89.53	28.59		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	11.23	85.25	26.91	6.98	65.0	± 9.6 %
		Y	10.73	84.46	26.46		65.0	
		Z	11.65	87.43	27.73		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	9.26	82.71	26.82	6.98	65.0	± 9.6 %
		Y	8.77	81.59	26.19		65.0	
		Z	9.38	84.29	27.48		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	8.43	78.33	19.80	3.98	65.0	± 9.6 %
		Y	8.13	77.78	19.35		65.0	
		Z	7.78	77.16	18.63		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	8.24	77.75	19.52	3.98	65.0	± 9.6 %
		Y	7.93	77.16	19.05		65.0	
		Z	7.52	76.42	18.28		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.27	80.82	20.82	3.98	65.0	± 9.6 %
		Y	8.37	81.12	20.81		65.0	
		Z	8.70	81.90	20.78		65.0	
10247-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	7.26	76.56	19.69	3.98	65.0	± 9.6 %
		Y	7.23	76.62	19.60		65.0	
		Z	7.23	76.89	19.40		65.0	
10248-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	7.22	76.08	19.48	3.98	65.0	± 9.6 %
		Y	7.14	76.02	19.34		65.0	
		Z	7.07	76.17	19.09		65.0	
10249-CAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.57	83.59	22.64	3.98	65.0	± 9.6 %
		Y	9.80	84.14	22.75		65.0	
		Z	10.88	86.27	23.34		65.0	
10250-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	8.32	79.09	22.19	3.98	65.0	± 9.6 %
		Y	8.34	79.30	22.22		65.0	
		Z	8.61	80.36	22.55		65.0	
10251-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	7.92	77.18	21.13	3.98	65.0	± 9.6 %
		Y	7.83	77.10	21.02		65.0	
		Z	7.98	77.95	21.27		65.0	
10252-CAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	9.71	83.44	23.44	3.98	65.0	± 9.6 %
		Y	9.86	83.90	23.57		65.0	
		Z	10.97	86.45	24.51		65.0	
10253-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	7.91	76.41	21.19	3.98	65.0	± 9.6 %
		Y	7.81	76.30	21.07		65.0	
		Z	7.99	77.25	21.46		65.0	
10254-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	8.29	77.17	21.78	3.98	65.0	± 9.6 %
		Y	8.22	77.16	21.71		65.0	
		Z	8.39	78.10	22.09		65.0	

10255-CAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	8.83	80.22	22.48	3.98	65.0	± 9.6 %
		Y	8.85	80.45	22.54		65.0	
		Z	9.46	82.31	23.33		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	7.10	75.22	17.68	3.98	65.0	± 9.6 %
		Y	6.68	74.31	17.02		65.0	
		Z	6.06	72.93	15.89		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	6.89	74.46	17.27	3.98	65.0	± 9.6 %
		Y	6.47	73.52	16.59		65.0	
		Z	5.82	72.04	15.40		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	6.67	76.86	18.56	3.98	65.0	± 9.6 %
		Y	6.60	76.76	18.36		65.0	
		Z	6.32	76.16	17.69		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	7.69	77.52	20.59	3.98	65.0	± 9.6 %
		Y	7.67	77.62	20.54		65.0	
		Z	7.79	78.24	20.55		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	7.68	77.21	20.48	3.98	65.0	± 9.6 %
		Y	7.65	77.29	20.41		65.0	
		Z	7.72	77.81	20.37		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	9.27	82.88	22.74	3.98	65.0	± 9.6 %
		Y	9.41	83.32	22.83		65.0	
		Z	10.41	85.52	23.51		65.0	
10262-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	8.31	79.04	22.15	3.98	65.0	± 9.6 %
		Y	8.32	79.24	22.17		65.0	
		Z	8.58	80.29	22.51		65.0	
10263-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	7.91	77.16	21.13	3.98	65.0	± 9.6 %
		Y	7.82	77.08	21.01		65.0	
		Z	7.96	77.93	21.26		65.0	
10264-CAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	9.64	83.29	23.36	3.98	65.0	± 9.6 %
		Y	9.78	83.73	23.49		65.0	
		Z	10.86	86.24	24.42		65.0	
10265-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	8.07	76.89	21.41	3.98	65.0	± 9.6 %
		Y	7.96	76.76	21.30		65.0	
		Z	8.13	77.71	21.73		65.0	
10266-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	8.46	77.69	22.06	3.98	65.0	± 9.6 %
		Y	8.39	77.69	22.01		65.0	
		Z	8.58	78.67	22.44		65.0	
10267-CAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.07	80.49	22.41	3.98	65.0	± 9.6 %
		Y	9.12	80.78	22.50		65.0	
		Z	9.74	82.63	23.31		65.0	
10268-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	8.57	76.52	21.67	3.98	65.0	± 9.6 %
		Y	8.48	76.44	21.59		65.0	
		Z	8.59	77.23	22.00		65.0	
10269-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	8.52	76.15	21.57	3.98	65.0	± 9.6 %
		Y	8.43	76.06	21.48		65.0	
		Z	8.53	76.82	21.88		65.0	
10270-CAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	8.64	77.89	21.55	3.98	65.0	± 9.6 %
		Y	8.64	78.05	21.60		65.0	
		Z	8.94	79.27	22.20		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.62	66.64	15.29	0.00	150.0	± 9.6 %
		Y	2.59	66.55	15.16		150.0	
		Z	2.63	67.50	15.60		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.64	68.06	15.63	0.00	150.0	± 9.6 %
		Y	1.60	67.63	15.35		150.0	
		Z	1.73	69.70	16.54		150.0	
10277-CAA	PHS (QPSK)	X	5.88	70.18	14.54	9.03	50.0	± 9.6 %
		Y	5.68	69.81	14.16		50.0	
		Z	5.54	69.69	13.87		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	8.18	77.17	19.59	9.03	50.0	± 9.6 %
		Y	8.15	77.23	19.44		50.0	
		Z	7.72	76.23	18.65		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	8.28	77.30	19.66	9.03	50.0	± 9.6 %
		Y	8.23	77.33	19.50		50.0	
		Z	7.77	76.29	18.70		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.42	68.46	13.72	0.00	150.0	± 9.6 %
		Y	1.34	67.80	13.24		150.0	
		Z	1.48	70.09	13.96		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.84	65.79	12.34	0.00	150.0	± 9.6 %
		Y	0.80	65.28	11.91		150.0	
		Z	0.91	67.95	12.99		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.07	69.90	14.72	0.00	150.0	± 9.6 %
		Y	1.00	69.07	14.17		150.0	
		Z	1.74	77.32	17.34		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	1.62	75.91	17.73	0.00	150.0	± 9.6 %
		Y	1.53	75.09	17.23		150.0	
		Z	7.44	97.52	24.35		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	12.04	85.34	24.52	9.03	50.0	± 9.6 %
		Y	12.55	86.23	24.70		50.0	
		Z	15.64	90.11	25.74		50.0	
10297-AAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.76	69.66	16.65	0.00	150.0	± 9.6 %
		Y	2.70	69.38	16.48		150.0	
		Z	2.78	70.57	17.27		150.0	
10298-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.54	67.45	13.87	0.00	150.0	± 9.6 %
		Y	1.47	66.96	13.48		150.0	
		Z	1.50	68.20	13.78		150.0	
10299-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.88	70.95	15.09	0.00	150.0	± 9.6 %
		Y	2.48	68.96	13.86		150.0	
		Z	2.31	68.66	13.20		150.0	
10300-AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.10	65.97	12.01	0.00	150.0	± 9.6 %
		Y	1.89	64.80	11.10		150.0	
		Z	1.66	64.02	10.16		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	5.92	69.22	19.15	4.17	80.0	± 9.6 %
		Y	5.77	68.82	18.86		80.0	
		Z	6.22	71.21	20.04		80.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	6.47	70.15	20.09	4.96	80.0	± 9.6 %
		Y	6.20	69.19	19.48		80.0	
		Z	6.39	70.50	20.11		80.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	6.36	70.32	20.16	4.96	80.0	± 9.6 %
		Y	6.06	69.23	19.48		80.0	
		Z	6.28	70.68	20.15		80.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	5.91	69.37	19.22	4.17	80.0	± 9.6 %
		Y	5.68	68.51	18.68		80.0	
		Z	5.86	69.83	19.29		80.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	16.21	94.41	30.34	6.02	50.0	± 9.6 %
		Y	11.60	86.75	27.25		50.0	
		Z	18.29	96.43	30.39		50.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	7.35	74.65	22.62	6.02	50.0	± 9.6 %
		Y	7.81	77.09	23.87		50.0	
		Z	9.06	81.01	25.42		50.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	9.57	82.17	26.08	6.02	50.0	± 9.6 %
		Y	8.26	78.63	24.33		50.0	
		Z	9.84	83.01	26.02		50.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	10.14	83.68	26.69	6.02	50.0	± 9.6 %
		Y	8.59	79.71	24.79		50.0	
		Z	10.51	84.66	26.67		50.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	7.46	74.98	22.81	6.02	50.0	± 9.6 %
		Y	7.92	77.40	24.04		50.0	
		Z	9.17	81.30	25.60		50.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	9.11	80.95	25.70	6.02	50.0	± 9.6 %
		Y	8.00	77.79	24.08		50.0	
		Z	9.43	82.00	25.74		50.0	
10311-AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.11	68.90	16.27	0.00	150.0	± 9.6 %
		Y	3.06	68.65	16.14		150.0	
		Z	3.14	69.68	16.83		150.0	
10313-AAA	iDEN 1:3	X	7.89	79.50	19.60	6.99	70.0	± 9.6 %
		Y	8.11	80.06	19.75		70.0	
		Z	9.64	83.11	20.94		70.0	
10314-AAA	iDEN 1:6	X	9.33	83.91	23.59	10.00	30.0	± 9.6 %
		Y	10.37	86.04	24.32		30.0	
		Z	12.43	89.77	25.69		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.19	64.61	15.58	0.17	150.0	± 9.6 %
		Y	1.18	64.40	15.40		150.0	
		Z	1.23	65.52	16.28		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.68	67.02	16.52	0.17	150.0	± 9.6 %
		Y	4.65	66.98	16.46		150.0	
		Z	4.60	67.30	16.67		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.68	67.02	16.52	0.17	150.0	± 9.6 %
		Y	4.65	66.98	16.46		150.0	
		Z	4.60	67.30	16.67		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.72	67.17	16.41	0.00	150.0	± 9.6 %
		Y	4.69	67.12	16.34		150.0	
		Z	4.62	67.42	16.56		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.50	67.58	16.71	0.00	150.0	± 9.6 %
		Y	5.48	67.55	16.66		150.0	
		Z	5.35	67.50	16.70		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.69	67.63	16.58	0.00	150.0	± 9.6 %
		Y	5.67	67.58	16.53		150.0	
		Z	5.62	67.76	16.70		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.42	68.46	13.72	0.00	115.0	± 9.6 %
		Y	1.34	67.80	13.24		115.0	
		Z	1.48	70.09	13.96		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.42	68.46	13.72	0.00	115.0	± 9.6 %
		Y	1.34	67.80	13.24		115.0	
		Z	1.48	70.09	13.96		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	25.26	105.36	27.54	0.00	100.0	± 9.6 %
		Y	18.34	100.25	25.80		100.0	
		Z	100.00	124.04	31.32		100.0	
10410-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.38	32.10	3.23	80.0	± 9.6 %
		Y	100.00	122.73	31.64		80.0	
		Z	100.00	124.27	32.20		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.11	14.70	0.00	150.0	± 9.6 %
		Y	1.03	62.94	14.52		150.0	
		Z	1.07	63.91	15.37		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.82	16.34	0.00	150.0	± 9.6 %
		Y	4.54	66.80	16.29		150.0	
		Z	4.49	67.11	16.49		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.82	16.34	0.00	150.0	± 9.6 %
		Y	4.54	66.80	16.29		150.0	
		Z	4.49	67.11	16.49		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.56	66.98	16.36	0.00	150.0	± 9.6 %
		Y	4.53	66.96	16.31		150.0	
		Z	4.49	67.31	16.55		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.58	66.93	16.36	0.00	150.0	± 9.6 %
		Y	4.55	66.91	16.31		150.0	
		Z	4.51	67.25	16.53		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.69	66.93	16.38	0.00	150.0	± 9.6 %
		Y	4.66	66.91	16.33		150.0	
		Z	4.61	67.22	16.54		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.85	67.25	16.49	0.00	150.0	± 9.6 %
		Y	4.82	67.21	16.44		150.0	
		Z	4.75	67.49	16.63		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.78	67.20	16.47	0.00	150.0	± 9.6 %
		Y	4.74	67.16	16.41		150.0	
		Z	4.68	67.45	16.62		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.41	67.59	16.71	0.00	150.0	± 9.6 %
		Y	5.38	67.51	16.64		150.0	
		Z	5.32	67.71	16.82		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.45	67.71	16.77	0.00	150.0	± 9.6 %
		Y	5.42	67.67	16.71		150.0	
		Z	5.36	67.86	16.89		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.44	67.60	16.71	0.00	150.0	± 9.6 %
		Y	5.40	67.55	16.65		150.0	
		Z	5.31	67.63	16.77		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.17	70.51	17.94	0.00	150.0	± 9.6 %
		Y	4.22	70.96	18.12		150.0	
		Z	4.22	71.80	18.36		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.23	67.37	16.30	0.00	150.0	± 9.6 %
		Y	4.19	67.33	16.23		150.0	
		Z	4.13	67.76	16.44		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.54	67.24	16.40	0.00	150.0	± 9.6 %
		Y	4.50	67.21	16.34		150.0	
		Z	4.44	67.56	16.56		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.79	67.22	16.48	0.00	150.0	± 9.6 %
		Y	4.76	67.19	16.43		150.0	
		Z	4.70	67.48	16.63		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.24	71.26	17.83	0.00	150.0	± 9.6 %
		Y	4.30	71.77	18.02		150.0	
		Z	4.33	72.71	18.23		150.0	
10435-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	123.20	32.02	3.23	80.0	± 9.6 %
		Y	100.00	122.55	31.56		80.0	
		Z	100.00	124.07	32.11		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.50	67.32	15.52	0.00	150.0	± 9.6 %
		Y	3.46	67.24	15.39		150.0	
		Z	3.40	67.77	15.51		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.07	67.15	16.16	0.00	150.0	± 9.6 %
		Y	4.04	67.11	16.09		150.0	
		Z	3.99	67.55	16.31		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.35	67.06	16.29	0.00	150.0	± 9.6 %
		Y	4.32	67.02	16.23		150.0	
		Z	4.28	67.38	16.46		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.55	66.98	16.33	0.00	150.0	± 9.6 %
		Y	4.53	66.95	16.28		150.0	
		Z	4.48	67.26	16.49		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.38	67.43	15.07	0.00	150.0	± 9.6 %
		Y	3.32	67.31	14.91		150.0	
		Z	3.24	67.74	14.91		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.31	68.16	16.88	0.00	150.0	± 9.6 %
		Y	6.29	68.13	16.84		150.0	
		Z	6.30	68.44	17.07		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.83	65.46	16.04	0.00	150.0	± 9.6 %
		Y	3.82	65.44	15.98		150.0	
		Z	3.81	65.80	16.21		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.20	66.78	14.44	0.00	150.0	± 9.6 %
		Y	3.13	66.58	14.21		150.0	
		Z	2.98	66.69	13.92		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.30	65.22	15.55	0.00	150.0	± 9.6 %
		Y	4.22	65.02	15.33		150.0	
		Z	4.06	65.17	15.18		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.93	68.27	16.16	0.00	150.0	± 9.6 %
		Y	0.89	67.49	15.68		150.0	
		Z	1.06	71.27	17.94		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	125.90	33.34	3.29	80.0	± 9.6 %
		Y	100.00	125.17	32.85		80.0	
		Z	100.00	127.50	33.76		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	111.89	26.65	3.23	80.0	± 9.6 %
		Y	67.91	106.25	24.94		80.0	
		Z	100.00	111.54	26.15		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	29.54	95.45	22.07	3.23	80.0	± 9.6 %
		Y	13.75	86.30	19.24		80.0	
		Z	37.03	97.67	22.15		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.16	32.38	3.23	80.0	± 9.6 %
		Y	100.00	123.29	31.82		80.0	
		Z	100.00	125.61	32.72		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	66.16	106.63	25.35	3.23	80.0	± 9.6 %
		Y	30.09	96.61	22.52		80.0	
		Z	100.00	111.07	25.92		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	17.69	89.44	20.41	3.23	80.0	± 9.6 %
		Y	8.89	81.36	17.72		80.0	
		Z	17.98	89.61	20.02		80.0	
10467-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.37	32.48	3.23	80.0	± 9.6 %
		Y	100.00	123.52	31.93		80.0	
		Z	100.00	125.86	32.84		80.0	
10468-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	81.85	109.27	25.98	3.23	80.0	± 9.6 %
		Y	36.61	98.96	23.14		80.0	
		Z	100.00	111.26	26.01		80.0	
10469-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	18.22	89.79	20.50	3.23	80.0	± 9.6 %
		Y	9.08	81.60	17.79		80.0	
		Z	18.79	90.11	20.16		80.0	
10470-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.40	32.48	3.23	80.0	± 9.6 %
		Y	100.00	123.54	31.93		80.0	
		Z	100.00	125.89	32.84		80.0	
10471-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	82.59	109.34	25.99	3.23	80.0	± 9.6 %
		Y	36.63	98.94	23.12		80.0	
		Z	100.00	111.22	25.99		80.0	
10472-AAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	18.32	89.83	20.50	3.23	80.0	± 9.6 %
		Y	9.07	81.58	17.77		80.0	
		Z	18.89	90.14	20.15		80.0	
10473-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.38	32.47	3.23	80.0	± 9.6 %
		Y	100.00	123.52	31.92		80.0	
		Z	100.00	125.87	32.83		80.0	
10474-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	81.05	109.13	25.94	3.23	80.0	± 9.6 %
		Y	36.00	98.75	23.08		80.0	
		Z	100.00	111.22	25.99		80.0	
10475-AAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	18.03	89.66	20.46	3.23	80.0	± 9.6 %
		Y	8.96	81.46	17.74		80.0	
		Z	18.51	89.93	20.10		80.0	

10477-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	70.79	107.40	25.51	3.23	80.0	± 9.6 %
		Y	31.53	97.13	22.64		80.0	
		Z	100.00	111.05	25.90		80.0	
10478-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	17.80	89.49	20.40	3.23	80.0	± 9.6 %
		Y	8.85	81.30	17.68		80.0	
		Z	18.16	89.69	20.02		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	19.83	99.06	27.29	3.23	80.0	± 9.6 %
		Y	19.61	98.63	26.89		80.0	
		Z	78.35	120.52	32.40		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	16.61	90.83	23.15	3.23	80.0	± 9.6 %
		Y	15.83	89.91	22.58		80.0	
		Z	38.83	102.03	25.59		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	13.26	86.91	21.60	3.23	80.0	± 9.6 %
		Y	12.12	85.49	20.86		80.0	
		Z	23.00	93.95	22.99		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.33	77.38	18.81	2.23	80.0	± 9.6 %
		Y	5.31	77.41	18.69		80.0	
		Z	7.14	81.68	19.85		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	7.75	79.50	19.33	2.23	80.0	± 9.6 %
		Y	6.97	77.90	18.46		80.0	
		Z	7.26	78.33	18.08		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	6.99	77.88	18.76	2.23	80.0	± 9.6 %
		Y	6.28	76.29	17.88		80.0	
		Z	6.27	76.25	17.33		80.0	
10485-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.79	78.98	20.34	2.23	80.0	± 9.6 %
		Y	5.80	79.17	20.32		80.0	
		Z	7.84	84.21	21.96		80.0	
10486-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.64	72.76	17.47	2.23	80.0	± 9.6 %
		Y	4.63	72.85	17.40		80.0	
		Z	5.11	74.68	17.84		80.0	
10487-AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.57	72.21	17.23	2.23	80.0	± 9.6 %
		Y	4.54	72.26	17.14		80.0	
		Z	4.92	73.82	17.47		80.0	
10488-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.59	77.20	20.43	2.23	80.0	± 9.6 %
		Y	5.51	77.16	20.39		80.0	
		Z	6.40	80.34	21.68		80.0	
10489-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.78	72.24	18.52	2.23	80.0	± 9.6 %
		Y	4.75	72.30	18.49		80.0	
		Z	5.06	73.95	19.15		80.0	
10490-AAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.84	71.95	18.41	2.23	80.0	± 9.6 %
		Y	4.80	72.00	18.38		80.0	
		Z	5.08	73.52	18.98		80.0	
10491-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.40	74.66	19.63	2.23	80.0	± 9.6 %
		Y	5.32	74.60	19.59		80.0	
		Z	5.75	76.59	20.52		80.0	
10492-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.99	71.09	18.39	2.23	80.0	± 9.6 %
		Y	4.94	71.07	18.35		80.0	
		Z	5.10	72.20	18.87		80.0	

10493-AAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.04	70.89	18.32	2.23	80.0	± 9.6 %
		Y	4.98	70.87	18.27		80.0	
		Z	5.12	71.93	18.76		80.0	
10494-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.91	76.22	20.09	2.23	80.0	± 9.6 %
		Y	5.83	76.18	20.06		80.0	
		Z	6.39	78.40	21.09		80.0	
10495-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.06	71.51	18.60	2.23	80.0	± 9.6 %
		Y	5.00	71.48	18.56		80.0	
		Z	5.16	72.58	19.10		80.0	
10496-AAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.10	71.13	18.48	2.23	80.0	± 9.6 %
		Y	5.04	71.11	18.44		80.0	
		Z	5.18	72.13	18.95		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.82	72.39	15.97	2.23	80.0	± 9.6 %
		Y	3.67	71.93	15.62		80.0	
		Z	4.13	73.43	15.68		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.53	64.95	11.78	2.23	80.0	± 9.6 %
		Y	2.34	64.18	11.22		80.0	
		Z	1.97	62.73	9.95		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.42	64.21	11.29	2.23	80.0	± 9.6 %
		Y	2.24	63.45	10.72		80.0	
		Z	1.86	61.93	9.39		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.57	77.88	20.25	2.23	80.0	± 9.6 %
		Y	5.54	77.96	20.22		80.0	
		Z	6.96	82.14	21.69		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.72	72.59	17.88	2.23	80.0	± 9.6 %
		Y	4.70	72.69	17.83		80.0	
		Z	5.15	74.57	18.39		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.74	72.31	17.71	2.23	80.0	± 9.6 %
		Y	4.72	72.40	17.66		80.0	
		Z	5.12	74.14	18.15		80.0	
10503-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.52	77.00	20.34	2.23	80.0	± 9.6 %
		Y	5.44	76.94	20.29		80.0	
		Z	6.30	80.09	21.57		80.0	
10504-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.76	72.15	18.46	2.23	80.0	± 9.6 %
		Y	4.72	72.20	18.43		80.0	
		Z	5.03	73.83	19.08		80.0	
10505-AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.81	71.86	18.36	2.23	80.0	± 9.6 %
		Y	4.78	71.90	18.33		80.0	
		Z	5.05	73.41	18.92		80.0	
10506-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.86	76.08	20.03	2.23	80.0	± 9.6 %
		Y	5.78	76.02	19.99		80.0	
		Z	6.33	78.23	21.01		80.0	
10507-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.04	71.45	18.56	2.23	80.0	± 9.6 %
		Y	4.98	71.42	18.52		80.0	
		Z	5.14	72.52	19.07		80.0	

10508-AAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.08	71.07	18.44	2.23	80.0	± 9.6 %
		Y	5.03	71.03	18.40		80.0	
		Z	5.16	72.06	18.91		80.0	
10509-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.85	73.94	19.23	2.23	80.0	± 9.6 %
		Y	5.79	73.92	19.21		80.0	
		Z	6.09	75.36	19.96		80.0	
10510-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.44	70.78	18.41	2.23	80.0	± 9.6 %
		Y	5.38	70.72	18.37		80.0	
		Z	5.46	71.49	18.81		80.0	
10511-AAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.47	70.48	18.33	2.23	80.0	± 9.6 %
		Y	5.41	70.42	18.29		80.0	
		Z	5.48	71.16	18.70		80.0	
10512-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.26	75.69	19.76	2.23	80.0	± 9.6 %
		Y	6.19	75.64	19.74		80.0	
		Z	6.63	77.34	20.58		80.0	
10513-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.36	71.15	18.55	2.23	80.0	± 9.6 %
		Y	5.30	71.08	18.50		80.0	
		Z	5.39	71.86	18.96		80.0	
10514-AAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.34	70.66	18.41	2.23	80.0	± 9.6 %
		Y	5.28	70.59	18.36		80.0	
		Z	5.36	71.32	18.79		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.00	63.30	14.76	0.00	150.0	± 9.6 %
		Y	0.99	63.10	14.57		150.0	
		Z	1.03	64.16	15.47		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.64	70.61	17.37	0.00	150.0	± 9.6 %
		Y	0.59	68.85	16.42		150.0	
		Z	0.86	76.49	20.74		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.85	65.21	15.38	0.00	150.0	± 9.6 %
		Y	0.83	64.76	15.05		150.0	
		Z	0.90	66.69	16.52		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.56	66.90	16.32	0.00	150.0	± 9.6 %
		Y	4.53	66.87	16.26		150.0	
		Z	4.48	67.21	16.48		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.74	67.13	16.44	0.00	150.0	± 9.6 %
		Y	4.70	67.09	16.38		150.0	
		Z	4.64	67.39	16.58		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.59	67.08	16.35	0.00	150.0	± 9.6 %
		Y	4.56	67.04	16.30		150.0	
		Z	4.50	67.34	16.50		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.52	67.06	16.34	0.00	150.0	± 9.6 %
		Y	4.49	67.02	16.28		150.0	
		Z	4.43	67.31	16.48		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.58	67.19	16.44	0.00	150.0	± 9.6 %
		Y	4.55	67.15	16.38		150.0	
		Z	4.49	67.46	16.59		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.47	67.04	16.28	0.00	150.0	± 9.6 %
		Y	4.44	67.02	16.23		150.0	
		Z	4.40	67.40	16.48		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.52	67.10	16.40	0.00	150.0	± 9.6 %
		Y	4.49	67.06	16.34		150.0	
		Z	4.43	67.39	16.57		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.52	66.14	15.98	0.00	150.0	± 9.6 %
		Y	4.49	66.11	15.93		150.0	
		Z	4.46	66.47	16.17		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.68	66.50	16.13	0.00	150.0	± 9.6 %
		Y	4.65	66.46	16.07		150.0	
		Z	4.59	66.78	16.30		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.60	66.45	16.06	0.00	150.0	± 9.6 %
		Y	4.57	66.41	16.01		150.0	
		Z	4.52	66.75	16.24		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.62	66.47	16.10	0.00	150.0	± 9.6 %
		Y	4.58	66.43	16.04		150.0	
		Z	4.53	66.76	16.27		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.62	66.47	16.10	0.00	150.0	± 9.6 %
		Y	4.58	66.43	16.04		150.0	
		Z	4.53	66.76	16.27		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.60	66.56	16.11	0.00	150.0	± 9.6 %
		Y	4.57	66.51	16.04		150.0	
		Z	4.51	66.81	16.26		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.47	66.41	16.03	0.00	150.0	± 9.6 %
		Y	4.43	66.36	15.97		150.0	
		Z	4.38	66.67	16.19		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.63	66.52	16.09	0.00	150.0	± 9.6 %
		Y	4.59	66.49	16.04		150.0	
		Z	4.54	66.84	16.27		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.17	66.58	16.18	0.00	150.0	± 9.6 %
		Y	5.14	66.54	16.13		150.0	
		Z	5.10	66.77	16.33		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.25	66.80	16.28	0.00	150.0	± 9.6 %
		Y	5.22	66.76	16.23		150.0	
		Z	5.15	66.94	16.41		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.11	66.73	16.22	0.00	150.0	± 9.6 %
		Y	5.08	66.69	16.18		150.0	
		Z	5.04	66.93	16.38		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.17	66.69	16.21	0.00	150.0	± 9.6 %
		Y	5.14	66.65	16.16		150.0	
		Z	5.10	66.90	16.37		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.25	66.70	16.26	0.00	150.0	± 9.6 %
		Y	5.22	66.66	16.21		150.0	
		Z	5.17	66.87	16.39		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.20	66.76	16.30	0.00	150.0	± 9.6 %
		Y	5.17	66.70	16.24		150.0	
		Z	5.09	66.83	16.39		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.16	66.59	16.20	0.00	150.0	± 9.6 %
		Y	5.13	66.54	16.15		150.0	
		Z	5.07	66.71	16.31		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.32	66.67	16.26	0.00	150.0	± 9.6 %
		Y	5.29	66.63	16.21		150.0	
		Z	5.23	66.83	16.39		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.39	66.71	16.30	0.00	150.0	± 9.6 %
		Y	5.35	66.65	16.25		150.0	
		Z	5.30	66.89	16.45		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.49	66.69	16.17	0.00	150.0	± 9.6 %
		Y	5.47	66.65	16.13		150.0	
		Z	5.44	66.83	16.30		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.71	67.19	16.38	0.00	150.0	± 9.6 %
		Y	5.68	67.15	16.34		150.0	
		Z	5.64	67.35	16.52		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.55	66.89	16.24	0.00	150.0	± 9.6 %
		Y	5.53	66.84	16.19		150.0	
		Z	5.48	66.97	16.34		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.63	66.95	16.26	0.00	150.0	± 9.6 %
		Y	5.60	66.91	16.22		150.0	
		Z	5.56	67.10	16.40		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.95	68.11	16.82	0.00	150.0	± 9.6 %
		Y	5.89	67.97	16.72		150.0	
		Z	5.78	67.97	16.81		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.60	66.99	16.30	0.00	150.0	± 9.6 %
		Y	5.58	66.96	16.26		150.0	
		Z	5.56	67.22	16.48		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.58	66.94	16.24	0.00	150.0	± 9.6 %
		Y	5.56	66.90	16.20		150.0	
		Z	5.48	66.97	16.32		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.50	66.74	16.14	0.00	150.0	± 9.6 %
		Y	5.47	66.71	16.10		150.0	
		Z	5.44	66.92	16.29		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.57	66.76	16.19	0.00	150.0	± 9.6 %
		Y	5.55	66.72	16.14		150.0	
		Z	5.50	66.88	16.30		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.91	67.06	16.27	0.00	150.0	± 9.6 %
		Y	5.89	67.03	16.23		150.0	
		Z	5.87	67.18	16.38		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.05	67.41	16.43	0.00	150.0	± 9.6 %
		Y	6.03	67.36	16.38		150.0	
		Z	5.98	67.47	16.51		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.07	67.44	16.43	0.00	150.0	± 9.6 %
		Y	6.04	67.39	16.39		150.0	
		Z	6.02	67.56	16.55		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.02	67.31	16.39	0.00	150.0	± 9.6 %
		Y	6.00	67.26	16.34		150.0	
		Z	5.96	67.39	16.48		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.07	67.48	16.49	0.00	150.0	± 9.6 %
		Y	6.05	67.43	16.44		150.0	
		Z	5.98	67.50	16.55		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.06	67.31	16.44	0.00	150.0	± 9.6 %
		Y	6.04	67.26	16.39		150.0	
		Z	5.99	67.39	16.53		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	6.00	67.32	16.48	0.00	150.0	± 9.6 %
		Y	5.97	67.28	16.43		150.0	
		Z	5.93	67.41	16.58		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.11	67.68	16.66	0.00	150.0	± 9.6 %
		Y	6.07	67.59	16.59		150.0	
		Z	5.99	67.59	16.67		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.27	67.80	16.69	0.00	150.0	± 9.6 %
		Y	6.20	67.61	16.57		150.0	
		Z	6.10	67.59	16.63		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.90	67.04	16.52	0.46	150.0	± 9.6 %
		Y	4.87	66.99	16.45		150.0	
		Z	4.82	67.29	16.66		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.12	67.45	16.82	0.46	150.0	± 9.6 %
		Y	5.09	67.42	16.77		150.0	
		Z	5.02	67.68	16.95		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.96	67.32	16.65	0.46	150.0	± 9.6 %
		Y	4.93	67.27	16.59		150.0	
		Z	4.86	67.53	16.78		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.98	67.66	16.97	0.46	150.0	± 9.6 %
		Y	4.95	67.64	16.94		150.0	
		Z	4.89	67.90	17.12		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.89	67.16	16.47	0.46	150.0	± 9.6 %
		Y	4.85	67.08	16.38		150.0	
		Z	4.78	67.36	16.58		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.95	67.77	17.04	0.46	150.0	± 9.6 %
		Y	4.93	67.78	17.03		150.0	
		Z	4.88	68.11	17.25		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.97	67.62	16.98	0.46	150.0	± 9.6 %
		Y	4.94	67.61	16.94		150.0	
		Z	4.88	67.90	17.15		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.38	66.02	16.28	0.46	130.0	± 9.6 %
		Y	1.36	65.75	16.07		130.0	
		Z	1.42	67.01	16.99		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.40	66.64	16.64	0.46	130.0	± 9.6 %
		Y	1.38	66.37	16.43		130.0	
		Z	1.45	67.74	17.41		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	3.83	91.83	24.91	0.46	130.0	± 9.6 %
		Y	2.89	87.23	23.34		130.0	
		Z	14.03	115.08	32.19		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.62	72.82	19.54	0.46	130.0	± 9.6 %
		Y	1.59	72.39	19.30		130.0	
		Z	1.82	75.58	21.09		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.73	66.96	16.64	0.46	130.0	± 9.6 %
		Y	4.70	66.92	16.58		130.0	
		Z	4.66	67.23	16.78		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.76	67.11	16.70	0.46	130.0	± 9.6 %
		Y	4.73	67.09	16.64		130.0	
		Z	4.68	67.42	16.85		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.95	67.38	16.86	0.46	130.0	± 9.6 %
		Y	4.92	67.35	16.80		130.0	
		Z	4.85	67.64	16.99		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.85	67.52	16.94	0.46	130.0	± 9.6 %
		Y	4.82	67.51	16.90		130.0	
		Z	4.76	67.79	17.09		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.63	66.89	16.32	0.46	130.0	± 9.6 %
		Y	4.59	66.80	16.22		130.0	
		Z	4.53	67.10	16.43		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.68	66.96	16.35	0.46	130.0	± 9.6 %
		Y	4.64	66.86	16.25		130.0	
		Z	4.57	67.17	16.46		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.75	67.59	16.90	0.46	130.0	± 9.6 %
		Y	4.72	67.57	16.86		130.0	
		Z	4.68	67.91	17.09		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.57	66.69	16.13	0.46	130.0	± 9.6 %
		Y	4.53	66.58	16.01		130.0	
		Z	4.46	66.89	16.23		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.73	66.96	16.64	0.46	130.0	± 9.6 %
		Y	4.70	66.92	16.58		130.0	
		Z	4.66	67.23	16.78		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.76	67.11	16.70	0.46	130.0	± 9.6 %
		Y	4.73	67.09	16.64		130.0	
		Z	4.68	67.42	16.85		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.95	67.38	16.86	0.46	130.0	± 9.6 %
		Y	4.92	67.35	16.80		130.0	
		Z	4.85	67.64	16.99		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.85	67.52	16.94	0.46	130.0	± 9.6 %
		Y	4.82	67.51	16.90		130.0	
		Z	4.76	67.79	17.09		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.63	66.89	16.32	0.46	130.0	± 9.6 %
		Y	4.59	66.80	16.22		130.0	
		Z	4.53	67.10	16.43		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.68	66.96	16.35	0.46	130.0	± 9.6 %
		Y	4.64	66.86	16.25		130.0	
		Z	4.57	67.17	16.46		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.75	67.59	16.90	0.46	130.0	± 9.6 %
		Y	4.72	67.57	16.86		130.0	
		Z	4.68	67.91	17.09		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.57	66.69	16.13	0.46	130.0	± 9.6 %
		Y	4.53	66.58	16.01		130.0	
		Z	4.46	66.89	16.23		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.88	67.00	16.73	0.46	130.0	± 9.6 %
		Y	4.85	66.97	16.68		130.0	
		Z	4.80	67.27	16.87		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.03	67.32	16.86	0.46	130.0	± 9.6 %
		Y	4.99	67.29	16.81		130.0	
		Z	4.93	67.57	17.00		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.95	67.24	16.74	0.46	130.0	± 9.6 %
		Y	4.92	67.19	16.68		130.0	
		Z	4.85	67.47	16.87		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.00	67.39	16.89	0.46	130.0	± 9.6 %
		Y	4.97	67.36	16.84		130.0	
		Z	4.91	67.64	17.03		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.97	67.36	16.80	0.46	130.0	± 9.6 %
		Y	4.94	67.33	16.74		130.0	
		Z	4.88	67.63	16.94		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.91	67.37	16.81	0.46	130.0	± 9.6 %
		Y	4.88	67.33	16.75		130.0	
		Z	4.81	67.62	16.95		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.86	67.27	16.69	0.46	130.0	± 9.6 %
		Y	4.83	67.22	16.62		130.0	
		Z	4.76	67.50	16.81		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.84	67.47	16.92	0.46	130.0	± 9.6 %
		Y	4.81	67.44	16.87		130.0	
		Z	4.75	67.70	17.06		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.56	67.55	16.97	0.46	130.0	± 9.6 %
		Y	5.53	67.50	16.91		130.0	
		Z	5.50	67.77	17.13		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.76	68.20	17.28	0.46	130.0	± 9.6 %
		Y	5.71	68.09	17.18		130.0	
		Z	5.65	68.30	17.37		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.60	67.80	17.08	0.46	130.0	± 9.6 %
		Y	5.57	67.74	17.02		130.0	
		Z	5.51	67.95	17.21		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.73	67.93	17.08	0.46	130.0	± 9.6 %
		Y	5.70	67.89	17.02		130.0	
		Z	5.64	68.11	17.21		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.77	68.12	17.29	0.46	130.0	± 9.6 %
		Y	5.76	68.12	17.26		130.0	
		Z	5.74	68.49	17.53		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.59	67.61	17.02	0.46	130.0	± 9.6 %
		Y	5.59	67.66	17.02		130.0	
		Z	5.61	68.11	17.33		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.72	68.02	17.24	0.46	130.0	± 9.6 %
		Y	5.69	67.96	17.17		130.0	
		Z	5.62	68.13	17.34		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.42	67.17	16.67	0.46	130.0	± 9.6 %
		Y	5.39	67.11	16.60		130.0	
		Z	5.37	67.46	16.86		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.71	66.29	16.34	0.46	130.0	± 9.6 %
		Y	4.69	66.27	16.29		130.0	
		Z	4.65	66.61	16.51		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.89	66.68	16.50	0.46	130.0	± 9.6 %
		Y	4.86	66.65	16.45		130.0	
		Z	4.80	66.96	16.66		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.78	66.54	16.34	0.46	130.0	± 9.6 %
		Y	4.75	66.50	16.28		130.0	
		Z	4.70	66.82	16.50		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.83	66.69	16.50	0.46	130.0	± 9.6 %
		Y	4.80	66.65	16.45		130.0	
		Z	4.75	66.97	16.66		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.75	66.51	16.35	0.46	130.0	± 9.6 %
		Y	4.72	66.47	16.30		130.0	
		Z	4.66	66.79	16.52		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.76	66.68	16.41	0.46	130.0	± 9.6 %
		Y	4.72	66.63	16.35		130.0	
		Z	4.67	66.96	16.58		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.76	66.56	16.29	0.46	130.0	± 9.6 %
		Y	4.72	66.49	16.22		130.0	
		Z	4.66	66.78	16.42		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.70	66.70	16.49	0.46	130.0	± 9.6 %
		Y	4.67	66.67	16.45		130.0	
		Z	4.62	66.97	16.65		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.76	66.38	16.16	0.46	130.0	± 9.6 %
		Y	4.72	66.31	16.08		130.0	
		Z	4.66	66.66	16.31		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.36	66.73	16.54	0.46	130.0	± 9.6 %
		Y	5.34	66.70	16.49		130.0	
		Z	5.29	66.90	16.67		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.45	67.00	16.65	0.46	130.0	± 9.6 %
		Y	5.42	66.96	16.59		130.0	
		Z	5.36	67.13	16.76		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.33	66.96	16.63	0.46	130.0	± 9.6 %
		Y	5.30	66.93	16.59		130.0	
		Z	5.26	67.16	16.79		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.35	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.32	66.73	16.43		130.0	
		Z	5.27	66.97	16.63		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.43	66.80	16.55	0.46	130.0	± 9.6 %
		Y	5.40	66.75	16.49		130.0	
		Z	5.34	66.97	16.68		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.43	66.90	16.71	0.46	130.0	± 9.6 %
		Y	5.40	66.88	16.68		130.0	
		Z	5.34	67.03	16.82		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.45	67.09	16.80	0.46	130.0	± 9.6 %
		Y	5.42	67.04	16.75		130.0	
		Z	5.34	67.16	16.88		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.32	66.63	16.45	0.46	130.0	± 9.6 %
		Y	5.29	66.57	16.38		130.0	
		Z	5.21	66.68	16.51		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.51	66.81	16.60	0.46	130.0	± 9.6 %
		Y	5.48	66.77	16.55		130.0	
		Z	5.42	66.94	16.71		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.88	67.82	17.16	0.46	130.0	± 9.6 %
		Y	5.80	67.63	17.03		130.0	
		Z	5.55	67.23	16.91		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.67	66.77	16.49	0.46	130.0	± 9.6 %
		Y	5.64	66.74	16.44		130.0	
		Z	5.61	66.90	16.60		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.94	67.48	16.81	0.46	130.0	± 9.6 %
		Y	5.92	67.44	16.76		130.0	
		Z	5.88	67.65	16.95		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.71	66.90	16.45	0.46	130.0	± 9.6 %
		Y	5.67	66.83	16.39		130.0	
		Z	5.61	66.93	16.52		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.78	66.96	16.48	0.46	130.0	± 9.6 %
		Y	5.76	66.92	16.43		130.0	
		Z	5.73	67.14	16.63		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.35	68.87	17.43	0.46	130.0	± 9.6 %
		Y	6.27	68.66	17.29		130.0	
		Z	6.10	68.46	17.29		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.11	68.22	17.28	0.46	130.0	± 9.6 %
		Y	6.07	68.14	17.23		130.0	
		Z	5.96	68.13	17.30		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.90	67.49	16.94	0.46	130.0	± 9.6 %
		Y	5.88	67.49	16.93		130.0	
		Z	5.86	67.76	17.14		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.74	66.98	16.52	0.46	130.0	± 9.6 %
		Y	5.72	66.95	16.48		130.0	
		Z	5.67	67.09	16.64		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.73	67.01	16.59	0.46	130.0	± 9.6 %
		Y	5.70	66.97	16.55		130.0	
		Z	5.65	67.13	16.70		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.62	66.42	16.05	0.46	130.0	± 9.6 %
		Y	5.59	66.32	15.96		130.0	
		Z	5.53	66.46	16.12		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.09	67.15	16.58	0.46	130.0	± 9.6 %
		Y	6.07	67.11	16.54		130.0	
		Z	6.04	67.26	16.69		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.27	67.61	16.80	0.46	130.0	± 9.6 %
		Y	6.25	67.57	16.75		130.0	
		Z	6.19	67.65	16.88		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.27	67.58	16.76	0.46	130.0	± 9.6 %
		Y	6.24	67.53	16.71		130.0	
		Z	6.20	67.67	16.86		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.22	67.45	16.74	0.46	130.0	± 9.6 %
		Y	6.20	67.40	16.69		130.0	
		Z	6.15	67.52	16.82		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.23	67.49	16.70	0.46	130.0	± 9.6 %
		Y	6.20	67.42	16.64		130.0	
		Z	6.14	67.49	16.76		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.29	67.45	16.71	0.46	130.0	± 9.6 %
		Y	6.27	67.42	16.66		130.0	
		Z	6.24	67.57	16.82		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.30	67.59	16.93	0.46	130.0	± 9.6 %
		Y	6.28	67.57	16.90		130.0	
		Z	6.23	67.67	17.03		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.16	67.37	16.73	0.46	130.0	± 9.6 %
		Y	6.14	67.32	16.68		130.0	
		Z	6.10	67.46	16.83		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.30	67.80	16.96	0.46	130.0	± 9.6 %
		Y	6.26	67.68	16.87		130.0	
		Z	6.16	67.65	16.94		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.57	68.22	17.14	0.46	130.0	± 9.6 %
		Y	6.46	67.94	16.97		130.0	
		Z	6.42	68.09	17.13		130.0	
10646-AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	33.65	116.52	38.94	9.30	60.0	± 9.6 %
		Y	27.40	111.74	37.31		60.0	
		Z	40.30	122.93	41.09		60.0	
10647-AAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	35.33	118.59	39.70	9.30	60.0	± 9.6 %
		Y	27.66	112.83	37.78		60.0	
		Z	41.07	124.43	41.69		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	0.69	63.56	10.63	0.00	150.0	± 9.6 %
		Y	0.67	63.24	10.30		150.0	
		Z	0.68	64.29	10.59		150.0	

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

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

S Schweizerischer Kalibrierdienst
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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

Client PC Test

Certificate No: ES3-3334_Nov17

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3334

Calibration procedure(s): QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: November 10, 2017

SC ✓ 11/11/2017

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	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
Reference Probe ES3DV2	SN: 3013	31-Dec-16 (No. ES3-3013_Dec16)	Dec-17
DAE4	SN: 660	7-Dec-16 (No. DAE4-660_Dec16)	Dec-17
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 11, 2017

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

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

Probe ES3DV3

SN:3334

Manufactured: January 24, 2012
Calibrated: November 10, 2017

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3334

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.01	1.01	0.97	± 10.1 %
DCP (mV)[B]	103.7	100.6	102.2	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	140.7	±3.3 %
		Y	0.0	0.0	1.0		133.5	
		Z	0.0	0.0	1.0		142.2	

Note: For details on UID parameters see Appendix.

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	66.71	471.5	34.69	29.60	3.155	5.1	0.787	0.567	1.012
Y	62.63	447.6	35.13	29.82	3.519	5.1	0.000	0.671	1.011
Z	62.22	440.3	34.76	29.70	3.085	5.1	1.091	0.490	1.014

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

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3334

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	6.83	6.83	6.83	0.80	1.16	± 12.0 %
835	41.5	0.90	6.49	6.49	6.49	0.63	1.30	± 12.0 %
1750	40.1	1.37	5.57	5.57	5.57	0.48	1.57	± 12.0 %
1900	40.0	1.40	5.37	5.37	5.37	0.80	1.18	± 12.0 %
2300	39.5	1.67	4.97	4.97	4.97	0.76	1.24	± 12.0 %
2450	39.2	1.80	4.72	4.72	4.72	0.65	1.42	± 12.0 %
2600	39.0	1.96	4.58	4.58	4.58	0.69	1.42	± 12.0 %

[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. Above 5 GHz frequency validity can be extended to ± 110 MHz.

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

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3334

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	6.53	6.53	6.53	0.73	1.24	± 12.0 %
835	55.2	0.97	6.41	6.41	6.41	0.76	1.21	± 12.0 %
1750	53.4	1.49	5.21	5.21	5.21	0.57	1.43	± 12.0 %
1900	53.3	1.52	4.98	4.98	4.98	0.54	1.57	± 12.0 %
2300	52.9	1.81	4.74	4.74	4.74	0.80	1.17	± 12.0 %
2450	52.7	1.95	4.61	4.61	4.61	0.77	1.22	± 12.0 %
2600	52.5	2.16	4.49	4.49	4.49	0.80	1.11	± 12.0 %

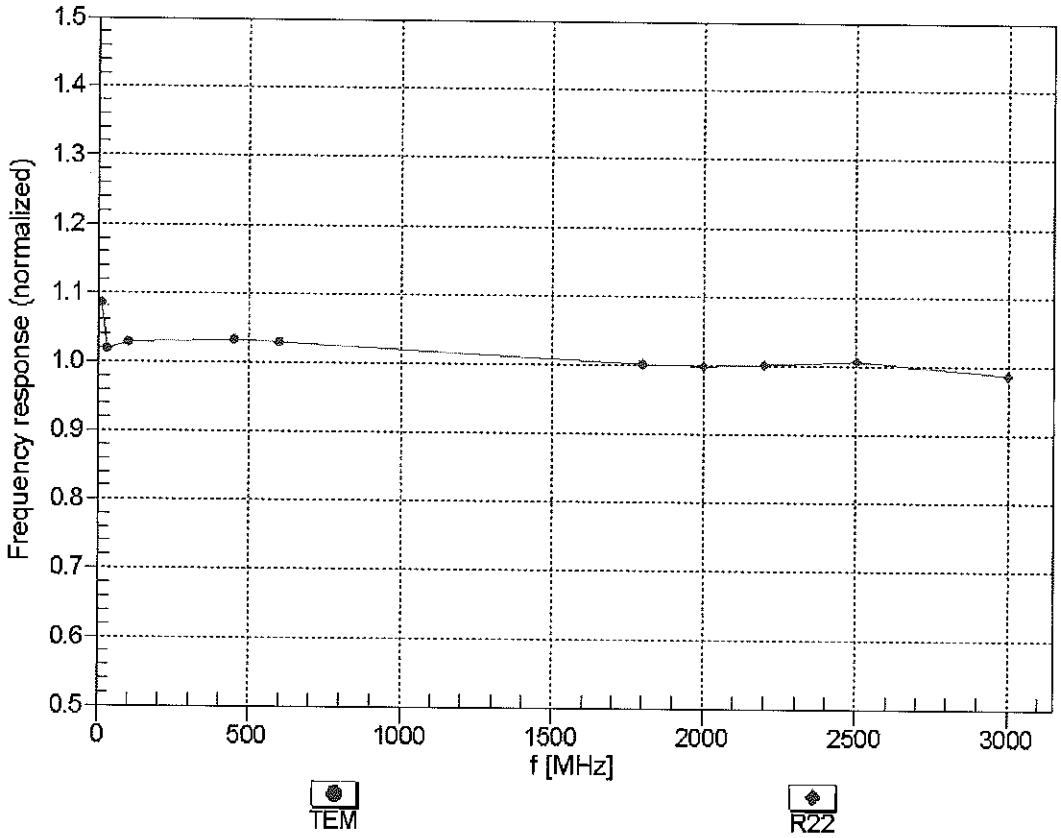
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. 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.

Frequency Response of E-Field

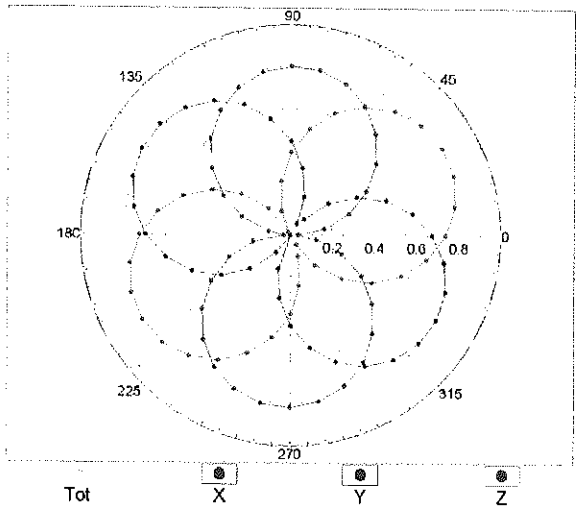
(TEM-Cell:ifi110 EXX, Waveguide: R22)



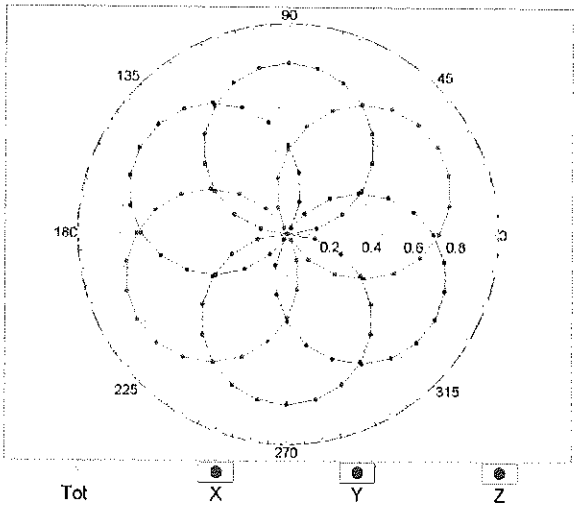
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

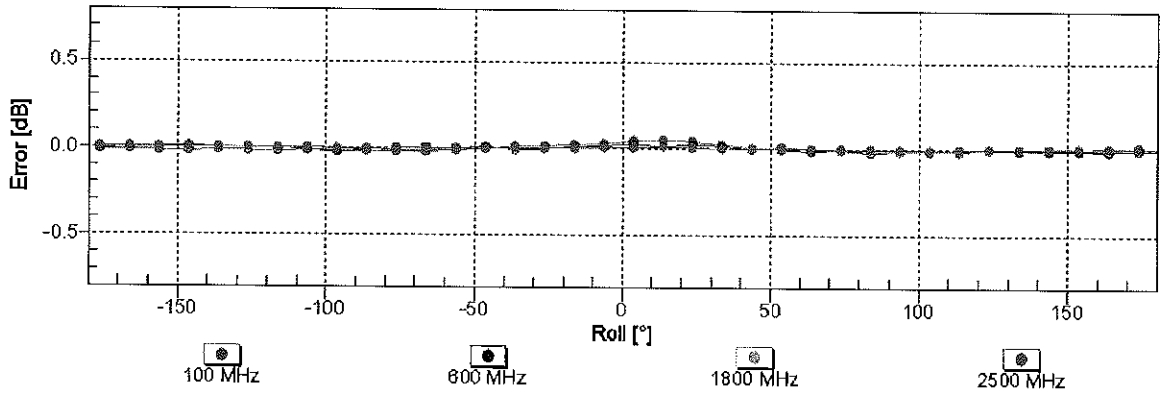
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

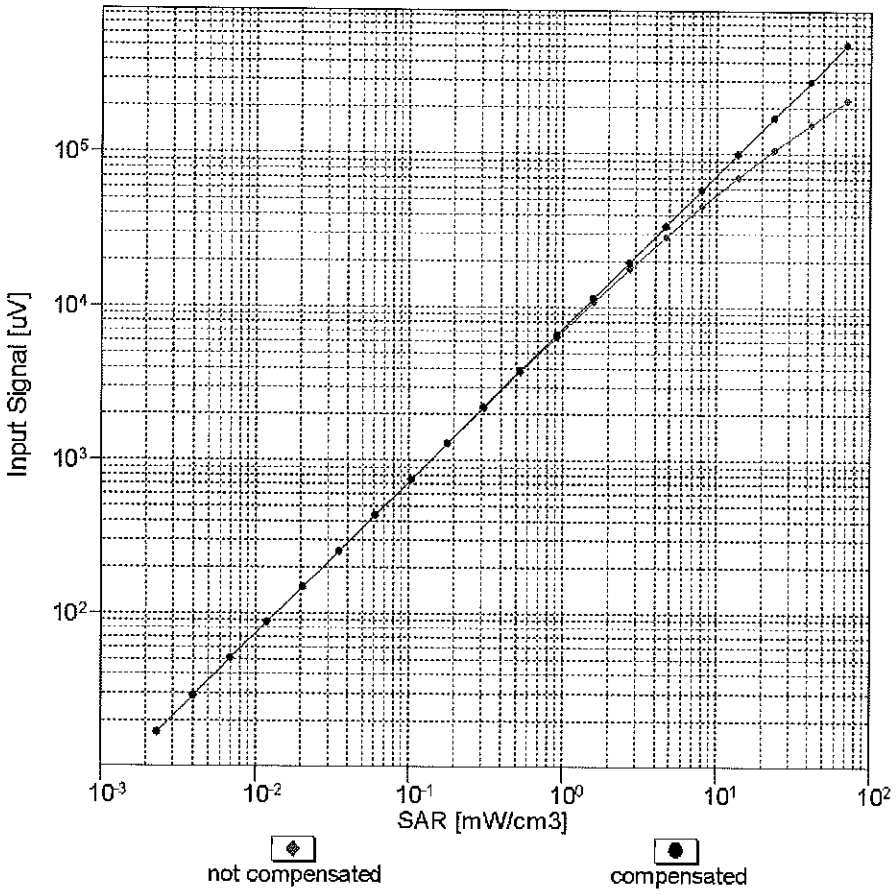


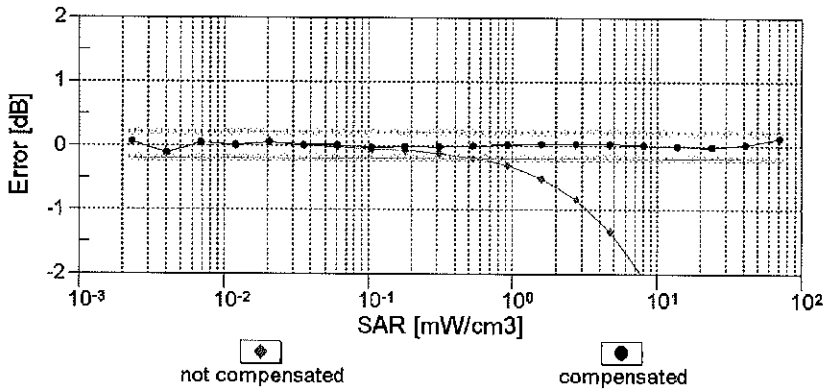


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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

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

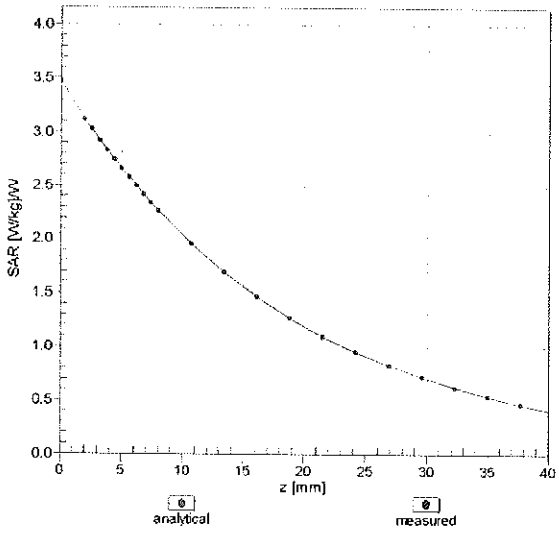




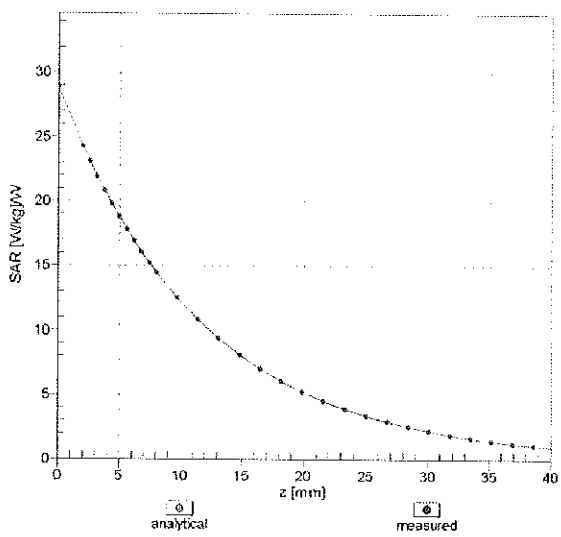
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

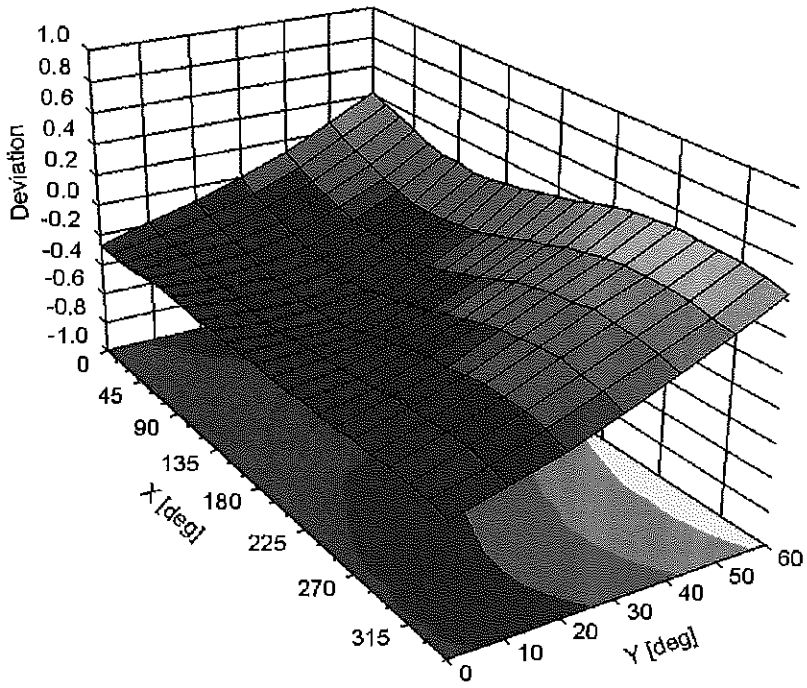


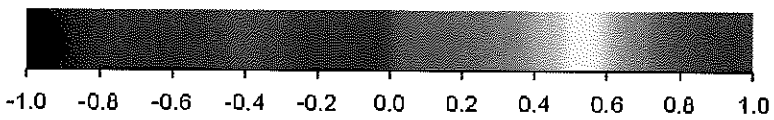
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3334

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	13.7
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

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	140.7	± 3.3 %
		Y	0.00	0.00	1.00		133.5	
		Z	0.00	0.00	1.00		142.2	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	9.62	81.30	20.10	10.00	25.0	± 9.6 %
		Y	8.83	79.81	19.77		25.0	
		Z	9.63	81.31	20.03		25.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.46	74.04	18.98	0.00	150.0	± 9.6 %
		Y	1.01	66.70	14.70		150.0	
		Z	1.43	73.78	18.81		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.39	66.99	17.32	0.41	150.0	± 9.6 %
		Y	1.29	64.79	15.49		150.0	
		Z	1.38	66.97	17.28		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.22	67.48	17.66	1.46	150.0	± 9.6 %
		Y	5.19	67.20	17.35		150.0	
		Z	5.20	67.52	17.67		150.0	
10021-DAC	GSM-FDD (TDMA, GMSK)	X	18.88	94.13	26.24	9.39	50.0	± 9.6 %
		Y	15.82	91.07	25.49		50.0	
		Z	19.85	94.99	26.46		50.0	
10023-DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	17.29	92.50	25.77	9.57	50.0	± 9.6 %
		Y	14.72	89.66	25.07		50.0	
		Z	17.97	93.17	25.93		50.0	
10024-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	119.84	31.52	6.56	60.0	± 9.6 %
		Y	52.94	110.38	29.38		60.0	
		Z	100.00	119.65	31.39		60.0	
10025-DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	18.82	104.47	39.60	12.57	50.0	± 9.6 %
		Y	14.20	94.41	35.21		50.0	
		Z	17.87	103.04	39.06		50.0	
10026-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	21.11	104.02	35.80	9.56	60.0	± 9.6 %
		Y	15.35	95.14	32.37		60.0	
		Z	21.21	104.33	35.91		60.0	
10027-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	118.82	30.06	4.80	80.0	± 9.6 %
		Y	100.00	118.59	30.06		80.0	
		Z	100.00	118.61	29.93		80.0	
10028-DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	119.26	29.39	3.55	100.0	± 9.6 %
		Y	100.00	118.22	29.01		100.0	
		Z	100.00	119.03	29.26		100.0	
10029-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	15.23	96.97	32.35	7.80	80.0	± 9.6 %
		Y	11.61	89.73	29.40		80.0	
		Z	15.15	97.02	32.38		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	118.48	30.26	5.30	70.0	± 9.6 %
		Y	100.00	118.46	30.37		70.0	
		Z	100.00	118.24	30.12		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	122.12	28.99	1.88	100.0	± 9.6 %
		Y	100.00	118.17	27.33		100.0	
		Z	100.00	121.61	28.73		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	129.40	30.83	1.17	100.0	± 9.6 %
		Y	100.00	120.57	27.19		100.0	
		Z	100.00	128.57	30.45		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	22.47	101.12	28.50	5.30	70.0	± 9.6 %
		Y	12.60	90.36	24.91		70.0	
		Z	22.66	101.00	28.31		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	17.36	101.33	27.20	1.88	100.0	± 9.6 %
		Y	5.95	83.41	21.05		100.0	
		Z	19.00	102.17	27.18		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	9.13	93.50	24.73	1.17	100.0	± 9.6 %
		Y	3.60	77.93	18.79		100.0	
		Z	9.92	94.31	24.71		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	27.70	104.87	29.65	5.30	70.0	± 9.6 %
		Y	14.38	92.74	25.75		70.0	
		Z	28.14	104.83	29.48		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	16.86	100.89	27.03	1.88	100.0	± 9.6 %
		Y	5.74	82.91	20.84		100.0	
		Z	18.13	101.47	26.94		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	9.87	95.00	25.28	1.17	100.0	± 9.6 %
		Y	3.70	78.55	19.10		100.0	
		Z	10.76	95.86	25.27		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	3.28	80.63	20.39	0.00	150.0	± 9.6 %
		Y	1.81	70.79	15.68		150.0	
		Z	3.40	81.32	20.41		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	47.24	107.28	28.38	7.78	50.0	± 9.6 %
		Y	26.10	98.32	26.11		50.0	
		Z	52.73	108.80	28.70		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	128.47	1.04	0.00	150.0	± 9.6 %
		Y	0.00	105.51	9.25		150.0	
		Z	0.00	125.30	1.92		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	11.22	82.53	24.09	13.80	25.0	± 9.6 %
		Y	10.79	81.48	23.95		25.0	
		Z	11.33	82.82	24.14		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	13.01	86.88	24.28	10.79	40.0	± 9.6 %
		Y	12.08	85.39	23.99		40.0	
		Z	13.26	87.24	24.34		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	13.20	87.68	25.05	9.03	50.0	± 9.6 %
		Y	11.44	84.52	23.88		50.0	
		Z	13.33	87.82	25.01		50.0	
10058-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	11.48	91.60	29.78	6.55	100.0	± 9.6 %
		Y	9.13	85.62	27.20		100.0	
		Z	11.34	91.49	29.75		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.65	69.97	18.70	0.61	110.0	± 9.6 %
		Y	1.47	66.89	16.50		110.0	
		Z	1.64	69.94	18.66		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	133.89	34.96	1.30	110.0	± 9.6 %
		Y	42.65	116.96	30.13		110.0	
		Z	100.00	133.64	34.83		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	31.72	116.07	32.89	2.04	110.0	± 9.6 %
		Y	7.63	90.13	24.83		110.0	
		Z	32.96	116.64	32.98		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.95	67.28	16.98	0.49	100.0	± 9.6 %
		Y	4.89	66.92	16.62		100.0	
		Z	4.92	67.30	16.98		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	5.00	67.45	17.13	0.72	100.0	± 9.6 %
		Y	4.93	67.10	16.77		100.0	
		Z	4.96	67.47	17.12		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.35	67.80	17.38	0.86	100.0	± 9.6 %
		Y	5.28	67.46	17.04		100.0	
		Z	5.30	67.80	17.38		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.25	67.85	17.56	1.21	100.0	± 9.6 %
		Y	5.19	67.51	17.22		100.0	
		Z	5.21	67.87	17.56		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.31	68.00	17.80	1.46	100.0	± 9.6 %
		Y	5.26	67.66	17.46		100.0	
		Z	5.27	68.01	17.80		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.63	68.11	18.23	2.04	100.0	± 9.6 %
		Y	5.58	67.83	17.92		100.0	
		Z	5.59	68.13	18.23		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.79	68.54	18.63	2.55	100.0	± 9.6 %
		Y	5.75	68.24	18.31		100.0	
		Z	5.75	68.55	18.63		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.86	68.43	18.79	2.67	100.0	± 9.6 %
		Y	5.83	68.16	18.48		100.0	
		Z	5.82	68.46	18.80		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.38	67.73	18.05	1.99	100.0	± 9.6 %
		Y	5.35	67.47	17.75		100.0	
		Z	5.35	67.77	18.06		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.46	68.37	18.40	2.30	100.0	± 9.6 %
		Y	5.43	68.07	18.08		100.0	
		Z	5.43	68.40	18.41		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.61	68.74	18.84	2.83	100.0	± 9.6 %
		Y	5.58	68.46	18.52		100.0	
		Z	5.58	68.79	18.85		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.65	68.85	19.12	3.30	100.0	± 9.6 %
		Y	5.64	68.57	18.79		100.0	
		Z	5.63	68.89	19.12		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.85	69.46	19.68	3.82	90.0	± 9.6 %
		Y	5.82	69.13	19.31		90.0	
		Z	5.81	69.47	19.66		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.84	69.22	19.77	4.15	90.0	± 9.6 %
		Y	5.84	68.93	19.43		90.0	
		Z	5.82	69.25	19.77		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.88	69.32	19.88	4.30	90.0	± 9.6 %
		Y	5.88	69.03	19.54		90.0	
		Z	5.86	69.35	19.88		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	1.49	74.36	17.72	0.00	150.0	± 9.6 %
		Y	0.88	65.69	12.84		150.0	
		Z	1.45	74.15	17.39		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	2.45	65.03	9.72	4.77	80.0	± 9.6 %
		Y	2.45	64.73	9.69		80.0	
		Z	2.41	64.88	9.59		80.0	
10090-DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	119.93	31.59	6.56	60.0	± 9.6 %
		Y	51.03	109.88	29.29		60.0	
		Z	100.00	119.74	31.46		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	2.06	69.89	17.30	0.00	150.0	± 9.6 %
		Y	1.80	67.00	15.35		150.0	
		Z	2.05	69.92	17.26		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	2.02	69.92	17.31	0.00	150.0	± 9.6 %
		Y	1.76	66.95	15.31		150.0	
		Z	2.01	69.95	17.26		150.0	
10099-DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	20.97	103.82	35.73	9.56	60.0	± 9.6 %
		Y	15.30	95.03	32.33		60.0	
		Z	21.08	104.13	35.84		60.0	
10100-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.71	73.18	18.06	0.00	150.0	± 9.6 %
		Y	3.19	70.22	16.42		150.0	
		Z	3.65	73.01	18.00		150.0	
10101-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.53	68.94	16.75	0.00	150.0	± 9.6 %
		Y	3.33	67.62	15.83		150.0	
		Z	3.49	68.84	16.70		150.0	
10102-CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.61	68.75	16.77	0.00	150.0	± 9.6 %
		Y	3.43	67.57	15.93		150.0	
		Z	3.57	68.67	16.73		150.0	
10103-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	9.08	78.80	21.54	3.98	65.0	± 9.6 %
		Y	8.49	77.27	20.81		65.0	
		Z	9.07	78.93	21.60		65.0	
10104-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.95	77.46	21.89	3.98	65.0	± 9.6 %
		Y	8.55	76.20	21.20		65.0	
		Z	8.91	77.50	21.90		65.0	
10105-CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	7.83	74.81	21.03	3.98	65.0	± 9.6 %
		Y	7.68	74.08	20.55		65.0	
		Z	8.23	75.91	21.51		65.0	
10108-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	3.26	72.29	17.90	0.00	150.0	± 9.6 %
		Y	2.82	69.43	16.24		150.0	
		Z	3.20	72.15	17.85		150.0	
10109-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	3.20	68.82	16.75	0.00	150.0	± 9.6 %
		Y	3.00	67.39	15.74		150.0	
		Z	3.16	68.75	16.71		150.0	
10110-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.69	71.43	17.70	0.00	150.0	± 9.6 %
		Y	2.31	68.43	15.87		150.0	
		Z	2.64	71.35	17.65		150.0	
10111-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.92	69.57	17.19	0.00	150.0	± 9.6 %
		Y	2.69	67.85	15.98		150.0	
		Z	2.88	69.60	17.16		150.0	

10112-CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.31	68.62	16.72	0.00	150.0	± 9.6 %
		Y	3.12	67.34	15.80		150.0	
		Z	3.27	68.57	16.69		150.0	
10113-CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	3.06	69.50	17.22	0.00	150.0	± 9.6 %
		Y	2.84	67.96	16.11		150.0	
		Z	3.03	69.55	17.20		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.29	67.63	16.71	0.00	150.0	± 9.6 %
		Y	5.22	67.22	16.35		150.0	
		Z	5.26	67.61	16.70		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.68	67.94	16.86	0.00	150.0	± 9.6 %
		Y	5.59	67.55	16.53		150.0	
		Z	5.63	67.91	16.85		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.43	67.90	16.76	0.00	150.0	± 9.6 %
		Y	5.35	67.50	16.41		150.0	
		Z	5.39	67.89	16.77		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.30	67.66	16.75	0.00	150.0	± 9.6 %
		Y	5.23	67.25	16.39		150.0	
		Z	5.27	67.64	16.74		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.73	68.01	16.91	0.00	150.0	± 9.6 %
		Y	5.66	67.70	16.61		150.0	
		Z	5.70	68.07	16.94		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.40	67.85	16.76	0.00	150.0	± 9.6 %
		Y	5.32	67.46	16.41		150.0	
		Z	5.37	67.85	16.76		150.0	
10140-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.67	68.74	16.69	0.00	150.0	± 9.6 %
		Y	3.48	67.57	15.86		150.0	
		Z	3.62	68.67	16.65		150.0	
10141-CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.78	68.70	16.79	0.00	150.0	± 9.6 %
		Y	3.60	67.64	16.01		150.0	
		Z	3.73	68.65	16.76		150.0	
10142-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.49	71.67	17.71	0.00	150.0	± 9.6 %
		Y	2.08	68.27	15.63		150.0	
		Z	2.44	71.66	17.65		150.0	
10143-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.86	70.64	17.32	0.00	150.0	± 9.6 %
		Y	2.55	68.40	15.82		150.0	
		Z	2.83	70.75	17.28		150.0	
10144-CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.64	68.51	15.87	0.00	150.0	± 9.6 %
		Y	2.38	66.60	14.49		150.0	
		Z	2.59	68.48	15.74		150.0	
10145-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.97	71.47	16.37	0.00	150.0	± 9.6 %
		Y	1.44	66.31	13.22		150.0	
		Z	1.89	71.06	15.90		150.0	
10146-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	5.50	80.46	19.53	0.00	150.0	± 9.6 %
		Y	3.00	71.50	15.48		150.0	
		Z	8.01	85.94	21.25		150.0	
10147-CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	8.05	86.24	21.75	0.00	150.0	± 9.6 %
		Y	3.78	74.87	17.09		150.0	
		Z	15.29	95.55	24.46		150.0	

10149-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.21	68.87	16.80	0.00	150.0	± 9.6 %
		Y	3.01	67.44	15.79		150.0	
		Z	3.17	68.81	16.75		150.0	
10150-CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.32	68.67	16.76	0.00	150.0	± 9.6 %
		Y	3.13	67.39	15.84		150.0	
		Z	3.27	68.63	16.73		150.0	
10151-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.61	81.00	22.52	3.98	65.0	± 9.6 %
		Y	8.85	79.13	21.65		65.0	
		Z	9.68	81.30	22.64		65.0	
10152-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	8.64	77.80	21.86	3.98	65.0	± 9.6 %
		Y	8.16	76.30	21.04		65.0	
		Z	8.60	77.85	21.85		65.0	
10153-CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.96	78.39	22.42	3.98	65.0	± 9.6 %
		Y	8.52	77.03	21.67		65.0	
		Z	8.93	78.48	22.44		65.0	
10154-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.77	71.99	18.03	0.00	150.0	± 9.6 %
		Y	2.36	68.88	16.16		150.0	
		Z	2.71	71.90	17.97		150.0	
10155-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.92	69.57	17.20	0.00	150.0	± 9.6 %
		Y	2.69	67.85	15.99		150.0	
		Z	2.88	69.60	17.17		150.0	
10156-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.40	72.39	17.94	0.00	150.0	± 9.6 %
		Y	1.94	68.40	15.54		150.0	
		Z	2.35	72.39	17.85		150.0	
10157-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.53	69.59	16.28	0.00	150.0	± 9.6 %
		Y	2.21	67.11	14.58		150.0	
		Z	2.49	69.60	16.14		150.0	
10158-CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	3.07	69.55	17.26	0.00	150.0	± 9.6 %
		Y	2.85	68.01	16.15		150.0	
		Z	3.03	69.61	17.24		150.0	
10159-CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.66	70.03	16.55	0.00	150.0	± 9.6 %
		Y	2.32	67.55	14.88		150.0	
		Z	2.62	70.07	16.43		150.0	
10160-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	3.11	70.49	17.38	0.00	150.0	± 9.6 %
		Y	2.82	68.44	16.07		150.0	
		Z	3.07	70.47	17.37		150.0	
10161-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.21	68.57	16.73	0.00	150.0	± 9.6 %
		Y	3.02	67.28	15.78		150.0	
		Z	3.17	68.54	16.69		150.0	
10162-CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.30	68.55	16.75	0.00	150.0	± 9.6 %
		Y	3.13	67.34	15.85		150.0	
		Z	3.27	68.56	16.73		150.0	
10166-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	4.20	71.56	20.34	3.01	150.0	± 9.6 %
		Y	3.87	69.78	19.23		150.0	
		Z	4.26	72.23	20.77		150.0	
10167-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	5.62	75.43	21.16	3.01	150.0	± 9.6 %
		Y	4.84	72.55	19.67		150.0	
		Z	5.83	76.66	21.77		150.0	

10168-CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	6.16	77.44	22.29	3.01	150.0	± 9.6 %
		Y	5.29	74.48	20.84		150.0	
		Z	6.49	79.01	23.05		150.0	
10169-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.12	74.44	21.59	3.01	150.0	± 9.6 %
		Y	3.46	70.65	19.59		150.0	
		Z	4.16	75.11	22.06		150.0	
10170-CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	6.90	83.29	24.63	3.01	150.0	± 9.6 %
		Y	4.89	76.53	21.79		150.0	
		Z	7.53	85.69	25.72		150.0	
10171-AAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	5.38	77.83	21.62	3.01	150.0	± 9.6 %
		Y	4.02	72.35	19.11		150.0	
		Z	5.66	79.36	22.38		150.0	
10172-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	40.92	115.38	35.36	6.02	65.0	± 9.6 %
		Y	18.61	99.18	30.36		65.0	
		Z	73.37	127.97	38.91		65.0	
10173-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	41.50	110.23	32.21	6.02	65.0	± 9.6 %
		Y	20.84	97.54	28.42		65.0	
		Z	70.49	120.72	35.16		65.0	
10174-CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	30.45	103.27	29.74	6.02	65.0	± 9.6 %
		Y	17.55	93.43	26.69		65.0	
		Z	47.52	111.89	32.29		65.0	
10175-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.05	74.02	21.30	3.01	150.0	± 9.6 %
		Y	3.41	70.30	19.32		150.0	
		Z	4.09	74.67	21.77		150.0	
10176-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	6.91	83.32	24.64	3.01	150.0	± 9.6 %
		Y	4.90	76.56	21.80		150.0	
		Z	7.54	85.72	25.73		150.0	
10177-CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	4.09	74.22	21.42	3.01	150.0	± 9.6 %
		Y	3.44	70.48	19.43		150.0	
		Z	4.13	74.88	21.88		150.0	
10178-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	6.77	82.91	24.46	3.01	150.0	± 9.6 %
		Y	4.83	76.25	21.65		150.0	
		Z	7.38	85.26	25.54		150.0	
10179-CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	6.06	80.34	22.96	3.01	150.0	± 9.6 %
		Y	4.41	74.27	20.29		150.0	
		Z	6.50	82.31	23.89		150.0	
10180-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	5.35	77.70	21.54	3.01	150.0	± 9.6 %
		Y	4.00	72.25	19.04		150.0	
		Z	5.62	79.22	22.31		150.0	
10181-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.09	74.20	21.41	3.01	150.0	± 9.6 %
		Y	3.44	70.46	19.42		150.0	
		Z	4.13	74.86	21.88		150.0	
10182-CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	6.76	82.88	24.45	3.01	150.0	± 9.6 %
		Y	4.82	76.23	21.63		150.0	
		Z	7.37	85.23	25.52		150.0	
10183-AAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	5.33	77.67	21.53	3.01	150.0	± 9.6 %
		Y	4.00	72.23	19.03		150.0	
		Z	5.61	79.18	22.29		150.0	

10184-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	4.10	74.25	21.43	3.01	150.0	± 9.6 %
		Y	3.45	70.50	19.45		150.0	
		Z	4.14	74.91	21.90		150.0	
10185-CAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	6.80	82.97	24.49	3.01	150.0	± 9.6 %
		Y	4.84	76.30	21.67		150.0	
		Z	7.41	85.33	25.57		150.0	
10186-AAD	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	5.37	77.75	21.57	3.01	150.0	± 9.6 %
		Y	4.02	72.30	19.06		150.0	
		Z	5.65	79.28	22.33		150.0	
10187-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	4.11	74.29	21.48	3.01	150.0	± 9.6 %
		Y	3.45	70.54	19.49		150.0	
		Z	4.15	74.96	21.95		150.0	
10188-CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	7.12	83.93	24.94	3.01	150.0	± 9.6 %
		Y	5.01	77.04	22.07		150.0	
		Z	7.81	86.44	26.07		150.0	
10189-AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	5.53	78.35	21.89	3.01	150.0	± 9.6 %
		Y	4.11	72.75	19.35		150.0	
		Z	5.84	79.95	22.69		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.73	67.05	16.53	0.00	150.0	± 9.6 %
		Y	4.65	66.63	16.12		150.0	
		Z	4.69	67.06	16.51		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.93	67.44	16.64	0.00	150.0	± 9.6 %
		Y	4.84	67.00	16.24		150.0	
		Z	4.89	67.43	16.63		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.97	67.44	16.64	0.00	150.0	± 9.6 %
		Y	4.88	67.01	16.24		150.0	
		Z	4.93	67.44	16.63		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.75	67.17	16.57	0.00	150.0	± 9.6 %
		Y	4.66	66.73	16.16		150.0	
		Z	4.71	67.16	16.55		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.95	67.46	16.65	0.00	150.0	± 9.6 %
		Y	4.86	67.02	16.25		150.0	
		Z	4.91	67.45	16.64		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.98	67.45	16.64	0.00	150.0	± 9.6 %
		Y	4.89	67.03	16.25		150.0	
		Z	4.93	67.46	16.64		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.70	67.19	16.54	0.00	150.0	± 9.6 %
		Y	4.61	66.74	16.12		150.0	
		Z	4.66	67.19	16.52		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.95	67.46	16.65	0.00	150.0	± 9.6 %
		Y	4.86	67.01	16.25		150.0	
		Z	4.90	67.44	16.64		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.98	67.38	16.63	0.00	150.0	± 9.6 %
		Y	4.90	66.96	16.25		150.0	
		Z	4.94	67.38	16.63		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.29	67.69	16.75	0.00	150.0	± 9.6 %
		Y	5.21	67.27	16.38		150.0	
		Z	5.25	67.66	16.74		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.67	68.02	16.93	0.00	150.0	± 9.6 %
		Y	5.59	67.65	16.60		150.0	
		Z	5.63	68.00	16.93		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.34	67.81	16.73	0.00	150.0	± 9.6 %
		Y	5.25	67.37	16.36		150.0	
		Z	5.30	67.76	16.71		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	3.02	66.95	16.18	0.00	150.0	± 9.6 %
		Y	2.89	66.01	15.36		150.0	
		Z	2.98	66.97	16.13		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	43.88	111.39	32.61	6.02	65.0	± 9.6 %
		Y	21.78	98.45	28.78		65.0	
		Z	76.19	122.34	35.65		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	32.37	104.53	30.20	6.02	65.0	± 9.6 %
		Y	18.90	94.83	27.22		65.0	
		Z	50.93	113.37	32.79		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	47.31	118.81	36.42	6.02	65.0	± 9.6 %
		Y	20.88	101.86	31.29		65.0	
		Z	73.13	128.59	39.21		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	41.46	110.20	32.21	6.02	65.0	± 9.6 %
		Y	20.89	97.57	28.44		65.0	
		Z	70.28	120.66	35.15		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	30.97	103.64	29.88	6.02	65.0	± 9.6 %
		Y	18.22	94.11	26.93		65.0	
		Z	48.00	112.18	32.41		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	44.75	117.58	36.01	6.02	65.0	± 9.6 %
		Y	20.02	100.95	30.95		65.0	
		Z	67.93	126.95	38.72		65.0	
10232-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	41.47	110.21	32.21	6.02	65.0	± 9.6 %
		Y	20.87	97.56	28.44		65.0	
		Z	70.35	120.69	35.15		65.0	
10233-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	31.01	103.68	29.89	6.02	65.0	± 9.6 %
		Y	18.21	94.11	26.93		65.0	
		Z	48.11	112.24	32.42		65.0	
10234-CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	42.05	116.13	35.52	6.02	65.0	± 9.6 %
		Y	19.19	99.98	30.56		65.0	
		Z	62.72	125.09	38.14		65.0	
10235-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	41.63	110.30	32.23	6.02	65.0	± 9.6 %
		Y	20.90	97.60	28.45		65.0	
		Z	70.79	120.81	35.19		65.0	
10236-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	31.28	103.81	29.93	6.02	65.0	± 9.6 %
		Y	18.32	94.20	26.96		65.0	
		Z	48.64	112.40	32.46		65.0	
10237-CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	45.36	117.87	36.09	6.02	65.0	± 9.6 %
		Y	20.12	101.07	30.98		65.0	
		Z	69.18	127.33	38.82		65.0	
10238-CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	41.53	110.25	32.22	6.02	65.0	± 9.6 %
		Y	20.86	97.57	28.44		65.0	
		Z	70.54	120.74	35.17		65.0	