



SAR EVALUATION REPORT

Applicant Name:

Samsung Electronics Co., Ltd.
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Gyeonggi-do, 16677, Korea

Date of Testing:

12/26/16 – 02/08/17

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Document Serial No.:

1M1701030005-01-R1.A3L

FCC ID:

A3LSMG955U

APPLICANT:

SAMSUNG ELECTRONICS CO., LTD.

DUT Type:

Portable Handset

Application Type:

Certification

FCC Rule Part(s):

CFR §2.1093

Model:

SM-G955U

Additional Model(s):

SM-G955U1, SM-G955W

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)	10 gm Phablet (W/kg)
PCE	GSMGPRS/EDGE 850	824.20 - 848.80 MHz	0.14	0.18	0.54	N/A
PCE	GSMGPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.11	0.39	0.56	2.45
PCE	UMTS 850	826.40 - 846.60 MHz	0.18	0.26	0.54	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.21	1.01	0.69	3.13
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.19	0.77	0.80	2.54
PCE	CDMA/EVDO BC10 (\$90S)	817.90 - 823.10 MHz	0.22	0.24	0.46	N/A
PCE	CDMA/EVDO BC0 (\$22H)	824.70 - 848.31 MHz	0.22	0.28	0.60	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.19	0.80	0.82	3.30
PCE	LTE Band 12	699.7 - 715.3 MHz	0.22	0.27	0.54	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.18	0.24	0.51	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.20	0.23	0.50	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.21	0.31	0.62	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.19	0.84	0.80	2.91
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.17	0.59	0.91	3.25
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	0.12	0.31	0.70	2.02
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.28	0.73	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.46	0.20	0.37	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.15	0.23	N/A	0.87
NII	U-NII-2C	5500 - 5720 MHz	0.26	0.29	N/A	0.93
NII	U-NII-3	5745 - 5825 MHz	0.33	0.16	0.19	N/A
DSS/DTSS	Bluetooth	2402 - 2480 MHz	0.10	< 0.1	< 0.1	0.68
Simultaneous SAR per KDB 690783 D01v01r03:			1.20	1.53	1.55	3.97

Note: This revised Test Report (S/N: 1M1701030005-01-R1.A3L) 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 1.8 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



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FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 1 of 138

T A B L E O F C O N T E N T S

1	DEVICE UNDER TEST	3
2	LTE INFORMATION	15
3	INTRODUCTION	16
4	DOSIMETRIC ASSESSMENT	17
5	DEFINITION OF REFERENCE POINTS	18
6	TEST CONFIGURATION POSITIONS	19
7	RF EXPOSURE LIMITS	23
8	FCC MEASUREMENT PROCEDURES.....	24
9	RF CONDUCTED POWERS.....	31
10	SYSTEM VERIFICATION.....	88
11	SAR DATA SUMMARY	92
12	FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS.....	115
13	SAR MEASUREMENT VARIABILITY	127
14	ADDITIONAL TESTING PER FCC GUIDANCE	128
15	EQUIPMENT LIST.....	134
16	MEASUREMENT UNCERTAINTIES.....	135
17	CONCLUSION.....	136
18	REFERENCES	137
APPENDIX A: SAR TEST PLOTS		
APPENDIX B: SAR DIPOLE VERIFICATION PLOTS		
APPENDIX C: PROBE AND DIPOLE CALIBRATION CERTIFICATES		
APPENDIX D: SAR TISSUE SPECIFICATIONS		
APPENDIX E: SAR SYSTEM VALIDATION		
APPENDIX F: DUT ANTENNA DIAGRAM & SAR TEST SETUP PHOTOGRAPHS		
APPENDIX G: CONDUCTED POWERS FOR 4X4 DL MIMO		
APPENDIX H: SENSOR TRIGGERING DATA SUMMARY		

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 2 of 138	

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
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
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
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz

1.2 Power Reduction for SAR

This device utilizes a power reduction mechanism for some wireless modes and bands for SAR compliance under portable hotspot conditions and under some conditions when the device is being used in close proximity to the user's hand. All hotspot SAR evaluations for this device were performed at the maximum allowed output power when hotspot is enabled. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in phablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 3 of 138

This device uses an independent fixed level power reduction mechanism for WLAN operations during voice or VoIP held to ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR positions described in IEEE 1528-2013. Detailed descriptions of the power reduction mechanism are included in the operational description.

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 PCE Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 850	Maximum	33.5	33.5	31.5	30.0	28.0	27.0	26.0	24.0	22.5
	Nominal	33.0	33.0	31.0	29.5	27.5	26.5	25.5	23.5	22.0
GSM/GPRS/EDGE 1900	Maximum	31.0	31.0	28.5	26.5	24.5	26.0	25.0	23.0	21.5
	Nominal	30.5	30.5	28.0	26.0	24.0	25.5	24.5	22.5	21.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 5 (850 MHz)	Maximum	25.0	24.5	24.5	24.5
	Nominal	24.5	24.0	24.0	24.0
UMTS Band 4 (1750 MHz)	Maximum	25.0	24.5	24.5	24.5
	Nominal	24.5	24.0	24.0	24.0
UMTS Band 2 (1900 MHz)	Maximum	24.5	24.0	24.0	24.0
	Nominal	24.0	23.5	23.5	23.5

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	25.5
	Nominal	25.0
CDMA/EVDO BC0 (§22H)	Maximum	25.0
	Nominal	24.5
PCS CDMA/EVDO	Maximum	24.5
	Nominal	24.0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 4 of 138	

Mode / Band		Modulated Average (dBm)
LTE Band 12	Maximum	25.0
	Nominal	24.5
LTE Band 17	Maximum	25.0
	Nominal	24.5
LTE Band 13	Maximum	25.0
	Nominal	24.5
LTE Band 26 (Cell)	Maximum	25.3
	Nominal	24.8
LTE Band 5 (Cell)	Maximum	25.3
	Nominal	24.8
LTE Band 66 (AWS)	Maximum	25.0
	Nominal	24.5
LTE Band 4 (AWS)	Maximum	25.0
	Nominal	24.5
LTE Band 25 (PCS)	Maximum	24.5
	Nominal	24.0
LTE Band 2 (PCS)	Maximum	24.5
	Nominal	24.0
LTE Band 30	Maximum	24.0
	Nominal	23.5
LTE Band 41 (PC3)	Maximum	24.0
	Nominal	23.5
LTE Band 41 (PC2)	Maximum	27.0
	Nominal	26.5

1.3.2 Reduced PCE Power – Hotspot Mode Activated

Mode / Band		Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 1900	Maximum	26.5	24.5	22.5	20.5	25.0	24.0	22.0	20.5
	Nominal	26.0	24.0	22.0	20.0	24.5	23.5	21.5	20.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 4 (1750 MHz)	Maximum	19.5	19.5	19.5	19.5
	Nominal	19.0	19.0	19.0	19.0
UMTS Band 2 (1900 MHz)	Maximum	20.0	20.0	20.0	20.0
	Nominal	19.5	19.5	19.5	19.5

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	20.0
	Nominal	19.5

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 5 of 138

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	21.0
	Nominal	20.5
LTE Band 4 (AWS)	Maximum	21.0
	Nominal	20.5
LTE Band 25 (PCS)	Maximum	20.5
	Nominal	20.0
LTE Band 2 (PCS)	Maximum	20.5
	Nominal	20.0
LTE Band 30	Maximum	21.0
	Nominal	20.5
LTE Band 41 (PC3)	Maximum	23.0
	Nominal	22.5
LTE Band 41 (PC2)	Maximum	23.0
	Nominal	22.5

1.3.3 Reduced PCE Power – Grip Sensor Activated

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 1900	Maximum	28.0	28.0	25.5	23.5	21.5	25.0	24.0	22.0	20.5
	Nominal	27.5	27.5	25.0	23.0	21.0	24.5	23.5	21.5	20.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 4 (1750 MHz)	Maximum	22.0	22.0	22.0	22.0
	Nominal	21.5	21.5	21.5	21.5
UMTS Band 2 (1900 MHz)	Maximum	21.5	21.5	21.5	21.5
	Nominal	21.0	21.0	21.0	21.0

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	22.5
	Nominal	22.0

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 6 of 138

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	22.5
	Nominal	22.0
LTE Band 4 (AWS)	Maximum	22.5
	Nominal	22.0
LTE Band 25 (PCS)	Maximum	22.5
	Nominal	22.0
LTE Band 2 (PCS)	Maximum	22.5
	Nominal	22.0
LTE Band 30	Maximum	22.5
	Nominal	22.0
LTE Band 41 (PC2)	Maximum	24.0
	Nominal	23.5

1.3.4 Maximum Bluetooth and SISO and MIMO WLAN Power

Mode / Band		Modulated Average - Single Tx Chain (dBm)
IEEE 802.11b (2.4 GHz)	Maximum	20.5
	Nominal	20.0
IEEE 802.11g (2.4 GHz)	Maximum	17.5
	Nominal	17.0
IEEE 802.11n (2.4 GHz)	Maximum	16.5
	Nominal	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11a (5 GHz)	Maximum	15.5		
	Nominal	15.0		
IEEE 802.11n (5 GHz)	Maximum	15.5	15.5	
	Nominal	15.0	15.0	
IEEE 802.11ac (5 GHz)	Maximum	15.5	15.5	15.5
	Nominal	15.0	15.0	15.0

Mode / Band		Modulated Average - MIMO (dBm)	
		20 MHz Bandwidth	
		Ch. 1-10	Ch. 11
IEEE 802.11g (2.4 GHz)	Maximum	20.5	19.5
	Nominal	20.0	19.0
IEEE 802.11n (2.4 GHz)	Maximum	19.5	
	Nominal	19.0	

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 7 of 138

Mode / Band		Modulated Average - MIMO (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11a (5 GHz)	Maximum	18.5		
	Nominal	18.0		
IEEE 802.11n (5 GHz)	Maximum	18.5		
	Nominal	18.0		
IEEE 802.11ac (5 GHz)	Maximum	18.5	18.5	18.5
	Nominal	18.0	18.0	18.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth (1Mbps)	Maximum	16.0
	Nominal	15.5
Bluetooth (EDR)	Maximum	10.0
	Nominal	9.5
Bluetooth LE	Maximum	8.5
	Nominal	8.0

1.3.5 Reduced SISO and MIMO WLAN Power

Mode / Band		Modulated Average - Single Tx Chain (dBm)
IEEE 802.11b (2.4 GHz)	Maximum	16.5
	Nominal	16.0
IEEE 802.11g (2.4 GHz)	Maximum	16.5
	Nominal	16.0
IEEE 802.11n (2.4 GHz)	Maximum	16.5
	Nominal	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11a (5 GHz)	Maximum	13.5		
	Nominal	13.0		
IEEE 802.11n (5 GHz)	Maximum	13.5		
	Nominal	13.0		
IEEE 802.11ac (5 GHz)	Maximum	13.5	13.5	13.5
	Nominal	13.0	13.0	13.0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 8 of 138

Mode / Band		Modulated Average - MIMO (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11g (2.4 GHz)	Maximum	19.5		
	Nominal	19.0		
IEEE 802.11n (2.4 GHz)	Maximum	19.5		
	Nominal	19.0		
IEEE 802.11a (5 GHz)	Maximum	16.5		
	Nominal	16.0		
IEEE 802.11n (5 GHz)	Maximum	16.5	16.5	
	Nominal	16.0	16.0	
IEEE 802.11ac (5 GHz)	Maximum	16.5	16.5	16.5
	Nominal	16.0	16.0	16.0

1.3.6 Maximum Powers During Conditions with Simultaneous 2.4 GHz and 5 GHz WLAN

	# Tx	5 GHz WIFI [dBm]		2.4 GHz WIFI [dBm]		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz	2	A	-	-	B	2.4 GHz: b,g,n 5 GHz: a,n,ac
	2	-	A	B	-	
	2	A	-	B	-	
	2	-	A	-	B	
	3	A	A	B	-	2.4 GHz: b, g, n 5 GHz: n, ac, a (CDD + STBC only)
	3	A	A	-	B	
	3	A	-	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: a, n, ac
	3	-	A	B	B	
	4	A	A	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: n, ac, a (CDD + STBC only)

A = 13 dBm

B = 13 dBm

(Upper tolerance: target + 0.5 dB)

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 9 of 138

1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in Appendix F. Since the diagonal dimension of this device is > 160 mm and <200 mm, it is considered a “phablet.”

**Table 1-1
Device Edges/Sides for SAR Testing**

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
EVDO BC10 (\$90S)	Yes	Yes	No	Yes	Yes	Yes
EVDO BC0 (\$22H)	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

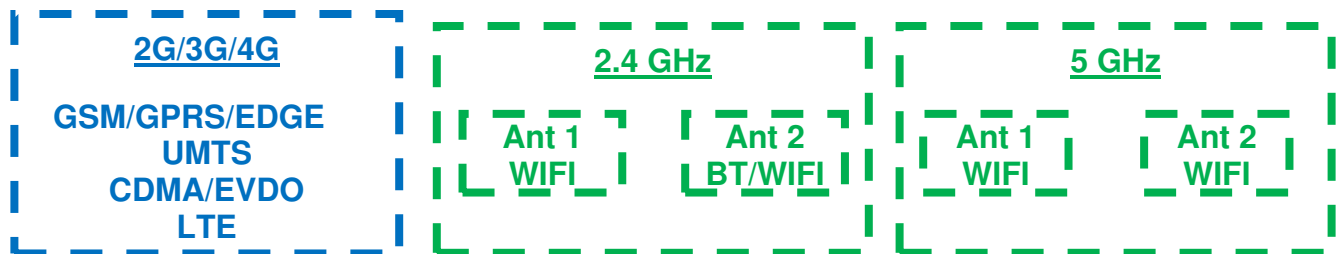
Note: Particular DUT edges were not required to be evaluated for wireless router SAR or phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v02r01 Section III and FCC KDB Publication 648474 D04v01r03. The distances between the transmit antennas and the edges of the device are included in the filing. When wireless router mode is enabled, U-NII-1, U-NII-2A, U-NII-2C operations are disabled.

1.5 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in Appendix F.

1.6 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. Possible transmission paths for the DUT are shown in Figure 1-1 and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.



**Figure 1-1
Simultaneous Transmission Paths**

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 10 of 138

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	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	1x CDMA voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
2	1x CDMA voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
3	1x CDMA voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
4	1x CDMA voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ BT Tethering applications are considered.
5	1x CDMA voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
7	1x CDMA voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
8	GSM voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
9	GSM voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
10	GSM voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ BT Tethering applications are considered.
12	GSM voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
13	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
15	UMTS + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
16	UMTS + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
17	UMTS + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
18	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ BT Tethering applications are considered.
19	UMTS + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
20	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
21	UMTS + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
22	LTE + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
23	LTE + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
24	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
25	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ BT Tethering applications are considered.
26	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
27	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
28	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
29	CDMA/EVDO data + 2.4 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
30	CDMA/EVDO data + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
31	CDMA/EVDO data + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
32	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes^*	Yes*	Yes^	Yes	*-Pre-installed VOIP applications are considered. ^ BT Tethering applications are considered.
33	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
34	CDMA/EVDO data + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
35	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
36	GPRS/EDGE + 2.4 GHz Wi-Fi	N/A	N/A	Yes	Yes	
37	GPRS/EDGE + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	
38	GPRS/EDGE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	
39	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^ BT Tethering applications are considered.
40	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
41	GPRS/EDGE + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
42	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	

- Bluetooth cannot transmit simultaneously with WLAN.
- All licensed modes share the same antenna path and cannot transmit simultaneously.
- When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
- Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
- 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
- This device supports 2x2 MIMO Tx for WLAN. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM.
- This device supports Bluetooth tethering for EDR packet only.
- This device supports VOLTE.
- This device supports VoWIFI.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 11 of 138

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

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

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

(B) Licensed Transmitter(s)

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

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.

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 and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg per FCC KDB Publication 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. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in downlink only LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

This device supports LTE Carrier Aggregation (CA) in the uplink for LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.

This device supports downlink 4x4 MIMO operations for LTE Bands 2, 4, 25 and 66 only. Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 12 of 138

This device supports 64QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225 D05v02r05. SAR was not required for 64QAM since the highest maximum output power for 64 QAM is $\leq \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per FCC Guidance, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the Power Class 2 condition was evaluated for the highest configuration in Power Class 3 to confirm the results were scalable linearly (See Section 14.2).

This device supports both LTE B12 and LTE B17. Since the supported frequency span for LTE B17 falls completely within the supported frequency span for LTE B12, both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B12.

This device supports both LTE B66 (AWS) and LTE B4 (AWS). Since the supported frequency span for LTE B4 (AWS) falls completely within the supported frequency span for LTE B66 (AWS), both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B66 (AWS).

This device supports both LTE B25 (PCS) and LTE B2 (PCS). Since the supported frequency span for LTE B2 (PCS) falls completely within the supported frequency span for LTE B25 (PCS), both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B25 (PCS).

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.

1.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- 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 648474 D04v01r03 (Phablet Procedures)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 13 of 138

1.9 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.

	Head Serial Number	Body-Worn Serial Number	Hotspot Serial Number	Phablet Max Serial Number	Phablet Reduced Serial Number
GSM/GPRS/EDGE 850	07BE0	07BE0	07BE0	-	-
GSM/GPRS/EDGE 1900	08DCC	08DCC	226D1	08DCC	226C0
UMTS 850	07BE0	07BE0	07BE0	-	-
UMTS 1750	07BE0	07BE0	08CF4	07BE0	07BF0
UMTS 1900	08DCC	08DCC	226D1	08DCC	226C0
CDMA/EVDO BC10 (\$90S)	08CE1	08CE1	08CE1	-	-
CDMA/EVDO BC0 (\$22H)	08CE1	08CE1	08CE1	-	-
PCS CDMA/EVDO	08DCC	08DCC	226D1	08DCC	226C0
LTE Band 12	08CD0	08CD0	08CD0	-	-
LTE Band 13	08CD0	08CD0	08CD0	-	-
LTE Band 26 (Cell)	08CD0	08CD0	08CD0	-	-
LTE Band 5 (Cell)	08CD0	08CD0	08CD0	-	-
LTE Band 66 (AWS)	07BCE	07BCE	07BF7	07BCE	07C2B
LTE Band 25 (PCS)	1388E	1388E	138A6	1388E	836F9
LTE Band 30	08D85	08D85	07BF4	08D85	07BE5
LTE Band 41	08D85	08D85	07BF4	-	-
2.4 GHz WLAN	0910E	0910E	0910E	-	-
5 GHz WLAN	0910E	0910E	0910E	0910E	-
Bluetooth	0910E	0910E	0910E	0910E	-

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 14 of 138

LTE Information					
FCC ID	A3LSMG955U				
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
Channel Bandwidths	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 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 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz				
	LTE Band 12: 3 MHz				
	LTE Band 12: 5 MHz				
	LTE Band 12: 10 MHz				
	LTE Band 17: 5 MHz				
	LTE Band 17: 10 MHz				
	LTE Band 13: 5 MHz				
	LTE Band 13: 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz				
	LTE Band 26 (Cell): 3 MHz				
	LTE Band 26 (Cell): 5 MHz				
	LTE Band 26 (Cell): 10 MHz				
	LTE Band 26 (Cell): 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz				
	LTE Band 5 (Cell): 3 MHz				
	LTE Band 5 (Cell): 5 MHz				
	LTE Band 5 (Cell): 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz				
	LTE Band 66 (AWS): 3 MHz				
	LTE Band 66 (AWS): 5 MHz				
	LTE Band 66 (AWS): 10 MHz				
	LTE Band 66 (AWS): 15 MHz				
	LTE Band 66 (AWS): 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz				
	LTE Band 4 (AWS): 3 MHz				
	LTE Band 4 (AWS): 5 MHz				
	LTE Band 4 (AWS): 10 MHz				
	LTE Band 4 (AWS): 15 MHz				
	LTE Band 4 (AWS): 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz				
	LTE Band 25 (PCS): 3 MHz				
	LTE Band 25 (PCS): 5 MHz				
	LTE Band 25 (PCS): 10 MHz				
	LTE Band 25 (PCS): 15 MHz				
	LTE Band 25 (PCS): 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz				
	LTE Band 2 (PCS): 3 MHz				
	LTE Band 2 (PCS): 5 MHz				
	LTE Band 2 (PCS): 10 MHz				
	LTE Band 2 (PCS): 15 MHz				
	LTE Band 2 (PCS): 20 MHz				
	LTE Band 30: 5 MHz				
	LTE Band 30: 10 MHz				
	LTE Band 41: 5 MHz				
	LTE Band 41: 10 MHz				
	LTE Band 41: 15 MHz				
	LTE Band 41: 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 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 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
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 66 (AWS): 1.4 MHz	1710.7 (131979)	1733.6 (132208)	N/A	1756.4 (132436)	1779.3 (132665)
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
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 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	DL UE Cat 16 (QPSK, 16QAM, 64QAM, 256QAM) UL UE Cat 5 (QPSK, 16QAM, 64QAM)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Release 12 Additional Information	This device does not support full CA features on 3GPP Release 12. It supports carrier aggregation and downlink MIMO features as shown in Section 9 and Appendix G. All other uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 12 Features are not supported: Relay, HetNet, Enhanced eICIC, WiFi Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

FCC ID: A3LSMG955U			SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 15 of 138		

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/m³)
- E = Total RMS electric field strength (V/m)

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

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 16 of 138

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and 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.

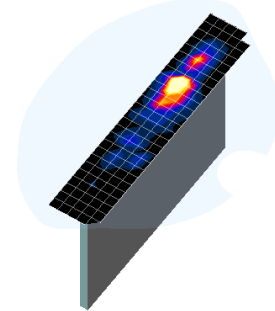


Figure 4-1
Sample SAR Area
Scan

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

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

*Also compliant to IEEE 1528-2013 Table 6

FCC ID: A3LSMG955U		SAR EVALUATION REPORT			Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset			Page 17 of 138

5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

Figure 5-2 shows the front, back and side views of the SAM Twin Phantom. The point “M” is the reference point for the center of the mouth, “LE” is the left ear reference point (ERP), and “RE” is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 5-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (see Figure 5-1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].

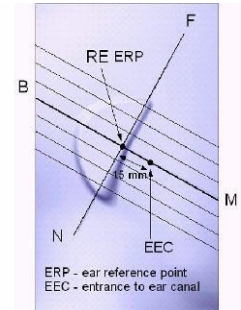


Figure 5-1
Close-Up Side view
of ERP

5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Figure 5-3). The acoustic output was then located at the same level as the center of the ear reference point. The test device was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



Figure 5-2
Front, back and side view of SAM Twin Phantom

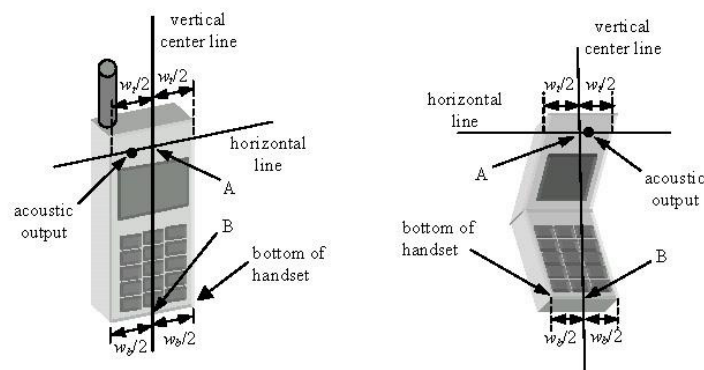


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 18 of 138

6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

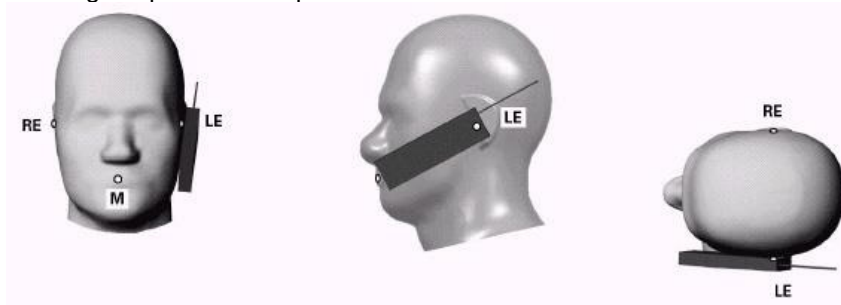


Figure 6-1 Front, Side and Top View of Cheek Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical with respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 6-2).

6.3 Positioning for Ear / 15° Tilt

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

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15 degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 6-2).

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 19 of 138

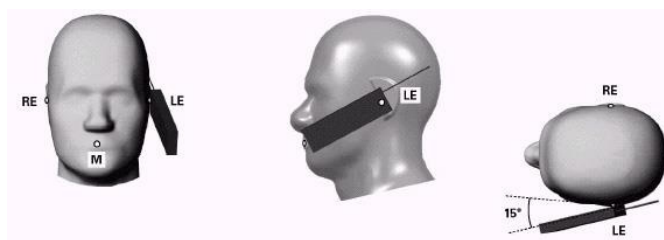


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

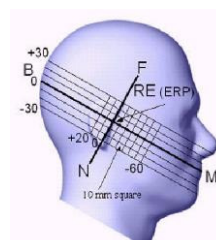


Figure 6-3 Side view w/ relevant markings

6.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. Per IEEE 1528-2013, a rotated SAM phantom is necessary to allow probe access to such regions. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed from the table for emptying and cleaning.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR location identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

6.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-4). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

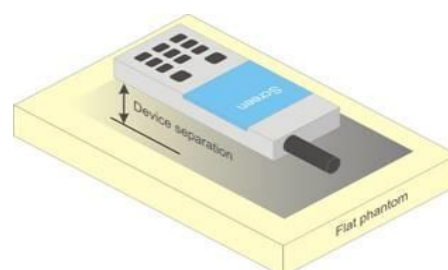


Figure 6-4 Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 20 of 138 REV 18.2 M 11/28/2016

metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

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

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

6.6 Extremity Exposure Configurations

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

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

6.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

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

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 21 of 138

6.8 Phablet Configurations

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

6.9 Additional Test Positions due to Proximity Conditions

This device uses a sensor to reduce voice and data powers in extremity (hand-held) use conditions.

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power. However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level.

The proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions. Sensor triggering distance summary data is included in Appendix H.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 22 of 138

7 RF EXPOSURE LIMITS

7.1 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.

7.2 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 7-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT <i>General Population</i> (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT <i>Occupational</i> (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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 23 of 138

8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 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 ≤ 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 ≤ 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.

8.3 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.

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 24 of 138

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 8-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH₀ 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.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 8-2 was applied.

Table 8-1
Parameters for Max. Power for RC1

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-104
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	dB	-7.4

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode; otherwise, SAR is required for the channel with maximum measured output in RC1 using the head exposure configuration that results in the highest reported SAR in RC3.

Head SAR is additionally evaluated using EVDO Rev. A to support compliance for VoIP operations. See Section 8.4.5 for EVDO Rev. A configuration parameters.

8.4.3 Body-worn SAR Measurements

SAR for body-worn exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH_n), with FCH only as the primary mode. Otherwise, SAR is required for multiple code channel configuration (FCH + SCH_n), with FCH at full rate and SCH₀ enabled at 9600 bps, using the highest reported SAR configuration for FCH only. When multiple code channels are enabled, the transmitter output can shift by more than 0.5 dB and may lead to higher SAR drifts and SCH dropouts.

The 3G SAR test reduction procedure is applied to body-worn accessory SAR in RC1 with RC3 as the primary mode. Otherwise, SAR is required for RC1, with SO55 and full rate, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

8.4.4 Body-worn SAR Measurements for EVDO Devices

For handsets with Ev-Do capabilities, the 3G SAR test reduction procedure is applied to Ev-Do Rev. 0 with 1x RTT RC3 as the primary mode to determine body-worn accessory test requirements. Otherwise, body-worn accessory SAR is required for Rev. 0, at 153.6 kbps, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

The 3G SAR test reduction procedure is applied to Rev. A, with Rev. 0 as the primary mode to determine body-worn accessory SAR test requirements. When SAR is not required for Rev. 0, the 3G SAR test reduction is applied with 1x RTT RC3 as the primary mode.

When SAR is required for EVDO Rev. A, SAR is measured with a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations, using

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 25 of 138

the highest reported SAR configuration for body-worn accessory exposure in Rev. 0 or 1x RTT RC3, as appropriate.

8.4.5 Body SAR Measurements for EVDO Hotspot

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 Ev-Do 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 Ev-Do 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.

8.4.6 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. The 1x Advanced SAR procedures are applied separately to head, body-worn accessory and other exposure conditions.

8.5 SAR Measurement Conditions for UMTS

8.5.1 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, DPDCH_n and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.5.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1s". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.5.3 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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 26 of 138

8.5.4 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.

8.5.5 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.

8.5.6 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.

8.6 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).

8.6.1 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.

8.6.2 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.

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 	Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset
		Page 27 of 138

- 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 ≤ 0.6 W/kg for LTE Band 41 and ≤ 0.8 W/kg for other LTE Bands, 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 $\frac{1}{2}$ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/kg.

8.6.5 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.

8.6.6 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.

8.7 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.

8.7.1 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

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 28 of 138

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.

8.7.2 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. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.3 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.

8.7.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.5 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.

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 29 of 138

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. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.6 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.

8.7.7 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 8.7.6). When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When 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. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.9 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 30 of 138

9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Powers

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	564	90S	820.1	25.03	24.98	24.94	24.99	24.99	25.02	24.85
Cellular	1013	22H	824.7	24.47	24.49	24.57	24.55	24.53	24.45	24.33
	384	22H	836.52	24.55	24.51	24.65	24.53	24.56	24.51	24.35
	777	22H	848.31	24.42	24.54	24.68	24.49	24.51	24.53	24.38
PCS	25	24E	1851.25	23.20	23.10	23.21	23.10	23.10	23.11	23.00
	600	24E	1880	23.43	23.35	23.37	23.32	23.43	23.35	23.15
	1175	24E	1908.75	23.51	23.42	23.47	23.41	23.42	23.43	23.24

Table 9-2
Reduced Conducted Powers – Hotspot Mode Active

Band	Channel	Rule Part	Frequency	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	19.69	19.50	19.55	19.56
	600	24E	1880	19.79	19.77	19.64	19.68
	1175	24E	1908.75	19.68	19.55	19.54	19.51

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 31 of 138

Table 9-3
Reduced Conducted Powers – Grip Sensor Active

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)
PCS	25	24E	1851.25	22.00	21.93	21.98	21.93	21.93	22.08	21.76
	600	24E	1880	21.87	21.80	21.82	21.77	21.77	21.78	21.63
	1175	24E	1908.75	22.33	22.30	21.30	22.28	22.32	22.36	22.12

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.

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.



Figure 9-1
Power Measurement Setup

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 32 of 138	

9.2 GSM Conducted Powers

Table 9-4
Maximum Conducted Powers

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	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	33.43	33.44	30.88	28.65	26.39	26.18	24.66	22.47	20.69
	190	33.37	33.36	31.04	28.82	26.49	26.15	24.47	22.33	20.51
	251	33.22	33.23	31.01	28.59	26.20	26.34	24.42	22.21	20.59
GSM 1900	512	30.47	30.42	27.66	25.70	23.76	25.56	24.48	22.18	20.77
	661	30.54	30.44	27.86	25.86	23.99	25.78	24.59	22.40	20.87
	810	30.90	30.94	28.46	26.43	24.45	26.00	24.48	22.89	21.32
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	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	24.40	24.41	24.86	24.39	23.38	17.15	18.64	18.21	17.68
	190	24.34	24.33	25.02	24.56	23.48	17.12	18.45	18.07	17.50
	251	24.19	24.20	24.99	24.33	23.19	17.31	18.40	17.95	17.58
GSM 1900	512	21.44	21.39	21.64	21.44	20.75	16.53	18.46	17.92	17.76
	661	21.51	21.41	21.84	21.60	20.98	16.75	18.57	18.14	17.86
	810	21.87	21.91	22.44	22.17	21.44	16.97	18.46	18.63	18.31
GSM 850	Frame	23.97	23.97	24.98	25.24	24.49	17.47	19.48	19.24	18.99
GSM 1900	Avg. Targets:	21.47	21.47	21.98	21.74	20.99	16.47	18.48	18.24	17.99

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 33 of 138

Table 9-5
Reduced Conducted Powers – Hotspot Mode Active

Maximum Burst-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	25.81	23.96	21.77	19.92	24.25	23.17	21.04	19.32
	661	25.81	23.96	21.87	19.91	24.32	23.25	21.07	19.34
	810	26.50	24.50	22.43	20.49	25.00	23.85	21.75	20.17
Calculated Maximum Frame-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	16.78	17.94	17.51	16.91	15.22	17.15	16.78	16.31
	661	16.78	17.94	17.61	16.90	15.29	17.23	16.81	16.33
	810	17.47	18.48	18.17	17.48	15.97	17.83	17.49	17.16
GSM 1900	Frame Avg. Targets:	16.97	17.98	17.74	16.99	15.47	17.48	17.24	16.99

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 34 of 138

Table 9-6
Reduced Conducted Powers – Grip Sensor Active

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	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	26.16	26.29	24.25	22.12	20.26	24.81	23.59	21.42	19.62
	661	26.22	26.33	24.38	22.17	20.22	24.78	23.65	21.37	19.69
	810	26.67	26.75	24.79	22.49	20.56	25.00	24.00	21.78	20.15
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	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	17.13	17.26	18.23	17.86	17.25	15.78	17.57	17.16	16.61
	661	17.19	17.30	18.36	17.91	17.21	15.75	17.63	17.11	16.68
	810	17.64	17.72	18.77	18.23	17.55	15.97	17.98	17.52	17.14
GSM 1900	Frame Avg. Targets:	18.47	18.47	18.98	18.74	17.99	15.47	17.48	17.24	16.99

Note:

- Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- GPRS/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.
- 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: 33 (Max 4 Tx uplink slots)
EDGE Multislot class: 33 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A



Figure 9-2
Power Measurement Setup

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 35 of 138

9.3 UMTS Conducted Powers

Table 9-7
Maximum Conducted Powers

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.80	24.88	24.62	24.45	24.77	24.80	23.14	23.35	23.32	-
99		12.2 kbps AMR	24.74	24.76	24.55	24.47	24.86	24.75	23.19	23.25	23.28	-
6	HSDPA	Subtest 1	23.94	23.98	23.87	24.07	24.48	23.86	22.38	22.63	22.71	0
6		Subtest 2	23.98	23.97	23.66	23.79	24.44	24.16	22.46	22.59	22.52	0
6		Subtest 3	23.39	23.44	23.30	23.44	23.97	23.38	21.80	22.08	22.17	0.5
6		Subtest 4	23.49	23.45	23.22	23.48	23.93	23.68	21.96	22.11	22.04	0.5
6	HSUPA	Subtest 1	23.86	24.08	23.72	23.84	24.24	23.83	22.35	22.63	22.50	0
6		Subtest 2	21.89	22.06	21.72	21.98	22.22	21.83	20.31	20.60	20.46	2
6		Subtest 3	22.89	23.08	22.74	22.94	23.22	22.84	21.28	21.60	21.50	1
6		Subtest 4	21.87	22.10	21.72	22.07	22.23	21.84	20.26	20.57	20.46	2
6		Subtest 5	23.89	23.96	23.82	23.99	24.29	23.89	22.36	22.64	22.70	0
8	DC-HSDPA	Subtest 1	23.98	24.02	23.91	23.39	24.14	23.79	22.17	22.44	22.23	0
8		Subtest 2	24.00	24.13	23.78	23.23	24.10	23.80	22.11	22.40	22.20	0
8		Subtest 3	23.62	23.67	23.59	23.05	23.61	23.44	21.59	21.58	21.61	0.5
8		Subtest 4	23.57	23.64	23.61	23.09	23.55	23.39	21.82	21.62	21.64	0.5

Table 9-8
Reduced Conducted Powers – Hotspot Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	18.92	18.50	18.85	19.77	19.64	19.75	-
6	HSDPA	Subtest 1	18.79	19.03	19.08	19.63	19.80	19.66	0
6		Subtest 2	18.60	18.68	18.88	19.66	19.84	19.25	0
6		Subtest 3	18.01	18.26	18.46	19.48	19.83	19.66	0.5
6		Subtest 4	18.00	18.23	18.44	19.62	19.85	19.32	0.5
6	HSUPA	Subtest 1	18.65	18.78	18.93	18.92	19.05	18.85	0
6		Subtest 2	16.57	16.75	16.96	19.40	19.52	19.10	2
6		Subtest 3	17.67	17.84	18.01	19.32	19.11	18.89	1
6		Subtest 4	16.69	16.83	17.05	19.13	19.20	18.91	2
6		Subtest 5	18.78	18.84	19.03	19.61	19.80	19.20	0
8	DC-HSDPA	Subtest 1	18.38	18.37	18.35	19.51	19.63	19.44	0
8		Subtest 2	18.31	18.36	17.98	19.59	19.68	19.35	0
8		Subtest 3	17.83	17.89	17.77	19.56	19.71	19.39	0.5
8		Subtest 4	17.83	17.87	17.63	19.58	19.67	19.35	0.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 36 of 138

Table 9-9
Reduced Conducted Powers – Grip Sensor Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	20.95	20.96	21.00	21.13	20.97	20.92	-
99		12.2 kbps AMR	20.95	20.86	21.10	21.13	20.96	20.91	-
6	HSDPA	Subtest 1	20.35	20.48	20.59	21.11	20.93	21.08	0
6		Subtest 2	20.42	20.40	20.52	20.84	20.86	21.23	0
6		Subtest 3	19.90	19.97	20.11	21.13	20.87	20.90	0.5
6		Subtest 4	19.96	19.86	20.02	21.10	20.92	20.83	0.5
6	HSPA	Subtest 1	20.31	20.35	20.46	20.62	20.40	20.37	0
6		Subtest 2	18.33	18.32	18.47	20.00	19.91	19.87	2
6		Subtest 3	19.35	19.32	19.46	20.69	20.49	20.45	1
6		Subtest 4	18.32	18.37	18.48	19.78	19.61	19.54	2
6		Subtest 5	20.39	20.58	20.70	21.09	21.16	21.28	0
8	DC-HSDPA	Subtest 1	20.30	20.38	20.50	21.15	21.17	21.30	0
8		Subtest 2	20.33	20.41	20.53	21.14	20.96	20.88	0
8		Subtest 3	19.81	19.86	20.11	21.09	20.97	20.85	0.5
8		Subtest 4	19.85	19.84	20.10	21.10	20.96	20.87	0.5

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

It is expected by the manufacturer that MPR for some HSPA subtests may be up to 2 dB more than specified by 3GPP, but also as low as 0 dB according to the chipset implementation in this model.



Figure 9-3
Power Measurement Setup

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 37 of 138

9.4 LTE Conducted Powers

9.4.1 LTE Band 12

Table 9-10
LTE Band 12 Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23095 (707.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.12	0	0
	1	25	24.06		0
	1	49	23.84		0
	25	0	23.65	0-1	1
	25	12	23.63		1
	25	25	23.57		1
	50	0	23.62		1
16QAM	1	0	23.78	0-1	1
	1	25	23.70		1
	1	49	23.06		1
	25	0	22.68	0-2	2
	25	12	22.66		2
	25	25	22.57		2
	50	0	22.63		2
64QAM	1	0	22.73	0-2	2
	1	25	22.73		2
	1	49	22.41		2
	25	0	21.62	0-3	3
	25	12	21.59		3
	25	25	21.52		3
	50	0	21.57		3

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 9-11
LTE Band 12 Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.47	24.48	23.99	0	0
	1	12	23.83	24.42	23.74		0
	1	24	24.36	24.45	24.23		0
	12	0	23.24	23.48	22.80	0-1	1
	12	6	23.06	23.50	22.74		1
	12	13	23.10	23.50	22.98		1
	25	0	23.11	23.47	22.94		1
16QAM	1	0	23.37	23.71	23.28	0-1	1
	1	12	23.36	23.68	23.10		1
	1	24	23.61	23.68	23.50		1
	12	0	22.29	22.51	21.85	0-2	2
	12	6	22.11	22.50	21.86		2
	12	13	22.17	22.49	22.13		2
	25	0	22.26	22.48	22.04		2
64QAM	1	0	22.56	22.51	22.44	0-2	2
	1	12	21.98	21.73	21.55		2
	1	24	22.55	22.16	22.35		2
	12	0	21.37	20.81	20.98	0-3	3
	12	6	21.15	20.76	20.89		3
	12	13	21.13	21.07	21.05		3
	25	0	21.40	21.04	21.00		3

FCC ID: A3LSMG955U			SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 38 of 138	

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

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.33	24.40	23.70	0	0
	1	7	24.19	24.47	23.94		0
	1	14	23.94	24.39	24.32		0
	8	0	23.35	23.44	22.76	0-1	1
	8	4	23.14	23.46	22.92		1
	8	7	23.01	23.42	23.05		1
	15	0	23.14	23.44	22.91		1
16QAM	1	0	23.55	23.67	22.85	0-1	1
	1	7	23.61	23.77	23.48		1
	1	14	23.33	23.66	23.53		1
	8	0	22.40	22.49	21.85	0-2	2
	8	4	22.25	22.50	22.05		2
	8	7	22.09	22.48	22.14		2
	15	0	22.24	22.41	21.99		2
64QAM	1	0	22.35	22.75	21.97	0-2	2
	1	7	22.25	22.74	22.25		2
	1	14	22.24	22.63	22.45		2
	8	0	21.46	21.41	20.83	0-3	3
	8	4	21.38	21.56	21.06		3
	8	7	21.12	21.54	21.25		3
	15	0	21.33	21.39	20.87		3

Table 9-13
LTE Band 12 Conducted Powers -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.27	24.35	23.87	0	0
	1	2	24.34	24.42	24.25		0
	1	5	24.11	24.36	24.24		0
	3	0	24.26	24.35	23.93		0
	3	2	24.29	24.41	24.12		0
	3	3	24.19	24.35	24.16		0
	6	0	23.23	23.37	23.12	0-1	1
16QAM	1	0	23.52	23.63	23.23	0-1	1
	1	2	23.54	23.69	23.43		1
	1	5	23.45	23.60	23.44		1
	3	0	23.39	23.49	23.07		1
	3	2	23.44	23.54	23.35		1
	3	3	23.29	23.49	23.31		1
	6	0	22.32	22.43	22.26	0-2	2
64QAM	1	0	22.57	22.54	22.20	0-2	2
	1	2	22.55	22.61	22.35		2
	1	5	22.44	22.59	22.38		2
	3	0	22.33	22.61	22.14		2
	3	2	22.36	22.65	22.42		2
	3	3	22.29	22.60	22.26		2
	6	0	21.37	21.57	21.25	0-3	3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 39 of 138

9.4.2 LTE Band 13

Table 9-14
LTE Band 13 Conducted Powers - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.51	0	0
	1	25	24.44		0
	1	49	24.28		0
	25	0	23.45	0-1	1
	25	12	23.44		1
	25	25	23.37		1
	50	0	23.38		1
16QAM	1	0	23.92	0-1	1
	1	25	23.77		1
	1	49	23.67		1
	25	0	22.50	0-2	2
	25	12	22.55		2
	25	25	22.43		2
	50	0	22.43		2
64QAM	1	0	22.68	0-2	2
	1	25	22.53		2
	1	49	22.52		2
	25	0	21.55	0-3	3
	25	12	21.50		3
	25	25	21.38		3
	50	0	21.47		3

Table 9-15
LTE Band 13 Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.26	0	0
	1	12	24.28		0
	1	24	24.21		0
	12	0	23.28	0-1	1
	12	6	23.31		1
	12	13	23.23		1
	25	0	23.26		1
16QAM	1	0	23.50	0-1	1
	1	12	23.46		1
	1	24	23.45		1
	12	0	22.32	0-2	2
	12	6	22.30		2
	12	13	22.27		2
	25	0	22.27		2
64QAM	1	0	22.58	0-2	2
	1	12	22.28		2
	1	24	22.21		2
	12	0	21.38	0-3	3
	12	6	21.37		3
	12	13	21.32		3
	25	0	21.26		3

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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 40 of 138

9.4.3 LTE Band 26 (Cell)

Table 9-16
LTE Band 26 (Cell) Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26865 (831.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.51	0	0
	1	36	24.43		0
	1	74	24.25		0
	36	0	23.52	0-1	1
	36	18	23.48		1
	36	37	23.38		1
	75	0	23.46		1
16QAM	1	0	23.65	0-1	1
	1	36	23.45		1
	1	74	23.18		1
	36	0	22.58	0-2	2
	36	18	22.58		2
	36	37	22.44		2
	75	0	22.49		2
64QAM	1	0	22.72	0-2	2
	1	36	22.64		2
	1	74	22.42		2
	36	0	21.62	0-3	3
	36	18	21.55		3
	36	37	21.42		3
	75	0	21.51		3

Note: LTE Band 26 (Cell) at 15 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 9-17
LTE Band 26 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth						
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]
			26740 (819.0 MHz)	26865 (831.5 MHz)	26990 (844.0 MHz)	
QPSK	1	0	24.49	24.38	24.48	0
	1	25	24.41	24.32	24.37	
	1	49	24.32	24.22	23.81	
	25	0	23.51	23.41	23.47	0-1
	25	12	23.46	23.37	23.41	
	25	25	23.42	23.30	23.35	
	50	0	23.46	23.36	23.41	
16QAM	1	0	23.72	23.62	23.72	0-1
	1	25	23.64	23.57	23.63	
	1	49	23.59	23.50	23.12	
	25	0	22.51	22.40	22.47	0-2
	25	12	22.48	22.39	22.44	
	25	25	22.41	22.32	22.33	
	50	0	22.48	22.36	22.42	
64QAM	1	0	22.64	22.60	22.61	0-2
	1	25	22.56	22.53	22.58	
	1	49	22.44	22.46	22.16	
	25	0	21.54	21.38	21.42	0-3
	25	12	21.55	21.37	21.41	
	25	25	21.45	21.32	21.38	
	50	0	21.41	21.33	21.41	

FCC ID: A3LSMG955U			SAR EVALUATION REPORT			Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset			Page 41 of 138	

Table 9-18
LTE Band 26 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26715 (816.5 MHz)	26865 (831.5 MHz)	27015 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.37	24.36	24.39	0	0
	1	12	24.36	24.34	24.35		0
	1	24	24.33	24.28	23.78		0
	12	0	23.40	23.38	23.38	0-1	1
	12	6	23.38	23.37	23.38		1
	12	13	23.38	23.31	23.33		1
16QAM	25	0	23.36	23.36	23.35	0-1	1
	1	0	23.67	23.63	23.63		1
	1	12	23.60	23.58	23.58		1
	1	24	23.54	24.00	22.93	0-2	1
	12	0	22.43	22.40	22.45		2
	12	6	22.44	22.41	22.42		2
64QAM	12	13	22.36	22.37	22.38	0-2	2
	25	0	22.37	22.35	22.36		2
	1	0	22.17	22.31	22.56	0-2	2
	1	12	22.34	22.30	22.54		2
	1	24	22.59	22.50	21.99	0-3	2
	12	0	21.39	21.40	21.46		3
12	6	21.39	21.41	21.46	3		
12	13	21.25	21.35	21.41	3		
	25	0	21.43	21.32	21.36		3

Table 9-19
LTE Band 26 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26705 (815.5 MHz)	26865 (831.5 MHz)	27025 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.37	24.34	24.34	0	0
	1	7	24.45	24.42	24.38		0
	1	14	24.31	24.27	23.67		0
	8	0	23.39	23.34	23.35	0-1	1
	8	4	23.39	23.35	23.36		1
	8	7	23.34	23.31	23.12		1
16QAM	15	0	23.38	23.34	23.30	0-1	1
	1	0	23.60	23.57	23.57		1
	1	7	23.70	23.64	23.60		1
	1	14	23.59	23.53	22.88	0-2	1
	8	0	22.45	22.39	22.38		2
	8	4	22.44	22.40	22.39		2
64QAM	8	7	22.40	22.36	22.23	0-2	2
	15	0	22.34	22.32	22.30		2
	1	0	22.12	22.50	22.49	0-2	2
	1	7	22.23	22.63	22.58		2
	1	14	22.09	22.52	21.79	0-3	2
	8	0	21.39	21.36	21.24		3
8	4	21.30	21.36	21.27	3		
8	7	21.26	21.33	21.23	3		
	15	0	21.36	21.30	21.38		3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 42 of 138

Table 9-20
LTE Band 26 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26697 (814.7 MHz)	26865 (831.5 MHz)	27033 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.32	24.24	23.93	0	0
	1	2	24.36	24.30	23.89		0
	1	5	24.27	24.24	23.60		0
	3	0	24.31	24.25	23.81		0
	3	2	24.35	24.29	23.67		0
	3	3	24.30	24.24	23.58		0
	6	0	23.29	23.24	22.84	0-1	1
16QAM	1	0	23.56	23.49	23.38	0-1	1
	1	2	23.61	23.55	23.18		1
	1	5	23.52	23.47	22.75		1
	3	0	23.46	23.39	23.07		1
	3	2	23.46	23.41	22.96		1
	3	3	23.43	23.37	22.68		1
	6	0	22.38	22.32	22.00	0-2	2
64QAM	1	0	22.52	22.37	22.41	0-2	2
	1	2	22.13	22.41	21.95		2
	1	5	22.04	22.33	21.74		2
	3	0	22.29	22.34	22.09		2
	3	2	22.35	22.34	21.93		2
	3	3	22.32	22.17	21.66		2
	6	0	21.24	21.29	21.02	0-3	3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 43 of 138

9.4.4 LTE Band 5 (Cell)

Table 9-21
LTE Band 5 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20525 (836.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.00	0	0
	1	25	24.96		0
	1	49	24.86		0
	25	0	23.99	0-1	1
	25	12	23.91		1
	25	25	23.95		1
16QAM	50	0	23.98	0-1	1
	1	0	23.99		1
	1	25	23.95		1
	1	49	23.92	0-2	1
	25	0	22.94		2
	25	12	22.91		2
64QAM	25	25	22.86	0-2	2
	50	0	23.00		2
	1	0	22.97	0-2	2
	1	25	22.91		2
	1	49	22.87	0-3	2
	25	0	21.83		3
	25	12	21.82		3
	25	25	21.74		3
	50	0	21.81		3

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 9-22
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)			
			Conducted Power [dBm]					
QPSK	1	0	24.71	24.82	24.73	0	0	
	1	12	24.68	24.84	24.64		0	
	1	24	24.66	24.81	23.82		0	
	12	0	23.78	23.80	23.69	0-1	1	
	12	6	23.78	23.81	23.70		1	
	12	13	23.73	23.77	23.42		1	
16QAM	25	0	23.72	23.76	23.66	0-1	1	
	1	0	23.98	23.99	23.79		0-1	1
	1	12	23.97	23.97	23.78			1
	1	24	23.89	23.96	22.83	0-2		1
	12	0	22.78	22.84	22.72		2	
	12	6	22.81	22.87	22.74		2	
64QAM	12	13	22.76	22.83	22.51	0-2	2	
	25	0	22.73	22.82	22.67		2	
	1	0	22.56	23.00	22.79		0-2	2
	1	12	22.53	22.96	22.78	0-3		2
	1	24	22.47	22.96	21.94			2
	12	0	21.80	21.94	21.73		0-3	3
12	6	21.81	21.91	21.77	3			
12	13	21.75	21.87	21.69	3			
64QAM	25	0	21.71	21.85	21.77		3	

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 44 of 138

Table 9-23
LTE Band 5 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.79	24.84	24.64	0	0
	1	7	24.84	24.96	24.35		0
	1	14	24.71	24.83	23.80		0
	8	0	23.77	23.82	23.67	0-1	1
	8	4	23.80	23.86	23.46		1
	8	7	23.78	23.81	23.07		1
	15	0	23.78	23.81	23.46		1
16QAM	1	0	23.98	23.99	23.70	0-1	1
	1	7	23.99	23.99	23.68		1
	1	14	23.97	23.97	22.87		1
	8	0	22.84	22.82	22.68	0-2	2
	8	4	22.85	22.84	22.60		2
	8	7	22.81	22.80	22.21		2
	15	0	22.74	22.75	22.55		2
64QAM	1	0	22.90	22.79	22.76	0-2	2
	1	7	22.99	23.00	22.73		2
	1	14	22.83	22.97	21.97		2
	8	0	21.72	21.89	21.72	0-3	3
	8	4	21.76	21.91	21.70		3
	8	7	21.72	21.87	21.32		3
	15	0	21.76	21.87	21.66		3

Table 9-24
LTE Band 5 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.78	24.89	23.97	0	0
	1	2	24.85	24.93	23.99		0
	1	5	24.77	24.87	23.48		0
	3	0	24.79	24.84	23.90		0
	3	2	24.83	24.88	23.73		0
	3	3	24.79	24.83	23.55		0
	6	0	23.82	23.84	22.94	0-1	1
16QAM	1	0	23.94	23.96	23.42	0-1	1
	1	2	23.95	23.97	23.22		1
	1	5	23.89	23.88	22.78		1
	3	0	23.89	23.82	23.10		1
	3	2	23.95	23.87	22.97		1
	3	3	23.91	23.80	22.74		1
	6	0	22.86	22.76	22.02	0-2	2
64QAM	1	0	22.93	22.89	22.07	0-2	2
	1	2	22.98	22.94	22.40		2
	1	5	22.90	22.98	21.93		2
	3	0	22.82	22.73	22.07		2
	3	2	22.73	22.78	21.90		2
	3	3	22.67	22.74	21.72		2
	6	0	21.77	21.72	20.99	0-3	3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 45 of 138

9.4.5 LTE Band 66 (AWS)

Table 9-25
LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.77	24.85	24.74	0	0
	1	50	24.58	24.58	24.62		0
	1	99	24.56	24.48	24.51		0
	50	0	23.76	23.80	23.76	0-1	1
	50	25	23.63	23.64	23.70		1
	50	50	23.61	23.53	23.68		1
	100	0	23.64	23.60	23.70		1
16QAM	1	0	23.97	23.58	23.68	0-1	1
	1	50	23.49	23.59	23.84		1
	1	99	23.84	23.53	23.84		1
	50	0	22.70	22.79	22.77	0-2	2
	50	25	22.64	22.65	22.73		2
	50	50	22.65	22.61	22.62		2
	100	0	22.67	22.66	22.75		2
64QAM	1	0	22.96	22.81	22.99	0-2	2
	1	50	22.90	22.80	22.82		2
	1	99	22.76	22.62	22.77		2
	50	0	21.78	21.72	21.83	0-3	3
	50	25	21.61	21.65	21.68		3
	50	50	21.64	21.68	21.61		3
	100	0	21.70	21.67	21.74		3

Table 9-26
LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.84	24.81	24.79	0	0
	1	36	24.74	24.68	24.52		0
	1	74	24.52	24.50	24.44		0
	36	0	23.84	23.72	23.93	0-1	1
	36	18	23.56	23.72	23.78		1
	36	37	23.61	23.57	23.72		1
	75	0	23.52	23.67	23.59		1
16QAM	1	0	23.89	23.56	23.84	0-1	1
	1	36	23.44	23.78	23.89		1
	1	74	23.93	23.55	23.70		1
	36	0	22.67	22.70	22.60	0-2	2
	36	18	22.62	22.60	22.77		2
	36	37	22.78	22.64	22.76		2
	75	0	22.77	22.65	22.85		2
64QAM	1	0	22.96	22.73	22.86	0-2	2
	1	36	22.80	22.94	22.70		2
	1	74	22.65	22.51	22.60		2
	36	0	21.76	21.62	21.91	0-3	3
	36	18	21.47	21.63	21.70		3
	36	37	21.47	21.52	21.45		3
	75	0	21.77	21.66	21.79		3

FCC ID: A3LSMG955U			SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset			Page 46 of 138

Table 9-27
LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.84	24.65	24.77	0	0
	1	25	24.63	24.54	24.52		0
	1	49	24.51	24.65	24.42		0
	25	0	23.82	23.94	23.90	0-1	1
	25	12	23.57	23.82	23.56		1
	25	25	23.54	23.33	23.57		1
	50	0	23.68	23.53	23.86		1
16QAM	1	0	23.86	23.40	23.49	0-1	1
	1	25	23.33	23.60	23.76		1
	1	49	23.72	23.47	23.72		1
	25	0	22.80	22.60	22.70	0-2	2
	25	12	22.51	22.63	22.87		2
	25	25	22.80	22.49	22.72		2
	50	0	22.63	22.85	22.87		2
64QAM	1	0	22.98	22.87	22.79	0-2	2
	1	25	22.83	22.92	22.63		2
	1	49	22.80	22.60	22.93		2
	25	0	21.65	21.87	21.81	0-3	3
	25	12	21.79	21.46	21.62		3
	25	25	21.81	21.87	21.58		3
	50	0	21.80	21.72	21.78		3

Table 9-28
LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.83	24.73	24.64	0	0
	1	12	24.67	24.46	24.76		0
	1	24	24.47	24.47	24.46		0
	12	0	23.83	23.71	23.81	0-1	1
	12	6	23.54	23.55	23.60		1
	12	13	23.59	23.56	23.56		1
	25	0	23.50	23.48	23.75		1
16QAM	1	0	23.88	23.47	23.67	0-1	1
	1	12	23.62	23.74	23.83		1
	1	24	23.88	23.48	23.69		1
	12	0	22.67	22.81	22.86	0-2	2
	12	6	22.49	22.58	22.71		2
	12	13	22.67	22.61	22.64		2
	25	0	22.71	22.66	22.86		2
64QAM	1	0	22.92	22.88	23.00	0-2	2
	1	12	22.89	22.72	22.89		2
	1	24	22.71	22.60	22.66		2
	12	0	21.73	21.68	21.90	0-3	3
	12	6	21.50	21.65	21.61		3
	12	13	21.63	21.82	21.65		3
	25	0	21.71	21.64	21.76		3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 47 of 138	

Table 9-29
LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.83	24.67	24.71	0	0
	1	7	24.76	24.38	24.80		0
	1	14	24.47	24.56	24.54		0
	8	0	23.75	23.69	23.84	0-1	1
	8	4	23.56	23.53	23.53		1
	8	7	23.52	23.51	23.59		1
	15	0	23.54	23.52	23.76		1
16QAM	1	0	23.80	23.54	23.76	0-1	1
	1	7	23.53	23.75	23.89		1
	1	14	23.95	23.45	23.63		1
	8	0	22.62	22.81	22.89	0-2	2
	8	4	22.57	22.68	22.72		2
	8	7	22.67	22.58	22.66		2
	15	0	22.69	22.73	22.85		2
64QAM	1	0	22.95	22.92	22.96	0-2	2
	1	7	22.81	22.62	22.83		2
	1	14	22.81	22.54	22.76		2
	8	0	21.83	21.60	21.92	0-3	3
	8	4	21.50	21.56	21.56		3
	8	7	21.55	21.78	21.72		3
	15	0	21.61	21.56	21.86		3

Table 9-30
LTE Band 66 (AWS) Conducted Powers -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132208 (1733.6 MHz)	132436 (1756.4 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	24.38	24.42	24.37	24.38	0	0
	1	2	24.46	24.53	24.54	24.59		0
	1	5	24.37	24.33	24.27	24.25		0
	3	0	24.40	24.37	24.46	24.33		0
	3	2	24.35	24.26	24.17	24.22		0
	3	3	24.45	24.44	24.43	24.54		0
	6	0	23.46	23.45	23.43	23.30	0-1	1
16QAM	1	0	23.81	23.53	23.55	23.69	0-1	1
	1	2	23.86	23.57	23.51	23.61		1
	1	5	23.74	23.56	23.57	23.74		1
	3	0	23.52	23.56	23.49	23.37		1
	3	2	23.42	23.39	23.47	23.22		1
	3	3	23.53	23.53	23.50	23.46		1
	6	0	22.56	22.47	22.57	22.36	0-2	2
64QAM	1	0	22.65	22.55	22.45	22.77	0-2	2
	1	2	22.69	22.62	22.67	22.83		2
	1	5	22.57	22.47	22.41	22.46		2
	3	0	22.62	22.53	22.45	22.64		2
	3	2	22.56	22.66	22.66	22.74		2
	3	3	22.50	22.50	22.53	22.31		2
	6	0	21.49	21.54	21.45	21.29	0-3	3

Note: Per FCC KDB Publication 447498 D01v06 Section 4.1g), 4 channels
are required for LTE Band 66 with 1.4 MHz Bandwidth.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 48 of 138	

Table 9-31
Reduced LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.62	20.49	20.59	0	0
	1	50	20.46	20.25	20.37		0
	1	99	20.44	20.16	20.29		0
	50	0	20.79	20.39	20.56	0-1	0
	50	25	20.54	20.31	20.45		0
	50	50	20.51	20.25	20.38		0
	100	0	20.55	20.34	20.47		0
16QAM	1	0	20.23	20.59	20.68	0-1	0
	1	50	20.11	20.34	20.51		0
	1	99	20.05	20.30	20.40		0
	50	0	20.62	20.43	20.54	0-2	0
	50	25	20.54	20.34	20.43		0
	50	50	20.52	20.29	20.39		0
	100	0	20.57	20.38	20.45		0
64QAM	1	0	20.72	20.46	20.59	0-2	0
	1	50	20.48	20.25	20.29		0
	1	99	20.49	20.23	20.18		0
	50	0	20.52	20.35	20.38	0-3	0
	50	25	20.47	20.34	20.33		0
	50	50	20.44	20.27	20.26		0
	100	0	20.48	20.29	20.30		0

Table 9-32
Reduced LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.60	20.44	20.56	0	0
	1	36	20.50	20.28	20.39		0
	1	74	20.47	20.22	20.36		0
	36	0	20.60	20.39	20.57	0-1	0
	36	18	20.59	20.36	20.50		0
	36	37	20.51	20.28	20.47		0
	75	0	20.54	20.31	20.49		0
16QAM	1	0	20.32	20.34	20.79	0-1	0
	1	36	20.01	20.27	20.59		0
	1	74	19.96	20.65	20.48		0
	36	0	20.53	20.47	20.56	0-2	0
	36	18	20.52	20.41	20.55		0
	36	37	20.51	20.29	20.47		0
	75	0	20.54	20.35	20.52		0
64QAM	1	0	20.29	20.36	20.32	0-2	0
	1	36	20.21	20.17	20.15		0
	1	74	20.19	19.88	20.28		0
	36	0	20.30	20.07	20.28	0-3	0
	36	18	20.28	20.04	20.21		0
	36	37	20.24	19.98	20.13		0
	75	0	20.26	20.06	20.18		0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 49 of 138

Table 9-33
Reduced LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.53	20.42	20.49	0	0
	1	25	20.50	20.19	20.36		0
	1	49	20.35	20.12	20.37		0
	25	0	20.52	20.35	20.51	0-1	0
	25	12	20.51	20.34	20.49		0
	25	25	20.50	20.24	20.44		0
	50	0	20.50	20.28	20.47		0
16QAM	1	0	20.35	20.42	20.51	0-1	0
	1	25	19.86	20.31	20.42		0
	1	49	19.80	20.13	20.39		0
	25	0	20.50	20.34	20.50	0-2	0
	25	12	20.53	20.29	20.50		0
	25	25	20.41	20.29	20.42		0
	50	0	20.53	20.29	20.50		0
64QAM	1	0	20.41	20.04	20.38	0-2	0
	1	25	20.28	19.91	20.29		0
	1	49	20.15	20.00	20.25		0
	25	0	20.28	20.03	20.19	0-3	0
	25	12	20.29	20.02	20.21		0
	25	25	20.24	19.97	20.19		0
	50	0	20.28	20.04	20.18		0

Table 9-34
Reduced LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.51	20.39	20.49	0	0
	1	12	20.44	20.34	20.45		0
	1	24	20.43	20.27	20.40		0
	12	0	20.49	20.31	20.48	0-1	0
	12	6	20.51	20.32	20.49		0
	12	13	20.43	20.28	20.44		0
	25	0	20.47	20.29	20.44		0
16QAM	1	0	19.98	20.22	20.70	0-1	0
	1	12	20.18	20.12	20.64		0
	1	24	20.20	20.09	20.62		0
	12	0	20.55	20.32	20.52	0-2	0
	12	6	20.55	20.33	20.52		0
	12	13	20.53	20.30	20.50		0
	25	0	20.42	20.29	20.49		0
64QAM	1	0	20.38	20.14	20.09	0-2	0
	1	12	20.32	19.97	20.10		0
	1	24	20.29	19.93	20.04		0
	12	0	20.28	20.04	20.18	0-3	0
	12	6	20.28	20.07	20.24		0
	12	13	20.21	20.03	20.13		0
	25	0	20.21	19.95	20.18		0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 50 of 138

Table 9-35
Reduced LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.48	20.20	20.39	0	0
	1	7	20.58	20.26	20.51		0
	1	14	20.40	20.15	20.32		0
	8	0	20.46	20.29	20.41	0-1	0
	8	4	20.51	20.29	20.44		0
	8	7	20.46	20.29	20.43		0
	15	0	20.45	20.26	20.41		0
16QAM	1	0	20.54	20.43	20.60	0-1	0
	1	7	20.35	20.52	20.72		0
	1	14	20.18	20.36	20.54		0
	8	0	20.46	20.37	20.47	0-2	0
	8	4	20.50	20.40	20.50		0
	8	7	20.51	20.28	20.47		0
	15	0	20.38	20.32	20.40		0
64QAM	1	0	20.09	19.95	20.00	0-2	0
	1	7	20.22	20.04	20.16		0
	1	14	20.11	20.10	19.97		0
	8	0	20.20	19.99	20.05	0-3	0
	8	4	20.18	20.01	20.07		0
	8	7	20.09	19.97	20.02		0
	15	0	20.21	20.00	20.09		0

Table 9-36
Reduced LTE Band 66 (AWS) Conducted Powers - 1.4 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132208 (1733.6 MHz)	132436 (1756.4 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	20.40	20.25	20.26	20.37	0	0
	1	2	20.48	20.34	20.31	20.34		0
	1	5	20.41	20.17	20.28	20.34		0
	3	0	20.44	20.21	20.23	20.36		0
	3	2	20.48	20.26	20.28	20.38		0
	3	3	20.43	20.22	20.25	20.33		0
	6	0	20.46	20.34	20.27	20.36	0-1	0
16QAM	1	0	20.27	20.07	20.51	20.68	0-1	0
	1	2	20.28	20.18	20.49	20.75		0
	1	5	20.25	20.06	20.48	20.70		0
	3	0	20.63	20.17	20.38	20.30		0
	3	2	20.68	20.38	20.42	20.34		0
	3	3	20.63	20.32	20.36	20.29		0
	6	0	20.41	20.36	20.26	20.39	0-2	0
64QAM	1	0	20.25	19.90	20.09	20.20	0-2	0
	1	2	20.32	20.01	20.23	20.30		0
	1	5	20.23	19.93	20.13	20.14		0
	3	0	20.18	19.98	20.12	20.09		0
	3	2	20.29	20.06	20.17	20.16		0
	3	3	20.24	20.00	20.12	20.19		0
	6	0	20.14	19.96	19.95	20.06	0-3	0

Note: Per FCC KDB Publication 447498 D01v06 Section 4.1g), 4 channels are required for LTE Band 66 with 1.4 MHz Bandwidth.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 51 of 138	

Table 9-37
Reduced LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.20	21.84	22.25	0	0
	1	50	21.80	21.60	21.98		0
	1	99	21.78	21.54	21.99		0
	50	0	22.25	21.96	22.26	0-1	0
	50	25	22.11	21.90	22.07		0
	50	50	22.04	21.80	21.97		0
	100	0	22.11	21.92	22.04		0
16QAM	1	0	22.17	22.30	22.50	0-1	0
	1	50	21.90	21.99	22.34		0
	1	99	21.90	21.96	22.36		0
	50	0	22.17	21.95	22.15	0-2	0
	50	25	22.13	21.90	22.07		0
	50	50	22.04	21.83	22.04		0
	100	0	22.09	21.89	22.07		0
64QAM	1	0	22.36	22.14	22.35	0-2	0
	1	50	22.12	21.88	22.02		0
	1	99	22.04	21.71	21.94		0
	50	0	21.44	21.64	21.78	0-3	0.5
	50	25	21.34	21.59	21.68		0.5
	50	50	21.33	21.50	21.60		0.5
	100	0	21.35	21.55	21.65		0.5

Table 9-38
Reduced LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.37	22.22	22.37	0	0
	1	36	22.17	22.10	22.10		0
	1	74	22.14	22.04	22.08		0
	36	0	22.27	22.29	22.24	0-1	0
	36	18	22.22	22.19	22.16		0
	36	37	22.15	22.15	22.11		0
	75	0	22.17	22.18	22.18		0
16QAM	1	0	22.50	22.43	22.12	0-1	0
	1	36	22.45	22.12	21.95		0
	1	74	22.02	22.08	22.20		0
	36	0	22.24	22.24	22.17	0-2	0
	36	18	22.18	22.19	22.12		0
	36	37	22.14	22.11	22.09		0
	75	0	22.17	22.12	22.11		0
64QAM	1	0	22.44	22.23	22.41	0-2	0
	1	36	22.31	22.31	22.28		0
	1	74	22.33	22.19	22.23		0
	36	0	21.35	21.61	21.69	0-3	0.5
	36	18	21.34	21.55	21.64		0.5
	36	37	21.28	21.48	21.59		0.5
	75	0	21.32	21.50	21.63		0.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 52 of 138

Table 9-39
Reduced LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.12	21.87	22.10	0	0
	1	25	22.01	21.72	21.97		0
	1	49	21.96	21.66	21.93		0
	25	0	22.13	21.81	22.05	0-1	0
	25	12	22.07	21.77	22.04		0
	25	25	22.06	21.69	21.96		0
	50	0	22.07	21.76	22.01		0
16QAM	1	0	21.86	22.45	22.29	0-1	0
	1	25	21.73	22.07	22.17		0
	1	49	21.72	22.04	22.16		0
	25	0	22.12	21.85	22.01	0-2	0
	25	12	22.13	21.80	22.04		0
	25	25	22.06	21.78	21.97		0
	50	0	22.08	21.81	22.01		0
64QAM	1	0	22.41	22.19	22.29	0-2	0
	1	25	22.34	22.07	22.21		0
	1	49	22.23	21.99	22.19		0
	25	0	21.33	21.59	21.68	0-3	0.5
	25	12	21.36	21.56	21.66		0.5
	25	25	21.28	21.54	21.60		0.5
	50	0	21.30	21.53	21.61		0.5

Table 9-40
Reduced LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.99	21.66	22.01	0	0
	1	12	21.95	21.68	21.96		0
	1	24	21.94	21.67	21.96		0
	12	0	22.04	21.72	21.98	0-1	0
	12	6	22.03	21.70	21.96		0
	12	13	21.98	21.67	21.98		0
	25	0	22.01	21.66	21.94		0
16QAM	1	0	22.02	22.08	22.35	0-1	0
	1	12	21.92	22.02	22.26		0
	1	24	21.93	21.97	22.25		0
	12	0	22.09	21.76	22.01	0-2	0
	12	6	22.10	21.72	22.02		0
	12	13	22.08	21.67	21.97		0
	25	0	22.04	21.71	21.98		0
64QAM	1	0	22.30	22.09	21.82	0-2	0
	1	12	22.28	22.01	21.81		0
	1	24	22.27	21.99	22.29		0
	12	0	21.21	21.51	21.59	0-3	0.5
	12	6	21.25	21.52	21.58		0.5
	12	13	21.19	21.47	21.54		0.5
	25	0	21.17	21.46	21.52		0.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 53 of 138

Table 9-41
Reduced LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.96	21.68	22.01	0	0
	1	7	22.16	21.77	22.11		0
	1	14	22.06	21.64	21.97		0
	8	0	22.13	21.69	22.02	0-1	0
	8	4	22.11	21.70	22.05		0
	8	7	22.07	21.64	22.00		0
	15	0	22.06	21.66	22.01		0
16QAM	1	0	22.36	22.27	22.50	0-1	0
	1	7	22.48	22.39	22.50		0
	1	14	22.36	22.23	22.26		0
	8	0	22.16	21.93	22.09	0-2	0
	8	4	22.30	21.92	22.01		0
	8	7	22.27	21.85	22.02		0
	15	0	22.07	21.66	22.09		0
64QAM	1	0	22.36	22.04	22.31	0-2	0
	1	7	22.45	22.14	22.12		0
	1	14	22.41	21.98	22.01		0
	8	0	21.09	21.49	21.48	0-3	0.5
	8	4	21.07	21.50	21.49		0.5
	8	7	21.13	21.47	21.48		0.5
	15	0	21.15	21.48	21.55		0.5

Table 9-42
Reduced LTE Band 66 (AWS) Conducted Powers -1.4 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132208 (1733.6 MHz)	132436 (1756.4 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	21.97	21.83	21.68	21.97	0	0
	1	2	22.02	21.86	21.73	22.03		0
	1	5	21.98	21.79	21.65	21.98		0
	3	0	22.00	21.78	21.71	21.97		0
	3	2	22.05	21.81	21.78	22.01		0
	3	3	22.01	21.77	21.71	21.97		0
	6	0	21.99	21.79	21.77	21.98	0-1	0
16QAM	1	0	21.96	22.05	21.59	22.03	0-1	0
	1	2	21.81	22.09	21.95	22.12		0
	1	5	21.70	22.04	21.86	22.16		0
	3	0	22.12	21.98	21.82	22.34		0
	3	2	22.16	22.00	21.86	22.39		0
	3	3	22.09	21.90	21.82	22.31		0
	6	0	22.10	21.81	21.86	22.12	0-2	0
64QAM	1	0	22.27	22.00	21.96	21.99	0-2	0
	1	2	22.33	22.07	22.02	22.06		0
	1	5	22.00	22.10	21.90	21.98		0
	3	0	22.23	22.07	21.86	22.21		0
	3	2	22.19	22.13	21.90	22.15		0
	3	3	22.16	22.07	21.85	22.12		0
	6	0	21.15	21.45	21.49	21.61	0-3	0.5

Note: Per FCC KDB Publication 447498 D01v06 Section 4.1g), 4 channels are required for LTE Band 66 with 1.4 MHz Bandwidth.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 54 of 138	

9.4.6 LTE Band 25 (PCS)

Table 9-43
LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.29	23.30	23.44	0	0
	1	50	23.14	23.06	23.17		0
	1	99	23.11	23.03	23.10		0
	50	0	22.28	22.23	22.36	0-1	1
	50	25	22.23	22.13	22.33		1
	50	50	22.17	22.06	22.29		1
	100	0	22.22	22.13	22.32		1
16QAM	1	0	22.61	22.63	22.78	0-1	1
	1	50	22.40	22.38	22.52		1
	1	99	22.43	22.34	22.44		1
	50	0	21.32	21.27	21.46	0-2	2
	50	25	21.25	21.20	21.36		2
	50	50	21.22	21.09	21.34		2
	100	0	21.25	21.11	21.35		2
64QAM	1	0	21.87	21.06	21.84	0-2	2
	1	50	21.62	20.86	21.59		2
	1	99	21.71	20.80	21.67		2
	50	0	20.33	20.22	20.41	0-3	3
	50	25	20.27	20.15	20.33		3
	50	50	20.25	20.10	20.29		3
	100	0	20.29	20.18	20.35		3

Table 9-44
LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.45	23.38	23.54	0	0
	1	36	23.26	23.23	23.34		0
	1	74	23.32	23.21	23.40		0
	36	0	22.41	22.31	22.48	0-1	1
	36	18	22.39	22.26	22.48		1
	36	37	22.33	22.25	22.42		1
	75	0	22.38	22.28	22.48		1
16QAM	1	0	22.82	22.62	22.76	0-1	1
	1	36	22.62	22.46	22.62		1
	1	74	22.66	22.44	22.67		1
	36	0	21.47	21.31	21.46	0-2	2
	36	18	21.43	21.30	21.44		2
	36	37	21.37	21.23	21.48		2
	75	0	21.36	21.27	21.43		2
64QAM	1	0	21.43	21.45	21.62	0-2	2
	1	36	21.26	21.26	21.49		2
	1	74	21.32	21.25	21.57		2
	36	0	20.45	20.45	20.48	0-3	3
	36	18	20.41	20.41	20.47		3
	36	37	20.38	20.37	20.48		3
	75	0	20.39	20.36	20.48		3

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 55 of 138

Table 9-45
LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.28	23.38	23.43	0	0
	1	25	23.08	23.29	23.36		0
	1	49	23.18	23.26	23.38		0
	25	0	22.40	22.45	22.41	0-1	1
	25	12	22.39	22.39	22.47		1
	25	25	22.33	22.36	22.43		1
	50	0	22.36	22.40	22.41		1
16QAM	1	0	22.70	22.26	22.47	0-1	1
	1	25	22.58	22.15	22.39		1
	1	49	22.56	22.19	22.42		1
	25	0	21.42	21.42	21.45	0-2	2
	25	12	21.41	21.38	21.48		2
	25	25	21.36	21.30	21.44		2
	50	0	21.35	21.37	21.44		2
64QAM	1	0	21.54	21.54	21.41	0-2	2
	1	25	21.38	21.45	21.37		2
	1	49	21.33	21.40	21.41		2
	25	0	20.38	20.38	20.45	0-3	3
	25	12	20.33	20.36	20.48		3
	25	25	20.29	20.34	20.48		3
	50	0	20.37	20.40	20.46		3

Table 9-46
LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.20	23.33	23.48	0	0
	1	12	23.13	23.28	23.47		0
	1	24	23.17	23.32	23.49		0
	12	0	22.20	22.35	22.49	0-1	1
	12	6	22.19	22.34	22.54		1
	12	13	22.13	22.36	22.52		1
	25	0	22.20	22.34	22.50		1
16QAM	1	0	22.93	22.60	22.53	0-1	1
	1	12	22.81	22.55	22.47		1
	1	24	22.77	22.50	22.52		1
	12	0	21.23	21.38	21.57	0-2	2
	12	6	21.27	21.40	21.61		2
	12	13	21.19	21.36	21.57		2
	25	0	21.22	21.34	21.49		2
64QAM	1	0	21.37	21.51	21.63	0-2	2
	1	12	21.30	21.48	21.64		2
	1	24	21.28	21.50	21.63		2
	12	0	20.25	20.38	20.60	0-3	3
	12	6	20.25	20.39	20.62		3
	12	13	20.21	20.35	20.60		3
	25	0	20.24	20.38	20.50		3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 56 of 138

Table 9-47
LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.11	23.30	23.39	0	0
	1	7	23.21	23.38	23.53		0
	1	14	23.04	23.25	23.42		0
	8	0	22.17	22.34	22.51	0-1	1
	8	4	22.21	22.36	22.53		1
	8	7	22.11	22.30	22.55		1
	15	0	22.17	22.32	22.52		1
16QAM	1	0	22.76	22.68	22.44	0-1	1
	1	7	22.85	22.74	22.45		1
	1	14	22.69	22.62	22.29		1
	8	0	21.25	21.52	21.56	0-2	2
	8	4	21.32	21.46	21.57		2
	8	7	21.33	21.45	21.53		2
	15	0	21.18	21.27	21.46		2
64QAM	1	0	21.18	21.47	21.56	0-2	2
	1	7	21.26	21.57	21.66		2
	1	14	21.18	21.43	21.53		2
	8	0	20.21	20.35	20.63	0-3	3
	8	4	20.21	20.38	20.64		3
	8	7	20.20	20.36	20.65		3
	15	0	20.19	20.43	20.59		3

Table 9-48
LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.08	23.24	23.42	0	0
	1	2	23.17	23.27	23.49		0
	1	5	23.12	23.17	23.39		0
	3	0	23.12	23.26	23.40		0
	3	2	23.17	23.29	23.47		0
	3	3	23.13	23.25	23.40		0
	6	0	22.12	22.29	22.46	0-1	1
16QAM	1	0	22.11	22.40	22.63	0-1	1
	1	2	22.16	22.47	22.68		1
	1	5	22.11	22.32	22.77		1
	3	0	22.24	22.31	22.64		1
	3	2	22.27	22.36	22.71		1
	3	3	22.24	22.29	22.66		1
	6	0	21.23	21.25	21.44	0-2	2
64QAM	1	0	21.10	21.40	21.62	0-2	2
	1	2	21.17	21.45	21.64		2
	1	5	21.12	21.38	21.58		2
	3	0	21.28	21.30	21.55		2
	3	2	21.30	21.36	21.61		2
	3	3	21.28	21.30	21.57		2
	6	0	20.14	20.30	20.45	0-3	3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 57 of 138

Table 9-49
Reduced LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.88	20.05	19.98	0	0
	1	50	19.64	19.84	19.70		0
	1	99	19.71	19.84	19.77		0
	50	0	19.83	20.02	19.95	0-1	0
	50	25	19.79	19.97	19.91		0
	50	50	19.74	19.90	19.82		0
	100	0	19.77	19.95	19.89		0
16QAM	1	0	19.92	20.11	20.31	0-1	0
	1	50	19.67	19.89	20.03		0
	1	99	19.76	19.95	20.11		0
	50	0	19.83	20.07	19.97	0-2	0
	50	25	19.77	19.96	19.92		0
	50	50	19.75	19.89	19.91		0
	100	0	19.77	19.97	19.94		0
64QAM	1	0	20.33	20.49	20.50	0-2	0
	1	50	20.06	20.33	20.43		0
	1	99	20.11	20.30	20.48		0
	50	0	19.87	20.09	20.05	0-3	0
	50	25	19.81	20.01	19.98		0
	50	50	19.76	19.94	19.95		0
	100	0	19.78	19.97	20.00		0

Table 9-50
Reduced LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.66	19.87	19.81	0	0
	1	36	19.51	19.71	19.68		0
	1	74	19.51	19.66	19.76		0
	36	0	19.67	19.84	19.80	0-1	0
	36	18	19.61	19.83	19.78		0
	36	37	19.57	19.76	19.77		0
	75	0	19.62	19.79	19.79		0
16QAM	1	0	19.94	20.14	20.08	0-1	0
	1	36	19.81	20.03	19.98		0
	1	74	19.79	20.01	20.03		0
	36	0	19.66	19.89	19.84	0-2	0
	36	18	19.63	19.84	19.80		0
	36	37	19.58	19.79	19.79		0
	75	0	19.62	19.83	19.80		0
64QAM	1	0	19.67	20.04	20.01	0-2	0
	1	36	19.51	19.91	19.39		0
	1	74	19.51	19.84	19.94		0
	36	0	19.64	19.89	19.85	0-3	0
	36	18	19.61	19.86	19.82		0
	36	37	19.57	19.80	19.82		0
	75	0	19.61	19.83	19.82		0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 58 of 138

Table 9-51
Reduced LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.58	19.78	19.87	0	0
	1	25	19.49	19.70	19.83		0
	1	49	19.44	19.63	19.85		0
	25	0	19.62	19.80	19.89	0-1	0
	25	12	19.60	19.81	19.89		0
	25	25	19.55	19.73	19.87		0
	50	0	19.59	19.77	19.88		0
16QAM	1	0	19.82	20.09	20.09	0-1	0
	1	25	19.78	20.02	20.11		0
	1	49	19.72	19.94	20.11		0
	25	0	19.61	19.84	19.91	0-2	0
	25	12	19.61	19.87	19.93		0
	25	25	19.54	19.77	19.87		0
	50	0	19.58	19.80	19.91		0
64QAM	1	0	19.76	19.95	19.99	0-2	0
	1	25	19.73	19.87	19.96		0
	1	49	19.66	19.82	19.98		0
	25	0	19.65	19.86	19.91	0-3	0
	25	12	19.63	19.80	19.95		0
	25	25	19.57	19.82	19.93		0
	50	0	19.60	19.83	19.93		0

Table 9-52
Reduced LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.47	19.76	19.86	0	0
	1	12	19.40	19.69	19.82		0
	1	24	19.37	19.69	19.84		0
	12	0	19.48	19.77	19.90	0-1	0
	12	6	19.47	19.81	19.91		0
	12	13	19.45	19.74	19.89		0
	25	0	19.45	19.75	19.86		0
16QAM	1	0	19.75	20.04	20.15	0-1	0
	1	12	19.69	20.00	20.11		0
	1	24	19.62	20.00	20.10		0
	12	0	19.54	19.83	19.93	0-2	0
	12	6	19.52	19.86	19.97		0
	12	13	19.47	19.79	19.94		0
	25	0	19.49	19.81	19.88		0
64QAM	1	0	19.65	19.90	19.99	0-2	0
	1	12	19.60	19.90	20.00		0
	1	24	19.55	19.86	19.99		0
	12	0	19.56	19.84	19.96	0-3	0
	12	6	19.55	19.85	19.95		0
	12	13	19.49	19.79	19.92		0
	25	0	19.48	19.79	19.92		0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 59 of 138

Table 9-53
Reduced LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.41	19.73	19.84	0	0
	1	7	19.49	19.79	19.93		0
	1	14	19.35	19.68	19.81		0
	8	0	19.44	19.76	19.87	0-1	0
	8	4	19.49	19.77	19.90		0
	8	7	19.42	19.71	19.90		0
	15	0	19.44	19.72	19.87		0
16QAM	1	0	19.70	19.99	20.10	0-1	0
	1	7	19.80	20.13	20.22		0
	1	14	19.64	19.98	20.10		0
	8	0	19.54	19.86	19.94	0-2	0
	8	4	19.52	19.85	19.96		0
	8	7	19.51	19.80	19.94		0
	15	0	19.47	19.77	19.87		0
64QAM	1	0	19.58	19.87	19.97	0-2	0
	1	7	19.69	19.99	20.10		0
	1	14	19.52	19.84	19.96		0
	8	0	19.49	19.81	19.92	0-3	0
	8	4	19.52	19.83	19.94		0
	8	7	19.48	19.79	19.92		0
	15	0	19.50	19.79	19.90		0

Table 9-54
Reduced LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.52	19.75	19.85	0	0
	1	2	19.59	19.80	19.92		0
	1	5	19.49	19.72	19.89		0
	3	0	19.58	19.76	19.91		0
	3	2	19.62	19.81	19.96		0
	3	3	19.59	19.76	19.88		0
	6	0	19.63	19.78	19.88	0-1	0
16QAM	1	0	19.75	20.05	20.03	0-1	0
	1	2	19.62	20.10	20.00		0
	1	5	19.50	20.03	19.86		0
	3	0	19.50	19.95	20.08		0
	3	2	19.55	19.97	20.15		0
	3	3	19.48	19.93	20.06		0
	6	0	19.71	19.85	19.88	0-2	0
64QAM	1	0	19.43	20.05	20.05	0-2	0
	1	2	19.51	20.11	20.01		0
	1	5	19.39	20.02	19.93		0
	3	0	19.60	19.94	19.83		0
	3	2	19.62	19.93	19.86		0
	3	3	19.57	19.79	19.81		0
	6	0	19.59	19.71	19.72	0-3	0

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 60 of 138

Table 9-55
Reduced LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.90	22.01	22.02	0	0
	1	50	21.61	21.87	21.69		0
	1	99	21.67	21.85	21.78		0
	50	0	21.85	22.02	22.03	0-1	0
	50	25	21.74	21.84	21.89		0
	50	50	21.72	21.81	21.83		0
	100	0	21.76	21.87	21.91		0
16QAM	1	0	22.21	22.21	22.32	0-1	0
	1	50	21.98	22.05	21.98		0
	1	99	22.03	22.07	22.12		0
	50	0	21.37	21.49	21.47	0-2	0.5
	50	25	21.28	21.43	21.40		0.5
	50	50	21.26	21.39	21.34		0.5
	100	0	21.30	21.40	21.43		0.5
64QAM	1	0	21.52	21.77	21.84	0-2	0.5
	1	50	21.28	21.78	21.48		0.5
	1	99	21.35	21.77	21.62		0.5
	50	0	20.35	20.54	20.53	0-3	1.5
	50	25	20.27	20.48	20.41		1.5
	50	50	20.27	20.40	20.39		1.5
	100	0	20.28	20.41	20.45		1.5

Table 9-56
Reduced LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.69	21.87	21.81	0	0
	1	36	21.50	21.73	21.66		0
	1	74	21.50	21.67	21.72		0
	36	0	21.63	21.85	21.78	0-1	0
	36	18	21.60	21.78	21.73		0
	36	37	21.51	21.76	21.72		0
	75	0	21.59	21.79	21.76		0
16QAM	1	0	21.95	22.13	22.06	0-1	0
	1	36	21.75	21.97	21.94		0
	1	74	21.70	21.88	22.02		0
	36	0	21.14	21.35	21.29	0-2	0.5
	36	18	21.08	21.29	21.27		0.5
	36	37	21.03	21.23	21.26		0.5
	75	0	21.06	21.31	21.25		0.5
64QAM	1	0	21.30	21.54	21.45	0-2	0.5
	1	36	21.14	21.35	21.30		0.5
	1	74	21.11	21.30	21.33		0.5
	36	0	20.11	20.35	20.27	0-3	1.5
	36	18	20.08	20.39	20.27		1.5
	36	37	20.04	20.35	20.23		1.5
	75	0	20.07	20.40	20.26		1.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 61 of 138

Table 9-57
Reduced LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.61	21.78	21.82	0	0
	1	25	21.51	21.70	21.76		0
	1	49	21.46	21.66	21.76		0
	25	0	21.61	21.80	21.86	0-1	0
	25	12	21.57	21.78	21.84		0
	25	25	21.54	21.71	21.82		0
	50	0	21.55	21.76	21.84		0
16QAM	1	0	21.85	22.01	22.11	0-1	0
	1	25	21.74	21.94	22.06		0
	1	49	21.70	21.91	22.09		0
	25	0	21.09	21.30	21.35	0-2	0.5
	25	12	21.07	21.30	21.36		0.5
	25	25	21.01	21.23	21.32		0.5
	50	0	21.07	21.29	21.33		0.5
64QAM	1	0	21.20	21.41	21.44	0-2	0.5
	1	25	21.11	21.33	21.40		0.5
	1	49	21.07	21.27	21.43		0.5
	25	0	20.11	20.33	20.36	0-3	1.5
	25	12	20.03	20.30	20.38		1.5
	25	25	20.07	20.25	20.35		1.5
	50	0	20.01	20.31	20.36		1.5

Table 9-58
Reduced LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.49	21.79	21.79	0	0
	1	12	21.41	21.71	21.80		0
	1	24	21.38	21.68	21.80		0
	12	0	21.50	21.78	21.86	0-1	0
	12	6	21.50	21.79	21.85		0
	12	13	21.45	21.76	21.85		0
	25	0	21.49	21.74	21.83		0
16QAM	1	0	21.71	22.01	22.08	0-1	0
	1	12	21.68	21.98	22.11		0
	1	24	21.64	21.93	22.10		0
	12	0	20.99	21.29	21.38	0-2	0.5
	12	6	21.01	21.28	21.39		0.5
	12	13	20.95	21.28	21.37		0.5
	25	0	21.02	21.27	21.32		0.5
64QAM	1	0	21.08	21.39	21.42	0-2	0.5
	1	12	21.04	21.35	21.42		0.5
	1	24	20.99	21.31	21.43		0.5
	12	0	20.00	20.29	20.37	0-3	1.5
	12	6	19.99	20.28	20.38		1.5
	12	13	19.95	20.26	20.34		1.5
	25	0	19.94	20.28	20.35		1.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 62 of 138

Table 9-59
Reduced LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.54	21.81	21.87	0	0
	1	7	21.63	21.92	21.99		0
	1	14	21.47	21.80	21.90		0
	8	0	21.58	21.85	21.88	0-1	0
	8	4	21.57	21.85	21.93		0
	8	7	21.51	21.81	21.92		0
	15	0	21.56	21.79	21.86		0
16QAM	1	0	22.07	22.15	21.82	0-1	0
	1	7	22.10	22.21	22.09		0
	1	14	22.05	22.04	22.03		0
	8	0	21.13	21.45	21.43	0-2	0.5
	8	4	21.16	21.47	21.51		0.5
	8	7	21.14	21.42	21.49		0.5
	15	0	21.04	21.21	21.36		0.5
64QAM	1	0	21.05	21.51	21.52	0-2	0.5
	1	7	21.13	21.58	21.60		0.5
	1	14	21.01	21.38	21.49		0.5
	8	0	20.10	20.43	20.40	0-3	1.5
	8	4	20.09	20.46	20.40		1.5
	8	7	20.06	20.44	20.32		1.5
	15	0	20.09	20.42	20.40		1.5

Table 9-60
Reduced LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.61	21.76	21.77	0	0
	1	2	21.69	21.81	21.83		0
	1	5	21.54	21.74	21.81		0
	3	0	21.50	21.82	21.85		0
	3	2	21.53	21.86	21.88		0
	3	3	21.48	21.74	21.82		0
	6	0	21.51	21.78	21.85	0-1	0
16QAM	1	0	21.52	21.81	21.69	0-1	0
	1	2	21.62	21.96	22.06		0
	1	5	21.52	21.94	21.97		0
	3	0	21.66	21.90	21.92		0
	3	2	21.70	22.00	22.00		0
	3	3	21.65	21.99	21.93		0
	6	0	21.08	21.21	21.26	0-2	0.5
64QAM	1	0	21.17	21.42	21.45	0-2	0.5
	1	2	21.22	21.48	21.54		0.5
	1	5	21.12	21.44	21.43		0.5
	3	0	21.26	21.39	21.40		0.5
	3	2	21.31	21.44	21.47		0.5
	3	3	21.22	21.37	21.43		0.5
	6	0	19.97	20.24	20.35	0-3	1.5

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 63 of 138

9.4.7 LTE Band 30

Table 9-61
LTE Band 30 Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	23.93	0	0
	1	25	23.85		0
	1	49	23.88		0
	25	0	22.94	0-1	1
	25	12	22.93		1
	25	25	22.87		1
	50	0	22.92		1
16QAM	1	0	22.81	0-1	1
	1	25	22.88		1
	1	49	22.91		1
	25	0	21.94	0-2	2
	25	12	21.92		2
	25	25	21.85		2
	50	0	21.94		2
64QAM	1	0	21.93	0-2	2
	1	25	21.95		2
	1	49	21.90		2
	25	0	20.92	0-3	3
	25	12	20.95		3
	25	25	20.97		3
	50	0	20.98		3

Table 9-62
LTE Band 30 Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	23.79	0	0
	1	12	23.78		0
	1	24	23.71		0
	12	0	22.96	0-1	1
	12	6	22.82		1
	12	13	22.81		1
	25	0	22.80		1
16QAM	1	0	22.89	0-1	1
	1	12	22.76		1
	1	24	22.99		1
	12	0	21.97	0-2	2
	12	6	21.72		2
	12	13	21.84		2
	25	0	21.75		2
64QAM	1	0	21.79	0-2	2
	1	12	21.86		2
	1	24	21.77		2
	12	0	21.00	0-3	3
	12	6	20.93		3
	12	13	21.00		3
	25	0	20.93		3

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.

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 64 of 138

Table 9-63
Reduced LTE Band 30 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	20.38	0	0
	1	25	20.32		0
	1	49	20.32		0
	25	0	20.47	0-1	0
	25	12	20.46		0
	25	25	20.42		0
	50	0	20.44		0
16QAM	1	0	20.76	0-1	0
	1	25	20.75		0
	1	49	20.73		0
	25	0	20.49	0-2	0
	25	12	20.48		0
	25	25	20.46		0
	50	0	20.52		0
64QAM	1	0	20.59	0-2	0
	1	25	20.55		0
	1	49	20.53		0
	25	0	20.52	0-3	0
	25	12	20.49		0
	25	25	20.44		0
	50	0	20.48		0

Table 9-64
Reduced LTE Band 30 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	20.30	0	0
	1	12	20.28		0
	1	24	20.28		0
	12	0	20.54	0-1	0
	12	6	20.54		0
	12	13	20.53		0
	25	0	20.51		0
16QAM	1	0	20.77	0-1	0
	1	12	20.80		0
	1	24	20.78		0
	12	0	20.53	0-2	0
	12	6	20.50		0
	12	13	20.48		0
	25	0	20.49		0
64QAM	1	0	20.54	0-2	0
	1	12	20.46		0
	1	24	20.51		0
	12	0	20.43	0-3	0
	12	6	20.43		0
	12	13	20.51		0
	25	0	20.54		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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 65 of 138	

Table 9-65
Reduced LTE Band 30 Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	22.08	0	0
	1	25	22.00		0
	1	49	22.02		0
	25	0	22.21	0-1	0
	25	12	22.17		0
	25	25	22.12		0
	50	0	22.14		0
16QAM	1	0	22.48	0-1	0
	1	25	22.44		0
	1	49	22.45		0
	25	0	21.97	0-2	0.5
	25	12	21.96		0.5
	25	25	21.94		0.5
	50	0	21.96		0.5
64QAM	1	0	21.34	0-2	0.5
	1	25	21.53		0.5
	1	49	21.56		0.5
	25	0	20.51	0-3	1.5
	25	12	20.52		1.5
	25	25	20.48		1.5
	50	0	20.49		1.5

Table 9-66
Reduced LTE Band 30 Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	22.19	0	0
	1	12	22.13		0
	1	24	22.15		0
	12	0	22.18	0-1	0
	12	6	22.16		0
	12	13	22.12		0
	25	0	22.20		0
16QAM	1	0	22.35	0-1	0
	1	12	22.37		0
	1	24	22.34		0
	12	0	22.22	0-2	0
	12	6	22.20		0
	12	13	22.19		0
	25	0	22.13		0
64QAM	1	0	21.74	0-2	0.5
	1	12	21.66		0.5
	1	24	21.69		0.5
	12	0	20.62	0-3	1.5
	12	6	20.53		1.5
	12	13	20.59		1.5
	25	0	20.58		1.5

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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 66 of 138

9.4.8 LTE Band 41

Table 9-67
LTE Band 41 Power Class 3 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHzBandwidth									
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	23.79	23.95	23.80	23.87	23.76	0	0
	1	50	23.80	23.74	23.54	23.63	23.52		0
	1	99	23.98	23.72	23.45	23.47	23.44		0
	50	0	22.95	22.94	22.84	22.79	22.70	0-1	1
	50	25	22.88	22.84	22.69	22.70	22.57		1
	50	50	22.84	22.79	22.61	22.65	22.47		1
16QAM	100	0	22.88	22.80	22.65	22.64	22.52	0-1	1
	1	0	23.00	22.69	22.53	22.91	22.92		1
	1	50	22.91	22.50	22.32	22.65	22.67		1
	1	99	22.94	22.47	22.24	22.56	22.52	0-2	2
	50	0	21.96	21.92	21.76	21.84	21.75		2
	50	25	21.91	21.83	21.66	21.73	21.62		2
64QAM	50	50	21.89	21.77	21.61	21.61	21.53	0-2	2
	100	0	21.94	21.83	21.65	21.67	21.59		2
	1	0	21.98	21.88	21.78	21.72	21.55		0-2
	1	50	21.75	21.70	21.55	21.46	21.32	2	
	1	99	21.63	21.61	21.43	21.29	21.20	2	
	50	0	20.93	20.85	20.80	20.65	20.49	0-3	3
50	25	20.85	20.80	20.71	20.55	20.42	3		
50	50	20.80	20.76	20.65	20.47	20.35	3		
	100	0	20.85	20.82	20.70	20.56	20.40		3

Table 9-68
LTE Band 41 Power Class 3 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHzBandwidth									
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	23.98	23.92	23.68	23.58	23.74	0	0
	1	36	23.96	23.79	23.49	23.43	23.61		0
	1	74	23.80	23.67	23.41	23.34	23.48		0
	36	0	22.94	22.77	22.61	22.50	22.62	0-1	1
	36	18	22.90	22.73	22.60	22.46	22.56		1
	36	37	22.89	22.67	22.54	22.37	22.52		1
16QAM	75	0	22.92	22.67	22.57	22.42	22.64	0-1	1
	1	0	22.99	22.99	22.96	22.98	22.97		1
	1	36	22.95	22.93	22.86	22.78	22.78	0-2	1
	1	74	22.93	22.82	22.82	22.71	22.76		1
	36	0	21.82	21.77	21.56	21.48	21.53		2
	36	18	21.79	21.71	21.58	21.45	21.48	2	
64QAM	36	37	21.77	21.66	21.52	21.36	21.36	0-2	2
	75	0	21.76	21.60	21.52	21.39	21.43		2
	1	0	21.40	21.39	21.23	21.37	21.41		0-3
	1	36	21.28	21.31	21.16	21.23	21.24	2	
	1	74	21.24	21.26	21.16	21.23	21.20	2	
	36	0	20.39	20.37	20.24	20.33	20.36	3	
64QAM	36	18	20.35	20.36	20.22	20.29	20.32	3	
	36	37	20.28	20.32	20.16	20.28	20.24	3	
	75	0	20.40	20.40	20.27	20.32	20.36	3	

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 67 of 138

Table 9-69
LTE Band 41 Power Class 3 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHzBandwidth									
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	23.87	23.42	23.73	23.41	23.60	0	0
	1	25	23.84	23.31	23.62	23.37	23.48		0
	1	49	23.78	23.30	23.63	23.34	23.48		0
	25	0	22.83	22.76	22.69	22.57	22.58	0-1	1
	25	12	22.80	22.73	22.68	22.53	22.57		1
	25	25	22.76	22.68	22.67	22.47	22.47		1
50	0	22.82	22.75	22.69	22.55	22.56			
16QAM	1	0	22.99	22.97	22.99	22.86	22.89	0-1	1
	1	25	22.98	22.92	22.91	22.92	22.75		1
	1	49	22.95	22.94	22.88	22.89	22.74		1
	25	0	21.74	21.77	21.80	21.60	21.58	0-2	2
	25	12	21.71	21.75	21.78	21.57	21.60		2
	25	25	21.75	21.71	21.74	21.50	21.51		2
50	0	21.70	21.79	21.72	21.54	21.55			
64QAM	1	0	21.34	21.36	21.20	21.34	21.36	0-2	2
	1	25	21.24	21.28	21.22	21.23	21.25		2
	1	49	21.22	21.24	21.20	21.20	21.18		2
	25	0	20.42	20.41	20.29	20.39	20.40	0-3	3
	25	12	20.43	20.42	20.30	20.40	20.39		3
	25	25	20.35	20.35	20.21	20.27	20.31		3
50	0	20.48	20.36	20.27	20.34	20.35			

Table 9-70
LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHzBandwidth									
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	23.92	23.81	23.45	23.51	23.41	0	0
	1	12	23.90	23.74	23.36	23.44	23.37		0
	1	24	23.87	23.72	23.41	23.43	23.34		0
	12	0	22.95	22.81	22.51	22.60	22.43	0-1	1
	12	6	22.94	22.85	22.54	22.55	22.44		1
	12	13	22.98	22.82	22.51	22.52	22.39		1
25	0	22.98	22.81	22.49	22.55	22.41	1		
16QAM	1	0	22.96	22.98	22.60	22.78	22.61	0-1	1
	1	12	22.94	22.92	22.57	22.70	22.52		1
	1	24	22.93	22.91	22.58	22.69	22.55		1
	12	0	21.96	21.86	21.51	21.60	21.49	0-2	2
	12	6	21.95	21.89	21.57	21.65	21.51		2
	12	13	21.96	21.85	21.53	21.60	21.44		2
25	0	21.80	21.79	21.43	21.51	21.37	2		
64QAM	1	0	21.28	21.26	21.09	21.25	21.25	0-2	2
	1	12	21.28	21.26	21.11	21.22	21.21		2
	1	24	21.22	21.24	21.02	21.20	21.17		2
	12	0	20.37	20.37	20.24	20.27	20.34	0-3	3
	12	6	20.38	20.37	20.25	20.32	20.32		3
	12	13	20.35	20.33	20.20	20.28	20.31		3
25	0	20.40	20.39	20.23	20.35	20.31	3		

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 68 of 138

Table 9-71
LTE Band 41 Power Class 2 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHzBandwidth									
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	26.40	26.37	26.39	26.39	26.29	0	0
	1	50	26.18	26.23	26.24	26.26	26.14		0
	1	99	26.20	26.12	26.15	26.14	26.10		0
	50	0	25.66	25.63	25.68	25.61	25.50	0-1	1
	50	25	25.60	25.56	25.58	25.51	25.41		1
	50	50	25.53	25.46	25.54	25.44	25.34		1
16QAM	100	0	25.59	25.56	25.60	25.55	25.41	0-1	1
	1	0	26.00	25.93	25.98	25.99	26.00		1
	1	50	25.91	25.85	25.91	25.90	25.75		1
	1	99	25.78	25.80	25.79	25.75	25.63	0-2	1
	50	0	24.72	24.67	24.72	24.64	24.54		2
	50	25	24.63	24.63	24.63	24.57	24.47		2
64QAM	50	50	24.55	24.52	24.55	24.48	24.30	0-2	2
	100	0	24.61	24.59	24.62	24.55	24.45		2
	1	0	24.78	24.73	24.83	24.82	24.68	0-2	2
	1	50	24.52	24.57	24.56	24.58	24.44		2
	1	99	24.46	24.47	24.48	24.44	24.28		2
	50	0	23.70	23.69	23.72	23.64	23.54	0-3	3
50	25	23.62	23.64	23.64	23.57	23.48	3		
50	50	23.59	23.55	23.57	23.48	23.40	3		
100	0	23.63	23.58	23.66	23.52	23.43	3		

Table 9-72
LTE Band 41 Power Class 2 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHzBandwidth									
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	26.61	26.72	26.73	26.73	26.62	0	0
	1	36	26.53	26.53	26.59	26.57	26.44		0
	1	74	26.42	26.46	26.45	26.47	26.36		0
	36	0	25.66	25.69	25.76	25.63	25.62	0-1	1
	36	18	25.64	25.58	25.72	25.60	25.52		1
	36	37	25.50	25.55	25.59	25.53	25.43		1
	75	0	25.60	25.65	25.67	25.65	25.52		1
16QAM	1	0	25.99	26.00	26.00	25.99	25.92	0-1	1
	1	36	25.90	25.84	25.94	25.89	25.76		1
	1	74	25.85	25.77	25.90	25.85	25.66		1
	36	0	24.67	24.68	24.76	24.60	24.60	0-2	2
	36	18	24.65	24.64	24.67	24.56	24.57		2
	36	37	24.58	24.56	24.73	24.50	24.48		2
	75	0	24.59	24.69	24.64	24.57	24.56		2
64QAM	1	0	24.82	24.90	24.78	24.84	24.73	0-2	2
	1	36	24.69	24.73	24.58	24.70	24.55		2
	1	74	24.67	24.68	24.53	24.63	24.47		2
	36	0	23.45	23.55	23.41	23.46	23.36	0-3	3
	36	18	23.46	23.51	23.39	23.45	23.29		3
	36	37	23.40	23.44	23.25	23.36	23.20		3
	75	0	23.47	23.53	23.36	23.46	23.31		3

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 69 of 138

Table 9-73
LTE Band 41 Power Class 2 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHzBandwidth									
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	26.49	26.62	26.63	26.59	26.51	0	0
	1	25	26.48	26.50	26.51	26.48	26.45		0
	1	49	26.40	26.43	26.55	26.36	26.37		0
	25	0	25.59	25.60	25.67	25.57	25.53	0-1	1
	25	12	25.57	25.62	25.63	25.54	25.51		1
	25	25	25.50	25.59	25.56	25.49	25.42		1
16QAM	50	0	25.55	25.51	25.59	25.54	25.55	0-1	1
	1	0	25.92	25.97	25.99	26.00	25.93		1
	1	25	25.86	25.91	25.96	25.87	25.88		1
	1	49	25.80	25.82	25.83	25.84	25.78	0-2	1
	25	0	24.49	24.51	24.59	24.56	24.48		2
	25	12	24.48	24.58	24.64	24.52	24.50		2
64QAM	25	25	24.41	24.45	24.57	24.46	24.43	0-2	2
	50	0	24.55	24.59	24.70	24.58	24.55		2
	1	0	24.74	24.78	24.69	24.76	24.65		0-2
	1	25	24.63	24.70	24.55	24.65	24.50	2	
	1	49	24.60	24.63	24.48	24.60	24.42	2	
	25	0	23.53	23.58	23.43	23.51	23.39	0-3	3
25	12	23.53	23.55	23.42	23.47	23.37	3		
25	25	23.48	23.49	23.36	23.43	23.28	3		
64QAM	50	0	23.48	23.51	23.40	23.48	23.33	0-3	3

Table 9-74
LTE Band 41 Power Class 2 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHzBandwidth									
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	26.53	26.48	26.44	26.49	26.40	0	0
	1	12	26.55	26.40	26.45	26.42	26.35		0
	1	24	26.41	26.37	26.40	26.34	26.34		0
	12	0	25.50	25.48	25.53	25.48	25.36	0-1	1
	12	6	25.48	25.48	25.52	25.51	25.39		1
	12	13	25.49	25.49	25.48	25.48	25.36		1
16QAM	25	0	25.56	25.47	25.50	25.41	25.36	0-1	1
	1	0	25.90	25.90	25.87	25.88	25.81		1
	1	12	25.86	25.85	25.90	25.84	25.77		1
	1	24	25.81	25.77	25.79	25.80	25.70	0-2	2
	12	0	24.49	24.49	24.56	24.50	24.44		2
	12	6	24.55	24.54	24.52	24.51	24.38		2
64QAM	12	13	24.47	24.41	24.48	24.36	24.35	0-2	2
	25	0	24.44	24.44	24.41	24.39	24.39		2
	1	0	24.68	24.68	24.57	24.72	24.54		0-3
	1	12	24.66	24.67	24.57	24.66	24.51	3	
	1	24	24.62	24.65	24.51	24.59	24.43	3	
	12	0	23.48	23.54	23.37	23.44	23.35	0-3	3
12	6	23.45	23.53	23.39	23.46	23.32	3		
12	13	23.46	23.51	23.36	23.41	23.28	3		
25	0	23.47	23.52	23.35	23.44	23.32			

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 70 of 138

Table 9-75

Reduced LTE Band 41 Power Class 3 Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 20 MHzBandwidth									
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	22.52	22.43	22.32	22.32	22.38	0	0
	1	50	22.44	22.23	22.08	22.08	22.11		0
	1	99	22.40	22.16	21.91	21.97	21.97		0
	50	0	22.41	22.37	22.28	22.27	22.32	0-1	0
	50	25	22.32	22.35	22.19	22.18	22.22		0
	50	50	22.24	22.27	22.07	22.09	22.12		0
	100	0	22.33	22.36	22.18	22.19	22.21		0
16QAM	1	0	22.58	22.54	22.43	22.45	22.49	0-1	0
	1	50	22.33	22.35	22.17	22.21	22.23		0
	1	99	22.27	22.29	22.04	22.10	22.08		0
	50	0	21.59	21.51	21.48	21.30	21.33	0-2	1
	50	25	21.53	21.41	21.40	21.30	21.27		1
	50	50	21.40	21.24	21.34	21.45	21.20		1
	100	0	21.54	21.38	21.41	21.56	21.29		1
64QAM	1	0	21.53	21.54	21.50	21.36	21.33	0-2	1
	1	50	21.30	21.20	21.17	21.20	21.09		1
	1	99	21.32	21.10	21.10	20.92	21.10		1
	50	0	20.57	20.53	20.47	20.66	20.32	0-3	2
	50	25	20.52	20.30	20.37	20.38	20.45		2
	50	50	20.51	20.17	20.24	20.15	20.31		2
	100	0	20.50	20.38	20.39	20.55	20.29		2

Table 9-76

Reduced LTE Band 41 Power Class 3 Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 15 MHzBandwidth									
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	22.53	22.40	22.36	22.39	22.28	0	0
	1	36	22.40	22.24	22.23	22.23	22.08		0
	1	74	22.33	22.21	22.15	22.10	22.00		0
	36	0	22.51	22.42	22.26	22.31	22.12	0-1	0
	36	18	22.50	22.39	22.25	22.32	22.16		0
	36	37	22.44	22.32	22.16	22.24	22.10		0
16QAM	75	0	22.42	22.27	22.21	22.23	22.17	0	0
	1	0	22.56	22.70	22.71	22.36	22.22	0-1	0
	1	36	22.41	22.63	22.29	22.17	22.08		0
	1	74	22.38	22.60	22.17	22.05	21.96		0
	36	0	21.66	21.29	21.27	21.40	21.31	0-2	1
	36	18	21.64	21.26	21.27	21.42	21.28		1
36	37	21.53	21.21	21.15	21.34	21.24	1		
64QAM	75	0	21.41	21.31	21.21	21.26	21.17	1	1
	1	0	21.15	21.06	20.98	21.00	20.94	0-2	1
	1	36	20.99	20.92	20.85	20.82	20.77		1
	1	74	20.97	20.87	20.77	20.74	20.70		1
	36	0	20.11	20.07	19.98	19.96	19.90	0-3	2
	36	18	20.10	20.04	19.95	19.89	19.84		2
36	37	20.02	19.96	19.88	19.84	19.81	2		
	75	0	20.13	20.07	19.96	19.94	19.91		2

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 71 of 138

Table 9-77

Reduced LTE Band 41 Power Class 3 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 10 MHzBandwidth									
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	22.59	22.42	22.33	22.43	22.28	0	0
	1	25	22.50	22.39	22.24	22.30	22.14		0
	1	49	22.45	22.36	22.21	22.30	22.09		0
	25	0	22.51	22.37	22.23	22.33	22.27	0-1	0
	25	12	22.52	22.35	22.26	22.29	22.21		0
	25	25	22.47	22.35	22.17	22.23	22.13		0
16QAM	50	0	22.50	22.34	22.23	22.29	22.22	0	
	1	0	22.52	22.70	22.37	22.33	22.18	0-1	0
	1	25	22.40	22.64	22.25	22.15	22.07		0
	1	49	22.38	22.58	22.14	22.01	21.99		0
	25	0	21.69	21.27	21.26	21.42	21.27	0-2	1
	25	12	21.65	21.22	21.23	21.38	21.26		1
25	25	21.51	21.19	21.11	21.37	21.23	1		
64QAM	50	0	21.42	21.35	21.23	21.23	21.14	1	
	1	0	21.08	21.02	20.98	20.95	20.88	0-2	1
	1	25	21.00	20.92	20.86	20.83	20.76		1
	1	49	20.97	20.86	20.80	20.75	20.68		1
	25	0	20.18	20.09	20.02	20.00	19.95	0-3	2
	25	12	20.15	20.11	20.04	19.99	19.97		2
25	25	20.11	20.02	19.98	19.91	19.88	2		
	50	0	20.12	20.06	19.98	19.95	19.90	2	

Table 9-78

Reduced LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 5 MHzBandwidth									
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	22.58	22.41	22.30	22.34	22.22	0	0
	1	12	22.49	22.37	22.25	22.30	22.19		0
	1	24	22.48	22.40	22.22	22.29	22.17		0
	12	0	22.49	22.32	22.24	22.29	22.21	0-1	0
	12	6	22.52	22.35	22.24	22.31	22.21		0
	12	13	22.45	22.29	22.20	22.28	22.17		0
16QAM	25	0	22.49	22.36	22.21	22.30	22.18	0	0
	1	0	22.50	22.70	22.35	22.33	22.22	0-1	0
	1	12	22.36	22.66	22.27	22.15	22.10		0
	1	24	22.39	22.59	22.18	21.98	22.01		0
	12	0	21.69	21.27	21.29	21.39	21.26	0-2	1
	12	6	21.64	21.20	21.24	21.35	21.29		1
12	13	21.49	21.18	21.15	21.40	21.23	1		
64QAM	25	0	21.43	21.38	21.22	21.19	21.10	1	1
	1	0	21.02	20.93	20.86	20.85	20.81	0-2	1
	1	12	20.99	20.90	20.85	20.81	20.75		1
	1	24	20.96	20.87	20.78	20.75	20.75		1
	12	0	20.11	20.06	19.97	19.94	19.89	0-3	2
	12	6	20.11	20.06	19.98	19.97	19.91		2
12	13	20.07	20.03	19.93	19.89	19.86	2		
	25	0	20.13	20.06	19.95	19.97	19.92		2

FCC ID: A3LSMG955U



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Test Dates:

12/26/16 – 02/08/17

DUT Type:

Portable Handset

Page 72 of 138

Table 9-79

Reduced LTE Band 41 Power Class 2 Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 20 MHzBandwidth									
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	22.49	22.33	22.38	22.56	22.31	0	0
	1	50	22.35	22.40	21.95	22.35	22.02		0
	1	99	22.40	22.35	22.08	22.34	21.82		0
	50	0	22.46	22.38	22.31	22.22	22.30	0-1	0
	50	25	22.19	22.33	22.16	22.51	22.32		0
	50	50	22.24	22.22	22.08	22.21	22.28		0
	100	0	22.15	22.43	22.10	22.09	22.09		0
16QAM	1	0	22.42	22.56	22.38	22.71	22.43	0-1	0
	1	50	22.23	22.28	22.04	22.41	22.16		0
	1	99	22.39	22.12	21.88	21.96	22.16		0
	50	0	22.40	22.44	22.31	22.32	22.37	0-2	0
	50	25	22.36	22.38	22.19	22.22	22.27		0
	50	50	22.29	22.31	22.10	22.17	22.18		0
	100	0	22.37	22.40	22.21	22.28	22.26		0
64QAM	1	0	22.59	22.42	22.43	22.19	22.05	0-2	0
	1	50	22.32	22.22	22.16	21.95	21.83		0
	1	99	22.18	22.15	22.02	21.75	21.71		0
	50	0	22.55	22.45	22.41	22.18	22.04	0-3	0
	50	25	22.46	22.38	22.34	22.10	21.98		0
	50	50	22.39	22.33	22.24	21.98	21.90		0
	100	0	22.45	22.38	22.34	22.08	21.91		0

Table 9-80

Reduced LTE Band 41 Power Class 2 Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 15 MHzBandwidth									
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	22.63	22.22	22.31	22.59	22.32	0	0
	1	36	22.44	22.31	21.90	22.21	22.14		0
	1	74	22.44	22.39	22.02	22.33	21.90		0
	36	0	22.50	22.25	22.35	22.24	22.22	0-1	0
	36	18	22.16	22.34	22.02	22.37	22.35		0
	36	37	22.09	22.15	22.23	22.12	22.34		0
	75	0	22.09	22.43	22.16	22.05	22.17		0
16QAM	1	0	22.48	22.54	22.72	22.54	22.57	0-1	0
	1	36	22.14	22.19	22.05	22.48	22.19		0
	1	74	22.38	22.07	21.86	21.86	22.01		0
	36	0	22.45	22.52	22.39	22.45	22.48	0-2	0
	36	18	22.37	22.46	22.30	22.20	22.32		0
	36	37	22.18	22.41	22.04	22.07	22.29		0
	75	0	22.29	22.26	22.15	22.42	22.33		0
64QAM	1	0	22.67	22.49	22.55	22.09	21.92	0-2	0
	1	36	22.40	22.09	22.08	21.81	21.79		0
	1	74	22.05	22.23	21.95	21.81	21.73		0
	36	0	22.54	22.45	22.44	22.32	21.95	0-3	0
	36	18	22.59	22.30	22.24	22.01	22.04		0
	36	37	22.37	22.23	22.34	21.93	21.96		0
	75	0	22.47	22.43	22.49	22.08	21.91		0

FCC ID: A3LSMG955U			SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset			Page 73 of 138

Table 9-81

Reduced LTE Band 41 Power Class 2 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 10 MHzBandwidth									
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	22.53	22.36	22.47	22.57	22.23	0	0
	1	25	22.44	22.17	21.81	22.30	21.90		0
	1	49	22.39	22.29	21.96	22.46	21.68		0
	25	0	22.54	22.52	22.16	22.23	22.25	0-1	0
	25	12	21.99	22.11	21.94	22.56	22.35		0
	25	25	22.25	22.28	22.00	22.28	22.22		0
16QAM	50	0	22.23	22.58	21.89	22.06	22.26	0	
	1	0	22.32	22.61	22.40	22.52	22.33	0-1	0
	1	25	22.06	22.22	21.81	22.28	22.12		0
	1	49	22.22	21.95	21.79	21.93	22.05		0
	25	0	22.33	22.24	22.33	22.43	22.22	0-2	0
	25	12	22.57	22.54	22.09	21.96	22.36		0
25	25	22.33	22.36	21.96	22.23	22.36	0		
64QAM	50	0	22.61	22.26	21.96	22.21	22.29	0	
	1	0	22.49	22.28	22.67	22.24	21.99	0-2	0
	1	25	22.41	22.11	21.94	22.07	22.08		0
	1	49	22.20	22.14	22.20	21.82	21.70		0
	25	0	22.03	22.60	22.33	22.19	21.99	0-3	0
	25	12	22.66	22.52	22.25	21.98	21.99		0
25	25	22.27	22.28	22.29	21.98	21.77	0		
	50	0	22.42	22.35	22.40	22.07	21.85	0	

Table 9-82

Reduced LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 5 MHzBandwidth									
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	22.43	22.31	22.39	22.52	22.27	0	0
	1	12	22.34	22.45	21.92	22.32	22.01		0
	1	24	22.35	22.38	22.23	22.49	21.86		0
	12	0	22.31	22.34	22.36	22.11	22.21	0-1	0
	12	6	22.06	22.23	22.23	22.57	22.30		0
	12	13	22.23	22.21	22.09	22.33	22.29		0
16QAM	25	0	22.06	22.40	22.12	22.21	22.23	0	
	1	0	22.27	22.58	22.51	22.62	22.41	0-1	0
	1	12	22.20	22.27	22.01	22.43	22.16		0
	1	24	22.30	22.16	22.02	21.98	22.10		0
	12	0	22.44	22.34	22.20	22.35	22.40	0-2	0
	12	6	22.36	22.33	22.15	22.10	22.26		0
12	13	22.24	22.32	21.97	22.04	22.18	0		
64QAM	25	0	22.29	22.35	22.34	22.43	22.18	0	
	1	0	22.67	22.56	22.48	22.19	21.91	0-2	0
	1	12	22.46	22.16	22.18	21.86	21.75		0
	1	24	22.14	22.26	22.04	21.75	21.82		0
	12	0	22.70	22.46	22.38	22.16	22.12	0-3	0
	12	6	22.56	22.23	22.28	21.98	22.01		0
12	13	22.54	22.26	22.21	22.11	21.75	0		
	25	0	22.49	22.35	22.45	22.15	22.00	0	

FCC ID: A3LSMG955U			SAR EVALUATION REPORT				Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset				Page 74 of 138	

9.4.9 LTE Carrier Aggregation Conducted Powers

Table 9-83
Two Component Carrier Maximum Conducted Powers

PCC									SCC				Power	
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)
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	20	951	1965.1	23.15	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	23.16	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	23.14	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B5	10	2525	881.5	23.15	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B12	10	5095	737.5	23.16	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B13	10	5230	751	23.15	23.54
LTE B2	5	19175	1907.5	QPSK	1	24	1175	1987.5	LTE B17	10	5790	740	23.15	23.49
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B29	10	9715	722.5	23.17	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B30	10	9820	2355	23.20	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B66	20	66786	2145	23.18	23.54
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	24.75	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	24.63	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B5	10	2525	881.5	24.55	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B12	10	5095	737.5	24.70	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B13	10	5230	751	24.62	24.85
LTE B4	10	20000	1715	QPSK	1	0	2000	2115	LTE B17	10	5790	740	24.58	24.83
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B29	10	9715	722.5	24.57	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B30	10	9820	2355	24.76	24.85
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	24.57	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B4	20	2175	2132.5	24.58	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B5	5	5453	874.3	24.54	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B30	10	9820	2355	24.56	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B66	20	66786	2145	24.57	25.00
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	24.62	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	24.56	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B12	5	5047	732.7	24.48	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B30	10	9820	2355	24.52	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	24.63	24.48
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	24.60	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	24.61	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	24.62	24.51
LTE B17	5	23780	709	QPSK	1	0	5780	739	LTE B2	10	900	1960	24.51	24.28
LTE B17	5	23780	709	QPSK	1	0	5780	739	LTE B4	10	2175	2132.5	24.52	24.28
LTE B25	15	26615	1907.5	QPSK	1	0	8615	1987.5	LTE B25	5	8065	1932.5	23.20	23.54
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	23.98	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	23.95	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B5	10	2525	881.5	23.95	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	23.99	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B29	10	9715	722.5	24.00	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B66	20	66786	2145	23.96	23.93
LTE B41 (PC3)	20	39750	2506	QPSK	1	99	39750	2506	LTE B41 (PC3)	20	39948	2525.8	23.93	23.98
LTE B41 (PC3)	20	39750	2506	QPSK	1	99	39750	2506	LTE B41 (PC3)	5	41565	2687.5	23.97	23.98
LTE B41 (PC2)	15	40620	2593	QPSK	1	0	40620	2593	LTE B41 (PC2)	20	40794	2610.4	26.79	26.73
LTE B41 (PC2)	15	40620	2593	QPSK	1	0	40620	2593	LTE B41 (PC2)	5	41565	2687.5	26.75	26.73
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	24.75	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B5	10	2525	881.5	24.77	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B12	10	5095	737.5	24.74	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B13	10	5230	751	24.91	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B29	10	9715	722.5	24.90	24.85
LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66604	2126.8	24.89	24.84
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	20	66588	2125.2	24.90	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	5	66461	2112.5	24.78	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B30	10	9820	2355	24.88	24.93

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 75 of 138

Table 9-84
Three Component Carrier Maximum Conducted Powers

PCC Band	PCC Bandwidth [MHz]	PCC				SCC 1				SCC 2				Power				
		PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	23.17	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	20	951	1965.1	LTE B5	10	2525	881.5	23.26	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	23.16	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	23.13	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B13	10	5230	751	23.18	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	23.16	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	23.27	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	23.15	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.10	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	23.14	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	23.14	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	23.12	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	23.24	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	23.15	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	23.09	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.10	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B13	10	5230	751	LTE B66	20	66786	2145	23.11	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	23.11	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	23.24	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	23.14	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B66	20	66786	2145	LTE B30	10	9820	2355	23.12	23.54
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	24.73	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.71	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.73	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B13	10	5230	751	24.69	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B29	10	9715	722.5	24.71	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.73	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B2	20	900	1960	24.73	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B5	10	2525	881.5	24.72	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B12	10	5095	737.5	24.70	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B13	10	5230	751	24.68	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B30	10	9820	2355	24.68	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.71	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.69	24.85
LTE B4	20	20300	1745	QPSK	1	0	2300	2145	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	24.74	24.85
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	24.47	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	24.47	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.49	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.46	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.45	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	24.49	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	24.50	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.46	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	24.48	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.49	25.00
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	24.50	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.51	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.48	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.48	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	24.51	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	24.46	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.43	24.48
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	24.37	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.34	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.32	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	24.34	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	24.33	24.51
LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.35	24.51
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	24.00	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.99	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	23.98	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	23.96	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	23.96	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	23.96	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	23.97	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.99	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	23.95	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	23.98	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.96	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B66	20	66786	2145	LTE B66	5	66461	2112.5	23.80	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B66	20	900	1960	LTE B66	20	66786	2145	23.82	23.93
LTE B41 (PC3)	20	39750	2															

Table 9-85
Four Component Carrier Maximum Conducted Powers

PCC									SCC 1				SCC 2				SCC 3				Power	
PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	23.18	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	23.09	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	23.13	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	23.05	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	23.04	23.54
LTE B2	15	19125	1902.5	QPSK	1	0	1125	1982.5	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	23.14	23.54
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	24.30	25.00
LTE B5	10	20525	836.5	QPSK	1	0	2525	881.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.25	25.00
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	24.51	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.53	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.50	24.48
LTE B12	5	23095	707.5	QPSK	1	0	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.54	24.48
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	23.98	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	23.97	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	23.95	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	24.00	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.25	23.93
LTE B30	10	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	24.00	23.93
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.98	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.93	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	5	66461	2112.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.83	24.85
LTE B66	20	132322	1745	QPSK	1	0	66786	2145	LTE B66	5	66461	2112.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.89	24.85

Table 9-86
Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

PCC									SCC				Power	
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)
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	20	902	1960.2	20.45	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	20.44	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	20.41	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B5	10	2525	881.5	20.48	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B12	10	5095	737.5	20.42	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B13	10	5230	751	20.35	20.50
LTE B2	5	19175	1907.5	16QAM	1	0	1175	1987.5	LTE B17	10	5790	740	20.30	20.15
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B29	10	9715	722.5	20.40	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B30	10	9820	2355	20.36	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B66	20	66786	2145	20.40	20.50
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	20.72	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	20.85	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B5	10	2525	881.5	20.78	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B12	10	5095	737.5	20.79	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B13	10	5230	751	20.86	20.79
LTE B4	5	20375	1752.5	16QAM	1	0	2375	2152.5	LTE B17	10	5790	740	20.81	20.70
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B29	10	9715	722.5	20.79	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B30	10	9820	2355	20.93	20.79
LTE B25	20	26590	1905	64QAM	1	0	8590	1985	LTE B25	5	8065	1932.5	20.46	20.50
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	20.45	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B4	20	2175	2132.5	20.40	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B5	10	2525	881.5	20.49	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B12	10	5095	737.5	20.48	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B29	10	9715	722.5	20.45	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B66	20	66786	2145	20.44	20.80
LTE B41 (PC3)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC3)	20	40794	2610.4	22.34	22.71
LTE B41 (PC3)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC3)	5	41565	2687.5	22.27	22.71
LTE B41 (PC2)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC2)	20	40794	2610.4	22.78	22.72
LTE B41 (PC2)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC2)	5	41565	2687.5	22.79	22.72
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	20.74	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B5	10	2525	881.5	20.72	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B12	10	5095	737.5	20.69	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B13	10	5230	751	20.77	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B29	10	9715	722.5	20.76	20.79
LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66968	2163.2	20.86	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	20.69	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	20.68	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B30	10	9820	2355	20.93	20.79

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Table 9-87
Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

PCC									SCC 1				SCC 2				Power	
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]	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)
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	20.35	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	20	902	1960.2	LTE B5	10	2525	881.5	20.29	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	20.34	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	20.27	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B13	10	5230	751	20.30	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	20.24	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	20.33	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	20.48	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.37	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	20.38	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	20.41	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	20.49	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.47	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.35	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.35	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.40	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	20	66786	2145	20.40	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	20.38	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	20.48	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	20.43	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B66	20	66786	2145	LTE B30	10	9820	2355	20.47	20.50
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	20.73	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.78	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.72	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B13	10	5230	751	20.78	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B29	10	9715	722.5	20.71	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B2	20	900	1960	LTE B30	10	9820	2355	20.72	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	LTE B2	20	900	1960	20.73	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	LTE B5	10	2525	881.5	20.76	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	LTE B12	10	5095	737.5	20.74	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	LTE B13	10	5230	751	20.75	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B4	5	2375	2152.5	LTE B30	10	9820	2355	20.71	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.75	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.78	20.79
LTE B4	20	20050	1720	QPSK	50	0	2050	2120	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	20.71	20.79
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	20.20	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	20.23	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.21	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.18	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B29	20	66786	2145	20.05	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	20.08	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	20.13	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.14	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	20.17	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.18	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.13	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B66	20	66786	2145	LTE B66	5	66461	2112.5	20.10	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	20.17	20.80
LTE B41 (PC3)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC3)	20	40449	2575.9	LTE B41 (PC3)	20	40791	2610.1	22.34	22.71
LTE B41 (PC2)	15	40620	2593	16QAM	1	0	40620	2593	LTE B41 (PC2)	20	40449	2575.9	LTE B41 (PC2)	20	40791	2610.1	22.45	22.72
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.71	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.75	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	LTE B13	10	5230	751	20.73	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.73	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.74	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	LTE B2	20	900	1960	20.76	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B2	20	900	1960	20.68	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	LTE B5	10	2525	881.5	20.75	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B5	10	2525	881.5	20.76	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	LTE B12	10	5095	737.5	20.80	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B12	10	5095	737.5	20.72	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	LTE B13	10	5230	751	20.75	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B13	10	5230	751	20.75	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	20	66734	2139.8	LTE B66	5	67111	2177.5	20.71	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67063	2172.7	LTE B66	5	67111	2177.5	20.70	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B30	10	9820	2355	20.71	20.79
LTE B66	20	13207																

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 78 of 138

Table 9-88
Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

PCC									SCC 1				SCC 2				SCC 3				Power	
PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.44	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.39	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	20.37	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	20.37	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	20.36	20.50
LTE B2	20	19100	1900	64QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	20.43	20.50
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	20.10	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	20.13	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	20.14	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.17	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.24	20.80
LTE B30	5	27710	2310	16QAM	1	12	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	20.13	20.80
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.70	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.74	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.76	20.79
LTE B66	20	132072	1720	QPSK	50	0	66536	2120	LTE B66	5	67111	2177.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.84	20.79

Table 9-89
Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

PCC									SCC				Power	
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)
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	20	902	1960.2	22.16	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	22.17	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	22.15	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B5	10	2525	881.5	22.19	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B12	10	5095	737.5	22.18	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B13	10	5230	751	22.17	22.32
LTE B2	10	19150	1905	16QAM	1	0	1150	1985	LTE B17	10	5790	740	22.04	22.11
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B29	10	9715	722.5	22.18	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B30	10	9820	2355	22.04	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B66	20	66786	2145	22.19	22.32
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	22.43	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	22.43	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B5	10	2525	881.5	22.44	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B12	10	5095	737.5	22.24	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B13	10	5230	751	22.50	22.50
LTE B4	10	20300	1745	16QAM	1	0	2300	2145	LTE B17	10	5790	740	22.46	22.45
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B29	10	9715	722.5	22.35	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B30	10	9820	2355	22.22	22.50
LTE B25	20	26590	1905	16QAM	1	0	8590	1985	LTE B25	5	8065	1932.5	22.08	22.32
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	22.09	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	22.11	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	22.36	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	22.32	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B29	10	9715	722.5	22.27	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B66	20	66786	2145	22.33	22.48
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	22.30	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B5	10	2525	881.5	22.38	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B12	10	5095	737.5	22.20	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B13	10	5230	751	22.25	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B29	10	9715	722.5	22.21	22.50
LTE B66	15	132047	1717.5	16QAM	1	0	66511	2117.5	LTE B66	5	66604	2126.8	22.02	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	22.39	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	22.17	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B30	10	9820	2355	22.20	22.50

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 79 of 138	

Table 9-90
Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

PCC									SCC 1				SCC 2				Power	
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]	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)
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	21.82	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	20	902	1960.2	LTE B5	10	2525	881.5	21.96	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	21.80	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	21.79	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B13	10	5230	751	21.80	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	21.70	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	21.80	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	21.84	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	21.80	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	21.71	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	21.70	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	21.72	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	21.71	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	21.80	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B5	10	5095	737.5	LTE B30	10	9820	2355	21.71	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	21.68	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	20	66786	2145	21.73	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	21.65	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1940	LTE B66	20	66786	2145	LTE B66	20	66588	2125.2	21.81	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	21.82	22.32
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	22.12	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	22.10	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	22.14	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B13	10	5230	751	22.11	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B29	10	9715	722.5	22.12	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B30	10	9820	2355	22.14	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B2	20	900	1960	22.10	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B5	10	2525	881.5	22.14	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B12	10	5095	737.5	22.16	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B13	10	5230	751	22.10	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B30	10	9820	2355	22.13	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	22.12	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	22.09	22.50
LTE B4	20	20300	1745	16QAM	1	0	2300	2145	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	22.20	22.50
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	21.83	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	21.98	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	21.84	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	21.83	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	21.84	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B4	5	1975	2112.5	21.87	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	21.81	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	21.82	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	21.80	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	21.86	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	21.85	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B66	20	66786	2145	LTE B66	5	66461	2112.5	21.77	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	21.85	22.48
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B5	10	2525	881.5	22.06	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B12	10	5095	737.5	22.06	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B13	10	5230	751	21.98	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	21.96	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	21.93	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	21.93	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B2	20	900	1960	21.99	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B5	10	2525	881.5	21.98	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B5	10	2525	881.5	21.95	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B12	10	5095	737.5	22.01	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B12	10	5095	737.5	21.98	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B13	10	5230	751	22.01	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B13	10	5230	751	21.92	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B66	5	66461	2112.5	22.03	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66509	2117.3	LTE B66	5	66461	2112.5	22.08	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B30	10	9820	2355	21.97	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B30	10	9820	2355	21.95	22.50

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 80 of 138

Table 9-91
Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

PCC								SCC 1				SCC 2				SCC 3				Power		
PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	21.87	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	21.79	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	21.87	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	21.75	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	21.75	22.32
LTE B2	20	19100	1900	16QAM	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	21.81	22.32
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	LTE B5	10	2525	881.5	21.97	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	LTE B12	10	5095	737.5	22.01	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B2	5	1175	1987.5	LTE B29	10	9715	722.5	22.03	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	21.87	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	22.04	22.48
LTE B30	10	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	5	67111	2177.5	21.98	22.48
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	22.37	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	22.44	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	22.20	22.50
LTE B66	20	132572	1770	16QAM	1	0	67036	2170	LTE B66	5	66461	2112.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	22.31	22.50

Notes:

- 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.
- All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- Per FCC guidance, LTE Band 12 standalone powers were used to select measurement configurations for LTE Band 17, LTE Band 66 standalone powers were used to select measurement configurations for LTE Band 4, and LTE Band 25 standalone powers were used to select measurement configurations for LTE Band 2.
- 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.

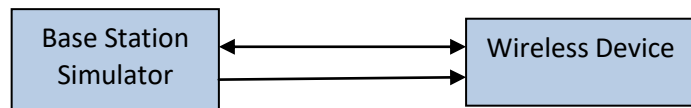


Figure 9-4
Power Measurement Setup

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 81 of 138	

9.4.10 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-92
LTE Uplink Carrier Aggregation Conducted Powers

Power State	PCC							SCC							Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)	LTE Rel. 8 PCC Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	23.99	23.98
Red HS	LTE B41	20	41055	2636.5	QPSK	50	0	LTE B41	20	40857	2616.7	QPSK	50	50	22.07	22.27

Notes:

1. This device supports uplink carrier aggregation for LTE CA_41C with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR for each exposure condition. The power was measured with wideband signal integration over both component carriers (40 MHz Bandwidth).
3. Uplink carrier aggregation is only possible when the device is operating with Power Class 3 for LTE Band 41.

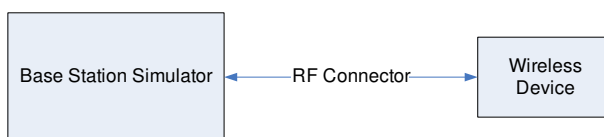


Figure 9-5
Power Measurement Setup

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 82 of 138

9.5 WLAN Conducted Powers

Table 9-93
2.4 GHz WLAN Maximum Average RF Power – Antenna 1

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]	
		IEEE Transmission Mode	
		802.11b	802.11g
2412	1	19.54	17.17
2437	6	19.65	16.68
2462	11	19.32	17.00

Table 9-94
2.4 GHz WLAN Maximum Average RF Power – Antenna 2

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]	
		IEEE Transmission Mode	
		802.11b	802.11g
2412	1	18.98	16.74
2437	6	18.79	16.58
2462	11	18.91	16.93

Table 9-95
2.4 GHz WLAN Reduced Average RF Power – Antenna 1 (Held-to-ear)

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	16.41	15.92	16.28
2437	6	16.49	16.30	15.61
2462	11	16.29	15.65	16.17

Table 9-96
2.4 GHz WLAN Reduced Average RF Power – Antenna 2 (Held-to-ear)

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	15.75	16.40	15.84
2437	6	15.69	16.14	15.57
2462	11	16.07	15.57	15.99

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 83 of 138

Table 9-97
5 GHz WLAN Maximum Average RF Power – Antenna 1

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	14.89
5290	58	14.56
5530	106	15.16
5610	122	15.34
5690	138	15.33
5775	155	15.04

Table 9-98
5 GHz WLAN Maximum Average RF Power – Antenna 2

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	14.89
5290	58	15.11
5530	106	14.80
5610	122	14.82
5690	138	14.69
5775	155	15.01

Table 9-99
5 GHz WLAN Maximum Average RF Power – MIMO 802.11ac

Freq [MHz]	Channel	5GHz (80MHz) Conducted Power [dBm]		
		ANT1	ANT2	MIMO
5210	42	14.89	14.89	17.90
5290	58	14.56	15.11	17.85
5530	106	15.16	14.80	17.99
5610	122	15.34	14.82	18.10
5690	138	15.33	14.69	18.03
5775	155	15.04	15.01	18.04

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 84 of 138

Table 9-100
5 GHz WLAN Reduced Average RF Power – Antenna 1 (Held-to-ear)

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	12.90
5290	58	13.30
5530	106	12.95
5610	122	12.90
5690	138	12.93
5775	155	13.20

Table 9-101
5 GHz WLAN Reduced Average RF Power – Antenna 2 (Held-to-ear)

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	12.88
5290	58	13.02
5530	106	13.07
5610	122	12.87
5690	138	12.77
5775	155	13.21

Table 9-102
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]	
		802.11n	
		ANT1	ANT2
2412	1	12.65	13.04
2437	6	12.96	12.72
2462	11	12.50	13.13
Freq [MHz]	Channel	5GHz (80MHz) Conducted Power [dBm]	
		802.11ac	
		ANT1	ANT2
5210	42	12.90	12.88
5290	58	13.30	13.02
5530	106	12.95	13.07
5610	122	12.90	12.87
5690	138	12.93	12.77
5775	155	13.20	13.21

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 85 of 138	

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 bolded data rate and channel above were tested for SAR.

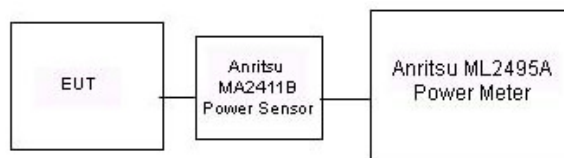


Figure 9-6

Power Measurement Setup for Bandwidths < 50 MHz

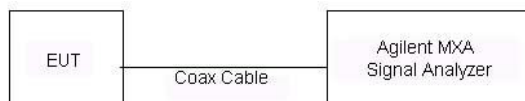


Figure 9-7

Power Measurement Setup for Bandwidths > 50 MHz

9.6 Bluetooth Conducted Powers

Table 9-103
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	14.89	30.818
2441	1.0	39	15.65	36.721
2480	1.0	78	15.50	35.493
2402	2.0	0	9.04	8.024
2441	2.0	39	9.97	9.923
2480	2.0	78	9.73	9.402
2402	3.0	0	9.02	7.975
2441	3.0	39	9.82	9.597
2480	3.0	78	9.90	9.769

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 86 of 138

KeySight Spectrum Analyzer - Swept SA

Frequency

Auto Tune

Center Frequency 2.441000000 GHz

Start Frequency 2.441000000 GHz

Stop Frequency 2.441000000 GHz

CF Step 3.000000 MHz

Auto

Freq Offset 0 Hz

Scale Type

Log

Line

MSG

STATUS

11:55:17 AM Dec 29, 2016

ALIGN AUTO

#Avg Type: RMS

TRACE 1 2 3 4 5 6

TYPE W W W W W W

DET P N N N N N

PNO: Fast → Trig: Video

IFGain: Low Atten: 36 dB

10 dB/div Ref 25.00 dBm

Log

ΔMkr3 3.751 ms 0.23 dB

1Δ2 3Δ4

TRIG LEVEL

Center 2.441000000 GHz

Res BW 3.0 MHz

VBW 3.0 MHz

Span 0 Hz

Sweep 8.467 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	1	t	(Δ)	2.887 ms (Δ)	3.40 dB		
2	F	1	t		838.2 μs	8.48 dBm		
3	Δ4	1	t	(Δ)	3.751 ms (Δ)	0.23 dB		
4	F	1	t		838.2 μs	8.48 dBm		

Equation 2

Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = Pulse \frac{Width}{Period} * 100\% = \frac{2.887ms}{3.751ms} * 100\% = 77.0\%$$

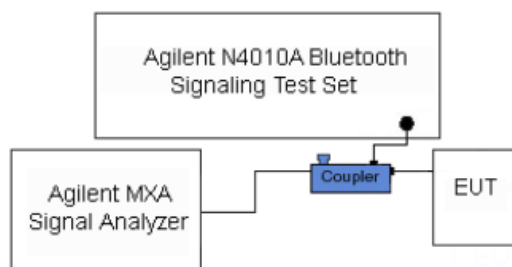


Figure 9-9
Power Measurement Setup

FCC ID: A3LSMG955U	 SAR EVALUATION REPORT 		Approved by:
Document S/N: 1M1701030005-01-R1 A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Quality Manager Page 87 of 138

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head 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
1/3/2017	750H	21.3	740	0.895	42.393	0.893	41.994	0.22%	0.95%
			755	0.909	42.223	0.894	41.916	1.68%	0.73%
			770	0.924	42.042	0.895	41.838	3.24%	0.49%
			785	0.937	41.732	0.896	41.760	4.58%	-0.07%
2/2/2017	750H	21.6	700	0.851	41.932	0.889	42.201	-4.27%	-0.64%
			710	0.860	41.771	0.890	42.149	-3.37%	-0.90%
			740	0.886	41.278	0.893	41.994	-0.78%	-1.71%
			755	0.900	41.041	0.894	41.916	0.67%	-2.09%
1/5/2017	835H	22.7	820	0.886	39.806	0.899	41.578	-1.45%	-4.26%
			835	0.902	39.639	0.900	41.500	0.22%	-4.48%
			850	0.919	39.489	0.916	41.500	0.33%	-4.85%
12/28/2016	1750H	21.3	1710	1.361	38.901	1.348	40.142	0.96%	-3.09%
			1750	1.398	38.675	1.371	40.079	1.97%	-3.50%
			1790	1.437	38.480	1.394	40.016	3.08%	-3.84%
1/20/2017	1750H	23.0	1710	1.374	38.911	1.348	40.142	1.93%	-3.07%
			1750	1.415	38.753	1.371	40.079	3.21%	-3.31%
			1790	1.450	38.547	1.394	40.016	4.02%	-3.67%
1/20/2017	1900H	22.4	1850	1.377	38.994	1.400	40.000	-1.64%	-2.52%
			1880	1.404	38.897	1.400	40.000	0.29%	-2.76%
			1910	1.437	38.822	1.400	40.000	2.64%	-2.94%
1/30/2017	1900H	21.3	1850	1.395	38.408	1.400	40.000	-0.36%	-3.98%
			1880	1.430	38.258	1.400	40.000	2.14%	-4.35%
			1910	1.464	38.120	1.400	40.000	4.57%	-4.70%
1/4/2017	2300H	23.7	2300	1.687	40.125	1.670	39.500	1.02%	1.58%
			2310	1.700	40.093	1.679	39.480	1.25%	1.55%
			2320	1.712	40.057	1.687	39.460	1.48%	1.51%
1/4/2017	2450H	23.7	2400	1.804	39.716	1.756	39.289	2.73%	1.09%
			2450	1.861	39.519	1.800	39.200	3.39%	0.81%
			2500	1.921	39.293	1.855	39.136	3.56%	0.40%
			2550	1.976	39.117	1.909	39.073	3.51%	0.11%
1/10/2017	2450H	23.5	2400	1.812	39.376	1.756	39.289	3.19%	0.22%
			2450	1.867	39.124	1.800	39.200	3.72%	-0.19%
			2500	1.933	38.944	1.855	39.136	4.20%	-0.49%
1/22/2017	2450H	24.0	2400	1.814	38.386	1.756	39.289	3.30%	-2.30%
			2450	1.869	38.155	1.800	39.200	3.83%	-2.67%
			2500	1.931	37.926	1.855	39.136	4.10%	-3.09%
01/12/2017	5200H-5800H	21.3	5240	4.664	35.601	4.696	35.940	-0.68%	-0.94%
			5260	4.682	35.468	4.717	35.917	-0.74%	-1.25%
			5280	4.692	35.606	4.737	35.894	-0.95%	-0.80%
			5300	4.699	35.414	4.758	35.871	-1.24%	-1.27%
			5520	4.941	35.199	4.983	35.620	-0.84%	-1.18%
			5540	4.959	35.134	5.004	35.597	-0.90%	-1.30%
			5600	5.023	35.039	5.065	35.529	-0.83%	-1.38%
			5745	5.183	34.879	5.214	35.363	-0.59%	-1.37%
			5765	5.180	34.822	5.234	35.340	-1.03%	-1.47%
			5785	5.213	34.871	5.255	35.317	-0.80%	-1.26%

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 88 of 138

Table 10-2
Measured Body 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
1/6/2017	750B	24.0	700	0.912	54.463	0.959	55.726	-4.90%	-2.27%
			710	0.921	54.360	0.960	55.687	-4.06%	-2.38%
			740	0.948	54.071	0.963	55.570	-1.56%	-2.70%
			755	0.962	53.903	0.964	55.512	-0.21%	-2.90%
			770	0.977	53.725	0.965	55.453	1.24%	-3.12%
			785	0.992	53.564	0.966	55.395	2.69%	-3.31%
			800	0.912	55.053	0.959	55.726	-4.90%	-1.21%
1/26/2017	750B	20.5	710	0.923	54.951	0.960	55.687	-3.85%	-1.32%
			740	0.956	54.650	0.963	55.570	-0.73%	-1.66%
			755	0.970	54.488	0.964	55.512	0.62%	-1.84%
			770	0.985	54.320	0.965	55.453	2.07%	-2.04%
			785	1.000	54.163	0.966	55.395	3.52%	-2.22%
			820	0.984	55.508	0.969	55.258	1.55%	0.45%
			835	0.998	55.432	0.970	55.200	2.89%	0.42%
12/26/2016	835B	20.7	850	1.014	55.303	0.988	55.154	2.63%	0.27%
			820	0.985	54.604	0.969	55.258	1.65%	-1.18%
			835	0.996	54.467	0.970	55.200	2.68%	-1.33%
12/29/2016	835B	21.0	850	1.012	54.282	0.988	55.154	2.43%	-1.58%
			820	0.974	53.690	0.969	55.258	0.52%	-2.84%
			835	0.996	53.527	0.970	55.200	2.68%	-3.03%
1/1/2017	835B	20.8	850	1.004	53.379	0.988	55.154	1.62%	-3.22%
			820	0.979	53.144	0.969	55.258	1.03%	-3.83%
			835	0.993	53.008	0.970	55.200	2.37%	-3.97%
2/6/2017	835B	20.7	850	1.009	52.818	0.988	55.154	2.13%	-4.24%
			1710	1.467	51.561	1.463	53.537	0.27%	-3.69%
			1750	1.509	51.447	1.488	53.432	1.41%	-3.72%
12/26/2016	1750B	21.1	1790	1.548	51.209	1.514	53.326	2.25%	-3.97%
			1710	1.438	51.255	1.463	53.537	-1.71%	-4.26%
			1750	1.480	51.194	1.488	53.432	-0.54%	-4.19%
12/29/2016	1750B	21.5	1790	1.521	51.018	1.514	53.326	0.46%	-4.33%
			1710	1.498	52.390	1.463	53.537	2.39%	-2.14%
			1750	1.538	52.253	1.488	53.432	3.36%	-2.21%
1/1/2017	1750B	20.7	1790	1.582	52.046	1.514	53.326	4.49%	-2.40%
			1710	1.464	51.733	1.463	53.537	0.07%	-3.37%
			1750	1.506	51.573	1.488	53.432	1.21%	-3.48%
1/23/2017	1750B	22.0	1790	1.550	51.401	1.514	53.326	2.38%	-3.61%
			1850	1.515	51.708	1.520	53.300	-0.33%	-2.99%
			1880	1.550	51.589	1.520	53.300	1.97%	-3.21%
1/21/2017	1900B	22.5	1910	1.581	51.461	1.520	53.300	4.01%	-3.45%
			1850	1.480	52.091	1.520	53.300	-2.63%	-2.27%
			1880	1.512	51.983	1.520	53.300	-0.53%	-2.47%
1/23/2017	1900B	23.0	1910	1.544	51.897	1.520	53.300	1.58%	-2.63%
			1850	1.497	52.441	1.520	53.300	-1.51%	-1.61%
			1880	1.532	52.391	1.520	53.300	0.79%	-1.71%
2/8/2017	1900B	21.3	1910	1.567	52.286	1.520	53.300	3.09%	-1.90%
			2300	1.842	51.507	1.809	52.900	1.82%	-2.63%
			2310	1.854	51.453	1.816	52.887	2.09%	-2.71%
1/9/2017	2300B	22.6	2320	1.867	51.407	1.826	52.873	2.25%	-2.77%
			2300	1.771	51.919	1.809	52.900	-2.10%	-1.85%
			2310	1.783	51.891	1.816	52.887	-1.82%	-1.88%
1/24/2017	2300B	23.0	2320	1.796	51.858	1.826	52.873	-1.64%	-1.92%
			2400	1.935	51.097	1.902	52.767	1.74%	-3.16%
			2450	2.006	50.885	1.950	52.700	2.87%	-3.44%
1/4/2017	2450B	22.6	2500	2.073	50.681	2.021	52.636	2.57%	-3.71%
			2400	1.963	51.025	1.902	52.767	3.21%	-3.30%
			2450	2.035	50.856	1.950	52.700	4.36%	-3.50%
1/12/2017	2450B	22.7	2500	2.103	50.608	2.021	52.636	4.06%	-3.85%
			2550	2.173	50.421	2.092	52.573	3.87%	-4.09%
			2400	1.951	52.052	1.902	52.767	2.58%	-1.36%
1/24/2017	2450B	23.7	2450	2.014	51.856	1.950	52.700	3.28%	-1.60%
			2500	2.086	51.676	2.021	52.636	3.22%	-1.82%
			2400	1.904	51.340	1.902	52.767	0.11%	-2.70%
1/6/2017	2600B	23.0	2450	1.970	51.134	1.950	52.700	1.03%	-2.97%
			2500	2.040	50.952	2.021	52.636	0.94%	-3.20%
			2550	2.103	50.784	2.092	52.573	0.53%	-3.44%
			2600	2.169	50.563	2.163	52.509	0.28%	-3.71%
			2650	2.234	50.406	2.234	52.445	0.00%	-3.89%
			2700	2.303	50.178	2.305	52.382	-0.09%	-4.21%
			5240	5.465	48.704	5.346	48.960	2.23%	-0.52%
01/02/2017	5200B-5800B	22.0	5260	5.482	48.680	5.369	48.933	2.10%	-0.52%
			5280	5.502	48.624	5.393	48.906	2.02%	-0.58%
			5300	5.520	48.552	5.416	48.879	1.92%	-0.67%
			5600	5.917	48.062	5.766	48.471	2.62%	-0.84%
			5620	5.948	48.086	5.790	48.444	2.73%	-0.74%
			5745	6.127	47.855	5.936	48.275	3.22%	-0.87%
			5765	6.159	47.823	5.959	48.248	3.36%	-0.88%
			5785	6.163	47.808	5.982	48.220	3.03%	-0.85%
			5240	5.454	47.734	5.346	48.960	2.02%	-2.50%
			5260	5.471	47.659	5.369	48.933	1.90%	-2.60%
01/14/2017	5200B-5800B	22.1	5280	5.498	47.637	5.393	48.906	1.95%	-2.59%
			5300	5.514	47.598	5.416	48.879	1.81%	-2.62%
			5600	5.930	47.091	5.766	48.471	2.84%	-2.85%
			5620	5.956	47.096	5.790	48.444	2.87%	-2.78%

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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 89 of 138

10.2 Test System Verification

Prior to SAR assessment, the system is verified to $\pm 10\%$ 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 10-3
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Dipole SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
J	750	HEAD	01/03/2017	21.1	21.3	0.200	1161	3318	1.630	8.170	8.150	-0.24%
J	750	HEAD	02/02/2017	22.7	21.6	0.200	1161	3334	1.630	8.170	8.150	-0.24%
H	835	HEAD	01/05/2017	23.5	22.7	0.200	4d047	3319	1.820	9.130	9.100	-0.33%
D	1750	HEAD	12/28/2016	23.3	21.6	0.100	1148	3213	3.630	36.200	36.300	0.28%
I	1750	HEAD	01/20/2017	23.5	23.0	0.100	1148	3209	3.510	36.200	35.100	-3.04%
J	1900	HEAD	01/20/2017	21.5	22.4	0.100	5d149	3318	3.860	40.100	38.600	-3.74%
F	1900	HEAD	01/30/2017	22.5	21.5	0.100	5d149	3332	3.890	40.100	38.900	-2.99%
G	2300	HEAD	01/04/2017	23.5	22.7	0.100	1064	3287	4.940	48.400	49.400	2.07%
G	2450	HEAD	01/04/2017	23.5	22.3	0.100	797	3287	5.440	52.100	54.400	4.41%
G	2450	HEAD	01/10/2017	23.6	23.0	0.100	797	3287	5.450	52.100	54.500	4.61%
G	2450	HEAD	01/22/2017	23.2	22.5	0.100	981	3287	5.640	52.800	56.400	6.82%
J	5250	HEAD	01/12/2017	21.5	21.3	0.050	1191	7357	3.890	78.900	77.800	-1.39%
J	5600	HEAD	01/12/2017	21.5	21.3	0.050	1191	7357	4.100	83.600	82.000	-1.91%
J	5750	HEAD	01/12/2017	21.5	21.3	0.050	1191	7357	3.840	79.100	76.800	-2.91%
F	750	BODY	01/06/2017	21.8	22.0	0.200	1161	3332	1.620	8.430	8.100	-3.91%
J	750	BODY	01/26/2017	21.1	20.5	0.200	1003	3318	1.650	8.790	8.250	-6.14%
H	835	BODY	12/26/2016	23.3	21.5	0.200	4d047	3319	2.020	9.570	10.100	5.54%
H	835	BODY	12/29/2016	22.1	21.0	0.200	4d047	3319	2.060	9.570	10.300	7.63%
H	835	BODY	01/01/2017	21.4	20.8	0.200	4d047	3319	2.050	9.570	10.250	7.11%
H	835	BODY	02/06/2017	22.3	21.0	0.200	4d047	3319	2.070	9.570	10.350	8.15%
I	1750	BODY	12/29/2016	22.1	21.5	0.100	1008	3209	3.790	37.300	37.900	1.61%
I	1750	BODY	01/01/2017	22.7	21.1	0.100	1008	3209	3.950	37.300	39.500	5.90%
I	1750	BODY	01/23/2017	23.6	22.0	0.100	1148	3209	3.930	37.100	39.300	5.93%
K	1900	BODY	01/21/2017	22.5	22.5	0.100	5d149	7409	4.000	39.900	40.000	0.25%
J	1900	BODY	02/08/2017	21.1	21.3	0.100	5d149	3334	4.290	39.900	42.900	7.52%
E	2300	BODY	01/09/2017	22.5	21.6	0.100	1064	7406	4.570	47.000	45.700	-2.77%
E	2300	BODY	01/24/2017	24.0	23.0	0.100	1064	7406	4.920	47.000	49.200	4.68%
E	2450	BODY	01/04/2017	24.3	22.6	0.100	981	7406	5.030	50.800	50.300	-0.98%
E	2450	BODY	01/12/2017	24.5	22.7	0.100	981	7406	5.260	50.800	52.600	3.54%
H	2450	BODY	01/24/2017	22.4	22.7	0.100	797	3319	5.210	50.700	52.100	2.76%
E	2600	BODY	01/06/2017	23.5	23.0	0.100	1071	7406	5.760	54.200	57.600	6.27%
D	5250	BODY	01/02/2017	21.6	21.1	0.050	1237	3914	3.430	74.800	68.600	-8.29%
D	5600	BODY	01/02/2017	21.6	21.1	0.050	1237	3914	3.760	77.000	75.200	-2.34%
D	5750	BODY	01/02/2017	21.6	21.1	0.050	1237	3914	3.450	75.400	69.000	-8.49%

FCC ID: A3LSMG955U



SAR EVALUATION REPORT



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Document S/N:

1M1701030005-01-R1.A3L

Test Dates:

12/26/16 – 02/08/17

DUT Type:

Portable Handset

Page 90 of 138

Table 10-4
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date :	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Dipole SN	Probe SN	Measured SAR _{10g} (W/kg)	1 W Target SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation _{10g} (%)
I	1750	BODY	12/26/2016	22.1	21.1	0.100	1148	3209	1.930	19.700	19.300	-2.03%
I	1750	BODY	01/01/2017	22.7	21.1	0.100	1008	3209	2.090	19.800	20.900	5.56%
K	1900	BODY	01/21/2017	22.5	22.5	0.100	5d149	7409	2.050	21.100	20.500	-2.84%
K	1900	BODY	01/23/2017	23.9	23.4	0.100	5d149	7409	2.030	21.100	20.300	-3.79%
E	2300	BODY	01/09/2017	22.5	21.6	0.100	1064	7406	2.150	22.800	21.500	-5.70%
E	2450	BODY	01/12/2017	24.5	22.7	0.100	981	7406	2.430	23.800	24.300	2.10%
D	5250	BODY	01/14/2017	21.6	21.1	0.050	1237	3914	0.957	21.000	19.140	-8.86%
D	5600	BODY	01/14/2017	21.6	21.1	0.050	1237	3914	1.090	21.500	21.800	1.40%

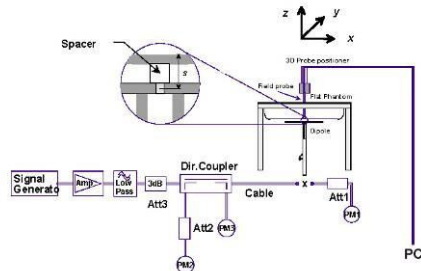


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 91 of 138

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	33.37	-0.04	Right	Cheek	07BE0	1:8.3	0.137	1.030	0.141	A1
836.60	190	GSM 850	GSM	33.5	33.37	0.06	Right	Tilt	07BE0	1:8.3	0.045	1.030	0.046	
836.60	190	GSM 850	GSM	33.5	33.37	0.16	Left	Cheek	07BE0	1:8.3	0.106	1.030	0.109	
836.60	190	GSM 850	GSM	33.5	33.37	0.11	Left	Tilt	07BE0	1:8.3	0.048	1.030	0.049	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
GSM 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	31.0	30.54	-0.10	Right	Cheek	08DCC	1:8.3	0.076	1.112	0.085	
1880.00	661	GSM 1900	GSM	31.0	30.54	0.00	Right	Tilt	08DCC	1:8.3	0.054	1.112	0.060	
1880.00	661	GSM 1900	GSM	31.0	30.54	0.05	Left	Cheek	08DCC	1:8.3	0.101	1.112	0.112	A2
1880.00	661	GSM 1900	GSM	31.0	30.54	0.18	Left	Tilt	08DCC	1:8.3	0.040	1.112	0.044	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.0	24.88	0.00	Right	Cheek	15	07BE0	1:1	0.171	1.028	0.176	A3
836.60	4183	UMTS 850	RMC	25.0	24.88	0.02	Right	Tilt	15	07BE0	1:1	0.059	1.028	0.061	
836.60	4183	UMTS 850	RMC	25.0	24.88	0.10	Left	Cheek	15	07BE0	1:1	0.142	1.028	0.146	
836.60	4183	UMTS 850	RMC	25.0	24.88	0.04	Left	Tilt	15	07BE0	1:1	0.063	1.028	0.065	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 92 of 138

Table 11-4
UMTS 1750 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.07	Right	Cheek	15	07BE0	1:1	0.122	1.054	0.129	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.01	Right	Tilt	15	07BE0	1:1	0.118	1.054	0.124	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.03	Left	Cheek	15	07BE0	1:1	0.196	1.054	0.207	A4
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.06	Left	Tilt	15	07BE0	1:1	0.129	1.054	0.136	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	0.02	Right	Cheek	31	08DCC	1:1	0.110	1.303	0.143	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.05	Right	Tilt	31	08DCC	1:1	0.096	1.303	0.125	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	0.14	Left	Cheek	31	08DCC	1:1	0.142	1.303	0.185	A5
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.17	Left	Tilt	31	08DCC	1:1	0.095	1.303	0.124	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
CDMA BC10 (\$90S) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	25.5	24.98	-0.01	Right	Cheek	0	08CE1	1:1	0.193	1.127	0.218	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	25.5	24.98	-0.01	Right	Tilt	0	08CE1	1:1	0.099	1.127	0.112	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	25.5	24.98	0.01	Left	Cheek	0	08CE1	1:1	0.178	1.127	0.201	
820.10	564	CDMA BC10 (\$90S)	RC3 / SO55	25.5	24.98	0.13	Left	Tilt	0	08CE1	1:1	0.070	1.127	0.079	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	25.5	24.85	-0.07	Right	Cheek	0	08CE1	1:1	0.193	1.161	0.224	A6
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	25.5	24.85	0.03	Right	Tilt	0	08CE1	1:1	0.089	1.161	0.103	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	25.5	24.85	-0.05	Left	Cheek	0	08CE1	1:1	0.129	1.161	0.150	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. A	25.5	24.85	0.18	Left	Tilt	0	08CE1	1:1	0.103	1.161	0.120	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 93 of 138

Table 11-7
CDMA BC0 (\$22H) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.51	0.08	Right	Cheek	0	08CE1	1:1	0.187	1.119	0.209	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.51	0.12	Right	Tilt	0	08CE1	1:1	0.067	1.119	0.075	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.51	0.11	Left	Cheek	0	08CE1	1:1	0.157	1.119	0.176	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.51	0.04	Left	Tilt	0	08CE1	1:1	0.079	1.119	0.088	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.35	-0.01	Right	Cheek	0	08CE1	1:1	0.188	1.161	0.218	A7
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.35	0.04	Right	Tilt	0	08CE1	1:1	0.072	1.161	0.084	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.35	0.04	Left	Cheek	0	08CE1	1:1	0.158	1.161	0.183	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.35	0.09	Left	Tilt	0	08CE1	1:1	0.105	1.161	0.122	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
PCS CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.35	-0.10	Right	Cheek	31	08DCC	1:1	0.118	1.303	0.154	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.35	0.01	Right	Tilt	31	08DCC	1:1	0.115	1.303	0.150	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.35	0.08	Left	Cheek	31	08DCC	1:1	0.148	1.303	0.193	A8
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.35	-0.12	Left	Tilt	31	08DCC	1:1	0.099	1.303	0.129	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.15	-0.07	Right	Cheek	31	08DCC	1:1	0.105	1.365	0.143	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.15	0.01	Right	Tilt	31	08DCC	1:1	0.087	1.365	0.119	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.15	0.06	Left	Cheek	31	08DCC	1:1	0.129	1.365	0.176	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.15	0.08	Left	Tilt	31	08DCC	1:1	0.076	1.365	0.104	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-9
LTE Band 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.05	0	Right	Cheek	15	QPSK	1	0	08CD0	1:1	0.183	1.225	0.224	A9
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	-0.06	1	Right	Cheek	15	QPSK	25	0	08CD0	1:1	0.144	1.084	0.156	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.10	0	Right	Tilt	15	QPSK	1	0	08CD0	1:1	0.076	1.225	0.093	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.15	1	Right	Tilt	15	QPSK	25	0	08CD0	1:1	0.069	1.084	0.075	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.04	0	Left	Cheek	15	QPSK	1	0	08CD0	1:1	0.148	1.225	0.181	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.08	1	Left	Cheek	15	QPSK	25	0	08CD0	1:1	0.123	1.084	0.133	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.00	0	Left	Tilt	15	QPSK	1	0	08CD0	1:1	0.104	1.225	0.127	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.13	1	Left	Tilt	15	QPSK	25	0	08CD0	1:1	0.085	1.084	0.092	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 94 of 138

Table 11-10
LTE Band 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR(1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.04	0	Right	Cheek	0	QPSK	1	0	08CD0	1:1	0.163	1.119	0.182	A10
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.07	1	Right	Cheek	0	QPSK	25	0	08CD0	1:1	0.140	1.135	0.159	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.08	0	Right	Tilt	0	QPSK	1	0	08CD0	1:1	0.077	1.119	0.086	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.15	1	Right	Tilt	0	QPSK	25	0	08CD0	1:1	0.070	1.135	0.079	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.13	0	Left	Cheek	0	QPSK	1	0	08CD0	1:1	0.163	1.119	0.182	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.09	1	Left	Cheek	0	QPSK	25	0	08CD0	1:1	0.122	1.135	0.138	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	-0.19	0	Left	Tilt	0	QPSK	1	0	08CD0	1:1	0.110	1.119	0.123	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.00	1	Left	Tilt	0	QPSK	25	0	08CD0	1:1	0.086	1.135	0.098	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-11
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR(1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.10	0	Right	Cheek	15	QPSK	1	0	08CD0	1:1	0.169	1.199	0.203	A11
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	0.02	1	Right	Cheek	15	QPSK	36	0	08CD0	1:1	0.140	1.197	0.168	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.00	0	Right	Tilt	15	QPSK	1	0	08CD0	1:1	0.085	1.199	0.102	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	0.01	1	Right	Tilt	15	QPSK	36	0	08CD0	1:1	0.069	1.197	0.083	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	-0.04	0	Left	Cheek	15	QPSK	1	0	08CD0	1:1	0.138	1.199	0.165	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	0.09	1	Left	Cheek	15	QPSK	36	0	08CD0	1:1	0.113	1.197	0.135	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.07	0	Left	Tilt	15	QPSK	1	0	08CD0	1:1	0.100	1.199	0.120	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	0.05	1	Left	Tilt	15	QPSK	36	0	08CD0	1:1	0.084	1.197	0.101	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-12
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	0.02	0	Right	Cheek	15	QPSK	1	0	08CD0	1:1	0.194	1.072	0.208	A12
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.01	1	Right	Cheek	15	QPSK	25	0	08CD0	1:1	0.159	1.074	0.171	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	0.16	0	Right	Tilt	15	QPSK	1	0	08CD0	1:1	0.090	1.072	0.096	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.01	1	Right	Tilt	15	QPSK	25	0	08CD0	1:1	0.071	1.074	0.076	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	0.00	0	Left	Cheek	15	QPSK	1	0	08CD0	1:1	0.164	1.072	0.176	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.01	1	Left	Cheek	15	QPSK	25	0	08CD0	1:1	0.125	1.074	0.134	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	-0.06	0	Left	Tilt	15	QPSK	1	0	08CD0	1:1	0.112	1.072	0.120	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.00	1	Left	Tilt	15	QPSK	25	0	08CD0	1:1	0.098	1.074	0.105	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Head											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 95 of 138

Table 11-13
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	0.12	0	Right	Cheek	15	QPSK	1	0	07BCE	1:1	0.094	1.035	0.097	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.06	1	Right	Cheek	15	QPSK	50	0	07BCE	1:1	0.066	1.047	0.069	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	0.06	0	Right	Tilt	15	QPSK	1	0	07BCE	1:1	0.078	1.035	0.081	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.09	1	Right	Tilt	15	QPSK	50	0	07BCE	1:1	0.054	1.047	0.057	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	0.02	0	Left	Cheek	15	QPSK	1	0	07BCE	1:1	0.181	1.035	0.187	A13
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.09	1	Left	Cheek	15	QPSK	50	0	07BCE	1:1	0.149	1.047	0.156	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	-0.10	0	Left	Tilt	15	QPSK	1	0	07BCE	1:1	0.089	1.035	0.092	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.07	1	Left	Tilt	15	QPSK	50	0	07BCE	1:1	0.083	1.047	0.087	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak									Head											
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g)											
									averaged over 1 gram											

Table 11-14
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.06	0	Right	Cheek	16	QPSK	1	0	1388E	1:1	0.088	1.276	0.112	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.01	1	Right	Cheek	16	QPSK	50	0	1388E	1:1	0.065	1.300	0.085	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.03	0	Right	Tilt	16	QPSK	1	0	1388E	1:1	0.084	1.276	0.107	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.05	1	Right	Tilt	16	QPSK	50	0	1388E	1:1	0.068	1.300	0.088	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.10	0	Left	Cheek	16	QPSK	1	0	1388E	1:1	0.136	1.276	0.174	A14
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	0.06	1	Left	Cheek	16	QPSK	50	0	1388E	1:1	0.090	1.300	0.117	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	0.14	0	Left	Tilt	16	QPSK	1	0	1388E	1:1	0.078	1.276	0.100	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	0.19	1	Left	Tilt	16	QPSK	50	0	1388E	1:1	0.052	1.300	0.068	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-15
LTE Band 30 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.18	0	Right	Cheek	QPSK	1	0	08D85	1:1	0.091	1.016	0.092	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	0.06	1	Right	Cheek	QPSK	25	0	08D85	1:1	0.073	1.014	0.074	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.00	0	Right	Tilt	QPSK	1	0	08D85	1:1	0.095	1.016	0.097	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	-0.11	1	Right	Tilt	QPSK	25	0	08D85	1:1	0.068	1.014	0.069	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	-0.14	0	Left	Cheek	QPSK	1	0	08D85	1:1	0.121	1.016	0.123	A15
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	0.21	1	Left	Cheek	QPSK	25	0	08D85	1:1	0.085	1.014	0.086	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.17	0	Left	Tilt	QPSK	1	0	08D85	1:1	0.047	1.016	0.048	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	-0.01	1	Left	Tilt	QPSK	25	0	08D85	1:1	0.036	1.014	0.037	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 96 of 138

Table 11-16
LTE Band 41 Head SAR

MEASUREMENT RESULTS																					
Configuration	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.														(W/kg)		(W/kg)		
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.98	-0.20	0	Right	Cheek	QPSK	1	99	08D85	1:1.58	0.033	1.005	0.033	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.95	0.11	1	Right	Cheek	QPSK	50	0	08D85	1:1.58	0.026	1.012	0.026	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.98	0.17	0	Right	Tilt	QPSK	1	99	08D85	1:1.58	0.019	1.005	0.019	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.95	-0.01	1	Right	Tilt	QPSK	50	0	08D85	1:1.58	0.016	1.012	0.016	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.98	-0.17	0	Left	Cheek	QPSK	1	99	08D85	1:1.58	0.040	1.005	0.040	
2 CC Uplink, Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	24.0	23.99	0.06	0	Left	Cheek	QPSK	1	99	08D85	1:1.58	0.043	1.002	0.043	A16
	SCC	2525.80	39948	Low	LTE Band 41	20							QPSK	1	0						
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.95	0.01	1	Left	Cheek	QPSK	50	0	08D85	1:1.58	0.029	1.012	0.029	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.98	-0.06	0	Left	Tilt	QPSK	1	99	08D85	1:1.58	0.016	1.005	0.016	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.95	-0.07	1	Left	Tilt	QPSK	50	0	08D85	1:1.58	0.012	1.012	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Head									
Spatial Peak												1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population												averaged over 1 gram									

Table 11-17
DTS Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	16.5	16.49	0.18	Right	Cheek	1	0910E	1	99.8	0.503	0.458	1.002	1.002	0.460	A17
2437	6	802.11b	DSSS	22	16.5	16.49	0.03	Right	Tilt	1	0910E	1	99.8	0.454	0.380	1.002	1.002	0.382	
2437	6	802.11b	DSSS	22	16.5	16.49	0.01	Left	Cheek	1	0910E	1	99.8	0.147	-	1.002	1.002	-	
2437	6	802.11b	DSSS	22	16.5	16.49	0.21	Left	Tilt	1	0910E	1	99.8	0.199	-	1.002	1.002	-	
2462	11	802.11b	DSSS	22	16.5	16.07	0.12	Right	Cheek	2	0910E	1	99.8	0.384	0.380	1.104	1.002	0.420	
2462	11	802.11b	DSSS	22	16.5	16.07	0.06	Right	Tilt	2	0910E	1	99.8	0.209	0.195	1.104	1.002	0.216	
2462	11	802.11b	DSSS	22	16.5	16.07	-0.17	Left	Cheek	2	0910E	1	99.8	0.138	-	1.104	1.002	-	
2462	11	802.11b	DSSS	22	16.5	16.07	-0.05	Left	Tilt	2	0910E	1	99.8	0.103	-	1.104	1.002	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-18
DTS Head SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm] (per Antenna)	Ant 1 Conducted Power [dBm]	Ant 2 Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.05	Right	Cheek	MIMO	0910E	13	98.9	0.371	0.270	1.216	1.011	0.332	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.03	Right	Tilt	MIMO	0910E	13	98.9	0.269	-	1.216	1.011	-	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.16	Left	Cheek	MIMO	0910E	13	98.9	0.128	-	1.216	1.011	-	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.21	Left	Tilt	MIMO	0910E	13	98.9	0.130	-	1.216	1.011	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: DTS MIMO was additionally evaluated at the maximum allowed output power for operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WLAN was not transmitting during the above evaluations.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 97 of 138

**Table 11-19
NII Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)	(W/kg)	(W/kg)		
5290	58	802.11ac	OFDM	80	13.5	13.30	0.12	Right	Cheek	1	0910E	29.3	95.5	0.136	-	1.047	1.047	-	
5290	58	802.11ac	OFDM	80	13.5	13.30	0.16	Right	Tilt	1	0910E	29.3	95.5	0.168	0.059	1.047	1.047	0.065	
5290	58	802.11ac	OFDM	80	13.5	13.30	0.19	Left	Cheek	1	0910E	29.3	95.5	0.152	-	1.047	1.047	-	
5290	58	802.11ac	OFDM	80	13.5	13.30	0.17	Left	Tilt	1	0910E	29.3	95.5	0.105	-	1.047	1.047	-	
5290	58	802.11ac	OFDM	80	13.5	13.02	0.20	Right	Cheek	2	0910E	29.3	93.2	0.350	0.126	1.117	1.073	0.151	
5290	58	802.11ac	OFDM	80	13.5	13.02	0.20	Right	Tilt	2	0910E	29.3	93.2	0.264	-	1.117	1.073	-	
5290	58	802.11ac	OFDM	80	13.5	13.02	0.16	Left	Cheek	2	0910E	29.3	93.2	0.133	-	1.117	1.073	-	
5290	58	802.11ac	OFDM	80	13.5	13.02	0.19	Left	Tilt	2	0910E	29.3	93.2	0.121	-	1.117	1.073	-	
5530	106	802.11ac	OFDM	80	13.5	12.95	0.21	Right	Cheek	1	0910E	29.3	95.5	0.445	-	1.135	1.047	-	
5530	106	802.11ac	OFDM	80	13.5	12.95	0.21	Right	Tilt	1	0910E	29.3	95.5	0.291	-	1.135	1.047	-	
5530	106	802.11ac	OFDM	80	13.5	12.95	0.14	Left	Cheek	1	0910E	29.3	95.5	0.703	0.199	1.135	1.047	0.236	
5530	106	802.11ac	OFDM	80	13.5	12.95	0.15	Left	Tilt	1	0910E	29.3	95.5	0.439	-	1.135	1.047	-	
5530	106	802.11ac	OFDM	80	13.5	13.07	0.13	Right	Cheek	2	0910E	29.3	93.2	0.435	0.217	1.104	1.073	0.257	
5530	106	802.11ac	OFDM	80	13.5	13.07	0.19	Right	Tilt	2	0910E	29.3	93.2	0.326	-	1.104	1.073	-	
5530	106	802.11ac	OFDM	80	13.5	13.07	0.21	Left	Cheek	2	0910E	29.3	93.2	0.262	-	1.104	1.073	-	
5530	106	802.11ac	OFDM	80	13.5	13.07	0.16	Left	Tilt	2	0910E	29.3	93.2	0.211	-	1.104	1.073	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	-0.20	Right	Cheek	1	0910E	29.3	95.5	0.717	0.298	1.072	1.047	0.334	A18
5775	155	802.11ac	OFDM	80	13.5	13.20	0.16	Right	Tilt	1	0910E	29.3	95.5	0.574	-	1.072	1.047	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	0.17	Left	Cheek	1	0910E	29.3	95.5	0.518	-	1.072	1.047	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	0.17	Left	Tilt	1	0910E	29.3	95.5	0.399	-	1.072	1.047	-	
5775	155	802.11ac	OFDM	80	13.5	13.21	-0.20	Right	Cheek	2	0910E	29.3	93.2	0.676	0.273	1.069	1.073	0.313	
5775	155	802.11ac	OFDM	80	13.5	13.21	-0.12	Right	Tilt	2	0910E	29.3	93.2	0.472	-	1.069	1.073	-	
5775	155	802.11ac	OFDM	80	13.5	13.21	0.21	Left	Cheek	2	0910E	29.3	93.2	0.377	-	1.069	1.073	-	
5775	155	802.11ac	OFDM	80	13.5	13.21	0.20	Left	Tilt	2	0910E	29.3	93.2	0.254	-	1.069	1.073	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

**Table 11-20
Bluetooth Head SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Side	Test Position	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.															
2441	39	Bluetooth	FHSS	10.0	9.97	0.15	0910E	2	77.0	Right	Cheek	0.079	1.007	1.299	0.103	A19
2441	39	Bluetooth	FHSS	10.0	9.97	0.12	0910E	2	77.0	Right	Tilt	0.043	1.007	1.299	0.056	
2441	39	Bluetooth	FHSS	10.0	9.97	-0.12	0910E	2	77.0	Left	Cheek	0.023	1.007	1.299	0.030	
2441	39	Bluetooth	FHSS	10.0	9.97	0.21	0910E	2	77.0	Left	Tilt	0.014	1.007	1.299	0.018	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram							

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 98 of 138	

11.2 Standalone Body-Worn SAR Data

Table 11-21
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	33.37	-0.06	15 mm	N/A	07BE0	1	1:8.3	back	0.177	1.030	0.182	A20
1880.00	661	GSM 1900	GSM	31.0	30.54	0.01	15 mm	N/A	08DCC	1	1:8.3	back	0.350	1.112	0.389	A22
836.60	4183	UMTS 850	RMC	25.0	24.88	-0.01	15 mm	15	07BE0	N/A	1:1	back	0.256	1.028	0.263	A24
1712.40	1312	UMTS 1750	RMC	25.0	24.45	-0.06	15 mm	16	07BE0	N/A	1:1	back	0.887	1.135	1.007	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	-0.14	15 mm	16	07BE0	N/A	1:1	back	0.936	1.054	0.987	
1752.60	1513	UMTS 1750	RMC	25.0	24.80	0.00	15 mm	16	07BE0	N/A	1:1	back	0.961	1.047	1.006	A26
1752.60	1513	UMTS 1750	RMC	25.0	24.80	0.00	15 mm	16	07BE0	N/A	1:1	back	0.952	1.047	0.997	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.01	15 mm	31	08DCC	N/A	1:1	back	0.589	1.303	0.767	A28
820.10	564	CDMA BC10 (\$90S)	TDSO / SO32	25.5	24.99	-0.05	15 mm	0	08CE1	N/A	1:1	back	0.212	1.125	0.239	A30
836.52	384	CDMA BC0 (\$22H)	TDSO / SO32	25.0	24.56	-0.01	15 mm	0	08CE1	N/A	1:1	back	0.254	1.107	0.281	A32
1880.00	600	PCS CDMA	TDSO / SO32	24.5	23.43	-0.04	15 mm	77	08DCC	N/A	1:1	back	0.624	1.279	0.798	A34
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 entry represents variability data

Table 11-22
LTE FDD Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.04	0	08CD0	15	QPSK	1	0	15 mm	back	1:1	0.219	1.225	0.268	A36
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.05	1	08CD0	15	QPSK	25	0	15 mm	back	1:1	0.195	1.084	0.211	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	-0.02	0	08CD0	0	QPSK	1	0	15 mm	back	1:1	0.213	1.119	0.238	A38
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	-0.01	1	08CD0	0	QPSK	25	0	15 mm	back	1:1	0.181	1.135	0.205	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.00	0	08CD0	0	QPSK	1	0	15 mm	back	1:1	0.189	1.199	0.227	A40
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	-0.02	1	08CD0	0	QPSK	36	0	15 mm	back	1:1	0.181	1.197	0.217	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	-0.06	0	08CD0	0	QPSK	1	0	15 mm	back	1:1	0.293	1.072	0.314	A42
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	-0.01	1	08CD0	0	QPSK	25	0	15 mm	back	1:1	0.239	1.074	0.257	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.77	-0.09	0	07BCE	24	QPSK	1	0	15 mm	back	1:1	0.800	1.054	0.843	A44
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	0.01	0	07BCE	24	QPSK	1	0	15 mm	back	1:1	0.695	1.035	0.719	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.74	-0.09	0	07BCE	24	QPSK	1	0	15 mm	back	1:1	0.652	1.062	0.692	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	-0.02	1	07BCE	24	QPSK	50	0	15 mm	back	1:1	0.535	1.047	0.560	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.70	0.02	1	07BCE	24	QPSK	100	0	15 mm	back	1:1	0.609	1.072	0.653	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	0.02	0	1388E	16	QPSK	1	0	15 mm	back	1:1	0.459	1.276	0.586	A46
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	0.00	1	1388E	16	QPSK	50	0	15 mm	back	1:1	0.363	1.300	0.472	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.06	0	08D85	N/A	QPSK	1	0	15 mm	back	1:1	0.306	1.016	0.311	A48
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	0.01	1	08D85	N/A	QPSK	25	0	15 mm	back	1:1	0.270	1.014	0.274	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 99 of 138

Table 11-23
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																					
Configuration	Component Carrier	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) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #	
		MHz	Ch.																		
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.98	0.06	0	08D85	QPSK	1	99	15 mm	back	1:1.58	0.219	1.005	0.220	
2 CC Uplink, Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	24.0	23.99	0.02	0	08D85	QPSK	1	99	15 mm	back	1:1.58	0.222	1.002	0.222	
	SCC	2525.80	39948	Low	LTE Band 41	20						QPSK	1	0							
1 CC Uplink, Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.0	26.40	-0.03	0	08D85	QPSK	1	0	15 mm	back	1:2.31	0.243	1.148	0.279	A50
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.95	0.04	1	08D85	QPSK	50	0	15 mm	back	1:1.58	0.170	1.012	0.172	
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 11-24
DTS Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan W/kg	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	19.65	0.05	15 mm	1	0910E	1	back	99.8	0.244	0.163	1.216	1.002	0.199	A52
2412	1	802.11b	DSSS	22	20.5	18.98	0.02	15 mm	2	0910E	1	back	99.8	0.129	0.100	1.419	1.002	0.142	
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 11-25
DTS Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm] (per Antenna)	Ant 1 Conducted Power [dBm]	Ant 2 Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.12	15 mm	MIMO	0910E	13	back	98.9	0.060	0.042	1.216	1.011	0.052	
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: DTS MIMO was additionally evaluated at the maximum allowed output power for operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WLAN was not transmitting during the above evaluations.

Table 11-26
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)	(W/kg)	(W/kg)		
5290	58	802.11ac	OFDM	80	15.5	14.56	0.19	15 mm	1	0910E	29.3	back	95.5	0.396	0.179	1.242	1.047	0.233	
5290	58	802.11ac	OFDM	80	15.5	15.11	0.14	15 mm	2	0910E	29.3	back	93.2	0.337	0.168	1.094	1.073	0.197	
5610	122	802.11ac	OFDM	80	15.5	15.34	0.00	15 mm	1	0910E	29.3	back	95.5	0.446	0.218	1.038	1.047	0.237	
5610	122	802.11ac	OFDM	80	15.5	14.82	-0.02	15 mm	2	0910E	29.3	back	93.2	0.489	0.228	1.169	1.073	0.286	A54
5775	155	802.11ac	OFDM	80	15.5	15.04	0.11	15 mm	1	0910E	29.3	back	95.5	0.220	0.137	1.112	1.047	0.160	
5775	155	802.11ac	OFDM	80	15.5	15.01	-0.15	15 mm	2	0910E	29.3	back	93.2	0.190	0.111	1.119	1.073	0.133	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																			
Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 100 of 138

Table 11-27
NII Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm] (per Antenna)	Ant 1 Conducted Power [dBm]	Ant 2 Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
5290	58	802.11ac	OFDM	80	13.5	13.30	13.02	-0.10	15 mm	MIMO	0910E	58.5	back	88.9	0.237	0.109	1.117	1.125	0.137	
5530	106	802.11ac	OFDM	80	13.5	12.95	13.07	0.12	15 mm	MIMO	0910E	58.5	back	88.9	0.305	0.107	1.135	1.125	0.137	
5775	155	802.11ac	OFDM	80	13.5	13.20	13.21	0.17	15 mm	MIMO	0910E	58.5	back	88.9	0.116	0.039	1.072	1.125	0.047	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Body											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

Note: NII MIMO was additionally evaluated at the maximum allowed output power for operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WLAN was not transmitting during the above evaluations.

Table 11-28
Bluetooth Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	16.0	15.65	-0.12	15 mm	0910E	1	back	77.0	0.027	1.084	1.299	0.038	A56
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 101 of 138

11.3 Standalone Hotspot SAR Data

Table 11-29
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	30.0	28.82	-0.05	10 mm	N/A	07BE0	3	1:2.76	back	0.411	1.312	0.539	A21
836.60	190	GSM 850	GPRS	30.0	28.82	0.02	10 mm	N/A	07BE0	3	1:2.76	front	0.332	1.312	0.436	
836.60	190	GSM 850	GPRS	30.0	28.82	-0.12	10 mm	N/A	07BE0	3	1:2.76	bottom	0.140	1.312	0.184	
836.60	190	GSM 850	GPRS	30.0	28.82	-0.13	10 mm	N/A	07BE0	3	1:2.76	right	0.185	1.312	0.243	
836.60	190	GSM 850	GPRS	30.0	28.82	0.01	10 mm	N/A	07BE0	3	1:2.76	left	0.101	1.312	0.133	
1909.80	810	GSM 1900	GPRS	22.5	22.43	0.06	10 mm	N/A	226D1	3	1:2.76	back	0.288	1.016	0.293	
1909.80	810	GSM 1900	GPRS	22.5	22.43	-0.02	10 mm	N/A	226D1	3	1:2.76	front	0.238	1.016	0.242	
1909.80	810	GSM 1900	GPRS	22.5	22.43	-0.04	10 mm	N/A	226D1	3	1:2.76	bottom	0.552	1.016	0.561	A23
1909.80	810	GSM 1900	GPRS	22.5	22.43	0.04	10 mm	N/A	226D1	3	1:2.76	right	0.132	1.016	0.134	
1909.80	810	GSM 1900	GPRS	22.5	22.43	0.16	10 mm	N/A	226D1	3	1:2.76	left	0.052	1.016	0.053	
836.60	4183	UMTS 850	RMC	25.0	24.88	0.00	10 mm	15	07BE0	N/A	1:1	back	0.523	1.028	0.538	A25
836.60	4183	UMTS 850	RMC	25.0	24.88	0.04	10 mm	15	07BE0	N/A	1:1	front	0.493	1.028	0.507	
836.60	4183	UMTS 850	RMC	25.0	24.88	-0.02	10 mm	15	07BE0	N/A	1:1	bottom	0.292	1.028	0.300	
836.60	4183	UMTS 850	RMC	25.0	24.88	-0.03	10 mm	15	07BE0	N/A	1:1	right	0.256	1.028	0.263	
836.60	4183	UMTS 850	RMC	25.0	24.88	0.01	10 mm	15	07BE0	N/A	1:1	left	0.145	1.028	0.149	
1732.40	1412	UMTS 1750	RMC	19.5	18.50	0.00	10 mm	16	08CF4	N/A	1:1	back	0.475	1.259	0.598	
1732.40	1412	UMTS 1750	RMC	19.5	18.50	-0.01	10 mm	16	08CF4	N/A	1:1	front	0.312	1.259	0.393	
1732.40	1412	UMTS 1750	RMC	19.5	18.50	0.02	10 mm	16	08CF4	N/A	1:1	bottom	0.545	1.259	0.686	A27
1732.40	1412	UMTS 1750	RMC	19.5	18.50	0.04	10 mm	16	08CF4	N/A	1:1	right	0.064	1.259	0.081	
1732.40	1412	UMTS 1750	RMC	19.5	18.50	-0.03	10 mm	16	08CF4	N/A	1:1	left	0.059	1.259	0.074	
1880.00	9400	UMTS 1900	RMC	20.0	19.64	0.00	10 mm	31	226D1	N/A	1:1	back	0.356	1.086	0.387	
1880.00	9400	UMTS 1900	RMC	20.0	19.64	0.00	10 mm	31	226D1	N/A	1:1	front	0.342	1.086	0.371	
1880.00	9400	UMTS 1900	RMC	20.0	19.64	-0.01	10 mm	31	226D1	N/A	1:1	bottom	0.732	1.086	0.795	A29
1880.00	9400	UMTS 1900	RMC	20.0	19.64	-0.04	10 mm	31	226D1	N/A	1:1	right	0.082	1.086	0.089	
1880.00	9400	UMTS 1900	RMC	20.0	19.64	-0.07	10 mm	31	226D1	N/A	1:1	left	0.085	1.086	0.092	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.02	0.00	10 mm	0	08CE1	N/A	1:1	back	0.413	1.117	0.461	A31
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.02	0.01	10 mm	0	08CE1	N/A	1:1	front	0.317	1.117	0.354	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.02	-0.04	10 mm	0	08CE1	N/A	1:1	bottom	0.265	1.117	0.296	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.02	-0.03	10 mm	0	08CE1	N/A	1:1	right	0.285	1.117	0.318	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.02	0.00	10 mm	0	08CE1	N/A	1:1	left	0.096	1.117	0.107	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.51	0.02	10 mm	0	08CE1	N/A	1:1	back	0.535	1.119	0.599	A33
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.51	-0.02	10 mm	0	08CE1	N/A	1:1	front	0.348	1.119	0.389	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.51	-0.01	10 mm	0	08CE1	N/A	1:1	bottom	0.277	1.119	0.310	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.51	0.01	10 mm	0	08CE1	N/A	1:1	right	0.284	1.119	0.318	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.0	24.51	0.09	10 mm	0	08CE1	N/A	1:1	left	0.079	1.119	0.088	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.64	0.01	10 mm	77	226D1	N/A	1:1	back	0.413	1.086	0.449	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.64	-0.01	10 mm	77	226D1	N/A	1:1	front	0.344	1.086	0.374	
1851.25	25	PCS CDMA	EVDO Rev. 0	20.0	19.55	-0.02	10 mm	77	226D1	N/A	1:1	bottom	0.706	1.109	0.783	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.64	-0.06	10 mm	77	226D1	N/A	1:1	bottom	0.752	1.086	0.817	A35
1908.75	1175	PCS CDMA	EVDO Rev. 0	20.0	19.54	0.00	10 mm	77	226D1	N/A	1:1	bottom	0.681	1.112	0.757	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.64	0.16	10 mm	77	226D1	N/A	1:1	right	0.074	1.086	0.080	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.64	-0.07	10 mm	77	226D1	N/A	1:1	left	0.079	1.086	0.086	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 102 of 138

Table 11-30
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.04	0	08CD0	15	QPSK	1	0	10 mm	back	1:1	0.442	1.225	0.541	A37
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	-0.09	1	08CD0	15	QPSK	25	0	10 mm	back	1:1	0.358	1.084	0.388	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.02	0	08CD0	15	QPSK	1	0	10 mm	front	1:1	0.299	1.225	0.366	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	-0.01	1	08CD0	15	QPSK	25	0	10 mm	front	1:1	0.270	1.084	0.293	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	-0.02	0	08CD0	15	QPSK	1	0	10 mm	bottom	1:1	0.184	1.225	0.225	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	-0.02	1	08CD0	15	QPSK	25	0	10 mm	bottom	1:1	0.170	1.084	0.184	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	-0.03	0	08CD0	15	QPSK	1	0	10 mm	right	1:1	0.283	1.225	0.347	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.00	1	08CD0	15	QPSK	25	0	10 mm	right	1:1	0.241	1.084	0.261	
707.50	23095	Mid	LTE Band 12	10	25.0	24.12	0.04	0	08CD0	15	QPSK	1	0	10 mm	left	1:1	0.117	1.225	0.143	
707.50	23095	Mid	LTE Band 12	10	24.0	23.65	0.00	1	08CD0	15	QPSK	25	0	10 mm	left	1:1	0.094	1.084	0.102	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

Table 11-31
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.01	0	08CD0	0	QPSK	1	0	10 mm	back	1:1	0.457	1.119	0.511	A39
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	-0.07	1	08CD0	0	QPSK	25	0	10 mm	back	1:1	0.406	1.135	0.461	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.01	0	08CD0	0	QPSK	1	0	10 mm	front	1:1	0.364	1.119	0.407	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.00	1	08CD0	0	QPSK	25	0	10 mm	front	1:1	0.306	1.135	0.347	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	-0.05	0	08CD0	0	QPSK	1	0	10 mm	bottom	1:1	0.244	1.119	0.273	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	-0.02	1	08CD0	0	QPSK	25	0	10 mm	bottom	1:1	0.219	1.135	0.249	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	-0.03	0	08CD0	0	QPSK	1	0	10 mm	right	1:1	0.233	1.119	0.261	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.01	1	08CD0	0	QPSK	25	0	10 mm	right	1:1	0.230	1.135	0.261	
782.00	23230	Mid	LTE Band 13	10	25.0	24.51	0.02	0	08CD0	0	QPSK	1	0	10 mm	left	1:1	0.094	1.119	0.105	
782.00	23230	Mid	LTE Band 13	10	24.0	23.45	0.03	1	08CD0	0	QPSK	25	0	10 mm	left	1:1	0.089	1.135	0.101	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

Table 11-32
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.03	0	08CD0	0	QPSK	1	0	10 mm	back	1:1	0.414	1.199	0.496	A41
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	0.03	1	08CD0	0	QPSK	36	0	10 mm	back	1:1	0.394	1.197	0.472	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	0.02	0	08CD0	0	QPSK	1	0	10 mm	front	1:1	0.285	1.199	0.342	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	-0.01	1	08CD0	0	QPSK	36	0	10 mm	front	1:1	0.269	1.197	0.322	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	-0.04	0	08CD0	0	QPSK	1	0	10 mm	bottom	1:1	0.241	1.199	0.289	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	-0.03	1	08CD0	0	QPSK	36	0	10 mm	bottom	1:1	0.222	1.197	0.266	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	-0.01	0	08CD0	0	QPSK	1	0	10 mm	right	1:1	0.214	1.199	0.257	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	-0.01	1	08CD0	0	QPSK	36	0	10 mm	right	1:1	0.192	1.197	0.230	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.51	-0.04	0	08CD0	0	QPSK	1	0	10 mm	left	1:1	0.084	1.199	0.101	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.52	-0.01	1	08CD0	0	QPSK	36	0	10 mm	left	1:1	0.070	1.197	0.084	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body													
Spatial Peak							1.6 W/kg (mW/g)													
Uncontrolled Exposure/General Population							averaged over 1 gram													

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 103 of 138

Table 11-33
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.															(W/kg)		(1g)		(W/kg)
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	0.00	0	08CD0	0	QPSK	1	0	10 mm	back	1:1	0.581	1.072	0.623	A43
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.03	1	08CD0	0	QPSK	25	0	10 mm	back	1:1	0.480	1.074	0.516	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	-0.03	0	08CD0	0	QPSK	1	0	10 mm	front	1:1	0.441	1.072	0.473	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.00	1	08CD0	0	QPSK	25	0	10 mm	front	1:1	0.369	1.074	0.396	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	-0.01	0	08CD0	0	QPSK	1	0	10 mm	bottom	1:1	0.320	1.072	0.343	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	-0.04	1	08CD0	0	QPSK	25	0	10 mm	bottom	1:1	0.256	1.074	0.275	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	-0.03	0	08CD0	0	QPSK	1	0	10 mm	right	1:1	0.284	1.072	0.304	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.00	1	08CD0	0	QPSK	25	0	10 mm	right	1:1	0.231	1.074	0.248	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	25.00	0.05	0	08CD0	0	QPSK	1	0	10 mm	left	1:1	0.089	1.072	0.095	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.99	0.00	1	08CD0	0	QPSK	25	0	10 mm	left	1:1	0.074	1.074	0.079	
ANSI // IEEE C95.1 1992 - SAFETY LIMIT										Body										
Spatial Peak										1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population										averaged over 1 gram										

Table 11-34
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.62	0.02	0	07BF7	24	QPSK	1	0	10 mm	back	1:1	0.663	1.091	0.723	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.79	-0.01	0	07BF7	24	QPSK	50	0	10 mm	back	1:1	0.661	1.050	0.694	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.62	-0.02	0	07BF7	24	QPSK	1	0	10 mm	front	1:1	0.538	1.091	0.587	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.79	-0.02	0	07BF7	24	QPSK	50	0	10 mm	front	1:1	0.525	1.050	0.551	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.62	0.12	0	07BF7	24	QPSK	1	0	10 mm	bottom	1:1	0.626	1.091	0.683	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.79	0.06	0	07BF7	24	QPSK	50	0	10 mm	bottom	1:1	0.760	1.050	0.798	A45
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.62	-0.01	0	07BF7	24	QPSK	1	0	10 mm	right	1:1	0.101	1.091	0.110	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.79	0.01	0	07BF7	24	QPSK	50	0	10 mm	right	1:1	0.098	1.050	0.103	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.62	0.01	0	07BF7	24	QPSK	1	0	10 mm	left	1:1	0.091	1.091	0.099	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.79	0.00	0	07BF7	24	QPSK	50	0	10 mm	left	1:1	0.119	1.050	0.125	
ANSI // IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

Table 11-35
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.05	0.08	0	138A6	16	QPSK	1	0	10 mm	back	1:1	0.438	1.109	0.486	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.02	-0.02	0	138A6	16	QPSK	50	0	10 mm	back	1:1	0.429	1.117	0.479	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.05	-0.02	0	138A6	16	QPSK	1	0	10 mm	front	1:1	0.342	1.109	0.379	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.02	-0.02	0	138A6	16	QPSK	50	0	10 mm	front	1:1	0.336	1.117	0.375	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.5	19.88	-0.03	0	138A6	16	QPSK	1	0	10 mm	bottom	1:1	0.722	1.153	0.832	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.05	-0.05	0	138A6	16	QPSK	1	0	10 mm	bottom	1:1	0.769	1.109	0.853	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	19.98	0.00	0	138A6	16	QPSK	1	0	10 mm	bottom	1:1	0.807	1.127	0.909	A47
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.5	19.83	-0.01	0	138A6	16	QPSK	50	0	10 mm	bottom	1:1	0.724	1.167	0.845	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.02	-0.01	0	138A6	16	QPSK	50	0	10 mm	bottom	1:1	0.768	1.117	0.858	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	19.95	-0.03	0	138A6	16	QPSK	50	0	10 mm	bottom	1:1	0.790	1.135	0.897	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	19.95	-0.02	0	138A6	16	QPSK	100	0	10 mm	bottom	1:1	0.760	1.135	0.863	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.05	-0.12	0	138A6	16	QPSK	1	0	10 mm	right	1:1	0.068	1.109	0.075	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.02	-0.10	0	138A6	16	QPSK	50	0	10 mm	right	1:1	0.068	1.117	0.076	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.05	-0.03	0	138A6	16	QPSK	1	0	10 mm	left	1:1	0.099	1.109	0.110	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.02	-0.11	0	138A6	16	QPSK	50	0	10 mm	left	1:1	0.097	1.117	0.108	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	19.98	0.05	0	138A6	16	QPSK	1	0	10 mm	bottom	1:1	0.786	1.127	0.886	
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 entry represents variability data

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 104 of 138	

Table 11-36
LTE Band 30 Hotspot 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)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	21.0	20.38	-0.15	0	07BF4	QPSK	1	0	10 mm	back	1:1	1.307	1.153	0.354	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.47	0.06	0	07BF4	QPSK	25	0	10 mm	back	1:1	0.296	1.130	0.334	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.44	0.03	0	07BF4	QPSK	50	0	10 mm	back	1:1	0.302	1.138	0.344	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.38	0.01	0	07BF4	QPSK	1	0	10 mm	front	1:1	0.315	1.153	0.363	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.47	-0.01	0	07BF4	QPSK	25	0	10 mm	front	1:1	0.319	1.130	0.360	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.44	0.02	0	07BF4	QPSK	50	0	10 mm	front	1:1	0.321	1.138	0.365	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.38	-0.02	0	07BF4	QPSK	1	0	10 mm	bottom	1:1	0.582	1.153	0.671	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.47	0.07	0	07BF4	QPSK	25	0	10 mm	bottom	1:1	0.612	1.130	0.692	A49
2310.00	27710	Mid	LTE Band 30	10	21.0	20.44	0.08	0	07BF4	QPSK	50	0	10 mm	bottom	1:1	0.612	1.138	0.696	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.38	0.03	0	07BF4	QPSK	1	0	10 mm	left	1:1	0.205	1.153	0.236	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.47	-0.03	0	07BF4	QPSK	25	0	10 mm	left	1:1	0.211	1.130	0.238	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.44	-0.01	0	07BF4	QPSK	50	0	10 mm	left	1:1	0.211	1.138	0.240	
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 11-37
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																		
Configuration	Component Carrier	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)	Reported SAR (1g)
		MHz	Ch.														(W/kg)	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.52	-0.15	0	07BF4	QPSK	1	0	10 mm	back	1:1.58	0.286
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.41	-0.13	0	07BF4	QPSK	50	0	10 mm	back	1:1.58	0.274
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.52	-0.06	0	07BF4	QPSK	1	0	10 mm	front	1:1.58	0.292
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.41	0.04	0	07BF4	QPSK	50	0	10 mm	front	1:1.58	0.276
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.52	0.00	0	07BF4	QPSK	1	0	10 mm	bottom	1:1.58	0.588
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.43	0.00	0	07BF4	QPSK	1	0	10 mm	bottom	1:1.58	0.516
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.0	22.32	0.01	0	07BF4	QPSK	1	0	10 mm	bottom	1:1.58	0.531
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.32	0.00	0	07BF4	QPSK	1	0	10 mm	bottom	1:1.58	0.584
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.0	22.38	-0.01	0	07BF4	QPSK	1	0	10 mm	bottom	1:1.58	0.581
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.41	0.03	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.570
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.37	0.03	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.502
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.0	22.28	0.05	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.537
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.27	-0.01	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.591
2 CC Uplink, Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.07	-0.09	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.585
	SCC	2616.70	40857	Mid-High	LTE Band 41	20							50	50				
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.0	22.32	0.00	0	07BF4	QPSK	50	0	10 mm	bottom	1:1.58	0.572
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.36	-0.01	0	07BF4	QPSK	100	0	10 mm	bottom	1:1.58	0.489
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.52	0.05	0	07BF4	QPSK	1	0	10 mm	left	1:1.58	0.195
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.0	22.41	-0.21	0	07BF4	QPSK	50	0	10 mm	left	1:1.58	0.186
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram										

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**Table 11-38
WLAN Hotspot SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	19.65	0.16	10 mm	1	0910E	1	back	99.8	0.447	0.306	1.216	1.002	0.373	A53
2437	6	802.11b	DSSS	22	20.5	19.65	0.10	10 mm	1	0910E	1	front	99.8	0.135	-	1.216	1.002	-	
2437	6	802.11b	DSSS	22	20.5	19.65	-0.10	10 mm	1	0910E	1	top	99.8	0.420	-	1.216	1.002	-	
2437	6	802.11b	DSSS	22	20.5	19.65	-0.01	10 mm	1	0910E	1	left	99.8	0.040	-	1.216	1.002	-	
2412	1	802.11b	DSSS	22	20.5	18.98	0.03	10 mm	2	0910E	1	back	99.8	0.314	0.256	1.419	1.002	0.364	
2412	1	802.11b	DSSS	22	20.5	18.98	0.15	10 mm	2	0910E	1	front	99.8	0.128	-	1.419	1.002	-	
2412	1	802.11b	DSSS	22	20.5	18.98	0.20	10 mm	2	0910E	1	top	99.8	0.038	-	1.419	1.002	-	
2412	1	802.11b	DSSS	22	20.5	18.98	0.00	10 mm	2	0910E	1	left	99.8	0.146	-	1.419	1.002	-	
5775	155	802.11ac	OFDM	80	15.5	15.04	0.02	10 mm	1	0910E	29.3	back	95.5	0.392	0.166	1.112	1.047	0.193	A55
5775	155	802.11ac	OFDM	80	15.5	15.04	0.12	10 mm	1	0910E	29.3	front	95.5	0.142	-	1.112	1.047	-	
5775	155	802.11ac	OFDM	80	15.5	15.04	0.20	10 mm	1	0910E	29.3	top	95.5	0.167	-	1.112	1.047	-	
5775	155	802.11ac	OFDM	80	15.5	15.04	0.17	10 mm	1	0910E	29.3	left	95.5	0.057	-	1.112	1.047	-	
5775	155	802.11ac	OFDM	80	15.5	15.01	-0.14	10 mm	2	0910E	29.3	back	93.2	0.271	0.137	1.119	1.073	0.164	
5775	155	802.11ac	OFDM	80	15.5	15.01	0.21	10 mm	2	0910E	29.3	front	93.2	0.197	-	1.119	1.073	-	
5775	155	802.11ac	OFDM	80	15.5	15.01	0.13	10 mm	2	0910E	29.3	top	93.2	0.200	-	1.119	1.073	-	
5775	155	802.11ac	OFDM	80	15.5	15.01	0.17	10 mm	2	0910E	29.3	left	93.2	0.064	-	1.119	1.073	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body											
Spatial Peak								1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 1 gram											

**Table 11-39
WLAN Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm] (per Antenna)	Ant 1 Conducted Power [dBm]	Ant 2 Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.14	10 mm	MIMO	0910E	13	back	98.9	0.132	0.093	1.216	1.011	0.114	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.17	10 mm	MIMO	0910E	13	front	98.9	0.048	-	1.216	1.011	-	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.09	10 mm	MIMO	0910E	13	top	98.9	0.089	-	1.216	1.011	-	
2412	1	802.11n	OFDM	20	13.5	12.65	13.04	0.17	10 mm	MIMO	0910E	13	left	98.9	0.044	-	1.216	1.011	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	13.21	0.17	10 mm	MIMO	0910E	58.5	back	88.9	0.183	0.056	1.072	1.125	0.068	
5775	155	802.11ac	OFDM	80	13.5	13.20	13.21	-0.21	10 mm	MIMO	0910E	58.5	front	88.9	0.089	-	1.072	1.125	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	13.21	-0.13	10 mm	MIMO	0910E	58.5	top	88.9	0.048	-	1.072	1.125	-	
5775	155	802.11ac	OFDM	80	13.5	13.20	13.21	0.00	10 mm	MIMO	0910E	58.5	left	88.9	0.021	-	1.072	1.125	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Body											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

Note: DTS and NII MIMO were additionally evaluated at the maximum allowed output power for operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WLAN was not transmitting during 2.4 GHz WLAN evaluations, and 2.4 GHz WLAN was not transmitting during 5 GHz WLAN evaluations.

**Table 11-40
Bluetooth Hotspot SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	10.0	9.97	-0.20	10 mm	0910E	2	back	77.0	0.030	1.007	1.299	0.039	A57
2441	39	Bluetooth	FHSS	10.0	9.97	0.08	10 mm	0910E	2	front	77.0	0.009	1.007	1.299	0.012	
2441	39	Bluetooth	FHSS	10.0	9.97	-0.13	10 mm	0910E	2	top	77.0	0.001	1.007	1.299	0.001	
2441	39	Bluetooth	FHSS	10.0	9.97	0.16	10 mm	0910E	2	left	77.0	0.009	1.007	1.299	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak							Body 1.6 W/kg (mW/g) averaged over 1 gram									
Uncontrolled Exposure/General Population																

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Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 106 of 138	

11.4 Standalone Phablet SAR Data

Table 11-41
GPRS/UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Dn [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (10g) (W/kg)	Scaling Factor	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.															
1909.80	810	GSM 1900	GPRS	26.5	26.43	-0.14	4 mm	N/A	08DCC	3	1:2.76	back	0.949	1.016	0.964	
1909.80	810	GSM 1900	GPRS	26.5	26.43	-0.04	4 mm	N/A	08DCC	3	1:2.76	front	0.723	1.016	0.735	
1909.80	810	GSM 1900	GPRS	26.5	26.43	-0.18	6 mm	N/A	08DCC	3	1:2.76	bottom	1.210	1.016	1.229	
1909.80	810	GSM 1900	GPRS	26.5	26.43	-0.08	0 mm	N/A	08DCC	3	1:2.76	right	0.304	1.016	0.309	
1909.80	810	GSM 1900	GPRS	26.5	26.43	-0.14	0 mm	N/A	08DCC	3	1:2.76	left	0.409	1.016	0.416	
1850.20	512	GSM 1900	GPRS	23.5	22.12	-0.03	0 mm	N/A	226C0	3	1:2.76	back	1.740	1.374	2.391	
1880.00	661	GSM 1900	GPRS	23.5	22.17	-0.02	0 mm	N/A	226C0	3	1:2.76	back	1.740	1.358	2.363	
1909.80	810	GSM 1900	GPRS	23.5	22.49	-0.09	0 mm	N/A	226C0	3	1:2.76	back	1.850	1.262	2.335	A58
1850.20	512	GSM 1900	GPRS	23.5	22.12	-0.02	0 mm	N/A	226C0	3	1:2.76	front	1.780	1.374	2.446	
1880.00	661	GSM 1900	GPRS	23.5	22.17	0.04	0 mm	N/A	226C0	3	1:2.76	front	1.660	1.358	2.254	
1909.80	810	GSM 1900	GPRS	23.5	22.49	0.07	0 mm	N/A	226C0	3	1:2.76	front	1.770	1.262	2.234	
1850.20	512	GSM 1900	GPRS	23.5	22.12	-0.03	0 mm	N/A	226C0	3	1:2.76	bottom	1.600	1.374	2.198	
1880.00	661	GSM 1900	GPRS	23.5	22.17	-0.07	0 mm	N/A	226C0	3	1:2.76	bottom	1.480	1.358	2.010	
1909.80	810	GSM 1900	GPRS	23.5	22.49	-0.04	0 mm	N/A	226C0	3	1:2.76	bottom	1.640	1.262	2.070	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.03	4 mm	16	07BE0	N/A	1:1	back	0.751	1.054	0.792	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.14	4 mm	16	07BE0	N/A	1:1	front	0.813	1.054	0.857	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.01	6 mm	16	07BE0	N/A	1:1	bottom	0.968	1.054	1.020	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	0.01	0 mm	16	07BE0	N/A	1:1	right	0.602	1.054	0.635	
1732.40	1412	UMTS 1750	RMC	25.0	24.77	-0.04	0 mm	16	07BE0	N/A	1:1	left	0.450	1.054	0.474	
1712.40	1312	UMTS 1750	RMC	22.0	20.95	-0.02	0 mm	16	07BF0	N/A	1:1	back	1.930	1.274	2.459	
1732.40	1412	UMTS 1750	RMC	22.0	20.96	0.00	0 mm	16	07BF0	N/A	1:1	back	1.880	1.271	2.389	
1752.60	1513	UMTS 1750	RMC	22.0	21.00	-0.01	0 mm	16	07BF0	N/A	1:1	back	2.050	1.259	2.581	
1712.40	1312	UMTS 1750	RMC	22.0	20.95	0.02	0 mm	16	07BF0	N/A	1:1	front	1.770	1.274	2.255	
1732.40	1412	UMTS 1750	RMC	22.0	20.96	0.00	0 mm	16	07BF0	N/A	1:1	front	1.600	1.271	2.034	
1752.60	1513	UMTS 1750	RMC	22.0	21.00	0.01	0 mm	16	07BF0	N/A	1:1	front	1.710	1.259	2.153	
1712.40	1312	UMTS 1750	RMC	22.0	20.95	0.01	0 mm	16	07BF0	N/A	1:1	bottom	2.450	1.274	3.121	
1732.40	1412	UMTS 1750	RMC	22.0	20.96	-0.01	0 mm	16	07BF0	N/A	1:1	bottom	2.460	1.271	3.127	A59
1752.60	1513	UMTS 1750	RMC	22.0	21.00	-0.02	0 mm	16	07BF0	N/A	1:1	bottom	2.450	1.259	3.085	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	0.05	4 mm	31	08DCC	N/A	1:1	back	1.090	1.303	1.420	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.04	4 mm	31	08DCC	N/A	1:1	front	1.030	1.303	1.342	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.04	6 mm	31	08DCC	N/A	1:1	bottom	1.520	1.303	1.981	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	0.12	0 mm	31	08DCC	N/A	1:1	right	0.380	1.303	0.495	
1880.00	9400	UMTS 1900	RMC	24.5	23.35	-0.15	0 mm	31	08DCC	N/A	1:1	left	0.586	1.303	0.764	
1880.00	9400	UMTS 1900	RMC	21.5	20.97	-0.13	0 mm	31	226C0	N/A	1:1	back	1.660	1.130	1.876	
1880.00	9400	UMTS 1900	RMC	21.5	20.97	0.04	0 mm	31	226C0	N/A	1:1	front	1.530	1.130	1.729	
1852.40	9262	UMTS 1900	RMC	21.5	21.13	-0.02	0 mm	31	226C0	N/A	1:1	bottom	2.330	1.089	2.537	A60
1880.00	9400	UMTS 1900	RMC	21.5	20.97	0.11	0 mm	31	226C0	N/A	1:1	bottom	2.090	1.130	2.362	
1907.60	9538	UMTS 1900	RMC	21.5	20.92	0.07	0 mm	31	226C0	N/A	1:1	bottom	1.980	1.143	2.263	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.35	-0.05	4 mm	77	08DCC	N/A	1:1	back	1.190	1.303	1.551	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.35	-0.01	4 mm	77	08DCC	N/A	1:1	front	0.980	1.303	1.277	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.35	-0.01	6 mm	77	08DCC	N/A	1:1	bottom	1.480	1.303	1.928	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.35	-0.18	0 mm	77	08DCC	N/A	1:1	right	0.408	1.303	0.532	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.35	-0.13	0 mm	77	08DCC	N/A	1:1	left	0.610	1.303	0.795	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.08	0.05	0 mm	77	226C0	N/A	1:1	back	1.800	1.102	1.984	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	21.78	-0.05	0 mm	77	226C0	N/A	1:1	back	1.790	1.180	2.112	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.36	-0.12	0 mm	77	226C0	N/A	1:1	back	2.020	1.033	2.087	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.08	-0.12	0 mm	77	226C0	N/A	1:1	front	1.940	1.102	2.138	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	21.78	-0.20	0 mm	77	226C0	N/A	1:1	front	1.870	1.180	2.207	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.36	-0.19	0 mm	77	226C0	N/A	1:1	front	2.020	1.033	2.087	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.08	0.01	0 mm	77	226C0	N/A	1:1	bottom	2.990	1.102	3.295	A61
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	21.78	-0.05	0 mm	77	226C0	N/A	1:1	bottom	2.720	1.180	3.210	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.36	-0.03	0 mm	77	226C0	N/A	1:1	bottom	2.830	1.033	2.923	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.08	0.12	0 mm	77	226C0	N/A	1:1	bottom	2.830	1.102	3.119	
ANSI / IEEE C63.1 1992 - SAFETY LIMIT								Phablet								
Spatial Peak								4.0 W/kg (mW/g)								
Uncontrolled Exposure/General Population								averaged over 10 grams								

Note: Blue entry represents variability data

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Document S/N: 1M1701030005-01-R1.A3L		Test Dates: 12/26/16 – 02/08/17		DUT Type: Portable Handset				Page 107 of 138	

Table 11-42
LTE Band 66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	0.04	0	07BCE	24	QPSK	1	0	4 mm	back	1:1	1.550	1.035	1.604	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.03	1	07BCE	24	QPSK	50	0	4 mm	back	1:1	1.210	1.047	1.267	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	-0.01	0	07BCE	24	QPSK	1	0	4 mm	front	1:1	1.130	1.035	1.170	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	-0.03	1	07BCE	24	QPSK	50	0	4 mm	front	1:1	0.888	1.047	0.930	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.77	0.06	0	07BCE	24	QPSK	1	0	6 mm	bottom	1:1	1.820	1.054	1.918	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	-0.01	0	07BCE	24	QPSK	1	0	6 mm	bottom	1:1	1.810	1.035	1.873	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.74	-0.01	0	07BCE	24	QPSK	1	0	6 mm	bottom	1:1	1.950	1.062	2.071	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.04	1	07BCE	24	QPSK	50	0	6 mm	bottom	1:1	1.450	1.047	1.518	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.70	0.00	1	07BCE	24	QPSK	100	0	6 mm	bottom	1:1	1.520	1.072	1.629	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	-0.06	0	07BCE	24	QPSK	1	0	0 mm	right	1:1	0.484	1.035	0.501	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	-0.05	1	07BCE	24	QPSK	50	0	0 mm	right	1:1	0.396	1.047	0.415	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.85	-0.11	0	07BCE	24	QPSK	1	0	0 mm	left	1:1	0.507	1.035	0.525	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.80	0.02	1	07BCE	24	QPSK	50	0	0 mm	left	1:1	0.402	1.047	0.421	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.20	0.04	0	07C2B	24	QPSK	1	0	0 mm	back	1:1	2.420	1.072	2.594	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	21.84	0.06	0	07C2B	24	QPSK	1	0	0 mm	back	1:1	2.050	1.164	2.386	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.25	0.10	0	07C2B	24	QPSK	1	0	0 mm	back	1:1	1.890	1.059	2.002	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.25	0.06	0	07C2B	24	QPSK	50	0	0 mm	back	1:1	2.450	1.059	2.595	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	21.96	-0.15	0	07C2B	24	QPSK	50	0	0 mm	back	1:1	1.900	1.132	2.151	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.26	0.09	0	07C2B	24	QPSK	50	0	0 mm	back	1:1	1.890	1.057	1.998	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.11	0.04	0	07C2B	24	QPSK	100	0	0 mm	back	1:1	2.110	1.094	2.308	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.25	-0.03	0	07C2B	24	QPSK	1	0	0 mm	front	1:1	1.840	1.059	1.949	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.25	0.01	0	07C2B	24	QPSK	50	0	0 mm	front	1:1	1.950	1.059	2.065	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	21.96	-0.02	0	07C2B	24	QPSK	50	0	0 mm	front	1:1	1.730	1.132	1.958	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.26	-0.02	0	07C2B	24	QPSK	50	0	0 mm	front	1:1	1.860	1.057	1.966	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.11	-0.04	0	07C2B	24	QPSK	100	0	0 mm	front	1:1	1.740	1.094	1.904	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.20	0.00	0	07C2B	24	QPSK	1	0	0 mm	bottom	1:1	2.710	1.072	2.905	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	21.84	-0.03	0	07C2B	24	QPSK	1	0	0 mm	bottom	1:1	2.360	1.164	2.747	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.25	-0.02	0	07C2B	24	QPSK	1	0	0 mm	bottom	1:1	2.500	1.059	2.648	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.25	0.03	0	07C2B	24	QPSK	50	0	0 mm	bottom	1:1	2.740	1.059	2.902	A62
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	21.96	-0.14	0	07C2B	24	QPSK	50	0	0 mm	bottom	1:1	2.500	1.132	2.830	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.26	0.03	0	07C2B	24	QPSK	50	0	0 mm	bottom	1:1	2.530	1.057	2.674	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.11	-0.01	0	07C2B	24	QPSK	100	0	0 mm	bottom	1:1	2.350	1.094	2.571	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.25	-0.12	0	07C2B	24	QPSK	50	0	0 mm	bottom	1:1	2.670	1.059	2.828	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak								Phablet 4.0 W/kg (mW/g) averaged over 10 grams												
Uncontrolled Exposure/General Population																				

Note: Blue entry represents variability data

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Table 11-43
LTE Band 25 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Ant State	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.05	0	1388E	16	QPSK	1	0	4 mm	back	1:1	1.270	1.276	1.621	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.04	1	1388E	16	QPSK	50	0	4 mm	back	1:1	1.010	1.300	1.313	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.02	0	1388E	16	QPSK	1	0	4 mm	front	1:1	1.150	1.276	1.467	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.04	1	1388E	16	QPSK	50	0	4 mm	front	1:1	0.918	1.300	1.193	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.07	0	1388E	16	QPSK	1	0	6 mm	bottom	1:1	1.550	1.276	1.978	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.07	1	1388E	16	QPSK	50	0	6 mm	bottom	1:1	1.260	1.300	1.638	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.16	0	1388E	16	QPSK	1	0	0 mm	right	1:1	0.318	1.276	0.406	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.07	1	1388E	16	QPSK	50	0	0 mm	right	1:1	0.260	1.300	0.338	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.44	-0.20	0	1388E	16	QPSK	1	0	0 mm	left	1:1	0.658	1.276	0.840	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.36	-0.21	1	1388E	16	QPSK	50	0	0 mm	left	1:1	0.527	1.300	0.685	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.90	-0.06	0	836F9	16	QPSK	1	0	0 mm	back	1:1	1.830	1.148	2.101	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.01	-0.07	0	836F9	16	QPSK	1	0	0 mm	back	1:1	2.000	1.119	2.238	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.02	-0.05	0	836F9	16	QPSK	1	0	0 mm	back	1:1	2.030	1.117	2.268	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.85	-0.08	0	836F9	16	QPSK	50	0	0 mm	back	1:1	1.830	1.161	2.125	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.02	-0.01	0	836F9	16	QPSK	50	0	0 mm	back	1:1	2.010	1.117	2.245	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.03	-0.04	0	836F9	16	QPSK	50	0	0 mm	back	1:1	2.010	1.114	2.239	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	21.91	0.01	0	836F9	16	QPSK	100	0	0 mm	back	1:1	1.930	1.146	2.212	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.90	-0.19	0	836F9	16	QPSK	1	0	0 mm	front	1:1	1.770	1.148	2.032	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.01	-0.18	0	836F9	16	QPSK	1	0	0 mm	front	1:1	1.850	1.119	2.070	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.02	-0.18	0	836F9	16	QPSK	1	0	0 mm	front	1:1	1.970	1.117	2.200	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.85	-0.16	0	836F9	16	QPSK	50	0	0 mm	front	1:1	1.760	1.161	2.043	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.02	-0.14	0	836F9	16	QPSK	50	0	0 mm	front	1:1	1.860	1.117	2.078	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.03	-0.18	0	836F9	16	QPSK	50	0	0 mm	front	1:1	1.990	1.114	2.217	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	21.91	-0.13	0	836F9	16	QPSK	100	0	0 mm	front	1:1	1.980	1.146	2.269	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.90	0.11	0	836F9	16	QPSK	1	0	0 mm	bottom	1:1	2.790	1.148	3.203	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.01	0.20	0	836F9	16	QPSK	1	0	0 mm	bottom	1:1	2.750	1.119	3.077	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.02	0.06	0	836F9	16	QPSK	1	0	0 mm	bottom	1:1	2.540	1.117	2.837	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	21.85	0.14	0	836F9	16	QPSK	50	0	0 mm	bottom	1:1	2.800	1.161	3.251	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.02	0.15	0	836F9	16	QPSK	50	0	0 mm	bottom	1:1	2.810	1.117	3.139	A63
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.03	0.09	0	836F9	16	QPSK	50	0	0 mm	bottom	1:1	2.540	1.114	2.830	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	21.91	0.02	0	836F9	16	QPSK	100	0	0 mm	bottom	1:1	2.600	1.146	2.980	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Phablet												
Spatial Peak								4.0 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 10 grams												

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 109 of 138

Table 11-44
LTE Band 30 Phablet 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 (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.01	0	08D85	QPSK	1	0	4 mm	back	1:1	1.100	1.016	1.118	A64
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	-0.02	1	08D85	QPSK	25	0	4 mm	back	1:1	0.876	1.014	0.888	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	0.19	0	08D85	QPSK	1	0	4 mm	front	1:1	0.846	1.016	0.860	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	0.13	1	08D85	QPSK	25	0	4 mm	front	1:1	0.677	1.014	0.686	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	-0.04	0	08D85	QPSK	1	0	6 mm	bottom	1:1	1.170	1.016	1.189	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	0.01	1	08D85	QPSK	25	0	6 mm	bottom	1:1	0.941	1.014	0.954	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.93	-0.17	0	08D85	QPSK	1	0	0 mm	left	1:1	1.120	1.016	1.138	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.94	-0.13	1	08D85	QPSK	25	0	0 mm	left	1:1	0.921	1.014	0.934	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.08	-0.02	0	07BE5	QPSK	1	0	0 mm	back	1:1	1.750	1.102	1.929	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.21	-0.02	0	07BE5	QPSK	25	0	0 mm	back	1:1	1.790	1.069	1.914	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.14	-0.02	0	07BE5	QPSK	50	0	0 mm	back	1:1	1.800	1.086	1.955	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.08	0.00	0	07BE5	QPSK	1	0	0 mm	front	1:1	1.830	1.102	2.017	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.21	0.01	0	07BE5	QPSK	25	0	0 mm	front	1:1	1.860	1.069	1.988	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.14	0.01	0	07BE5	QPSK	50	0	0 mm	front	1:1	1.860	1.086	2.020	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.08	-0.12	0	07BE5	QPSK	1	0	0 mm	bottom	1:1	1.460	1.102	1.609	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.21	-0.14	0	07BE5	QPSK	25	0	0 mm	bottom	1:1	1.470	1.069	1.571	
2310.00	27710	Mid	LTE Band 30	10	22.5	22.14	-0.15	0	07BE5	QPSK	50	0	0 mm	bottom	1:1	1.460	1.086	1.586	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Table 11-45
WLAN Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)	(W/kg)	(W/kg)		
5290	58	802.11ac	OFDM	80	15.5	14.56	-0.19	0 mm	1	0910E	29.3	back	95.5	10.181	0.624	1.242	1.047	0.811	
5290	58	802.11ac	OFDM	80	15.5	14.56	0.19	0 mm	1	0910E	29.3	front	95.5	2.455	-	1.242	1.047	-	
5290	58	802.11ac	OFDM	80	15.5	14.56	0.16	0 mm	1	0910E	29.3	top	95.5	1.008	-	1.242	1.047	-	
5290	58	802.11ac	OFDM	80	15.5	14.56	0.12	0 mm	1	0910E	29.3	left	95.5	0.186	-	1.242	1.047	-	
5290	58	802.11ac	OFDM	80	15.5	15.11	-0.16	0 mm	2	0910E	29.3	back	93.2	9.820	0.737	1.094	1.073	0.865	
5290	58	802.11ac	OFDM	80	15.5	15.11	0.18	0 mm	2	0910E	29.3	front	93.2	2.676	-	1.094	1.073	-	
5290	58	802.11ac	OFDM	80	15.5	15.11	0.14	0 mm	2	0910E	29.3	top	93.2	1.877	-	1.094	1.073	-	
5290	58	802.11ac	OFDM	80	15.5	15.11	0.17	0 mm	2	0910E	29.3	left	93.2	0.272	-	1.094	1.073	-	
5290	58	802.11ac	OFDM	80	18.5	17.85	-0.08	0 mm	MIMO	0910E	58.5	back	88.9	8.786	0.581	1.242	1.125	0.812	
5290	58	802.11ac	OFDM	80	18.5	17.85	0.20	0 mm	MIMO	0910E	58.5	front	88.9	1.418	-	1.242	1.125	-	
5290	58	802.11ac	OFDM	80	18.5	17.85	0.18	0 mm	MIMO	0910E	58.5	top	88.9	1.331	-	1.242	1.125	-	
5290	58	802.11ac	OFDM	80	18.5	17.85	0.13	0 mm	MIMO	0910E	58.5	left	88.9	0.162	-	1.242	1.125	-	
5610	122	802.11ac	OFDM	80	15.5	15.34	0.13	0 mm	1	0910E	29.3	back	95.5	10.005	0.851	1.038	1.047	0.925	
5610	122	802.11ac	OFDM	80	15.5	15.34	0.13	0 mm	1	0910E	29.3	front	95.5	4.338	-	1.038	1.047	-	
5610	122	802.11ac	OFDM	80	15.5	15.34	0.16	0 mm	1	0910E	29.3	top	95.5	1.512	-	1.038	1.047	-	
5610	122	802.11ac	OFDM	80	15.5	15.34	0.21	0 mm	1	0910E	29.3	left	95.5	0.585	-	1.038	1.047	-	
5610	122	802.11ac	OFDM	80	15.5	14.82	0.06	0 mm	2	0910E	29.3	back	93.2	12.605	0.688	1.169	1.073	0.863	
5610	122	802.11ac	OFDM	80	15.5	14.82	0.19	0 mm	2	0910E	29.3	front	93.2	3.448	-	1.169	1.073	-	
5610	122	802.11ac	OFDM	80	15.5	14.82	0.20	0 mm	2	0910E	29.3	top	93.2	2.368	-	1.169	1.073	-	
5610	122	802.11ac	OFDM	80	15.5	14.82	0.20	0 mm	2	0910E	29.3	left	93.2	0.378	-	1.169	1.073	-	
5610	122	802.11ac	OFDM	80	18.5	18.10	-0.09	0 mm	MIMO	0910E	58.5	back	88.9	10.814	0.856	1.169	1.125	1.126	A65
5610	122	802.11ac	OFDM	80	18.5	18.10	0.20	0 mm	MIMO	0910E	58.5	front	88.9	3.502	0.431	1.169	1.125	0.567	
5610	122	802.11ac	OFDM	80	18.5	18.10	-0.13	0 mm	MIMO	0910E	58.5	top	88.9	1.293	-	1.169	1.125	-	
5610	122	802.11ac	OFDM	80	18.5	18.10	0.20	0 mm	MIMO	0910E	58.5	left	88.9	0.495	-	1.169	1.125	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																			
Spatial Peak								Phablet											
Uncontrolled Exposure/General Population								4.0 W/kg (mW/g) averaged over 10 grams											

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 110 of 138	

Table 11-46
Bluetooth Phablet SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	16.0	15.65	0.09	0 mm	0910E	1	back	77.0	0.482	1.084	1.299	0.679	A67
2441	39	Bluetooth	FHSS	16.0	15.65	0.15	0 mm	0910E	1	front	77.0	0.208	1.084	1.299	0.293	
2441	39	Bluetooth	FHSS	16.0	15.65	-0.20	0 mm	0910E	1	top	77.0	0.065	1.084	1.299	0.092	
2441	39	Bluetooth	FHSS	16.0	15.65	0.12	0 mm	0910E	1	left	77.0	0.043	1.084	1.299	0.061	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams									

11.5 SAR Test Notes

General Notes:

- The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth was at least 15.0 cm for all frequencies.
- 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.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
- Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
- 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 13 for variability analysis.
- During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
- Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
- This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.
- This device utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
- Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 111 of 138

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. 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.
3. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router 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.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.
6. 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 then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
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 and MCC=001 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).

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 112 of 138	

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, 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 downlink only LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. For LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.
8. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition. Please see Section 14 for linearity results.

WLAN Notes:

1. For held-to-ear and hotspot operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg. See Section 8.7.6 for more information.
4. 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 12 for complete analysis.
5. 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 or all test channels were measured.
6. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.
7. 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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 113 of 138

Bluetooth Notes:

1. Body-worn and Phablet Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.6 for the time-domain plot and calculation for the duty factor of the device.
2. Head and hotspot Bluetooth SAR was evaluated for BT EDR tethering applications.
3. Head and Hotspot Bluetooth SAR were measured with the device connected to a call box with hopping disabled with 2DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.6 for the time-domain plot and calculation for the duty factor of the device.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 114 of 138	

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 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.

12.2 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 1-g SAR for all the simultaneous transmitting antennas in a specific 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 1-g or 10-g SAR.

(*) For test positions that were not required to be evaluated for WLAN SAR per FCC KDB Publication 248227, the worst case WLAN SAR result for applicable exposure conditions was used for simultaneous transmission analysis.

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

12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.141	0.460	0.420	0.601	0.561	1.021
	GSM 1900	0.112	0.460	0.420	0.572	0.532	0.992
	UMTS 850	0.176	0.460	0.420	0.636	0.596	1.056
	UMTS 1750	0.207	0.460	0.420	0.667	0.627	1.087
	UMTS 1900	0.185	0.460	0.420	0.645	0.605	1.065
	CDMA/EVDO BC10 (§90S)	0.224	0.460	0.420	0.684	0.644	1.104
	CDMA/EVDO BC0 (§22H)	0.218	0.460	0.420	0.678	0.638	1.098
	PCS CDMA/EVDO	0.193	0.460	0.420	0.653	0.613	1.073
	LTE Band 12	0.224	0.460	0.420	0.684	0.644	1.104
	LTE Band 13	0.182	0.460	0.420	0.642	0.602	1.062
	LTE Band 26 (Cell)	0.203	0.460	0.420	0.663	0.623	1.083
	LTE Band 5 (Cell)	0.208	0.460	0.420	0.668	0.628	1.088
	LTE Band 66 (AWS)	0.187	0.460	0.420	0.647	0.607	1.067
	LTE Band 25 (PCS)	0.174	0.460	0.420	0.634	0.594	1.054
	LTE Band 30	0.123	0.460	0.420	0.583	0.543	1.003
	LTE Band 41	0.043	0.460	0.420	0.503	0.463	0.923

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 115 of 138

Table 12-2
Simultaneous Transmission Scenario with 5 GHz WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.141	0.334	0.313	0.475	0.454	0.788
	GSM 1900	0.112	0.334	0.313	0.446	0.425	0.759
	UMTS 850	0.176	0.334	0.313	0.510	0.489	0.823
	UMTS 1750	0.207	0.334	0.313	0.541	0.520	0.854
	UMTS 1900	0.185	0.334	0.313	0.519	0.498	0.832
	CDMA/EVDO BC10 (§90S)	0.224	0.334	0.313	0.558	0.537	0.871
	CDMA/EVDO BC0 (§22H)	0.218	0.334	0.313	0.552	0.531	0.865
	PCS CDMA/EVDO	0.193	0.334	0.313	0.527	0.506	0.840
	LTE Band 12	0.224	0.334	0.313	0.558	0.537	0.871
	LTE Band 13	0.182	0.334	0.313	0.516	0.495	0.829
	LTE Band 26 (Cell)	0.203	0.334	0.313	0.537	0.516	0.850
	LTE Band 5 (Cell)	0.208	0.334	0.313	0.542	0.521	0.855
	LTE Band 66 (AWS)	0.187	0.334	0.313	0.521	0.500	0.834
	LTE Band 25 (PCS)	0.174	0.334	0.313	0.508	0.487	0.821
	LTE Band 30	0.123	0.334	0.313	0.457	0.436	0.770
	LTE Band 41	0.043	0.334	0.313	0.377	0.356	0.690

Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz MIMO and 5 GHz MIMO WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	GSM 850	0.141	0.332	0.334	0.313	1.120
	GSM 1900	0.112	0.332	0.334	0.313	1.091
	UMTS 850	0.176	0.332	0.334	0.313	1.155
	UMTS 1750	0.207	0.332	0.334	0.313	1.186
	UMTS 1900	0.185	0.332	0.334	0.313	1.164
	CDMA/EVDO BC10 (§90S)	0.224	0.332	0.334	0.313	1.203
	CDMA/EVDO BC0 (§22H)	0.218	0.332	0.334	0.313	1.197
	PCS CDMA/EVDO	0.193	0.332	0.334	0.313	1.172
	LTE Band 12	0.224	0.332	0.334	0.313	1.203
	LTE Band 13	0.182	0.332	0.334	0.313	1.161
	LTE Band 26 (Cell)	0.203	0.332	0.334	0.313	1.182
	LTE Band 5 (Cell)	0.208	0.332	0.334	0.313	1.187
	LTE Band 66 (AWS)	0.187	0.332	0.334	0.313	1.166
	LTE Band 25 (PCS)	0.174	0.332	0.334	0.313	1.153
	LTE Band 30	0.123	0.332	0.334	0.313	1.102
	LTE Band 41	0.043	0.332	0.334	0.313	1.022

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 116 of 138

Table 12-4
Simultaneous Transmission Scenario with Bluetooth (Held to Ear)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.141	0.103	0.244
	GSM 1900	0.112	0.103	0.215
	UMTS 850	0.176	0.103	0.279
	UMTS 1750	0.207	0.103	0.310
	UMTS 1900	0.185	0.103	0.288
	CDMA/EVDO BC10 (§90S)	0.224	0.103	0.327
	CDMA/EVDO BC0 (§22H)	0.218	0.103	0.321
	PCS CDMA/EVDO	0.193	0.103	0.296
	LTE Band 12	0.224	0.103	0.327
	LTE Band 13	0.182	0.103	0.285
	LTE Band 26 (Cell)	0.203	0.103	0.306
	LTE Band 5 (Cell)	0.208	0.103	0.311
	LTE Band 66 (AWS)	0.187	0.103	0.290
	LTE Band 25 (PCS)	0.174	0.103	0.277
	LTE Band 30	0.123	0.103	0.226
	LTE Band 41	0.043	0.103	0.146

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-5
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.182	0.199	0.142	0.381	0.324	0.523
	GSM 1900	0.389	0.199	0.142	0.588	0.531	0.730
	UMTS 850	0.263	0.199	0.142	0.462	0.405	0.604
	UMTS 1750	1.007	0.199	0.142	1.206	1.149	1.348
	UMTS 1900	0.767	0.199	0.142	0.966	0.909	1.108
	CDMA BC10 (§90S)	0.239	0.199	0.142	0.438	0.381	0.580
	CDMA BC0 (§22H)	0.281	0.199	0.142	0.480	0.423	0.622
	PCS CDMA	0.798	0.199	0.142	0.997	0.940	1.139
	LTE Band 12	0.268	0.199	0.142	0.467	0.410	0.609
	LTE Band 13	0.238	0.199	0.142	0.437	0.380	0.579
	LTE Band 26 (Cell)	0.227	0.199	0.142	0.426	0.369	0.568
	LTE Band 5 (Cell)	0.314	0.199	0.142	0.513	0.456	0.655
	LTE Band 66 (AWS)	0.843	0.199	0.142	1.042	0.985	1.184
	LTE Band 25 (PCS)	0.586	0.199	0.142	0.785	0.728	0.927
	LTE Band 30	0.311	0.199	0.142	0.510	0.453	0.652
	LTE Band 41	0.279	0.199	0.142	0.478	0.421	0.620

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 117 of 138

Table 12-6
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.182	0.237	0.286	0.419	0.468	0.705
	GSM 1900	0.389	0.237	0.286	0.626	0.675	0.912
	UMTS 850	0.263	0.237	0.286	0.500	0.549	0.786
	UMTS 1750	1.007	0.237	0.286	1.244	1.293	1.530
	UMTS 1900	0.767	0.237	0.286	1.004	1.053	1.290
	CDMA BC10 (§90S)	0.239	0.237	0.286	0.476	0.525	0.762
	CDMA BC0 (§22H)	0.281	0.237	0.286	0.518	0.567	0.804
	PCS CDMA	0.798	0.237	0.286	1.035	1.084	1.321
	LTE Band 12	0.268	0.237	0.286	0.505	0.554	0.791
	LTE Band 13	0.238	0.237	0.286	0.475	0.524	0.761
	LTE Band 26 (Cell)	0.227	0.237	0.286	0.464	0.513	0.750
	LTE Band 5 (Cell)	0.314	0.237	0.286	0.551	0.600	0.837
	LTE Band 66 (AWS)	0.843	0.237	0.286	1.080	1.129	1.366
	LTE Band 25 (PCS)	0.586	0.237	0.286	0.823	0.872	1.109
	LTE Band 30	0.311	0.237	0.286	0.548	0.597	0.834
	LTE Band 41	0.279	0.237	0.286	0.516	0.565	0.802

Table 12-7
Simultaneous Transmission Scenario with 2.4 GHz MIMO and 5 GHz MIMO WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	GSM 850	0.182	0.052	0.137	0.371
	GSM 1900	0.389	0.052	0.137	0.578
	UMTS 850	0.263	0.052	0.137	0.452
	UMTS 1750	1.007	0.052	0.137	1.196
	UMTS 1900	0.767	0.052	0.137	0.956
	CDMA BC10 (§90S)	0.239	0.052	0.137	0.428
	CDMA BC0 (§22H)	0.281	0.052	0.137	0.470
	PCS CDMA	0.798	0.052	0.137	0.987
	LTE Band 12	0.268	0.052	0.137	0.457
	LTE Band 13	0.238	0.052	0.137	0.427
	LTE Band 26 (Cell)	0.227	0.052	0.137	0.416
	LTE Band 5 (Cell)	0.314	0.052	0.137	0.503
	LTE Band 66 (AWS)	0.843	0.052	0.137	1.032
	LTE Band 25 (PCS)	0.586	0.052	0.137	0.775
	LTE Band 30	0.311	0.052	0.137	0.500
	LTE Band 41	0.279	0.052	0.137	0.468

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 118 of 138

Table 12-8
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.182	0.038	0.220
	GSM 1900	0.389	0.038	0.427
	UMTS 850	0.263	0.038	0.301
	UMTS 1750	1.007	0.038	1.045
	UMTS 1900	0.767	0.038	0.805
	CDMA BC10 (§90S)	0.239	0.038	0.277
	CDMA BC0 (§22H)	0.281	0.038	0.319
	PCS CDMA	0.798	0.038	0.836
	LTE Band 12	0.268	0.038	0.306
	LTE Band 13	0.238	0.038	0.276
	LTE Band 26 (Cell)	0.227	0.038	0.265
	LTE Band 5 (Cell)	0.314	0.038	0.352
	LTE Band 66 (AWS)	0.843	0.038	0.881
	LTE Band 25 (PCS)	0.586	0.038	0.624
	LTE Band 30	0.311	0.038	0.349
	LTE Band 41	0.279	0.038	0.317

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 119 of 138

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-9
Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	0.539	0.373	0.364	0.912	0.903	1.276
	GPRS 1900	0.561	0.373	0.364	0.934	0.925	1.298
	UMTS 850	0.538	0.373	0.364	0.911	0.902	1.275
	UMTS 1750	0.686	0.373	0.364	1.059	1.050	1.423
	UMTS 1900	0.795	0.373	0.364	1.168	1.159	1.532
	EVDO BC10 (§90S)	0.461	0.373	0.364	0.834	0.825	1.198
	EVDO BC0 (§22H)	0.599	0.373	0.364	0.972	0.963	1.336
	PCS EVDO	0.817	0.373	0.364	1.190	1.181	1.554
	LTE Band 12	0.541	0.373	0.364	0.914	0.905	1.278
	LTE Band 13	0.511	0.373	0.364	0.884	0.875	1.248
	LTE Band 26 (Cell)	0.496	0.373	0.364	0.869	0.860	1.233
	LTE Band 5 (Cell)	0.623	0.373	0.364	0.996	0.987	1.360
	LTE Band 66 (AWS)	0.798	0.373	0.364	1.171	1.162	1.535
	LTE Band 25 (PCS)	0.909	0.373	0.364	1.282	1.273	See table below
	LTE Band 30	0.696	0.373	0.364	1.069	1.060	1.433
	LTE Band 41	0.725	0.373	0.364	1.098	1.089	1.462

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.486	0.373	0.364	1.223
	Front	0.379	0.373*	0.364*	1.116
	Top	-	0.373*	0.364*	0.737
	Bottom	0.909	-	-	0.909
	Right	0.076	-	-	0.076
	Left	0.110	0.373*	0.364*	0.847

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 120 of 138

Table 12-10
Simultaneous Transmission Scenario with 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	0.539	0.193	0.164	0.732	0.703	0.896
	GPRS 1900	0.561	0.193	0.164	0.754	0.725	0.918
	UMTS 850	0.538	0.193	0.164	0.731	0.702	0.895
	UMTS 1750	0.686	0.193	0.164	0.879	0.850	1.043
	UMTS 1900	0.795	0.193	0.164	0.988	0.959	1.152
	EVDO BC10 (§90S)	0.461	0.193	0.164	0.654	0.625	0.818
	EVDO BC0 (§22H)	0.599	0.193	0.164	0.792	0.763	0.956
	PCS EVDO	0.817	0.193	0.164	1.010	0.981	1.174
	LTE Band 12	0.541	0.193	0.164	0.734	0.705	0.898
	LTE Band 13	0.511	0.193	0.164	0.704	0.675	0.868
	LTE Band 26 (Cell)	0.496	0.193	0.164	0.689	0.660	0.853
	LTE Band 5 (Cell)	0.623	0.193	0.164	0.816	0.787	0.980
	LTE Band 66 (AWS)	0.798	0.193	0.164	0.991	0.962	1.155
	LTE Band 25 (PCS)	0.909	0.193	0.164	1.102	1.073	1.266
	LTE Band 30	0.696	0.193	0.164	0.889	0.860	1.053
	LTE Band 41	0.725	0.193	0.164	0.918	0.889	1.082

Table 12-11
Simultaneous Transmission Scenario with 2.4 GHz MIMO and 5 GHz MIMO WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.539	0.114	0.068	0.721
	GPRS 1900	0.561	0.114	0.068	0.743
	UMTS 850	0.538	0.114	0.068	0.720
	UMTS 1750	0.686	0.114	0.068	0.868
	UMTS 1900	0.795	0.114	0.068	0.977
	EVDO BC10 (§90S)	0.461	0.114	0.068	0.643
	EVDO BC0 (§22H)	0.599	0.114	0.068	0.781
	PCS EVDO	0.817	0.114	0.068	0.999
	LTE Band 12	0.541	0.114	0.068	0.723
	LTE Band 13	0.511	0.114	0.068	0.693
	LTE Band 26 (Cell)	0.496	0.114	0.068	0.678
	LTE Band 5 (Cell)	0.623	0.114	0.068	0.805
	LTE Band 66 (AWS)	0.798	0.114	0.068	0.980
	LTE Band 25 (PCS)	0.909	0.114	0.068	1.091
	LTE Band 30	0.696	0.114	0.068	0.878
	LTE Band 41	0.725	0.114	0.068	0.907

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 121 of 138

Table 12-12
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.539	0.039	0.578
	GPRS 1900	0.561	0.039	0.600
	UMTS 850	0.538	0.039	0.577
	UMTS 1750	0.686	0.039	0.725
	UMTS 1900	0.795	0.039	0.834
	EVDO BC10 (§90S)	0.461	0.039	0.500
	EVDO BC0 (§22H)	0.599	0.039	0.638
	PCS EVDO	0.817	0.039	0.856
	LTE Band 12	0.541	0.039	0.580
	LTE Band 13	0.511	0.039	0.550
	LTE Band 26 (Cell)	0.496	0.039	0.535
	LTE Band 5 (Cell)	0.623	0.039	0.662
	LTE Band 66 (AWS)	0.798	0.039	0.837
	LTE Band 25 (PCS)	0.909	0.039	0.948
	LTE Band 30	0.696	0.039	0.735
	LTE Band 41	0.725	0.039	0.764

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 122 of 138

12.6 Phablet SAR Simultaneous Transmission Analysis

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required if wireless router 1g SAR (scaled to the maximum output power, including tolerance) < 1.2 W/kg. Therefore no further analysis beyond the tables included in this section was required to determine that possible simultaneous transmission scenarios would not exceed the SAR limit.

Table 12-13
Simultaneous Transmission Scenario – 5 GHz WLAN Ant 1 (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.391	0.925	3.316	Phablet SAR	Back	2.581	0.925	3.506
	Front	2.446	0.925*	3.371		Front	2.255	0.925*	3.180
	Top	-	0.925*	0.925		Top	-	0.925*	0.925
	Bottom	2.198	-	2.198		Bottom	3.127	-	3.127
	Right	0.309	-	0.309		Right	0.635	-	0.635
	Left	0.416	0.925*	1.341		Left	0.474	0.925*	1.399
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.876	0.925	2.801	Phablet SAR	Back	2.112	0.925	3.037
	Front	1.729	0.925*	2.654		Front	2.207	0.925*	3.132
	Top	-	0.925*	0.925		Top	-	0.925*	0.925
	Bottom	2.537	-	2.537		Bottom	3.295	-	3.295
	Right	0.495	-	0.495		Right	0.532	-	0.532
	Left	0.764	0.925*	1.689		Left	0.795	0.925*	1.720
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.595	0.925	3.520	Phablet SAR	Back	2.268	0.925	3.193
	Front	2.065	0.925*	2.990		Front	2.269	0.925*	3.194
	Top	-	0.925*	0.925		Top	-	0.925*	0.925
	Bottom	2.905	-	2.905		Bottom	3.251	-	3.251
	Right	0.501	-	0.501		Right	0.406	-	0.406
	Left	0.525	0.925*	1.450		Left	0.840	0.925*	1.765

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.955	0.925	2.880
	Front	2.020	0.925*	2.945
	Top	-	0.925*	0.925
	Bottom	1.609	-	1.609
	Left	1.138	0.925*	2.063

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 123 of 138

Table 12-14
Simultaneous Transmission Scenario – 5 GHz WLAN Ant 2 (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.391	0.865	3.256	Phablet SAR	Back	2.581	0.865	3.446
	Front	2.446	0.865*	3.311		Front	2.255	0.865*	3.120
	Top	-	0.865*	0.865		Top	-	0.865*	0.865
	Bottom	2.198	-	2.198		Bottom	3.127	-	3.127
	Right	0.309	-	0.309		Right	0.635	-	0.635
	Left	0.416	0.865*	1.281		Left	0.474	0.865*	1.339
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.876	0.865	2.741	Phablet SAR	Back	2.112	0.865	2.977
	Front	1.729	0.865*	2.594		Front	2.207	0.865*	3.072
	Top	-	0.865*	0.865		Top	-	0.865*	0.865
	Bottom	2.537	-	2.537		Bottom	3.295	-	3.295
	Right	0.495	-	0.495		Right	0.532	-	0.532
	Left	0.764	0.865*	1.629		Left	0.795	0.865*	1.660
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.595	0.865	3.460	Phablet SAR	Back	2.268	0.865	3.133
	Front	2.065	0.865*	2.930		Front	2.269	0.865*	3.134
	Top	-	0.865*	0.865		Top	-	0.865*	0.865
	Bottom	2.905	-	2.905		Bottom	3.251	-	3.251
	Right	0.501	-	0.501		Right	0.406	-	0.406
	Left	0.525	0.865*	1.390		Left	0.840	0.865*	1.705
Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.955	0.865	2.820	Phablet SAR	Back	1.955	0.865	2.820
	Front	2.020	0.865*	2.885		Front	2.020	0.865*	2.885
	Top	-	0.865*	0.865		Top	-	0.865*	0.865
	Bottom	1.609	-	1.609		Bottom	1.609	-	1.609
	Left	1.138	0.865*	2.003		Left	1.138	0.865*	2.003

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 124 of 138	

Table 12-15
Simultaneous Transmission Scenario – 5 GHz WLAN MIMO (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.391	1.126	3.517	Phablet SAR	Back	2.581	1.126	3.707
	Front	2.446	0.567	3.013		Front	2.255	0.567	2.822
	Top	-	1.126*	1.126		Top	-	1.126*	1.126
	Bottom	2.198	-	2.198		Bottom	3.127	-	3.127
	Right	0.309	-	0.309		Right	0.635	-	0.635
	Left	0.416	1.126*	1.542		Left	0.474	1.126*	1.600
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.876	1.126	3.002	Phablet SAR	Back	2.112	1.126	3.238
	Front	1.729	0.567	2.296		Front	2.207	0.567	2.774
	Top	-	1.126*	1.126		Top	-	1.126*	1.126
	Bottom	2.537	-	2.537		Bottom	3.295	-	3.295
	Right	0.495	-	0.495		Right	0.532	-	0.532
	Left	0.764	1.126*	1.890		Left	0.795	1.126*	1.921
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	2.595	1.126	3.721	Phablet SAR	Back	2.268	1.126	3.394
	Front	2.065	0.567	2.632		Front	2.269	0.567	2.836
	Top	-	1.126*	1.126		Top	-	1.126*	1.126
	Bottom	2.905	-	2.905		Bottom	3.251	-	3.251
	Right	0.501	-	0.501		Right	0.406	-	0.406
	Left	0.525	1.126*	1.651		Left	0.840	1.126*	1.966
Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.955	1.126	3.081	Phablet SAR	Back	1.955	1.126	3.081
	Front	2.020	0.567	2.587		Front	2.020	0.567	2.587
	Top	-	1.126*	1.126		Top	-	1.126*	1.126
	Bottom	1.609	-	1.609		Bottom	1.609	-	1.609
	Left	1.138	1.126*	2.264		Left	1.138	1.126*	2.264

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 125 of 138	

Table 12-16
Simultaneous Transmission Scenario – Bluetooth (Phablet)

Exposure Condition	Mode	3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GSM 1900	2.446	0.679	3.125
	UMTS 1750	3.127	0.679	3.806
	UMTS 1900	2.537	0.679	3.216
	PCS CDMA	3.295	0.679	3.974
	LTE Band 66 (AWS)	2.905	0.679	3.584
	LTE Band 25 (PCS)	3.251	0.679	3.930
	LTE Band 30	2.020	0.679	2.699

12.7 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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 126 of 138	

13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

- 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .
- 4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
- 5) When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	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)	
1750	1752.60	1513	UMTS 1750	RMC	back	15 mm	0.961	0.952	1.01	N/A	N/A	N/A	N/A
1900	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.807	0.786	1.03	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body						
Spatial Peak							1.6 W/kg (mW/g)						
Uncontrolled Exposure/General Population							averaged over 1 gram						

Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1720.00	132072	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 50 RB, 0 RB Offset	bottom	0 mm	2.740	2.670	1.03	N/A	N/A	N/A	N/A
1900	1851.25	25	PCS CDMA	EVDO Rev. 0	bottom	0 mm	2.990	2.830	1.06	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT						Phablet							
Spatial Peak						4.0 W/kg (mW/g)							
Uncontrolled Exposure/General Population						averaged over 10 grams							

13.2 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.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 127 of 138

14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

The following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.

To evaluate all of the tuner states, the 80 tuner states were divided among the aggregate band, mode and exposure combinations so that each combination was evaluated for at least 20 tuner states and also so that at least 3 single point SAR measurements were made for every available tuner state. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 80 states.

Per FCC Guidance, several bands/modes were combined to be treated as a single aggregate band. For CDMA BC0 and BC10, the highest reported SAR configuration per exposure condition was considered for point SAR measurements. For the LTE Band 5 and 26 pair, the highest reported SAR configuration per exposure condition was evaluated. Additionally, LTE bands 12/17 and 13 was considered as an aggregated band to select single point measurement configurations. The wireless configuration and exposure condition combinations were divided evenly among the three bands (i.e., the number of required single point measurements (at least 20) apply to the aggregated band). All other bands were treated independently.

LTE Band 41 SAR testing with power class 2 at the highest power and available duty factor was additionally performed for the power class 3 configuration with the highest sar among all exposure conditions. Since power reduction is supported for this model for PC2 Hotspot and Phablet exposure conditions, the worst case of head and body-worn SAR was considered

The operational description contains more information about the design and implementation of the dynamic antenna tuning.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 128 of 138

Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data									
UMTS 850		UMTS 1750		UMTS 1900		CDMA BC10		CDMA BC1	
RMC		RMC		RMC		EVDO Rev. A		RC3/SO55	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880	Frequency (MHz)	820.1	Frequency (MHz)	1880
Channel	4183	Channel	1412	Channel	9400	Channel	564	Channel	600
Measured 1g SAR (W/kg)	0.171	Measured 1g SAR (W/kg)	0.196	Measured 1g SAR (W/kg)	0.142	Measured 1g SAR (W/kg)	0.193	Measured 1g SAR (W/kg)	0.148
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 15)	0.194	Auto-tune (State 15)	0.218	Auto-tune (State 31)	0.201	Auto-tune (State 0)	0.219	Auto-tune (State 31)	0.191
Default (State 15)	0.196	Default (State 15)	0.220	Default (State 15)	0.179	Default (State 15)	0.189	Default (State 15)	0.177
State 1	0.024	State 4	0.136	State 4	0.103	State 0	0.209	State 0	0.168
State 5	0.096	State 7	0.180	State 6	0.137	State 3	0.106	State 2	0.074
State 11	0.186	State 10	0.201	State 9	0.153	State 6	0.171	State 5	0.119
State 12	0.187	State 13	0.209	State 14	0.18	State 10	0.196	State 17	0.088
State 15	0.196	State 15	0.220	State 24	0.189	State 13	0.200	State 21	0.163
State 18	0.014	State 18	0.135	State 26	0.185	State 19	0.014	State 22	0.174
State 25	0.082	State 24	0.221	State 29	0.189	State 23	0.043	State 25	0.186
State 31	0.097	State 27	0.226	State 31	0.196	State 26	0.054	State 28	0.192
State 32	0.164	State 30	0.222	State 33	0.000	State 30	0.066	State 31	0.202
State 36	0.053	State 36	0.006	State 42	0.005	State 37	0.031	State 33	0.000
State 43	0.153	State 42	0.011	State 44	0.005	State 38	0.037	State 35	0.002
State 49	0.016	State 45	0.013	State 47	0.007	State 41	0.054	State 40	0.006
State 50	0.026	State 48	0.020	State 52	0.003	State 44	0.065	State 43	0.005
State 53	0.068	State 52	0.009	State 54	0.006	State 51	0.052	State 48	0.008
State 59	0.141	State 55	0.016	State 57	0.006	State 54	0.099	State 53	0.008
State 60	0.143	State 58	0.017	State 61	0.007	State 58	0.128	State 63	0.008
State 64	0.190	State 64	0.190	State 66	0.006	State 65	0.065	State 68	0.175
State 71	0.148	State 70	0.015	State 70	0.006	State 69	0.066	State 71	0.009
State 77	0.097	State 73	0.205	State 72	0.160	State 72	0.196	State 74	0.003
State 78	0.187	State 76	0.219	State 75	0.006	State 79	0.123	State 76	0.177

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 129 of 138	

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data									
LTE Band 12		LTE Band 13		LTE Band 5		LTE Band 66		LTE Band 25	
QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	836.5	Frequency (MHz)	1745	Frequency (MHz)	1905
Channel	23095	Channel	23230	Channel	20525	Channel	132322	Channel	26590
Measured 1g SAR (W/kg)	0.183	Measured 1g SAR (W/kg)	0.163	Measured 1g SAR (W/kg)	0.194	Measured 1g SAR (W/kg)	0.181	Measured 1g SAR (W/kg)	0.136
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 15)	0.199	Auto-tune (State 0)	0.177	Auto-tune (State 15)	0.227	Auto-tune (State 15)	0.221	Auto-tune (State 16)	0.178
Default (State 15)	0.200	Default (State 15)	0.173	Default (State 15)	0.226	Default (State 15)	0.223	Default (State 15)	0.158
State 0	0.180	State 0	0.183	State 2	0.067	State 1	0.073	State 3	0.089
State 2	0.045	State 1	0.045	State 6	0.154	State 5	0.149	State 8	0.129
State 14	0.202	State 8	0.172	State 9	0.191	State 11	0.200	State 10	0.134
State 22	0.043	State 16	0.092	State 12	0.220	State 15	0.223	State 14	0.159
State 34	0.009	State 24	0.067	State 15	0.226	State 19	0.166	State 16	0.177
State 40	0.052	State 32	0.066	State 17	0.009	State 20	0.184	State 20	0.132
State 54	0.092	State 40	0.047	State 22	0.064	State 21	0.210	State 23	0.163
State 62	0.116	State 48	0.152	State 29	0.110	State 25	0.224	State 28	0.175
State 68	0.200	State 55	0.115	State 32	0.108	State 31	0.237	State 34	0.001
State 79	0.119	State 67	0.145	State 35	0.023	State 37	0.005	State 38	0.004
				State 40	0.077	State 39	0.008	State 41	0.003
				State 47	0.134	State 43	0.010	State 46	0.003
				State 50	0.040	State 49	0.002	State 51	0.006
				State 57	0.151	State 53	0.008	State 56	0.006
				State 60	0.162	State 56	0.014	State 62	0.006
				State 62	0.164	State 59	0.015	State 64	0.142
				State 63	0.165	State 65	0.214	State 66	0.005
				State 68	0.220	State 67	0.015	State 69	0.181
				State 75	0.167	State 71	0.019	State 74	0.003
				State 78	0.134	State 77	0.232	State 79	0.007

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 130 of 138

Table 14-3
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data									
UMTS 850		UMTS 1750		UMTS 1900		CDMA BC0		CDMA BC1	
RMC		RMC		RMC		EVDO Rev. 0		EVDO Rev. 0	
Test Position	Back Side	Test Position	Back Side	Test Position	Bottom Edge	Test Position	Back Side	Test Position	Bottom Edge
Spacing	10 mm	Spacing	15 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.6	Frequency (MHz)	1712.4	Frequency (MHz)	1880	Frequency (MHz)	836.52	Frequency (MHz)	1880
Channel	4183	Channel	1312	Channel	9400	Channel	384	Channel	600
Measured 1g SAR (W/kg)	0.523	Measured 1g SAR (W/kg)	0.887	Measured 1g SAR (W/kg)	0.732	Measured 1g SAR (W/kg)	0.535	Measured 1g SAR (W/kg)	0.752
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 15)	0.673	Auto-tune (State 16)	1.031	Auto-tune (State 31)	0.979	Auto-tune (State 0)	0.687	Auto-tune (State 77)	1.065
Default (State 15)	0.677	Default (State 15)	0.933	Default (State 15)	0.854	Default (State 15)	0.686	Default (State 15)	0.890
State 0	0.676	State 3	0.506	State 1	0.285	State 0	0.688	State 4	0.505
State 3	0.206	State 7	0.772	State 5	0.566	State 1	0.141	State 7	0.703
State 12	0.662	State 9	0.821	State 10	0.732	State 8	0.629	State 11	0.797
State 15	0.677	State 16	1.012	State 18	0.709	State 9	0.636	State 14	0.893
State 17	0.034	State 17	0.577	State 21	0.897	State 12	0.677	State 15	0.890
State 20	0.096	State 23	1.011	State 25	0.968	State 18	0.057	State 16	1.076
State 23	0.232	State 27	1.017	State 30	0.980	State 20	0.108	State 24	1.010
State 27	0.300	State 29	1.011	State 31	0.982	State 29	0.349	State 27	1.028
State 32	0.513	State 35	0.016	State 36	0.012	State 32	0.355	State 31	1.023
State 35	0.136	State 41	0.036	State 38	0.019	State 36	0.104	State 34	0.008
State 38	0.287	State 43	0.045	State 39	0.020	State 46	0.444	State 42	0.020
State 41	0.417	State 45	0.047	State 42	0.020	State 47	0.446	State 45	0.023
State 50	0.102	State 51	0.024	State 48	0.034	State 50	0.129	State 49	0.007
State 51	0.140	State 52	0.030	State 53	0.023	State 56	0.469	State 52	0.018
State 60	0.498	State 55	0.052	State 58	0.029	State 57	0.474	State 55	0.029
State 63	0.505	State 57	0.055	State 60	0.032	State 60	0.507	State 59	0.033
State 66	0.592	State 63	0.080	State 64	0.763	State 64	0.679	State 62	0.032
State 69	0.321	State 69	0.980	State 67	0.036	State 67	0.486	State 70	0.026
State 72	0.666	State 73	0.911	State 71	0.036	State 75	0.488	State 73	0.931
State 78	0.601	State 75	0.064	State 76	0.852	State 78	0.445	State 77	1.065

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 131 of 138

Table 14-4
LTE Supplemental Body SAR Data

Supplemental Body SAR Data									
LTE Band 12		LTE Band 13		LTE Band 5		LTE Band 66		LTE Band 25	
QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Bottom Edge
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	15 mm	Spacing	10 mm
Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	836.5	Frequency (MHz)	1720	Frequency (MHz)	1905
Channel	23095	Channel	23230	Channel	20525	Channel	132072	Channel	26590
Measured 1g SAR (W/kg)	0.442	Measured 1g SAR (W/kg)	0.457	Measured 1g SAR (W/kg)	0.581	Measured 1g SAR (W/kg)	0.800	Measured 1g SAR (W/kg)	0.807
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 15)	0.565	Auto-tune (State 0)	0.521	Auto-tune (State 0)	0.719	Auto-tune (State 24)	0.965	Auto-tune (State 16)	1.062
Default (State 15)	0.571	Default (State 15)	0.518	Default (State 15)	0.707	Default (State 15)	0.806	Default (State 15)	0.980
State 0	0.498	State 0	0.517	State 0	0.716	State 0	0.738	State 6	0.733
State 7	0.362	State 6	0.417	State 4	0.397	State 2	0.326	State 11	0.887
State 15	0.571	State 13	0.514	State 8	0.675	State 8	0.660	State 13	0.904
State 23	0.165	State 19	0.044	State 13	0.713	State 16	0.963	State 16	1.107
State 31	0.179	State 21	0.087	State 16	0.335	State 19	0.801	State 19	0.865
State 39	0.128	State 26	0.220	State 21	0.146	State 20	0.857	State 26	1.085
State 47	0.342	State 33	0.025	State 28	0.328	State 22	0.948	State 30	1.100
State 54	0.242	State 44	0.205	State 33	0.040	State 24	0.968	State 33	0.007
State 59	0.401	State 61	0.435	State 34	0.058	State 28	0.969	State 37	0.022
State 66	0.334	State 72	0.509	State 39	0.204	State 37	0.017	State 44	0.028
				State 45	0.318	State 38	0.021	State 46	0.025
				State 46	0.426	State 40	0.029	State 49	0.010
				State 56	0.487	State 46	0.036	State 54	0.037
				State 61	0.518	State 56	0.042	State 58	0.037
				State 62	0.49	State 65	0.835	State 61	0.041
				State 67	0.485	State 66	0.032	State 65	1.055
				State 70	0.426	State 68	0.797	State 72	0.886
				State 73	0.300	State 71	0.058	State 74	0.020
				State 74	0.424	State 74	0.030	State 77	1.106
				State 76	0.705	State 79	0.058	State 79	0.058

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 132 of 138

14.2 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure conditions. Since power reduction is supported for this model for PC2 Hotspot conditions, the worst case of head and body-worn SAR was considered. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear. Per FCC Guidance, no additional SAR measurements were required.

Table 14-5
LTE Band 41 Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Power (dBm)	24.0	27.0
Measured Power (dBm)	23.98	26.4
Measured SAR (W/kg)	0.219	0.243
Duty Cycle	63.3%	43.3%
Frame Averaged (mW)	158.27	189.01
% deviation from expected linearity		-7.09%

LTE Band 41 SAR for PC2 and PC3 Operations

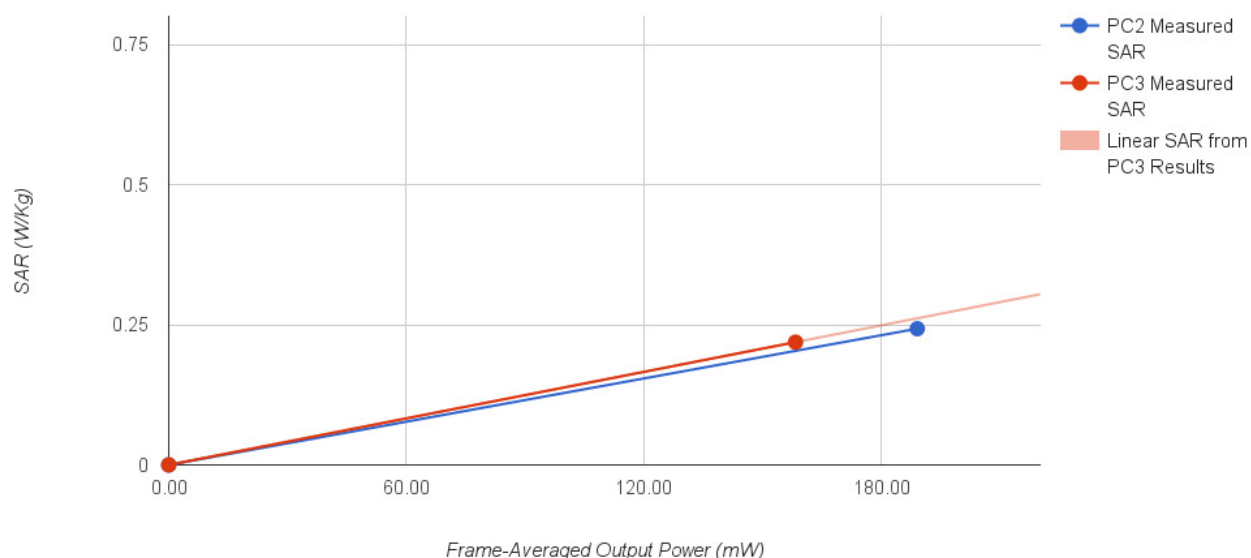


Figure 14-1
LTE Band 41 Linearity

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 133 of 138

15 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	8753E	(30kHz-6GHz) Network Analyzer	3/2/2016	Annual	3/2/2017	JP38020182
Agilent	8753ES	S-Parameter Network Analyzer	3/3/2016	Annual	3/3/2017	US39170122
Agilent	E4432B	ESG-D Series Signal Generator	3/5/2016	Annual	3/5/2017	US40053896
Agilent	E4438C	ESG Vector Signal Generator	3/12/2015	Biennial	3/12/2017	MY45090700
Agilent	E5515C	Wireless Communications Test Set	1/29/2016	Biennial	1/29/2018	GB46310798
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	10/5/2016	Annual	10/5/2017	GB42230325
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/2/2016	Annual	3/2/2017	MY45470194
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N5182A	MXG Vector Signal Generator	10/27/2016	Annual	10/27/2017	MY47420603
Agilent	N9020A	MXA Signal Analyzer	10/28/2016	Annual	10/28/2017	US46470561
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Anritsu	MA24106A	USB Power Sensor	3/4/2016	Annual	3/4/2017	1344555
Anritsu	MA24106A	USB Power Sensor	3/4/2016	Annual	3/4/2017	1344556
Anritsu	MA2411B	Pulse Power Sensor	8/18/2016	Annual	8/18/2017	1126066
Anritsu	MA2411B	Pulse Power Sensor	8/18/2016	Annual	8/18/2017	1207470
Anritsu	ML2495A	Power Meter	10/16/2015	Biennial	10/16/2017	941001
Anritsu	ML2496A	Power Meter	3/5/2016	Annual	3/5/2017	1351001
Anritsu	MT8820C	Radio Communication Analyzer	4/14/2016	Annual	4/14/2017	6201240328
Anritsu	MT8820C	Radio Communication Analyzer	9/13/2016	Annual	9/13/2017	6201144419
COMTECH	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M155A00-009
COMTECH	AR85729-5/57598	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
Control Company	4040	Digital Thermometer	3/18/2015	Biennial	3/18/2017	150194896
Control Company	4352	Ultra Long Stem Thermometer	3/8/2016	Biennial	3/8/2018	160261701
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
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	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mitutoyo	CD-6°CSX	Digital Caliper	3/2/2016	Biennial	3/2/2018	13264162
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-53W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	5/21/2015	Biennial	5/21/2017	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	3/29/2016	Annual	3/29/2017	836371/0079
Rohde & Schwarz	CMW500	Radio Communication Tester	3/25/2016	Annual	3/25/2017	128633
Seekonk	NC-100	Torque Wrench 5/16", 8" lbs	3/2/2016	Biennial	3/2/2018	N/A
Seekonk	NC-100	Torque Wrench (8" lb)	8/30/2016	Biennial	8/30/2018	N/A
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2016	Annual	5/9/2017	1148
SPEAG	D1765V2	1765 MHz SAR Dipole	5/11/2016	Annual	5/11/2017	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	7/15/2016	Annual	7/15/2017	54149
SPEAG	D2300V2	2300 MHz SAR Dipole	11/15/2016	Annual	11/15/2017	1064
SPEAG	D2450V2	2450 MHz SAR Dipole	7/25/2016	Annual	7/25/2017	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/13/2016	Annual	9/13/2017	797
SPEAG	D2600V2	2600 MHz SAR Dipole	9/13/2016	Annual	9/13/2017	1071
SPEAG	D5GHZV2	5 GHz SAR Dipole	8/2/2016	Annual	8/2/2017	1237
SPEAG	D5GHZV2	5 GHz SAR Dipole	9/21/2016	Annual	9/21/2017	1191
SPEAG	D750V3	750 MHz SAR Dipole	1/11/2017	Annual	1/11/2018	1003
SPEAG	D750V3	750 MHz SAR Dipole	7/13/2016	Annual	7/13/2017	1161
SPEAG	D835V2	835 MHz SAR Dipole	7/13/2016	Annual	7/13/2017	40407
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/18/2016	Annual	2/18/2017	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/19/2016	Annual	2/19/2017	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/14/2016	Annual	3/14/2017	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/14/2016	Annual	4/14/2017	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/11/2016	Annual	5/11/2017	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/22/2016	Annual	8/22/2017	1364
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/14/2016	Annual	9/14/2017	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/15/2016	Annual	9/15/2017	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/11/2016	Annual	11/11/2017	1334
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/10/2016	Annual	5/10/2017	1070
SPEAG	ES3DV3	SAR Probe	2/19/2016	Annual	2/19/2017	3213
SPEAG	ES3DV3	SAR Probe	2/19/2016	Annual	2/19/2017	3318
SPEAG	ES3DV3	SAR Probe	3/18/2016	Annual	3/18/2017	3209
SPEAG	ES3DV3	SAR Probe	3/18/2016	Annual	3/18/2017	3319
SPEAG	ES3DV3	SAR Probe	8/25/2016	Annual	8/25/2017	3332
SPEAG	ES3DV3	SAR Probe	9/19/2016	Annual	9/19/2017	3287
SPEAG	ES3DV3	SAR Probe	11/15/2016	Annual	11/15/2017	3334
SPEAG	EX3DV4	SAR Probe	2/22/2016	Annual	2/22/2017	3914
SPEAG	EX3DV4	SAR Probe	4/19/2016	Annual	4/19/2017	7357
SPEAG	EX3DV4	SAR Probe	4/19/2016	Annual	4/19/2017	7406
SPEAG	EX3DV4	SAR Probe	5/17/2016	Annual	5/17/2017	7409

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.

-Each equipment item was used solely within its respective calibration period.

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 134 of 138

16 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 Uncertainty	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	

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 135 of 138

17 CONCLUSION

17.1 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]

FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 136 of 138

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FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset		Page 137 of 138

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- [21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.
- [22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015
- [23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07
- [24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01
- [25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04
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FCC ID: A3LSMG955U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M1701030005-01-R1.A3L	Test Dates: 12/26/16 – 02/08/17	DUT Type: Portable Handset	Page 138 of 138	

APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.904 \text{ S/m}$; $\epsilon_r = 39.623$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GSM 850, Right Head, Cheek, Mid.ch

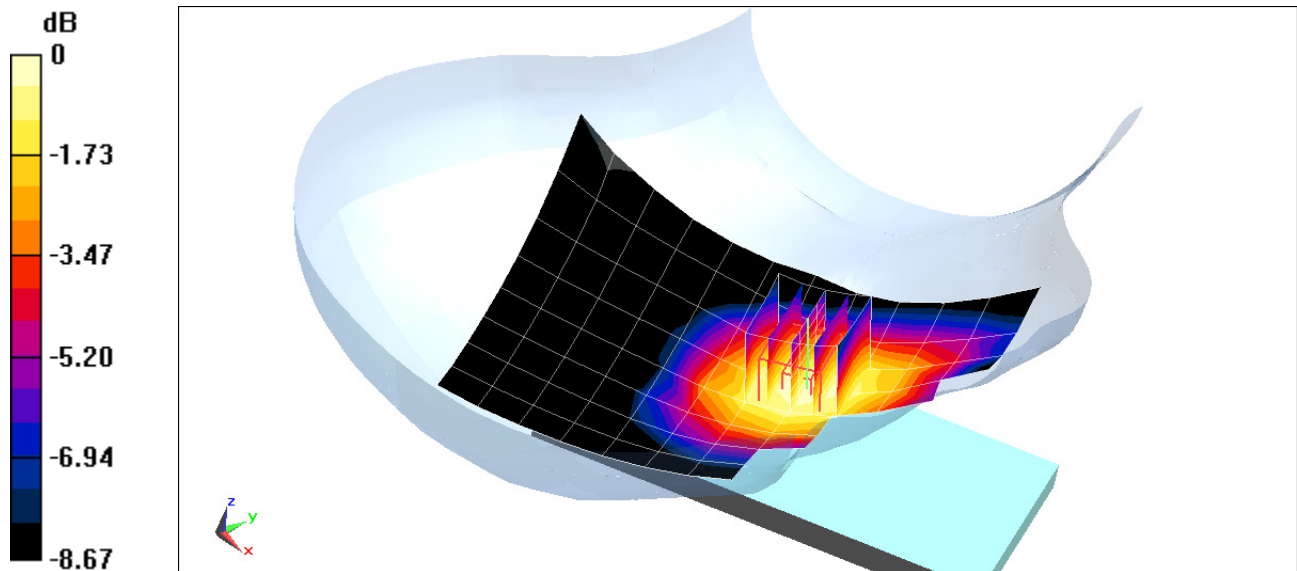
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.98 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.168 W/kg

SAR(1 g) = 0.137 W/kg



0 dB = 0.148 W/kg = -8.30 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.43 \text{ S/m}$; $\epsilon_r = 38.258$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-30-2017; Ambient Temp: 22.5°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3332; ConvF(5.45, 5.45, 5.45); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GSM 1900, Left Head, Cheek, Mid.ch

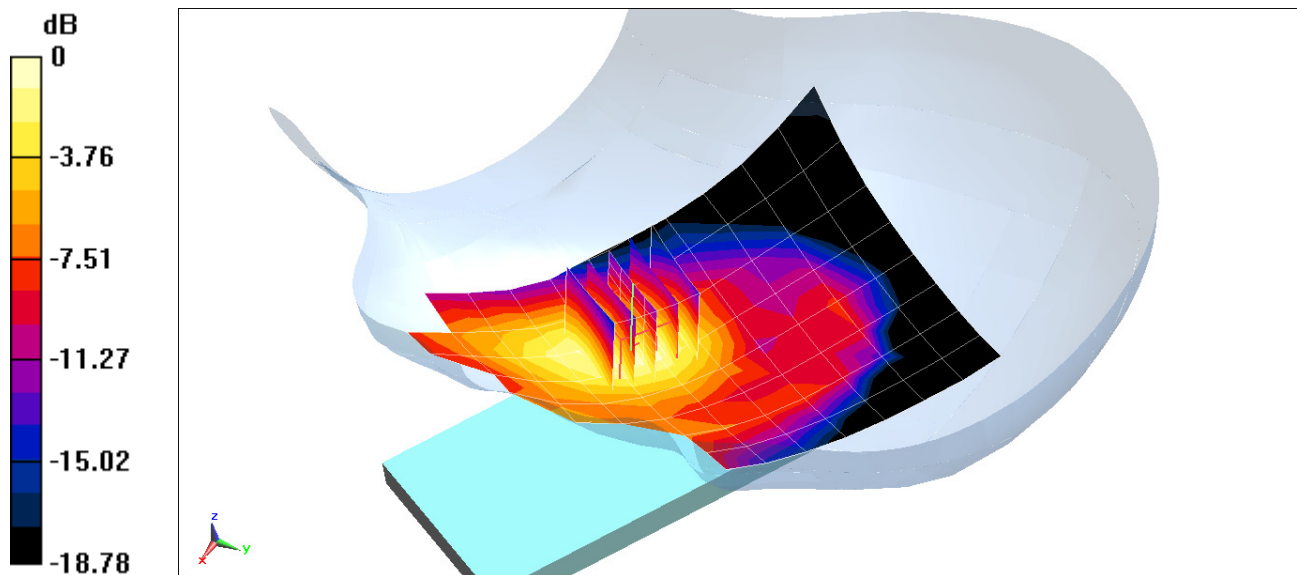
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.990 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.101 W/kg



0 dB = 0.119 W/kg = -9.24 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.904 \text{ S/m}$; $\epsilon_r = 39.623$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 850, Right Head, Cheek, Mid.ch

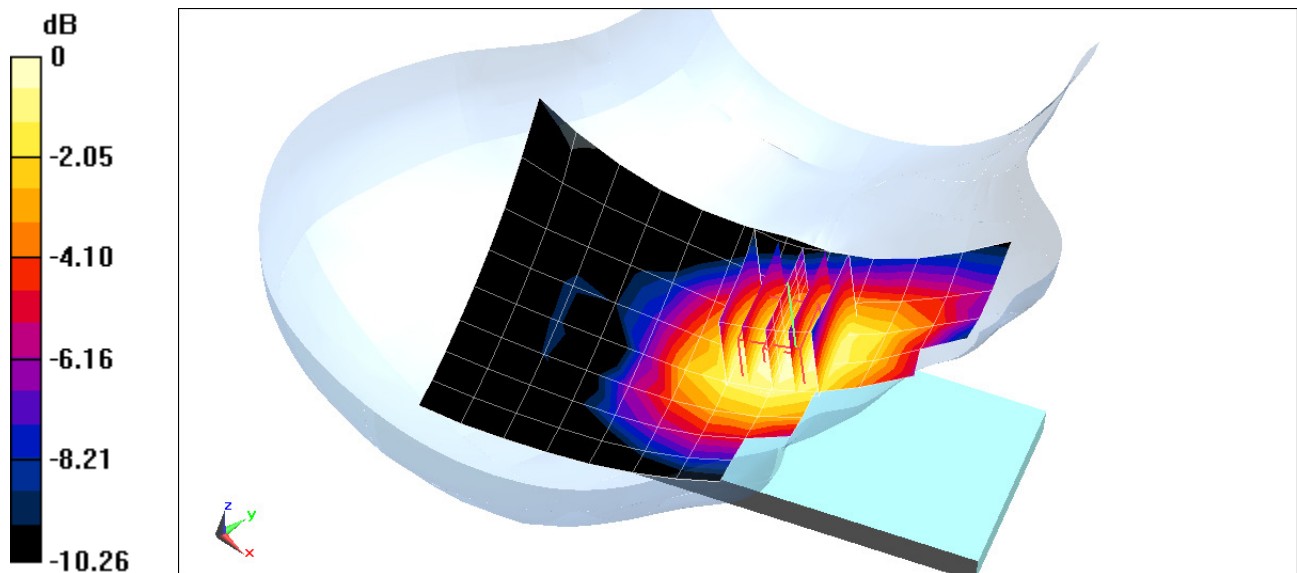
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.25 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.208 W/kg

SAR(1 g) = 0.171 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.382 \text{ S/m}$; $\epsilon_r = 38.774$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-28-2016; Ambient Temp: 23.3°C; Tissue Temp: 21.6°C

Probe: ES3DV3 - SN3213; ConvF(5.23, 5.23, 5.23); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/18/2016

Phantom: SAM with CRP v5.0 Left; Type: QD000P40CD; Serial: 1687

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1750, Left Head, Cheek, Mid.ch

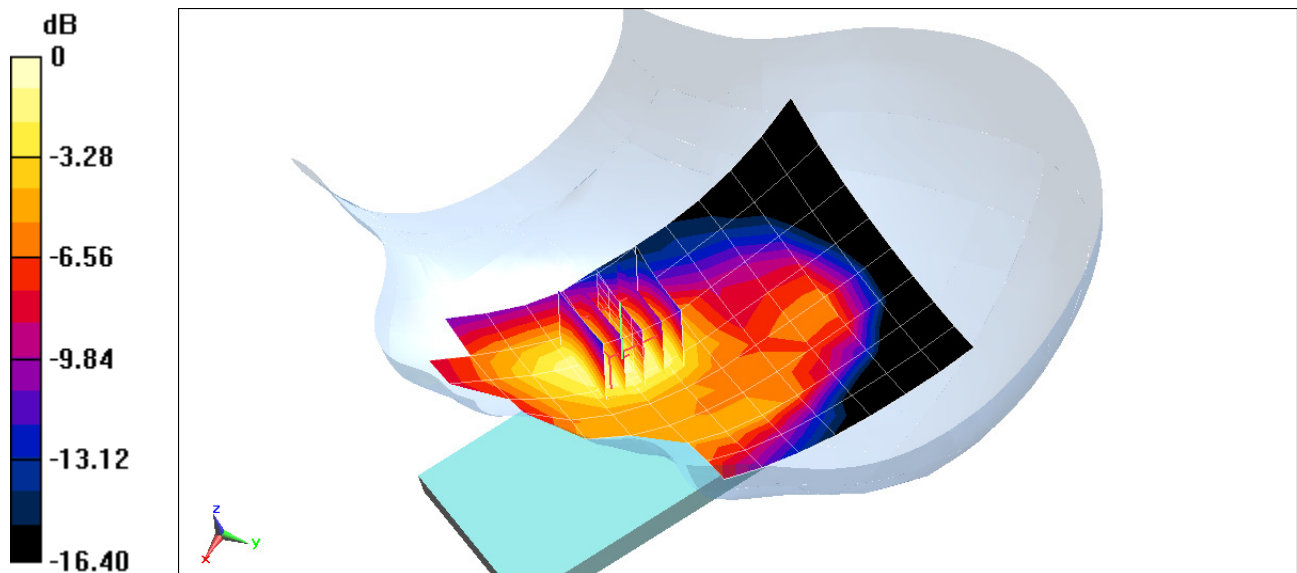
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.58 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.296 W/kg

SAR(1 g) = 0.196 W/kg



0 dB = 0.231 W/kg = -6.36 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.404 \text{ S/m}$; $\epsilon_r = 38.897$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-20-2017; Ambient Temp: 21.5°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3318; ConvF(5.13, 5.13, 5.13); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1900, Left Head, Cheek, Mid.ch

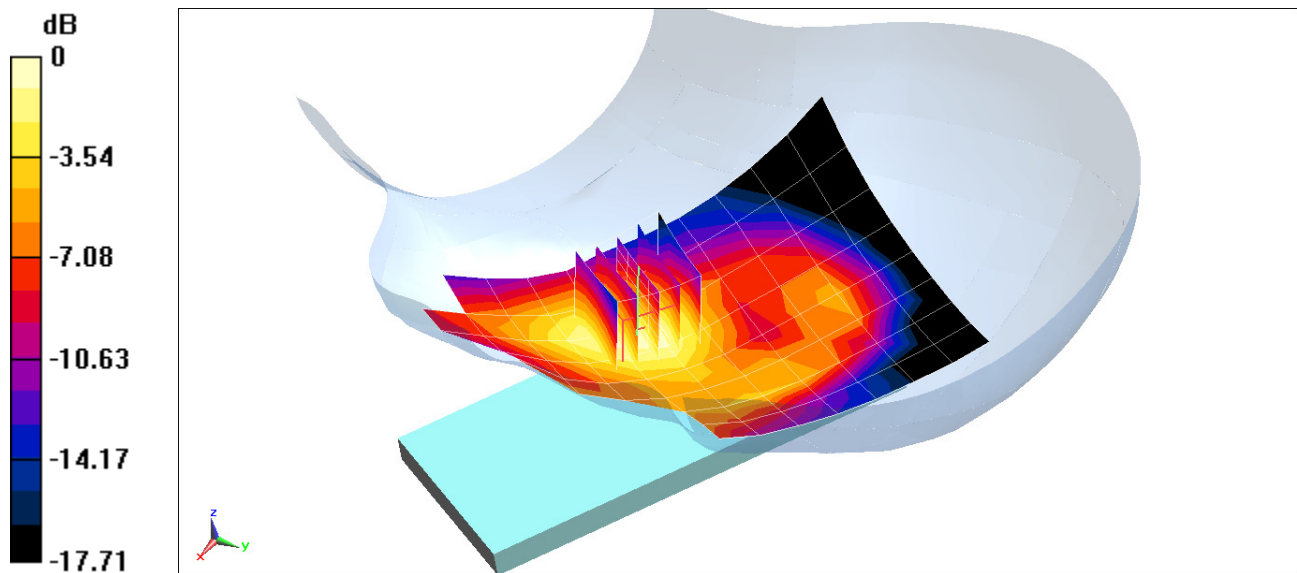
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.67 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.211 W/kg

SAR(1 g) = 0.142 W/kg



0 dB = 0.166 W/kg = -7.80 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.886 \text{ S/m}$; $\epsilon_r = 39.805$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Cell. EVDO Rev. A, Rule Part 90S, Right Head, Cheek, Mid.ch

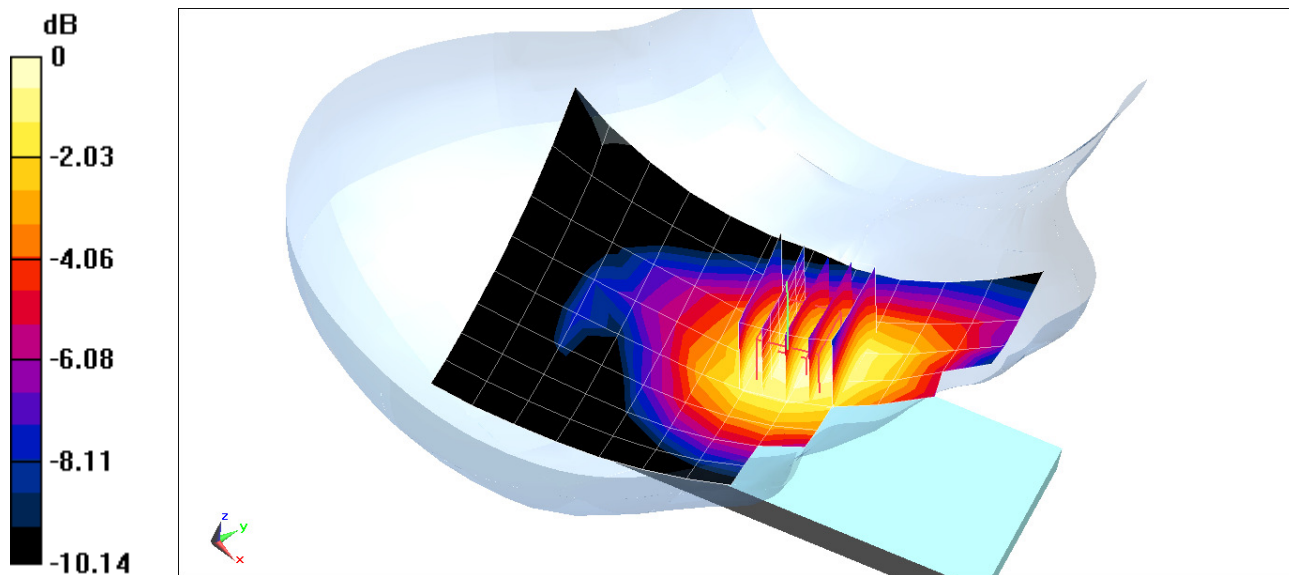
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.29 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.240 W/kg

SAR(1 g) = 0.193 W/kg



0 dB = 0.207 W/kg = -6.84 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.904$ S/m; $\epsilon_r = 39.624$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Cell. EVDO Rev. A, Rule Part 22H, Right Head, Cheek, Mid.ch

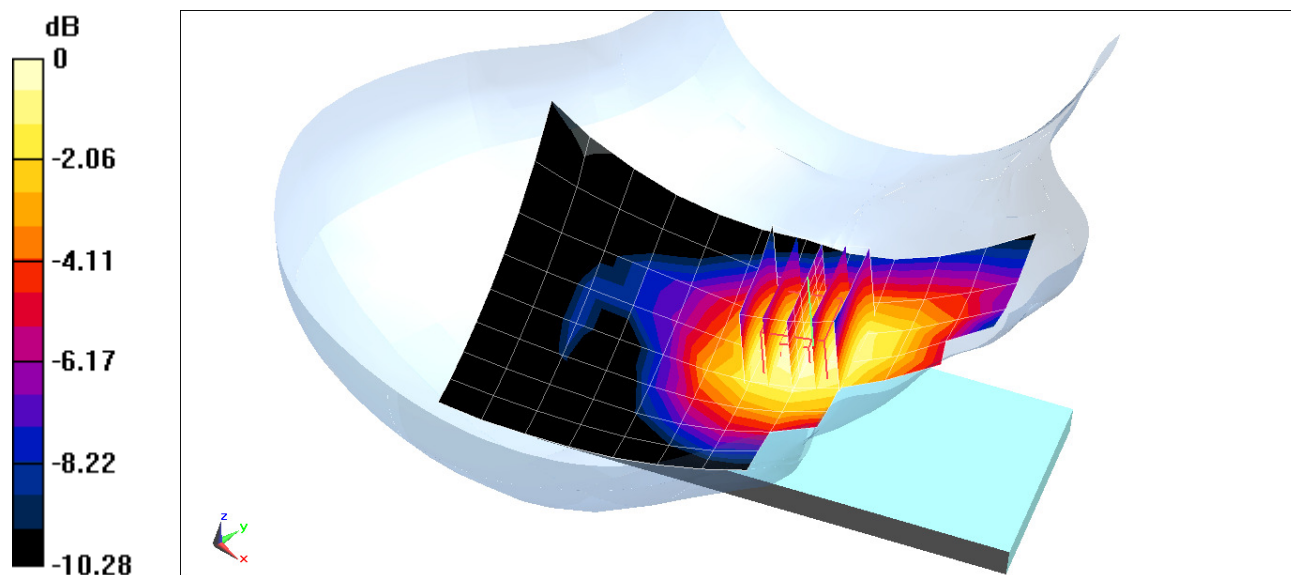
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.99 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.188 W/kg



0 dB = 0.203 W/kg = -6.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.404 \text{ S/m}$; $\epsilon_r = 38.897$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-20-2017; Ambient Temp: 21.5°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3318; ConvF(5.13, 5.13, 5.13); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: PCS CDMA, Left Head, Cheek, Mid.ch

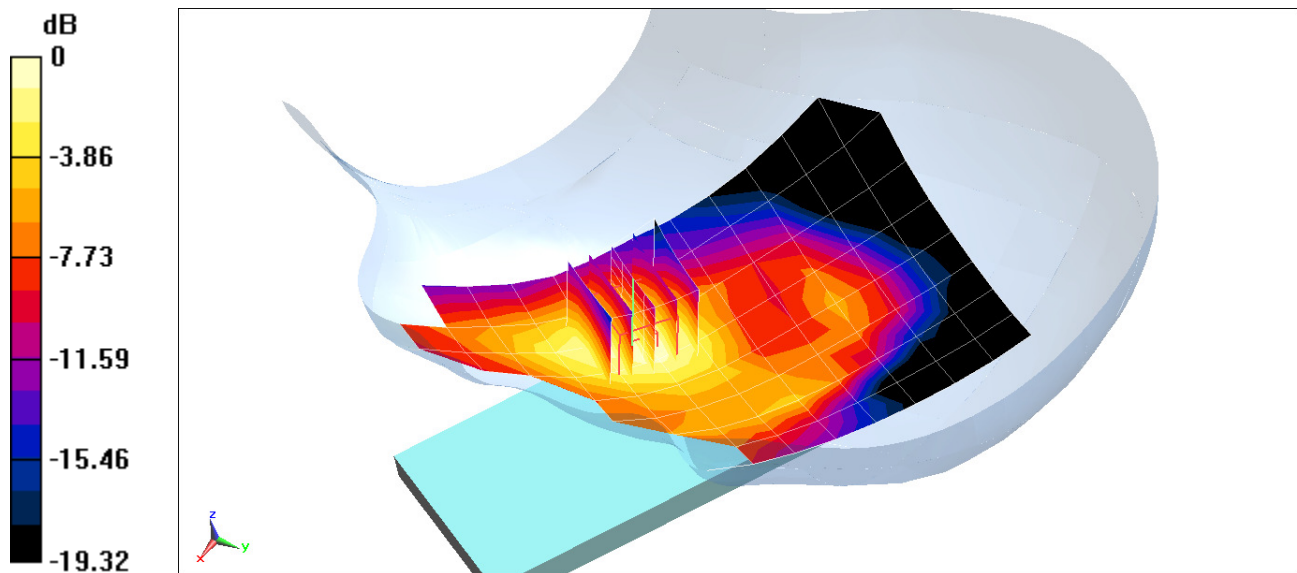
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.95 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.226 W/kg

SAR(1 g) = 0.148 W/kg



0 dB = 0.173 W/kg = -7.62 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.858 \text{ S/m}$; $\epsilon_r = 41.811$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-02-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: ES3DV3 - SN3334; ConvF(6.76, 6.76, 6.76); Calibrated: 11/15/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 11/11/2016

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 12, Right Head, Cheek, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

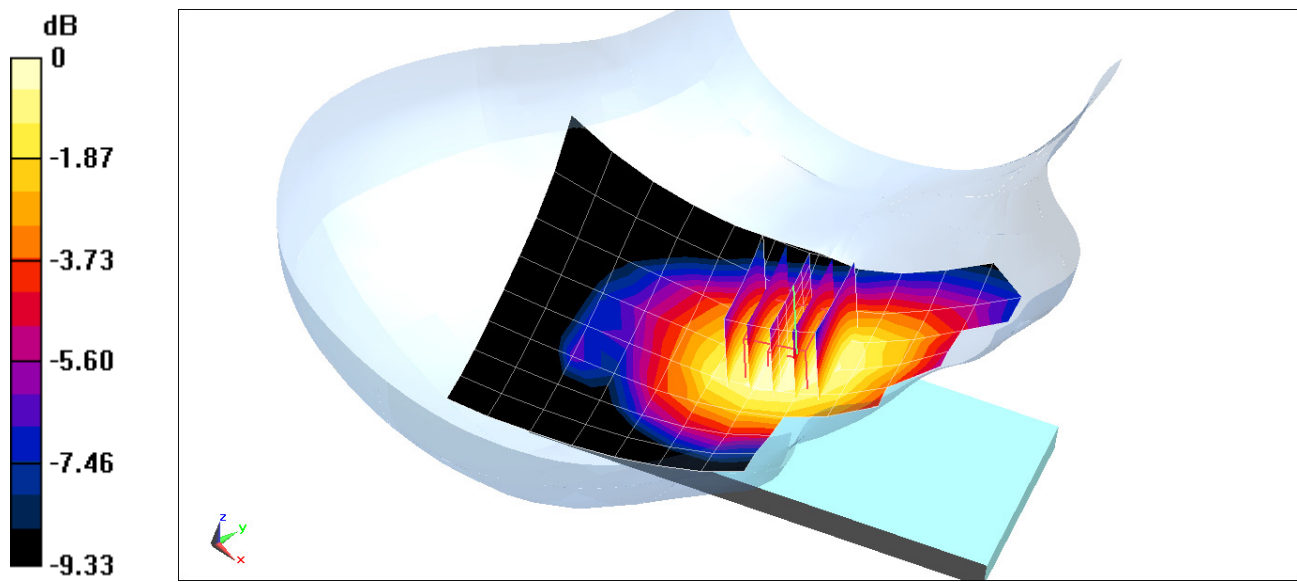
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.79 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.233 W/kg

SAR(1 g) = 0.183 W/kg



0 dB = 0.199 W/kg = -7.01 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.934 \text{ S/m}$; $\epsilon_r = 41.794$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-03-2017; Ambient Temp: 21.1°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3318; ConvF(6.48, 6.48, 6.48); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 13, Right Head, Cheek, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

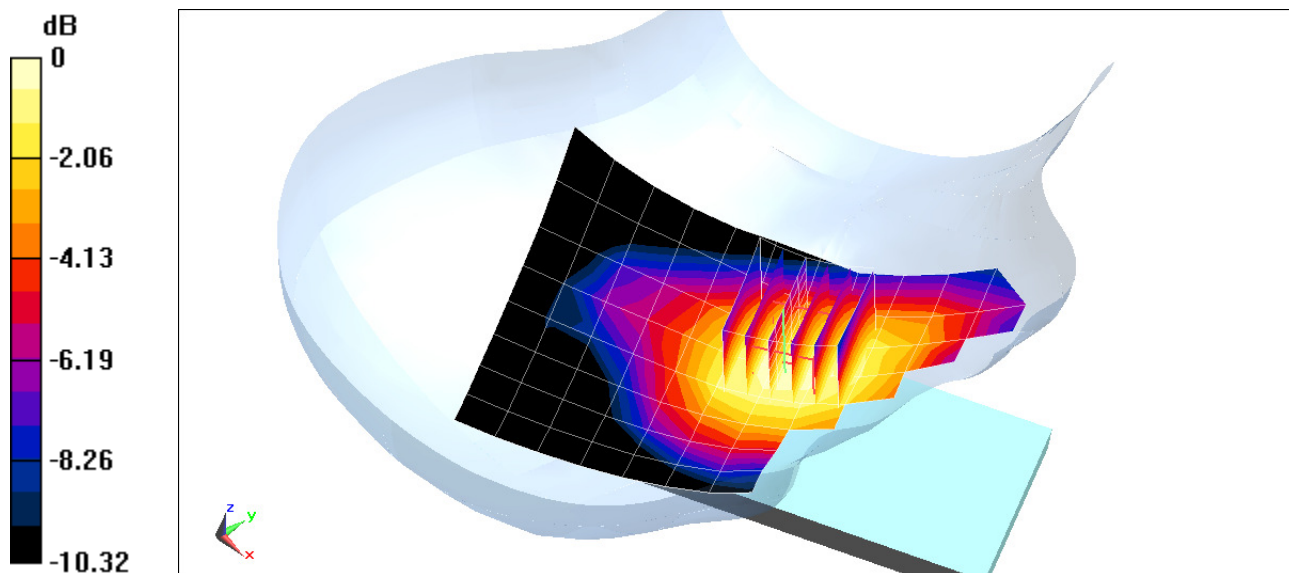
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.18 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.212 W/kg

SAR(1 g) = 0.163 W/kg



0 dB = 0.178 W/kg = -7.50 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.898 \text{ S/m}$; $\epsilon_r = 39.678$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 26 (Cell.), Right Head, Cheek, Mid.ch
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

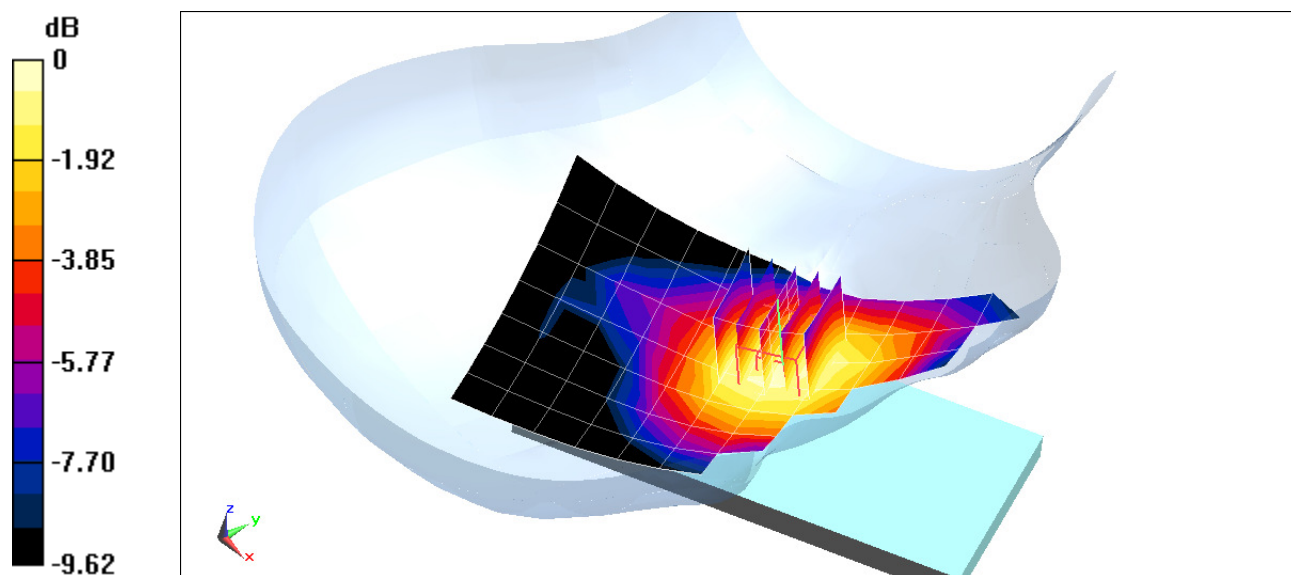
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.90 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.210 W/kg

SAR(1 g) = 0.169 W/kg



0 dB = 0.184 W/kg = -7.35 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 0.904 \text{ S/m}$; $\epsilon_r = 39.624$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-05-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(6.16, 6.16, 6.16); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 5 (Cell.), Right Head, Cheek, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

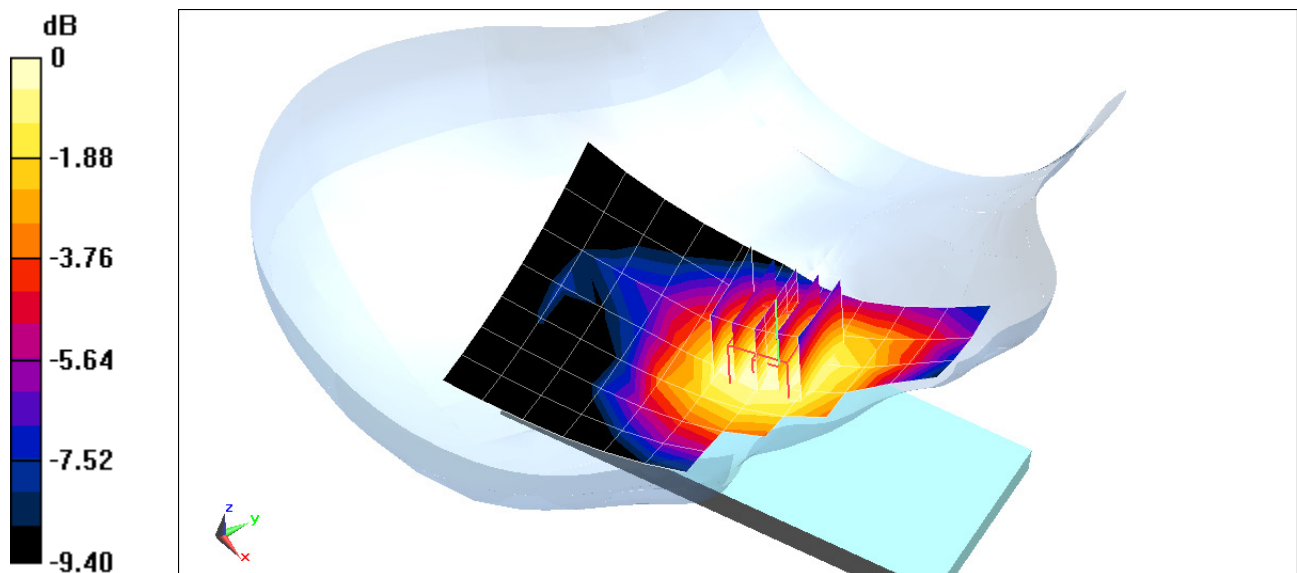
Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.93 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.194 W/kg



0 dB = 0.210 W/kg = -6.78 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BCE

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$; $\sigma = 1.41 \text{ S/m}$; $\epsilon_r = 38.773$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-20-2017; Ambient Temp: 23.5°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3209; ConvF(5.28, 5.28, 5.28); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 66 (AWS), Left Head, Cheek, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

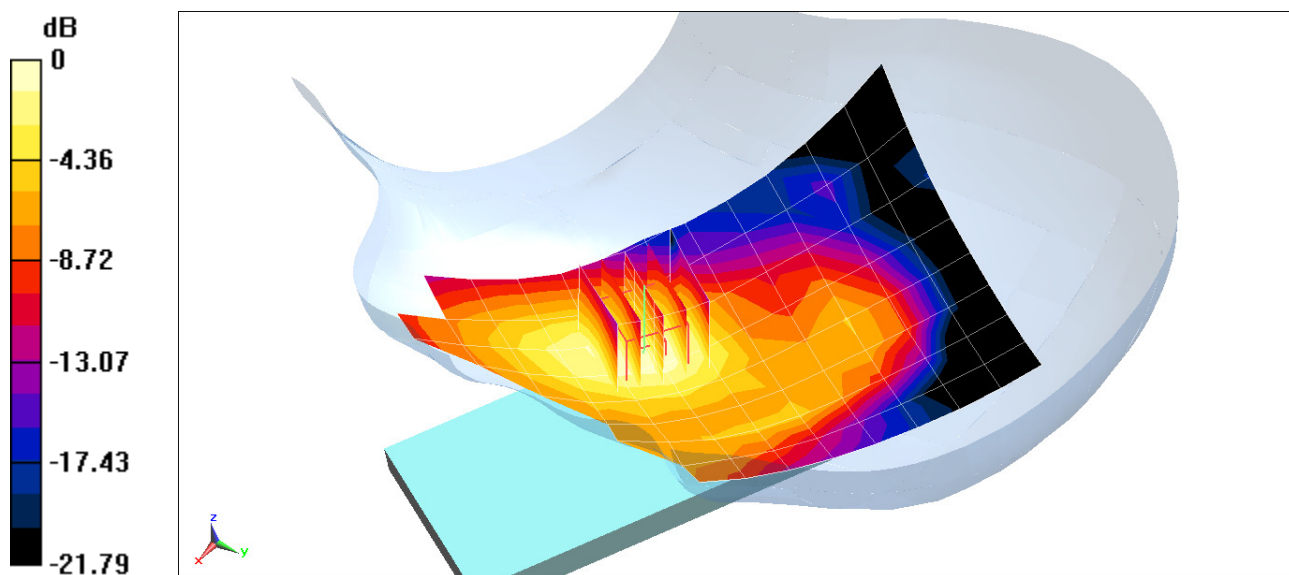
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.99 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.290 W/kg

SAR(1 g) = 0.181 W/kg



0 dB = 0.225 W/kg = -6.48 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 1388E

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.458 \text{ S/m}$; $\epsilon_r = 38.143$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-30-2017; Ambient Temp: 22.5°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3332; ConvF(5.45, 5.45, 5.45); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 25 (PCS), Left Head, Cheek, High.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

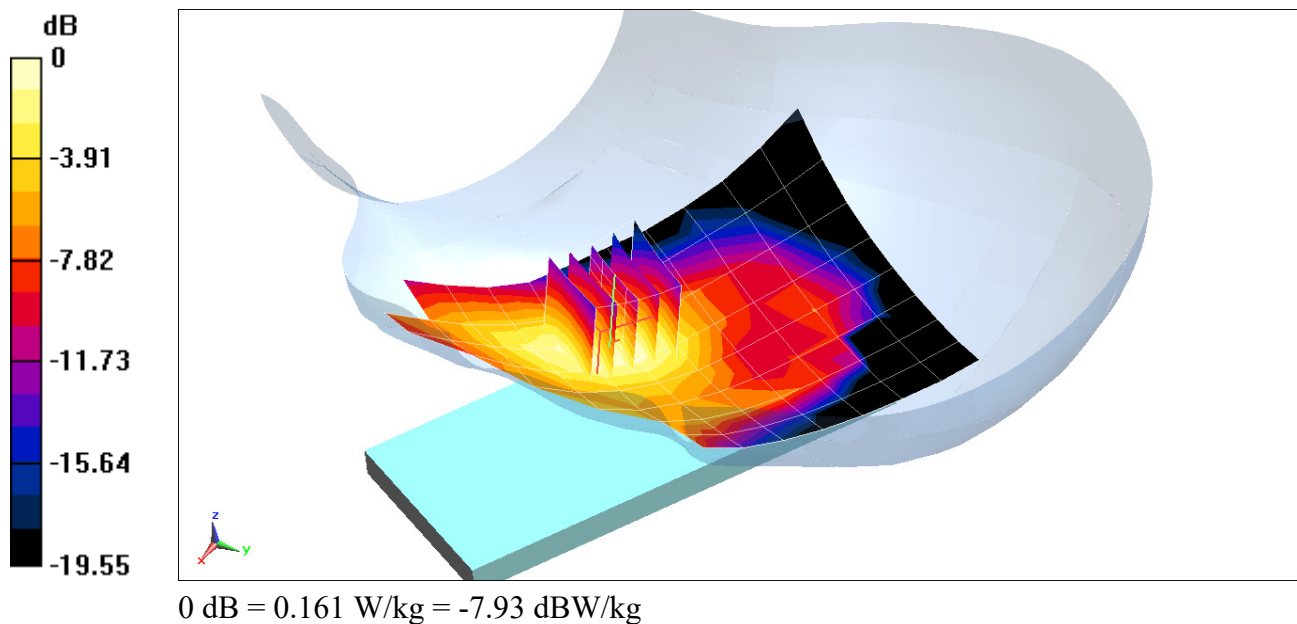
Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.02 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.210 W/kg

SAR(1 g) = 0.136 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08D85

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Head; Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.7 \text{ S/m}$; $\epsilon_r = 40.093$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-04-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3287; ConvF(4.86, 4.86, 4.86); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 30, Left Head, Cheek, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

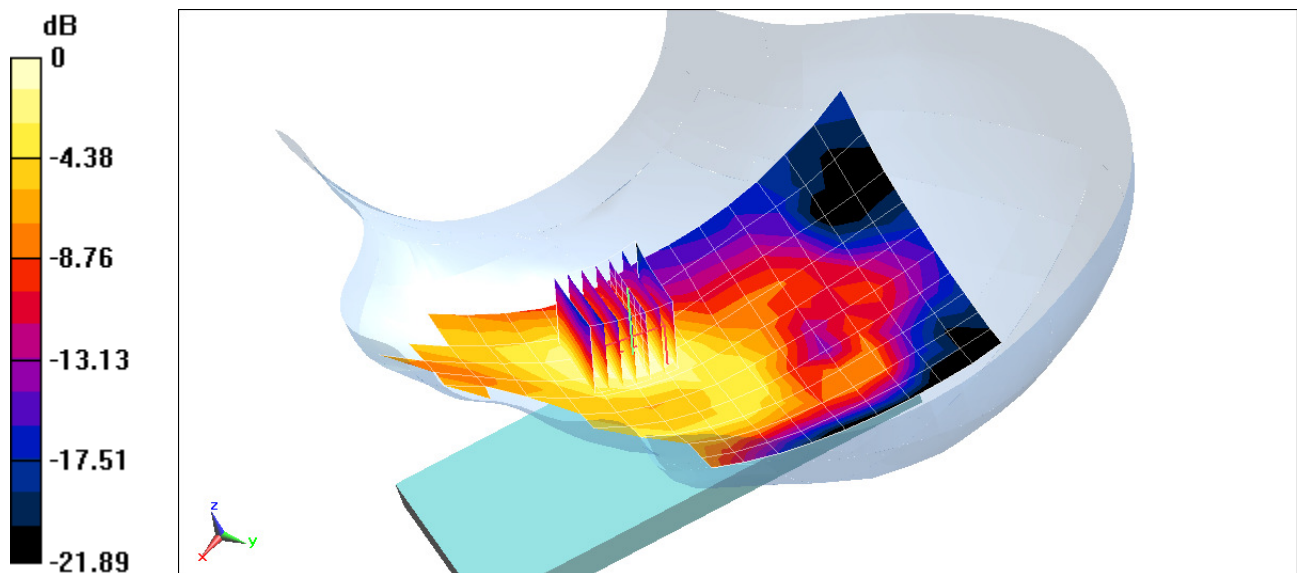
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.575 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.207 W/kg

SAR(1 g) = 0.121 W/kg



0 dB = 0.145 W/kg = -8.39 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08D85

Communication System: UID 0, LTE Band 41; Frequency: 2506 MHz; Duty Cycle: 1:1.58

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2506 \text{ MHz}$; $\sigma = 1.928 \text{ S/m}$; $\epsilon_r = 39.272$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-04-2017; Ambient Temp: 23.5°C; Tissue Temp: 22.3°C

Probe: ES3DV3 - SN3287; ConvF(4.54, 4.54, 4.54); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 41 PC3 ULCA, Left Head, Cheek

PCC: QPSK, 20 MHz Bandwidth, Ch 39750, 1 RB, 99 RB Offset

SCC: QPSK, 20 MHz Bandwidth, Ch 39948, 1 RB, 0 RB Offset

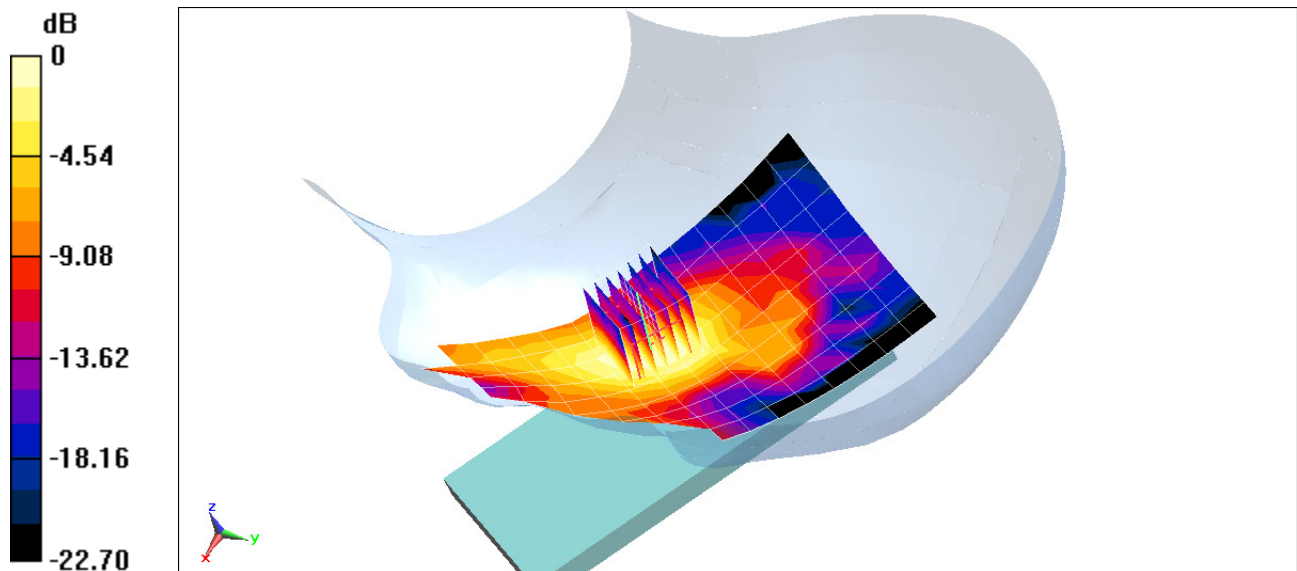
Area Scan (10x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.419 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.0850 W/kg

SAR(1 g) = 0.043 W/kg



0 dB = 0.0523 W/kg = -12.81 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.853 \text{ S/m}$; $\epsilon_r = 39.19$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-10-2017; Ambient Temp: 23.6°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3287; ConvF(4.54, 4.54, 4.54); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Right Head, Cheek, Ch 6, 1 Mbps

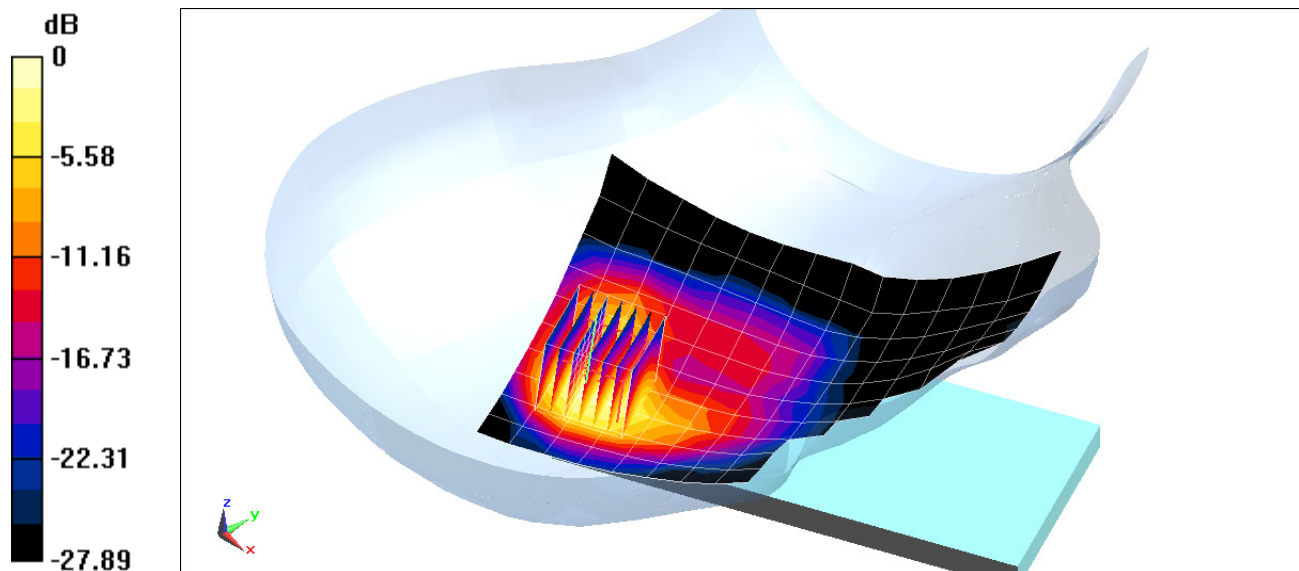
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.11 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.458 W/kg



0 dB = 0.631 W/kg = -2.00 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, 802.11ac 5.2-5.8 GHz Band; Frequency: 5775 MHz; Duty Cycle: 1:1

Medium: 5GHz Head; Medium parameters used (interpolated):

$f = 5775 \text{ MHz}$; $\sigma = 5.197 \text{ S/m}$; $\epsilon_r = 34.847$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-12-2017; Ambient Temp: 21.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7357; ConvF(4.65, 4.65, 4.65); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11ac, U-NII-3, Antenna 1, 80 MHz Bandwidth

Right Head, Cheek, Ch 155, 29.3 Mbps

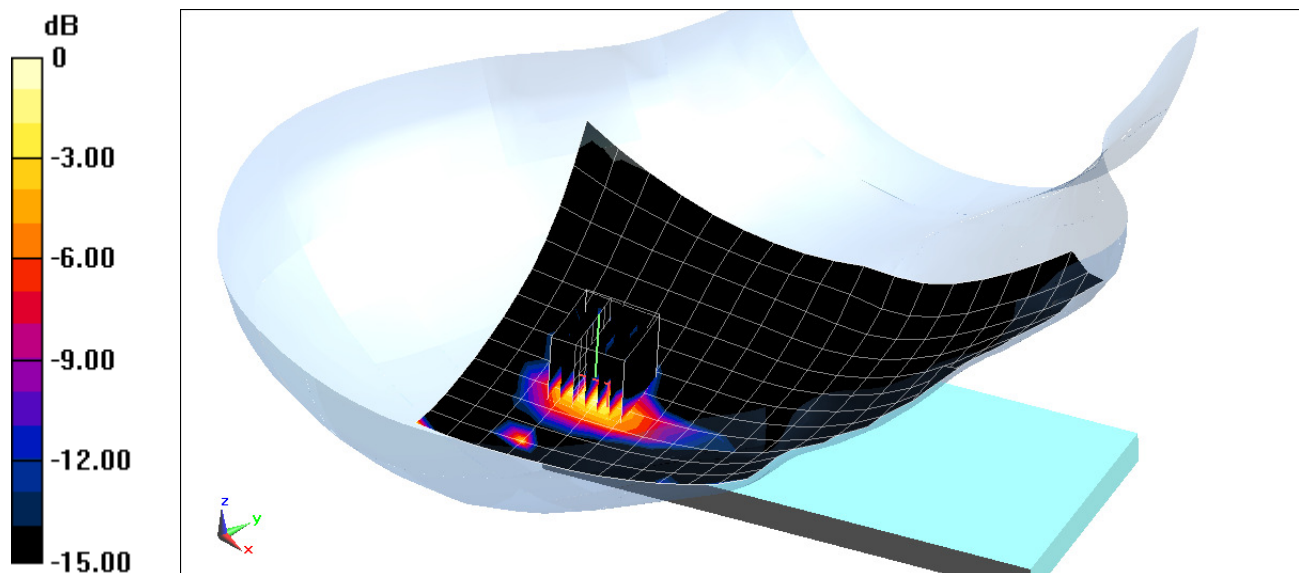
Area Scan (13x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 8.949 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.298 W/kg



0 dB = 0.862 W/kg = -0.64 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.299

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 1.859 \text{ S/m}$; $\epsilon_r = 38.197$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-22-2017; Ambient Temp: 23.2°C; Tissue Temp: 22.5°C

Probe: ES3DV3 - SN3287; ConvF(4.54, 4.54, 4.54); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Bluetooth, Right Head, Cheek, Ch 39, 2Mbps

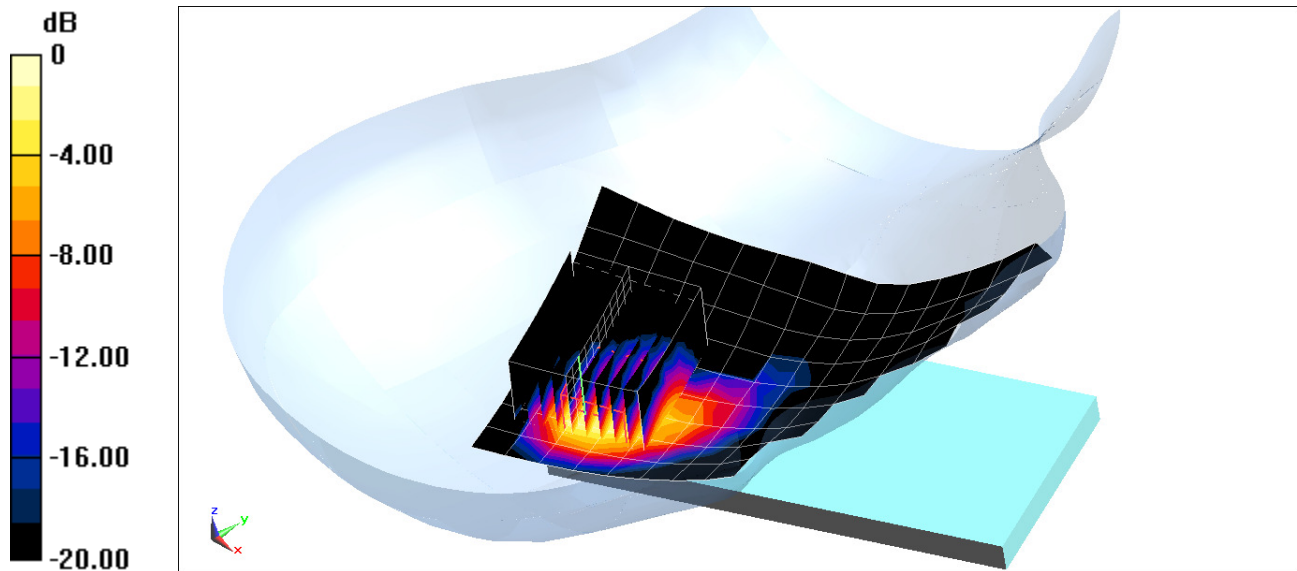
Area Scan (10x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (11x10x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.710 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.079 W/kg



0 dB = 0.107 W/kg = -9.71 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 1 \text{ S/m}$; $\epsilon_r = 55.418$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-26-2016; Ambient Temp: 23.3°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GSM 850, Body SAR, Back side, Mid.ch

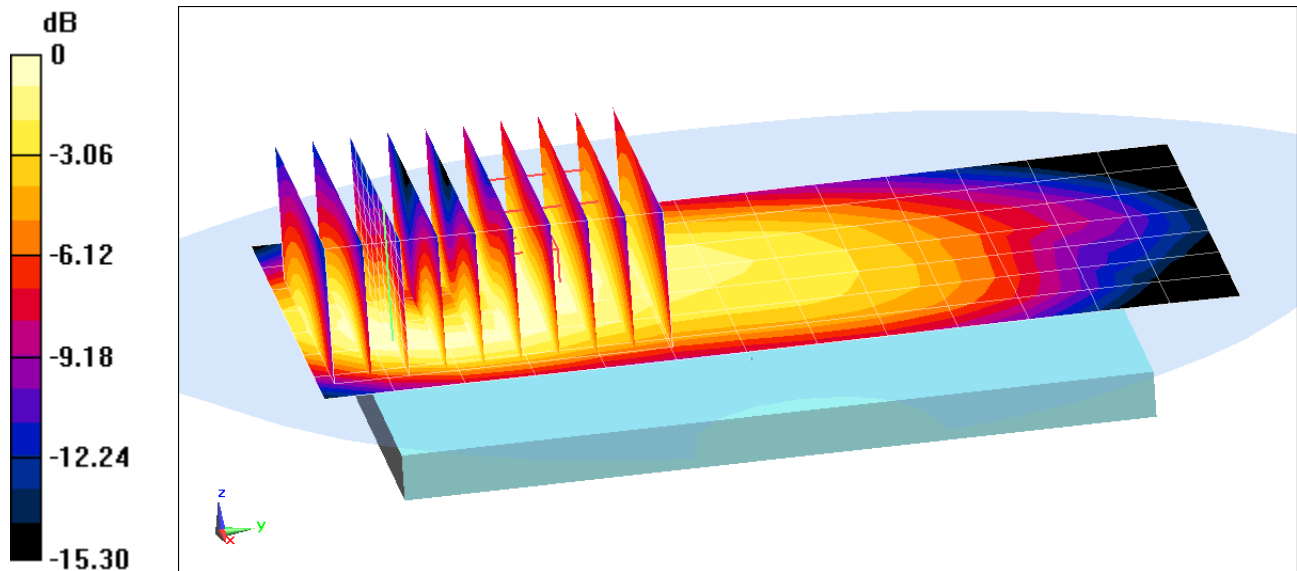
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (10x10x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.93 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.275 W/kg

SAR(1 g) = 0.177 W/kg



0 dB = 0.208 W/kg = -6.82 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 1 \text{ S/m}$; $\epsilon_r = 55.418$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-26-2016; Ambient Temp: 23.3°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 3 Tx Slots

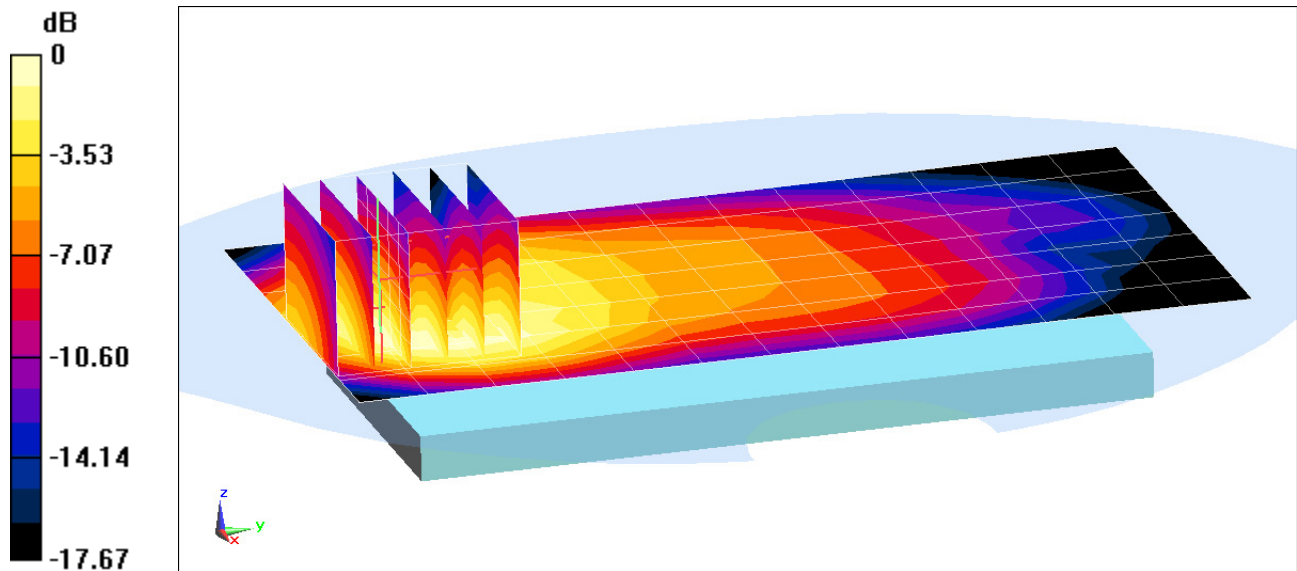
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.65 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.692 W/kg

SAR(1 g) = 0.411 W/kg



0 dB = 0.507 W/kg = -2.95 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.55 \text{ S/m}$; $\epsilon_r = 51.589$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GSM 1900, Body SAR, Back side, Mid.ch

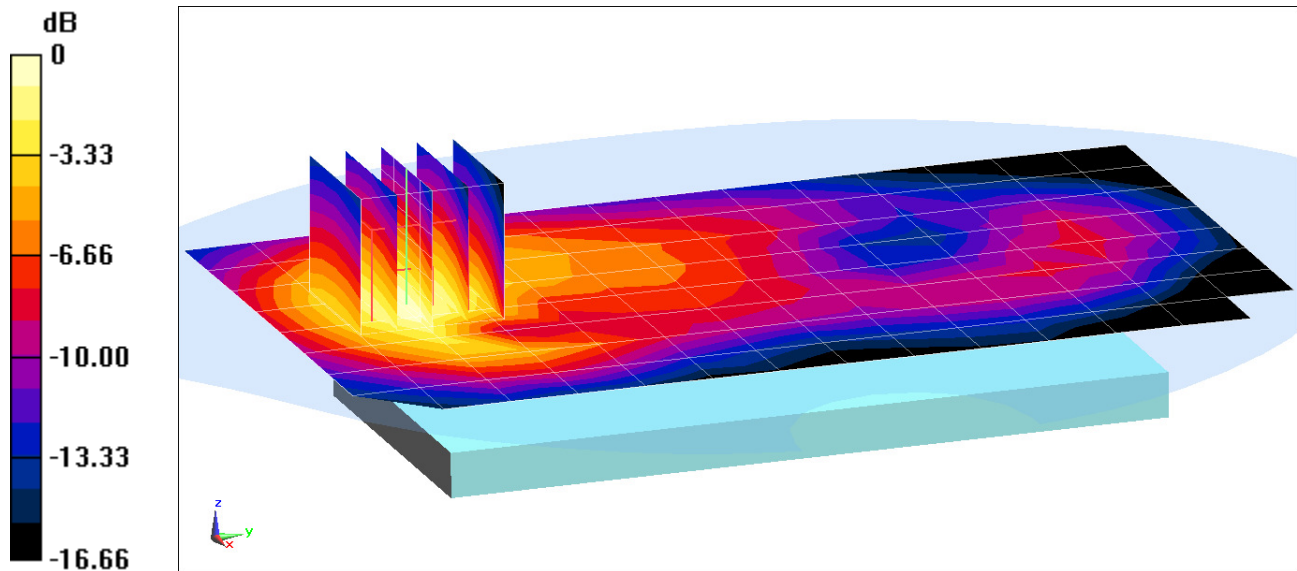
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.62 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.576 W/kg

SAR(1 g) = 0.350 W/kg



0 dB = 0.495 W/kg = -3.05 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226D1

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body; Medium parameters used:

$f = 1910 \text{ MHz}$; $\sigma = 1.581 \text{ S/m}$; $\epsilon_r = 51.461$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GPRS 1900, Body SAR, Bottom Edge, High.ch, 3 Tx Slots

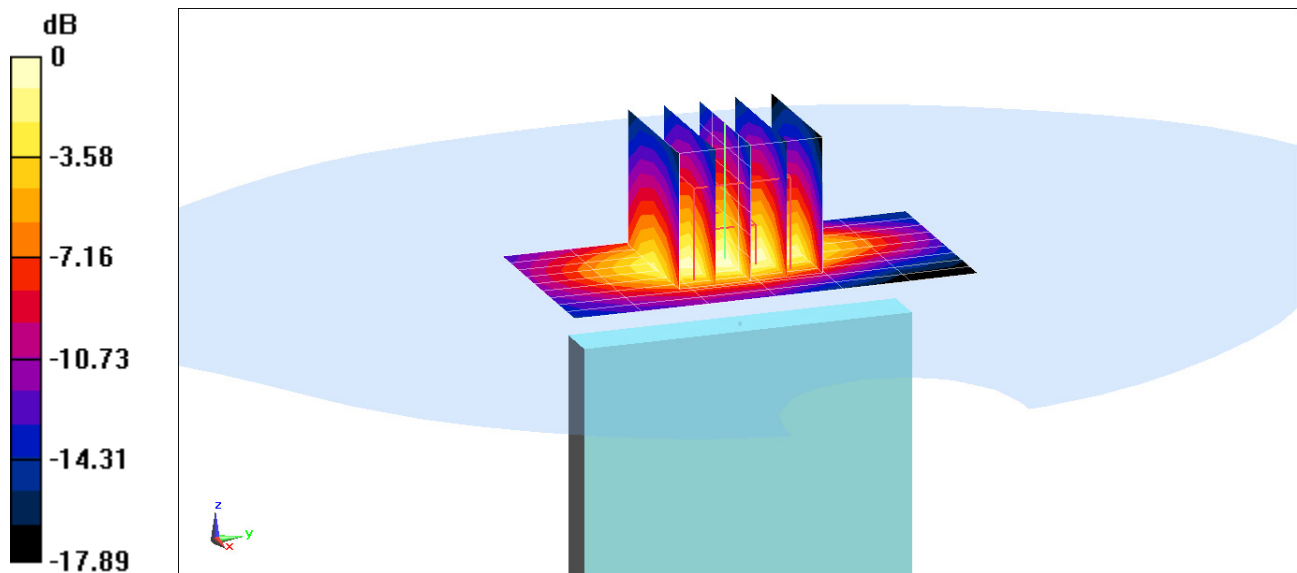
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.57 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.996 W/kg

SAR(1 g) = 0.552 W/kg



0 dB = 0.835 W/kg = -0.78 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.998 \text{ S/m}$; $\epsilon_r = 54.447$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

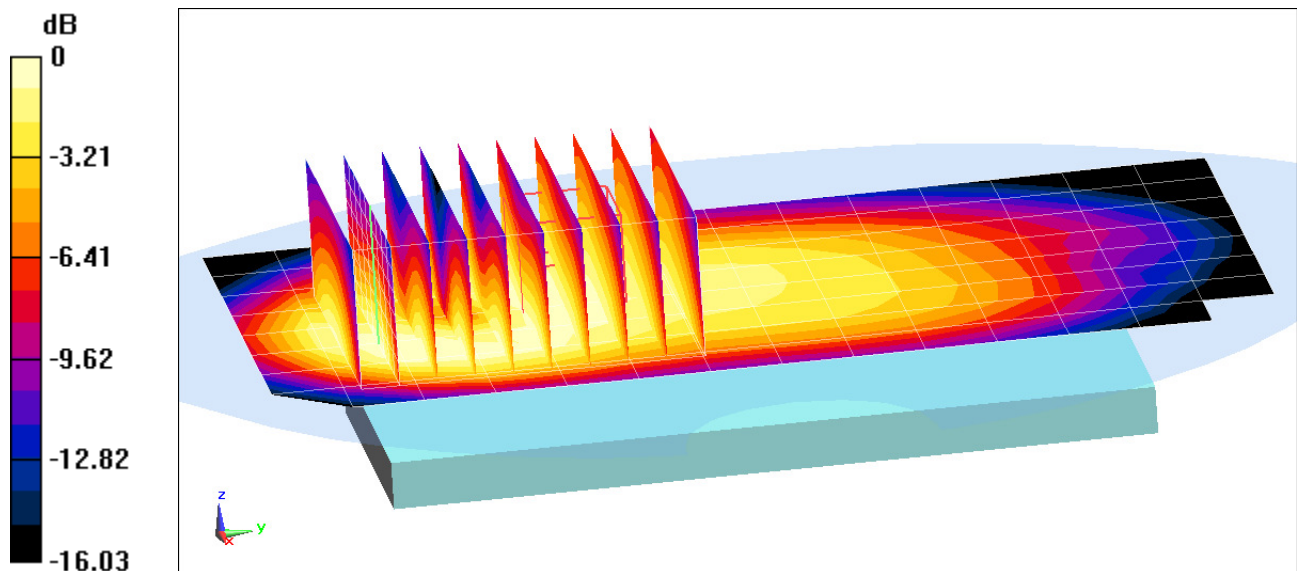
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (10x10x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.84 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.398 W/kg

SAR(1 g) = 0.256 W/kg



0 dB = 0.303 W/kg = -5.19 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.998 \text{ S/m}$; $\epsilon_r = 54.447$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

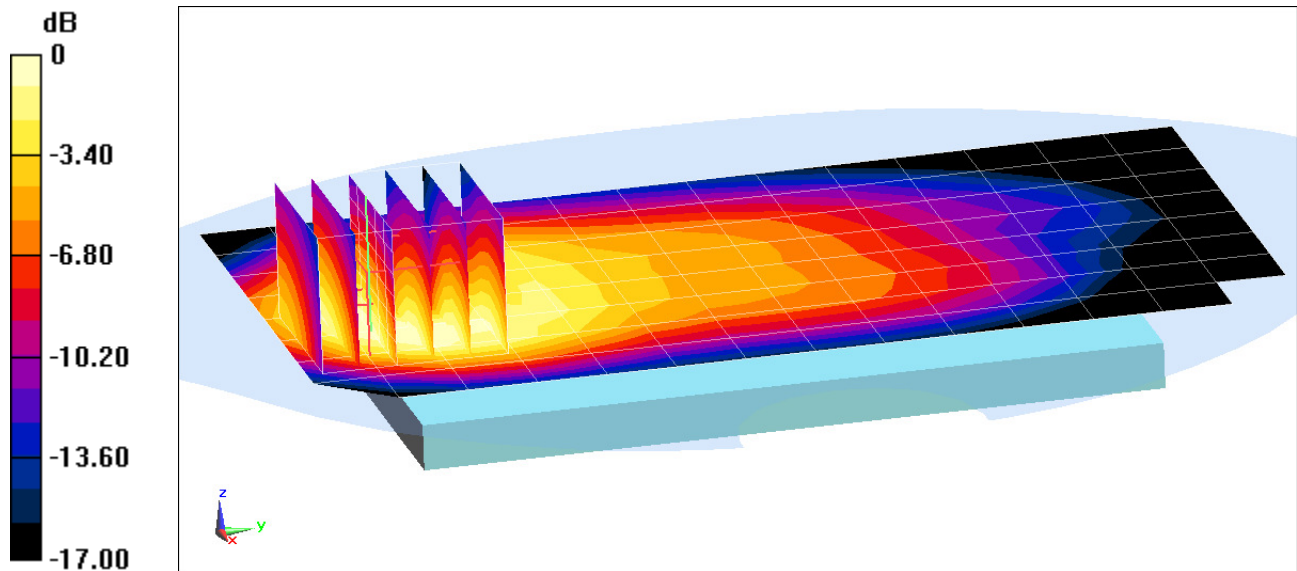
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.23 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.877 W/kg

SAR(1 g) = 0.523 W/kg



0 dB = 0.631 W/kg = -2.00 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE0

Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1752.6 \text{ MHz}$; $\sigma = 1.483 \text{ S/m}$; $\epsilon_r = 51.183$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

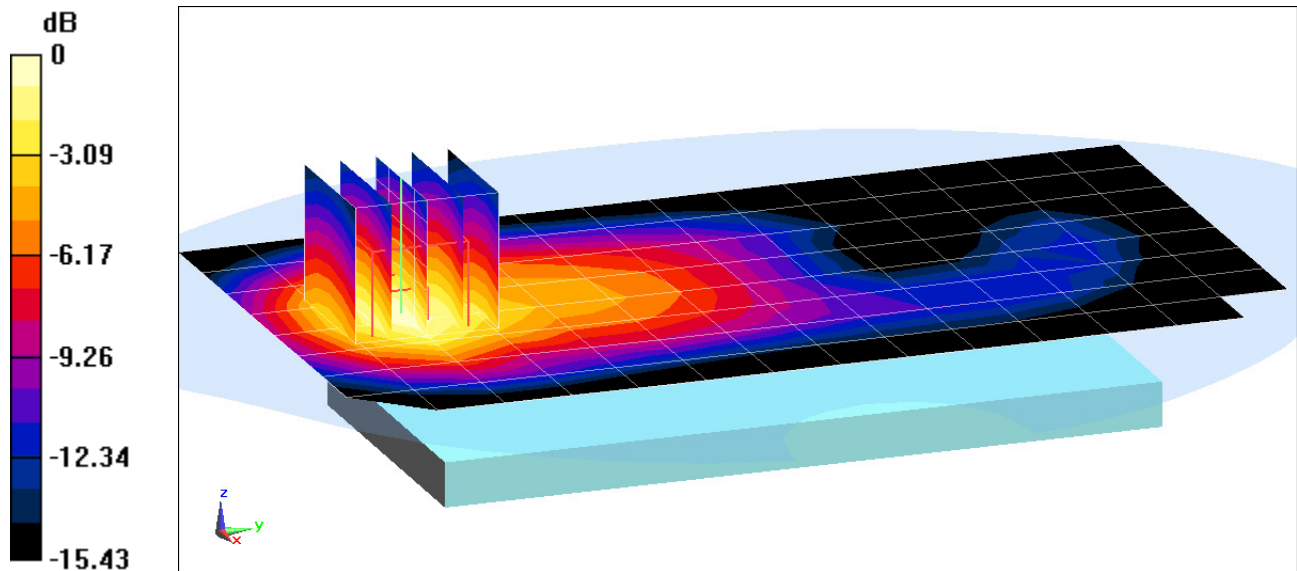
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 27.23 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.961 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CF4

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.462 \text{ S/m}$; $\epsilon_r = 51.221$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1750, Body SAR, Bottom Edge, Mid.ch

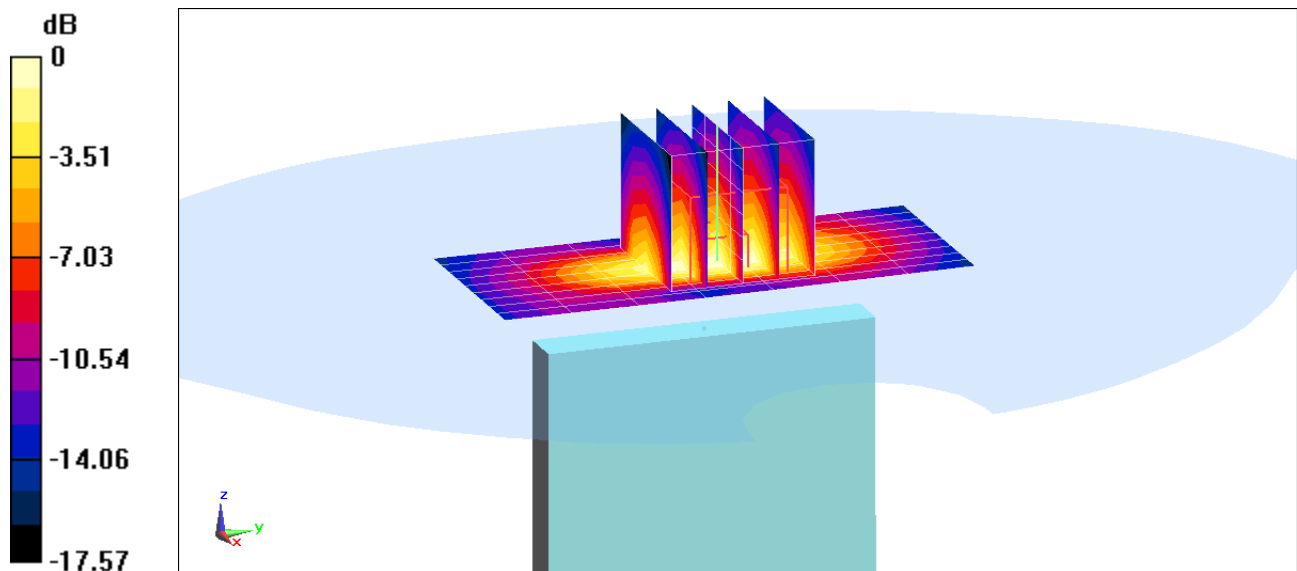
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.80 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.928 W/kg

SAR(1 g) = 0.545 W/kg



0 dB = 0.687 W/kg = -1.63 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.532 \text{ S/m}$; $\epsilon_r = 52.391$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-08-2017; Ambient Temp: 21.1°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3334; ConvF(4.91, 4.91, 4.91); Calibrated: 11/15/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 11/11/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1900, Body SAR, Back Side, Mid.ch

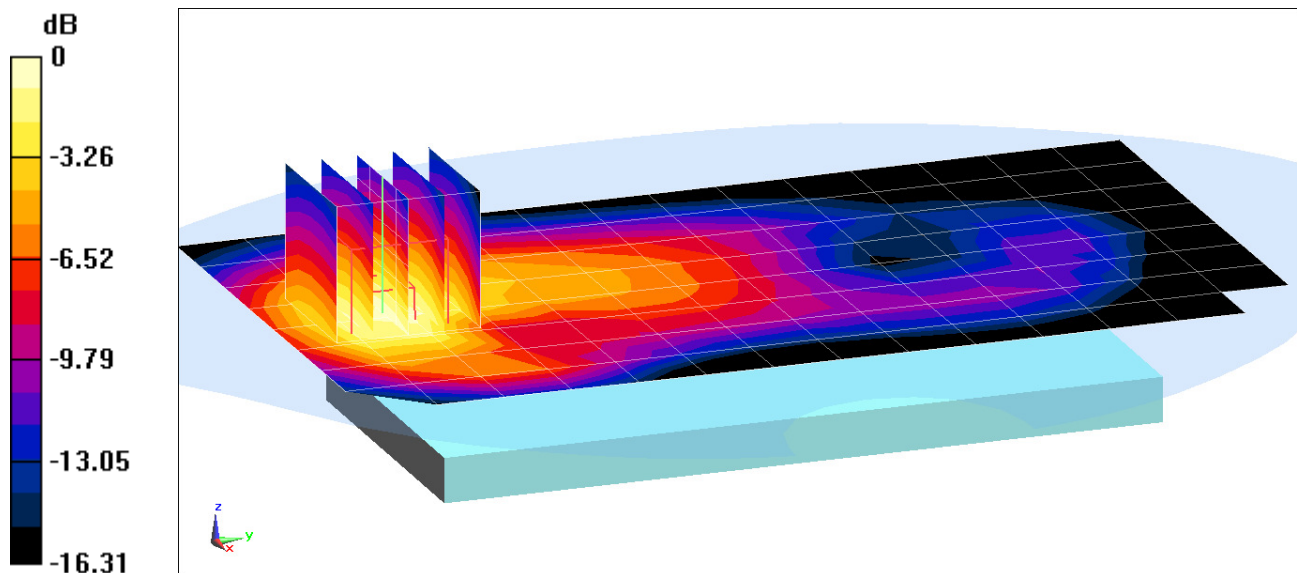
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.04 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.921 W/kg

SAR(1 g) = 0.589 W/kg



0 dB = 0.705 W/kg = -1.52 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226D1

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.55 \text{ S/m}$; $\epsilon_r = 51.589$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1900, Body SAR, Bottom Edge, Mid.ch

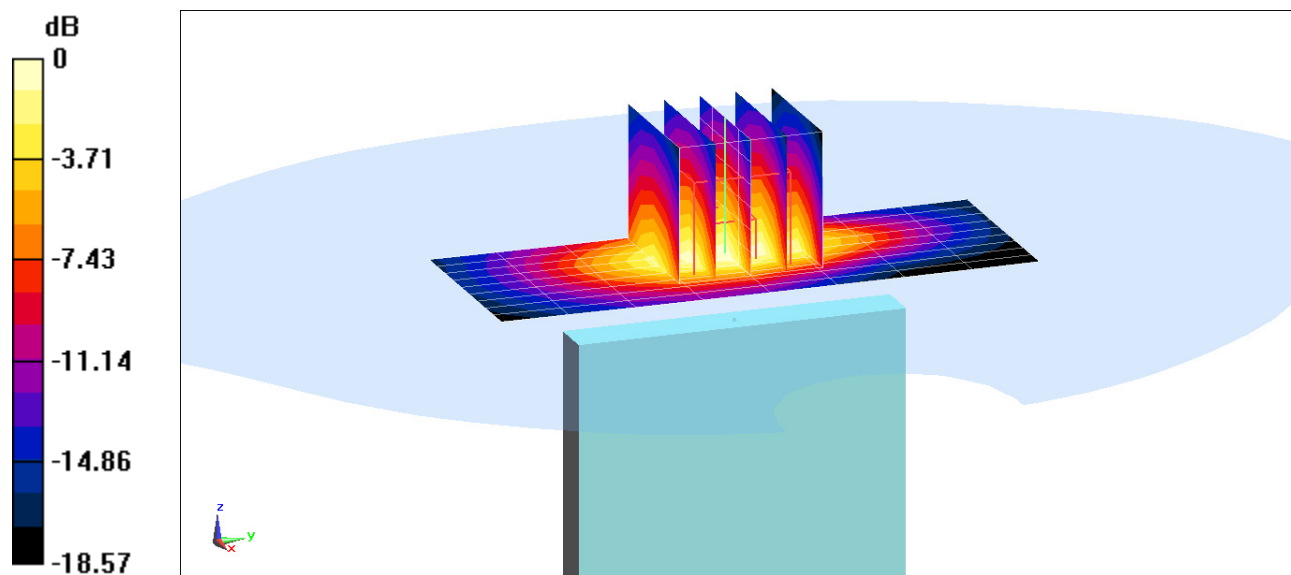
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 22.86 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.732 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.985 \text{ S/m}$; $\epsilon_r = 54.603$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

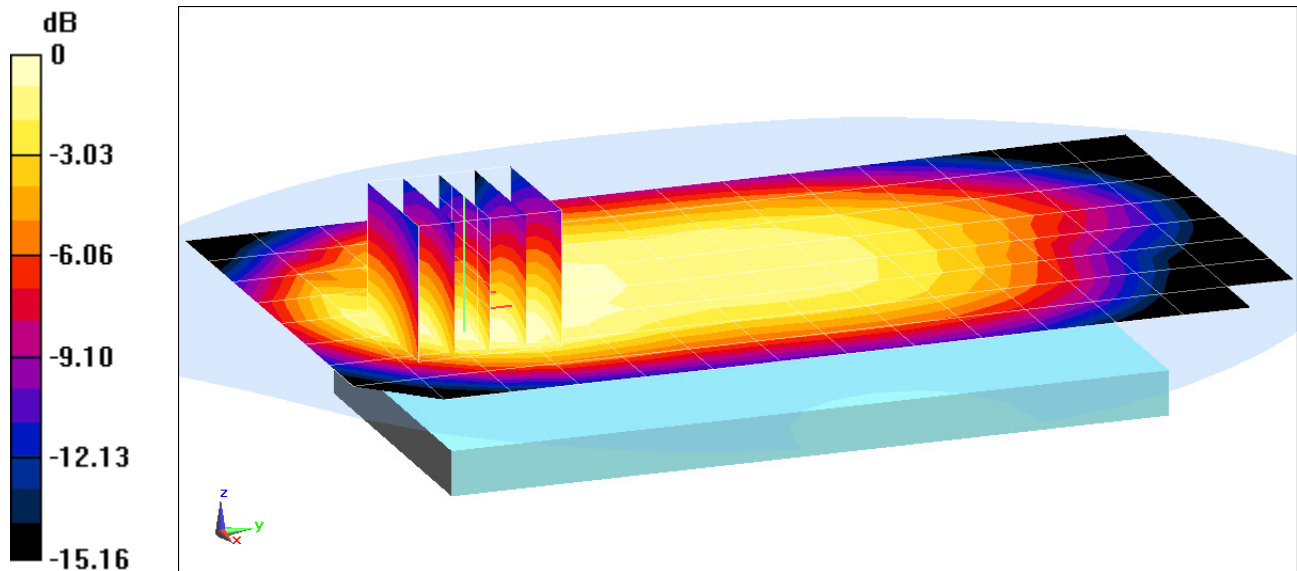
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.22 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.332 W/kg

SAR(1 g) = 0.212 W/kg



0 dB = 0.250 W/kg = -6.02 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.985 \text{ S/m}$; $\epsilon_r = 54.603$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Cell. EVDO Rev 0, Rule Part 90S, Body SAR, Back side, Mid.ch

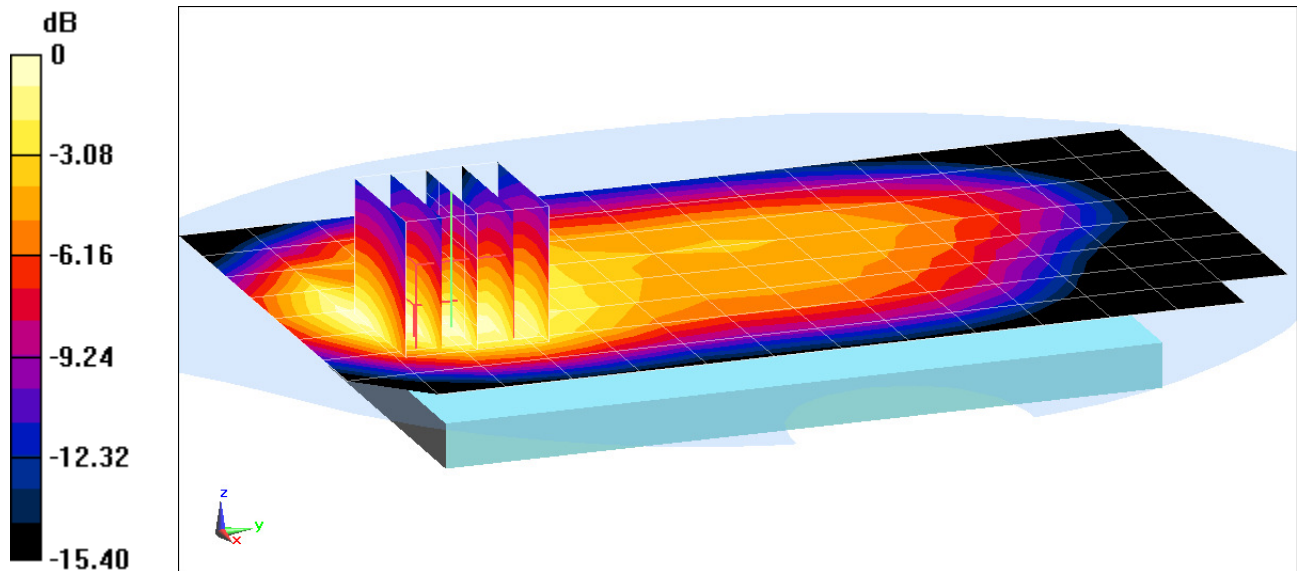
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.38 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.689 W/kg

SAR(1 g) = 0.413 W/kg



0 dB = 0.485 W/kg = -3.14 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.998 \text{ S/m}$; $\epsilon_r = 54.448$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

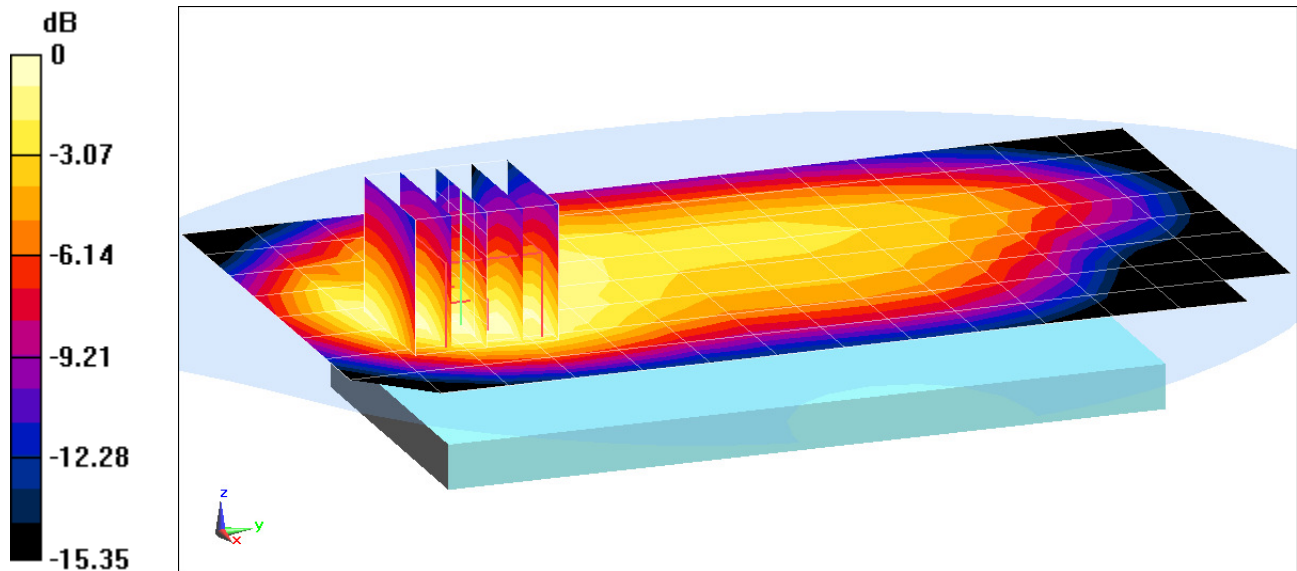
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.80 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.399 W/kg

SAR(1 g) = 0.254 W/kg



0 dB = 0.301 W/kg = -5.21 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CE1

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.995 \text{ S/m}$; $\epsilon_r = 52.989$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-06-2017; Ambient Temp: 22.3°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Cell. EVDO Rev. 0, Rule Part 22H, Body SAR, Back side, Mid.ch

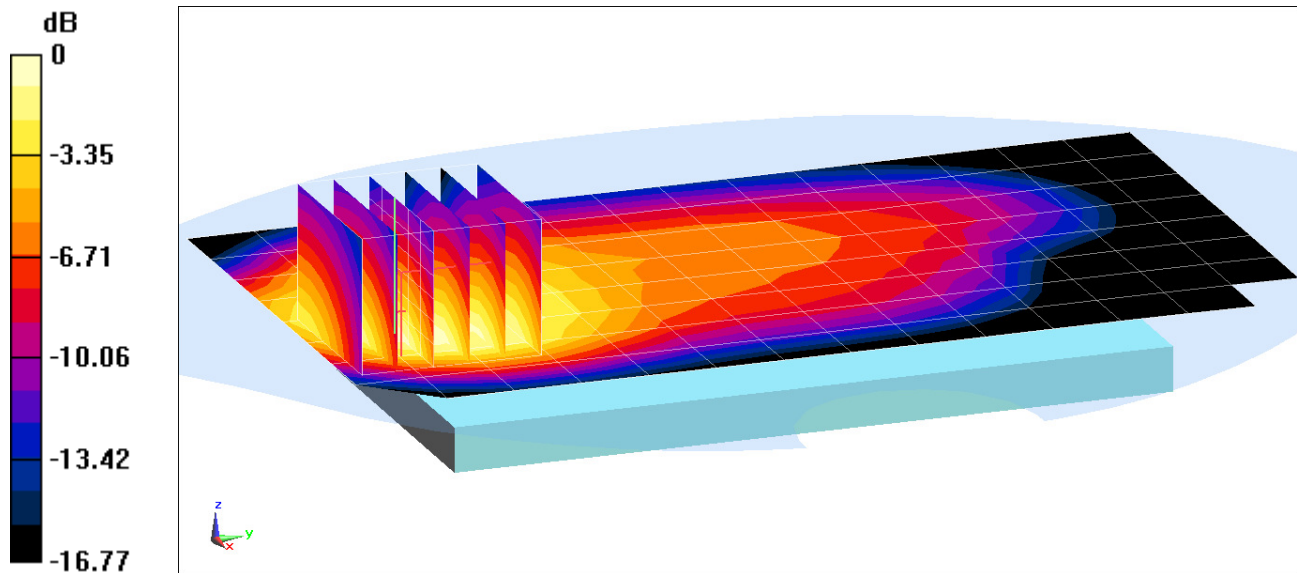
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.54 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.898 W/kg

SAR(1 g) = 0.535 W/kg



0 dB = 0.651 W/kg = -1.86 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08DCC

Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.532 \text{ S/m}$; $\epsilon_r = 52.391$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-08-2017; Ambient Temp: 21.1°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3334; ConvF(4.91, 4.91, 4.91); Calibrated: 11/15/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 11/11/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: PCS CDMA, Body SAR, Back side, Mid.ch

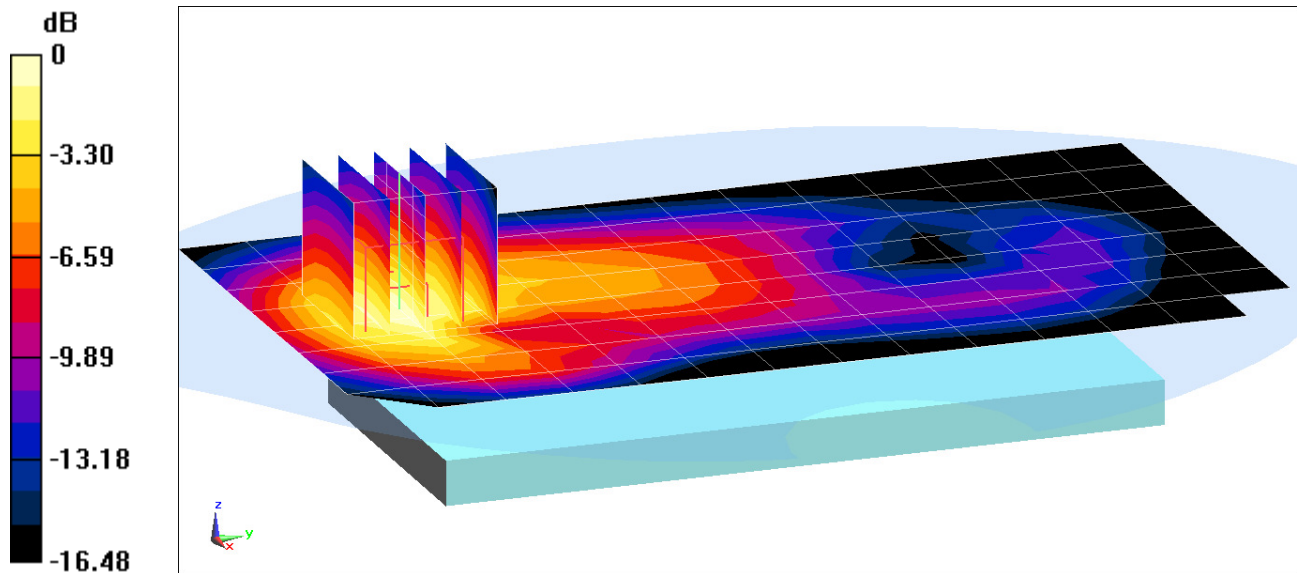
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.59 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.982 W/kg

SAR(1 g) = 0.624 W/kg



0 dB = 0.748 W/kg = -1.26 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226D1

Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.55 \text{ S/m}$; $\epsilon_r = 51.589$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: PCS EVDO Rev 0, Body SAR, Bottom Edge, Mid.ch

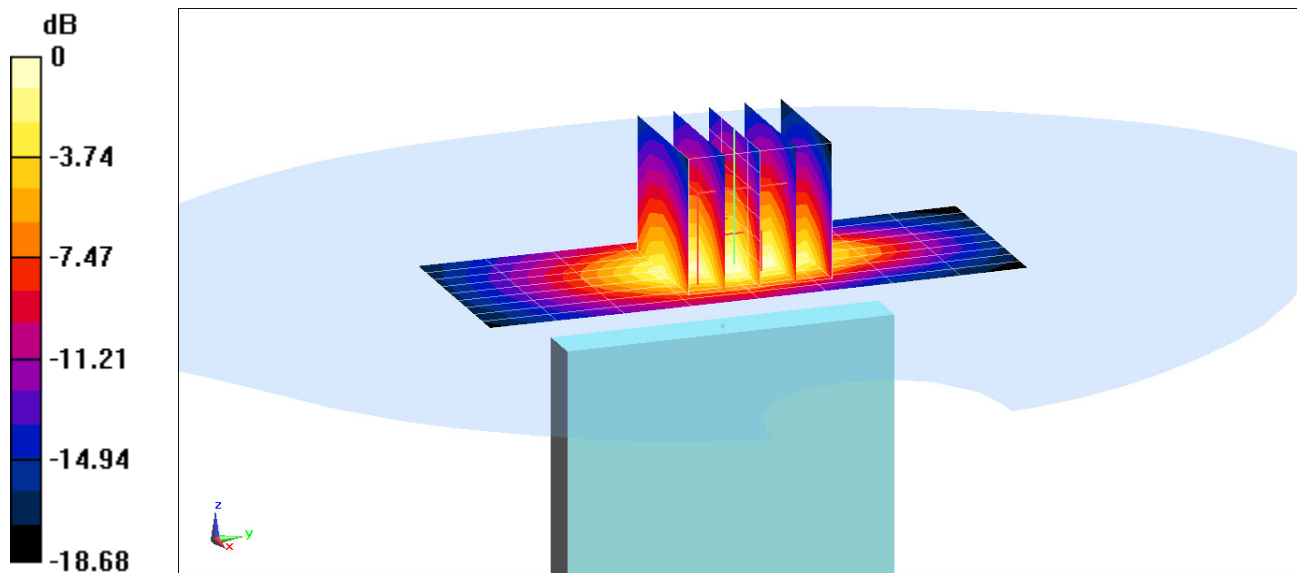
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.14 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.752 W/kg



0 dB = 1.14 W/kg = 0.57 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Body; Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.919 \text{ S/m}$; $\epsilon_r = 54.386$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-06-2017; Ambient Temp: 21.8°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3332; ConvF(6.7, 6.7, 6.7); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

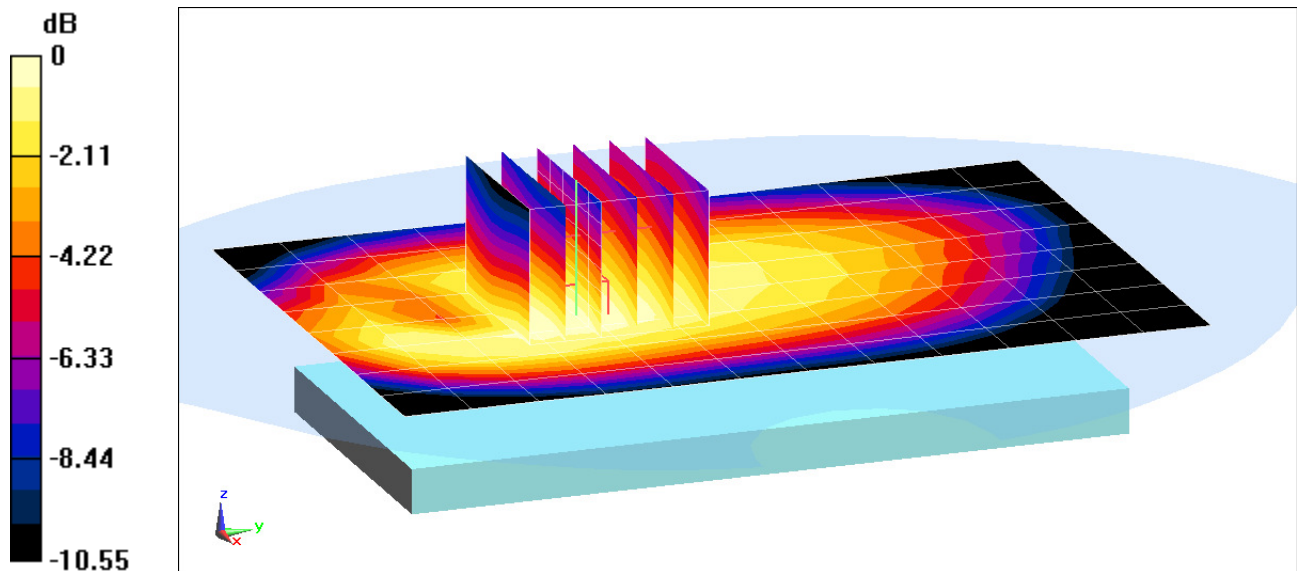
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.96 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.289 W/kg

SAR(1 g) = 0.219 W/kg



0 dB = 0.243 W/kg = -6.14 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Body; Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 54.977$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-26-2017; Ambient Temp: 21.1°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3318; ConvF(6.19, 6.19, 6.19); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

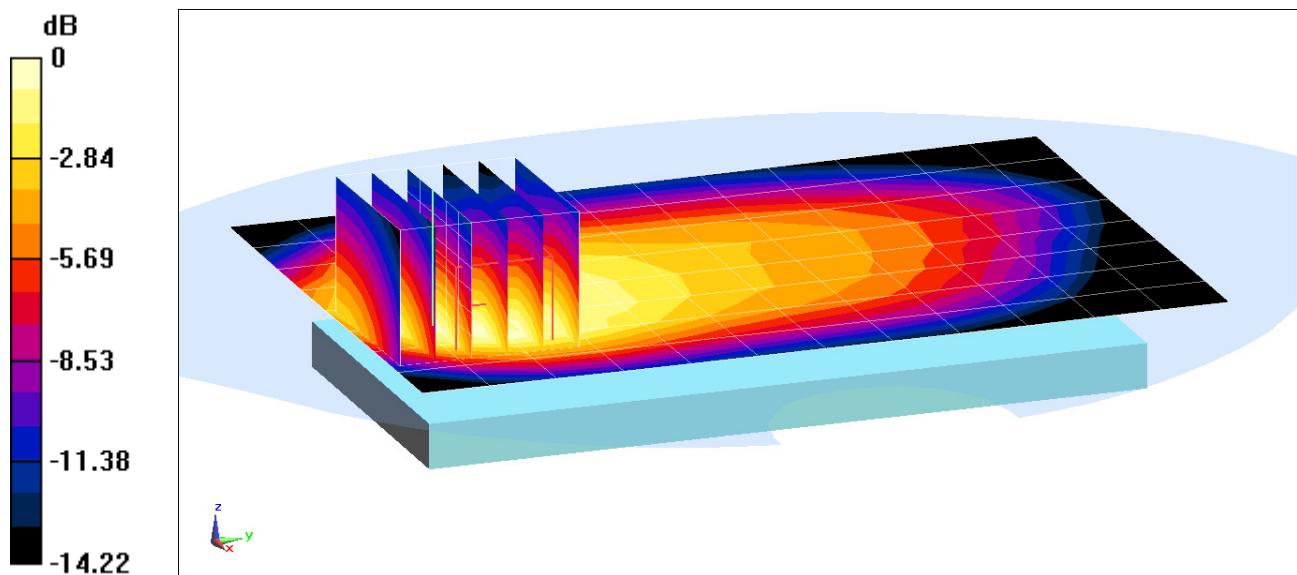
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.03 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.742 W/kg

SAR(1 g) = 0.442 W/kg



0 dB = 0.531 W/kg = -2.75 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Body; Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.989 \text{ S/m}$; $\epsilon_r = 53.596$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-06-2017; Ambient Temp: 21.8°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3332; ConvF(6.7, 6.7, 6.7); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0RB Offset

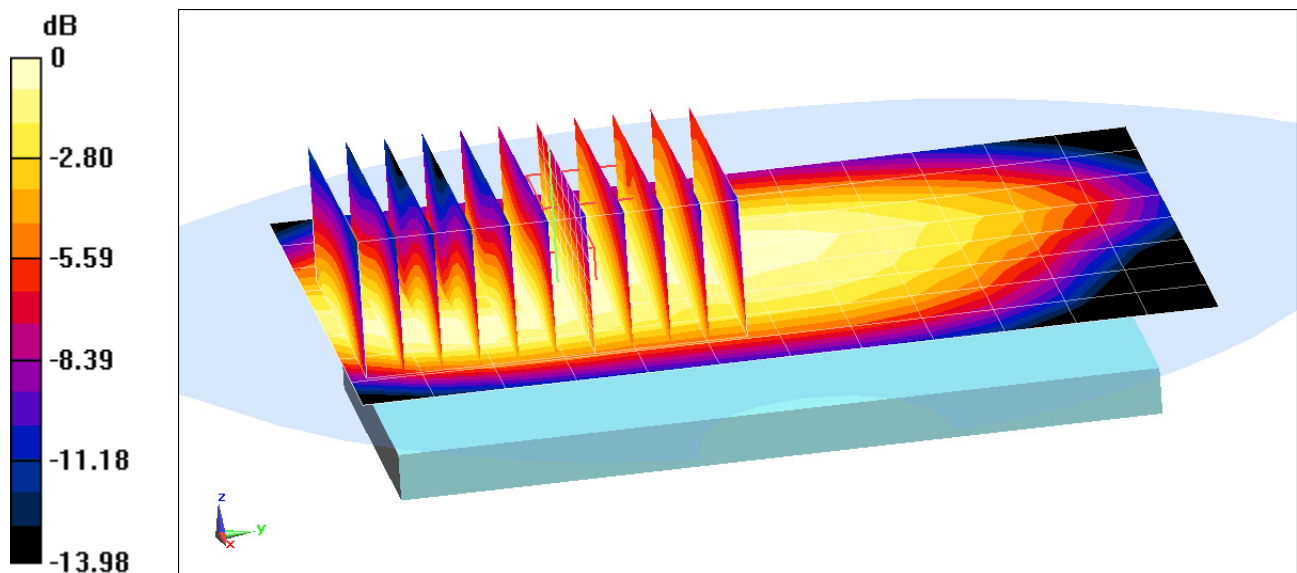
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (9x11x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.86 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.315 W/kg

SAR(1 g) = 0.213 W/kg



0 dB = 0.234 W/kg = -6.31 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Body; Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 54.194$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-26-2017; Ambient Temp: 21.1°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3318; ConvF(6.19, 6.19, 6.19); Calibrated: 2/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/19/2016

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

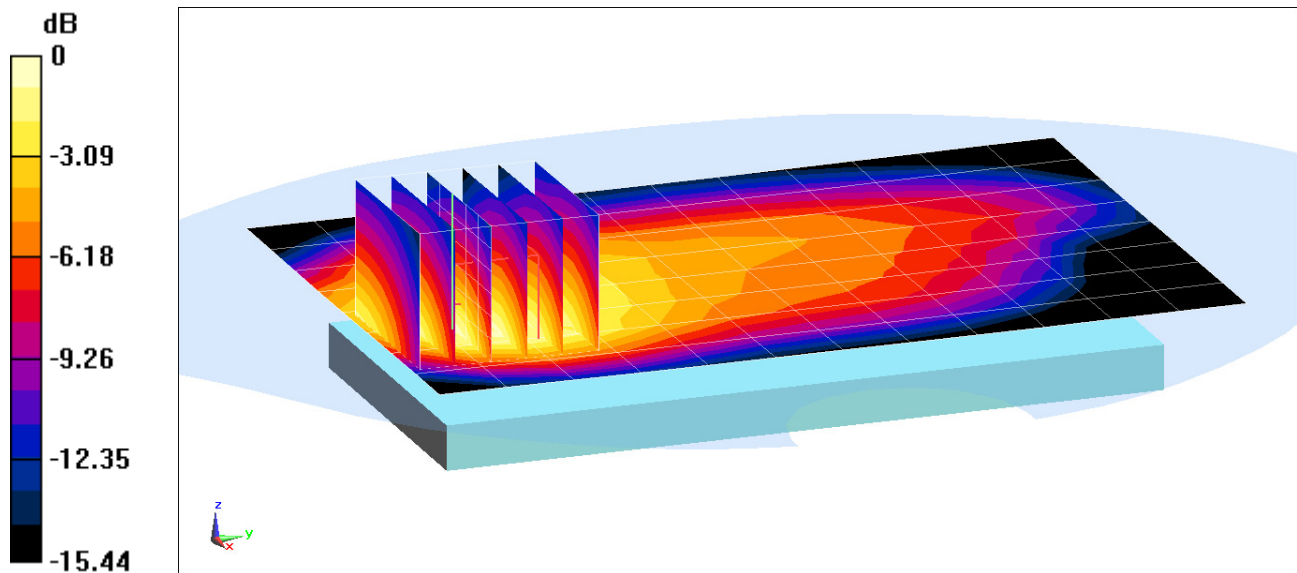
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.53 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.765 W/kg

SAR(1 g) = 0.457 W/kg



0 dB = 0.553 W/kg = -2.57 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.993 \text{ S/m}$; $\epsilon_r = 54.499$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

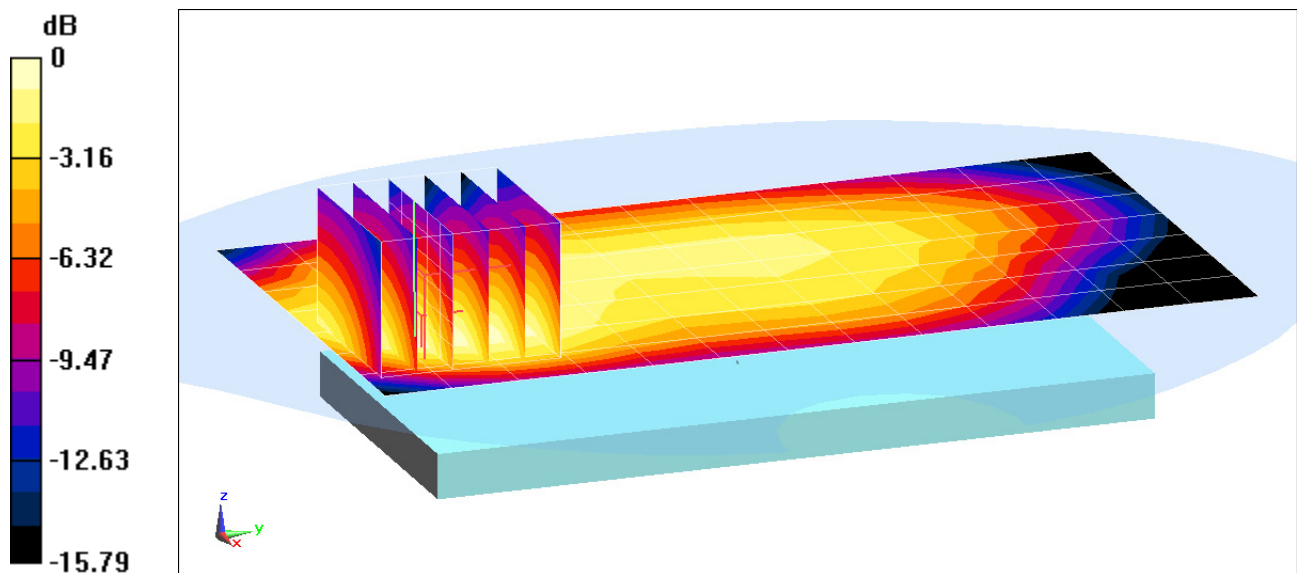
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.52 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.189 W/kg



0 dB = 0.224 W/kg = -6.50 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.993 \text{ S/m}$; $\epsilon_r = 54.499$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-29-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

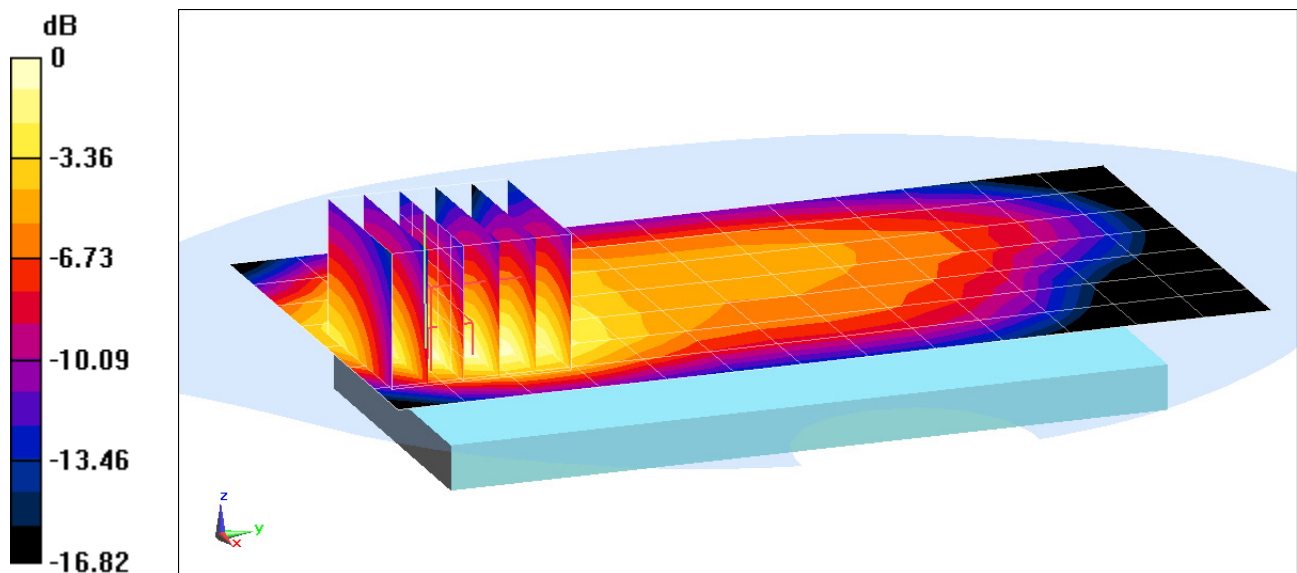
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.60 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.699 W/kg

SAR(1 g) = 0.414 W/kg



0 dB = 0.502 W/kg = -2.99 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 53.512$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-01-2017; Ambient Temp: 21.4°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

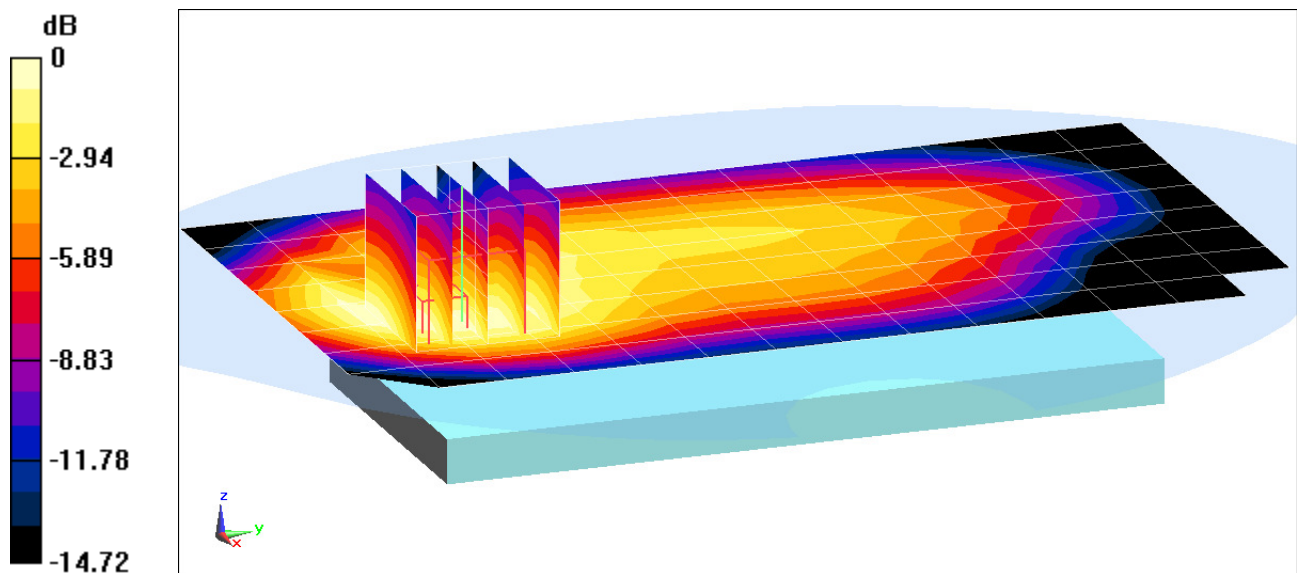
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.98 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.462 W/kg

SAR(1 g) = 0.293 W/kg



0 dB = 0.342 W/kg = -4.66 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08CD0

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 53.512$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-01-2017; Ambient Temp: 21.4°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3319; ConvF(6.04, 6.04, 6.04); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

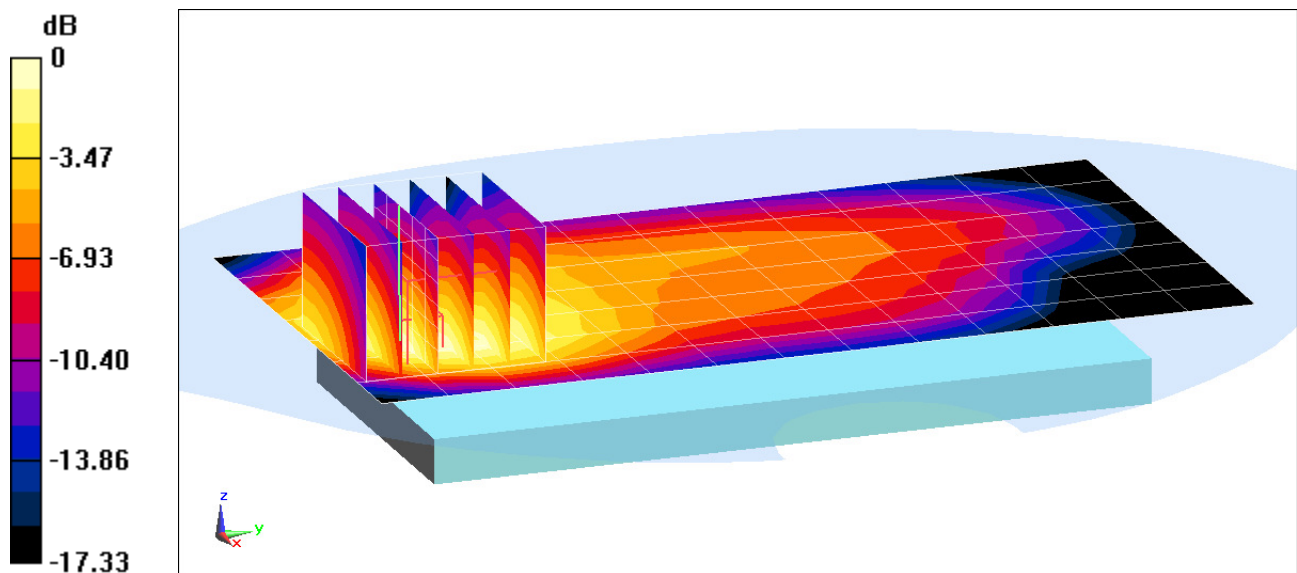
Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.53 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.984 W/kg

SAR(1 g) = 0.581 W/kg



0 dB = 0.706 W/kg = -1.51 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BCE

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$; $\sigma = 1.508 \text{ S/m}$; $\epsilon_r = 52.356$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-01-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 66 (AWS), Body SAR, Back side, Low.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

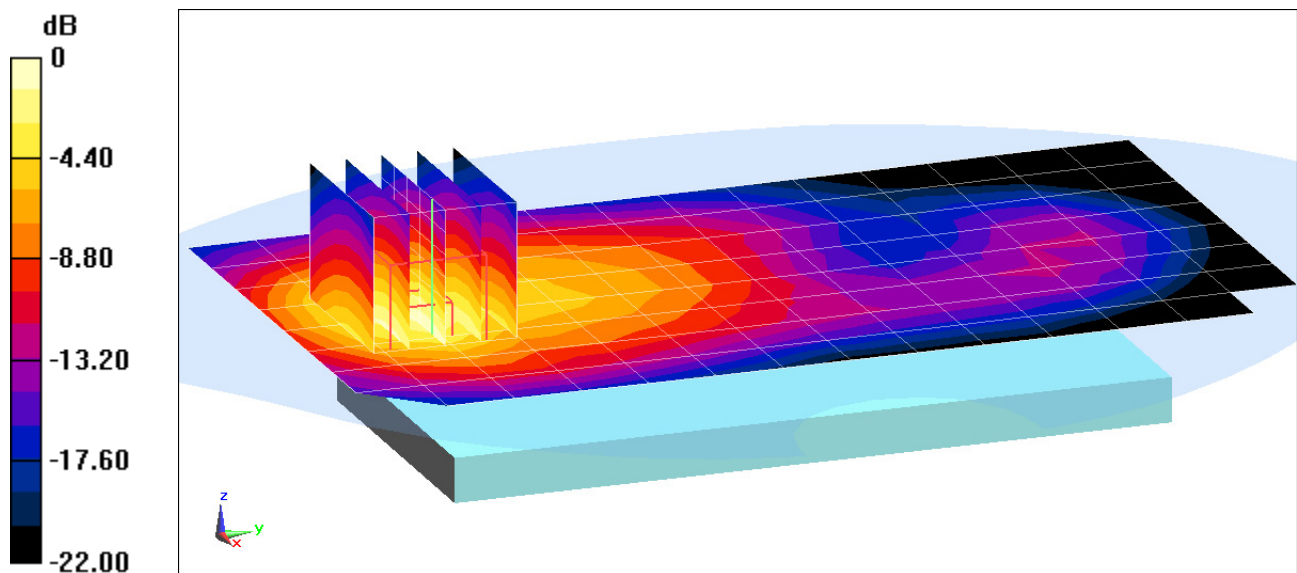
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.39 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.800 W/kg



0 dB = 0.929 W/kg = -0.32 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BF7

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$; $\sigma = 1.508 \text{ S/m}$; $\epsilon_r = 52.356$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-01-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 66 (AWS), Body SAR, Bottom Edge, Low.ch
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

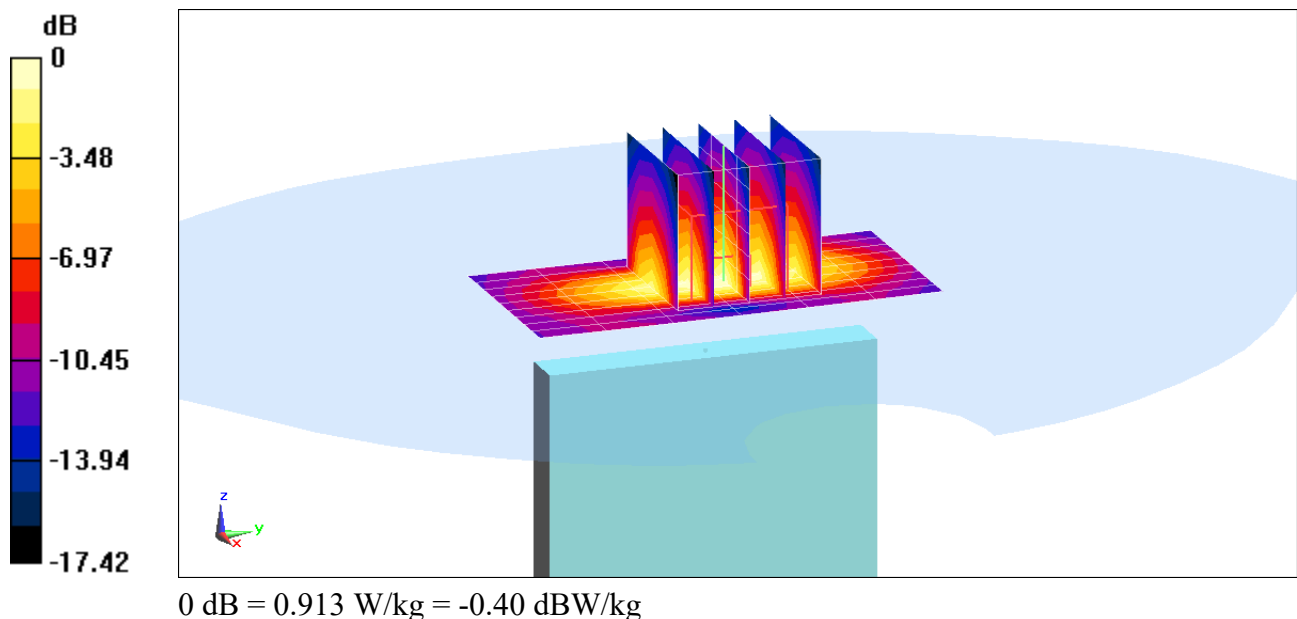
Area Scan (11x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.92 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.760 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 1388E

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.576 \text{ S/m}$; $\epsilon_r = 51.482$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch

20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

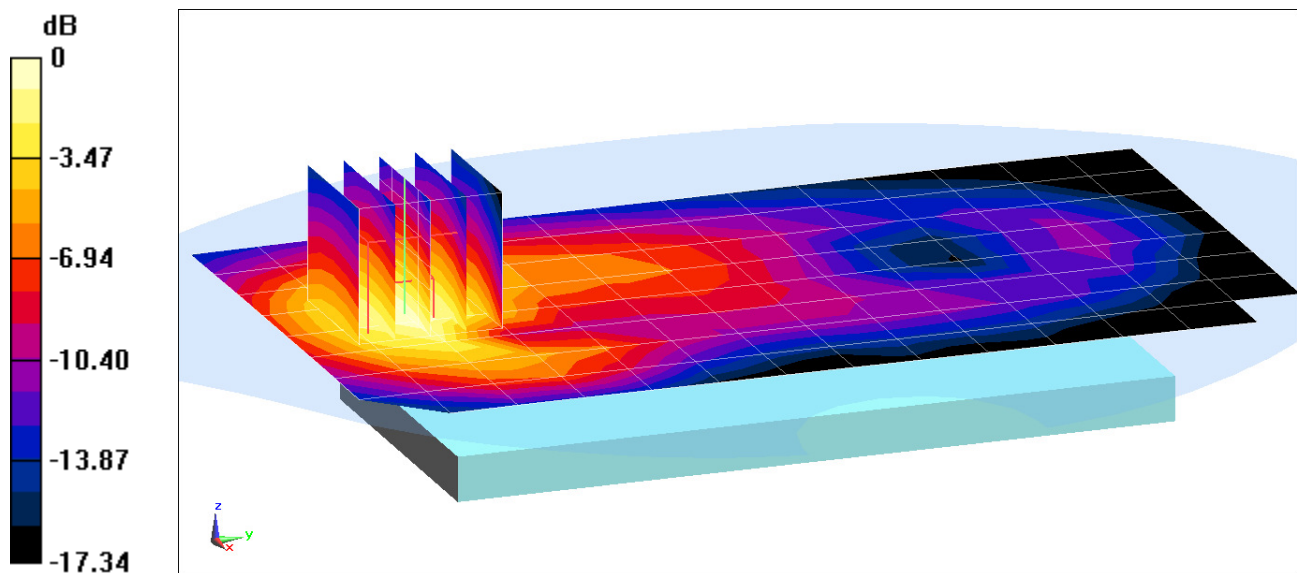
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.78 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.768 W/kg

SAR(1 g) = 0.459 W/kg



0 dB = 0.657 W/kg = -1.82 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 138A6

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.576 \text{ S/m}$; $\epsilon_r = 51.482$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

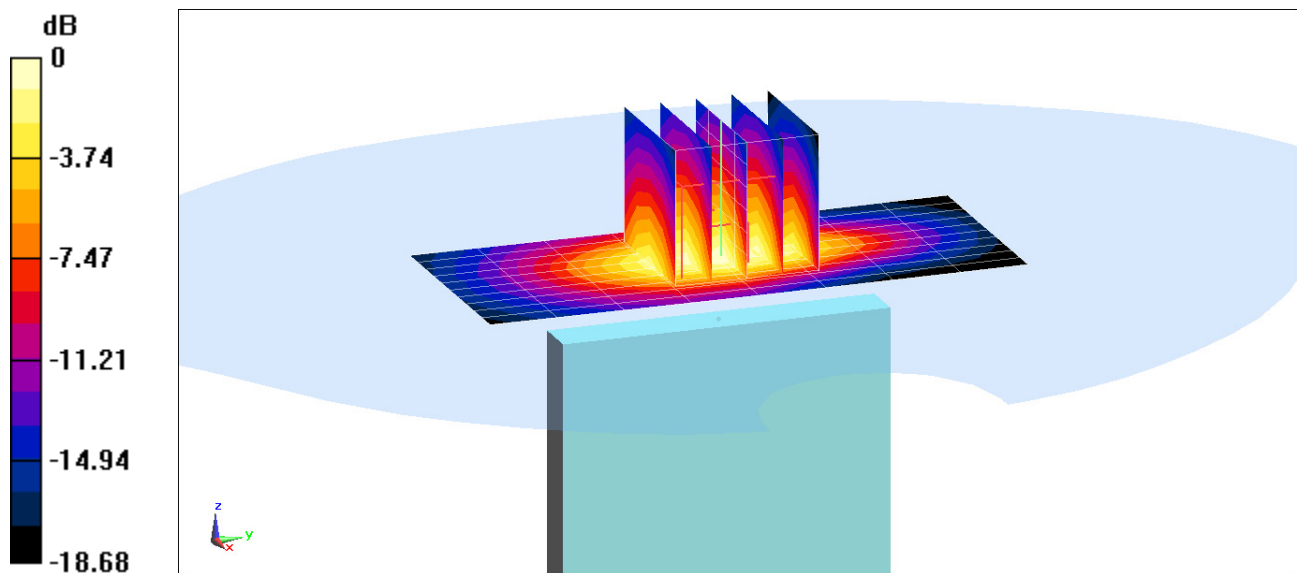
Area Scan (11x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.74 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.807 W/kg



0 dB = 1.23 W/kg = 0.90 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08D85

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Body; Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.783 \text{ S/m}$; $\epsilon_r = 51.891$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-24-2017; Ambient Temp: 24.0°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(7.37, 7.37, 7.37); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 30, Body SAR, Back side, Mid.ch

10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

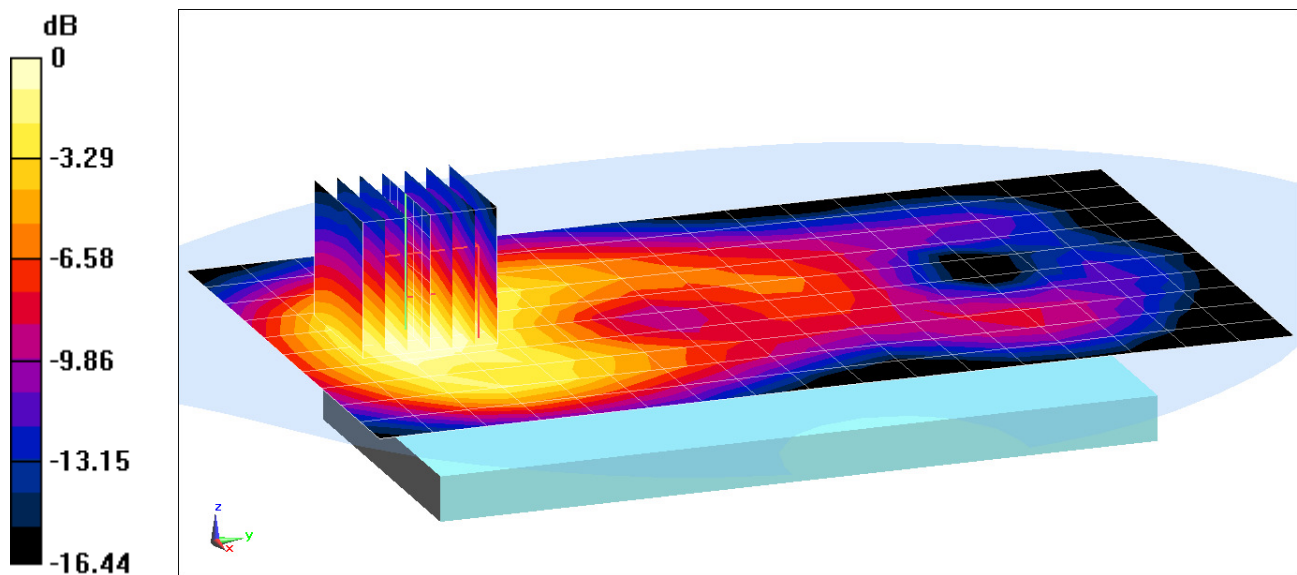
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.66 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.532 W/kg

SAR(1 g) = 0.306 W/kg



0 dB = 0.447 W/kg = -3.50 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BF4

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Body; Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.854 \text{ S/m}$; $\epsilon_r = 51.453$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-09-2017; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7406; ConvF(7.37, 7.37, 7.37); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 30, Body SAR, Bottom Edge, Mid.ch

10 MHz Bandwidth, QPSK, 25 RB, 0 RB Offset

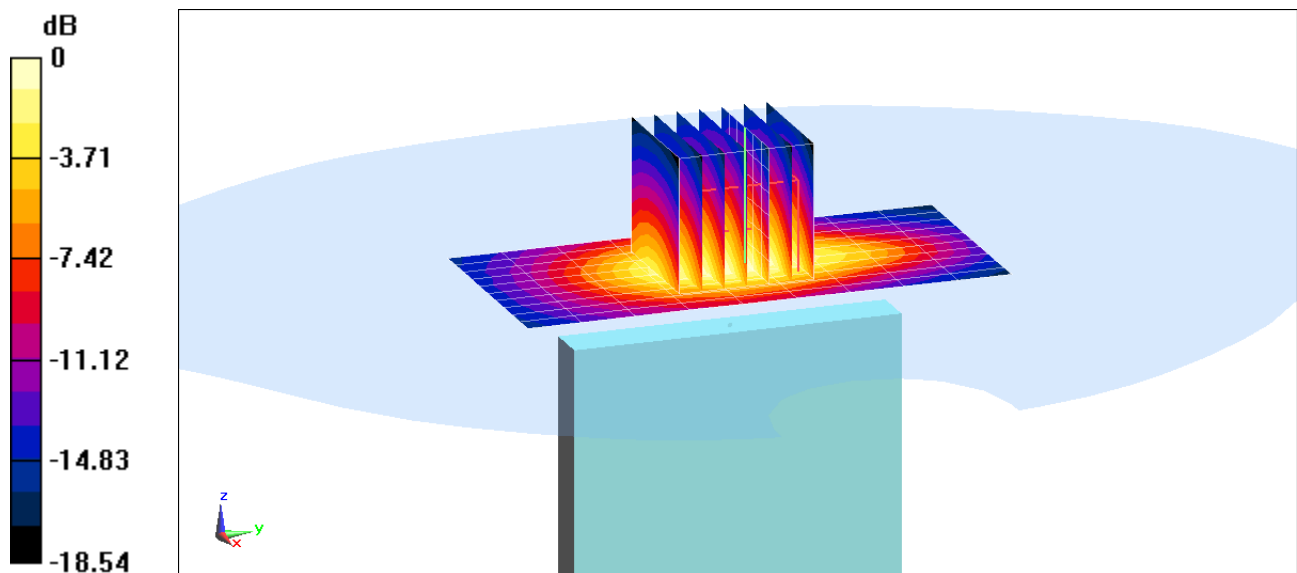
Area Scan (11x10x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.91 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.612 W/kg



0 dB = 0.916 W/kg = -0.38 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 08D85

Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2506 MHz; Duty Cycle: 1:2.31

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2506 \text{ MHz}$; $\sigma = 2.111 \text{ S/m}$; $\epsilon_r = 50.586$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-12-2017; Ambient Temp: 24.5°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7406; ConvF(7.24, 7.24, 7.24); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 41 PC2, Body SAR, Back side, Low.ch

20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

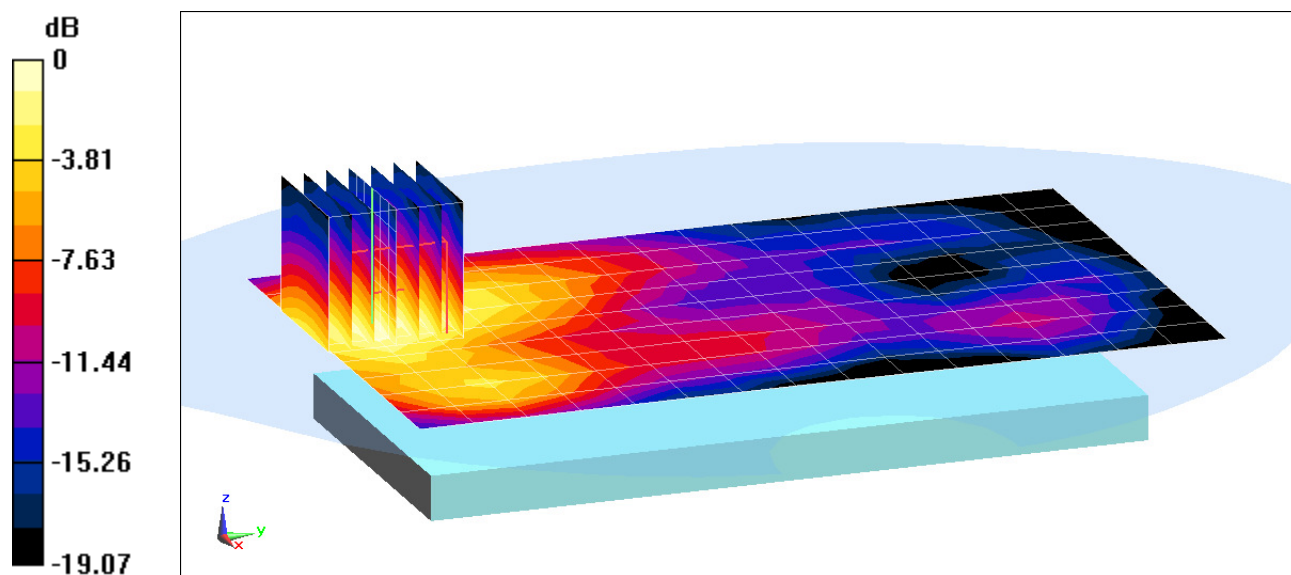
Area Scan (10x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.25 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.442 W/kg

SAR(1 g) = 0.243 W/kg



0 dB = 0.366 W/kg = -4.37 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BF4

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2636.5 MHz; Duty Cycle: 1:1.58

Medium: 2600 Body; Medium parameters used (interpolated):

$f = 2636.5 \text{ MHz}$; $\sigma = 2.216 \text{ S/m}$; $\epsilon_r = 50.448$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-06-2017; Ambient Temp: 23.5°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(6.94, 6.94, 6.94); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 41 PC3, Body SAR, Bottom Edge, Mid-High.ch
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

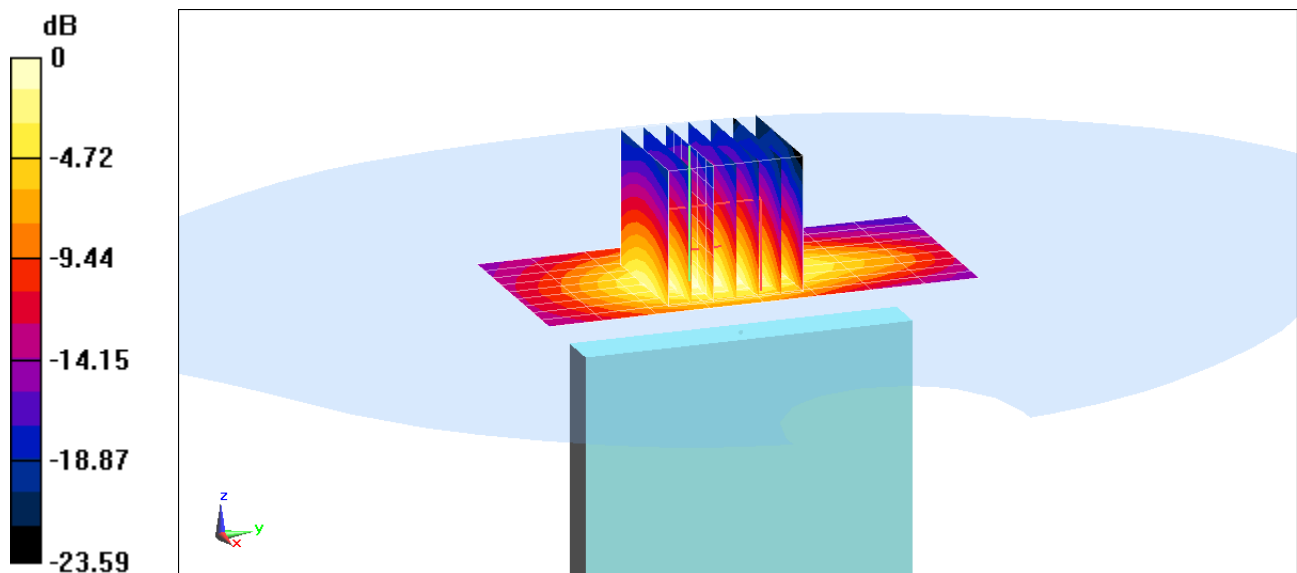
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.92 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.591 W/kg



0 dB = 0.981 W/kg = -0.08 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.988 \text{ S/m}$; $\epsilon_r = 50.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-04-2017; Ambient Temp: 24.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF(7.24, 7.24, 7.24); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth

Body SAR, Ch 06, 1 Mbps, Back Side

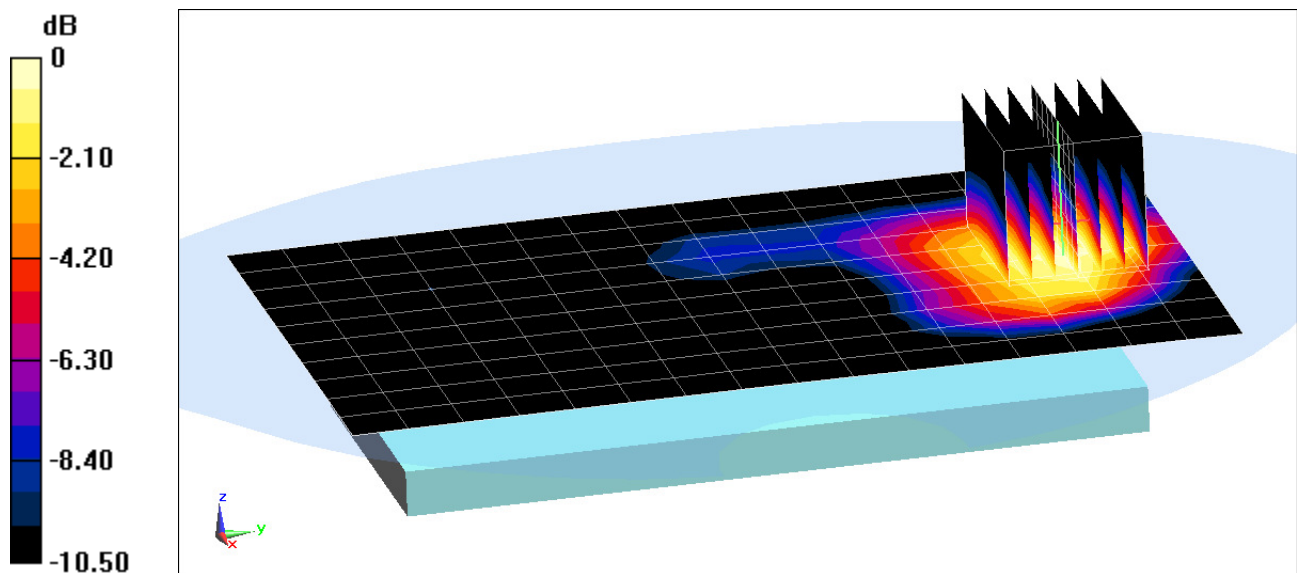
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (9x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.421 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.163 W/kg



0 dB = 0.245 W/kg = -6.11 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.988 \text{ S/m}$; $\epsilon_r = 50.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-04-2017; Ambient Temp: 24.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF(7.24, 7.24, 7.24); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth

Body SAR, Ch 06, 1 Mbps, Back Side

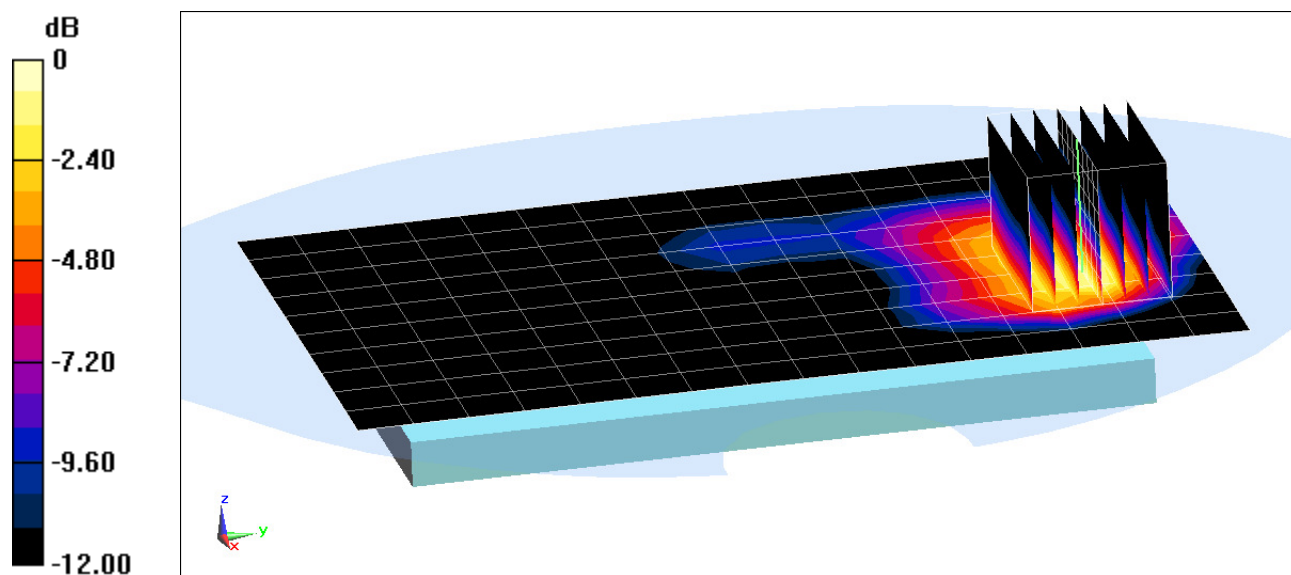
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (9x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.14 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.620 W/kg

SAR(1 g) = 0.306 W/kg



0 dB = 0.489 W/kg = -3.11 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11ac; Frequency: 5610 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body; Medium parameters used (interpolated):

$f = 5610 \text{ MHz}$; $\sigma = 5.933 \text{ S/m}$; $\epsilon_r = 48.074$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-02-2017; Ambient Temp: 21.6°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN3914; ConvF(3.63, 3.63, 3.63); Calibrated: 2/22/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/18/2016

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11ac, UNII-2C, Antenna 2, 80 MHz Bandwidth

Body SAR, Ch 122, 29.3 Mbps, Back Side

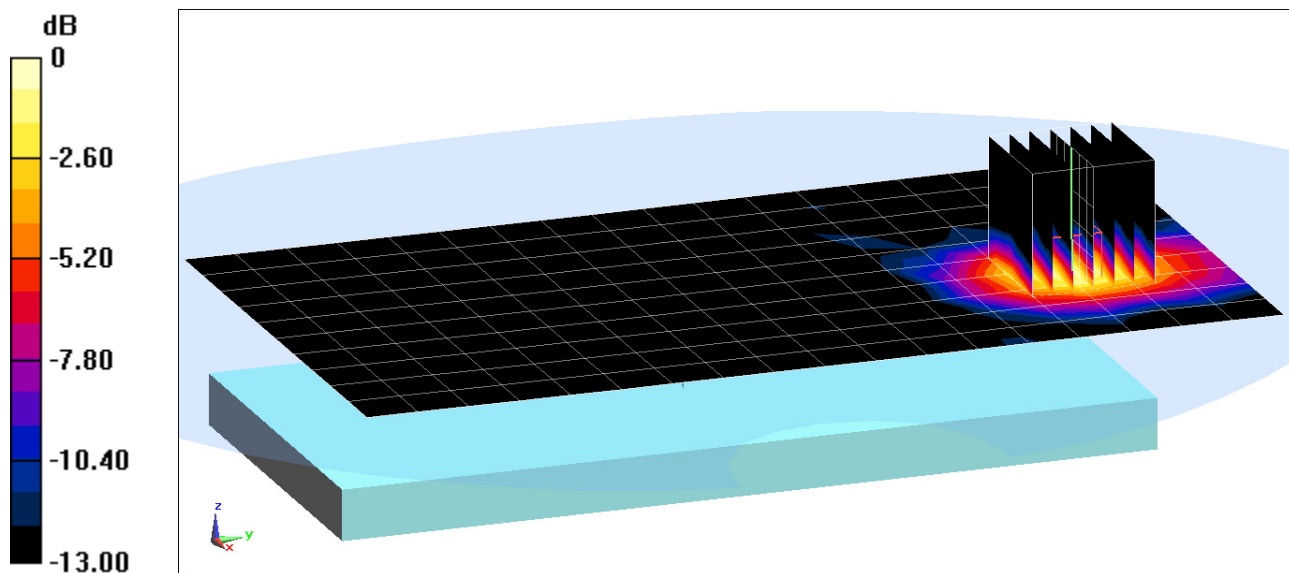
Area Scan (11x19x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 6.715 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.704 W/kg

SAR(1 g) = 0.228 W/kg



0 dB = 0.495 W/kg = -3.05 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11ac; Frequency: 5775 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body; Medium parameters used (interpolated):

$f = 5775 \text{ MHz}$; $\sigma = 6.161 \text{ S/m}$; $\epsilon_r = 47.816$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-02-2017; Ambient Temp: 21.6°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN3914; ConvF(3.86, 3.86, 3.86); Calibrated: 2/22/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/18/2016

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11ac, UNII-3, Antenna 1, 80 MHz Bandwidth

Body SAR, Ch 155, 29.3 Mbps, Back Side

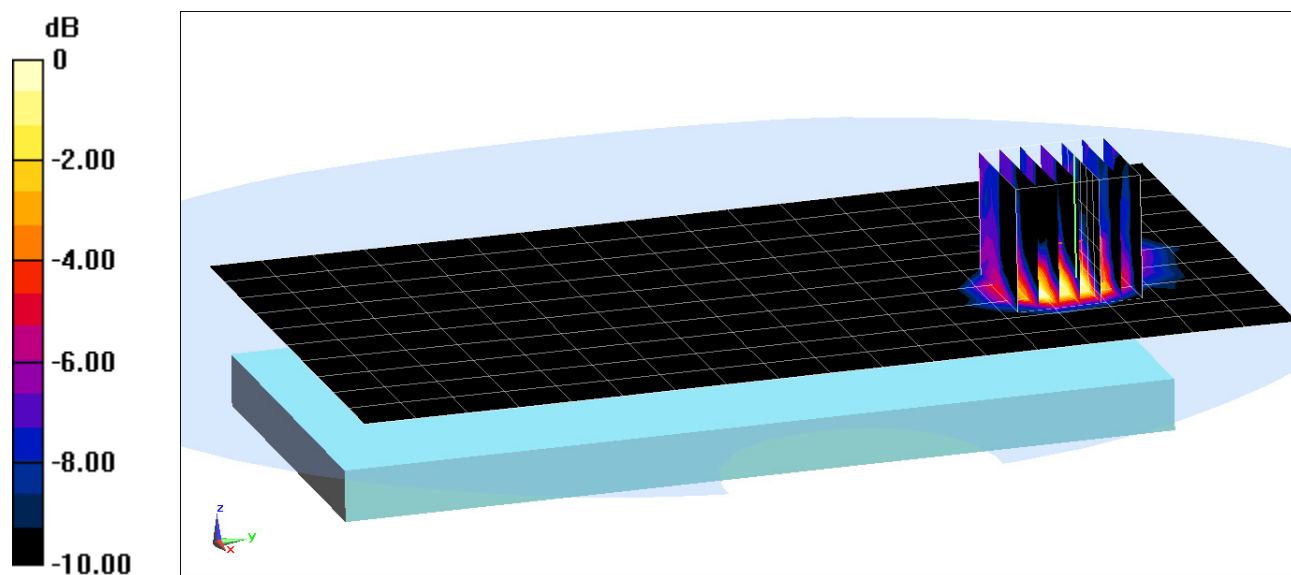
Area Scan (11x19x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 5.759 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.939 W/kg

SAR(1 g) = 0.166 W/kg



0 dB = 0.305 W/kg = -5.16 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.299

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.022 \text{ S/m}$; $\epsilon_r = 50.886$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-12-2017; Ambient Temp: 24.5°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7406; ConvF(7.24, 7.24, 7.24); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

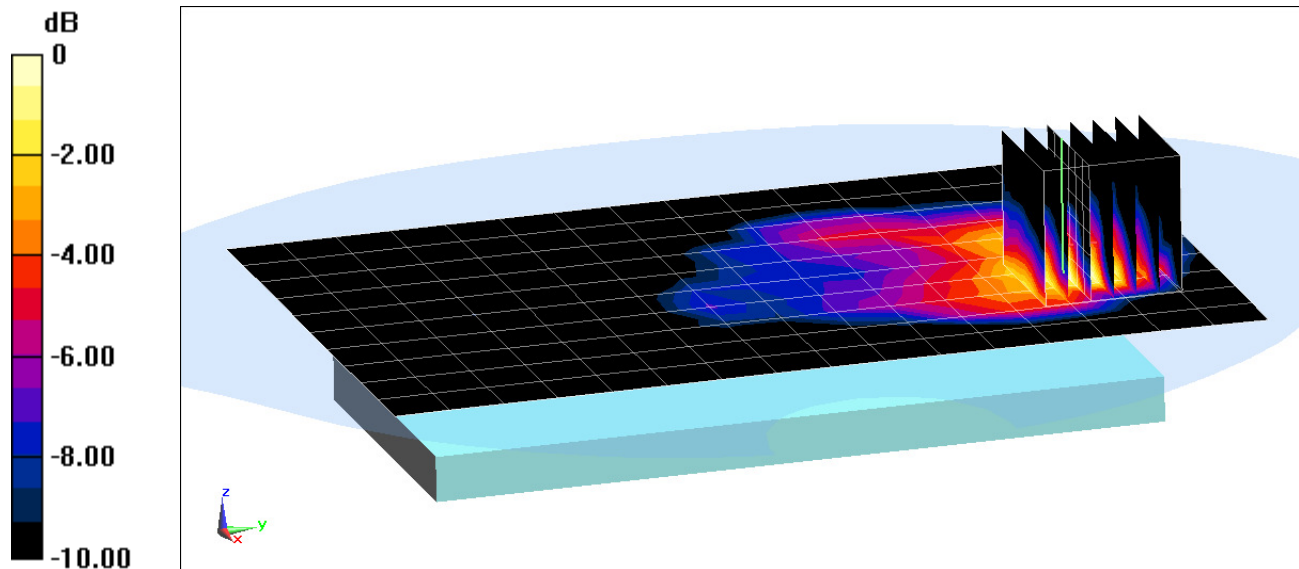
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.815 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.0520 W/kg

SAR(1 g) = 0.027 W/kg



0 dB = 0.0402 W/kg = -13.96 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.299

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2441$ MHz; $\sigma = 2.003$ S/m; $\epsilon_r = 51.891$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-24-2017; Ambient Temp: 22.4°C; Tissue Temp: 22.7°C

Probe: ES3DV3 - SN3319; ConvF(4.2, 4.2, 4.2); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/14/2016

Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Bluetooth, Body SAR, Ch 39, 2 Mbps, Back Side

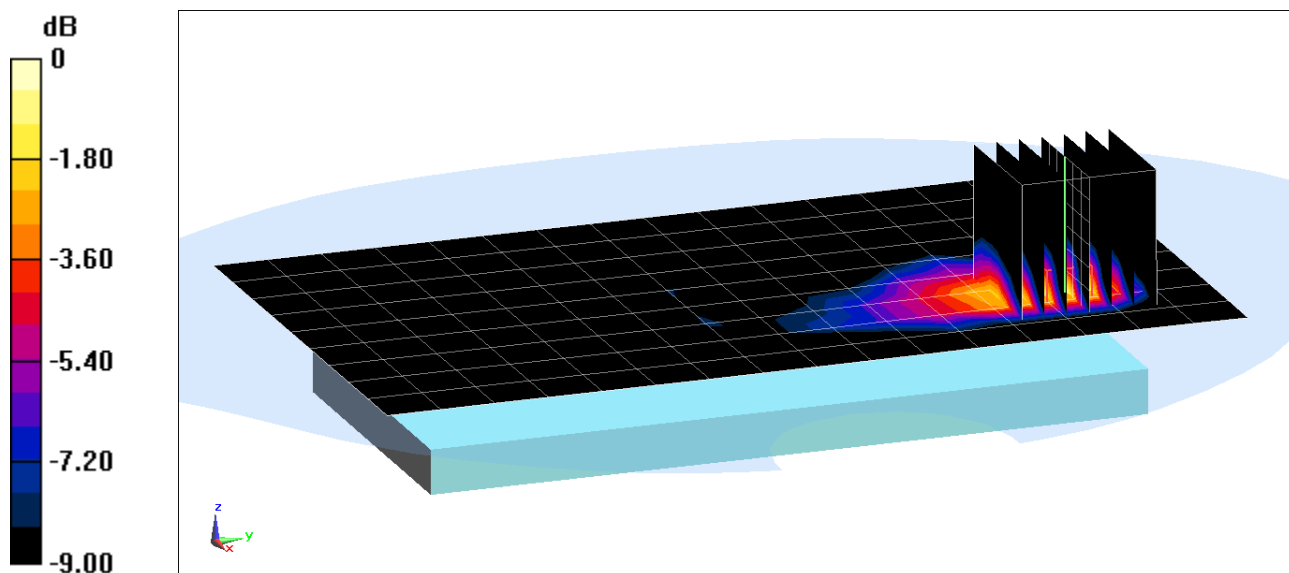
Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.730 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 0.0750 W/kg

SAR(1 g) = 0.030 W/kg



0 dB = 0.0431 W/kg = -13.66 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226C0

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body; Medium parameters used:

$f = 1910 \text{ MHz}$; $\sigma = 1.544 \text{ S/m}$; $\epsilon_r = 51.897$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-23-2017; Ambient Temp: 23.9°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: GPRS 1900, Phablet SAR, Back side, High.ch, 3 Tx Slots

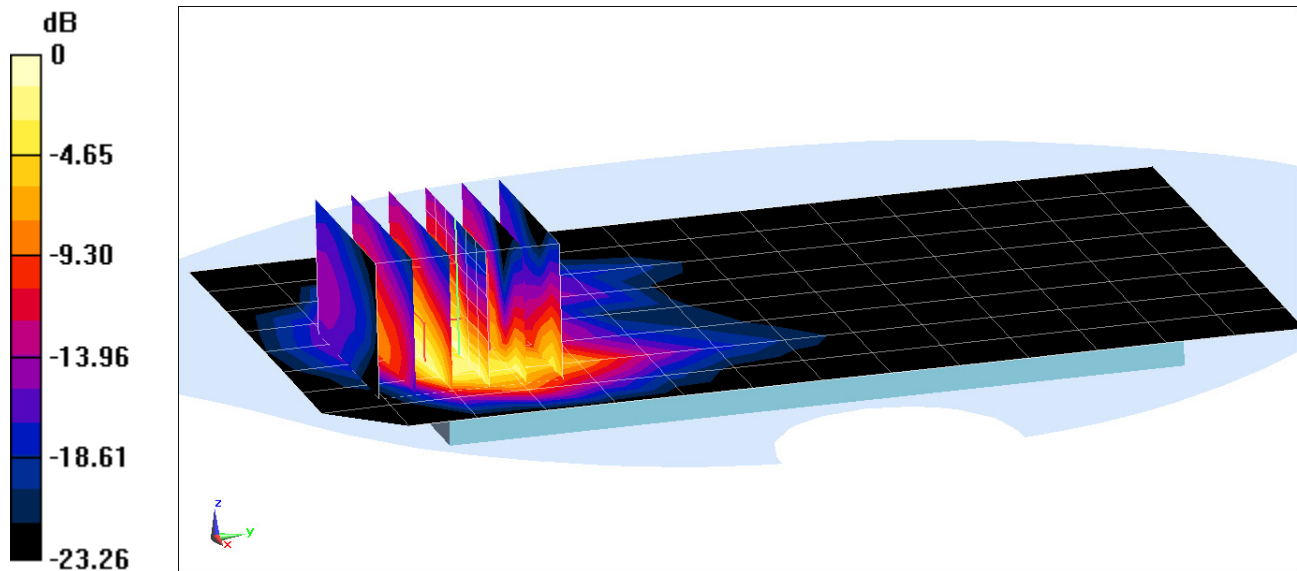
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (7x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 39.13 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 8.19 W/kg

SAR(10 g) = 1.85 W/kg



0 dB = 6.21 W/kg = 7.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BF0

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.491 \text{ S/m}$; $\epsilon_r = 51.497$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 12-26-2016; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1750, Phablet SAR, Bottom Edge, Mid.ch

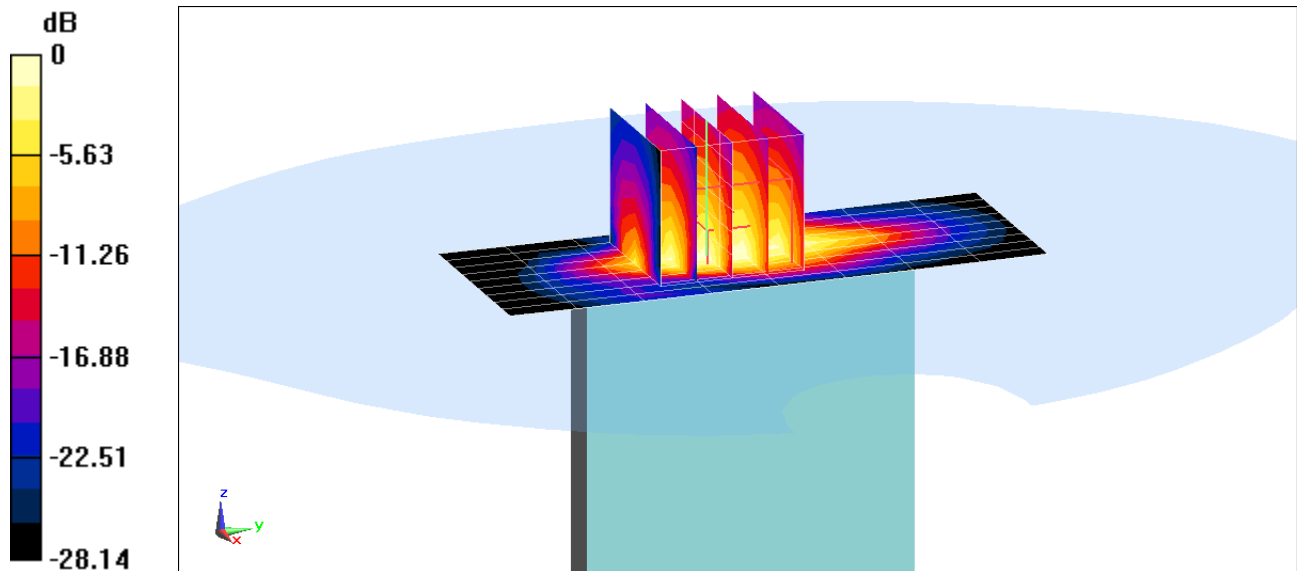
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 68.12 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 11.5 W/kg

SAR(10 g) = 2.46 W/kg



0 dB = 7.79 W/kg = 8.92 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226C0

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$; $\sigma = 1.483 \text{ S/m}$; $\epsilon_r = 52.082$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-23-2017; Ambient Temp: 23.9°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: UMTS 1900, Phablet SAR, Bottom Edge, Low.ch

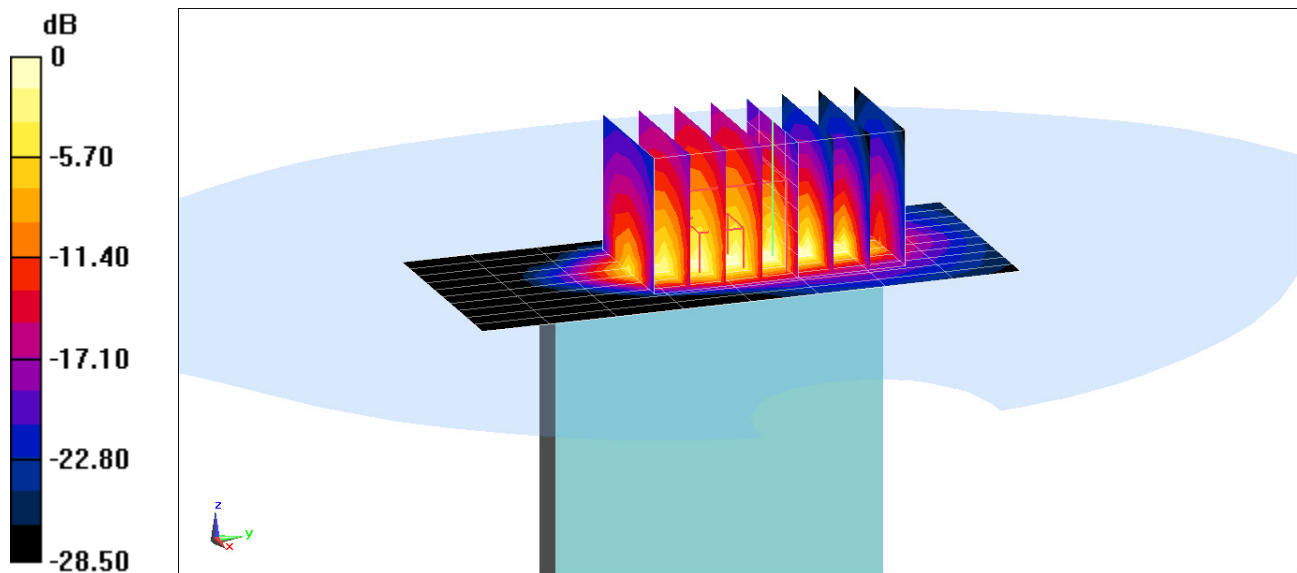
Area Scan (11x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x8x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 57.47 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 13.1 W/kg

SAR(10 g) = 2.33 W/kg



0 dB = 10.4 W/kg = 10.17 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 226C0

Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1851.25 \text{ MHz}$; $\sigma = 1.516 \text{ S/m}$; $\epsilon_r = 51.703$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: PCS EVDO Rev 0, Phablet SAR, Bottom Edge, Low.ch

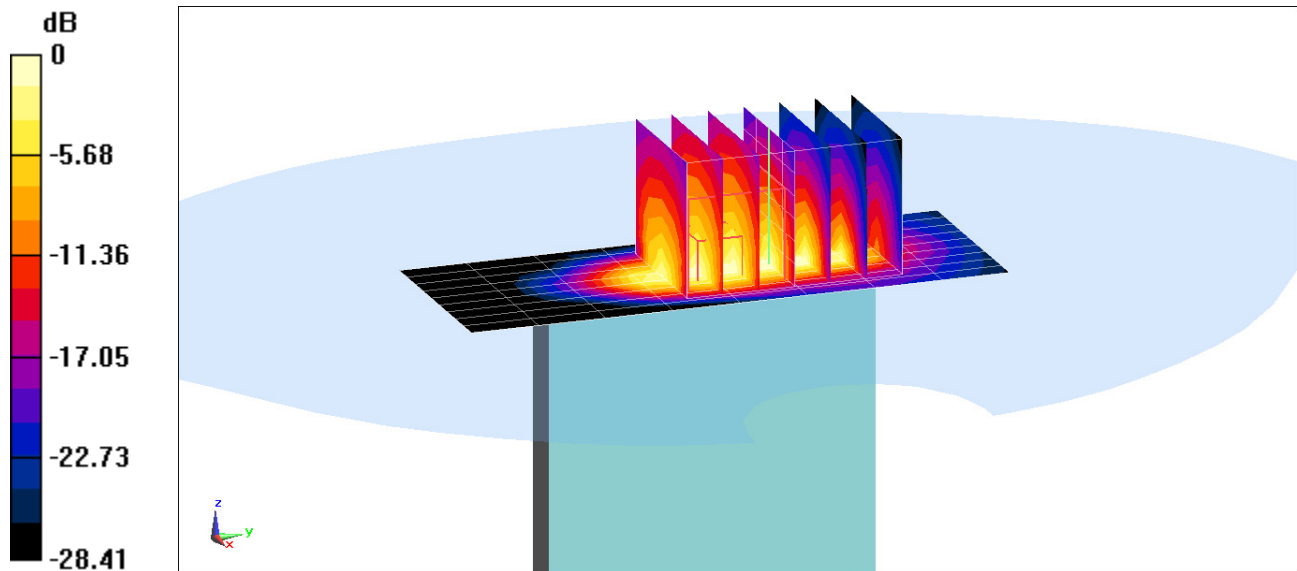
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 61.46 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 15.1 W/kg

SAR(10 g) = 2.99 W/kg



0 dB = 12.4 W/kg = 10.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07C2B

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$; $\sigma = 1.508 \text{ S/m}$; $\epsilon_r = 52.356$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-01-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3209; ConvF(4.99, 4.99, 4.99); Calibrated: 3/18/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 8/22/2016

Phantom: SAM Front; Type: QD000P40CD; Serial: TP:1758

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 66 (AWS), Phablet SAR, Bottom Edge, Low.ch
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

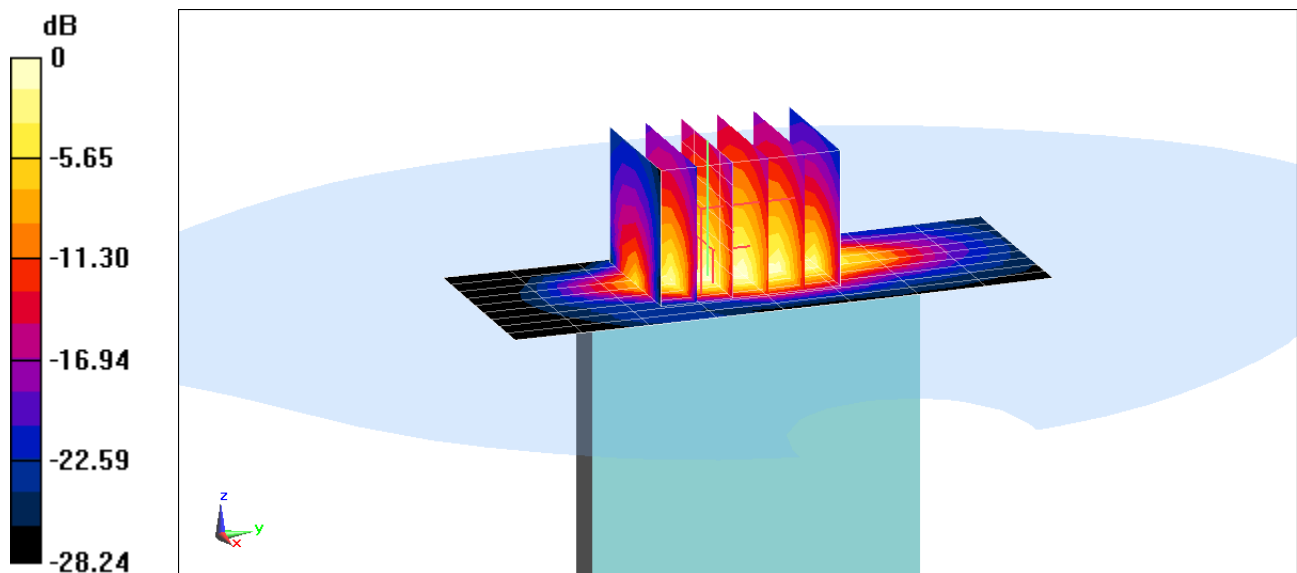
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 69.89 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 12.8 W/kg

SAR(10 g) = 2.74 W/kg



0 dB = 8.44 W/kg = 9.26 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 836F9

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1882.5 \text{ MHz}$; $\sigma = 1.553 \text{ S/m}$; $\epsilon_r = 51.578$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-21-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(7.47, 7.47, 7.47); Calibrated: 5/17/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/11/2016

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge, Mid.ch
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

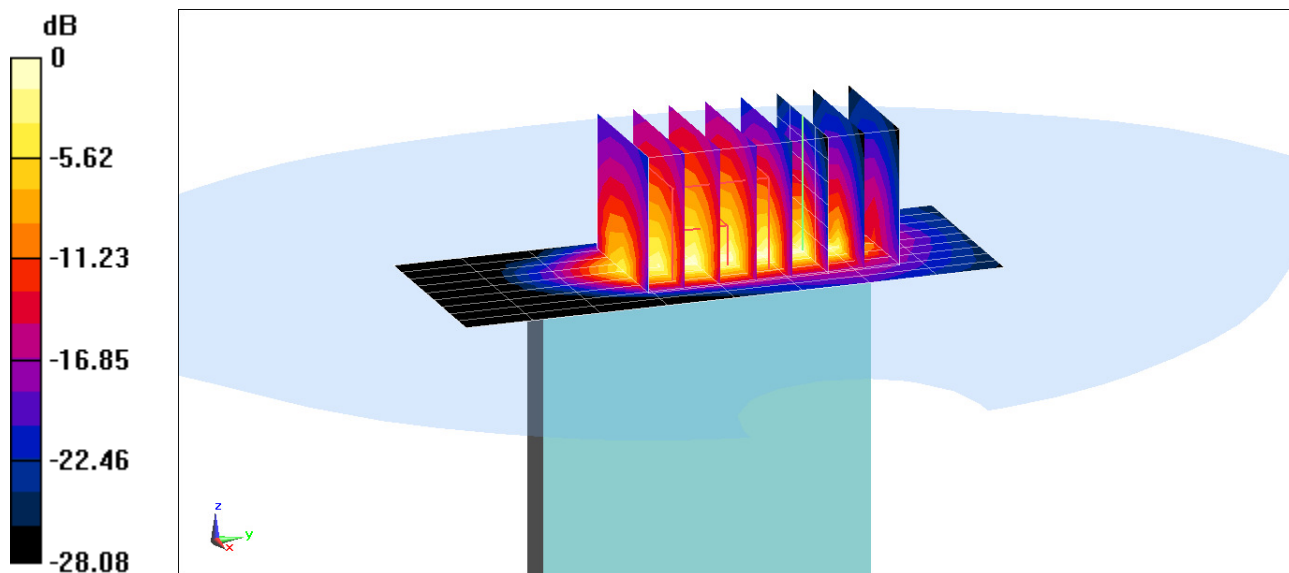
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x8x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 59.37 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(10 g) = 2.81 W/kg



0 dB = 12.4 W/kg = 10.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 07BE5

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Body; Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.854 \text{ S/m}$; $\epsilon_r = 51.453$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-09-2017; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7406; ConvF(7.37, 7.37, 7.37); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: LTE Band 30, Phablet SAR, Front side, Mid.ch

10 MHz Bandwidth, QPSK, 25 RB, 0 RB Offset

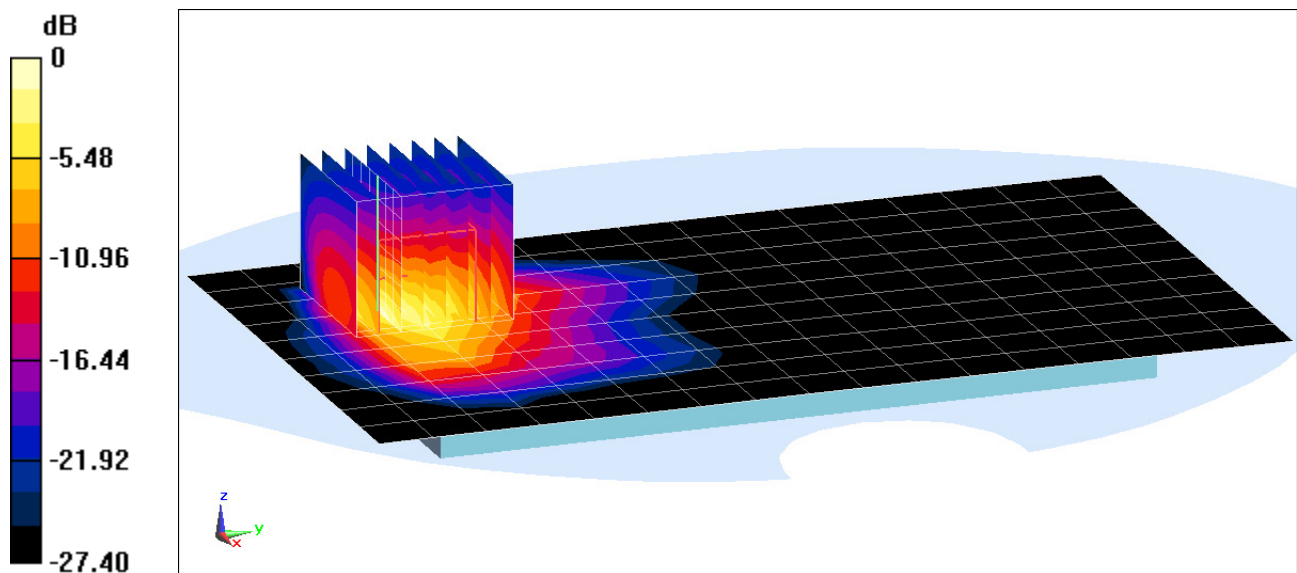
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 45.84 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.3 W/kg

SAR(10 g) = 1.86 W/kg



0 dB = 9.06 W/kg = 9.57 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, IEEE 802.11ac; Frequency: 5610 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body; Medium parameters used (interpolated):

$f = 5610 \text{ MHz}$; $\sigma = 5.943 \text{ S/m}$; $\epsilon_r = 47.093$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-14-2017; Ambient Temp: 21.6°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN3914; ConvF(3.63, 3.63, 3.63); Calibrated: 2/22/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/18/2016

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: IEEE 802.11ac, U-NII-2C, MIMO, 80 MHz Bandwidth

Phablet SAR, Ch 122, 58.5 Mbps, Back Side

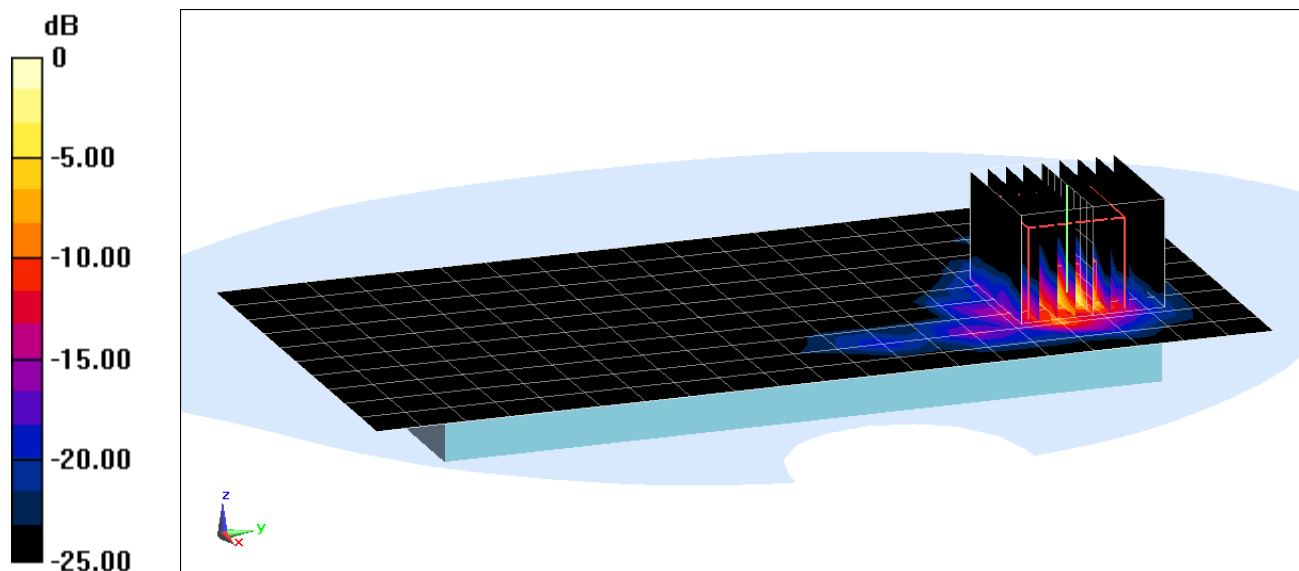
Area Scan (11x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 35.80 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 20.2 W/kg

SAR(10 g) = 0.856 W/kg



0 dB = 14.2 W/kg = 11.52 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG955U; Type: Portable Handset; Serial: 0910E

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.299

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.022 \text{ S/m}$; $\epsilon_r = 50.886$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-12-2017; Ambient Temp: 24.5°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7406; ConvF(7.24, 7.24, 7.24); Calibrated: 4/19/2016;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/14/2016

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Mode: Bluetooth, Phablet SAR, Ch 39, 1 Mbps, Back Side

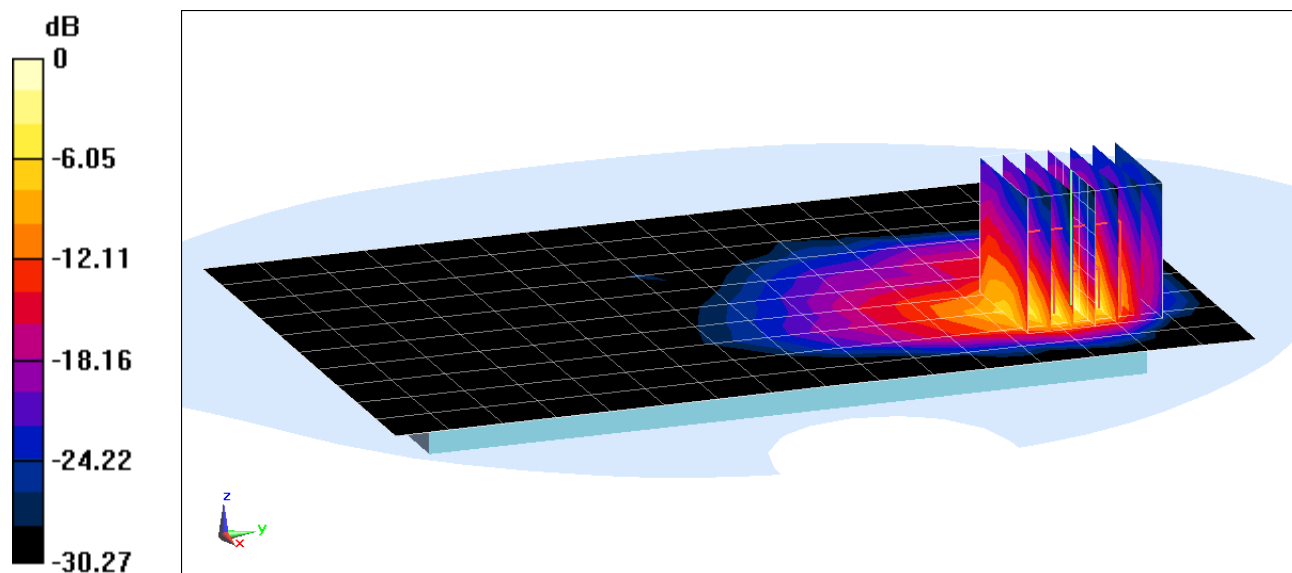
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 29.01 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 5.27 W/kg

SAR(10 g) = 0.482 W/kg



0 dB = 3.51 W/kg = 5.45 dBW/kg