



SAR EVALUATION REPORT

Applicant Name:
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Date of Testing:
04/27/20 - 06/11/20
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M2004170066-01.A3L

FCC ID: A3LSMN986W


APPLICANT: SAMSUNG ELECTRONICS CO., LTD.

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-N986W

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.21	0.40	0.99	N/A
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.10	0.16	0.44	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.37	0.80	2.12
PCE	UMTS 850	826.40 - 846.60 MHz	0.18	0.35	0.76	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.16	0.95	0.98	2.92
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.15	0.51	1.08	3.15
PCE	LTE Band 71	665.5 - 695.5 MHz	0.16	0.26	0.38	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.18	0.27	0.44	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.20	0.40	0.66	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.18	0.28	0.57	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.14	0.94	1.00	3.02
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	0.12	0.86	1.26	3.15
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	< 0.1	0.61	1.25	3.01
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.11	0.44	0.59	1.89
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.29	0.47	3.15
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n71	665.5 - 695.5 MHz	0.16	0.27	0.39	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.19	1.10	1.12	2.52
PCE	NR Band n41	2506.02 - 2679.99 MHz	0.72	< 0.1	0.54	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.59	0.12	0.45	N/A
NIJ	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NIJ	U-NII-2A	5260 - 5320 MHz	< 0.1	0.17	N/A	1.57
NIJ	U-NII-2C	5500 - 5720 MHz	< 0.1	0.23	N/A	1.39
NIJ	U-NII-3	5745 - 5825 MHz	< 0.1	0.43	0.57	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.58	< 0.1	0.13	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.38	1.59	1.59	3.93

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 1.9 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: A3LSMN986W	 PCTEST Proud to be part of element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 1 of 164	

TABLE OF CONTENTS

1	DEVICE UNDER TEST	3
2	LTE AND NR INFORMATION	14
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	32
10	SYSTEM VERIFICATION.....	97
11	SAR DATA SUMMARY	103
12	FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS.....	133
13	SAR MEASUREMENT VARIABILITY	154
14	ADDITIONAL TESTING PER FCC GUIDANCE	155
15	EQUIPMENT LIST.....	160
16	MEASUREMENT UNCERTAINTIES.....	161
17	CONCLUSION.....	162
18	REFERENCES	163
APPENDIX A: SAR TEST PLOTS		
APPENDIX B: SAR DIPOLE VERIFICATION PLOTS		
APPENDIX C: SAR TISSUE SPECIFICATIONS		
APPENDIX D: SAR SYSTEM VALIDATION		
APPENDIX E: DUT ANTENNA DIAGRAM & SAR TEST SETUP PHOTOGRAPHS		
APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS		
APPENDIX G: POWER REDUCTION VERIFICATION		
APPENDIX H: 802.11ax RU SAR EXCLUSION		
APPENDIX I: PROBE AND DIPOLE CALIBRATION CERTIFICATES		

FCC ID: A3LSMN986W	 PCTEST <small>Should be part of all equipment</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 2 of 164	

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
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
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 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 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n66 (AWS)	Data	1712.5 - 1777.5 MHz
NR Band n41	Data	2506.02 - 2679.99 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
MST	Data	555 Hz - 8.33 kHz




1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

- a. Qualcomm® SDX55M modem supporting 2G/3G/4G/5G NR WWAN technologies

The Qualcomm® SDX55M modem is enabled with the Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.11 – Bibliography).

Note that WLAN operations are not enabled with Smart Transmit.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 3 of 164	

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_{design_target} , below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio), for each characterized technology and band (see RF Exposure Part 0 Test Report, report SN could be found in Section 1.11 - Bibliography).

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} . Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI). Note that the device uncertainty for sub-6GHz WWAN is 1.0dB for this EUT.

Exposure Scenario:	Body-Worn	Phablet	Phablet	Head	Hotspot	Earjack	Maximum Tune-up Output Power*
Averaging Volume:	1g	10g	10g	1g	1g	10g	
Spacing:	15 mm	8, 6, 12	0 mm	0 mm	10 mm	0 mm	
DSI:	0	0	1	2	3	4	
Technology/Band	P _{limit} corresponding to 1mW/g (SAR_{design_target})						P _{max}
CDMA/EVDO BCO	29.8		27.2	32.6	25.9	27.2	24.8
GSM/GPRS/EDGE 850 MHz	31.8		28.7	26.3	28.7	28.7	25.3
GSM/GPRS/EDGE 1900 MHz	25.7		20.1	23.3	18.6	20.1	22.3
UMTS B5	30.4		27.1	33.2	27.0	27.1	24.8
UMTS B4	24.7		20.0	32.6	19.0	20.0	23.5
UMTS B2	26.9		20.0	32.4	18.0	20.0	23.0
LTE FDD B71	31.4		26.7	33.6	26.7	26.7	24.8
LTE FDD B12	31.1		27.4	32.9	27.4	27.4	24.8
LTE FDD B13	29.4		28.0	32.2	27.1	28.0	24.8
LTE FDD B5	31.0		27.1	33.3	27.1	27.1	24.8
LTE FDD B66/4	24.8		19.5	32.8	19.0	19.5	23.5
LTE FDD B25/2	25.2		21.0	33.6	18.5	21.0	23.5
LTE FDD B30	26.2		23.1	36.9	19.0	23.1	23.0
LTE FDD B7	27.3		19.0	33.6	19.0	19.0	23.0
LTE TDD B41/38	27.7		20.0	34.8	19.0	20.0	22.0
NR FDD n71	31.1		28.5	33.4	28.5	28.5	24.5
NR FDD n66	24.1		19.5	31.7	19.0	19.5	23.5
NR TDD n41	27.0		27.0	16.5	21.1	27.0	18.5

*Note all P_{limit} EFS and maximum tune up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD modulation schemes (e.g. GSM and LTE TDD).

*Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum Tune up output power + 1dB device design uncertainty.




The maximum time-averaged output power (dBm) for any 2G/3G/4G/5G Sub6 WWAN technology, band, and DSI = minimum of " P_{limit} EFS" and "Maximum tune up output power P_{max} " + 1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

The purpose of this report (Part 1 test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

Measurement Condition: All conducted power and SAR measurements in this report (Part 1 test) were performed by setting $Reserve_power_margin$ (Smart Transmit EFS entry) to 0dB.

1.3 Power Reduction for SAR

This device uses an independent fixed level power reduction mechanism for WLAN operations when 5G NR is active and also during all 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.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 4 of 164	

1.4 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.

1.4.1 2G/3G/4G/5G Output Power

CDMA BC0 (835 MHz)										
Power Level		Modulated Average Output Power								
		1x-RTT	EVDO Rev 0	EVDO Rev A						
Max (DSI = 0 - 4)	Max allowed power	25.8	25.8	25.8						
	Nominal	24.8	24.8	24.8						

GSM/GPRS/EDGE 850										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in 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
Max (DSI = 0 - 4)	Max allowed power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0



GSM/GPRS/EDGE 1900										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in 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
Max (DSI = 0 or 2)	Max allowed power	30.5	30.5	29.5	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	29.5	29.5	28.5	26.5	24.5	26.0	24.0	22.0	21.0
Earjack Active (DSI = 4)	Max allowed power	30.3	30.3	27.3	25.5	24.3	27.0	25.0	23.0	22.0
	Nominal	29.3	29.3	26.3	24.5	23.3	26.0	24.0	22.0	21.0
Hotspot Mode Active (DSI = 3)	Max allowed power	N/A	28.8	25.8	24.0	22.8	27.0	25.0	23.0	22.0
	Nominal	N/A	27.8	24.8	23.0	21.8	26.0	24.0	22.0	21.0
Proximity Sensor (DSI = 1)	Max allowed power	30.3	30.3	27.3	25.5	24.3	27.0	25.0	23.0	22.0
	Nominal	29.3	29.3	26.3	24.5	23.3	26.0	24.0	22.0	21.0

For GSM, the above powers listed are GSM burst average values.

UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 - 4)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8

UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 or 2)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
Earjack Active (DSI = 4)	Max allowed power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0
Hotspot Mode Active (DSI = 3)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
Proximity Sensor (DSI = 1)	Max allowed power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0




UMTS Band 2 (1900 MHz)					
Power Level		Modulated Average Output Power			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 or 2)	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
Earjack Active (DSI = 4)	Max allowed power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0
Hotspot Mode Active (DSI = 3)	Max allowed power	19.0	18.0	18.0	18.0
	Nominal	18.0	17.0	17.0	17.0
Proximity Sensor (DSI = 1)	Max allowed power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0

FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 5 of 164	

Mode / Band		Modulated Average Output Power (in dBm)				
		Max (DSI = 0)	Proximity Sensor Active (DSI = 1)	RCV Mode Active (DSI = 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)
LTE FDD Band 71	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 12	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 13	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 5	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 4	Max allowed power	24.5	20.5	24.5	20.0	20.5
	Nominal	23.5	19.5	23.5	19.0	19.5
LTE FDD Band 66	Max allowed power	24.5	20.5	24.5	20.0	20.5
	Nominal	23.5	19.5	23.5	19.0	19.5
LTE FDD Band 2	Max allowed power	24.5	22.0	24.5	19.5	22.0
	Nominal	23.5	21.0	23.5	18.5	21.0
LTE FDD Band 25	Max allowed power	24.5	22.0	24.5	19.5	22.0
	Nominal	23.5	21.0	23.5	18.5	21.0
LTE FDD Band 30	Max allowed power	24.0	24.0	24.0	20.0	24.0
	Nominal	23.0	23.0	23.0	19.0	23.0
LTE FDD Band 7	Max allowed power	24.0	20.0	24.0	20.0	20.0
	Nominal	23.0	19.0	23.0	19.0	19.0
LTE TDD Band 41	Max allowed power	25.0	23.0	25.0	22.0	23.0
	Nominal	24.0	22.0	24.0	21.0	22.0
LTE TDD Band 38	Max allowed power	25.0	23.0	25.0	22.0	23.0
	Nominal	24.0	22.0	24.0	21.0	22.0

Mode / Band		Modulated Average Output Power (in dBm)				
		Max (DSI = 0)	Proximity Sensor Active (DSI = 1)	RCV Mode Active (DSI = 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)
NR FDD Band n71	Max allowed power	25.5	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5	24.5
NR FDD Band n66	Max allowed power	24.5	20.5	24.5	20.0	20.5
	Nominal	23.5	19.5	23.5	19.0	19.5
NR TDD Band n41	Max allowed power	25.5	25.5	23.5	25.5	25.5
	Nominal	24.5	24.5	22.5	24.5	24.5

For LTE TDD and NR TDD, the above powers listed are TDD burst average values.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of  Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 6 of 164

1.4.2 2.4 GHz Maximum Bluetooth and SISO/MIMO WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in Appendix H

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1 & Antenna 2													
Nominal / Maximum Power		b		g		n		ax (SU)		^g (CDD + STBC)		n		ax (SU)	
Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	19.5	20.5	17.5	18.5	17.5	18.5	17.0	18.0	20.5	21.5	20.5	21.5	17.0	18.0
				Ch 1: 15.5	16.5	Ch 11: 13.5	14.5	Ch 1: 15.5	16.5	Ch 11: 13.5	14.5	Ch. 1: 18.5	19.5	Ch. 1: 15.5	16.5
												Ch. 11: 16.5	17.5	Ch. 11: 13.5	14.5

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	16.5
	Nominal	15.5
Bluetooth (EDR)	Maximum	12.0
	Nominal	11.0
Bluetooth LE 2 Mbps	Maximum	9.0
	Nominal	8.0
Bluetooth LE 1 Mbps, 125/500 kbps	Maximum	7.5
	Nominal	6.5

1.4.3 2.4 GHz Reduced WLAN Output Powers

Note: Targets for 802.11ax RU operations can be found in Appendix H

The below table is applicable in the following conditions:




- Head Conditions
- Simultaneous conditions with 5GHz WLAN
- Simultaneous conditions with 5G NR and/or 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1 & Antenna 2													
Nominal / Maximum Power		b		g		n		ax (SU)		^g (CDD + STBC)		n		ax (SU)	
Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	18.0	19.0	18.0	19.0	17.0	18.0
				Ch 11: 13.5	14.5	Ch 11: 13.5	14.5	Ch 11: 13.5	14.5	Ch. 11: 16.5	17.5	Ch. 11: 13.5	14.5	Ch. 1: 15.5	16.5
														Ch. 11: 13.5	14.5

The below table is applicable in the following conditions:

- Head Conditions during simultaneous conditions with 5 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and/or 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1 & Antenna 2													
Nominal / Maximum Power		b		g		n		ax (SU)		^g (CDD + STBC)		n		ax (SU)	
Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	12.0	13.0	12.0	13.0	12.0	13.0	12.0	13.0	15.0	16.0	15.0	16.0	15.0	16.0
														Ch. 11: 13.5	14.5

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 7 of 164

1.4.4 5 GHz Maximum SISO/MIMO WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in Appendix H

		IEEE 802.11 (in dBm)															
Mode	Band	SISO								MIMO							
		Antenna 1 & Antenna 2								n				ax (SU)			
		a		n		ac		ax (SU)		^a (CDD + STBC)		n		ac		ax (SU)	
Nominal / Maximum Power	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	
5 GHz WiFi (20MHz BW)	5200 MHz	17.5	18.5	17.5	18.5	17.5	18.5	17.0	18.0	20.5	21.5	20.5	21.5	20.5	21.5	17.0	18.0
				Ch. 36: 16.5	17.5	Ch. 36: 16.5	17.5	Ch. 36: 16.0	17.0			Ch. 36: 19.5	20.5	Ch. 36: 19.5	20.5	Ch. 36: 16.0	17.0
	5300 MHz	17.5	18.5	17.5	18.5	17.5	18.5	17.0	18.0	20.5	21.5	20.5	21.5	20.5	21.5	17.0	18.0
				Ch. 64: 16.0	17.0	Ch. 64: 16.0	17.0					Ch. 64: 19.0	20.0	Ch. 64: 19.0	20.0	Ch. 64: 16.0	17.0
	5500 MHz	17.5	18.5	17.5	18.5	17.5	18.5	17.0	18.0	20.5	21.5	20.5	21.5	20.5	21.5	17.0	18.0
	5800 MHz	17.5	18.5	17.5	18.5	17.5	18.5	17.0	18.0	19.0	20.0	19.0	20.0	19.0	20.0	17.0	18.0
5 GHz WiFi (40MHz BW)	5200 MHz			16.5	17.5	16.5	17.5	16.0	17.0			19.5	20.5	19.5	20.5	16.0	17.0
				Ch. 38: 13.0	14.0	Ch. 38: 13.0	14.0	Ch. 38: 15.0	16.0			Ch. 38: 16.0	17.0	Ch. 38: 16.0	17.0	Ch. 38: 15.0	16.0
	5300 MHz			16.5	17.5	16.5	17.5	16.0	17.0			19.5	20.5	19.5	20.5	16.0	17.0
				Ch. 62: 14.0	15.0	Ch. 62: 14.0	15.0	Ch. 62: 15.0	16.0			Ch. 62: 17.0	18.0	Ch. 62: 17.0	18.0	Ch. 62: 14.0	15.0
	5500 MHz			16.5	17.5	16.5	17.5	16.0	17.0			19.5	20.5	19.5	20.5	16.0	17.0
	5800 MHz			16.5	17.5	16.5	17.5	16.0	17.0			19.0	20.0	19.0	20.0	16.0	17.0
5 GHz WiFi (80MHz BW)	5200 MHz					13.5	14.5	14.0	15.0					16.5	17.5	14.0	15.0
						13.0	14.0	14.0	15.0					16.0	17.0	14.0	15.0
	5300 MHz					15.5	16.5	15.0	16.0					18.5	19.5	15.0	16.0
						15.5	16.5	15.0	16.0					18.5	19.5	15.0	16.0




1.4.5 5 GHz Reduced WLAN Output Powers

Note: Targets for 802.11ax RU operations can be found in Appendix H

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 2.4 GHz WLAN
- Simultaneous conditions with 5G NR and/or 2.4 GHz WLAN
- Head Conditions during simultaneous conditions with 2.4 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and/or 2.4 GHz WLAN

		IEEE 802.11 (in dBm)															
Mode	Band	SISO								MIMO							
		Antenna 1 & Antenna 2								n				ax (SU)			
		a		n		ac		ax (SU)		^a (CDD + STBC)		n		ac		ax (SU)	
Nominal / Maximum Power	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max	
5 GHz WiFi (20MHz BW)	5200 MHz	12.0	13.0	12.0	13.0	12.0	13.0	12.0	13.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0
	5300 MHz	12.0	13.0	12.0	13.0	12.0	13.0	12.0	13.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0
	5500 MHz	12.0	13.0	12.0	13.0	12.0	13.0	12.0	13.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0
	5800 MHz	12.0	13.0	12.0	13.0	12.0	13.0	12.0	13.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0
5 GHz WiFi (40MHz BW)	5200 MHz			12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
				12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
	5300 MHz			12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
				12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
	5500 MHz			12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
	5800 MHz			12.0	13.0	12.0	13.0	12.0	13.0			15.0	16.0	15.0	16.0	15.0	16.0
5 GHz WiFi (80MHz BW)	5200 MHz					12.0	13.0	12.0	13.0					15.0	16.0	15.0	16.0
						12.0	13.0	12.0	13.0					15.0	16.0	14.0	15.0
	5300 MHz					12.0	13.0	12.0	13.0					15.0	16.0	15.0	16.0
						12.0	13.0	12.0	13.0					15.0	16.0	15.0	16.0
	5500 MHz					12.0	13.0	12.0	13.0					15.0	16.0	15.0	16.0
	5800 MHz					12.0	13.0	12.0	13.0					15.0	16.0	15.0	16.0

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 8 of 164

1.5 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. The overall diagonal dimension of the device is ≤160 mm and the diagonal display is ≤150 mm. A diagram showing the location of the device antennas can be found in Appendix E. 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
Cell. EVDO	Yes	Yes	No	Yes	Yes	Yes
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
LTE Band 71	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 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	Yes	Yes
LTE Band 7	Yes	Yes	No	Yes	Yes	No
LTE Band 41	Yes	Yes	No	Yes	Yes	No
NR Band n71	Yes	Yes	No	Yes	Yes	Yes
NR Band n66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
NR Band n41	Yes	Yes	Yes	No	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.

1.6 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 E.

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of @samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 9 of 164	

1.7 Simultaneous Transmission Capabilities



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

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

**Table 1-2
Simultaneous Transmission Scenarios**

No.	Capable Transmit Configuration	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 Bluetooth	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is considered
4	1x CDMA voice + 2.4 GHz Bluetooth + 5GHz Wi-Fi	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is 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 + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
8	1x CDMA voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
9	1x CDMA voice + 2.4 GHz Bluetooth + 5GHz Wi-Fi MIMO	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is considered
10	GSM voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
11	GSM voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
12	GSM voice + 2.4 GHz Bluetooth	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is considered
13	GSM voice + 2.4 GHz Bluetooth + 5GHz Wi-Fi	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is considered
14	GSM voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
16	GSM voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
17	GSM voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
18	GSM voice + 2.4 GHz Bluetooth + 5GHz Wi-Fi MIMO	Yes ^a	Yes	N/A	Yes	^a Bluetooth Tethering is considered
19	UMTS + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
20	UMTS + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
21	UMTS + 2.4 GHz Bluetooth	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
22	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
23	UMTS + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
24	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
25	UMTS + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
26	UMTS + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
27	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
28	LTE + 5G NR	Yes	Yes	N/A	Yes	
29	LTE + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
30	LTE + 2.4 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
31	LTE + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
32	LTE + 5 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
33	LTE + 2.4 GHz Bluetooth	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
34	LTE + 2.4 GHz Bluetooth + 5G NR	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
35	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
36	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi + 5G NR	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
37	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
38	LTE + 2.4 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
39	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
40	LTE + 5 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
41	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
42	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
43	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
44	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
45	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
46	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO + 5G NR	Yes ^a	Yes	Yes ^a	Yes	^a Bluetooth Tethering is considered
47	CDMA/EVDO data + 2.4 GHz Wi-Fi	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
48	CDMA/EVDO data + 5 GHz Wi-Fi	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
49	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes ^a	Yes ^a	Yes ^a	Yes	^a Pre-installed VOIP applications are considered ^a Bluetooth Tethering is considered
50	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes ^a	Yes ^a	Yes ^a	Yes	^a Pre-installed VOIP applications are considered ^a Bluetooth Tethering is considered
51	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
52	CDMA/EVDO data + 5 GHz Wi-Fi MIMO	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
53	CDMA/EVDO data + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
54	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes ^a	Yes ^a	Yes	Yes	^a Pre-installed VOIP applications are considered
55	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes ^a	Yes ^a	Yes ^a	Yes	^a Pre-installed VOIP applications are considered ^a Bluetooth Tethering is considered
56	GPRS/EDGE + 2.4 GHz Wi-Fi	N/A	N/A	N/A	Yes	Yes
57	GPRS/EDGE + 5 GHz Wi-Fi	N/A	N/A	N/A	Yes	Yes
58	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes ^a	Yes	^a Bluetooth Tethering is considered
59	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	N/A	N/A	Yes ^a	Yes	^a Bluetooth Tethering is considered
60	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	N/A	N/A	N/A	Yes	Yes
61	GPRS/EDGE + 5 GHz Wi-Fi MIMO	N/A	N/A	N/A	Yes	Yes
62	GPRS/EDGE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	
63	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
64	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes ^a	Yes	^a Bluetooth Tethering is considered

- 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
- 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.

FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 10 of 164

6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE B2/5/7/13/66.

1.8 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 802.11ax with the following features:

- a) Up to 80 MHz Bandwidth only for 5 GHz
- b) Up to 20 MHz Bandwidth only for 2.4 GHz
- c) No aggregate channel configurations
- d) 2 Tx antenna output
- e) Up to 1024 QAM is supported
- f) TDWR and Band gap channels are supported for 5 GHz
- g) MU-MIMO UL Operations are not 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.



Per April 2019 TCB Workshop Notes, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

(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.

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.

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your equipment</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 11 of 164	

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.

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 LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive. The downlink carrier aggregation exclusion analysis can be found in Appendix F.

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.

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.




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

This device supports 64QAM and 256QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM and 256QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225D05v02r05. SAR was not required for 64QAM or 256QAM since the highest maximum output power for 64QAM and 256QAM 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.

NR implementation of n71, n66, and n41 is limited to EN-DC operations only, with LTE Band 2/7/66/5/13 acting as the anchor band. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 11 for more details.

1.9 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)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax, Dynamic Antenna Tuning)



FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 12 of 164	

1.10 Device Serial Numbers



Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 11.

1.11 Bibliography




Report Type	Report Serial Number
RF Exposure Part 0 Test Report	1M2004170066-20.A3L
RF Exposure Part 2 Test Report	1M2004170066-22.A3L
RF Exposure Compliance Summary Report	1M2004170066-21.A3L

FCC ID: A3LSMN986W	 PCTEST <small>Should be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 13 of 164	

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 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 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
	Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz			
		LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz			
LTE Band 13: 5 MHz, 10 MHz					
LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz					
LTE Band 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 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
Channel Numbers and Frequencies (MHz)		Low	Low-Mid	Mid	Mid-High
		High			
LTE Band 71: 5 MHz	665.5 (133147)	680.5 (133297)	680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)	680.5 (133297)	680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)	680.5 (133297)	680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)	680.5 (133297)	680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)	707.5 (23095)	707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)	707.5 (23095)	707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)	707.5 (23095)	707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)	707.5 (23095)	707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)	782 (23230)	782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A	782 (23230)	782 (23230)	N/A	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)	836.5 (20525)	836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)	836.5 (20525)	836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)	836.5 (20525)	836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)	836.5 (20525)	836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)	1745 (132322)	1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)	1745 (132322)	1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)	1745 (132322)	1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)	1745 (132322)	1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)	1745 (132322)	1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)	1745 (132322)	1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)	1732.5 (20175)	1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)	1732.5 (20175)	1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)	1732.5 (20175)	1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)	1732.5 (20175)	1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)	1732.5 (20175)	1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)	1732.5 (20175)	1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)	1882.5 (26365)	1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)	1882.5 (26365)	1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)	1882.5 (26365)	1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)	1882.5 (26365)	1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)	1882.5 (26365)	1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)	1882.5 (26365)	1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)	1880 (18900)	1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)	1880 (18900)	1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)	1880 (18900)	1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)	1880 (18900)	1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)	1880 (18900)	1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)	1880 (18900)	1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)	2310 (27710)	2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A	2310 (27710)	2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)	2535 (21100)	2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)	2535 (21100)	2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)	2535 (21100)	2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)	2535 (21100)	2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055) 2880 (41490)	
LTE Band 41: 10 MHz	2508 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055) 2880 (41490)	
LTE Band 41: 15 MHz	2508 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055) 2880 (41490)	
LTE Band 41: 20 MHz	2508 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055) 2880 (41490)	
LTE Band 38: 5 MHz	2572.5 (37775)	2595 (38000)	2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)	2595 (38000)	2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)	2595 (38000)	2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)	2595 (38000)	2595 (38000)	2610 (38150)	
UE Category	DL UE Cat 20, UL UE Cat 18				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.57 (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 14. It supports carrier aggregation, downlink MIMO, LAA features as shown in Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 14 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 14 of 164

NR Information					
Form Factor	Portable Handset				
Frequency Range of each NR transmission band	NR Band n71 (665.5 - 695.5 MHz)				
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n41: 20 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 90 MHz, 100 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)		695.5 (139100)
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)		693 (138600)
NR Band n71: 15 MHz	670.5 (134100)		680.5 (136100)		690.5 (138100)
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)		688 (137600)
NR Band n66 (AWS): 5 MHz	1712.5 (342500)		1745 (349000)		1777.5 (355500)
NR Band n66 (AWS): 10 MHz	1715 (343000)		1745 (349000)		1775 (355000)
NR Band n66 (AWS): 15 MHz	1717.5 (343500)		1745 (349000)		1772.5 (354500)
NR Band n66 (AWS): 20 MHz	1720 (344000)		1745 (349000)		1770 (354000)
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)	2636.49 (527298)	2679.99 (535998)
NR Band n41: 40 MHz	2516.01 (503202)	2567.34 (513468)	N/A	2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)		2664.99 (532998)
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)		2659.98 (531996)
NR Band n41: 80 MHz	2536.02 (507204)		N/A		2649.99 (529998)
NR Band n41: 90 MHz	2541 (508200)		N/A		2644.98 (528996)
NR Band n41: 100 MHz	2546.01 (509202)		2592.99 (518598)		2640 (528000)
NR Band n71/n66 SCS	15 kHz				
NR Band n41 SCS	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
NR MPR Permanently implemented per 3GPP TS 38.101	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n71	LTE Band 2/66/7				
LTE Anchor Bands for NR Band n66	LTE Band 13/5				
LTE Anchor Bands for NR Band n41	LTE Band 2/66				

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 15 of 164	

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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 16 of 164	

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.

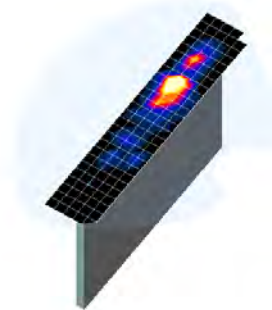




Figure 4-1
Sample SAR Area Scan

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		
			$\Delta z_{\text{zoom}}(n)$	$\Delta z_{\text{zoom}}(1)^*$	$\Delta z_{\text{zoom}}(n>1)^*$	
≤ 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: A3LSMN986W	 PCTEST <small>Think to be part of the solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 17 of 164	

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].

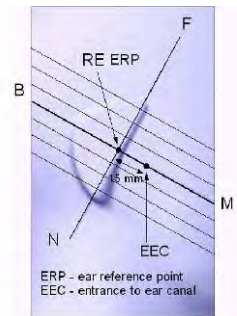


Figure 5-1
Close-Up Side view
of ERP

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

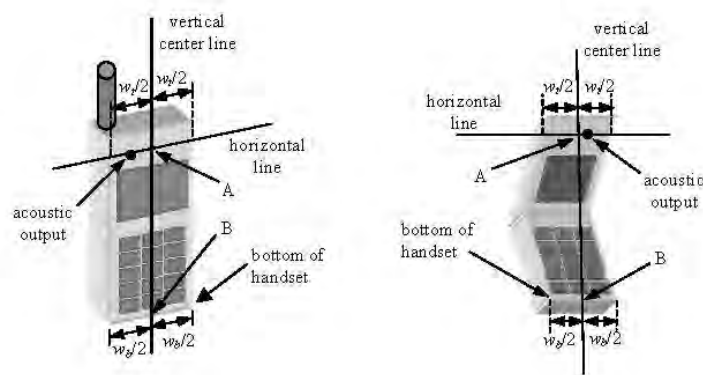




Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 18 of 164

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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 19 of 164

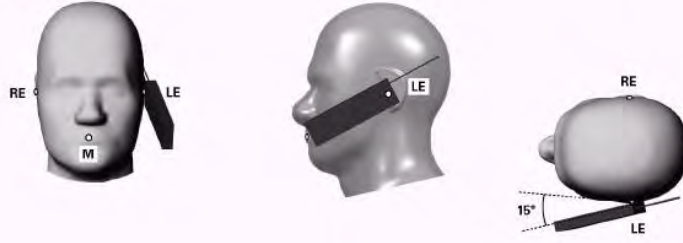


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

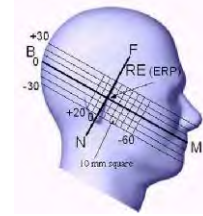


Figure 6-3 Side view w/ relevant markings

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.

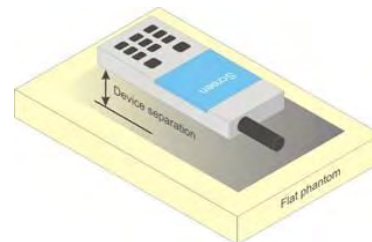





Figure 6-4 Sample Body-Worn Diagram

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

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 20 of 164	

contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person’s face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.6 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 1g body and 10g 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 x W ≥ 9 cm x 5 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.

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

FCC ID: A3LSMN986W	 PCTEST <small> proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 21 of 164	



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 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

6.9 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close the user's body.

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. 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 G.

The sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the sensor entirely covers the antennas.

FCC ID: A3LSMN986W	 PCTEST <small>Should be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 22 of 164	

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: A3LSMN986W	 PCTEST <small> Proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 23 of 164	

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: A3LSMN986W	 PCTEST <small>Provided to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 24 of 164

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
$\frac{I_{or}}{I_{or}}$	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
$\frac{I_{or}}{I_{or}}$	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 fullrate 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 EVDO capabilities, the 3G SAR test reduction procedure is applied to EVDO 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.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 25 of 164	

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

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

8.5.2 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 "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the

FCC ID: A3LSMN986W	 PCTEST <small> proud to be part of  samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 26 of 164	

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.

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.

FCC ID: A3LSMN986W	 PCTEST <small> proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 27 of 164	

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:



- a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
 - i. The required channel and offset combination with the highest maximum output power is required for SAR.
 - ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to $\frac{1}{2}$ 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. 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 downlink only carrier aggregation configurations when the average output

FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 28 of 164

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 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 10g 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

FCC ID: A3LSMN986W	 PCTEST Proud to be part of  Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 29 of 164	

positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g 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.

2.4 GHz 802.11 g/n/ax 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 10g 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. Per April 2019 TCB Workshop guidance, 802.11ax was considered the highest order 802.11 mode. 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 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.



FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 30 of 164	

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

FCC ID: A3LSMN986W	 PCTEST <small>Should be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 31 of 164

9

RF CONDUCTED POWERS

All conducted power measurements for 2G/3G/4G/5G Sub6 WWAN technologies and bands in this section were performed by setting *Reserve_power_margin* (Qualcomm® Smart Transmit EFS entry) to 0dB, so that the EUT transmits continuously at minimum (P_{limit} , maximum tune up output power P_{max}).

9.1 CDMA Conducted Powers




Table 9-1
Measured P_{max}

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	1013	22H	824.7	24.74	24.72	24.70	24.72	24.71	24.88	24.58
	384	22H	836.52	24.72	24.73	24.71	24.71	24.73	24.89	24.56
	777	22H	848.31	24.50	24.49	24.51	24.47	24.50	24.45	24.35

Note: RC1 is only applicable for IS-95 compatibility.



Figure 9-1
Power Measurement Setup

FCC ID: A3LSMN986W	 PCTEST <small> proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 32 of 164	



9.2 GSM Conducted Powers

Table 9-2
Measured P_{max}

Maximum Burst-Averaged Output Power										
Band	Channel	Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	32.84	32.86	31.81	29.55	27.66	27.01	25.35	23.23	22.27
	190	33.14	33.17	32.13	30.01	27.88	27.17	25.62	23.53	22.51
	251	32.67	32.71	31.58	29.62	27.35	26.66	25.08	23.11	21.72
GSM 1900	512	29.82	29.84	28.47	26.86	24.82	25.76	24.30	22.25	21.32
	661	29.56	29.58	28.50	26.87	24.84	25.70	24.36	22.29	21.38
	810	29.87	29.90	28.45	26.94	24.93	25.96	24.71	22.46	21.40

Calculated Maximum Frame-Averaged Output Power										
Band	Channel	Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	23.64	23.66	25.62	25.12	24.48	17.81	19.16	18.80	19.09
	190	23.94	23.97	25.94	25.58	24.70	17.97	19.43	19.10	19.33
	251	23.47	23.51	25.39	25.19	24.17	17.46	18.89	18.68	18.54
GSM 1900	512	20.62	20.64	22.28	22.43	21.64	16.56	18.11	17.82	18.14
	661	20.36	20.38	22.31	22.44	21.66	16.50	18.17	17.86	18.20
	810	20.67	20.70	22.26	22.51	21.75	16.76	18.52	18.03	18.22

GSM 850	Frame	23.30	23.30	25.31	25.07	24.32	17.80	18.81	18.57	18.82
GSM 1900	Avg. Targets:	20.30	20.30	22.31	22.07	21.32	16.80	17.81	17.57	17.82

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 33 of 164

**Table 9-3
Measured P_{limit} for DSI = 3 (Hotspot mode)**

Maximum Burst-Averaged Output Power									
Band	Channel	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	28.29	25.23	23.54	22.25	25.76	24.30	22.25	21.32
	661	28.27	25.16	23.46	22.18	25.70	24.36	22.29	21.38
	810	28.46	25.36	23.70	22.45	25.96	24.71	22.46	21.40

Calculated Maximum Frame-Averaged Output Power									
Band	Channel	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	19.09	19.04	19.11	19.07	16.56	18.11	17.82	18.14
	661	19.07	18.97	19.03	19.00	16.50	18.17	17.86	18.20
	810	19.26	19.17	19.27	19.27	16.76	18.52	18.03	18.22

GSM 1900	Frame Avg. Targets:	18.60	18.61	18.57	18.62	16.80	17.81	17.57	17.82
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FCC ID: A3LSMN986W	 PCTEST <small>Thru to be part of</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 34 of 164

Table 9-4
Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

Maximum Burst-Averaged Output Power										
Band	Channel	Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	29.96	29.08	26.04	24.17	22.85	25.76	24.30	22.25	21.32
	661	30.29	29.43	26.02	24.41	22.77	25.70	24.36	22.29	21.38
	810	29.97	29.08	26.10	24.33	22.92	25.96	24.71	22.46	21.40

Calculated Maximum Frame-Averaged Output Power										
Band	Channel	Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
		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	20.76	19.88	19.85	19.74	19.67	16.56	18.11	17.82	18.14
	661	21.09	20.23	19.83	19.98	19.59	16.50	18.17	17.86	18.20
	810	20.77	19.88	19.91	19.90	19.74	16.76	18.52	18.03	18.22

GSM 1900	Frame Avg. Targets:	20.10	20.10	20.11	20.07	20.12	16.80	17.81	17.57	17.82
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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 8-PSK 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: A3LSMN986W	 <small>Thank to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 35 of 164	

9.3 UMTS Conducted Powers

Table 9-5
Measured P_{max}

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	25.26	25.17	24.94	24.18	23.98	23.88	23.64	23.42	23.74	-
99		12.2 kbps AMR	25.25	25.17	24.91	24.17	23.94	23.88	23.65	23.41	23.74	-
6	HSDPA	Subtest 1	24.41	24.36	24.09	23.31	23.17	22.89	22.84	22.65	22.95	0
6		Subtest 2	24.37	24.33	24.05	23.31	23.14	22.91	22.82	22.52	22.90	0
6		Subtest 3	23.89	23.84	23.54	22.77	22.37	22.40	22.28	22.09	22.41	0.5
6		Subtest 4	23.95	23.89	23.53	22.76	22.63	22.41	22.33	22.05	22.40	0.5
6	HSUPA	Subtest 1	24.43	24.37	24.00	23.32	23.13	22.88	22.76	22.57	22.93	0
6		Subtest 2	22.42	22.32	22.07	21.32	21.15	20.85	20.76	20.52	20.91	2
6		Subtest 3	23.35	23.32	23.04	22.30	22.14	21.85	21.78	21.54	21.87	1
6		Subtest 4	22.38	22.33	22.02	21.31	21.15	20.88	20.78	20.55	20.90	2
6		Subtest 5	24.38	24.35	24.03	23.40	23.24	22.96	22.88	22.65	22.97	0
8	DC-HSDPA	Subtest 1	24.37	24.38	23.98	23.31	23.10	22.85	22.81	22.60	22.94	0
8		Subtest 2	24.07	24.31	23.97	23.30	23.12	22.86	22.75	22.53	22.93	0
8		Subtest 3	23.88	23.81	23.55	22.81	22.64	22.40	22.22	22.04	22.40	0.5
8		Subtest 4	23.88	23.86	23.55	22.82	22.65	22.34	22.23	22.04	22.37	0.5

Table 9-6
Measured P_{limit} for DSI = 3 (Hotspot mode)

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	19.86	19.67	19.00	18.70	18.51	18.85	-
99		12.2 kbps AMR	19.84	18.64	19.00	18.70	18.50	18.84	-
6	HSDPA	Subtest 1	18.74	18.64	18.38	17.77	17.60	17.87	0
6		Subtest 2	18.78	18.67	18.38	17.86	17.51	17.85	0
6		Subtest 3	18.26	18.10	17.87	17.27	17.01	17.32	0.5
6		Subtest 4	18.25	18.12	17.89	17.24	17.02	17.31	0.5
6	HSUPA	Subtest 1	18.77	18.66	18.40	17.79	17.55	17.85	0
6		Subtest 2	16.67	16.63	16.28	15.72	15.52	15.83	2
6		Subtest 3	17.77	17.68	17.40	16.77	16.54	16.86	1
6		Subtest 4	16.72	16.60	16.39	15.75	15.50	15.80	2
6		Subtest 5	18.75	18.62	18.37	17.70	17.55	17.87	0
8	DC-HSDPA	Subtest 1	18.79	18.66	18.41	17.76	17.60	17.90	0
8		Subtest 2	18.89	18.68	18.44	17.91	17.59	17.84	0
8		Subtest 3	18.22	18.17	18.26	17.42	17.09	17.38	0.5
8		Subtest 4	18.21	18.15	18.22	17.32	17.05	17.40	0.5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 36 of 164	

Table 9-7
Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack 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	20.78	20.61	20.28	20.45	20.35	20.60	-
99		12.2 kbps AMR	20.80	20.60	20.25	20.24	20.27	20.52	-
6	HSDPA	Subtest 1	19.79	19.67	19.44	19.84	19.63	19.92	0
6		Subtest 2	19.77	19.71	19.41	19.79	19.57	19.90	0
6		Subtest 3	19.29	19.20	18.81	19.18	19.50	19.30	0.5
6		Subtest 4	19.28	19.26	18.94	19.29	19.07	19.38	0.5
6	HSUPA	Subtest 1	19.77	19.65	19.38	19.75	19.57	19.90	0
6		Subtest 2	17.70	17.64	17.46	17.83	17.50	17.92	2
6		Subtest 3	18.78	18.68	18.45	18.80	18.57	18.88	1
6		Subtest 4	17.83	17.67	17.44	17.80	17.59	17.90	2
6		Subtest 5	19.80	19.65	19.40	19.78	19.56	19.87	0
8	DC-HSDPA	Subtest 1	19.77	19.69	19.41	19.83	19.63	19.88	0
8		Subtest 2	19.81	19.68	19.42	19.88	19.56	19.89	0
8		Subtest 3	19.31	19.14	18.98	19.32	19.05	19.38	0.5
8		Subtest 4	19.25	19.15	18.94	19.37	19.11	19.42	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: A3LSMN986W	 <small> Proud to be part of Samsung </small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 37 of 164	

9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-8
LTE Band 71 Measured P_{max} for all DSI - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133297 (680.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.18	0	0
	1	50	24.90		0
	1	99	24.77		0
	50	0	24.19	0-1	1
	50	25	24.16		1
	50	50	23.99		1
16QAM	100	0	23.93	0-1	1
	1	0	24.21		1
	1	50	24.47		1
	1	99	24.06	0-2	1
	50	0	23.27		2
	50	25	22.99		2
64QAM	50	50	22.99	0-2	2
	100	0	22.97		2
	1	0	23.24		2
	1	50	22.96	0-2	2
	1	99	23.02		2
	50	0	22.20		3
256QAM	50	25	21.88	0-3	3
	50	50	21.95		3
	100	0	21.95		3
	1	0	20.11	0-5	5
	1	50	20.37		5
	1	99	20.03		5
50	0	20.00	5		
50	25	19.98	5		
50	50	20.10	5		

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-9
LTE Band 71 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133297 (680.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.14	0	0
	1	36	25.04		0
	1	74	24.86		0
	36	0	24.12	0-1	1
	36	18	24.13		1
	36	37	24.15		1
16QAM	75	0	24.01	0-1	1
	1	0	24.46		1
	1	36	24.40		1
	1	74	24.20	0-2	1
	36	0	23.16		2
	36	18	23.08		2
64QAM	36	37	23.09	0-2	2
	75	0	23.07		2
	1	0	23.27		2
	1	36	23.31	0-2	2
	1	74	23.11		2
	36	0	22.17		3
256QAM	36	18	22.24	0-3	3
	36	37	22.16		3
	75	0	22.10		3
	1	0	19.95	0-5	5
	1	36	20.24		5
	1	74	19.95		5
36	0	20.12	5		
36	18	20.17	5		
36	37	20.15	5		

Note: LTE Band 71 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.






FCC ID: A3LSMN986W	 PCTEST Proud to be part of the  Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 38 of 164

Table 9-10
LTE Band 71 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133172 (668.0 MHz)	133297 (680.5 MHz)	133422 (693.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.19	25.16	25.03	0	0
	1	25	25.16	25.07	25.00		0
	1	49	25.15	25.08	24.87		0
	25	0	24.16	24.18	24.06	0-1	1
	25	12	24.27	24.09	23.98		1
	25	25	24.13	24.15	23.98		1
16QAM	50	0	24.19	24.05	23.94	0-1	1
	1	0	24.21	24.59	24.50		1
	1	25	24.45	24.52	24.47		1
	1	49	24.41	24.46	24.37	0-2	1
	25	0	23.22	23.18	22.98		2
	25	12	23.26	23.10	22.98		2
64QAM	25	25	23.15	23.12	23.06	0-2	2
	50	0	23.22	23.03	22.95		2
	1	0	23.55	23.31	23.15		2
	1	25	23.46	23.37	23.25	0-2	2
	1	49	23.31	23.22	23.19		2
	25	0	22.24	22.15	22.01		3
256QAM	25	12	22.34	22.18	22.05	0-3	3
	25	25	22.24	22.14	22.06		3
	50	0	22.20	22.08	21.96		3
	1	0	20.13	20.16	19.91	0-5	5
	1	25	20.42	20.21	20.13		5
	1	49	20.16	19.97	19.89		5
256QAM	25	0	20.20	20.14	19.94	0-5	5
	25	12	20.35	20.09	20.01		5
	25	25	20.13	20.11	19.94		5
	50	0	20.20	20.04	19.97	5	

Table 9-11
LTE Band 71 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133147 (665.5 MHz)	133297 (680.5 MHz)	133447 (695.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.18	25.01	24.89	0	0
	1	12	25.17	25.06	24.85		0
	1	24	25.17	25.09	24.81		0
	12	0	24.22	24.09	23.94	0-1	1
	12	6	24.30	24.17	24.03		1
	12	13	24.24	24.18	24.07		1
16QAM	25	0	24.24	24.08	24.03	0-1	1
	1	0	24.39	24.19	24.25		1
	1	12	24.40	24.39	24.33		1
	1	24	24.40	24.30	24.19	0-2	1
	12	0	23.23	23.13	23.11		2
	12	6	23.31	23.20	23.12		2
64QAM	12	13	23.28	23.23	23.13	0-2	2
	25	0	23.21	23.15	22.91		2
	1	0	23.44	23.28	22.95		2
	1	12	23.49	23.29	23.23	0-2	2
	1	24	23.39	23.32	23.22		2
	12	0	22.24	22.12	22.01		3
256QAM	12	6	22.31	22.23	22.04	0-3	3
	12	13	22.31	22.28	22.10		3
	25	0	22.24	22.14	22.04		3
	1	0	20.22	20.13	20.04	0-5	5
	1	12	20.37	20.35	20.16		5
	1	24	20.38	20.23	20.08		5
256QAM	12	0	20.19	20.18	20.03	0-5	5
	12	6	20.29	20.18	20.01		5
	12	13	20.30	20.22	20.12		5
	25	0	20.26	20.15	20.09	5	

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Siemens	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 39 of 164	

9.4.2

LTE Band 12

Table 9-12
LTE Band 12 Measured P_{max} for all DSI - 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	25.41	0	0
	1	25	25.15		0
	1	49	25.13		0
	25	0	24.19	0-1	1
	25	12	24.18		1
	25	25	24.15		1
16QAM	50	0	24.06	0-1	1
	1	0	24.39		1
	1	25	24.27		1
	1	49	24.33	0-2	1
	25	0	23.33		2
	25	12	23.29		2
64QAM	25	25	23.45	0-2	2
	50	0	23.34		2
	1	0	23.48		2
	1	25	23.31	0-2	2
	1	49	23.49		2
	25	0	22.24		3
256QAM	25	12	22.34	0-3	3
	25	25	22.34		3
	50	0	22.34		3
	1	0	20.02	0-5	5
	1	25	20.44		5
	1	49	20.24		5
25	0	20.38	5		
25	12	20.32	5		
25	25	20.36	5		
	50	0	20.31	5	

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 9-13
LTE Band 12 Measured P_{max} for all DSI - 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	25.40	25.35	25.08	0	0	
	1	12	25.26	25.12	25.06		0	
	1	24	25.17	25.12	25.12		0	
	16QAM	12	0	24.37	24.27	24.22	0-1	1
		12	6	24.36	24.25	24.21		1
		12	13	24.33	24.24	24.17		1
		25	0	24.31	24.27	24.21		1
64QAM	1	0	24.63	24.56	24.50	0-1	1	
	1	12	24.45	24.44	24.62		1	
	1	24	24.42	24.40	24.38		1	
	256QAM	12	0	23.40	23.33	23.27	0-2	2
		12	6	23.38	23.39	23.28		2
		12	13	23.31	23.22	23.23		2
64QAM	25	0	23.33	23.26	23.20	0-2	2	
	1	0	23.53	23.45	23.42		2	
	1	12	23.59	23.43	23.40		2	
	256QAM	1	24	23.37	23.29	23.30	0-3	2
		12	0	22.43	22.33	22.24		3
		12	6	22.40	22.34	22.27		3
12		13	22.40	22.24	22.23	3		
256QAM	25	0	22.35	22.26	22.20	0-5	3	
	1	0	20.45	20.37	20.36		5	
	1	12	20.55	20.40	20.32		5	
	1	24	20.31	20.26	20.26		5	
	12	0	20.32	20.26	20.27		5	
	12	6	20.43	20.30	20.22		5	
	12	13	20.30	20.21	20.21		5	
	25	0	20.31	20.25	20.17	5		






FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 40 of 164

Table 9-14
LTE Band 12 Measured P_{max} for all DSI - 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	25.42	25.21	25.13	0	0	
	1	7	25.20	25.00	25.16		0	
	1	14	25.28	25.07	25.07		0	
	8	0	24.41	24.28	24.17	0-1	1	
	8	4	24.36	24.27	24.22		1	
	8	7	24.32	24.21	24.18		1	
16QAM	15	0	24.37	24.23	24.15	0-1	1	
	1	0	24.50	24.44	24.39		1	
	1	7	24.51	24.20	24.37		1	
	1	14	24.44	24.40	24.35	0-2	1	
	8	0	23.35	23.31	23.20		2	
	8	4	23.42	23.30	23.25		2	
	64QAM	8	7	23.33	23.26	23.27	0-2	2
		15	0	23.46	23.22	23.15		2
		1	0	23.55	23.48	23.37		2
		1	7	23.54	23.35	23.39	0-2	2
1		14	23.51	23.41	23.39	2		
8		0	22.33	22.26	22.24	3		
256QAM		8	4	22.41	22.30	22.25	0-3	3
		8	7	22.36	22.24	22.26		3
		15	0	22.40	22.16	22.19		3
		1	0	20.50	20.40	20.28	0-5	5
	1	7	20.46	20.36	20.34	5		
	1	14	20.44	20.30	20.25	5		
256QAM	8	0	20.43	20.19	20.18	0-5	5	
	8	4	20.41	20.30	20.29		5	
	8	7	20.36	20.24	20.24		5	
	15	0	20.40	20.30	20.20	5		

Table 9-15
LTE Band 12 Measured P_{max} for all DSI - 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	25.38	25.18	25.15	0	0	
	1	2	25.22	25.34	25.09		0	
	1	5	25.17	25.10	25.05		0	
	3	0	25.18	25.10	25.19	0-1	0	
	3	2	25.23	25.22	25.20		0	
	3	3	25.22	25.17	25.03		0	
16QAM	6	0	24.40	24.40	24.10	0-1	1	
	1	0	24.35	24.25	24.39		1	
	1	2	24.58	24.46	24.45		1	
	1	5	24.43	24.33	24.36	0-1	1	
	3	0	24.40	24.36	24.22		1	
	3	2	24.42	24.32	24.23		1	
	64QAM	3	3	24.33	24.32	24.22	0-2	1
		6	0	23.15	23.05	23.20		2
1		0	23.50	23.38	23.25	2		
1		2	23.52	23.41	23.26	0-2	2	
1		5	23.49	23.39	23.27		2	
3		0	23.30	23.29	23.24		2	
256QAM		3	2	23.35	23.25	23.18	0-2	2
		3	3	23.41	23.31	23.30		2
	6	0	22.31	22.38	22.17	3		
	1	0	20.48	20.29	20.26	0-3	5	
	1	2	20.42	20.31	20.34		5	
	1	5	20.33	20.23	20.19		5	
256QAM	3	0	20.41	20.29	20.28	0-5	5	
	3	2	20.35	20.25	20.20		5	
	3	3	20.37	20.39	20.24		5	
	6	0	20.30	20.21	20.30	5		

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 41 of 164	

9.4.3

LTE Band 13




Table 9-16
LTE Band 13 Measured P_{max} for all DSI - 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	25.25	0	0
	1	25	25.14		0
	1	49	25.11		0
	25	0	24.13	0-1	1
	25	12	24.23		1
	25	25	24.20		1
16QAM	50	0	24.05	0-1	1
	1	0	24.07		1
	1	25	24.33		1
	1	49	24.50	0-2	1
	25	0	23.13		2
	25	12	23.18		2
64QAM	25	25	23.19	0-2	2
	50	0	23.04		2
	1	0	22.83		0-2
	1	25	22.95	2	
	1	49	23.08	2	
	256QAM	25	0	22.19	0-3
25		12	22.18	3	
25		25	22.19	3	
50		0	22.25	0-5	3
1		0	20.04		5
1		25	20.26		5
256QAM	1	49	20.19	0-5	5
	25	0	20.07		5
	25	12	20.28		5
	25	25	20.30	5	
	50	0	20.17	5	

Table 9-17
LTE Band 13 Measured P_{max} for all DSI - 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	25.22	0	0
	1	12	25.25		0
	1	24	25.17		0
	12	0	24.21	0-1	1
	12	6	24.34		1
	12	13	24.38		1
16QAM	25	0	24.31	0-1	1
	1	0	24.37		1
	1	12	24.23		1
	1	24	24.49	0-2	1
	12	0	23.28		2
	12	6	23.32		2
64QAM	12	13	23.35	0-2	2
	25	0	23.28		2
	1	0	23.32		0-2
	1	12	23.37	2	
	1	24	23.52	2	
	256QAM	12	0	22.26	0-3
12		6	22.31	3	
12		13	22.40	3	
25		0	22.33	0-5	3
1		0	20.29		5
1		12	20.55		5
256QAM	1	24	20.48	0-5	5
	12	0	20.52		5
	12	6	20.45		5
	12	13	20.39	5	
	25	0	20.29	5	

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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 42 of 164	

9.4.4

LTE Band 5 (Cell)

Table 9-18
 LTE Band 5 (Cell) Measured P_{max} for all DSI - 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	25.24	0	0
	1	25	25.09		0
	1	49	25.12		0
	25	0	24.22	0-1	1
	25	12	24.12		1
	25	25	24.07		1
16QAM	50	0	24.02	0-1	1
	1	0	24.14		1
	1	25	24.10		1
	1	49	24.33	0-2	1
	25	0	23.13		2
	25	12	23.22		2
64QAM	25	25	23.04	0-2	2
	50	0	23.04		2
	1	0	23.09		2
	1	25	23.14	0-2	2
	1	49	23.07		2
	25	0	22.05		3
256QAM	25	12	22.12	0-3	3
	25	25	22.15		3
	50	0	21.92		3
	1	0	20.14	0-5	5
	1	25	20.13		5
	1	49	20.01		5
25	0	20.08	5		
25	12	20.12	5		
25	25	20.09	5		
	50	0	20.08	5	

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 9-19
 LTE Band 5 (Cell) Measured P_{max} for all DSI - 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	25.03	25.16	25.24	0	0	
	1	12	25.04	25.22	25.30		0	
	1	24	25.06	25.15	25.27		0	
	16QAM	12	0	24.19	24.31	24.41	0-1	1
		12	6	24.23	24.30	24.39		1
		12	13	24.28	24.33	24.30		1
		25	0	24.25	24.29	24.37		1
1		0	24.43	24.50	24.38	1		
64QAM	1	12	24.47	24.53	24.50	0-1	1	
	1	24	24.45	24.52	24.51		1	
	12	0	23.23	23.35	23.41		0-2	2
	12	6	23.30	23.30	23.38	2		
	12	13	23.32	23.37	23.47	2		
	25	0	23.28	23.30	23.40	2		
	256QAM	1	0	23.50	23.45	23.55	0-2	2
1		12	23.62	23.40	23.51	2		
1		24	23.57	23.66	23.70	2		
16QAM		12	0	22.07	22.32	22.41	0-3	3
		12	6	22.17	22.32	22.41		3
		12	13	22.11	22.36	22.44		3
		25	0	22.23	22.30	22.37		3
	1	0	20.39	20.49	20.50	0-5		5
256QAM	1	12	20.35	20.38	20.41		5	
	1	24	20.31	20.37	20.41		5	
	12	0	20.28	20.36	20.40		5	
	12	6	20.29	20.37	20.49		5	
	12	13	20.34	20.37	20.38		5	
	25	0	20.31	20.32	20.31	5		







FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 43 of 164	

Table 9-20
LTE Band 5 (Cell) Measured P_{max} for all DSI - 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	25.02	25.18	25.11	0	0	
	1	7	25.01	25.13	25.18		0	
	1	14	25.12	25.12	25.16		0	
	8	0	24.29	24.29	24.31	0-1	1	
	8	4	24.23	24.21	24.28		1	
	8	7	24.10	24.23	24.20		1	
16QAM	15	0	24.12	24.19	24.27	0-1	1	
	1	0	24.23	24.40	24.28		1	
	1	7	24.36	24.43	24.38		1	
	1	14	24.35	24.42	24.34	0-2	1	
	8	0	23.10	23.22	23.30		2	
	8	4	23.12	23.20	23.27		2	
64QAM	8	7	23.10	23.31	23.37	0-2	2	
	15	0	23.28	23.18	23.30		2	
	1	0	23.34	23.35	23.40		0-3	2
	1	7	23.52	23.30	23.34	2		
	1	14	23.47	23.56	23.51	2		
	8	0	21.94	22.22	22.30	0-3	3	
8	4	22.07	22.22	22.41	3			
8	7	22.01	22.26	22.40	3			
256QAM	15	0	22.19	22.20	22.27	0-3	3	
	1	0	20.23	20.39	20.37		0-5	5
	1	7	20.24	20.28	20.37			5
	1	14	20.20	20.26	20.31	5		
	8	0	20.18	20.26	20.37	5		
	8	4	20.29	20.24	20.32	5		
8	7	20.17	20.19	20.28	5			
15	0	20.00	20.32	20.15	5			

Table 9-21
LTE Band 5 (Cell) Measured P_{max} for all DSI - 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	25.05	25.15	25.23	0	0
	1	2	25.16	25.25	25.31		0
	1	5	25.22	25.12	25.42		0
	3	0	25.06	25.17	25.20		0
	3	2	25.27	25.24	25.46		0
	3	3	25.12	25.23	25.33		0
16QAM	6	0	24.13	24.23	24.30	0-1	1
	1	0	24.32	24.40	24.52	0-1	1
	1	2	24.26	24.36	24.40		1
	1	5	24.18	24.30	24.37		1
	3	0	24.19	24.31	24.36		1
	3	2	24.29	24.41	24.50		1
3	3	24.20	24.38	24.39	1		
64QAM	6	0	23.19	23.39	23.39	0-2	2
	1	0	23.27	23.31	23.47	0-2	2
	1	2	23.10	23.29	23.24		2
	1	5	23.24	23.34	23.31		2
	3	0	23.12	23.25	23.30		2
	3	2	23.24	23.34	23.44		2
3	3	23.17	23.29	23.34	2		
256QAM	6	0	22.09	22.20	22.20	0-3	3
	1	0	20.07	20.23	20.24	0-5	5
	1	2	20.29	20.30	20.41		5
	1	5	20.17	20.30	20.37		5
	3	0	20.22	20.34	20.41		5
	3	2	20.18	20.27	20.31		5
3	3	20.12	20.24	20.32	5		
6	0	20.16	20.26	20.29	5		

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 44 of 164	

9.4.5

LTE Band 66 (AWS)



Table 9-22
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.53	23.65	23.68	0	0
	1	50	23.73	23.66	23.70		0
	1	99	23.50	23.36	23.66		0
	50	0	22.75	22.72	22.69	0-1	1
	50	25	22.83	22.73	22.72		1
	50	50	22.85	22.74	22.67		1
100	0	22.80	22.71	22.74	1		
16QAM	1	0	22.91	22.53	22.61	0-1	1
	1	50	22.92	22.98	22.73		1
	1	99	22.67	22.51	22.85		1
	50	0	21.76	21.75	21.70	0-2	2
	50	25	21.77	21.85	21.70		2
	50	50	21.82	21.88	21.71		2
100	0	21.80	21.84	21.58	2		
64QAM	1	0	21.75	21.72	21.58	0-2	2
	1	50	21.74	21.77	21.48		2
	1	99	21.74	21.53	21.59		2
	50	0	20.84	20.79	20.66	0-3	3
	50	25	20.85	20.90	20.65		3
	50	50	20.81	20.77	20.76		3
100	0	20.80	20.77	20.66	3		
256QAM	1	0	18.96	19.05	18.50	0-5	5
	1	50	18.91	19.19	18.65		5
	1	99	19.01	18.87	18.84		5
	50	0	18.95	18.72	18.76	0-5	5
	50	25	18.97	18.95	18.68		5
	50	50	18.67	18.77	18.78		5
100	0	18.81	18.78	18.67	5		

Table 9-23
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.76	23.62	23.67	0	0
	1	36	23.79	23.61	23.61		0
	1	74	23.66	23.44	23.58		0
	36	0	22.88	22.79	22.68	0-1	1
	36	18	22.95	22.74	22.70		1
	36	37	22.88	22.73	22.71		1
75	0	22.93	22.78	22.68	1		
16QAM	1	0	22.98	22.87	22.94	0-1	1
	1	36	23.17	22.93	22.98		1
	1	74	22.90	22.85	22.93		1
	36	0	21.83	21.73	21.67	0-2	2
	36	18	21.94	21.71	21.67		2
	36	37	21.87	21.70	21.70		2
75	0	21.94	21.68	21.65	2		
64QAM	1	0	21.89	21.79	21.83	0-2	2
	1	36	22.01	21.92	21.92		2
	1	74	22.00	21.66	21.89		2
	36	0	20.95	20.72	20.73	0-3	3
	36	18	20.98	20.73	20.72		3
	36	37	20.92	20.83	20.70		3
75	0	20.90	20.83	20.59	3		
256QAM	1	0	18.89	18.79	18.75	0-5	5
	1	36	18.98	18.87	18.86		5
	1	74	18.80	18.65	18.69		5
	36	0	18.87	18.76	18.69	0-5	5
	36	18	18.95	18.75	18.64		5
	36	37	18.86	18.70	18.75		5
75	0	18.85	18.85	18.66	5		

Table 9-24

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 45 of 164	

LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.59	23.45	23.49	0	0
	1	25	23.75	23.60	23.61		0
	1	49	23.62	23.41	23.34		0
	25	0	22.88	22.69	22.61	0-1	1
	25	12	22.99	22.83	22.63		1
	25	25	22.80	22.68	22.62		1
16QAM	50	0	22.83	22.70	22.54	0-1	1
	1	0	22.89	22.84	22.78		1
	1	25	23.00	22.94	22.99		1
	1	49	22.87	22.76	23.05	0-2	1
	25	0	21.96	21.68	21.59		2
	25	12	21.97	21.83	21.65		2
64QAM	25	25	21.86	21.65	21.66	0-2	2
	50	0	21.85	21.65	21.61		2
	1	0	21.77	21.50	21.59		2
	1	25	21.80	21.72	21.78	0-2	2
	1	49	21.97	21.64	21.78		2
	25	0	20.92	20.65	20.60		3
256QAM	25	12	20.91	20.78	20.73	0-3	3
	25	25	20.86	20.68	20.70		3
	50	0	20.87	20.75	20.64		3
	1	0	18.70	18.46	18.57	0-5	5
	1	25	19.02	18.78	18.74		5
	1	49	18.83	18.63	18.65		5
25	0	18.95	18.58	18.60	5		
25	12	19.00	18.70	18.73	5		
25	25	18.90	18.68	18.83	5		
50	0	18.89	18.69	18.56	5		

Table 9-25

LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.70	23.63	23.59	0	0
	1	12	23.73	23.51	23.45		0
	1	24	23.59	23.51	23.35		0
	12	0	22.82	22.69	22.61	0-1	1
	12	6	22.84	22.62	22.64		1
	12	13	22.73	22.59	22.48		1
16QAM	25	0	22.76	22.63	22.58	0-1	1
	1	0	23.13	22.84	22.83		1
	1	12	23.12	22.86	22.73		1
	1	24	22.91	22.92	22.84	0-2	1
	12	0	21.84	21.66	21.69		2
	12	6	21.85	21.70	21.65		2
64QAM	12	13	21.73	21.66	21.58	0-2	2
	25	0	21.78	21.62	21.54		2
	1	0	21.95	21.61	21.76		0-2
	1	12	21.99	21.82	21.71	2	
	1	24	21.85	21.75	21.63	2	
	256QAM	12	0	20.90	20.66	20.73	0-3
12		6	20.91	20.67	20.66	3	
12		13	20.80	20.64	20.61	3	
25		0	20.83	20.64	20.53	0-5	3
1		0	18.72	18.76	18.68		5
1		12	18.97	18.62	18.68		5
256QAM	1	24	18.84	18.69	18.84	0-5	5
	12	0	18.91	18.64	18.64		5
	12	6	18.86	18.62	18.66		5
	12	13	18.79	18.60	18.52	0-5	5
	25	0	18.79	18.65	18.57		5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 46 of 164	

Table 9-26
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.76	23.52	23.52	0	0	
	1	7	23.73	23.58	23.56		0	
	1	14	23.66	23.47	23.43		0	
	8	0	22.85	22.59	22.60	0-1	1	
	8	4	22.82	22.66	22.61		1	
	8	7	22.79	22.58	22.54		1	
16QAM	15	0	22.79	22.63	22.59	0-1	1	
	1	0	23.00	22.87	22.89		0-1	1
	1	7	22.97	22.84	22.74			1
	1	14	22.82	22.90	22.78	0-2		1
	8	0	21.81	21.69	21.69		2	
	8	4	21.85	21.78	21.65		2	
64QAM	8	7	21.74	21.72	21.66	0-2	2	
	15	0	21.81	21.65	21.57		2	
	1	0	21.89	21.81	21.64		0-3	2
	1	7	21.89	21.76	21.73	2		
	1	14	21.78	21.72	21.65	2		
	8	0	20.85	20.62	20.62	0-3	3	
8	4	20.85	20.69	20.63	3			
8	7	20.80	20.62	20.56	3			
256QAM	15	0	20.85	20.67	20.54	0-3	3	
	1	0	18.98	18.72	18.69		0-5	5
	1	7	18.91	18.77	18.67			5
	1	14	18.85	18.70	18.39	0-5		5
	8	0	18.85	18.64	18.54		5	
	8	4	18.89	18.74	18.63		5	
8	7	18.83	18.66	18.63	0-5	5		
15	0	18.86	18.69	18.59		5		

Table 9-27
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)			
Conducted Power [dBm]								
QPSK	1	0	23.66	23.61	23.59	0	0	
	1	2	23.66	23.66	23.54		0	
	1	5	23.52	23.61	23.50		0	
	3	0	23.70	23.64	23.36	0-1	0	
	3	2	23.70	23.66	23.39		0	
	3	3	23.62	23.62	23.37		0	
16QAM	6	0	22.76	22.73	22.39	0-1	1	
	1	0	23.01	22.98	22.72		0-1	1
	1	2	22.99	23.01	22.86			1
	1	5	22.88	22.92	22.65	0-1		1
	3	0	22.87	22.85	22.55		1	
	3	2	22.84	22.86	22.57		1	
64QAM	3	3	22.80	22.82	22.51	0-2	1	
	6	0	21.83	21.79	21.47		0-2	2
	1	0	21.93	21.89	21.67			0-2
	1	2	21.95	21.92	21.65	0-2		
	1	5	21.85	21.82	21.56		2	
	3	0	21.87	21.85	21.54		0-3	2
3	2	21.86	21.85	21.57	2			
3	3	21.82	21.81	21.51	2			
256QAM	6	0	20.73	20.73	20.50	0-3	3	
	1	0	18.85	18.82	18.64		0-5	5
	1	2	18.71	18.87	18.62			5
	1	5	18.77	18.83	18.50	0-5		5
	3	0	18.91	18.86	18.58		5	
	3	2	18.87	18.88	18.52		5	
3	3	18.84	18.87	18.55	0-5	5		
6	0	18.74	18.74	18.49		5		




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 47 of 164	

Table 9-28
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	19.91	18.98	19.03	0	0	
	1	50	19.96	19.22	19.02		0	
	1	99	19.94	18.98	19.00		0	
	QPSK	50	0	19.95	19.26	19.27	0-1	0
		50	25	19.91	19.38	19.34		0
		50	50	19.97	19.25	19.28		0
		100	0	19.91	19.28	19.28		0
16QAM	1	0	19.94	19.28	19.71	0-1	0	
	1	50	19.94	19.54	19.77		0	
	1	99	19.92	19.27	19.27		0	
	16QAM	50	0	19.91	19.21	19.31	0-2	0
		50	25	19.91	19.35	19.38		0
		50	50	19.92	19.21	19.34		0
		100	0	19.95	19.30	19.23		0
100		0	19.95	19.30	19.23	0		
64QAM	1	0	19.94	19.22	19.97	0-2	0	
	1	50	19.86	19.49	20.00		0	
	1	99	19.98	19.22	19.99		0	
	64QAM	50	0	19.92	19.26	19.27	0-3	0
		50	25	19.91	19.44	19.34		0
		50	50	19.92	19.29	19.27		0
		100	0	19.97	19.36	19.27		0
100		0	19.97	19.36	19.27	0		
256QAM	1	0	18.69	18.47	18.71	0-5	0.5	
	1	50	19.00	18.66	19.00		0.5	
	1	99	18.75	18.46	18.77		0.5	
	50	0	18.81	18.75	18.82		0.5	
	50	25	18.97	18.93	18.92		0.5	
	50	50	18.80	18.82	18.83		0.5	
	100	0	18.84	18.92	18.78		0.5	

Table 9-29
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	19.09	19.03	19.29	0	0	
	1	36	19.11	19.26	19.22		0	
	1	74	18.99	19.07	19.10		0	
	QPSK	36	0	19.21	19.31	19.24	0-1	0
		36	18	19.29	19.33	19.21		0
		36	37	19.23	19.33	19.14		0
		75	0	19.22	19.32	19.20		0
16QAM	1	0	19.52	19.11	19.72	0-1	0	
	1	36	19.60	19.30	19.66		0	
	1	74	19.45	19.09	19.57		0	
	16QAM	36	0	19.29	19.33	19.29	0-2	0
		36	18	19.36	19.36	19.22		0
		36	37	19.28	19.34	19.14		0
		75	0	19.27	19.30	19.20		0
64QAM	1	0	19.20	19.51	19.86	0-2	0	
	1	36	19.27	19.70	19.77		0	
	1	74	19.23	19.48	19.74		0	
	64QAM	36	0	19.36	19.41	19.28	0-3	0
		36	18	19.22	19.39	19.27		0
		36	37	19.34	19.43	19.21		0
		75	0	19.29	19.34	19.28		0
256QAM	1	0	18.94	18.84	18.80	0-5	0.5	
	1	36	19.01	19.08	18.94		0.5	
	1	74	18.88	18.83	18.73		0.5	
	36	0	18.61	18.58	18.65		0.5	
	36	18	18.73	18.62	18.69		0.5	
	36	37	18.60	18.61	18.56		0.5	
	75	0	18.63	18.62	18.63		0.5	



FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 48 of 164	

Table 9-30
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	19.06	18.98	19.04	0	0
	1	25	19.03	19.23	19.06		0
	1	49	19.05	19.03	19.06		0
	25	0	19.21	19.24	19.17	0-1	0
	25	12	19.26	19.36	19.20		0
	25	25	19.17	19.30	19.12		0
16QAM	50	0	19.19	19.25	19.16	0-1	0
	1	0	19.52	19.47	19.45		0
	1	25	19.73	19.57	19.69		0
	1	49	19.46	19.43	19.47	0-2	0
	25	0	19.24	19.33	19.21		0
	25	12	19.32	19.36	19.27		0
64QAM	25	25	19.24	19.35	19.16	0-2	0
	50	0	19.22	19.24	19.16		0
	1	0	19.09	19.40	19.51		0
	1	25	19.36	19.71	19.71	0-3	0
	1	49	19.22	19.45	19.52		0
	25	0	19.32	19.39	19.28		0
256QAM	25	12	19.37	19.42	19.34	0-5	0
	25	25	19.27	19.41	19.19		0
	50	0	19.24	19.35	19.18		0
	1	0	18.60	18.90	19.00	0-5	0.5
	1	25	18.78	18.91	18.94		0.5
	1	49	18.65	18.82	18.83		0.5
25	0	18.84	18.80	18.76	0.5		
25	12	18.93	18.93	18.86	0.5		
25	25	18.82	18.87	18.73	0.5		
50	0	18.84	18.79	18.74	0.5		

Table 9-31
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	19.08	19.16	19.04	0	0
	1	12	19.08	19.21	19.02		0
	1	24	18.96	19.10	18.94		0
	12	0	19.30	19.36	19.21	0-1	0
	12	6	19.31	19.37	19.25		0
	12	13	19.20	19.31	19.13		0
16QAM	25	0	19.25	19.30	19.23	0-1	0
	1	0	19.63	19.62	19.53		0
	1	12	19.59	19.66	19.45		0
	1	24	19.55	19.56	19.39	0-2	0
	12	0	19.35	19.48	19.31		0
	12	6	19.35	19.48	19.29		0
64QAM	12	13	19.26	19.50	19.21	0-2	0
	25	0	19.34	19.35	19.18		0
	1	0	19.73	19.60	19.74		0-3
	1	12	19.68	19.94	19.75	0	
	1	24	19.62	19.57	19.65	0	
	256QAM	12	0	19.36	19.41	19.34	0-5
12		6	19.34	19.40	19.33	0	
12		13	19.23	19.33	19.20	0	
25		0	19.30	19.40	19.22	0-5	0
1		0	18.67	18.86	18.81		0.5
1		12	18.61	18.86	18.74		0.5
256QAM	1	24	18.55	18.82	18.73	0-5	0.5
	12	0	18.84	18.81	18.75		0.5
	12	6	18.84	18.81	18.74		0.5
	12	13	18.80	18.74	18.67	0-5	0.5
	25	0	18.82	18.67	18.65		0.5



FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 49 of 164	

Table 9-32
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	19.19	19.22	19.13	0	0
	1	7	19.14	19.20	19.02		0
	1	14	19.10	19.18	18.98		0
	8	0	19.28	19.31	19.21	0-1	0
	8	4	19.26	19.33	19.19		0
	8	7	19.22	19.36	19.15		0
16QAM	15	0	19.26	19.32	19.17	0-1	0
	1	0	19.94	19.59	19.83		0
	1	7	19.76	19.78	19.75		0
	1	14	19.80	19.52	19.73	0-2	0
	8	0	19.29	19.46	19.35		0
	8	4	19.23	19.39	19.32		0
64QAM	8	7	19.19	19.43	19.35	0-2	0
	15	0	19.45	19.40	19.26		0
	1	0	19.73	19.57	19.78		0
	1	7	19.70	19.51	19.64	0-3	0
	1	14	19.64	19.45	19.67		0
	8	0	19.48	19.32	19.35		0
256QAM	8	4	19.47	19.37	19.35	0-3	0
	8	7	19.40	19.37	19.27		0
	15	0	19.43	19.37	19.23		0
	1	0	18.73	18.89	18.63	0-5	0.5
	1	7	18.60	18.78	18.69		0.5
	1	14	18.57	18.83	18.50		0.5
8	0	18.90	18.86	18.78	0.5		
8	4	18.83	18.82	18.73	0.5		
8	7	18.78	18.87	18.74	0.5		
15	0	18.85	18.73	18.82	0.5		

Table 9-33
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)			
Conducted Power [dBm]								
QPSK	1	0	19.22	19.20	18.97	0	0	
	1	2	19.18	19.23	19.00		0	
	1	5	19.13	19.15	18.93		0	
	3	0	19.16	19.24	19.03	0-1	0	
	3	2	19.15	19.27	19.01		0	
	3	3	19.11	19.22	18.96		0	
16QAM	6	0	19.19	19.28	19.11	0-1	0	
	1	0	19.48	19.63	19.39		0	
	1	2	19.54	19.66	19.34		0-1	0
	1	5	19.44	19.53	19.23	0		
	3	0	19.32	19.36	19.16	0		
	64QAM	3	2	19.35	19.40	19.17	0-2	0
3		3	19.32	19.32	19.12	0		
6		0	19.36	19.31	19.36	0		
1		0	19.95	19.53	19.27	0-2	0	
1		2	19.96	19.77	19.34		0	
1		5	19.89	19.70	19.21		0	
256QAM	3	0	19.53	19.54	19.37	0-2	0	
	3	2	19.56	19.55	19.37		0	
	3	3	19.51	19.52	19.36		0	
	6	0	19.34	19.38	19.20	0-3	0	
	1	0	18.75	18.83	18.70		0-5	0.5
	1	2	18.85	18.83	18.77			0.5
1	5	18.70	18.77	18.65	0.5			
3	0	18.95	18.77	18.51	0.5			
3	2	18.94	18.84	18.56	0.5			
3	3	18.89	18.77	18.48	0.5			
6	0	18.84	18.81	18.69	0.5			




FCC ID: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 50 of 164	

Table 9-34
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.94	19.82	20.15	0	0
	1	50	20.35	20.05	20.01		0
	1	99	19.85	19.78	20.01		0
	50	0	20.10	20.14	20.14	0-1	0
	50	25	20.25	20.24	20.21		0
	50	50	20.16	20.09	20.14		0
16QAM	100	0	20.24	20.17	20.17	0-1	0
	1	0	20.40	20.06	20.44		0
	1	50	20.43	20.43	20.31		0
	1	99	20.35	20.05	20.31	0-2	0
	50	0	20.22	20.16	20.17		0
	50	25	20.33	20.35	20.16		0
64QAM	50	50	20.21	20.15	20.17	0-2	0
	100	0	20.20	20.22	20.15		0
	1	0	19.91	20.31	20.34		0-2
	1	50	20.12	20.33	20.27	0	
	1	99	19.67	20.41	20.27	0	
	256QAM	50	0	19.72	19.71	19.75	0-3
50		25	19.80	19.81	19.76	0	
50		50	19.64	19.69	19.68	0	
100		0	19.74	19.76	19.69	0-5	0
1		0	18.56	18.70	18.81		1
1		50	18.90	19.02	19.11		1
256QAM	1	99	18.53	18.73	18.71	0-5	1
	50	0	18.66	18.68	18.71		1
	50	25	18.77	18.78	18.77		1
	50	50	18.61	18.63	18.68	1	
	100	0	18.70	18.72	18.67	1	

Table 9-35
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.87	19.78	19.88	0	0
	1	36	19.92	19.91	19.91		0
	1	74	19.76	19.71	19.81		0
	36	0	20.03	19.97	19.97	0-1	0
	36	18	20.12	19.94	20.04		0
	36	37	20.04	20.04	20.02		0
16QAM	75	0	20.07	19.96	19.97	0-1	0
	1	0	20.17	20.13	20.31		0
	1	36	20.30	20.27	20.29		0
	1	74	20.20	20.12	20.22	0-2	0
	36	0	20.03	20.01	19.99		0
	36	18	20.06	20.00	19.97		0
64QAM	36	37	20.05	19.99	20.04	0-2	0
	75	0	20.08	20.01	19.93		0
	1	0	20.14	20.03	20.16		0-2
	1	36	20.28	20.18	20.20	0	
	1	74	20.06	20.01	20.17	0	
	256QAM	36	0	19.58	19.48	19.54	0-3
36		18	19.64	19.54	19.56	0	
36		37	19.50	19.53	19.58	0	
75		0	19.58	19.49	19.47	0-5	0
1		0	18.58	18.40	18.46		1
1		36	18.63	18.59	18.66		1
256QAM	1	74	18.49	18.43	18.52	0-5	1
	36	0	18.53	18.47	18.51		1
	36	18	18.61	18.48	18.50		1
	36	37	18.54	18.47	18.52	1	
	75	0	18.58	18.50	18.46	1	




FCC ID: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 51 of 164	

Table 9-36
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.76	19.65	19.66	0	0
	1	25	19.96	19.88	19.93		0
	1	49	19.73	19.70	19.71		0
	25	0	20.05	19.95	19.95	0-1	0
	25	12	20.11	20.03	20.00		0
	25	25	20.02	19.95	19.98		0
16QAM	50	0	20.08	19.97	19.93	0-1	0
	1	0	20.13	20.06	20.04		0
	1	25	20.32	20.22	20.38		0
	1	49	20.18	20.15	20.18	0-2	0
	25	0	20.03	19.84	19.96		0
	25	12	20.11	20.07	20.04		0
64QAM	25	25	20.01	19.93	20.03	0-2	0
	50	0	20.03	19.97	19.96		0
	1	0	19.99	19.81	19.81		0
	1	25	20.21	20.10	20.19	0-3	0
	1	49	19.98	19.97	19.94		0
	25	0	19.59	19.46	19.45		0
256QAM	25	12	19.67	19.56	19.58	0-3	0
	25	25	19.54	19.43	19.49		0
	50	0	19.58	19.48	19.46		0
	1	0	18.48	18.25	18.43	0-5	1
	1	25	18.74	18.60	18.64		1
	1	49	18.54	18.43	18.41		1
25	0	18.62	18.44	18.47	1		
25	12	18.68	18.56	18.55	1		
25	25	18.56	18.47	18.50	1		
50	0	18.57	18.54	18.46	1		

Table 9-37
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	20.06	19.86	19.91	0	0
	1	12	20.13	19.93	19.93		0
	1	24	19.91	19.86	19.84		0
	12	0	20.12	19.99	20.03	0-1	0
	12	6	20.18	19.99	20.08		0
	12	13	20.10	19.95	19.98		0
16QAM	25	0	20.08	20.00	20.02	0-1	0
	1	0	20.42	20.15	20.33		0
	1	12	20.40	20.21	20.24		0
	1	24	20.27	20.19	20.20	0-2	0
	12	0	20.22	20.02	20.09		0
	12	6	20.18	20.03	20.17		0
64QAM	12	13	20.08	20.02	20.03	0-2	0
	25	0	20.13	20.01	20.04		0
	1	0	20.18	19.92	20.16		0-3
	1	12	20.22	20.08	20.20	0	
	1	24	20.07	19.92	20.08	0	
	256QAM	12	0	20.14	20.00	19.63	0-3
12		6	20.16	19.99	19.60	0	
12		13	20.07	19.95	19.48	0	
25		0	20.10	19.99	19.49	0-5	0
1		0	18.75	18.64	18.67		1
1		12	18.77	18.67	18.65		1
256QAM	1	24	18.67	18.56	18.56	0-5	1
	12	0	18.70	18.51	18.55		1
	12	6	18.68	18.53	18.59		1
	12	13	18.60	18.54	18.48	0-5	1
	25	0	18.66	18.54	18.51		1
	25	0	18.66	18.54	18.51		1






FCC ID: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 52 of 164	

Table 9-38
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	20.10	19.89	19.97	0	0	
	1	7	19.98	19.86	20.00		0	
	1	14	19.97	19.84	19.88		0	
	8	0	20.16	19.98	20.07	0-1	0	
	8	4	20.17	20.02	20.05		0	
	8	7	20.09	19.92	19.97		0	
16QAM	15	0	20.15	19.99	20.02	0-1	0	
	1	0	20.40	20.24	20.38		0-2	0
	1	7	20.33	20.19	20.24			0
	1	14	20.23	20.17	20.28	0-2		0
	8	0	20.27	20.02	20.16		0	
	8	4	20.20	20.11	20.15		0	
64QAM	8	7	20.18	20.05	20.07	0-3	0	
	15	0	20.10	20.02	20.05		0	
	1	0	20.38	20.11	20.19		0-2	0
	1	7	20.24	20.15	20.17	0-3		0
	1	14	20.20	20.10	20.13			0
	8	0	19.75	19.52	19.64		0	
256QAM	8	4	19.72	19.62	19.62	0-5	0	
	8	7	19.62	19.54	19.55		0	
	15	0	19.70	19.57	19.59		0	
	1	0	18.85	18.61	18.64	0-5	1	
	1	7	18.78	18.63	18.70		1	
	1	14	18.70	18.58	18.56		1	
8	0	18.72	18.50	18.54	0-5	1		
8	4	18.73	18.61	18.64		1		
8	7	18.69	18.55	18.54		1		
15	0	18.68	18.57	18.59	0-5	1		

Table 9-39
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)			
Conducted Power [dBm]								
QPSK	1	0	19.93	19.84	19.81	0	0	
	1	2	20.06	19.86	19.89		0	
	1	5	19.86	19.76	19.74		0	
	3	0	19.91	19.82	19.79	0-1	0	
	3	2	19.97	19.86	19.83		0	
	3	3	19.92	19.76	19.80		0	
16QAM	6	0	19.98	19.88	19.85	0-1	0	
	1	0	20.29	20.17	20.28		0-1	0
	1	2	20.37	20.11	20.31			0
	1	5	20.21	20.07	20.15	0-2		0
	3	0	20.11	20.01	20.06		0	
	3	2	20.12	20.04	20.09		0	
64QAM	3	3	20.07	19.97	20.05	0-2	0	
	6	0	20.06	19.96	19.98		0	
	1	0	20.20	20.10	20.08		0-2	0
	1	2	20.24	20.14	20.11	0-3		0
	1	5	20.15	20.05	20.00			0
	3	0	20.12	20.00	19.96		0	
256QAM	3	2	20.16	20.05	19.99	0-5	0	
	3	3	20.14	20.00	19.96		0	
	6	0	19.58	19.46	19.42		0	
	1	0	18.66	18.54	18.52	0-5	1	
	1	2	18.75	18.58	18.59		1	
	1	5	18.59	18.48	18.48		1	
3	0	18.68	18.57	18.52	0-5	1		
3	2	18.70	18.52	18.59		1		
3	3	18.63	18.46	18.50		1		
6	0	18.54	18.42	18.44	0-5	1		

FCC ID: A3LSMN986W	 PCTEST Proud to be part of  SAMSUNG	SAR EVALUATION REPORT	Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 53 of 164

9.4.6

LTE Band 25 (PCS)

Table 9-40
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.52	23.46	23.42	0	0	
	1	50	23.48	23.36	23.60		0	
	1	99	23.45	23.44	23.53		0	
	16QAM	50	0	22.55	22.40	22.57	0-1	1
		50	25	22.51	22.52	22.66		1
		50	50	22.61	22.58	22.61		1
		64QAM	100	0	22.47	22.40	22.55	0-1
1			0	22.44	22.87	22.91	1	
1			50	22.57	22.94	22.62	1	
256QAM			1	99	22.95	22.40	22.71	0-2
	50		0	21.63	21.41	21.51	2	
	50		25	21.58	21.55	21.66	2	
	64QAM		50	50	21.49	21.52	21.63	0-2
		100	0	21.46	21.41	21.60	2	
		1	0	21.50	21.77	22.00	2	
		256QAM	1	50	21.59	21.64	21.92	0-2
1			99	21.49	21.52	22.08	2	
50			0	20.49	20.50	20.63	3	
64QAM			50	25	20.57	20.47	20.60	0-3
	50		50	20.58	20.60	20.63	3	
	100		0	20.42	20.40	20.51	3	
	256QAM		1	0	18.48	18.35	18.54	0-5
		1	50	18.62	18.40	18.87	5	
		1	99	18.69	18.36	18.62	5	
		64QAM	50	0	18.43	18.50	18.31	0-5
50			25	18.57	18.56	18.65	5	
50			50	18.57	18.52	18.80	5	
256QAM			100	0	18.54	18.40	18.59	0-5

Table 9-41
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.44	23.46	23.54	0	0	
	1	36	23.55	23.45	23.57		0	
	1	74	23.52	23.51	23.57		0	
	16QAM	36	0	22.67	22.47	22.72	0-1	1
		36	18	22.75	22.47	22.77		1
		36	37	22.74	22.53	22.84		1
		64QAM	75	0	22.67	22.51	22.71	0-1
1			0	23.18	23.21	23.06	1	
1			36	23.20	23.18	23.08	1	
256QAM			1	74	23.23	23.28	23.08	0-1
	36		0	21.69	21.54	21.71	2	
	36		18	21.79	21.52	21.70	2	
	64QAM		36	37	21.76	21.53	21.86	0-2
		75	0	21.70	21.56	21.74	2	
		1	0	21.58	21.88	21.98	2	
		256QAM	1	36	22.04	21.91	22.14	0-2
1			74	22.01	22.05	22.20	2	
36			0	20.74	20.55	20.74	3	
64QAM			36	18	20.80	20.60	20.82	0-3
	36		37	20.80	20.66	20.86	3	
	75		0	20.72	20.55	20.75	3	
	256QAM		1	0	18.61	18.64	18.67	0-5
		1	36	18.57	18.49	18.71	5	
		1	74	18.54	18.50	18.64	5	
		64QAM	36	0	18.70	18.47	18.75	0-5
36			18	18.83	18.60	18.70	5	
36			37	18.62	18.66	18.67	5	
256QAM			75	0	18.41	18.39	18.60	0-5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 54 of 164	

Table 9-42
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.49	23.38	23.67	0	0	
	1	25	23.67	23.50	23.70		0	
	1	49	23.40	23.26	23.60		0	
	25	0	22.68	22.43	22.66	0-1	1	
	25	12	22.75	22.60	22.75		1	
	25	25	22.70	22.57	22.77		1	
16QAM	1	0	22.99	22.68	22.78	0-1	1	
	1	25	22.80	22.85	22.94		1	
	1	49	22.95	22.71	22.81		1	
	25	0	21.70	21.52	21.60	0-2	2	
	25	12	21.78	21.63	21.72		2	
	25	25	21.69	21.62	21.72		2	
64QAM	1	0	21.70	21.60	21.64	0-2	2	
	1	25	21.70	21.60	21.64		2	
	1	49	21.49	21.95	22.10		2	
	25	0	20.80	20.60	20.64	0-3	3	
	25	12	20.92	20.68	20.68		3	
	25	25	20.85	20.62	20.72		3	
256QAM	1	0	20.78	20.58	20.54	0-3	3	
	1	0	18.80	18.75	18.84		0-5	5
	1	25	18.98	18.95	19.00			5
	1	49	18.76	18.96	19.06	5		
	25	0	18.70	18.84	18.94	5		
	25	12	18.80	18.71	18.69	5		
25	25	18.77	18.64	18.64	5			
50	0	18.71	18.60	18.67	5			

Table 9-43
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.42	23.31	23.62	0	0
	1	12	23.40	23.29	23.51		0
	1	24	23.21	23.42	23.40		0
	12	0	22.57	22.47	22.74	0-1	1
	12	6	22.74	22.60	22.94		1
	12	13	22.71	22.64	22.90		1
16QAM	25	0	22.60	22.57	22.74	0-1	1
	1	0	22.76	22.66	22.96		1
	1	12	22.84	22.77	23.01		1
	1	24	22.91	22.83	23.10	0-2	1
	12	0	21.63	21.54	21.85		2
	12	6	21.70	21.63	21.91		2
64QAM	12	13	21.74	21.65	21.94	0-2	2
	25	0	21.60	21.57	21.50		2
	1	0	21.50	21.47	21.57		2
	1	12	21.64	21.54	21.60	0-2	2
	1	24	21.62	21.62	21.67		2
	12	0	20.54	20.40	20.51		3
256QAM	12	6	20.57	20.49	20.59	0-3	3
	12	13	20.58	20.48	20.64		3
	25	0	20.64	20.59	20.64		3
	1	0	18.66	18.54	18.60	0-5	5
	1	12	18.70	18.64	18.65		5
	1	24	18.80	18.72	18.82		5
12	0	18.54	18.46	18.50	5		
12	6	18.40	18.35	18.40	5		
12	13	18.64	18.62	18.72	5		
25	0	18.64	18.60	18.61	5		




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 55 of 164	

Table 9-44
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.54	23.38	23.48	0	0
	1	7	23.50	23.46	23.54		0
	1	14	23.50	23.52	23.61		0
	8	0	22.84	22.51	22.57	0-1	1
	8	4	23.09	22.63	22.73		1
	8	7	23.00	22.59	22.60		1
16QAM	1	0	22.54	22.60	22.61	0-1	1
	1	7	22.50	22.47	22.57		1
	1	14	22.42	22.48	22.58		1
	8	0	21.47	21.55	21.65	0-2	2
	8	4	21.53	21.56	21.66		2
	8	7	21.50	21.64	21.74		2
64QAM	1	0	21.67	21.71	21.81	0-2	2
	1	7	21.70	21.59	21.69		2
	1	14	21.77	21.54	21.64		2
	8	0	20.61	20.72	20.82	0-3	3
	8	4	20.69	20.82	20.92		3
	8	7	20.74	20.85	20.95		3
256QAM	1	0	20.74	20.68	20.78	0-5	3
	1	0	18.70	18.67	18.77		5
	1	7	18.75	18.69	18.64		5
	1	14	18.92	18.57	18.60	0-5	5
	8	0	18.60	18.61	18.63		5
	8	4	18.50	18.57	18.67		5
	8	7	18.82	18.45	18.54	5	
	15	0	18.71	18.64	18.64	5	

Table 9-45
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.62	23.41	23.61	0	0	
	1	2	23.64	23.49	23.60		0	
	1	5	23.68	23.48	23.51		0	
	3	0	23.50	23.33	23.35	0-1	0	
	3	2	23.50	23.29	23.47		0	
	3	3	23.60	23.44	23.54		0	
16QAM	6	0	22.69	22.50	22.61	0-1	1	
	1	0	22.85	22.71	22.83		1	
	1	2	22.71	22.86	22.64		1	
	3	0	22.66	22.57	22.66	0-2	1	
	3	2	22.64	22.49	22.29		1	
	3	3	22.78	22.58	22.38		1	
64QAM	6	0	21.76	21.56	21.45	0-3	2	
	1	0	21.88	21.89	21.76		0-2	2
	1	2	21.91	21.98	21.78			2
	1	5	22.19	21.99	22.09	0-2		2
	3	0	21.90	21.70	21.84		2	
	3	2	21.90	21.70	21.74		2	
256QAM	3	3	21.90	21.70	21.68	0-5	2	
	6	0	20.81	20.61	20.71		3	
	1	0	18.73	18.53	18.63		0-5	5
	1	2	18.71	18.51	18.64	5		
	1	5	18.71	18.51	18.50	5		
		3	0	18.69	18.49	18.56	0-5	5
	3	2	18.60	18.40	18.57	5		
	3	3	18.55	18.35	18.41	5		
	6	0	18.60	18.40	18.49	5		




FCC ID: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 56 of 164

Table 9-46
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) - 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	19.04	18.84	18.98	0	0	
	1	50	18.99	18.83	19.09		0	
	1	99	18.95	18.93	19.04		0	
	QPSK	50	0	19.01	18.88	19.12	0-1	0
		50	25	19.11	18.93	19.15		0
		50	50	19.08	18.96	19.11		0
		100	0	19.03	18.88	19.04		0
1		0	19.04	19.29	19.10	0		
16QAM	1	50	19.32	19.27	19.06	0-1	0	
	1	99	19.23	19.32	19.07		0	
	50	0	19.19	19.07	19.10		0	
	16QAM	50	25	19.20	19.11	19.07	0-2	0
		50	50	19.17	19.10	19.06		0
		100	0	19.06	19.18	19.09		0
		1	0	19.25	19.27	19.08		0
1		50	19.27	19.32	19.07	0		
64QAM	1	99	19.26	19.18	19.07	0-2	0	
	50	0	19.22	18.99	19.04		0	
	50	25	19.18	19.04	19.08		0	
	64QAM	50	50	19.18	19.06	19.08	0-3	0
		100	0	19.09	18.98	19.07		0
		1	0	19.12	19.15	18.91		0
		1	50	19.17	19.20	19.36		0
1		99	19.19	19.24	19.21	0		
256QAM	50	0	19.23	19.22	18.93	0-5	0	
	50	25	19.13	19.17	18.99		0	
	50	50	19.20	19.26	18.96		0	
	100	0	19.23	19.24	19.01		0	

Table 9-47
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) - 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	18.94	18.98	19.16	0	0	
	1	36	19.12	18.99	19.23		0	
	1	74	18.97	19.10	19.22		0	
	QPSK	36	0	19.20	18.95	19.22	0-1	0
		36	18	19.24	19.02	19.33		0
		36	37	19.22	19.10	19.11		0
		75	0	19.22	19.03	19.11		0
1		0	19.23	19.14	19.32	0		
16QAM	1	36	19.26	19.30	19.33	0-1	0	
	1	74	19.13	19.23	19.32		0	
	36	0	19.21	18.99	19.21		0	
	16QAM	36	18	19.26	19.05	19.33	0-2	0
		36	37	19.27	19.17	19.17		0
		75	0	19.25	19.06	19.26		0
		1	0	19.28	19.25	19.18		0
64QAM	1	36	19.15	19.26	19.22	0-2	0	
	1	74	19.29	19.12	19.22		0	
	36	0	19.25	18.97	19.28		0	
	64QAM	36	18	19.32	19.10	19.13	0-3	0
		36	37	19.28	19.16	19.19		0
		75	0	19.25	19.10	19.28		0
		1	0	19.21	18.91	19.15		0
256QAM	1	36	19.09	19.19	19.16	0-5	0	
	1	74	19.26	19.16	19.18		0	
	36	0	19.23	18.92	19.27		0	
	36	18	19.32	19.07	19.15		0	
	36	37	19.27	19.12	19.19		0	
	75	0	19.22	19.09	19.31		0	



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 57 of 164	

Table 9-48
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) - 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	18.97	18.80	19.23	0	0	
	1	25	19.13	18.95	19.25		0	
	1	49	18.88	18.76	19.27		0	
	16QAM	25	0	19.21	19.00	19.29	0-1	0
		25	12	19.30	19.13	19.10		0
		25	25	19.24	19.14	19.13		0
		64QAM	50	0	19.22	19.06	19.27	0-2
1			0	19.31	19.16	19.25	0	
1			25	19.25	19.20	19.31	0	
256QAM			1	49	19.30	19.25	19.27	0-2
	25		0	19.23	19.00	19.25	0	
	25		12	19.30	19.14	19.29	0	
	64QAM		25	25	19.22	19.09	19.11	0-3
		50	0	19.24	19.13	19.24	0	
		1	0	19.15	18.91	19.13	0	
		256QAM	1	25	19.33	19.17	19.19	0-5
1			49	19.10	19.02	19.10	0	
25			0	19.20	18.97	19.23	0	
16QAM			25	12	19.32	19.14	19.12	0-3
	25		25	19.25	19.15	19.15	0	
	50		0	19.30	19.09	19.29	0	
	256QAM		1	0	19.15	19.03	19.15	0-5
		1	25	19.16	19.29	19.19	0	
		1	49	19.12	19.11	19.21	0	
		64QAM	25	0	19.24	19.06	19.28	0-5
25			12	19.11	19.22	19.09	0	
25			25	19.27	19.16	19.15	0	
16QAM			50	0	19.30	19.12	19.27	0-5

Table 9-49
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) - 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	19.11	18.91	19.28	0	0	
	1	12	19.20	19.07	19.30		0	
	1	24	19.18	19.06	19.23		0	
	16QAM	12	0	19.22	19.02	19.29	0-1	0
		12	6	19.28	19.11	19.17		0
		12	13	19.26	19.17	19.13		0
		64QAM	25	0	19.27	19.10	19.14	0-2
1			0	19.22	19.31	19.29	0	
1			12	19.29	19.30	19.24	0	
256QAM			1	24	19.23	19.19	19.30	0-3
	12		0	19.10	19.06	19.28	0	
	12		6	19.13	19.20	19.13	0	
	16QAM		12	13	19.24	19.22	19.17	0-5
		25	0	19.26	19.13	19.14	0	
		1	0	19.13	19.19	19.31	0	
		64QAM	1	12	19.20	19.25	19.24	0-5
1			24	19.21	19.32	19.25	0	
12			0	19.27	19.06	19.10	0	
256QAM			12	6	19.10	19.23	19.14	0-5
	12		13	19.11	19.18	19.16	0	
	25		0	19.28	19.13	19.32	0	
	16QAM		1	0	19.14	19.07	19.19	0-5
		1	12	19.15	19.26	19.24	0	
		1	24	19.14	19.27	19.25	0	
		256QAM	12	0	19.27	19.09	19.23	0-5
12			6	19.31	19.18	19.14	0	
12			13	19.32	19.21	19.13	0	
64QAM			25	0	19.26	19.17	19.18	0-5



FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 58 of 164	

Table 9-50
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) - 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	19.16	18.94	19.13	0	0
	1	7	19.18	19.08	19.29		0
	1	14	19.17	19.05	19.24		0
	8	0	19.22	19.03	19.10	0-1	0
	8	4	19.27	19.15	19.11		0
	8	7	19.26	19.10	19.14		0
16QAM	15	0	19.24	19.11	19.11	0-1	0
	1	0	19.24	19.30	19.29		0
	1	7	19.27	19.25	19.32		0
	8	14	19.25	19.14	19.29	0-2	0
	8	0	19.23	19.13	19.21		0
	8	4	19.11	19.24	19.24		0
64QAM	8	7	19.10	19.19	19.20	0-2	0
	15	0	19.25	19.14	19.14		0
	1	0	19.14	19.20	19.19		0-2
	1	7	19.19	19.25	19.20	0	
	1	14	19.27	19.29	19.24	0	
	256QAM	8	0	19.24	19.08	19.12	0-3
8		4	19.30	19.22	19.16	0	
8		7	19.10	19.16	19.19	0	
15		0	19.32	19.15	19.12	0-5	0
1		0	19.30	19.13	19.24		0
1		7	19.29	19.24	19.16		0
256QAM	1	14	19.19	19.25	19.15	0-5	0
	8	0	19.28	19.08	19.10		0
	8	4	19.09	19.19	19.17		0
	8	7	19.32	19.21	19.18	0-5	0
	15	0	19.30	19.20	19.17		0

Table 9-51
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode) – 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	19.10	18.91	19.21	0	0	
	1	2	19.17	19.02	19.25		0	
	1	5	19.13	19.00	19.16		0	
	3	0	19.10	18.87	19.18	0-1	0	
	3	2	19.16	19.01	19.23		0	
	3	3	19.10	18.99	19.19		0	
16QAM	6	0	19.17	19.10	19.21	0-1	0	
	1	0	19.22	19.21	19.29		0	
	1	2	19.29	19.19	19.30		0-1	0
	1	5	19.19	19.11	19.25	0		
	3	0	19.27	19.12	19.10	0		
	64QAM	3	2	19.12	19.24	19.20	0-2	0
3		3	19.24	19.14	19.19	0		
6		0	19.14	19.12	19.13	0		
256QAM		1	0	19.12	19.14	19.16	0-2	0
		1	2	19.10	19.09	19.25		0
		1	5	19.15	19.25	19.27		0-2
	3	0	19.23	19.07	19.31	0		
	3	2	19.30	19.16	19.14	0		
	256QAM	3	3	19.27	19.14	19.17	0-3	0
6		0	19.20	19.04	19.31	0		
1		0	19.28	19.11	19.08	0-5		0
1		2	19.13	19.24	19.19		0	
1		5	19.10	19.23	19.11		0	
256QAM		3	0	19.30	19.12	19.16	0-5	0
	3	2	19.13	19.26	19.19	0		
	3	3	19.10	19.21	19.13	0		
	6	0	19.24	19.09	19.30	0-5	0	



FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 59 of 164	

Table 9-52
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.63	21.34	21.41	0	0	
	1	50	21.48	21.37	21.54		0	
	1	99	21.45	21.42	21.57		0	
	QPSK	50	0	21.72	21.31	21.52	0-1	0
		50	25	21.54	21.40	21.56		0
		50	50	21.49	21.63	21.70		0
		100	0	21.62	21.43	21.50		0
16QAM	1	0	21.98	21.49	21.87	0-1	0	
	1	50	21.92	21.51	21.88		0	
	1	99	21.82	21.62	21.99		0	
	16QAM	50	0	21.51	21.28	21.49	0-2	0
		50	25	21.53	21.40	21.59		0
		50	50	21.50	21.38	21.65		0
		100	0	21.44	21.31	21.46		0
64QAM	1	0	21.78	21.47	21.62	0-2	0	
	1	50	21.72	21.60	21.76		0	
	1	99	21.66	21.59	21.80		0	
	64QAM	50	0	20.58	20.35	20.60	0-3	0.5
		50	25	20.58	20.48	20.69		0.5
		50	50	20.55	20.47	20.72		0.5
		100	0	20.49	20.35	20.52		0.5
256QAM	1	0	18.58	18.24	18.50	0-5	2.5	
	1	50	18.69	18.58	18.82		2.5	
	1	99	18.51	18.34	18.55		2.5	
	256QAM	50	0	18.48	18.21	18.62	0-5	2.5
		50	25	18.54	18.42	18.64		2.5
		50	50	18.53	18.37	18.68		2.5
		100	0	18.51	18.39	18.69		2.5

Table 9-53
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.10	21.14	21.36	0	0	
	1	36	21.34	21.17	21.44		0	
	1	74	21.20	21.21	21.45		0	
	QPSK	36	0	21.38	21.15	21.40	0-1	0
		36	18	21.42	21.26	21.50		0
		36	37	21.39	21.34	21.55		0
		75	0	21.42	21.25	21.45		0
16QAM	1	0	21.44	21.54	21.79	0-1	0	
	1	36	21.59	21.48	21.77		0	
	1	74	21.51	21.59	21.70		0	
	16QAM	36	0	21.34	21.14	21.40	0-2	0
		36	18	21.43	21.24	21.48		0
		36	37	21.42	21.29	21.57		0
		75	0	21.39	21.25	21.43		0
64QAM	1	0	21.46	21.45	21.60	0-2	0	
	1	36	21.61	21.48	21.64		0	
	1	74	21.44	21.61	21.76		0	
	64QAM	36	0	20.40	20.45	20.47	0-3	0.5
		36	18	20.48	20.48	20.57		0.5
		36	37	20.42	20.60	20.64		0.5
		75	0	20.48	20.54	20.48		0.5
256QAM	1	0	19.33	19.08	19.31	0-5	2.5	
	1	36	19.21	19.34	19.26		2.5	
	1	74	19.16	19.38	19.38		2.5	
	256QAM	36	0	19.39	19.18	19.29	0-5	2.5
		36	18	19.25	19.28	19.31		2.5
		36	37	19.17	19.37	19.34		2.5
		75	0	19.15	19.31	19.43		2.5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of the  ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 60 of 164	

Table 9-54
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.10	20.93	21.36	0	0
	1	25	21.30	21.14	21.42		0
	1	49	21.10	20.96	21.43		0
	25	0	21.36	21.15	21.35	0-1	0
	25	12	21.44	21.28	21.41		0
	25	25	21.35	21.22	21.49		0
16QAM	50	0	21.37	21.24	21.40	0-1	0
	1	0	21.41	21.38	21.74		0
	1	25	21.76	21.61	21.85		0
	1	49	21.46	21.38	21.86	0-2	0
	25	0	21.44	21.15	21.37		0
	25	12	21.48	21.33	21.42		0
64QAM	25	25	21.45	21.30	21.48	0-2	0
	50	0	21.42	21.28	21.41		0
	1	0	21.33	21.07	21.63		0-2
	1	25	21.56	21.41	21.60	0	
	1	49	21.25	21.24	21.51	0	
	256QAM	25	0	20.43	20.46	20.40	0-3
25		12	20.47	20.51	20.54	0.5	
25		25	20.40	20.58	20.49	0.5	
50		0	20.41	20.54	20.44	0-5	0.5
1		0	19.03	19.10	19.18		2.5
1		25	19.18	19.27	19.30		2.5
256QAM	1	49	19.01	19.19	19.21	0-5	2.5
	25	0	19.13	19.15	19.11		2.5
	25	12	19.23	19.32	19.23		2.5
	25	25	19.18	19.26	19.25	2.5	
	50	0	19.14	19.31	19.22	2.5	

Table 9-55
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.32	21.05	21.43	0	0
	1	12	21.34	21.24	21.51		0
	1	24	21.36	21.24	21.41		0
	12	0	21.45	21.25	21.52	0-1	0
	12	6	21.48	21.31	21.54		0
	12	13	21.49	21.32	21.52		0
16QAM	25	0	21.45	21.32	21.48	0-1	0
	1	0	21.66	21.55	21.76		0
	1	12	21.69	21.57	21.77		0
	1	24	21.74	21.60	21.82	0-2	0
	12	0	21.48	21.31	21.58		0
	12	6	21.57	21.38	21.61		0
64QAM	12	13	21.59	21.43	21.57	0-2	0
	25	0	21.47	21.34	21.49		0
	1	0	21.52	21.36	21.67		0
	1	12	21.59	21.41	21.66	0-3	0
	1	24	21.62	21.47	21.67		0
	12	0	20.47	20.33	20.57		0.5
256QAM	12	6	20.56	20.40	20.61	0-5	0.5
	12	13	20.57	20.44	20.57		0.5
	25	0	20.46	20.36	20.52		0.5
	1	0	19.27	19.15	19.32	0-5	2.5
	1	12	19.30	19.28	19.41		2.5
	1	24	19.35	19.24	19.38		2.5
256QAM	12	0	19.23	19.22	19.24	0-5	2.5
	12	6	19.24	19.14	19.28		2.5
	12	13	19.23	19.22	19.21		2.5
	25	0	19.23	19.10	19.32		2.5






FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 61 of 164	

Table 9-56
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.32	21.09	21.39	0	0
	1	7	21.34	21.23	21.40		0
	1	14	21.39	21.21	21.42		0
	8	0	21.45	21.16	21.42	0-1	0
	8	4	21.46	21.32	21.44		0
	8	7	21.44	21.24	21.49		0
16QAM	15	0	21.44	21.25	21.51	0-1	0
	1	0	21.67	21.48	21.77		0
	1	7	21.61	21.53	21.78		0
	1	14	21.76	21.63	21.83	0-2	0
	8	0	21.54	21.29	21.55		0
	8	4	21.59	21.39	21.62		0
64QAM	8	7	21.55	21.43	21.60	0-2	0
	15	0	21.47	21.28	21.52		0
	1	0	21.60	21.35	21.65		0-2
	1	7	21.53	21.40	21.61	0	
	1	14	21.64	21.48	21.63	0	
	256QAM	8	0	20.48	20.52	20.50	0-3
8		4	20.55	20.63	20.54	0.5	
8		7	20.53	20.60	20.48	0.5	
15		0	20.51	20.58	20.50	0-5	0.5
1		0	19.28	19.30	19.15		2.5
1		7	19.29	19.38	19.32		2.5
256QAM	1	14	19.33	19.47	19.21	0-5	2.5
	8	0	19.26	19.28	19.30		2.5
	8	4	19.32	19.40	19.33		2.5
	8	7	19.27	19.37	19.28	2.5	
	15	0	19.25	19.34	19.28	2.5	

Table 9-57
LTE Band 25 (PCS) Measured Plimit for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 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	21.23	21.06	21.28	0	0	
	1	2	21.37	21.20	21.34		0	
	1	5	21.26	21.15	21.28		0	
	3	0	21.26	21.05	21.30	0-1	0	
	3	2	21.31	21.15	21.37		0	
	3	3	21.28	21.09	21.32		0	
16QAM	6	0	21.38	21.22	21.38	0-1	0	
	1	0	21.63	21.37	21.71		0	
	1	2	21.70	21.56	21.71		0	
	64QAM	1	5	21.61	21.53	21.67	0-1	0
		3	0	21.56	21.26	21.52		0
		3	2	21.56	21.39	21.56		0
256QAM		3	3	21.51	21.32	21.48	0-2	0
		6	0	21.49	21.27	21.46		0
		1	0	21.49	21.31	21.54		0-2
	1	2	21.57	21.45	21.65	0		
	1	5	21.54	21.39	21.52	0		
	256QAM	3	0	21.42	21.21	21.49	0-3	0
3		2	21.49	21.33	21.55	0		
3		3	21.46	21.33	21.51	0		
256QAM		6	0	20.48	20.54	20.48	0-5	0.5
		1	0	19.21	19.27	19.24		2.5
		1	2	19.33	19.39	19.34		2.5
	256QAM	1	5	19.23	19.40	19.26	0-5	2.5
		3	0	19.26	19.28	19.28		2.5
		3	2	19.30	19.44	19.33		2.5
256QAM		3	3	19.25	19.35	19.32	2.5	
		6	0	19.15	19.25	19.19	2.5	

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the  Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 62 of 164	

9.4.7

LTE Band 30

Table 9-58

LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

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	23.84	0	0
	1	25	23.81		0
	1	49	23.83		0
	25	0	22.65	0-1	1
	25	12	22.88		1
	25	25	22.68		1
16QAM	50	0	22.68	0-1	1
	1	0	22.74		1
	1	25	22.95		1
	1	49	23.00	0-2	1
	25	0	21.91		2
	25	12	21.82		2
64QAM	25	25	21.57	0-2	2
	50	0	21.80		2
	1	0	21.48		0-2
	1	25	21.58	2	
	1	49	21.60	0-3	
	25	0	20.52		3
25	12	20.61	3		
256QAM	25	25	20.45	0-3	3
	50	0	20.48		3
	1	0	18.50		0-5
	1	25	18.75	5	
	1	49	18.73	5	
	25	0	18.60	0-5	5
25	12	18.76	5		
25	25	18.60	5		
50	0	18.73	5		

Table 9-59

LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 5 MHz Bandwidth

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	23.72	0	0	
	1	12	23.79		0	
	1	24	23.70		0	
	12	0	22.67	0-1	1	
	12	6	22.78		1	
	12	13	22.74		1	
16QAM	25	0	22.70	0-1	1	
	1	0	22.81		1	
	1	12	22.99		0-1	1
	1	24	23.00	1		
	12	0	22.00	0-2		2
	12	6	21.81		2	
12	13	21.67	2			
64QAM	25	0	21.90	0-2	2	
	1	0	21.55		0-2	2
	1	12	21.60			2
	1	24	21.67	0-3		2
	12	0	20.61		3	
	12	6	20.64		3	
256QAM	12	13	20.50	0-3	3	
	25	0	20.58		3	
	1	0	18.60		0-5	5
	1	12	18.85	5		
	1	24	18.83	5		
	12	0	18.70	0-5	5	
12	6	18.84	5			
12	13	18.64	5			
25	0	18.82	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: A3LSMN986W	 PCTEST Proud to be part of  Siemens	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 63 of 164	




Table 9-60
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

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	19.26	0	0
	1	25	19.10		0
	1	49	19.11		0
	25	0	19.27	0-1	0
	25	12	19.31		0
	25	25	19.12		0
16QAM	50	0	19.24	0-1	0
	1	0	19.66		0
	1	25	19.62		0
	1	49	19.63	0-2	0
	25	0	19.21		0
	25	12	19.29		0
64QAM	25	25	19.15	0-2	0
	50	0	19.17		0
	1	0	19.44		0
	1	25	19.45	0-3	0
	1	49	19.36		0
	25	0	19.25		0
256QAM	25	12	19.28	0-3	0
	25	25	19.14		0
	50	0	19.23		0
	1	0	18.62	0-5	1
	1	25	18.86		1
	1	49	18.64		1
25	0	18.83	1		
25	12	18.84	1		
25	25	18.66	1		
	50	0	18.72		1

Table 9-61
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

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	19.09	0	0
	1	12	19.10		0
	1	24	19.03		0
	12	0	19.20	0-1	0
	12	6	19.17		0
	12	13	19.14		0
16QAM	25	0	19.14	0-1	0
	1	0	19.48		0
	1	12	19.46		0
	1	24	19.33	0-2	0
	12	0	19.26		0
	12	6	19.22		0
64QAM	12	13	19.20	0-2	0
	25	0	19.15		0
	1	0	19.30		0
	1	12	19.42	0-3	0
	1	24	19.26		0
	12	0	19.27		0
256QAM	12	6	19.22	0-3	0
	12	13	19.17		0
	25	0	19.12		0
	1	0	18.77	0-5	1
	1	12	18.85		1
	1	24	18.73		1
12	0	18.69	1		
12	6	18.71	1		
12	13	18.63	1		
	25	0	18.68		1

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: A3LSMN986W	 PCTEST <small> proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 64 of 164

9.4.8

LTE Band 7

Table 9-62
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]		
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)				
Conducted Power [dBm]									
QPSK	1	0	22.96	22.89	23.11	0	0		
	1	50	23.24	23.06	23.05		0		
	1	99	23.21	22.95	22.94		0		
	16QAM	50	0	22.09	21.95	22.06	0-1	1	
		50	25	22.33	22.10	22.10		1	
		50	50	22.28	22.08	22.04		1	
		64QAM	100	0	22.07	22.07	22.02	0-1	1
1			0	22.07	22.13	22.28	1		
1			50	22.36	22.37	22.30	1		
256QAM			1	99	22.24	22.21	22.21	0-2	1
	50		0	21.27	20.97	21.06	2		
	50		25	21.45	21.14	21.16	2		
	QPSK		50	50	21.35	21.10	21.12	0-2	2
		100	0	21.23	21.05	21.02	2		
		1	0	20.62	20.58	21.26	2		
		16QAM	1	50	20.75	20.65	21.00	0-2	2
1			99	20.63	21.14	20.80	2		
50			0	19.62	19.46	20.11	3		
64QAM			50	25	19.65	19.60	19.91	0-3	3
	50		50	19.73	19.90	19.85	3		
	100		0	19.67	19.59	19.80	3		
	256QAM		1	0	17.96	17.86	18.07	0-5	5
		1	50	18.37	18.08	18.27	5		
		1	99	17.93	17.96	18.00	5		
		QPSK	50	0	18.47	18.28	17.99	0-5	5
50			25	18.58	18.25	18.17	5		
50			50	18.41	18.15	18.02	5		
16QAM			100	0	18.52	18.21	18.03	0-5	5
	1		0	22.83	22.78	22.71	0		0
	1		36	23.01	22.98	22.71			0
	QPSK		1	74	22.96	22.95		22.72	0
		36	0	22.06	22.04	21.87	0-1	1	
		36	18	22.32	22.12	21.90		1	
		16QAM	36	37	22.36	21.98		21.94	0-1
75			0	21.99	22.08	21.82	1		
1			0	22.01	22.20	22.38	0-1	1	
1			36	22.27	22.16	22.46		0-1	1
1	74		22.19	21.94	22.38	0-2			1
64QAM	36		0	21.22	21.12		20.89		0-2
	36		18	21.20	21.16		20.92	0-2	
	36	37	21.14	21.05	20.97	0-2	2		
	256QAM	75	0	21.22	21.09		20.84		0-2
		1	0	20.52	20.41		21.34	0-2	
		1	36	20.95	20.62	21.04	0-3		
		QPSK	1	74	20.91	21.16			20.72
36			0	19.70	19.25	19.86		0-3	3
36			18	19.84	19.50	19.71	0-3		3
16QAM			36	37	19.96	19.82			19.48
	75		0	19.77	19.41	19.59		0-5	3
	1		0	18.29	17.93	17.99	0-5		5
	64QAM		1	36	18.34	17.99			18.25
		1	74	18.23	17.78	18.15		0-5	5
		36	0	18.25	18.15	17.81	0-5		5
		256QAM	36	18	18.23	18.09			17.86
36			37	18.13	17.99	17.88		0-5	5
75			0	18.15	18.02	17.85	5		

Table 9-63
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]		
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)				
Conducted Power [dBm]									
QPSK	1	0	22.83	22.78	22.71	0	0		
	1	36	23.01	22.98	22.71		0		
	1	74	22.96	22.95	22.72		0		
	16QAM	36	0	22.06	22.04	21.87	0-1	1	
		36	18	22.32	22.12	21.90		1	
		36	37	22.36	21.98	21.94		1	
		64QAM	75	0	21.99	22.08	21.82	0-1	1
1			0	22.01	22.20	22.38	0-1		1
1			36	22.27	22.16	22.46			0-2
256QAM			1	74	22.19	21.94		22.38	
	36		0	21.22	21.12	20.89	0-2	2	
	36		18	21.20	21.16	20.92		0-2	2
	QPSK		36	37	21.14	21.05			20.97
		75	0	21.22	21.09	20.84	0-2		2
		1	0	20.52	20.41	21.34		0-2	2
		16QAM	1	36	20.95	20.62			21.04
1			74	20.91	21.16	20.72	0-3		2
36			0	19.70	19.25	19.86		0-3	3
64QAM			36	18	19.84	19.50			19.71
	36		37	19.96	19.82	19.48	0-3		3
	75		0	19.77	19.41	19.59		0-5	3
	256QAM		1	0	18.29	17.93			17.99
		1	36	18.34	17.99	18.25	0-5		5
		1	74	18.23	17.78	18.15		0-5	5
		QPSK	36	0	18.25	18.15			17.81
36			18	18.23	18.09	17.86	0-5		5
36			37	18.13	17.99	17.88		0-5	5
16QAM			75	0	18.15	18.02			17.85



FCC ID: A3LSMN986W	 PCTEST "Proba la test partea de telecomunicatii"	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 65 of 164

Table 9-64
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
Conducted Power [dBm]							
QPSK	1	0	22.75	22.95	22.88	0	0
	1	25	23.00	22.98	22.82		0
	1	49	23.15	22.95	22.77		0
	25	0	21.99	22.11	21.88	0-1	1
	25	12	22.24	22.05	21.91		1
	25	25	22.38	22.01	21.97		1
16QAM	50	0	21.99	21.98	21.86	0-1	1
	1	0	21.98	22.53	22.56		1
	1	25	22.42	22.65	22.59		1
	1	49	22.59	22.59	22.41	0-2	1
	25	0	21.08	21.17	20.92		2
	25	12	21.35	21.11	20.95		2
64QAM	25	25	21.46	21.04	21.01	0-2	2
	50	0	21.17	20.96	20.83		2
	1	0	20.98	20.76	21.20		0-2
	1	25	21.03	21.00	20.94	2	
	1	49	20.97	21.39	20.73	2	
	256QAM	25	0	19.89	19.67	19.91	0-3
25		12	19.96	19.87	19.81	3	
25		25	19.93	20.06	19.67	3	
50		0	19.87	19.75	19.69	0-5	3
1		0	18.30	18.23	17.88		5
1		25	18.42	18.42	18.18		5
256QAM	1	49	18.35	17.97	18.03	0-5	5
	25	0	18.29	18.05	17.84		5
	25	12	18.04	18.04	17.90		5
	25	25	18.16	17.91	17.90	5	
	50	0	18.18	17.97	17.84	5	

Table 9-65
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
Conducted Power [dBm]							
QPSK	1	0	22.75	22.97	22.82	0	0
	1	12	22.71	22.96	22.83		0
	1	24	22.93	22.89	22.75		0
	12	0	21.81	22.08	21.97	0-1	1
	12	6	21.98	22.05	22.03		1
	12	13	22.12	21.99	21.96		1
16QAM	25	0	21.89	22.03	21.99	0-1	1
	1	0	22.04	22.37	22.45		1
	1	12	22.26	22.32	22.41		1
	1	24	22.49	22.30	22.39	0-2	1
	12	0	20.97	21.11	21.05		2
	12	6	21.14	21.13	21.07		2
64QAM	12	13	21.28	21.04	21.07	0-2	2
	25	0	20.98	21.03	20.98		2
	1	0	20.80	20.88	21.18		0-2
	1	12	21.04	21.01	21.03	2	
	1	24	21.05	21.21	20.96	2	
	256QAM	12	0	19.94	19.73	19.75	0-3
12		6	20.09	19.88	19.79	3	
12		13	20.02	19.67	19.71	3	
25		0	19.98	19.77	19.53	0-5	3
1		0	18.52	18.54	18.40		5
1		12	18.40	18.54	18.38		5
256QAM	1	24	18.38	18.41	18.34	0-5	5
	12	0	18.29	18.08	17.94		5
	12	6	18.28	18.05	17.98		5
	12	13	18.25	17.99	17.91	5	
	25	0	18.25	18.01	17.91	5	




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 66 of 164	

Table 9-66
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)			
			Conducted Power [dBm]					
QPSK	1	0	19.42	19.00	18.83	0	0	
	1	50	19.30	18.88	18.73		0	
	1	99	19.21	18.80	18.75		0	
	QPSK	50	0	19.39	19.18	18.94	0-1	0
		50	25	19.41	19.03	18.95		0
		50	50	19.28	19.03	18.94		0
		100	0	19.36	18.98	18.91		0
1		0	19.90	19.32	19.16	0		
16QAM	1	50	19.89	19.12	19.14	0-1	0	
	1	99	19.71	19.08	18.95		0	
	50	0	19.50	19.21	18.97		0	
	16QAM	50	25	19.50	19.12	19.03	0-2	0
		50	50	19.36	19.05	19.00		0
		100	0	19.40	19.08	18.94		0
		1	0	19.46	19.44	19.16		0
64QAM	1	50	19.34	19.31	19.19	0-2	0	
	1	99	19.17	19.15	19.21		0	
	50	0	19.40	19.24	19.06		0	
	64QAM	50	25	19.52	19.13	19.08	0-3	0
		50	50	19.39	19.11	19.00		0
		100	0	19.29	19.08	19.01		0
		1	0	18.38	18.46	18.10		0-5
1	50	18.62	18.42	18.28	1			
1	99	18.19	18.10	17.91	1			
50	0	18.37	18.21	17.93	1			
50	25	18.51	18.10	18.08	1			
50	50	18.28	17.98	17.92	1			
100	0	18.41	18.10	18.01	1			

Table 9-67
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)			
			Conducted Power [dBm]					
QPSK	1	0	19.41	18.98	18.81	0	0	
	1	36	19.29	18.87	18.75		0	
	1	74	19.16	18.79	18.72		0	
	QPSK	36	0	19.47	19.06	18.83	0-1	0
		36	18	19.36	18.94	18.81		0
		36	37	19.30	18.90	18.86		0
		75	0	19.27	18.87	18.77		0
1		0	19.41	19.55	19.26	0		
16QAM	1	36	19.30	19.45	19.22	0-1	0	
	1	74	19.26	19.37	19.19		0	
	36	0	19.47	19.08	18.90		0	
	16QAM	36	18	19.37	19.00	18.88	0-2	0
		36	37	19.32	18.95	18.95		0
		75	0	19.28	18.94	18.80		0
		1	0	19.74	19.07	18.98		0
64QAM	1	36	19.67	18.94	19.00	0-2	0	
	1	74	19.54	18.80	18.97		0	
	36	0	19.24	19.14	18.95		0	
	64QAM	36	18	19.42	19.04	18.94	0-3	0
		36	37	19.38	19.00	19.00		0
		75	0	19.34	18.98	18.86		0
		1	0	18.48	18.41	18.12		0-5
1	36	18.71	18.45	18.25	1			
1	74	18.56	18.32	18.05	1			
36	0	18.49	18.43	18.08	1			
36	18	18.68	18.34	18.11	1			
36	37	18.61	18.19	18.11	1			
75	0	18.54	18.31	18.08	1			





FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 67 of 164	

Table 9-68
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.32	19.01	18.85	0	0
	1	25	19.25	18.91	18.78		0
	1	49	19.22	18.89	18.84		0
	25	0	19.48	19.07	18.80	0-1	0
	25	12	19.41	19.01	18.82		0
	25	25	19.33	18.95	18.85		0
16QAM	50	0	19.30	18.93	18.75	0-1	0
	1	0	19.53	19.46	18.84		0
	1	25	19.43	19.48	18.87		0
	1	49	19.38	19.37	18.88	0-2	0
	25	0	19.58	19.19	18.85		0
	25	12	19.51	19.06	18.84		0
64QAM	25	25	19.45	19.01	18.91	0-2	0
	50	0	19.35	18.99	18.73		0
	1	0	19.80	19.26	19.14		0-2
	1	25	19.67	19.17	19.21	0	
	1	49	19.51	19.08	19.24	0	
	256QAM	25	0	19.21	19.22	18.90	0-3
25		12	19.47	19.13	18.94	0	
25		25	19.46	19.08	18.98	0	
50		0	19.25	19.03	18.79	0-5	0
1		0	18.30	18.40	18.01		1
1		25	18.61	18.51	18.21		1
256QAM	1	49	18.41	18.18	17.96	0-5	1
	25	0	18.54	18.42	18.02		1
	25	12	18.54	18.36	18.09		1
	25	25	18.55	18.25	18.05	1	
	50	0	18.46	18.31	18.02	1	

Table 9-69
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.46	19.09	18.76	0	0
	1	12	19.43	19.01	18.77		0
	1	24	19.42	18.96	18.76		0
	12	0	19.48	19.05	18.86	0-1	0
	12	6	19.52	19.01	18.92		0
	12	13	19.46	18.98	18.83		0
16QAM	25	0	19.44	18.98	18.81	0-1	0
	1	0	19.70	19.58	19.05		0
	1	12	19.78	19.60	19.03		0
	1	24	19.72	19.55	19.05	0-2	0
	12	0	19.54	19.24	18.95		0
	12	6	19.58	19.18	19.00		0
64QAM	12	13	19.53	19.13	18.98	0-2	0
	25	0	19.42	19.09	18.94		0
	1	0	19.78	19.43	18.80		0-2
	1	12	19.81	19.37	18.77	0	
	1	24	19.79	19.35	18.80	0	
	256QAM	12	0	18.95	19.10	18.93	0-3
12		6	19.11	19.04	18.97	0	
12		13	19.24	18.97	18.95	0	
25		0	18.98	19.04	18.91	0-5	0
1		0	18.54	18.56	18.22		1
1		12	18.61	18.58	18.31		1
256QAM	1	24	18.59	18.33	18.22	0-5	1
	12	0	18.51	18.45	18.09		1
	12	6	18.61	18.44	18.19		1
	12	13	18.56	18.38	18.10	1	
	25	0	18.51	18.39	18.07	1	

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 68 of 164	

9.4.9

LTE Band 41

Table 9-70

LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth											
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]		
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)				
Conducted Power [dBm]											
QPSK	1	0	24.02	23.86	23.87	23.94	24.03	0	0		
	1	50	23.92	23.83	23.97	24.04	24.38		0		
	1	99	23.84	23.96	23.96	23.67	24.00		0		
	QPSK	50	0	22.96	22.83	22.83	23.17	23.11	0-1	1	
		50	25	23.08	23.00	23.13	23.18	23.37		1	
		50	50	23.08	23.00	23.15	23.24	23.34		1	
16QAM		100	0	23.01	22.92	23.09	23.22	23.33	0-1	1	
		1	0	23.07	22.89	22.72	22.72	22.86		22.80	1
		1	50	23.08	22.85	22.83	23.13	23.20		23.20	1
	16QAM	1	99	22.90	23.03	22.67	23.13	23.12	0-2	1	
		50	0	21.99	21.88	22.01	22.24	22.18		2	
		50	25	22.12	21.99	22.10	22.28	22.42		2	
64QAM		100	0	22.05	21.95	22.10	22.24	22.39	0-2	2	
		1	0	21.80	21.61	21.59	21.70	21.75		2	
		1	50	21.83	21.78	21.60	21.99	22.02		2	
	64QAM	1	99	21.87	21.78	21.53	21.49	21.86	0-3	2	
		50	0	21.15	20.89	21.05	21.23	21.23		3	
		50	25	21.14	20.99	21.19	21.25	21.44		3	
256QAM		100	0	21.07	21.07	21.11	21.24	21.32	0-5	3	
		1	0	21.07	20.93	21.07	21.31	21.31		3	
		1	0	18.68	18.71	18.77	18.98	18.81		5	
	256QAM	1	50	18.92	18.52	19.03	18.88	19.16	0-5	5	
		1	99	18.76	18.48	18.74	18.66	19.08		5	
		50	0	18.99	18.93	19.12	19.37	19.15		5	
256QAM		50	25	19.22	19.10	19.24	19.47	19.50	5		
		50	50	19.08	19.11	19.26	19.29	19.47	5		
		100	0	19.07	18.92	19.08	19.27	19.33	5		

Table 9-71

LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)			
Conducted Power [dBm]										
QPSK	1	0	23.82	23.88	23.67	24.17	23.96	0	0	
	1	36	23.80	23.98	23.97	24.23	24.18		0	
	1	74	23.86	23.75	23.89	23.93	24.16		0	
	QPSK	36	0	22.85	23.00	22.95	23.27	23.12	0-1	1
		36	18	22.93	23.08	23.05	23.40	23.28		1
		36	37	22.92	23.00	23.08	23.27	23.28		1
16QAM		75	0	22.91	23.01	23.07	23.32	23.27	0-1	1
		1	0	23.14	23.20	23.06	23.45	23.20		1
		1	36	23.14	23.28	23.30	23.50	23.40		1
	16QAM	1	74	23.18	23.01	23.18	23.20	23.36	0-2	1
		36	0	21.80	21.96	21.91	22.25	22.10		2
		36	18	21.92	22.06	22.00	22.34	22.28		2
64QAM		36	37	21.90	21.95	22.06	22.22	22.26	0-2	2
		75	0	21.88	22.06	22.07	22.32	22.25		2
		1	0	21.79	21.86	21.76	22.11	21.91		2
	64QAM	1	36	21.86	21.97	22.05	22.27	22.16	0-2	2
		1	74	21.91	21.75	21.95	21.99	22.13		2
		36	0	20.86	21.03	20.98	21.34	21.19		3
256QAM		36	18	20.97	21.16	21.08	21.42	21.33	0-3	3
		36	37	20.99	21.01	21.15	21.28	21.30		3
		75	0	20.92	21.07	21.08	21.34	21.31		3
	256QAM	1	0	18.67	18.92	18.81	19.21	18.94	0-5	5
		1	36	18.90	19.04	19.12	19.35	19.27		5
		1	74	18.84	18.81	18.99	19.05	19.22		5
256QAM		36	0	18.81	19.04	18.98	19.31	19.16	0-5	5
		36	18	19.00	19.16	19.12	19.42	19.35		5
		36	37	18.97	19.07	19.19	19.31	19.31		5
	75	0	18.94	19.10	19.13	19.37	19.30	5		



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 69 of 164

Table 9-72
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	23.70	23.56	23.57	23.93	23.92	0	0
	1	25	23.68	23.74	23.89	24.11	24.21		0
	1	49	23.72	23.53	23.66	23.77	23.90		0
	25	0	22.78	22.82	22.81	23.07	23.17	0-1	1
	25	12	22.81	22.95	22.99	23.21	23.27		1
	25	25	22.78	22.84	22.89	23.09	23.14		1
16QAM	50	0	22.73	22.86	22.91	23.14	23.17	0-1	1
	1	0	23.05	22.98	22.94	23.20	23.30		1
	1	25	23.02	23.16	23.20	23.44	23.45		1
	1	49	23.03	22.86	23.00	23.14	23.21	0-2	1
	25	0	21.79	21.84	21.85	22.06	22.13		2
	25	12	21.82	22.00	22.04	22.22	22.32		2
64QAM	25	25	21.80	21.86	21.94	22.12	22.19	0-2	2
	50	0	21.77	21.95	21.94	22.16	22.21		2
	1	0	21.68	21.65	21.62	21.87	21.88		0-2
	1	25	21.64	21.85	21.85	22.05	22.12	2	
	1	49	21.75	21.61	21.71	21.85	21.83	2	
	256QAM	25	0	20.81	20.86	20.85	21.08	21.13	0-3
25		12	20.83	21.01	21.06	21.23	21.32	3	
25		25	20.83	20.87	20.95	21.12	21.18	3	
50		0	20.79	20.97	21.01	21.21	21.30	0-5	3
1		0	18.45	18.62	18.62	18.89	18.98		5
1		25	18.66	18.96	18.94	19.21	19.30		5
256QAM	1	49	18.50	18.63	18.67	18.90	18.95	0-5	5
	25	0	18.81	18.90	18.92	19.15	19.24		5
	25	12	18.84	19.03	19.10	19.27	19.36		5
	25	25	18.73	18.92	18.99	19.17	19.23	0-5	5
	50	0	18.78	18.98	19.03	19.21	19.29		5

Table 9-73
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	23.62	23.81	23.80	24.06	24.18	0	0
	1	12	23.65	23.87	23.89	24.12	24.22		0
	1	24	23.72	23.82	23.88	24.08	24.16		0
	12	0	22.79	22.92	22.96	23.20	23.25	0-1	1
	12	6	22.83	22.98	23.01	23.23	23.32		1
	12	13	22.82	22.95	22.98	23.24	23.28		1
16QAM	25	0	22.82	23.00	23.03	23.23	23.29	0-1	1
	1	0	22.99	23.16	23.18	23.44	23.50		1
	1	12	22.97	23.18	23.26	23.51	23.60		1
	1	24	23.00	23.15	23.23	23.44	23.53	0-2	1
	12	0	21.76	21.97	21.93	22.15	22.24		2
	12	6	21.80	22.01	22.05	22.28	22.32		2
64QAM	12	13	21.79	21.98	21.99	22.23	22.27	0-2	2
	25	0	21.86	22.10	22.06	22.31	22.40		2
	1	0	21.68	21.85	21.85	22.13	22.17		0-2
	1	12	21.71	21.91	21.94	22.17	22.22	2	
	1	24	21.78	21.87	21.95	22.14	22.18	2	
	256QAM	12	0	20.73	20.99	20.95	21.21	21.25	0-3
12		6	20.77	21.03	21.09	21.26	21.35	3	
12		13	20.73	21.01	21.04	21.24	21.30	3	
25		0	20.75	21.00	21.06	21.28	21.36	0-5	3
1		0	18.70	18.95	18.94	19.20	19.26		5
1		12	18.73	18.97	18.99	19.24	19.30		5
256QAM	1	24	18.75	18.96	19.02	19.21	19.26	0-5	5
	12	0	18.88	19.10	19.12	19.32	19.37		5
	12	6	18.95	19.14	19.17	19.43	19.48		5
	12	13	18.87	19.10	19.14	19.36	19.40	0-5	5
	25	0	18.84	19.04	19.07	19.30	19.41		5



FCC ID: A3LSMN986W	 PCTEST Thought to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 70 of 164

Table 9-74
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)			
Conducted Power [dBm]										
QPSK	1	0	21.08	21.30	21.13	21.28	21.14	0	0	
	1	50	21.02	21.17	21.41	21.38	21.44		0	
	1	99	21.03	21.22	21.08	21.01	21.41		0	
	16QAM	50	0	21.17	21.23	21.22	21.37	21.32	0-1	0
		50	25	21.25	21.30	21.49	21.48	21.59		0
		50	50	21.25	21.29	21.25	21.34	21.49		0
		100	0	21.20	21.20	21.32	21.37	21.40	0-2	0
1		0	21.23	21.47	21.55	21.47	21.25	0		
1		50	21.26	21.48	21.76	21.75	21.81	0		
1		99	21.35	21.44	21.46	21.40	21.60	0		
64QAM	50	0	21.17	21.30	21.27	21.38	21.35	0-2	0	
	50	25	21.31	21.31	21.37	21.40	21.52		0	
	50	50	21.21	21.62	21.36	21.35	21.50		0	
	100	0	21.15	21.23	21.33	21.40	21.44	0-3	0	
	1	0	20.98	21.11	21.39	21.43	21.00		0	
	1	50	21.01	21.18	21.60	21.76	21.38		0	
	1	99	21.07	21.25	21.37	21.37	21.37		0	
256QAM	50	0	20.59	20.63	20.89	20.91	20.84	0-5	0	
	50	25	20.66	20.78	20.81	21.04	21.00		0	
	50	50	20.71	20.77	20.91	20.98	21.02		0	
	100	0	20.66	20.69	20.94	20.92	21.00	0-5	0	
	1	0	18.88	19.00	18.91	19.00	19.20		2	
	1	50	19.23	19.38	19.14	19.17	19.51		2	
	1	99	19.11	19.07	19.14	19.10	19.36		2	
256QAM	50	0	19.01	19.09	19.25	19.34	19.22	0-5	2	
	50	25	19.20	19.25	19.45	19.40	19.46		2	
	50	50	19.16	19.05	19.34	19.44	19.39		2	
	100	0	19.15	19.17	19.28	19.28	19.40		2	

Table 9-75
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth										
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)			
Conducted Power [dBm]										
QPSK	1	0	21.18	21.14	21.12	21.28	21.24	0	0	
	1	36	21.24	21.32	21.35	21.36	21.52		0	
	1	74	21.19	21.07	21.17	21.11	21.42		0	
	16QAM	36	0	21.25	21.23	21.24	21.39	21.42	0-1	0
		36	18	21.35	21.39	21.41	21.53	21.63		0
		36	37	21.32	21.27	21.42	21.43	21.62		0
		75	0	21.24	21.25	21.40	21.39	21.50	0-1	0
1		0	21.30	20.97	21.21	21.50	21.30	0		
1		36	21.33	21.17	21.51	21.57	21.67	0		
1		74	21.32	20.92	21.29	21.44	21.58	0		
64QAM	36	0	21.29	21.26	21.37	21.27	21.45	0-2	0	
	36	18	21.41	21.46	21.48	21.45	21.69		0	
	36	37	21.39	21.33	21.51	21.35	21.66		0	
	75	0	21.24	21.27	21.38	21.36	21.49	0-2	0	
	1	0	21.33	20.81	21.30	21.10	21.38		0	
	1	36	21.49	21.09	21.64	21.38	21.74		0	
	1	74	21.50	20.86	21.45	21.07	21.62		0	
256QAM	36	0	20.68	20.61	20.76	20.71	20.89	0-3	0	
	36	18	20.80	20.78	20.86	20.86	21.12		0	
	36	37	20.79	20.65	20.90	20.82	21.05		0	
	75	0	20.70	20.67	20.81	20.80	20.97	0-5	0	
	1	0	19.02	19.07	19.13	18.71	19.21		2	
	1	36	19.28	18.97	19.44	18.89	19.59		2	
	1	74	19.19	19.06	19.26	18.66	19.55		2	
256QAM	36	0	18.70	18.77	18.84	18.84	19.25	0-5	2	
	36	18	18.87	18.90	18.96	18.98	19.28		2	
	36	37	18.86	18.78	18.97	18.90	19.20		2	
	75	0	18.79	18.84	18.92	18.84	19.26		2	



FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 71 of 164	

Table 9-76
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	21.26	21.18	21.16	21.23	21.48	0	0
	1	25	21.17	21.39	21.29	21.49	21.64		0
	1	49	21.35	21.17	21.37	21.24	21.33		0
	25	0	21.34	21.31	21.39	21.43	21.46	0-1	0
	25	12	21.35	21.46	21.56	21.61	21.60		0
	25	25	21.33	21.36	21.50	21.49	21.48		0
16QAM	50	0	21.27	21.35	21.46	21.51	21.52	0-1	0
	1	0	21.32	20.98	21.55	21.50	21.40		0
	1	25	21.38	21.22	21.63	21.61	21.63		0
	1	49	21.57	21.02	21.51	21.33	21.75	0-2	0
	25	0	21.38	21.28	21.39	21.49	21.29		0
	25	12	21.38	21.37	21.61	21.64	21.46		0
64QAM	25	25	21.41	21.25	21.45	21.53	21.32	0-2	0
	50	0	21.27	21.31	21.45	21.54	21.32		0
	1	0	21.47	20.94	21.46	21.12	21.43		0-2
	1	25	21.60	21.25	21.64	21.44	21.51	0	
	1	49	21.48	21.00	21.43	21.15	21.51	0	
	256QAM	25	0	20.68	20.73	20.77	20.80	21.53	0-3
25		12	20.71	20.89	20.94	20.97	20.93	0	
25		25	20.66	20.83	20.81	20.88	20.86	0	
50		0	20.63	20.85	20.88	20.88	20.88	0-5	0
1		0	19.15	18.76	18.98	19.22	18.86		2
1		25	19.03	18.89	19.29	19.54	19.23		2
256QAM	1	49	19.14	18.71	19.06	19.27	19.01	0-5	2
	25	0	19.20	19.23	19.32	19.30	19.40		2
	25	12	19.25	19.41	19.49	19.49	19.52		2
	25	25	19.19	19.27	19.35	19.33	19.41	2	
	50	0	19.21	19.33	19.37	19.44	19.46	2	

Table 9-77
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	21.35	21.39	21.48	21.37	21.52	0	0
	1	12	21.28	21.40	21.49	21.46	21.53		0
	1	24	21.40	21.39	21.55	21.39	21.55		0
	12	0	21.37	21.39	21.49	21.49	21.53	0-1	0
	12	6	21.40	21.49	21.57	21.57	21.58		0
	12	13	21.37	21.46	21.54	21.53	21.56		0
16QAM	25	0	21.38	21.47	21.53	21.61	21.60	0-1	0
	1	0	21.43	21.49	21.82	21.46	21.63		0
	1	12	21.44	21.49	21.90	21.48	21.69		0
	1	24	21.50	21.56	21.88	21.49	21.53	0-2	0
	12	0	21.30	21.45	21.49	21.59	21.51		0
	12	6	21.37	21.47	21.51	21.71	21.61		0
64QAM	12	13	21.32	21.44	21.51	21.67	21.58	0-2	0
	25	0	21.35	21.43	21.46	21.58	21.57		0
	1	0	21.21	21.29	21.30	21.57	21.39		0-2
	1	12	21.22	21.32	21.40	21.66	21.41	0	
	1	24	21.26	21.30	21.36	21.59	21.39	0	
	256QAM	12	0	20.77	20.86	20.97	20.92	20.97	0-3
12		6	20.80	20.91	21.00	21.04	21.05	0	
12		13	20.80	20.89	20.96	20.96	21.02	0	
25		0	20.70	20.86	20.90	20.96	20.94	0-5	0
1		0	19.28	18.62	19.47	19.17	19.55		2
1		12	19.25	18.64	19.47	19.24	19.55		2
256QAM	1	24	19.33	18.62	19.49	19.19	19.53	0-5	2
	12	0	19.12	19.32	19.25	19.35	19.30		2
	12	6	19.18	19.35	19.32	19.43	19.43		2
	12	13	19.13	19.32	19.32	19.39	19.43	2	
	25	0	19.19	19.34	19.38	19.45	19.45	2	



FCC ID: A3LSMN986W	 PCTEST Thought to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 72 of 164

Table 9-78

LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	22.15	22.10	22.04	22.19	22.00	0	0
	1	50	22.17	22.11	22.32	22.34	22.59		0
	1	99	22.14	22.15	22.17	21.96	22.28		0
	50	0	22.16	22.25	22.27	22.30	22.36	0-1	0
	50	25	22.24	22.34	22.50	22.44	22.54		0
	50	50	22.25	22.32	22.40	22.33	22.50		0
100	0	22.24	22.25	22.34	22.33	22.50	0-1	0	
1	0	22.22	22.52	22.16	22.68	22.24		0	
1	50	22.25	22.43	22.59	22.70	22.48		0	
16QAM	1	99	22.20	22.47	22.38	22.30	22.37	0-1	0
	50	0	21.52	21.75	21.73	21.75	21.73		0
	50	25	21.72	21.82	21.90	21.82	22.03		0
	50	50	21.62	21.74	21.82	21.94	21.97	0-2	0
	100	0	21.62	21.71	21.78	21.80	21.87		0
	1	0	22.23	21.72	21.62	22.18	21.70		0
64QAM	1	50	22.18	21.70	21.75	22.35	21.81	0-2	0
	1	99	22.23	21.52	21.75	22.00	21.78		0
	50	0	20.67	20.58	20.70	20.72	20.78		1
	50	25	20.75	20.70	20.90	20.87	20.96	0-3	1
	50	50	20.71	20.68	20.81	20.92	21.01		1
	100	0	20.69	20.65	20.88	20.89	20.94		1
256QAM	1	0	19.01	19.05	19.08	19.06	19.23	0-5	3
	1	50	19.04	19.14	19.50	19.03	19.46		3
	1	99	19.02	19.03	19.22	19.14	19.40		3
	50	0	19.14	19.07	19.25	19.15	19.23	0-5	3
	50	25	19.24	19.08	19.36	19.42	19.46		3
	50	50	19.12	19.10	19.34	19.24	19.40		3
100	0	19.14	19.10	19.22	19.28	19.43	3		

Table 9-79

LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	22.16	22.11	22.11	22.24	22.21	0	0
	1	36	22.23	22.31	22.38	22.37	22.51		0
	1	74	22.21	22.06	22.22	22.21	22.47		0
	36	0	22.25	22.23	22.34	22.36	22.42	0-1	0
	36	18	22.34	22.38	22.41	22.49	22.63		0
	36	37	22.33	22.31	22.44	22.41	22.62		0
75	0	22.27	22.25	22.41	22.42	22.50	0		
16QAM	1	0	22.32	22.02	22.31	22.45	22.33	0-1	0
	1	36	22.41	22.23	22.54	22.64	22.67		0
	1	74	22.41	22.01	22.35	22.29	22.56		0
	36	0	21.73	21.68	21.78	21.73	21.92	0-2	0
	36	18	21.83	21.82	21.88	21.88	22.14		0
	36	37	21.81	21.76	21.89	21.77	22.09		0
75	0	21.66	21.67	21.80	21.81	21.95	0		
64QAM	1	0	21.79	21.51	21.73	21.81	21.76	0-2	0
	1	36	21.90	21.72	22.03	21.75	22.13		0
	1	74	21.87	21.51	21.85	21.67	22.05		0
	36	0	20.74	20.62	20.76	20.76	20.89	0-3	1
	36	18	20.82	20.78	20.88	20.88	21.13		1
	36	37	20.79	20.65	20.92	20.83	21.10		1
75	0	20.70	20.71	20.82	20.82	20.99	1		
256QAM	1	0	19.11	19.18	19.24	19.15	19.18	0-5	3
	1	36	19.29	19.28	19.49	19.10	19.19		3
	1	74	19.21	19.10	19.42	19.11	19.24		3
	36	0	19.12	19.15	19.25	19.27	19.27	0-5	3
	36	18	19.27	19.35	19.36	19.17	19.37		3
	36	37	19.26	19.21	19.40	19.10	19.23		3
75	0	19.21	19.25	19.36	19.09	19.28	3		



FCC ID: A3LSMN986W	 PCTEST Thought to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 73 of 164

Table 9-80



LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	22.48	22.16	22.26	22.24	22.37	0	0
	1	25	22.34	22.40	22.55	22.50	22.65		0
	1	49	22.55	22.12	22.21	22.27	22.63		0
	25	0	22.35	22.27	22.39	22.46	22.53	0-1	0
	25	12	22.34	22.44	22.48	22.60	22.62		0
	25	25	22.35	22.36	22.44	22.51	22.51		0
	50	0	22.30	22.37	22.44	22.54	22.60		0
16QAM	1	0	22.60	22.06	22.31	22.35	22.71	0-1	0
	1	25	22.45	22.29	22.61	22.63	22.67		0
	1	49	22.41	22.04	22.33	22.39	22.53		0
	25	0	21.86	21.65	21.84	21.88	21.86	0-2	0
	25	12	21.81	21.83	22.02	22.03	22.10		0
	25	25	21.79	21.76	21.90	21.98	21.94		0
	50	0	21.68	21.79	21.87	21.90	21.95		0
64QAM	1	0	22.07	21.56	21.95	21.77	22.16	0-2	0
	1	25	22.16	21.63	22.26	21.83	22.43		0
	1	49	22.17	21.68	22.01	21.80	22.04		0
	25	0	20.69	20.75	20.76	20.83	20.82	0-3	1
	25	12	20.74	20.93	20.88	20.95	21.02		1
	25	25	20.72	20.78	20.81	20.87	20.85		1
	50	0	20.69	20.83	20.87	20.88	20.95		1
256QAM	1	0	18.84	18.65	19.03	19.29	19.04	0-5	3
	1	25	19.07	18.89	19.29	19.41	19.33		3
	1	49	18.89	18.75	19.08	19.32	19.08		3
	25	0	19.20	19.26	19.36	19.35	19.40	0-5	3
	25	12	19.27	19.43	19.47	19.29	19.57		3
	25	25	19.23	19.29	19.35	19.34	19.44		3
	50	0	19.22	19.35	19.37	19.23	19.50		3

Table 9-81

LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
Conducted Power [dBm]									
QPSK	1	0	22.31	22.33	22.48	22.39	22.58	0	0
	1	12	22.32	22.42	22.48	22.54	22.57		0
	1	24	22.38	22.40	22.53	22.43	22.61		0
	12	0	22.34	22.36	22.48	22.52	22.56	0-1	0
	12	6	22.37	22.48	22.53	22.63	22.64		0
	12	13	22.37	22.44	22.56	22.57	22.61		0
	25	0	22.35	22.41	22.55	22.60	22.61		0
16QAM	1	0	22.51	22.51	22.62	22.44	22.64	0-1	0
	1	12	22.52	22.55	22.67	22.50	22.69		0
	1	24	22.59	22.56	22.68	22.52	22.66		0
	12	0	21.74	21.82	21.85	22.03	21.96	0-2	0
	12	6	21.77	21.88	21.97	22.10	22.01		0
	12	13	21.78	21.83	21.92	22.02	21.98		0
	25	0	21.72	21.88	21.90	22.02	21.94		0
64QAM	1	0	21.79	21.68	21.74	21.97	21.78	0-2	0
	1	12	21.82	21.77	21.82	22.11	21.86		0
	1	24	21.88	21.68	21.77	22.00	21.78		0
	12	0	20.84	20.83	20.91	20.96	20.97	0-3	1
	12	6	20.81	20.95	21.04	20.99	21.08		1
	12	13	20.79	20.88	21.02	20.98	21.05		1
	25	0	20.76	20.89	20.95	21.00	20.98		1
256QAM	1	0	19.26	18.87	19.45	19.29	19.57	0-5	3
	1	12	19.32	18.96	19.40	19.35	19.56		3
	1	24	19.31	18.95	19.43	19.32	19.56		3
	12	0	19.15	19.32	19.26	19.35	19.39	0-5	3
	12	6	19.16	19.39	19.36	19.46	19.42		3
	12	13	19.15	19.37	19.32	19.40	19.37		3
	25	0	19.17	19.36	19.37	19.53	19.50		3

FCC ID: A3LSMN986W	 PCTEST Thought to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 74 of 164

9.5 NR Conducted Powers

9.5.1

NR Band n71

Table 9-82
NR Band n71 Measured P_{max} for all DSI - 20 MHz Bandwidth

NR Band n71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	25.03	0	0
	1	53	24.97		0
	1	104	24.79		0
	50	0	24.59	0-0.5	0.5
	50	28	24.92	0	0
	50	56	24.27	0-0.5	0.5
	100	0	24.48		0.5
DFT-s-OFDM QPSK	1	1	25.07	0	0
	1	53	25.10		0
	1	104	24.77		0
	50	0	24.25	0-1	1
	50	28	24.95	0	0
	50	56	23.91	0-1	1
	100	0	24.04		1
DFT-s-OFDM 16QAM	1	1	24.19	0-1	1
CP-OFDM QPSK	1	1	23.43	0-1.5	1.5

Note: NR Band n71 at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, 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 9-83
NR Band n71 Measured P_{max} for all DSI - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	25.19	0	0
	1	40	25.08		0
	1	77	25.00		0
	36	0	24.66	0-0.5	0.5
	36	22	24.99	0	0
	36	43	24.40	0-0.5	0.5
	75	0	24.54		0.5
DFT-s-OFDM QPSK	1	1	25.17	0	0
	1	40	25.04		0
	1	77	24.91		0
	36	0	24.25	0-1	1
	36	22	25.01	0	0
	36	43	23.96	0-1	1
	75	0	24.15		1
DFT-s-OFDM 16QAM	1	1	24.17	0-1	1
CP-OFDM QPSK	1	1	23.58	0-1.5	1.5

Note: NR Band n71 at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, 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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 75 of 164

Table 9-84
NR Band n71 Measured P_{max} for all DSI - 10 MHz Bandwidth

NR Band n71 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			133600 (668 MHz)	136100 (680.5 MHz)	138600 (693 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	25.07	25.14	24.97	0	0	
	1	26	25.35	25.37	25.16		0	
	1	50	25.00	24.96	24.80		0	
		25	0	24.73	24.62	24.41	0-0.5	0.5
		25	14	25.22	24.99	24.83	0	0
		25	27	24.54	24.37	24.20	0-0.5	0.5
		50	0	24.64	24.55	24.36		0.5
DFT-s-OFDM QPSK	1	1	24.84	25.12	24.97	0	0	
	1	26	25.11	25.19	24.95		0	
	1	50	24.86	24.94	24.77		0	
		25	0	24.37	24.20	24.00	0-1	1
		25	14	25.08	24.99	24.79	0	0
		25	27	24.18	23.99	23.80	0-1	1
		50	0	24.05	24.17	23.94		1
DFT-s-OFDM 16QAM	1	1	23.64	24.14	23.93	0-1	1	
CP-OFDM QPSK	1	1	23.03	23.67	23.41	0-1.5	1.5	

Table 9-85
NR Band n71 Measured P_{max} for all DSI - 5 MHz Bandwidth

NR Band n71 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			133100 (665.5 MHz)	136100 (680.5 MHz)	139100 (695.5 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	25.03	25.22	24.99	0	0	
	1	13	25.22	25.08	24.84		0	
	1	23	25.12	25.00	24.73		0	
		12	0	24.58	24.62	24.33	0-0.5	0.5
		12	7	25.13	25.06	24.79	0	0
		12	13	24.64	24.47	24.20	0-0.5	0.5
		25	0	24.63	24.55	24.34		0.5
DFT-s-OFDM QPSK	1	1	24.81	25.13	24.94	0	0	
	1	13	25.00	25.08	24.92		0	
	1	23	24.92	24.97	24.71		0	
		12	0	24.11	24.14	23.96	0-1	1
		12	7	24.98	25.03	24.80	0	0
		12	13	24.18	24.10	23.83	0-1	1
		25	0	24.07	24.05	23.82		1
DFT-s-OFDM 16QAM	1	1	23.73	24.11	23.96	0-1	1	
CP-OFDM QPSK	1	1	23.14	23.61	23.43	0-1.5	1.5	

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 76 of 164

9.5.2

NR Band n66

Table 9-86

NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.94	23.73	23.74	0	0
	1	53	23.88	23.61	23.77		0
	1	104	23.89	23.67	23.72		0
	50	0	23.42	23.20	23.31	0-0.5	0.5
	50	28	23.81	23.61	23.69	0	0
	50	56	23.42	23.12	23.22	0-0.5	0.5
DFT-s-OFDM QPSK	100	0	23.41	23.18	23.30	0-0.5	0.5
	1	1	23.97	23.79	23.72	0	0
	1	53	23.86	23.85	23.66		0
	1	104	23.78	23.70	23.67		0
	50	0	22.81	22.57	22.71	0-1	1
	50	28	23.81	23.56	23.64	0	0
50	56	22.82	22.48	22.62	0-1	1	
DFT-s-OFDM 16QAM	100	0	22.79	22.51	22.69	0-1	1
CP-OFDM QPSK	1	1	22.28	23.06	23.14	0-1	1
CP-OFDM QPSK	1	1	22.52	22.11	22.42	0-1.5	1.5

Table 9-87

NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.06	23.82	24.02	0	0
	1	40	23.98	23.76	23.88		0
	1	77	24.01	23.82	23.87		0
	36	0	23.60	23.33	23.58	0-0.5	0.5
	36	22	23.97	23.75	23.82	0	0
	36	43	23.59	23.37	23.56	0-0.5	0.5
DFT-s-OFDM QPSK	75	0	23.55	23.31	23.57	0-0.5	0.5
	1	1	24.05	23.91	24.01	0	0
	1	40	24.01	23.78	23.91		0
	1	77	24.02	23.82	23.93		0
	36	0	23.03	22.77	22.96	0-1	1
	36	22	23.92	23.72	24.05	0	0
36	43	22.91	22.70	22.92	0-1	1	
DFT-s-OFDM 16QAM	75	0	22.91	22.76	22.89	0-1	1
CP-OFDM QPSK	1	1	23.10	22.86	23.08	0-1	1
CP-OFDM QPSK	1	1	22.43	22.14	22.48	0-1.5	1.5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 77 of 164

Table 9-88
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.04	23.73	23.96	0	0
	1	26	24.02	23.68	24.00		0
	1	50	23.97	23.71	23.97		0
	25	0	23.60	23.32	23.61	0-0.5	0.5
	25	14	24.02	23.70	24.02	0	0
	25	27	23.59	23.32	23.52	0-0.5	0.5
DFT-s-OFDM QPSK	1	1	24.02	23.91	24.13	0	0
	1	26	24.22	23.94	24.19		0
	1	50	23.95	23.77	24.08		0
	25	0	23.00	22.71	22.94	0-1	1
	25	14	24.02	23.75	23.93	0	0
	25	27	22.93	22.65	22.89	0-1	1
DFT-s-OFDM 16QAM	1	1	23.17	22.89	23.03	0-1	1
CP-OFDM QPSK	1	1	22.31	22.12	22.37	0-1.5	1.5

Table 9-89
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.92	23.61	23.88	0	0
	1	13	23.97	23.69	23.92		0
	1	23	23.94	23.72	23.87		0
	12	0	23.61	23.38	23.44	0-0.5	0.5
	12	7	23.96	23.75	23.92	0	0
	12	13	23.52	23.27	23.50	0-0.5	0.5
DFT-s-OFDM QPSK	1	1	24.08	23.91	24.05	0	0
	1	13	24.17	23.92	24.07		0
	1	23	24.08	23.77	24.08		0
	12	0	22.94	22.78	22.96	0-1	1
	12	7	24.06	23.80	23.93	0	0
	12	13	22.97	22.67	22.88	0-1	1
DFT-s-OFDM 16QAM	1	1	23.06	22.81	23.02	0-1	1
CP-OFDM QPSK	1	1	22.44	22.12	22.37	0-1.5	1.5



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 78 of 164

Table 9-90
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	19.78	19.55	19.58	0	0.0
	1	53	19.69	19.56	19.76		0.0
	1	104	19.66	19.39	19.66		0.0
	50	0	19.58	19.39	19.64	0-0.5	0.0
	50	28	19.54	19.30	19.52	0	0.0
	50	56	19.57	19.37	19.53	0-0.5	0.0
	100	0	19.52	19.40	19.55		0.0
DFT-s-OFDM QPSK	1	1	19.64	19.43	19.38	0	0.0
	1	53	20.00	19.85	19.99		0.0
	1	104	19.63	19.56	19.53		0.0
	50	0	19.64	19.44	19.63	0-1	0.0
	50	28	19.60	19.41	19.55	0	0.0
	50	56	19.54	19.40	19.57	0-1	0.0
	100	0	19.59	19.35	19.57		0.0
DFT-s-OFDM 16QAM	1	1	19.26	19.29	19.22	0-1	0.0
CP-OFDM QPSK	1	1	19.60	19.49	19.48	0-1.5	0.0

Table 9-91
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	19.67	19.51	19.72	0	0.0
	1	40	19.62	19.44	19.63		0.0
	1	77	19.74	19.43	19.64		0.0
	36	0	19.69	19.55	19.72	0-0.5	0.0
	36	22	19.66	19.46	19.65	0	0.0
	36	43	19.69	19.45	19.70	0-0.5	0.0
	75	0	19.67	19.49	19.71		0.0
DFT-s-OFDM QPSK	1	1	19.82	19.55	19.78	0	0.0
	1	40	19.68	19.49	19.72		0.0
	1	77	19.75	19.52	19.74		0.0
	36	0	19.72	19.53	19.77	0-1	0.0
	36	22	19.66	19.43	19.63	0	0.0
	36	43	19.67	19.48	19.72	0-1	0.0
	75	0	19.66	19.53	19.69		0.0
DFT-s-OFDM 16QAM	1	1	19.18	19.08	19.29	0-1	0.0
CP-OFDM QPSK	1	1	19.73	19.59	19.65	0-1.5	0.0



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 79 of 164

Table 9-92
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	19.75	19.47	19.64	0	0.0	
	1	26	19.78	19.59	19.68		0.0	
	1	50	19.63	19.46	19.57		0.0	
		25	0	19.73	19.54	19.67	0-0.5	0.0
		25	14	19.74	19.50	19.64	0	0.0
		25	27	19.72	19.48	19.68	0-0.5	0.0
		50	0	19.70	19.53	19.62		0.0
DFT-s-OFDM QPSK	1	1	19.80	19.57	19.78	0	0.0	
	1	26	19.92	19.71	19.86		0.0	
	1	50	19.84	19.55	19.66		0.0	
		25	0	19.72	19.51	19.62	0-1	0.0
		25	14	19.69	19.48	19.67	0	0.0
		25	27	19.66	19.42	19.63	0-1	0.0
		50	0	19.71	19.48	19.68		0.0
DFT-s-OFDM 16QAM	1	1	19.20	19.05	19.23	0-1	0.0	
CP-OFDM QPSK	1	1	19.76	19.47	19.67	0-1.5	0.0	

Table 9-93
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	19.68	19.38	19.67	0	0.0	
	1	13	19.73	19.55	19.64		0.0	
	1	23	19.65	19.47	19.60		0.0	
		12	0	19.66	19.51	19.56	0-0.5	0.0
		12	7	19.65	19.50	19.57	0	0.0
		12	13	19.60	19.40	19.52	0-0.5	0.0
		25	0	19.64	19.52	19.55		0.0
DFT-s-OFDM QPSK	1	1	19.63	19.64	19.57	0	0.0	
	1	13	19.67	19.68	19.62		0.0	
	1	23	19.58	19.63	19.58		0.0	
		12	0	19.64	19.49	19.53	0-1	0.0
		12	7	19.70	19.45	19.59	0	0.0
		12	13	19.65	19.47	19.50	0-1	0.0
		25	0	19.66	19.48	19.57		0.0
DFT-s-OFDM 16QAM	1	1	19.98	19.02	19.87	0-1	0.0	
CP-OFDM QPSK	1	1	19.41	19.42	19.41	0-1.5	0.0	




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 80 of 164

Table 9-94

NR Band n66 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.12	20.02	19.85	0	0.0
	1	53	20.02	19.77	19.86		0.0
	1	104	19.89	19.78	19.82		0.0
	50	0	19.97	19.85	19.96	0-0.5	0.0
	50	28	19.98	19.77	19.86	0	0.0
	50	56	20.00	19.73	19.88	0-0.5	0.0
	100	0	19.99	19.82	19.88		0.0
DFT-s-OFDM QPSK	1	1	20.07	20.02	20.07	0	0.0
	1	53	20.09	19.92	19.99		0.0
	1	104	19.99	20.01	19.89		0.0
	50	0	20.01	19.85	19.91	0-1	0.0
	50	28	19.92	19.77	19.85	0	0.0
	50	56	19.95	19.77	19.83	0-1	0.0
	100	0	20.00	19.78	19.89		0.0
DFT-s-OFDM 16QAM	1	1	20.22	20.25	20.13	0-1	0.0
CP-OFDM QPSK	1	1	19.95	19.92	20.17	0-1.5	0.0

Table 9-95

NR Band n66 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.20	20.12	20.24	0	0.0
	1	40	20.03	19.91	20.09		0.0
	1	77	20.21	19.98	20.11		0.0
	36	0	20.18	20.01	20.23	0-0.5	0.0
	36	22	20.16	19.98	20.12	0	0.0
	36	43	20.16	19.94	20.19	0-0.5	0.0
	75	0	20.21	19.97	20.18		0.0
DFT-s-OFDM QPSK	1	1	20.33	20.17	20.31	0	0.0
	1	40	20.27	20.01	20.18		0.0
	1	77	20.26	20.09	20.26		0.0
	36	0	20.27	20.02	20.23	0-1	0.0
	36	22	20.18	19.93	20.13	0	0.0
	36	43	20.23	19.99	20.15	0-1	0.0
	75	0	20.23	20.01	20.17		0.0
DFT-s-OFDM 16QAM	1	1	20.35	20.15	20.38	0-1	0.0
CP-OFDM QPSK	1	1	20.17	20.04	20.12	0-1.5	0.0



FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your equipment</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 81 of 164

Table 9-96



NR Band n66 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.22	20.04	20.16	0	0.0
	1	26	20.15	20.01	20.15		0.0
	1	50	20.16	19.94	20.21		0.0
	25	0	20.20	20.04	20.20	0-0.5	0.0
	25	14	20.22	19.99	20.21	0	0.0
	25	27	20.27	19.96	20.18	0-0.5	0.0
	50	0	20.27	19.98	20.16		0.0
DFT-s-OFDM QPSK	1	1	20.31	20.07	20.24	0	0.0
	1	26	20.50	20.28	20.41		0.0
	1	50	20.29	20.06	20.22		0.0
	25	0	20.24	20.03	20.18	0-1	0.0
	25	14	20.26	20.00	20.22	0	0.0
	25	27	20.22	19.98	20.20	0-1	0.0
	50	0	20.23	20.03	20.23		0.0
DFT-s-OFDM 16QAM	1	1	20.36	20.09	20.26	0-1	0.0
CP-OFDM QPSK	1	1	20.17	19.98	20.18	0-1.5	0.0

Table 9-97

NR Band n66 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.19	19.94	20.21	0	0.0
	1	13	20.13	19.98	20.17		0.0
	1	23	20.14	19.87	20.17		0.0
	12	0	20.22	20.03	20.24	0-0.5	0.0
	12	7	20.21	19.99	20.20	0	0.0
	12	13	20.24	19.95	20.23	0-0.5	0.0
	25	0	20.20	19.96	20.21		0.0
DFT-s-OFDM QPSK	1	1	20.38	20.09	20.34	0	0.0
	1	13	20.34	20.06	20.33		0.0
	1	23	20.31	20.04	20.28		0.0
	12	0	20.25	20.02	20.17	0-1	0.0
	12	7	20.27	20.08	20.22	0	0.0
	12	13	20.23	20.01	20.07	0-1	0.0
	25	0	20.26	20.06	20.13		0.0
DFT-s-OFDM 16QAM	1	1	20.38	20.12	19.68	0-1	0.0
CP-OFDM QPSK	1	1	20.13	19.88	20.16	0-1.5	0.0

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 82 of 164	

9.5.3

NR Band n41

Table 9-98

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			518598 (2592.99 MHz)	Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.79	0	0.0	
	1	137	24.89		0.0	
	1	271	24.86		0.0	
	135	0	24.71	0-0.5	0.5	
	135	69	24.84	0	0.0	
	135	138	24.47	0-0.5	0.5	
	270	0	24.56		0.5	
DFT-s-OFDM QPSK	1	1	24.98	0	0.0	
	1	137	24.85		0.0	
	1	271	24.62		0.0	
	135	0	23.91	0-1	1.0	
	135	69	24.63	0	0.0	
	135	138	23.83	0-1	1.0	
	270	0	23.92		1.0	
DFT-s-OFDM 16QAM	1	1	24.34	0-1	1.0	
CP-OFDM QPSK	1	1	23.75	0-1.5	1.5	

Note: NR Band n41 at 100 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, 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 9-99

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.35	25.07	0	0
	1	123	24.66	24.80		0
	1	243	24.64	24.81		0
	120	0	24.08	24.24	0-0.5	0.5
	120	63	24.56	24.65	0	0
	120	125	24.17	24.29	0-0.5	0.5
	243	0	24.29	24.24		0.5
DFT-s-OFDM QPSK	1	1	24.30	24.98	0	0
	1	123	24.58	24.85		0
	1	243	24.53	24.77		0
	120	0	23.42	23.75	0-1	1
	120	63	24.59	24.64	0	0
	120	125	23.54	23.74	0-1	1
	243	0	23.50	23.72		1
DFT-s-OFDM 16QAM	1	1	23.72	23.61	0-1	1
CP-OFDM QPSK	1	1	23.07	23.65	0-1.5	1.5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 83 of 164

Table 9-100

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 80 MHz Bandwidth

NR Band n41 80 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.47	24.88	0	0
	1	109	24.78	24.86		0
	1	215	24.73	24.81		0
	108	0	24.21	24.44	0-0.5	0.5
	108	55	24.69	24.76	0	0
	108	109	24.42	24.45	0-0.5	0.5
DFT-s-OFDM QPSK	1	1	24.34	24.79	0	0
	1	109	24.61	24.81		0
	1	215	24.51	24.66		0
	108	0	23.58	23.86	0-1	1
	108	55	24.65	24.83	0	0
	108	109	23.74	23.78	0-1	1
DFT-s-OFDM 16QAM	1	1	23.36	23.52	0-1	1
CP-OFDM QPSK	1	1	22.98	23.38	0-1.5	1.5

Table 9-101

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 60 MHz Bandwidth

NR Band n41 60 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.62	24.95	24.84	0	0
	1	81	24.78	25.05	25.04		0
	1	160	24.92	25.12	25.07		0
	81	0	24.25	24.77	24.73	0-0.5	0.5
	81	41	24.74	25.10	25.08	0	0
	81	81	24.55	24.72	24.69	0-0.5	0.5
DFT-s-OFDM QPSK	162	0	24.19	24.83	24.58	0-0.5	0.5
	1	1	24.64	25.24	25.03	0	0
	1	81	24.67	25.22	24.96		0
	1	160	24.96	25.03	25.11		0
	81	0	23.65	24.20	24.04	0-1	1
	81	41	24.79	25.15	24.99	0	0
DFT-s-OFDM 16QAM	81	81	23.88	24.28	24.07	0-1	1
	162	0	23.69	24.20	23.94		1
CP-OFDM QPSK	1	1	23.75	24.08	23.43	0-1	1
CP-OFDM QPSK	1	1	23.23	23.69	23.35	0-1.5	1.5




FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 84 of 164

Table 9-102

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 50 MHz Bandwidth

NR Band n41 50 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.38	24.91	24.69	0	0
	1	67	24.43	24.88	24.67		0
	1	131	24.76	24.95	24.78		0
	64	0	23.96	24.48	24.25	0-0.5	0.5
	64	35	24.42	24.91	24.65	0	0
	64	69	24.01	24.48	24.24	0-0.5	0.5
DFT-s-OFDM QPSK	1	1	24.26	24.97	25.06	0	0
	1	67	24.55	24.90	24.84		0
	1	131	24.70	24.94	25.02		0
	64	0	23.41	23.93	23.80	0-1	1
	64	35	24.56	24.95	24.81	0	0
	64	69	23.58	24.04	23.67	0-1	1
DFT-s-OFDM 16QAM	1	1	23.07	24.18	23.77	0-1	1
CP-OFDM QPSK	1	1	22.60	23.33	23.49	0-1.5	1.5

Table 9-103

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 40 MHz Bandwidth

NR Band n41 40 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
			503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.80	25.37	25.22	25.30	0	0
	1	53	24.89	25.43	25.28	25.15		0
	1	104	24.77	25.26	25.14	25.28		0
	50	0	24.54	24.95	24.60	24.89	0-0.5	0.5
	50	28	24.73	25.28	25.02	25.17	0	0
	50	56	24.49	25.00	24.63	24.89	0-0.5	0.5
DFT-s-OFDM QPSK	100	0	24.42	24.97	24.58	24.85	0-0.5	0.5
	1	1	24.85	25.49	25.39	25.11	0	0
	1	53	24.83	25.33	25.19	25.38		0
	1	104	24.92	25.28	25.26	25.13		0
	50	0	23.85	24.46	24.15	24.25	0-1	1
	50	28	24.88	25.34	25.09	25.37	0	0
50	56	23.86	24.41	24.10	24.26	0-1	1	
DFT-s-OFDM 16QAM	100	0	24.01	24.38	24.05	24.30	0-1	1
CP-OFDM QPSK	1	1	23.74	24.20	24.46	24.50	0-1	1
	1	1	23.31	23.97	23.56	23.72	0-1.5	1.5



FCC ID: A3LSMN986W	 PCTEST <small>Think to be part of the solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 85 of 164

Table 9-104

NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

NR Band n41 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]	
			501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)			
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.72	24.81	25.12	24.86	25.01	0	0	
	1	26	24.69	24.92	24.81	24.79	24.79		0	
	1	49	24.84	24.82	25.07	24.94	24.82		0	
		25	0	24.47	24.52	24.48	24.47	24.71	0-0.5	0.5
		25	13	24.77	24.87	25.28	24.76	25.03	0	0
		25	26	24.26	24.63	24.77	24.62	24.71	0-0.5	0.5
		50	0	24.36	24.67	24.54	24.43	24.53		0.5
DFT-s-OFDM QPSK	1	1	24.76	24.96	25.24	25.06	25.06	0	0	
	1	26	24.73	25.12	25.16	25.09	25.18		0	
	1	49	24.74	24.82	25.43	24.62	24.91		0	
		25	0	23.69	23.95	23.96	23.71	24.11	0-1	1
		25	13	24.66	24.88	25.08	24.87	25.15	0	0
		25	26	23.72	23.86	23.97	23.81	24.05	0-1	1
		50	0	23.78	23.94	24.11	23.84	24.08		1
DFT-s-OFDM 16QAM	1	1	23.37	23.67	23.95	23.35	23.71	0-1	1	
CP-OFDM QPSK	1	1	23.18	23.29	23.78	23.45	23.37	0-1.5	1.5	

Table 9-105

NR Band n41 Measured P_{max} for DSI = 2 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			518598 (2592.99 MHz)			
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.47	0	0.0	
	1	137	22.93		0.0	
	1	271	23.31		0.0	
		135	0	23.24	0-0.5	0.0
		135	69	23.15	0	0.0
		135	138	23.11	0-0.5	0.0
		270	0	23.05		0.0
DFT-s-OFDM QPSK	1	1	23.49	0	0.0	
	1	137	23.09		0.0	
	1	271	23.34		0.0	
		135	0	23.41	0-1	0.0
		135	69	23.29	0	0.0
		135	138	23.12	0-1	0.0
		270	0	23.40		0.0
DFT-s-OFDM 16QAM	1	1	23.38	0-1	0.0	
CP-OFDM QPSK	1	1	23.35	0-1.5	0.0	

Note: NR Band n41 at 100 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, 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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 86 of 164	

Table 9-106
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.78	23.38	0	0
	1	123	23.21	23.12		0
	1	243	23.11	23.23		0
	120	0	22.76	23.01	0-0.5	0
	120	63	22.95	23.10	0	0
	120	125	22.88	23.04	0-0.5	0
	243	0	23.05	23.08		0
DFT-s-OFDM QPSK	1	1	22.87	23.43	0	0
	1	123	23.38	23.29		0
	1	243	23.03	23.36		0
	120	0	22.72	23.19	0-1	0
	120	63	22.84	23.13	0	0
	120	125	22.91	23.21	0-1	0
	243	0	22.99	23.05		0
DFT-s-OFDM 16QAM	1	1	22.61	23.46	0-1	0
CP-OFDM QPSK	1	1	22.52	23.37	0-1.5	0

Table 9-107
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 80 MHz Bandwidth

NR Band n41 80 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.73	23.11	0	0
	1	109	22.82	23.17		0
	1	215	22.90	22.91		0
	108	0	22.87	23.20	0-0.5	0
	108	55	22.98	22.96	0	0
	108	109	23.07	23.03	0-0.5	0
	216	0	23.02	23.10		0
DFT-s-OFDM QPSK	1	1	22.79	23.16	0	0
	1	109	22.85	23.25		0
	1	215	22.79	23.06		0
	108	0	22.96	23.13	0-1	0
	108	55	22.89	23.14	0	0
	108	109	23.10	23.26	0-1	0
	216	0	22.94	23.20		0
DFT-s-OFDM 16QAM	1	1	22.75	23.14	0-1	0
CP-OFDM QPSK	1	1	22.84	23.21	0-1.5	0



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 87 of 164

Table 9-108
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 60 MHz Bandwidth

NR Band n41 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.08	23.31	23.02	0	0	
	1	81	23.02	23.40	23.29		0	
	1	160	23.21	23.19	23.12		0	
		81	0	22.91	23.31	23.22	0-0.5	0
		81	41	23.00	23.27	23.26	0	0
		81	81	23.08	23.36	23.19	0-0.5	0
		162	0	22.91	23.27	23.27		0
DFT-s-OFDM QPSK	1	1	22.73	23.28	23.11	0	0	
	1	81	23.13	23.45	23.22		0	
	1	160	23.17	23.36	23.34		0	
		81	0	22.84	23.27	23.13	0-1	0
		81	41	23.03	23.34	23.14	0	0
		81	81	23.15	23.29	23.25	0-1	0
		162	0	22.91	23.34	23.21		0
DFT-s-OFDM 16QAM	1	1	22.73	23.45	23.05	0-1	0	
CP-OFDM QPSK	1	1	22.74	23.49	23.02	0-1.5	0	

Table 9-109
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 50 MHz Bandwidth

NR Band n41 50 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]	
			504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)			
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.93	23.39	23.08	0	0	
	1	67	23.09	23.37	23.22		0	
	1	131	23.17	23.46	23.30		0	
		64	0	23.03	23.31	23.43	0-0.5	0
		64	35	22.98	23.27	23.29	0	0
		64	69	23.12	23.34	23.47	0-0.5	0
		128	0	23.06	23.37	23.42		0
DFT-s-OFDM QPSK	1	1	22.81	23.28	23.38	0	0	
	1	67	23.12	23.44	23.49		0	
	1	131	23.21	23.25	23.32		0	
		64	0	22.91	23.30	23.11	0-1	0
		64	35	23.02	23.34	23.28	0	0
		64	69	22.96	23.26	23.26	0-1	0
		128	0	22.99	23.39	23.17		0
DFT-s-OFDM 16QAM	1	1	22.89	23.47	23.43	0-1	0	
CP-OFDM QPSK	1	1	23.27	23.43	23.32	0-1.5	0	



FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 88 of 164	

Table 9-110
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 40 MHz Bandwidth

NR Band n41 40 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
			503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.43	23.35	23.42	23.50	0	0
	1	53	23.50	23.38	23.47	23.44		0
	1	104	23.32	23.21	23.34	23.35		0
	50	0	23.19	23.15	23.40	23.42	0-0.5	0
	50	28	23.27	23.25	23.37	23.36	0	0
	50	56	23.35	23.37	23.48	23.37	0-0.5	0
	100	0	23.28	23.16	23.39	23.45		0
DFT-s-OFDM QPSK	1	1	23.14	23.50	23.46	23.36	0	0
	1	53	23.31	23.34	23.43	23.38		0
	1	104	23.26	23.45	23.31	23.41		0
	50	0	23.24	23.34	23.39	23.47	0-1	0
	50	28	23.32	23.26	23.29	23.33	0	0
	50	56	23.39	23.29	23.37	23.42	0-1	0
	100	0	23.35	23.22	23.32	23.48		0
DFT-s-OFDM 16QAM	1	1	23.20	23.37	23.32	23.29	0-1	0
CP-OFDM QPSK	1	1	23.48	23.50	23.46	23.44	0-1.5	0

Table 9-111
NR Band n41 Measured P_{max} for DSI = 2 (Head) - 20 MHz Bandwidth

NR Band n41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.02	23.38	23.31	23.29	23.14	0	0
	1	26	22.99	23.29	23.44	23.41	23.28		0
	1	49	23.25	23.35	23.29	23.22	23.50		0
	25	0	22.94	23.18	23.34	23.24	23.41	0-0.5	0
	25	13	22.98	23.22	23.30	23.27	23.44	0	0
	25	26	23.13	23.27	23.42	23.38	23.39	0-0.5	0
	50	0	22.95	23.21	23.47	23.33	23.33		0
DFT-s-OFDM QPSK	1	1	22.91	23.29	23.49	23.28	23.40	0	0
	1	26	23.12	23.12	23.36	23.19	23.49		0
	1	49	23.03	22.93	23.23	23.31	23.36		0
	25	0	22.89	23.21	23.39	23.07	23.31	0-1	0
	25	13	22.93	23.30	23.26	23.14	23.24	0	0
	25	26	23.00	23.12	23.41	23.28	23.30	0-1	0
	50	0	22.96	23.17	23.32	23.25	23.43		0
DFT-s-OFDM 16QAM	1	1	23.22	23.33	23.27	23.20	23.32	0-1	0
CP-OFDM QPSK	1	1	23.28	22.89	22.97	23.35	23.09	0-1.5	0

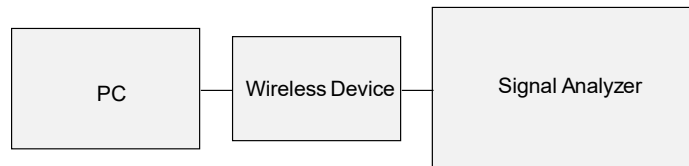


Figure 9-4
Power Measurement Setup

FCC ID: A3LSMN986W	PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 89 of 164	

9.6 WLAN Conducted Powers

Table 9-112
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	20.41	18.04	15.72	16.01
2417	2			18.37	17.66
2437	6	20.11	18.31	18.48	17.76
2457	10			18.46	17.65
2462	11	20.49	17.94	14.19	13.76

Table 9-113
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	20.43	17.84	15.89	16.11
2417	2			18.45	17.48
2437	6	20.15	18.12	18.42	17.52
2457	10			18.40	17.59
2462	11	20.01	18.21	13.67	13.58



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 90 of 164	

Table 9-114
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	18.30	17.39	17.44	16.91
5200	40	18.26	18.30	18.24	17.56
5220	44	18.18	18.25	18.16	17.44
5240	48	18.26	18.22	18.23	17.50
5260	52	18.13	18.24	18.16	17.51
5280	56	18.12	18.25	18.19	17.52
5300	60	18.18	18.30	18.28	17.63
5320	64	18.15	16.71	16.74	17.57
5500	100	17.96	17.90	17.97	17.33
5600	120	18.28	18.23	18.23	17.63
5620	124	18.22	18.26	18.17	17.56
5720	144	18.17	18.20	18.11	17.50
5745	149	18.03	18.05	17.93	17.34
5785	157	18.04	18.04	18.02	17.34
5825	165	17.74	17.78	17.73	17.98

Table 9-115
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	18.47	17.40	17.44	16.89
5200	40	18.40	18.43	18.36	17.74
5220	44	18.32	18.32	18.34	17.65
5240	48	18.23	18.31	18.31	17.68
5260	52	18.30	18.31	18.30	17.65
5280	56	18.26	18.20	18.21	17.61
5300	60	18.25	18.25	18.26	17.62
5320	64	18.12	16.49	16.52	17.46
5500	100	17.93	18.10	18.06	17.52
5600	120	17.90	18.18	18.10	17.52
5620	124	18.19	18.16	18.10	17.44
5720	144	18.42	18.32	18.27	17.65
5745	149	18.33	18.30	18.26	17.35
5785	157	18.49	18.48	18.45	17.59
5825	165	18.49	18.49	18.49	17.58



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 91 of 164	

Table 9-116
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	17.39	17.40	20.41
5200	40	18.30	18.43	21.38
5220	44	18.25	18.32	21.30
5240	48	18.22	18.31	21.28
5260	52	18.24	18.31	21.29
5280	56	18.25	18.20	21.24
5300	60	18.30	18.25	21.29
5320	64	16.71	16.49	19.61
5500	100	17.90	18.10	21.01
5600	120	18.23	18.18	21.22
5620	124	18.26	18.16	21.22
5720	144	18.20	18.32	21.27
5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5755	151	16.98	16.92	19.96
5795	159	17.00	16.84	19.93

Table 9-117
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
2412	1	15.90	15.44
2437	6	15.67	15.99
2457	10	15.43	15.83
2462	11	14.49	13.74
5GHz (80MHz) 802.11ac Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5210	42	12.01	12.99
5290	58	12.97	12.83
5530	106	12.20	12.51
5610	122	12.50	12.54
5690	138	12.61	12.62
5775	155	12.74	12.88



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 92 of 164

Table 9-118
2.4 GHz WLAN Reduced Average RF Power (RCV Active) – Ant 1

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.99	15.98	15.90
2437	6	15.76	15.76	15.67
2457	10			15.43
2462	11	15.15	15.71	14.49

Table 9-119
2.4 GHz WLAN Reduced Average RF Power (RCV Active) – Ant 2

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.30	15.85	15.44
2437	6	15.98	15.90	15.99
2457	10			15.83
2462	11	15.52	15.87	13.74

Table 9-120
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	12.01
5290	58	12.97
5530	106	12.20
5610	122	12.50
5690	138	12.61
5775	155	12.74



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 93 of 164

Table 9-121
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	12.99
5290	58	12.83
5530	106	12.51
5610	122	12.54
5690	138	12.62
5775	155	12.88

Table 9-122
5 GHz WLAN Reduced Average RF Power – MIMO

5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5210	42	12.01	12.99	15.54
5290	58	12.97	12.83	15.91
5530	106	12.20	12.51	15.37
5610	122	12.50	12.54	15.53
5690	138	12.61	12.62	15.63
5775	155	12.74	12.88	15.82

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.

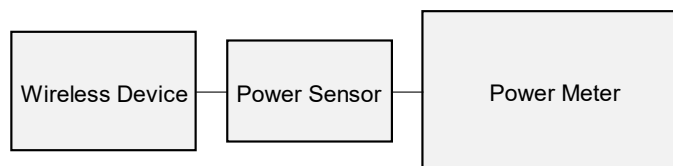




Figure 9-5
Power Measurement Setup

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 94 of 164	

9.7 Bluetooth Conducted Powers

Table 9-123
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	14.69	29.448
2441	1.0	39	15.69	37.052
2480	1.0	78	16.26	42.235
2402	2.0	0	10.45	11.096
2441	2.0	39	10.73	11.832
2480	2.0	78	10.62	11.524
2402	3.0	0	10.68	11.705
2441	3.0	39	11.41	13.836
2480	3.0	78	10.70	11.759

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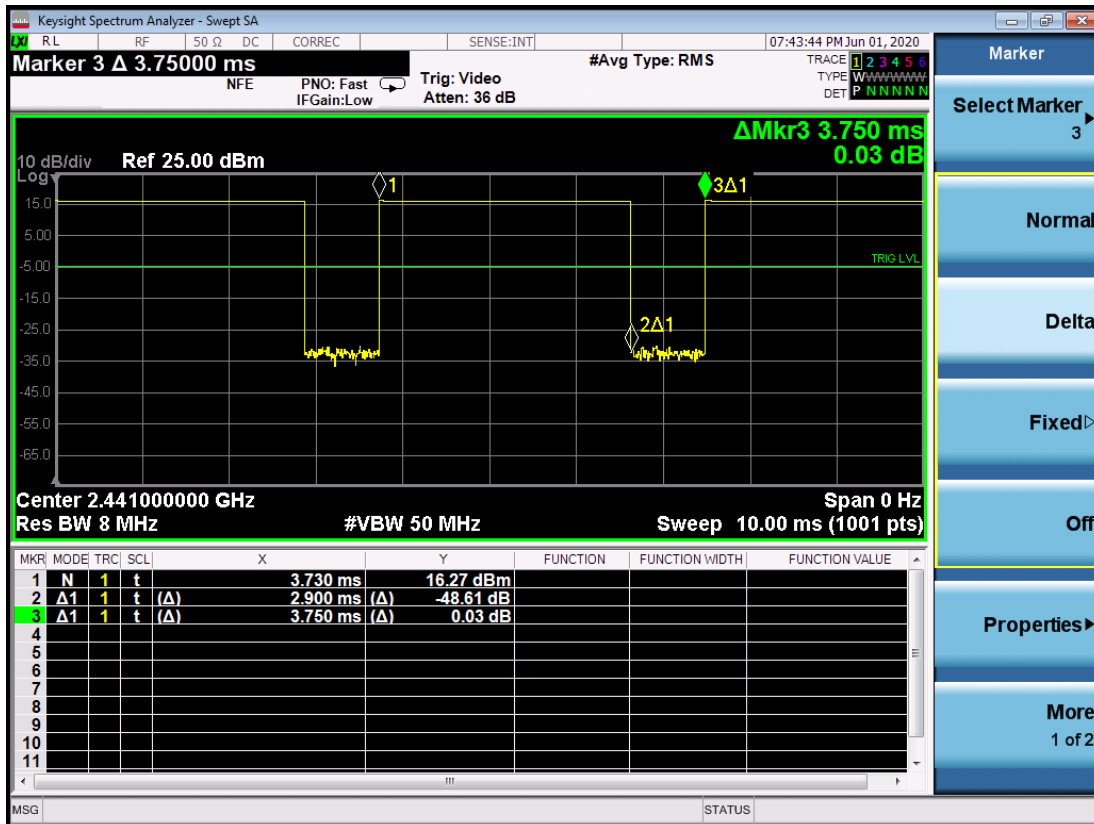


Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.90ms}{3.75ms} * 100\% = 77.3\%$$

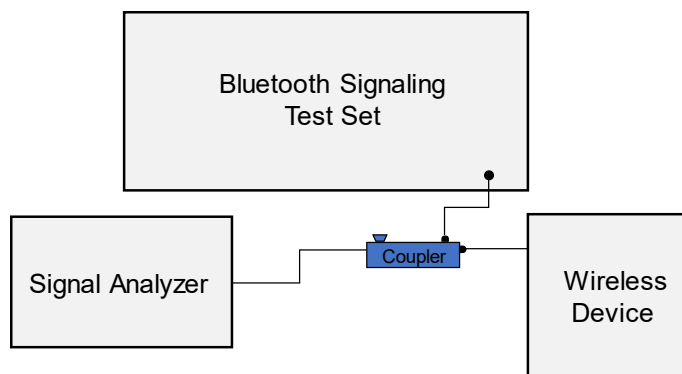


Figure 9-7
Power Measurement Setup



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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
06/03/2020	750H	20.7	680	0.867	43.915	0.888	42.305	-2.36%	3.81%
			695	0.873	43.868	0.889	42.227	-1.80%	3.89%
			700	0.874	43.850	0.889	42.201	-1.69%	3.91%
			710	0.878	43.813	0.890	42.149	-1.35%	3.95%
			750	0.893	43.671	0.894	41.942	-0.11%	4.12%
			770	0.901	43.611	0.895	41.838	0.67%	4.24%
05/13/2020	835H	20.9	785	0.907	43.563	0.896	41.760	1.23%	4.32%
			820	0.900	41.020	0.899	41.578	0.11%	-1.34%
			835	0.906	40.974	0.900	41.500	0.67%	-1.27%
05/18/2020	835H	21.6	850	0.912	40.931	0.916	41.500	-0.44%	-1.37%
			820	0.914	42.111	0.899	41.578	1.67%	1.28%
			835	0.919	42.068	0.900	41.500	2.11%	1.37%
05/13/2020	1750H	21	850	0.925	42.028	0.916	41.500	0.98%	1.27%
			1710	1.312	40.663	1.348	40.142	-2.67%	1.30%
			1720	1.318	40.656	1.354	40.126	-2.66%	1.32%
			1745	1.335	40.627	1.368	40.087	-2.41%	1.35%
			1750	1.338	40.620	1.371	40.079	-2.41%	1.35%
05/12/2020	1900H	21	1770	1.351	40.589	1.383	40.047	-2.31%	1.35%
			1850	1.404	38.969	1.400	40.000	0.29%	-2.58%
			1860	1.415	38.923	1.400	40.000	1.07%	-2.69%
			1880	1.436	38.830	1.400	40.000	2.57%	-2.93%
			1900	1.456	38.734	1.400	40.000	4.00%	-3.17%
			1905	1.461	38.710	1.400	40.000	4.36%	-3.23%
04/29/2020	2300H	23.3	1910	1.466	38.685	1.400	40.000	4.71%	-3.29%
			2300	1.683	39.993	1.670	39.500	0.78%	1.25%
			2310	1.689	39.976	1.679	39.480	0.60%	1.26%
			2320	1.696	39.961	1.687	39.460	0.53%	1.27%
			2450	1.818	38.641	1.800	39.200	1.00%	-1.43%
05/06/2020	2450H	22.2	2510	1.868	38.546	1.866	39.123	0.11%	-1.47%
			2535	1.889	38.507	1.893	39.092	-0.21%	-1.50%
			2560	1.911	38.470	1.920	39.060	-0.47%	-1.51%
			2600	1.946	38.407	1.964	39.009	-0.92%	-1.54%
05/31/2020	2450H	22.5	2400	1.750	40.729	1.756	39.289	-0.34%	3.67%
			2450	1.789	40.669	1.800	39.200	-0.61%	3.75%
			2480	1.809	40.631	1.833	39.162	-1.31%	3.75%
05/10/2020	2450H	23.8	2450	1.787	39.278	1.800	39.200	-0.72%	0.20%
			2500	1.821	39.218	1.855	39.136	-1.83%	0.21%
			2510	1.829	39.204	1.866	39.123	-1.98%	0.21%
			2535	1.848	39.176	1.893	39.092	-2.38%	0.21%
			2550	1.860	39.161	1.909	39.073	-2.57%	0.23%
			2560	1.867	39.153	1.920	39.060	-2.76%	0.24%
			2600	1.896	39.100	1.964	39.009	-3.46%	0.23%
			2650	1.935	39.023	2.018	38.945	-4.11%	0.20%
			2680	1.958	38.986	2.051	38.907	-4.53%	0.20%
			2560	1.883	39.890	1.920	39.060	-1.93%	2.12%
06/02/2020	2450H	23	2600	1.908	39.842	1.964	39.009	-2.85%	2.14%
			2650	1.950	39.736	2.018	38.945	-3.37%	2.03%
			5210	4.620	35.050	4.666	35.975	-0.99%	-2.57%
05/28/2020	5200-5800H	21.1	5250	4.667	34.962	4.706	35.929	-0.83%	-2.69%
			5290	4.709	34.882	4.748	35.883	-0.82%	-2.79%
			5530	4.974	34.377	4.994	35.609	-0.40%	-3.46%
			5600	5.063	34.248	5.065	35.529	-0.04%	-3.61%
			5610	5.076	34.234	5.076	35.518	0.00%	-3.62%
			5690	5.169	34.103	5.158	35.426	0.21%	-3.73%
			5750	5.240	34.024	5.219	35.357	0.40%	-3.77%
			5775	5.267	33.975	5.245	35.329	0.42%	-3.83%

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 97 of 164	

**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
04/27/2020	750B	20.3	680	0.931	53.768	0.958	55.804	-2.82%	-3.65%
			695	0.936	53.737	0.959	55.745	-2.40%	-3.60%
			700	0.938	53.728	0.959	55.726	-2.19%	-3.59%
			710	0.942	53.705	0.960	55.687	-1.88%	-3.56%
			750	0.957	53.587	0.964	55.531	-0.73%	-3.50%
			770	0.964	53.534	0.965	55.453	-0.10%	-3.46%
			785	0.970	53.502	0.966	55.395	0.41%	-3.42%
05/06/2020	835B	21.8	820	0.940	53.778	0.969	55.258	-2.99%	-2.68%
			835	0.956	53.635	0.970	55.200	-1.44%	-2.84%
			850	0.971	53.488	0.988	55.154	-1.72%	-3.02%
05/11/2020	835B	21.6	820	0.949	53.217	0.969	55.258	-2.06%	-3.69%
			835	0.965	53.068	0.970	55.200	-0.52%	-3.86%
			850	0.981	52.914	0.988	55.154	-0.71%	-4.06%
05/18/2020	835B	21.2	820	0.944	54.277	0.969	55.258	-2.58%	-1.78%
			835	0.960	54.120	0.970	55.200	-1.03%	-1.96%
			850	0.975	53.965	0.988	55.154	-1.32%	-2.16%
05/26/2020	835B	21.8	820	0.939	53.742	0.969	55.258	-3.10%	-2.74%
			835	0.954	53.587	0.970	55.200	-1.65%	-2.92%
			850	0.969	53.442	0.988	55.154	-1.92%	-3.10%
05/18/2020	1750B	21.7	1710	1.493	51.461	1.463	53.537	2.05%	-3.88%
			1720	1.506	51.427	1.469	53.511	2.52%	-3.89%
			1745	1.537	51.328	1.485	53.445	3.50%	-3.96%
			1750	1.542	51.306	1.488	53.432	3.63%	-3.98%
			1770	1.567	51.222	1.501	53.379	4.40%	-4.04%
05/20/2020	1750B	20.9	1710	1.489	52.131	1.463	53.537	1.78%	-2.63%
			1720	1.502	52.090	1.469	53.511	2.25%	-2.66%
			1745	1.531	51.985	1.485	53.445	3.10%	-2.73%
			1750	1.536	51.964	1.488	53.432	3.23%	-2.75%
			1770	1.559	51.885	1.501	53.379	3.86%	-2.80%
05/26/2020	1750B	22	1720	1.486	51.463	1.469	53.511	1.16%	-3.83%
			1745	1.515	51.369	1.485	53.445	2.02%	-3.88%
			1750	1.521	51.350	1.488	53.432	2.22%	-3.90%
			1770	1.542	51.271	1.501	53.379	2.73%	-3.95%
06/04/2020	1750B	22.5	1720	1.462	52.492	1.469	53.511	-0.48%	-1.90%
			1745	1.492	52.409	1.485	53.445	0.47%	-1.94%
			1750	1.498	52.392	1.488	53.432	0.67%	-1.95%
			1770	1.520	52.324	1.501	53.379	1.27%	-1.98%
05/08/2020	1900B	23.9	1850	1.509	55.737	1.520	53.300	-0.72%	4.57%
			1860	1.521	55.716	1.520	53.300	0.07%	4.53%
			1880	1.545	55.661	1.520	53.300	1.64%	4.43%
			1900	1.569	55.589	1.520	53.300	3.22%	4.29%
			1905	1.575	55.570	1.520	53.300	3.62%	4.26%
			1910	1.581	55.553	1.520	53.300	4.01%	4.23%
05/14/2020	1900B	24	1850	1.503	55.292	1.520	53.300	-1.12%	3.74%
			1860	1.515	55.263	1.520	53.300	-0.33%	3.68%
			1880	1.538	55.200	1.520	53.300	1.18%	3.56%
			1900	1.562	55.128	1.520	53.300	2.76%	3.43%
			1905	1.567	55.108	1.520	53.300	3.09%	3.39%
05/21/2020	1900B	21.1	1910	1.573	55.089	1.520	53.300	3.49%	3.36%
			1880	1.546	53.249	1.520	53.300	1.71%	-0.10%
			1900	1.568	53.181	1.520	53.300	3.16%	-0.22%
			1905	1.573	53.165	1.520	53.300	3.49%	-0.25%
05/31/2020	1900B	24	1910	1.579	53.149	1.520	53.300	3.88%	-0.28%
			1880	1.533	51.816	1.520	53.300	0.86%	-2.78%
			1900	1.554	51.737	1.520	53.300	2.24%	-2.93%
			1905	1.560	51.715	1.520	53.300	2.63%	-2.97%
06/01/2020	1900B	23	1910	1.566	51.693	1.520	53.300	3.03%	-3.02%
			1860	1.511	51.342	1.520	53.300	-0.59%	-3.67%
			1880	1.533	51.276	1.520	53.300	0.86%	-3.80%
			1900	1.555	51.209	1.520	53.300	2.30%	-3.92%
			1905	1.561	51.194	1.520	53.300	2.70%	-3.95%

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 98 of 164

**Table 10-3
Measured Body Tissue Properties (Cont.)**

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
05/06/2020	2300B	21.9	2300	1.867	52.082	1.809	52.900	3.21%	-1.55%
			2310	1.879	52.053	1.816	52.887	3.47%	-1.56%
			2320	1.891	52.024	1.826	52.873	3.56%	-1.61%
06/07/2020	2300-2600B	23.6	2300	1.873	53.083	1.809	52.900	3.54%	0.35%
			2310	1.884	53.055	1.816	52.887	3.74%	0.32%
			2320	1.896	53.028	1.826	52.873	3.83%	0.29%
			2450	2.046	52.664	1.950	52.700	4.92%	-0.07%
			2500	2.104	52.528	2.021	52.636	4.11%	-0.21%
			2510	2.116	52.496	2.035	52.623	3.98%	-0.24%
			2535	2.147	52.422	2.071	52.592	3.67%	-0.32%
			2550	2.166	52.384	2.092	52.573	3.54%	-0.36%
			2560	2.179	52.359	2.106	52.560	3.47%	-0.38%
			2600	2.228	52.244	2.163	52.509	3.01%	-0.50%
			2650	2.289	52.079	2.234	52.445	2.46%	-0.70%
2680	2.328	51.990	2.277	52.407	2.24%	-0.80%			
05/29/2020	2450B	23.4	2400	1.953	51.769	1.902	52.767	2.68%	-1.89%
			2450	2.007	51.619	1.950	52.700	2.92%	-2.05%
			2480	2.041	51.569	1.993	52.662	2.41%	-2.06%
06/01/2020	2450-2600B	23.1	2450	2.031	52.584	1.950	52.700	4.15%	-0.22%
			2510	2.103	52.408	2.035	52.623	3.34%	-0.41%
			2535	2.131	52.330	2.071	52.592	2.90%	-0.50%
			2560	2.162	52.242	2.106	52.560	2.66%	-0.61%
			2600	2.211	52.130	2.163	52.509	2.22%	-0.72%
			2400	1.968	52.765	1.902	52.767	3.47%	0.00%
06/04/2020	2450-2600B	23	2450	2.026	52.633	1.950	52.700	3.90%	-0.13%
			2480	2.059	52.541	1.993	52.662	3.31%	-0.23%
			2500	2.082	52.477	2.021	52.636	3.02%	-0.30%
			2510	2.093	52.446	2.035	52.623	2.85%	-0.34%
			2535	2.124	52.384	2.071	52.592	2.56%	-0.40%
			2550	2.143	52.348	2.092	52.573	2.44%	-0.43%
			2560	2.155	52.326	2.106	52.560	2.33%	-0.45%
			2600	2.201	52.220	2.163	52.509	1.76%	-0.55%
			2650	2.262	52.062	2.234	52.445	1.25%	-0.73%
			2680	2.300	51.984	2.277	52.407	1.01%	-0.81%
			06/11/2020	2450-2600B	21.9	2450	2.039	50.798	1.950
2500	2.096	50.649				2.021	52.636	3.71%	-3.77%
2510	2.108	50.618				2.035	52.623	3.59%	-3.81%
2535	2.139	50.544				2.071	52.592	3.28%	-3.89%
2550	2.158	50.501				2.092	52.573	3.15%	-3.94%
2560	2.169	50.472				2.106	52.560	2.99%	-3.97%
2600	2.215	50.350				2.163	52.509	2.40%	-4.11%
2650	2.275	50.176				2.234	52.445	1.84%	-4.33%
06/08/2020	5200B-5800B	22.3	2680	2.312	50.088	2.277	52.407	1.54%	-4.42%
			5200	5.333	47.627	5.299	49.014	0.64%	-2.83%
			5220	5.363	47.585	5.323	48.987	0.75%	-2.86%
			5240	5.389	47.544	5.346	48.960	0.80%	-2.89%
			5260	5.412	47.516	5.369	48.933	0.80%	-2.90%
			5280	5.443	47.462	5.393	48.906	0.93%	-2.95%
			5300	5.468	47.437	5.416	48.879	0.96%	-2.95%
			5320	5.489	47.411	5.439	48.851	0.92%	-2.95%
			5500	5.721	47.129	5.650	48.607	1.26%	-3.04%
			5520	5.754	47.084	5.673	48.580	1.43%	-3.08%
			5540	5.778	47.062	5.696	48.553	1.44%	-3.07%
			5600	5.857	46.966	5.766	48.471	1.58%	-3.10%
			5620	5.885	46.940	5.790	48.444	1.64%	-3.10%
			5680	4.909	35.235	5.150	35.420	-4.68%	-0.52%
			5700	4.941	35.249	5.170	35.400	-4.43%	-0.43%
			5745	4.990	35.248	5.215	35.355	-4.31%	-0.30%
			5765	5.001	35.151	5.235	35.335	-4.47%	-0.52%
			5785	5.033	35.097	5.255	35.315	-4.22%	-0.62%
			5800	5.024	35.065	5.270	35.300	-4.67%	-0.67%
			5825	5.066	35.048	5.296	35.275	-4.34%	-0.64%

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: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 99 of 164

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 D.



Table 10-4
System Verification Results – 1g Head

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
M	750	HEAD	06/03/2020	21.5	20.7	0.200	1054	7570	1.680	8.630	8.400	-2.67%
P	835	HEAD	05/13/2020	21.5	20.9	0.200	4d132	7551	1.900	9.650	9.500	-1.55%
P	835	HEAD	05/18/2020	22.7	21.6	0.200	4d132	7551	1.940	9.650	9.700	0.52%
L	1750	HEAD	05/13/2020	23.9	20.5	0.100	1150	7410	3.610	36.500	36.100	-1.10%
H	1900	HEAD	05/12/2020	20.9	20.1	0.100	5d149	7357	4.180	39.300	41.800	6.36%
E	2300	HEAD	04/29/2020	22.5	21.8	0.100	1073	3589	4.730	49.200	47.300	-3.86%
E	2450	HEAD	05/06/2020	22.9	21.2	0.100	719	3589	5.210	53.100	52.100	-1.88%
E	2450	HEAD	05/31/2020	22.2	21.9	0.100	719	3589	5.210	53.100	52.100	-1.88%
E	2600	HEAD	05/10/2020	23.2	22.8	0.100	1064	3589	5.780	58.100	57.800	-0.52%
E	2600	HEAD	06/02/2020	23.6	21.8	0.100	1064	3589	5.540	58.100	55.400	-4.65%
H	5250	HEAD	05/28/2020	22.2	21.1	0.050	1191	7357	3.730	80.800	74.600	-7.67%
H	5600	HEAD	05/28/2020	22.2	21.1	0.050	1191	7357	3.930	82.700	78.600	-4.96%
H	5750	HEAD	05/28/2020	22.2	21.1	0.050	1191	7357	3.710	80.200	74.200	-7.48%

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 100 of 164	

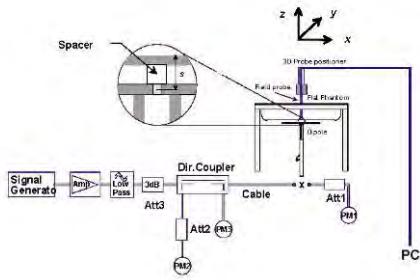
**Table 10-5
System Verification Results – 1g Body**

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
L	750	BODY	04/27/2020	21.4	20.3	0.200	1161	7410	1.750	8.430	8.750	3.80%
D	835	BODY	05/06/2020	22.3	21.8	0.200	4d133	7488	1.920	9.750	9.600	-1.54%
D	835	BODY	05/11/2020	22.1	21.6	0.200	4d047	7488	1.910	9.470	9.550	0.84%
D	835	BODY	05/18/2020	22.1	21.8	0.200	4d047	7488	1.900	9.470	9.500	0.32%
D	835	BODY	05/26/2020	22.3	21.8	0.200	4d047	7488	1.890	9.470	9.450	-0.21%
H	1750	BODY	05/18/2020	21.6	20.4	0.100	1150	7357	3.980	36.600	39.800	8.74%
H	1750	BODY	05/20/2020	20.7	20.7	0.100	1008	7357	4.000	37.400	40.000	6.95%
H	1750	BODY	05/26/2020	20.5	20.5	0.100	1008	7357	3.960	37.400	39.600	5.88%
J	1900	BODY	05/08/2020	22.7	23.9	0.100	5d148	7571	4.100	39.100	41.000	4.86%
J	1900	BODY	05/14/2020	24.5	24.0	0.100	5d080	7571	4.190	39.200	41.900	6.89%
O	1900	BODY	05/21/2020	22.7	21.1	0.100	5d148	7552	4.100	39.100	41.000	4.86%
H	1900	BODY	06/01/2020	23.1	22.7	0.100	5d080	7357	4.130	39.200	41.300	5.36%
K	2300	BODY	05/06/2020	24.4	21.9	0.100	1073	7547	5.080	47.700	50.800	6.50%
K	2450	BODY	05/29/2020	23.4	22.4	0.100	797	7547	4.910	51.100	49.100	-3.91%
K	2450	BODY	06/01/2020	22.5	21.6	0.100	719	7547	5.210	50.800	52.100	2.56%
K	2450	BODY	06/04/2020	22.1	22.0	0.100	719	7547	5.080	50.800	50.800	0.00%
K	2450	BODY	06/07/2020	23.6	23.3	0.100	719	7547	5.260	50.800	52.600	3.54%
K	2600	BODY	06/01/2020	22.5	21.6	0.100	1064	7547	5.420	55.600	54.200	-2.52%
K	2600	BODY	06/04/2020	22.1	22.0	0.100	1064	7547	5.420	55.600	54.200	-2.52%
K	2600	BODY	06/07/2020	23.6	23.3	0.100	1064	7547	5.700	55.600	57.000	2.52%
G	5250	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	3.810	77.000	76.200	-1.04%
G	5600	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	3.910	78.600	78.200	-0.51%
G	5750	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	3.610	76.900	72.200	-6.11%

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your compliance</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 101 of 164	

**Table 10-6
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)	Source SN	Probe SN	Measured SAR _{10g} (W/kg)	1 W Target SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation _{10g} (%)
H	1750	BODY	05/20/2020	20.7	20.7	0.100	1008	7357	2.120	19.900	21.200	6.53%
I	1750	BODY	06/04/2020	22.2	22.5	0.100	1008	7527	2.000	19.900	20.000	0.50%
J	1900	BODY	05/14/2020	24.5	24.0	0.100	5d080	7571	2.170	20.600	21.700	5.34%
J	1900	BODY	05/31/2020	23.3	24.0	0.100	5d080	7571	2.120	20.600	21.200	2.91%
H	1900	BODY	06/01/2020	23.1	22.7	0.100	5d080	7357	2.150	20.600	21.500	4.37%
K	2300	BODY	06/07/2020	23.6	23.3	0.100	1073	7547	2.460	23.200	24.600	6.03%
K	2450	BODY	06/01/2020	22.5	21.6	0.100	719	7547	2.400	24.000	24.000	0.00%
K	2450	BODY	06/11/2020	24.0	22.0	0.100	719	7547	2.470	24.000	24.700	2.92%
K	2600	BODY	06/01/2020	22.5	21.6	0.100	1064	7547	2.400	25.000	24.000	-4.00%
K	2600	BODY	06/11/2020	24.0	22.0	0.100	1064	7547	2.440	25.000	24.400	-2.40%
G	5250	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	1.070	21.400	21.400	0.00%
G	5600	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	1.080	21.900	21.600	-1.37%
G	5750	BODY	06/08/2020	21.9	21.0	0.050	1191	7538	0.992	21.300	19.840	-6.85%



**Figure 10-1
System Verification Setup Diagram**



**Figure 10-2
System Verification Setup Photo**

FCC ID: A3LSMN986W	 <small>Thank to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 102 of 164	

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

**Table 11-1
CDMA BC0 Head SAR**




MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.73	-0.15	Right	Cheek	66	0365M	1:1	0.114	1.279	0.146	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.73	-0.10	Right	Tilt	66	0365M	1:1	0.088	1.279	0.113	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.73	0.03	Left	Cheek	66	0365M	1:1	0.157	1.279	0.201	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.73	0.03	Left	Tilt	66	0365M	1:1	0.096	1.279	0.123	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.56	0.02	Right	Cheek	66	0365M	1:1	0.119	1.330	0.158	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.56	0.01	Right	Tilt	66	0365M	1:1	0.083	1.330	0.110	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.56	0.02	Left	Cheek	66	0365M	1:1	0.158	1.330	0.210	A1
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.56	-0.03	Left	Tilt	66	0365M	1:1	0.099	1.330	0.132	
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 850 Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	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	33.14	0.03	Right	Cheek	0365M	1:8.3	0.059	1.086	0.064		
836.60	190	GSM 850	GSM	33.5	33.14	-0.01	Right	Tilt	0365M	1:8.3	0.042	1.086	0.046		
836.60	190	GSM 850	GSM	33.5	33.14	-0.07	Left	Cheek	0365M	1:8.3	0.089	1.086	0.097	A2	
836.60	190	GSM 850	GSM	33.5	33.14	0.07	Left	Tilt	0365M	1:8.3	0.046	1.086	0.050		
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
GSM 1900 Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	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	30.5	29.56	0.04	Right	Cheek	0380M	1:8.3	0.051	1.242	0.063	A3	
1880.00	661	GSM 1900	GSM	30.5	29.56	-0.03	Right	Tilt	0380M	1:8.3	0.026	1.242	0.032		
1880.00	661	GSM 1900	GSM	30.5	29.56	0.05	Left	Cheek	0380M	1:8.3	0.038	1.242	0.047		
1880.00	661	GSM 1900	GSM	30.5	29.56	0.08	Left	Tilt	0380M	1:8.3	0.034	1.242	0.042		
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 103 of 164

**Table 11-4
UMTS 850 Head SAR**



MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna 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	25.8	25.17	-0.02	Right	Cheek	66	0365M	1:1	0.110	1.156	0.127	
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.09	Right	Tilt	66	0365M	1:1	0.079	1.156	0.091	
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.03	Left	Cheek	66	0365M	1:1	0.158	1.156	0.183	A4
836.60	4183	UMTS 850	RMC	25.8	25.17	0.06	Left	Tilt	66	0365M	1:1	0.067	1.156	0.077	
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 1750 Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna 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	24.5	23.98	-0.01	Right	Cheek	109	0373M	1:1	0.138	1.127	0.156	A5
1732.40	1412	UMTS 1750	RMC	24.5	23.98	0.10	Right	Tilt	109	0373M	1:1	0.108	1.127	0.122	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	-0.09	Left	Cheek	109	0373M	1:1	0.108	1.127	0.122	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	0.10	Left	Tilt	109	0373M	1:1	0.128	1.127	0.144	
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
UMTS 1900 Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna 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	24.0	23.42	0.14	Right	Cheek	109	0380M	1:1	0.128	1.143	0.146	A6
1880.00	9400	UMTS 1900	RMC	24.0	23.42	0.05	Right	Tilt	109	0380M	1:1	0.046	1.143	0.053	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	0.05	Left	Cheek	109	0380M	1:1	0.074	1.143	0.085	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	0.02	Left	Tilt	109	0380M	1:1	0.065	1.143	0.074	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 104 of 164	

**Table 11-7
LTE Band 71 Head SAR**



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna 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)		
680.50	133297	Md	LTE Band 71	20	25.8	25.18	0.05	0	Right	Cheek	19	QPSK	1	0	0361M	1:1	0.135	1.153	0.156	A7
680.50	133297	Md	LTE Band 71	20	24.8	24.19	0.08	1	Right	Cheek	19	QPSK	50	0	0361M	1:1	0.102	1.151	0.117	
680.50	133297	Md	LTE Band 71	20	25.8	25.18	0.02	0	Right	Tilt	19	QPSK	1	0	0361M	1:1	0.068	1.153	0.078	
680.50	133297	Md	LTE Band 71	20	24.8	24.19	0.14	1	Right	Tilt	19	QPSK	50	0	0361M	1:1	0.055	1.151	0.063	
680.50	133297	Md	LTE Band 71	20	25.8	25.18	0.02	0	Left	Cheek	19	QPSK	1	0	0361M	1:1	0.133	1.153	0.153	
680.50	133297	Md	LTE Band 71	20	24.8	24.19	0.08	1	Left	Cheek	19	QPSK	50	0	0361M	1:1	0.115	1.151	0.132	
680.50	133297	Md	LTE Band 71	20	25.8	25.18	0.04	0	Left	Tilt	19	QPSK	1	0	0361M	1:1	0.027	1.153	0.031	
680.50	133297	Md	LTE Band 71	20	24.8	24.19	0.05	1	Left	Tilt	19	QPSK	50	0	0361M	1:1	0.008	1.151	0.009	
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
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	Antenna 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	Md	LTE Band 12	10	25.8	25.41	0.14	0	Right	Cheek	20	QPSK	1	0	0361M	1:1	0.158	1.094	0.173	
707.50	23095	Md	LTE Band 12	10	24.8	24.19	0.03	1	Right	Cheek	20	QPSK	25	0	0361M	1:1	0.114	1.151	0.131	
707.50	23095	Md	LTE Band 12	10	25.8	25.41	0.03	0	Right	Tilt	20	QPSK	1	0	0361M	1:1	0.096	1.094	0.105	
707.50	23095	Md	LTE Band 12	10	24.8	24.19	0.02	1	Right	Tilt	20	QPSK	25	0	0361M	1:1	0.070	1.151	0.081	
707.50	23095	Md	LTE Band 12	10	25.8	25.41	0.05	0	Left	Cheek	20	QPSK	1	0	0361M	1:1	0.166	1.094	0.182	A8
707.50	23095	Md	LTE Band 12	10	24.8	24.19	0.09	1	Left	Cheek	20	QPSK	25	0	0361M	1:1	0.134	1.151	0.154	
707.50	23095	Md	LTE Band 12	10	25.8	25.41	0.04	0	Left	Tilt	20	QPSK	1	0	0361M	1:1	0.079	1.094	0.086	
707.50	23095	Md	LTE Band 12	10	24.8	24.19	0.03	1	Left	Tilt	20	QPSK	25	0	0361M	1:1	0.063	1.151	0.073	
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 11-9
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	Antenna 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	Md	LTE Band 13	10	25.8	25.25	0.08	0	Right	Cheek	1	QPSK	1	0	0361M	1:1	0.150	1.135	0.170	
782.00	23230	Md	LTE Band 13	10	24.8	24.23	-0.11	1	Right	Cheek	1	QPSK	25	12	0361M	1:1	0.115	1.140	0.131	
782.00	23230	Md	LTE Band 13	10	25.8	25.25	0.05	0	Right	Tilt	1	QPSK	1	0	0361M	1:1	0.097	1.135	0.110	
782.00	23230	Md	LTE Band 13	10	24.8	24.23	0.09	1	Right	Tilt	1	QPSK	25	12	0361M	1:1	0.077	1.140	0.088	
782.00	23230	Md	LTE Band 13	10	25.8	25.25	0.04	0	Left	Cheek	1	QPSK	1	0	0361M	1:1	0.179	1.135	0.203	A9
782.00	23230	Md	LTE Band 13	10	24.8	24.23	0.06	1	Left	Cheek	1	QPSK	25	12	0361M	1:1	0.158	1.140	0.180	
782.00	23230	Md	LTE Band 13	10	25.8	25.25	0.04	0	Left	Tilt	1	QPSK	1	0	0361M	1:1	0.092	1.135	0.104	
782.00	23230	Md	LTE Band 13	10	24.8	24.23	0.04	1	Left	Tilt	1	QPSK	25	12	0361M	1:1	0.079	1.140	0.090	
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: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 105 of 164

**Table 11-10
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	Antenna 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	Md	LTE Band 5 (Cell)	10	25.8	25.24	0.03	0	Right	Cheek	56	QPSK	1	0	0361M	1:1	0.104	1.138	0.118	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	0.03	1	Right	Cheek	56	QPSK	25	0	0361M	1:1	0.076	1.143	0.087	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	0.02	0	Right	Tilt	56	QPSK	1	0	0361M	1:1	0.078	1.138	0.089	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	0.01	1	Right	Tilt	56	QPSK	25	0	0361M	1:1	0.062	1.143	0.071	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.08	0	Left	Cheek	56	QPSK	1	0	0361M	1:1	0.155	1.138	0.176	A10
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	0.03	1	Left	Cheek	56	QPSK	25	0	0361M	1:1	0.122	1.143	0.139	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.11	0	Left	Tilt	56	QPSK	1	0	0361M	1:1	0.084	1.138	0.096	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	-0.08	1	Left	Tilt	56	QPSK	25	0	0361M	1:1	0.068	1.143	0.078	
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 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	Antenna 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)		
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.13	0	Right	Cheek	109	QPSK	1	50	0387M	1:1	0.116	1.194	0.139	A11
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.13	1	Right	Cheek	109	QPSK	50	50	0387M	1:1	0.101	1.161	0.117	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.13	0	Right	Tilt	109	QPSK	1	50	0387M	1:1	0.085	1.194	0.101	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.14	1	Right	Tilt	109	QPSK	50	50	0387M	1:1	0.072	1.161	0.084	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.02	0	Left	Cheek	109	QPSK	1	50	0387M	1:1	0.099	1.194	0.118	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.13	1	Left	Cheek	109	QPSK	50	50	0387M	1:1	0.080	1.161	0.093	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.11	0	Left	Tilt	109	QPSK	1	50	0387M	1:1	0.088	1.194	0.105	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.03	1	Left	Tilt	109	QPSK	50	50	0387M	1:1	0.073	1.161	0.085	
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 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	Antenna 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	23.60	0.09	0	Right	Cheek	109	QPSK	1	50	0357M	1:1	0.088	1.230	0.108	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.02	1	Right	Cheek	109	QPSK	50	25	0357M	1:1	0.075	1.213	0.091	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	0.04	0	Right	Tilt	109	QPSK	1	50	0357M	1:1	0.042	1.230	0.052	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.14	1	Right	Tilt	109	QPSK	50	25	0357M	1:1	0.038	1.213	0.046	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	0.10	0	Left	Cheek	109	QPSK	1	50	0357M	1:1	0.099	1.230	0.122	A12
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	0.12	1	Left	Cheek	109	QPSK	50	25	0357M	1:1	0.081	1.213	0.098	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	0.09	0	Left	Tilt	109	QPSK	1	50	0357M	1:1	0.095	1.230	0.117	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	0.08	1	Left	Tilt	109	QPSK	50	25	0357M	1:1	0.078	1.213	0.095	
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: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 106 of 164	

**Table 11-13
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	Md	LTE Band 30	10	24.0	23.84	0.02	0	Right	Cheek	QPSK	1	0	0357M	1:1	0.038	1.038	0.039	
2310.00	27710	Md	LTE Band 30	10	23.0	22.88	0.08	1	Right	Cheek	QPSK	25	12	0357M	1:1	0.037	1.028	0.038	
2310.00	27710	Md	LTE Band 30	10	24.0	23.84	0.11	0	Right	Tilt	QPSK	1	0	0357M	1:1	0.027	1.038	0.028	
2310.00	27710	Md	LTE Band 30	10	23.0	22.88	0.07	1	Right	Tilt	QPSK	25	12	0357M	1:1	0.016	1.028	0.016	
2310.00	27710	Md	LTE Band 30	10	24.0	23.84	-0.03	0	Left	Cheek	QPSK	1	0	0357M	1:1	0.046	1.038	0.048	A13
2310.00	27710	Md	LTE Band 30	10	23.0	22.88	0.08	1	Left	Cheek	QPSK	25	12	0357M	1:1	0.040	1.028	0.041	
2310.00	27710	Md	LTE Band 30	10	24.0	23.84	0.08	0	Left	Tilt	QPSK	1	0	0357M	1:1	0.038	1.038	0.039	
2310.00	27710	Md	LTE Band 30	10	23.0	22.88	0.10	1	Left	Tilt	QPSK	25	12	0357M	1:1	0.024	1.028	0.025	
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 11-14
LTE Band 7 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)		
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	0.12	0	Right	Cheek	QPSK	1	50	0394M	1:1	0.087	1.191	0.104	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	0.01	1	Right	Cheek	QPSK	50	25	0394M	1:1	0.074	1.167	0.086	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	0.19	0	Right	Tilt	QPSK	1	50	0394M	1:1	0.052	1.191	0.062	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	-0.09	1	Right	Tilt	QPSK	50	25	0394M	1:1	0.042	1.167	0.049	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	0.03	0	Left	Cheek	QPSK	1	50	0394M	1:1	0.062	1.191	0.074	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	0.11	1	Left	Cheek	QPSK	50	25	0394M	1:1	0.050	1.167	0.058	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	0.06	0	Left	Tilt	QPSK	1	50	0394M	1:1	0.089	1.191	0.106	A14
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	-0.02	1	Left	Tilt	QPSK	50	25	0394M	1:1	0.061	1.167	0.071	
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 41 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)		
2680.00	41490	High	LTE Band 41	20	25.0	24.38	-0.03	0	Right	Cheek	QPSK	1	50	0390M	1:1.58	0.054	1.153	0.062	A15
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.17	1	Right	Cheek	QPSK	50	25	0390M	1:1.58	0.046	1.156	0.053	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	0.04	0	Right	Tilt	QPSK	1	50	0390M	1:1.58	0.033	1.153	0.038	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.04	1	Right	Tilt	QPSK	50	25	0390M	1:1.58	0.024	1.156	0.028	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	0.03	0	Left	Cheek	QPSK	1	50	0390M	1:1.58	0.051	1.153	0.059	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.04	1	Left	Cheek	QPSK	50	25	0390M	1:1.58	0.040	1.156	0.046	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	0.05	0	Left	Tilt	QPSK	1	50	0390M	1:1.58	0.051	1.153	0.059	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.09	1	Left	Tilt	QPSK	50	25	0390M	1:1.58	0.039	1.156	0.045	
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: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 107 of 164	

Table 11-16
NR Band n71 Head SAR



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna 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)		
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.16	0	Right	Cheek	19	DFT-S-OFDM QPSK	1	53	0382M	1:1	0.121	1.096	0.133	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.06	0	Right	Cheek	19	DFT-S-OFDM QPSK	50	28	0382M	1:1	0.123	1.135	0.140	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.02	0	Right	Tilt	19	DFT-S-OFDM QPSK	1	53	0382M	1:1	0.075	1.096	0.082	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.03	0	Right	Tilt	19	DFT-S-OFDM QPSK	50	28	0382M	1:1	0.072	1.135	0.082	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.09	0	Left	Cheek	19	DFT-S-OFDM QPSK	1	53	0382M	1:1	0.148	1.096	0.162	A16
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.05	0	Left	Cheek	19	DFT-S-OFDM QPSK	50	28	0382M	1:1	0.132	1.135	0.150	
680.50	136100	Mid	NR Band n71	20	24.0	23.43	-0.09	1.5	Left	Cheek	19	CP-OFDM QPSK	1	1	0382M	1:1	0.095	1.140	0.108	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.06	0	Left	Tilt	19	DFT-S-OFDM QPSK	1	53	0382M	1:1	0.065	1.096	0.071	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.12	0	Left	Tilt	19	DFT-S-OFDM QPSK	50	28	0382M	1:1	0.065	1.135	0.074	
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 11-17
NR Band n66 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna 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)		
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	-0.03	0	Right	Cheek	109	DFT-S-OFDM QPSK	1	1	0389M	1:1	0.167	1.130	0.189	A17
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	0.08	0	Right	Cheek	109	DFT-S-OFDM QPSK	50	28	0389M	1:1	0.128	1.172	0.150	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.0	22.52	0.07	1.5	Right	Cheek	109	CP-OFDM QPSK	1	1	0389M	1:1	0.112	1.117	0.125	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.06	0	Right	Tilt	109	DFT-S-OFDM QPSK	1	1	0389M	1:1	0.090	1.130	0.102	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	0.13	0	Right	Tilt	109	DFT-S-OFDM QPSK	50	28	0389M	1:1	0.092	1.172	0.108	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.00	0	Left	Cheek	109	DFT-S-OFDM QPSK	1	1	0389M	1:1	0.108	1.130	0.122	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	0.07	0	Left	Cheek	109	DFT-S-OFDM QPSK	50	28	0389M	1:1	0.100	1.172	0.117	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.12	0	Left	Tilt	109	DFT-S-OFDM QPSK	1	1	0389M	1:1	0.106	1.130	0.120	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	0.02	0	Left	Tilt	109	DFT-S-OFDM QPSK	50	28	0389M	1:1	0.093	1.172	0.109	
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
NR Band n41 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)		
2592.99	518598	Mid	NR Band n41	100	23.5	23.49	-0.08	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	1244M	1:4	0.541	1.002	0.542	
2592.99	518598	Mid	NR Band n41	100	23.5	23.41	0.01	0	Right	Cheek	DFT-S-OFDM QPSK	135	0	1244M	1:4	0.528	1.021	0.539	
2592.99	518598	Mid	NR Band n41	100	23.5	23.49	-0.13	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	1244M	1:4	0.616	1.002	0.617	
2592.99	518598	Mid	NR Band n41	100	23.5	23.41	-0.13	0	Right	Tilt	DFT-S-OFDM QPSK	135	0	1244M	1:4	0.592	1.021	0.604	
2592.99	518598	Mid	NR Band n41	100	23.5	23.40	0.07	0	Right	Tilt	DFT-S-OFDM QPSK	270	0	1244M	1:4	0.601	1.023	0.615	
2592.99	518598	Mid	NR Band n41	100	23.5	23.49	0.00	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	1244M	1:4	0.599	1.002	0.600	
2592.99	518598	Mid	NR Band n41	100	23.5	23.41	-0.06	0	Left	Cheek	DFT-S-OFDM QPSK	135	0	1244M	1:4	0.537	1.021	0.548	
2592.99	518598	Mid	NR Band n41	100	23.5	23.49	-0.05	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	1244M	1:4	0.715	1.002	0.716	A18
2592.99	518598	Mid	NR Band n41	100	23.5	23.41	-0.02	0	Left	Tilt	DFT-S-OFDM QPSK	135	0	1244M	1:4	0.593	1.021	0.605	
2592.99	518598	Mid	NR Band n41	100	23.5	23.40	0.06	0	Left	Tilt	DFT-S-OFDM QPSK	270	0	1244M	1:4	0.522	1.023	0.534	
2592.99	518598	Mid	NR Band n41	100	23.5	23.35	-0.04	0	Left	Tilt	CP-OFDM QPSK	1	1	1244M	1:4	0.595	1.035	0.616	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 108 of 164	

**Table 11-19
DTS Head SISO SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna	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	802.11b	DSSS	22	16.0	15.99	-0.07	Right	Cheek	1	0702M	1	99.9	0.656	-	1.002	1.001	-	
2412	1	802.11b	DSSS	22	16.0	15.99	0.19	Right	Tilt	1	0702M	1	99.9	1.070	0.587	1.002	1.001	0.589	A19
2412	1	802.11b	DSSS	22	16.0	15.99	0.10	Left	Cheek	1	0702M	1	99.9	0.814	-	1.002	1.001	-	
2412	1	802.11b	DSSS	22	16.0	15.99	0.05	Left	Tilt	1	0702M	1	99.9	0.945	0.562	1.002	1.001	0.564	
2437	6	802.11b	DSSS	22	16.0	15.98	0.03	Right	Cheek	2	0702M	1	99.0	0.027	-	1.005	1.010	-	
2437	6	802.11b	DSSS	22	16.0	15.98	0.09	Right	Tilt	2	0702M	1	99.0	0.025	-	1.005	1.010	-	
2437	6	802.11b	DSSS	22	16.0	15.98	0.03	Left	Cheek	2	0702M	1	99.0	0.029	-	1.005	1.010	-	
2437	6	802.11b	DSSS	22	16.0	15.98	0.07	Left	Tilt	2	0702M	1	99.0	0.046	0.027	1.005	1.010	0.027	
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
NII SISO Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna	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)	
5290	58	802.11ac	OFDM	80	13.0	12.97	0.09	Right	Cheek	1	0702M	29.3	93.9	0.066	0.021	1.007	1.065	0.023	
5290	58	802.11ac	OFDM	80	13.0	12.97	0.10	Right	Tilt	1	0702M	29.3	93.9	0.056	-	1.007	1.065	-	
5290	58	802.11ac	OFDM	80	13.0	12.97	0.04	Left	Cheek	1	0702M	29.3	93.9	0.029	-	1.007	1.065	-	
5290	58	802.11ac	OFDM	80	13.0	12.97	0.09	Left	Tilt	1	0702M	29.3	93.9	0.021	-	1.007	1.065	-	
5290	58	802.11ac	OFDM	80	13.0	12.83	0.03	Right	Cheek	2	0702M	29.3	94.8	0.012	-	1.040	1.055	-	
5290	58	802.11ac	OFDM	80	13.0	12.83	-0.08	Right	Tilt	2	0702M	29.3	94.8	0.015	0.018	1.040	1.055	0.020	
5290	58	802.11ac	OFDM	80	13.0	12.83	0.16	Left	Cheek	2	0702M	29.3	94.8	0.012	-	1.040	1.055	-	
5290	58	802.11ac	OFDM	80	13.0	12.83	0.09	Left	Tilt	2	0702M	29.3	94.8	0.011	-	1.040	1.055	-	
5690	138	802.11ac	OFDM	80	13.0	12.61	0.03	Right	Cheek	1	0702M	29.3	93.9	0.067	0.023	1.094	1.065	0.027	
5690	138	802.11ac	OFDM	80	13.0	12.61	0.09	Right	Tilt	1	0702M	29.3	93.9	0.055	-	1.094	1.065	-	
5690	138	802.11ac	OFDM	80	13.0	12.61	0.11	Left	Cheek	1	0702M	29.3	93.9	0.029	-	1.094	1.065	-	
5690	138	802.11ac	OFDM	80	13.0	12.61	0.04	Left	Tilt	1	0702M	29.3	93.9	0.020	-	1.094	1.065	-	
5690	138	802.11ac	OFDM	80	13.0	12.62	0.07	Right	Cheek	2	0702M	29.3	94.8	0.034	0.013	1.091	1.055	0.015	
5690	138	802.11ac	OFDM	80	13.0	12.62	0.09	Right	Tilt	2	0702M	29.3	94.8	0.025	-	1.091	1.055	-	
5690	138	802.11ac	OFDM	80	13.0	12.62	0.15	Left	Cheek	2	0702M	29.3	94.8	0.020	-	1.091	1.055	-	
5690	138	802.11ac	OFDM	80	13.0	12.62	0.17	Left	Tilt	2	0702M	29.3	94.8	0.027	-	1.091	1.055	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	0.09	Right	Cheek	1	0702M	29.3	93.9	0.082	0.028	1.062	1.065	0.032	A20
5775	155	802.11ac	OFDM	80	13.0	12.74	-0.11	Right	Tilt	1	0702M	29.3	93.9	0.032	-	1.062	1.065	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	0.04	Left	Cheek	1	0702M	29.3	93.9	0.010	-	1.062	1.065	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	0.17	Left	Tilt	1	0702M	29.3	93.9	0.007	-	1.062	1.065	-	
5775	155	802.11ac	OFDM	80	13.0	12.88	0.02	Right	Cheek	2	0702M	29.3	94.8	0.020	-	1.028	1.055	-	
5775	155	802.11ac	OFDM	80	13.0	12.88	0.08	Right	Tilt	2	0702M	29.3	94.8	0.017	-	1.028	1.055	-	
5775	155	802.11ac	OFDM	80	13.0	12.88	0.09	Left	Cheek	2	0702M	29.3	94.8	0.019	-	1.028	1.055	-	
5775	155	802.11ac	OFDM	80	13.0	12.88	0.11	Left	Tilt	2	0702M	29.3	94.8	0.024	0.010	1.028	1.055	0.011	
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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 109 of 164	



**Table 11-21
DSS Head SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2480.00	78	Bluetooth	FHSS	16.5	16.26	0.00	Right	Cheek	1245M	1	77.3	0.345	1.057	1.294	0.472	
2480.00	78	Bluetooth	FHSS	16.5	16.26	0.05	Right	Tilt	1245M	1	77.3	0.424	1.057	1.294	0.580	A21
2480.00	78	Bluetooth	FHSS	16.5	16.26	0.11	Left	Cheek	1245M	1	77.3	0.396	1.057	1.294	0.542	
2480.00	78	Bluetooth	FHSS	16.5	16.26	-0.02	Left	Tilt	1245M	1	77.3	0.424	1.057	1.294	0.580	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram									

11.2 Standalone Body-Worn SAR Data



**Table 11-22
GSM/UMTS/CDMA Body-Worn SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	TDSO / SO32	25.8	24.73	0.00	15 mm	65	0365M	1:1	back	0.312	1.279	0.399	A22
836.60	190	GSM 850	GSM	33.5	33.14	-0.01	15 mm	N/A	0365M	1:8.3	back	0.149	1.086	0.162	A24
1880.00	661	GSM 1900	GSM	30.5	29.56	-0.02	15 mm	N/A	0373M	1:8.3	back	0.294	1.242	0.365	A26
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.02	15 mm	57	0365M	1:1	back	0.303	1.156	0.350	A28
1712.40	1312	UMTS 1750	RMC	24.5	24.18	0.03	15 mm	47	0373M	1:1	back	0.880	1.076	0.947	A30
1732.40	1412	UMTS 1750	RMC	24.5	23.98	0.01	15 mm	47	0373M	1:1	back	0.569	1.127	0.641	
1752.60	1513	UMTS 1750	RMC	24.5	23.88	0.06	15 mm	47	0373M	1:1	back	0.640	1.153	0.738	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	-0.03	15 mm	109	0373M	1:1	back	0.449	1.143	0.513	A32
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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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 110 of 164

**Table 11-23
LTE Body-Worn SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	-0.02	0	19	0361M	QPSK	1	0	15 mm	back	1:1	0.226	1.153	0.261	A34
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	0.04	1	19	0361M	QPSK	50	0	15 mm	back	1:1	0.190	1.151	0.219	
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	-0.08	0	20	0361M	QPSK	1	0	15 mm	back	1:1	0.247	1.094	0.270	A36
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.06	1	20	0361M	QPSK	25	0	15 mm	back	1:1	0.202	1.151	0.233	
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	0.00	0	52	0361M	QPSK	1	0	15 mm	back	1:1	0.354	1.135	0.402	A38
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	0.02	1	52	0361M	QPSK	25	12	15 mm	back	1:1	0.301	1.140	0.343	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.24	0.01	0	53	0361M	QPSK	1	0	15 mm	back	1:1	0.248	1.138	0.282	A40
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.22	0.00	1	53	0361M	QPSK	25	0	15 mm	back	1:1	0.209	1.143	0.239	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.00	0	108	0357M	QPSK	1	50	15 mm	back	1:1	0.691	1.194	0.825	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.5	23.66	-0.04	0	109	0357M	QPSK	1	50	15 mm	back	1:1	0.739	1.213	0.896	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.5	23.70	0.02	0	109	0357M	QPSK	1	50	15 mm	back	1:1	0.785	1.202	0.944	A42
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.00	1	108	0357M	QPSK	50	50	15 mm	back	1:1	0.575	1.161	0.668	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.80	-0.04	1	4	0357M	QPSK	100	0	15 mm	back	1:1	0.584	1.175	0.686	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.5	23.52	-0.01	0	109	0357M	QPSK	1	0	15 mm	back	1:1	0.683	1.253	0.856	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.5	23.46	0.00	0	109	0357M	QPSK	1	0	15 mm	back	1:1	0.667	1.271	0.848	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	-0.01	0	109	0357M	QPSK	1	50	15 mm	back	1:1	0.691	1.230	0.850	A44
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.01	1	109	0357M	QPSK	50	25	15 mm	back	1:1	0.556	1.213	0.674	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.55	-0.03	1	109	0357M	QPSK	100	0	15 mm	back	1:1	0.548	1.245	0.682	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	-0.03	0	N/A	0387M	QPSK	1	0	15 mm	back	1:1	0.588	1.038	0.610	A46
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	0.04	1	N/A	0387M	QPSK	25	12	15 mm	back	1:1	0.458	1.028	0.471	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	-0.03	0	N/A	0394M	QPSK	1	50	15 mm	back	1:1	0.371	1.191	0.442	A48
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	0.00	1	N/A	0394M	QPSK	50	25	15 mm	back	1:1	0.318	1.167	0.371	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	-0.01	0	N/A	0397M	QPSK	1	50	15 mm	back	1:1.58	0.249	1.153	0.287	A50
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.00	1	N/A	0397M	QPSK	50	25	15 mm	back	1:1.58	0.198	1.156	0.229	
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: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 111 of 164	

**Table 11-24
NR Body-Worn SAR**




MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.11	0	19	0382M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.249	1.096	0.273	A52
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.02	0	19	0382M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.224	1.135	0.254	
680.50	136100	Mid	NR Band n71	20	24.0	23.43	-0.01	1.5	19	0382M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.167	1.140	0.190	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	-0.14	0	108	0389M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:1	0.811	1.130	0.916	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.5	23.85	-0.06	0	109	0389M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.891	1.161	1.034	A54
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.72	-0.02	0	109	0389M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:1	0.853	1.197	1.021	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.04	0	108	0389M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.815	1.172	0.955	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.5	23.56	-0.04	0	108	0389M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.885	1.242	1.099	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.64	-0.07	0	108	0389M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.753	1.219	0.918	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.5	22.79	-0.02	1	4	0389M	DFT-S-OFDM QPSK	100	0	15 mm	back	1:1	0.644	1.178	0.759	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.0	22.52	-0.02	1.5	108	0389M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.548	1.117	0.612	
2592.99	518598	Mid	NR Band n41	100	25.5	24.98	0.02	0	N/A	1244M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:4	0.079	1.127	0.089	A56
2592.99	518598	Mid	NR Band n41	100	25.5	24.63	0.11	0	N/A	1244M	DFT-S-OFDM QPSK	135	69	15 mm	back	1:4	0.059	1.222	0.072	
2592.99	518598	Mid	NR Band n41	100	24.0	23.75	0.07	1.5	N/A	1244M	CP-OFDM QPSK	1	1	15 mm	back	1:4	0.057	1.059	0.060	
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**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
2462	11	802.11b	DSSS	22	20.5	20.49	0.05	15 mm	1	0702M	1	back	99.9	0.178	0.122	1.002	1.001	0.122	A58
2412	1	802.11b	DSSS	22	20.5	20.43	0.10	15 mm	2	0702M	1	back	99.0	0.071	0.049	1.016	1.010	0.050	
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 11-26
NII SISO Body-Worn SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
5300	60	802.11a	OFDM	20	18.5	18.18	-0.09	15 mm	1	0702M	6	back	99.0	0.213	0.153	1.076	1.010	0.166	
5260	52	802.11a	OFDM	20	18.5	18.30	0.12	15 mm	2	0702M	6	back	98.9	0.346	0.160	1.047	1.011	0.169	
5600	120	802.11a	OFDM	20	18.5	18.28	0.09	15 mm	1	0702M	6	back	99.0	0.374	0.196	1.052	1.010	0.208	
5720	144	802.11a	OFDM	20	18.5	18.42	0.00	15 mm	2	0702M	6	back	98.9	0.480	0.223	1.019	1.011	0.230	
5785	157	802.11a	OFDM	20	18.5	18.04	0.04	15 mm	1	0702M	6	back	99.0	0.841	0.382	1.112	1.010	0.429	
5785	157	802.11a	OFDM	20	18.5	18.49	-0.04	15 mm	2	0702M	6	back	98.9	0.423	0.207	1.002	1.011	0.210	
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: A3LSMN986W	 PCTEST Proud to be part of the 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 112 of 164	

**Table 11-27
NII MIMO Body-Worn SAR**

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)				
5300	60	802.11n	OFDM	20	18.5	18.30	18.5	18.25	-0.11	15 mm	MMO	0702M	13	back	97.6	0.442	0.203	1.099	1.025	0.220	
5720	144	802.11n	OFDM	20	18.5	18.20	18.5	18.32	-0.14	15 mm	MMO	0702M	13	back	97.6	0.332	0.445	1.072	1.025	0.489	A60
5755	151	802.11n	OFDM	40	17.0	16.98	17.0	16.92	0.00	15 mm	MMO	0702M	27	back	95.1	0.882	0.381	1.019	1.052	0.408	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Body										
Spatial Peak Uncontrolled Exposure/General Population											1.6 W/kg (mW/g) averaged over 1 gram										

Note: For UNII-2A and UNII-2C to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm. For UNII-3 to achieve the 20.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.0 dBm.

**Table 11-28
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 (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)				
2437	6	802.11n	OFDM	20	16.0	15.67	16.0	15.99	0.11	15 mm	MMO	0702M	13	back	97.3	0.080	0.048	1.079	1.028	0.053	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Body										
Spatial Peak Uncontrolled Exposure/General Population											1.6 W/kg (mW/g) averaged over 1 gram										

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




**Table 11-29
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR**

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)				
5290	58	802.11ac	OFDM	80	13.0	12.97	13.0	12.83	0.06	15 mm	MMO	0702M	58.5	back	91.0	0.110	0.037	1.040	1.099	0.042	
5690	138	802.11ac	OFDM	80	13.0	12.61	13.0	12.62	-0.07	15 mm	MMO	0702M	58.5	back	91.0	0.285	0.122	1.094	1.099	0.147	
5775	155	802.11ac	OFDM	80	13.0	12.74	13.0	12.88	0.02	15 mm	MMO	0702M	58.5	back	91.0	0.288	0.121	1.062	1.099	0.141	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Body										
Spatial Peak Uncontrolled Exposure/General Population											1.6 W/kg (mW/g) averaged over 1 gram										

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

**Table 11-30
DSS 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 (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.											(W/kg)				
2480	78	Bluetooth	FHSS	16.5	16.26	0.04	15 mm	0713M	1	back	77.3	0.016	1.057	1.294	0.022	A62
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Body					
Spatial Peak Uncontrolled Exposure/General Population											1.6 W/kg (mW/g) averaged over 1 gram					

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 113 of 164




11.3 Standalone Hotspot SAR Data

**Table 11-31
CDMA Hotspot SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	EVDO Rev. 0	25.8	24.88	0.03	10 mm	65	0365M	1:1	back	0.663	1.236	0.819	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.89	0.01	10 mm	65	0365M	1:1	back	0.683	1.233	0.842	
848.31	777	Cell. CDMA	EVDO Rev. 0	25.8	24.45	-0.02	10 mm	65	0365M	1:1	back	0.722	1.365	0.986	A23
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.89	-0.02	10 mm	65	0365M	1:1	front	0.402	1.233	0.496	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.89	-0.03	10 mm	65	0365M	1:1	bottom	0.351	1.233	0.433	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.89	-0.02	10 mm	65	0365M	1:1	right	0.066	1.233	0.081	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.89	0.09	10 mm	65	0365M	1:1	left	0.191	1.233	0.236	
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 11-32
GPRS Hotspot SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	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	GPRS	30.5	30.01	-0.06	10 mm	0365M	3	1:2.76	back	0.396	1.119	0.443	A25
836.60	190	GSM 850	GPRS	30.5	30.01	0.00	10 mm	0365M	3	1:2.76	front	0.285	1.119	0.319	
836.60	190	GSM 850	GPRS	30.5	30.01	-0.05	10 mm	0365M	3	1:2.76	bottom	0.246	1.119	0.275	
836.60	190	GSM 850	GPRS	30.5	30.01	-0.05	10 mm	0365M	3	1:2.76	right	0.048	1.119	0.054	
836.60	190	GSM 850	GPRS	30.5	30.01	-0.07	10 mm	0365M	3	1:2.76	left	0.128	1.119	0.143	
1880.00	661	GSM 1900	GPRS	22.8	22.18	-0.02	10 mm	0373M	4	1:2.076	back	0.283	1.153	0.326	
1880.00	661	GSM 1900	GPRS	22.8	22.18	0.05	10 mm	0373M	4	1:2.076	front	0.237	1.153	0.273	
1850.20	512	GSM 1900	GPRS	22.8	22.25	0.07	10 mm	0373M	4	1:2.076	bottom	0.621	1.135	0.705	
1880.00	661	GSM 1900	GPRS	22.8	22.18	-0.15	10 mm	0373M	4	1:2.076	bottom	0.563	1.153	0.649	
1909.80	810	GSM 1900	GPRS	22.8	22.45	-0.07	10 mm	0373M	4	1:2.076	bottom	0.742	1.084	0.804	A27
1880.00	661	GSM 1900	GPRS	22.8	22.18	-0.07	10 mm	0373M	4	1:2.076	right	0.038	1.153	0.044	
1880.00	661	GSM 1900	GPRS	22.8	22.18	-0.02	10 mm	0373M	4	1:2.076	left	0.035	1.153	0.040	
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: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 114 of 164	

**Table 11-33
UMTS Hotspot SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
826.40	4132	UMTS 850	RMC	25.8	25.26	-0.01	10 mm	57	0365M	1:1	back	0.571	1.132	0.646	
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.02	10 mm	57	0365M	1:1	back	0.575	1.156	0.665	
846.60	4233	UMTS 850	RMC	25.8	24.94	-0.05	10 mm	57	0365M	1:1	back	0.621	1.219	0.757	A29
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.05	10 mm	57	0365M	1:1	front	0.382	1.156	0.442	
836.60	4183	UMTS 850	RMC	25.8	25.17	0.02	10 mm	57	0365M	1:1	bottom	0.354	1.156	0.409	
836.60	4183	UMTS 850	RMC	25.8	25.17	-0.02	10 mm	57	0365M	1:1	right	0.072	1.156	0.083	
836.60	4183	UMTS 850	RMC	25.8	25.17	0.00	10 mm	57	0365M	1:1	left	0.208	1.156	0.240	
1712.40	1312	UMTS 1750	RMC	20.0	19.86	0.03	10 mm	47	0373M	1:1	back	0.599	1.033	0.619	
1712.40	1312	UMTS 1750	RMC	20.0	19.86	0.00	10 mm	47	0373M	1:1	front	0.520	1.033	0.537	
1712.40	1312	UMTS 1750	RMC	20.0	19.86	-0.06	10 mm	47	0373M	1:1	bottom	0.946	1.033	0.977	A31
1732.40	1412	UMTS 1750	RMC	20.0	19.67	-0.06	10 mm	47	0373M	1:1	bottom	0.597	1.079	0.644	
1752.60	1513	UMTS 1750	RMC	20.0	19.00	-0.02	10 mm	47	0373M	1:1	bottom	0.658	1.259	0.828	
1712.40	1312	UMTS 1750	RMC	20.0	19.86	-0.02	10 mm	47	0373M	1:1	right	0.110	1.033	0.114	
1712.40	1312	UMTS 1750	RMC	20.0	19.86	0.01	10 mm	47	0373M	1:1	left	0.072	1.033	0.074	
1880.00	9400	UMTS 1900	RMC	19.0	18.51	0.01	10 mm	109	0373M	1:1	back	0.502	1.119	0.562	
1880.00	9400	UMTS 1900	RMC	19.0	18.51	-0.01	10 mm	109	0373M	1:1	front	0.357	1.119	0.399	
1852.40	9262	UMTS 1900	RMC	19.0	18.70	0.01	10 mm	109	0373M	1:1	bottom	0.907	1.072	0.972	
1880.00	9400	UMTS 1900	RMC	19.0	18.51	0.00	10 mm	109	0373M	1:1	bottom	0.871	1.119	0.975	
1907.60	9538	UMTS 1900	RMC	19.0	18.85	0.00	10 mm	109	0373M	1:1	bottom	1.040	1.035	1.076	A33
1880.00	9400	UMTS 1900	RMC	19.0	18.51	-0.08	10 mm	109	0373M	1:1	right	0.051	1.119	0.057	
1880.00	9400	UMTS 1900	RMC	19.0	18.51	0.05	10 mm	109	0373M	1:1	left	0.052	1.119	0.058	
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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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 115 of 164	

**Table 11-34
LTE Band 71 Hotspot SAR**



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	0.03	0	19	0361M	QPSK	1	0	10 mm	back	1:1	0.331	1.153	0.382	A35
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	0.06	1	19	0361M	QPSK	50	0	10 mm	back	1:1	0.277	1.151	0.319	
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	-0.03	0	20	0361M	QPSK	1	0	10 mm	front	1:1	0.209	1.153	0.241	
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	-0.01	1	20	0361M	QPSK	50	0	10 mm	front	1:1	0.173	1.151	0.199	
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	-0.01	0	19	0361M	QPSK	1	0	10 mm	bottom	1:1	0.162	1.153	0.187	
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	-0.04	1	19	0361M	QPSK	50	0	10 mm	bottom	1:1	0.141	1.151	0.162	
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	-0.11	0	20	0361M	QPSK	1	0	10 mm	right	1:1	0.180	1.153	0.208	
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	-0.02	1	20	0361M	QPSK	50	0	10 mm	right	1:1	0.147	1.151	0.169	
680.50	133297	Mid	LTE Band 71	20	25.8	25.18	0.07	0	20	0361M	QPSK	1	0	10 mm	left	1:1	0.280	1.153	0.323	
680.50	133297	Mid	LTE Band 71	20	24.8	24.19	-0.01	1	20	0361M	QPSK	50	0	10 mm	left	1:1	0.227	1.151	0.261	
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 11-35
LTE Band 12 Hotspot SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	0.02	0	20	0361M	QPSK	1	0	10 mm	back	1:1	0.398	1.094	0.435	A37
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.07	1	20	0361M	QPSK	25	0	10 mm	back	1:1	0.310	1.151	0.357	
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	0.03	0	20	0361M	QPSK	1	0	10 mm	front	1:1	0.251	1.094	0.275	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.01	1	20	0361M	QPSK	25	0	10 mm	front	1:1	0.197	1.151	0.227	
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	-0.04	0	20	0361M	QPSK	1	0	10 mm	bottom	1:1	0.219	1.094	0.240	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.03	1	20	0361M	QPSK	25	0	10 mm	bottom	1:1	0.172	1.151	0.198	
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	0.14	0	20	0361M	QPSK	1	0	10 mm	right	1:1	0.169	1.094	0.185	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	-0.10	1	20	0361M	QPSK	25	0	10 mm	right	1:1	0.128	1.151	0.147	
707.50	23095	Mid	LTE Band 12	10	25.8	25.41	-0.04	0	20	0361M	QPSK	1	0	10 mm	left	1:1	0.258	1.094	0.282	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.06	1	20	0361M	QPSK	25	0	10 mm	left	1:1	0.231	1.151	0.266	
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 11-36
LTE Band 13 Hotspot SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	0.09	0	52	0361M	QPSK	1	0	10 mm	back	1:1	0.580	1.135	0.658	A39
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	0.10	1	52	0361M	QPSK	25	12	10 mm	back	1:1	0.504	1.140	0.575	
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	-0.07	0	52	0361M	QPSK	1	0	10 mm	front	1:1	0.417	1.135	0.473	
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	-0.01	1	52	0361M	QPSK	25	12	10 mm	front	1:1	0.367	1.140	0.418	
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	-0.01	0	52	0361M	QPSK	1	0	10 mm	bottom	1:1	0.368	1.135	0.418	
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	-0.04	1	52	0361M	QPSK	25	12	10 mm	bottom	1:1	0.344	1.140	0.392	
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	-0.06	0	52	0361M	QPSK	1	0	10 mm	right	1:1	0.099	1.135	0.112	
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	0.04	1	52	0361M	QPSK	25	12	10 mm	right	1:1	0.080	1.140	0.091	
782.00	23230	Mid	LTE Band 13	10	25.8	25.25	0.15	0	52	0361M	QPSK	1	0	10 mm	left	1:1	0.316	1.135	0.359	
782.00	23230	Mid	LTE Band 13	10	24.8	24.23	-0.03	1	52	0361M	QPSK	25	12	10 mm	left	1:1	0.255	1.140	0.291	
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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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 116 of 164

**Table 11-37
LTE Band 5 (Cell) Hotspot SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.05	0	53	0361M	QPSK	1	0	10 mm	back	1:1	0.503	1.138	0.572	A41
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	-0.01	1	53	0361M	QPSK	25	0	10 mm	back	1:1	0.423	1.143	0.483	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.02	0	53	0361M	QPSK	1	0	10 mm	front	1:1	0.349	1.138	0.397	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	-0.02	1	53	0361M	QPSK	25	0	10 mm	front	1:1	0.292	1.143	0.334	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.05	0	53	0361M	QPSK	1	0	10 mm	bottom	1:1	0.304	1.138	0.346	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	-0.04	1	53	0361M	QPSK	25	0	10 mm	bottom	1:1	0.256	1.143	0.293	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	-0.09	0	53	0361M	QPSK	1	0	10 mm	right	1:1	0.059	1.138	0.067	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	0.02	1	53	0361M	QPSK	25	0	10 mm	right	1:1	0.051	1.143	0.058	
836.50	20525	Md	LTE Band 5 (Cell)	10	25.8	25.24	0.00	0	53	0361M	QPSK	1	0	10 mm	left	1:1	0.171	1.138	0.195	
836.50	20525	Md	LTE Band 5 (Cell)	10	24.8	24.22	-0.02	1	53	0361M	QPSK	25	0	10 mm	left	1:1	0.145	1.143	0.166	
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 11-38
LTE Band 66 (AWS) Hotspot SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.96	0.01	0	108	0357M	QPSK	1	50	10 mm	back	1:1	0.459	1.009	0.463	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.97	-0.04	0	108	0357M	QPSK	50	50	10 mm	back	1:1	0.479	1.007	0.482	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.96	0.02	0	108	0357M	QPSK	1	50	10 mm	front	1:1	0.384	1.009	0.387	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.97	0.01	0	108	0357M	QPSK	50	50	10 mm	front	1:1	0.398	1.007	0.401	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.96	-0.01	0	20	0357M	QPSK	1	50	10 mm	bottom	1:1	0.766	1.009	0.773	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.97	-0.03	0	2	0357M	QPSK	50	50	10 mm	bottom	1:1	0.769	1.007	0.774	
1745.00	132322	Md	LTE Band 66 (AWS)	20	20.0	19.38	-0.04	0	108	0357M	QPSK	50	25	10 mm	bottom	1:1	0.791	1.153	0.912	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.0	19.34	-0.03	0	2	0357M	QPSK	50	25	10 mm	bottom	1:1	0.862	1.164	1.003	A43
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.91	-0.01	0	2	0357M	QPSK	100	0	10 mm	bottom	1:1	0.771	1.021	0.787	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.96	-0.03	0	108	0357M	QPSK	1	50	10 mm	right	1:1	0.087	1.009	0.088	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.97	0.09	0	108	0357M	QPSK	50	50	10 mm	right	1:1	0.091	1.007	0.092	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.96	-0.04	0	108	0357M	QPSK	1	50	10 mm	left	1:1	0.063	1.009	0.064	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.97	-0.02	0	108	0357M	QPSK	50	50	10 mm	left	1:1	0.064	1.007	0.064	
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: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 117 of 164	

**Table 11-39
LTE Band 25 (PCS) Hotspot SAR**



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.09	0.01	0	109	0357M	QPSK	1	50	10 mm	back	1:1	0.578	1.099	0.635	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	0.11	0	109	0357M	QPSK	50	25	10 mm	back	1:1	0.600	1.084	0.650	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.09	-0.01	0	109	0357M	QPSK	1	50	10 mm	front	1:1	0.462	1.099	0.508	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	-0.02	0	109	0357M	QPSK	50	25	10 mm	front	1:1	0.476	1.084	0.516	
1860.00	26140	Low	LTE Band 25 (PCS)	20	19.5	19.04	-0.06	0	109	0357M	QPSK	1	0	10 mm	bottom	1:1	1.010	1.112	1.123	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	18.93	-0.05	0	109	0357M	QPSK	1	99	10 mm	bottom	1:1	1.050	1.140	1.197	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.09	-0.03	0	109	0357M	QPSK	1	50	10 mm	bottom	1:1	1.110	1.099	1.220	
1860.00	26140	Low	LTE Band 25 (PCS)	20	19.5	19.11	-0.09	0	109	0357M	QPSK	50	25	10 mm	bottom	1:1	1.020	1.094	1.116	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.5	18.96	-0.02	0	109	0357M	QPSK	50	50	10 mm	bottom	1:1	1.050	1.132	1.189	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	0.09	0	109	0357M	QPSK	50	25	10 mm	bottom	1:1	1.160	1.084	1.257	A45
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.04	-0.19	0	109	0357M	QPSK	100	0	10 mm	bottom	1:1	1.100	1.112	1.223	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.09	0.00	0	109	0357M	QPSK	1	50	10 mm	right	1:1	0.054	1.099	0.059	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	0.02	0	109	0357M	QPSK	50	25	10 mm	right	1:1	0.052	1.084	0.056	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.09	-0.02	0	109	0357M	QPSK	1	50	10 mm	left	1:1	0.047	1.099	0.052	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	-0.03	0	109	0357M	QPSK	50	25	10 mm	left	1:1	0.048	1.084	0.052	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.5	19.15	-0.05	0	109	0357M	QPSK	50	25	10 mm	bottom	1:1	1.140	1.084	1.236	
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 measurement.

**Table 11-40
LTE Band 30 Hotspot SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	20.0	19.26	-0.01	0	0387M	QPSK	1	0	10 mm	back	1:1	0.439	1.186	0.521	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	-0.04	0	0387M	QPSK	25	12	10 mm	back	1:1	0.437	1.172	0.512	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.26	0.03	0	0387M	QPSK	1	0	10 mm	front	1:1	0.327	1.186	0.388	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	-0.01	0	0387M	QPSK	25	12	10 mm	front	1:1	0.320	1.172	0.375	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.26	0.01	0	0387M	QPSK	1	0	10 mm	bottom	1:1	1.050	1.186	1.245	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	-0.06	0	0387M	QPSK	25	12	10 mm	bottom	1:1	1.070	1.172	1.254	A47
2310.00	27710	Mid	LTE Band 30	10	20.0	19.24	0.00	0	0387M	QPSK	50	0	10 mm	bottom	1:1	1.040	1.191	1.239	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.26	-0.16	0	0387M	QPSK	1	0	10 mm	right	1:1	0.067	1.186	0.079	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	0.11	0	0387M	QPSK	25	12	10 mm	right	1:1	0.066	1.172	0.077	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.26	-0.14	0	0387M	QPSK	1	0	10 mm	left	1:1	0.027	1.186	0.032	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	0.02	0	0387M	QPSK	25	12	10 mm	left	1:1	0.024	1.172	0.028	
2310.00	27710	Mid	LTE Band 30	10	20.0	19.31	0.03	0	0387M	QPSK	25	12	10 mm	bottom	1:1	1.060	1.172	1.242	
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 measurement.

FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 118 of 164	

**Table 11-41
LTE Band 7 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)		
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	0.02	0	0394M	QPSK	1	0	10 mm	back	1:1	0.235	1.143	0.269	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	0.05	0	0394M	QPSK	50	25	10 mm	back	1:1	0.247	1.146	0.283	
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	0.05	0	0394M	QPSK	1	0	10 mm	front	1:1	0.161	1.143	0.184	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	0.06	0	0394M	QPSK	50	25	10 mm	front	1:1	0.167	1.146	0.191	
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	-0.06	0	0394M	QPSK	1	0	10 mm	bottom	1:1	0.482	1.143	0.551	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	-0.02	0	0394M	QPSK	50	25	10 mm	bottom	1:1	0.514	1.146	0.589	A49
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	0.10	0	0394M	QPSK	1	0	10 mm	right	1:1	0.102	1.143	0.117	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	0.04	0	0394M	QPSK	50	25	10 mm	right	1:1	0.106	1.146	0.121	
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 11-42
LTE Band 41 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)		
2680.00	41490	High	LTE Band 41	20	22.0	21.44	-0.12	0	0397M	QPSK	1	50	10 mm	back	1:1.58	0.226	1.138	0.257	
2680.00	41490	High	LTE Band 41	20	22.0	21.59	-0.02	0	0397M	QPSK	50	25	10 mm	back	1:1.58	0.217	1.099	0.238	
2680.00	41490	High	LTE Band 41	20	22.0	21.44	-0.04	0	0397M	QPSK	1	50	10 mm	front	1:1.58	0.182	1.138	0.207	
2680.00	41490	High	LTE Band 41	20	22.0	21.59	0.02	0	0397M	QPSK	50	25	10 mm	front	1:1.58	0.176	1.099	0.193	
2680.00	41490	High	LTE Band 41	20	22.0	21.44	-0.07	0	0397M	QPSK	1	50	10 mm	bottom	1:1.58	0.414	1.138	0.471	A51
2680.00	41490	High	LTE Band 41	20	22.0	21.59	-0.05	0	0397M	QPSK	50	25	10 mm	bottom	1:1.58	0.396	1.099	0.435	
2680.00	41490	High	LTE Band 41	20	22.0	21.44	0.00	0	0397M	QPSK	1	50	10 mm	right	1:1.58	0.092	1.138	0.105	
2680.00	41490	High	LTE Band 41	20	22.0	21.59	-0.05	0	0397M	QPSK	50	25	10 mm	right	1:1.58	0.088	1.099	0.097	
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 11-43
NR Band n71 Hotspot SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.09	0	19	0382M	DFT-S-OFDM QPSK	1	53	10 mm	back	1:1	0.341	1.096	0.374	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.08	0	19	0382M	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.345	1.135	0.392	A53
680.50	136100	Mid	NR Band n71	20	24.0	23.43	0.01	1.5	19	0382M	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.241	1.140	0.275	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.07	0	20	0382M	DFT-S-OFDM QPSK	1	53	10 mm	front	1:1	0.205	1.096	0.225	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	-0.04	0	20	0382M	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.208	1.135	0.236	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.08	0	19	0382M	DFT-S-OFDM QPSK	1	53	10 mm	bottom	1:1	0.199	1.096	0.218	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	-0.05	0	19	0382M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.189	1.135	0.215	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.13	0	20	0382M	DFT-S-OFDM QPSK	1	53	10 mm	right	1:1	0.171	1.096	0.187	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	0.00	0	20	0382M	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.163	1.135	0.185	
680.50	136100	Mid	NR Band n71	20	25.5	25.10	0.10	0	20	0382M	DFT-S-OFDM QPSK	1	53	10 mm	left	1:1	0.266	1.096	0.292	
680.50	136100	Mid	NR Band n71	20	25.5	24.95	-0.03	0	20	0382M	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.262	1.135	0.297	
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: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 119 of 164	



Table 11-44
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	20.00	0.03	0	108	0389M	DFT-S-OFDM QPSK	1	53	10 mm	back	1:1	0.584	1.000	0.584	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.64	0.05	0	108	0389M	DFT-S-OFDM QPSK	50	0	10 mm	back	1:1	0.590	1.086	0.641	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	20.00	0.03	0	108	0389M	DFT-S-OFDM QPSK	1	53	10 mm	front	1:1	0.518	1.000	0.518	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.64	0.03	0	108	0389M	DFT-S-OFDM QPSK	50	0	10 mm	front	1:1	0.494	1.086	0.536	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	20.00	-0.03	0	20	0389M	DFT-S-OFDM QPSK	1	53	10 mm	bottom	1:1	0.867	1.000	0.867	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.85	-0.02	0	20	0389M	DFT-S-OFDM QPSK	1	53	10 mm	bottom	1:1	0.990	1.035	1.025	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.99	0.09	0	20	0389M	DFT-S-OFDM QPSK	1	53	10 mm	bottom	1:1	0.841	1.002	0.843	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.64	0.02	0	2	0389M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.931	1.086	1.011	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.44	-0.06	0	108	0389M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.945	1.138	1.075	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.63	-0.05	0	2	0389M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	1.030	1.089	1.122	A55
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.59	-0.02	0	2	0389M	DFT-S-OFDM QPSK	100	0	10 mm	bottom	1:1	0.923	1.099	1.014	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.60	-0.04	0	108	0389M	CP-OFDM QPSK	1	1	10 mm	bottom	1:1	0.974	1.096	1.068	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	20.00	0.03	0	108	0389M	DFT-S-OFDM QPSK	1	53	10 mm	right	1:1	0.124	1.000	0.124	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.64	0.07	0	108	0389M	DFT-S-OFDM QPSK	50	0	10 mm	right	1:1	0.119	1.086	0.129	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	20.00	0.00	0	108	0389M	DFT-S-OFDM QPSK	1	53	10 mm	left	1:1	0.080	1.000	0.080	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.64	0.02	0	108	0389M	DFT-S-OFDM QPSK	50	0	10 mm	left	1:1	0.078	1.086	0.085	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.63	0.02	0	2	0389M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	1.030	1.089	1.122	
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 measurement.

Table 11-45
NR Band n41 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
2592.99	518598	Mid	NR Band n41	100	25.5	24.98	0.01	0	1244M	DFT-S-OFDM QPSK	1	1	10 mm	back	1:4	0.140	1.127	0.158	
2592.99	518598	Mid	NR Band n41	100	25.5	24.63	0.14	0	1244M	DFT-S-OFDM QPSK	135	69	10 mm	back	1:4	0.101	1.222	0.123	
2592.99	518598	Mid	NR Band n41	100	25.5	24.98	-0.01	0	1244M	DFT-S-OFDM QPSK	1	1	10 mm	front	1:4	0.152	1.127	0.171	
2592.99	518598	Mid	NR Band n41	100	25.5	24.63	0.08	0	1244M	DFT-S-OFDM QPSK	135	69	10 mm	front	1:4	0.139	1.222	0.170	
2592.99	518598	Mid	NR Band n41	100	25.5	24.98	-0.04	0	1244M	DFT-S-OFDM QPSK	1	1	10 mm	top	1:4	0.476	1.127	0.536	A57
2592.99	518598	Mid	NR Band n41	100	25.5	24.63	-0.04	0	1244M	DFT-S-OFDM QPSK	135	69	10 mm	top	1:4	0.365	1.222	0.446	
2592.99	518598	Mid	NR Band n41	100	24.0	23.75	-0.05	1.5	1244M	CP-OFDM QPSK	1	1	10 mm	top	1:4	0.327	1.059	0.346	
2592.99	518598	Mid	NR Band n41	100	25.5	24.98	0.08	0	1244M	DFT-S-OFDM QPSK	1	1	10 mm	left	1:4	0.021	1.127	0.024	
2592.99	518598	Mid	NR Band n41	100	25.5	24.63	0.03	0	1244M	DFT-S-OFDM QPSK	135	69	10 mm	left	1:4	0.016	1.222	0.020	
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: A3LSMN986W	 PCTEST Proud to be part of  SAMSUNG	SAR EVALUATION REPORT	Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 120 of 164

**Table 11-46
WLAN Hotspot SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
2462	11	802.11b	DSSS	22	20.5	20.49	0.02	10 mm	1	0702M	1	back	99.9	0.281	0.191	1.002	1.001	0.192	
2462	11	802.11b	DSSS	22	20.5	20.49	0.09	10 mm	1	0702M	1	front	99.9	0.260	0.169	1.002	1.001	0.170	
2462	11	802.11b	DSSS	22	20.5	20.49	0.04	10 mm	1	0702M	1	top	99.9	0.688	0.450	1.002	1.001	0.451	A59
2462	11	802.11b	DSSS	22	20.5	20.49	0.09	10 mm	1	0702M	1	left	99.9	0.084	-	1.002	1.001	-	
2412	1	802.11b	DSSS	22	20.5	20.43	-0.06	10 mm	2	0702M	1	back	99.0	0.151	0.107	1.016	1.010	0.110	
2412	1	802.11b	DSSS	22	20.5	20.43	0.09	10 mm	2	0702M	1	front	99.0	0.019	0.013	1.016	1.010	0.013	
2412	1	802.11b	DSSS	22	20.5	20.43	0.06	10 mm	2	0702M	1	top	99.0	0.059	-	1.016	1.010	-	
2412	1	802.11b	DSSS	22	20.5	20.43	0.03	10 mm	2	0702M	1	left	99.0	0.071	-	1.016	1.010	-	
5785	157	802.11a	OFDM	20	18.5	18.04	0.01	10 mm	1	0702M	6	back	99.0	1.194	0.507	1.112	1.010	0.569	
5785	157	802.11a	OFDM	20	18.5	18.04	0.03	10 mm	1	0702M	6	front	99.0	0.032	0.018	1.112	1.010	0.020	
5785	157	802.11a	OFDM	20	18.5	18.04	0.01	10 mm	1	0702M	6	top	99.0	0.134	-	1.112	1.010	-	
5785	157	802.11a	OFDM	20	18.5	18.04	0.17	10 mm	1	0702M	6	left	99.0	0.196	0.095	1.112	1.010	0.107	
5785	157	802.11a	OFDM	20	18.5	18.49	0.05	10 mm	2	0702M	6	back	98.9	0.725	0.354	1.002	1.011	0.359	
5785	157	802.11a	OFDM	20	18.5	18.49	0.03	10 mm	2	0702M	6	front	98.9	0.038	0.015	1.002	1.011	0.015	
5785	157	802.11a	OFDM	20	18.5	18.49	0.05	10 mm	2	0702M	6	top	98.9	0.144	-	1.002	1.011	-	
5785	157	802.11a	OFDM	20	18.5	18.49	-0.06	10 mm	2	0702M	6	left	98.9	0.329	-	1.002	1.011	-	
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 11-47
WLAN MIMO Hotspot SAR**



MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
5755	151	802.11n	OFDM	40	17.0	16.98	17.0	16.92	0.11	10 mm	MIMO	0702M	27	back	95.1	1.495	0.619	1.019	1.052	0.664	A61
5795	159	802.11n	OFDM	40	17.0	17.00	17.0	16.84	-0.03	10 mm	MIMO	0702M	27	back	95.1	1.412	0.604	1.038	1.052	0.660	
5755	151	802.11n	OFDM	40	17.0	16.98	17.0	16.92	0.00	10 mm	MIMO	0702M	27	front	95.1	0.050	0.025	1.019	1.052	0.027	
5755	151	802.11n	OFDM	40	17.0	16.98	17.0	16.92	0.03	10 mm	MIMO	0702M	27	top	95.1	0.183	-	1.019	1.052	-	
5755	151	802.11n	OFDM	40	17.0	16.98	17.0	16.92	-0.06	10 mm	MIMO	0702M	27	left	95.1	0.427	0.181	1.019	1.052	0.194	
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: To achieve the 20.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.0 dBm

**Table 11-48
WLAN MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR**

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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	802.11n	OFDM	20	16.0	15.67	16.0	15.99	0.09	10 mm	MIMO	0702M	13	back	97.3	0.189	0.111	1.079	1.028	0.123	
2437	6	802.11n	OFDM	20	16.0	15.67	16.0	15.99	0.04	10 mm	MIMO	0702M	13	front	97.3	0.057	-	1.079	1.028	-	
2437	6	802.11n	OFDM	20	16.0	15.67	16.0	15.99	0.07	10 mm	MIMO	0702M	13	top	97.3	0.241	0.153	1.079	1.028	0.170	
2437	6	802.11n	OFDM	20	16.0	15.67	16.0	15.99	0.10	10 mm	MIMO	0702M	13	left	97.3	0.090	-	1.079	1.028	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	13.0	12.88	0.09	10 mm	MIMO	0702M	58.5	back	91.0	0.415	0.175	1.062	1.099	0.204	
5775	155	802.11ac	OFDM	80	13.0	12.74	13.0	12.88	-0.08	10 mm	MIMO	0702M	58.5	front	91.0	0.032	-	1.062	1.099	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	13.0	12.88	-0.12	10 mm	MIMO	0702M	58.5	top	91.0	0.033	-	1.062	1.099	-	
5775	155	802.11ac	OFDM	80	13.0	12.74	13.0	12.88	0.04	10 mm	MIMO	0702M	58.5	left	91.0	0.081	-	1.062	1.099	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

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

FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 121 of 164	

5 GHz WIFI was not transmitting during DTS MIMO evaluations.




**Table 11-49
DSS 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 (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2480	78	Bluetooth	FHSS	16.5	16.26	0.08	10 mm	0713M	1	back	77.3	0.028	1.057	1.294	0.038	
2480	78	Bluetooth	FHSS	16.5	16.26	0.04	10 mm	0713M	1	front	77.3	0.027	1.057	1.294	0.037	
2480	78	Bluetooth	FHSS	16.5	16.26	0.17	10 mm	0713M	1	top	77.3	0.095	1.057	1.294	0.130	A63
2480	78	Bluetooth	FHSS	16.5	16.26	-0.09	10 mm	0713M	1	left	77.3	0.010	1.057	1.294	0.014	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

11.4 Standalone Phablet SAR Data

**Table 11-50
GPRS Phablet SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	27.5	26.87	-0.03	8 mm	0373M	3	1:2.76	back	0.539	1.156	0.623	
1880.00	661	GSM 1900	GPRS	27.5	26.87	-0.06	6 mm	0373M	3	1:2.76	front	0.625	1.156	0.723	
1880.00	661	GSM 1900	GPRS	27.5	26.87	-0.06	12 mm	0373M	3	1:2.76	bottom	0.695	1.156	0.803	
1880.00	661	GSM 1900	GPRS	27.5	26.87	-0.14	0 mm	0373M	3	1:2.76	right	0.260	1.156	0.301	
1880.00	661	GSM 1900	GPRS	27.5	26.87	-0.02	0 mm	0373M	3	1:2.76	left	0.172	1.156	0.199	
1880.00	661	GSM 1900	GPRS	24.3	22.77	-0.03	0 mm	0373M	4	1:2.076	back	1.270	1.422	1.806	
1880.00	661	GSM 1900	GPRS	24.3	22.77	0.04	0 mm	0373M	4	1:2.076	front	1.000	1.422	1.422	
1850.20	512	GSM 1900	GPRS	24.3	22.85	-0.16	0 mm	0373M	4	1:2.076	bottom	1.520	1.396	2.122	A64
1880.00	661	GSM 1900	GPRS	24.3	22.77	-0.07	0 mm	0373M	4	1:2.076	bottom	1.270	1.422	1.806	
1909.80	810	GSM 1900	GPRS	24.3	22.92	0.05	0 mm	0373M	4	1:2.076	bottom	1.280	1.374	1.759	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams								



FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 122 of 164	

**Table 11-51
UMTS 1750 Phablet SAR Data**

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	-0.01	8 mm	47	0373M	1:1	back	0.808	1.127	0.911	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	0.04	6 mm	47	0373M	1:1	front	0.888	1.127	1.001	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	-0.06	12 mm	47	0373M	1:1	bottom	0.687	1.127	0.774	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	0.07	0 mm	47	0373M	1:1	right	0.459	1.127	0.517	
1732.40	1412	UMTS 1750	RMC	24.5	23.98	-0.01	0 mm	47	0373M	1:1	left	0.276	1.127	0.311	
1712.40	1312	UMTS 1750	RMC	21.0	20.78	-0.03	0 mm	47	0373M	1:1	back	2.600	1.052	2.735	
1732.40	1412	UMTS 1750	RMC	21.0	20.61	0.00	0 mm	47	0373M	1:1	back	2.670	1.094	2.921	A65
1752.60	1513	UMTS 1750	RMC	21.0	20.28	-0.01	0 mm	47	0373M	1:1	back	2.470	1.180	2.915	
1712.40	1312	UMTS 1750	RMC	21.0	20.78	0.01	0 mm	47	0373M	1:1	front	2.170	1.052	2.283	
1732.40	1412	UMTS 1750	RMC	21.0	20.61	0.03	0 mm	47	0373M	1:1	front	2.200	1.094	2.407	
1752.60	1513	UMTS 1750	RMC	21.0	20.28	0.01	0 mm	47	0373M	1:1	front	2.130	1.180	2.513	
1712.40	1312	UMTS 1750	RMC	21.0	20.78	-0.03	0 mm	47	0373M	1:1	bottom	2.340	1.052	2.462	
1732.40	1412	UMTS 1750	RMC	21.0	20.61	-0.03	0 mm	47	0373M	1:1	bottom	2.280	1.094	2.494	
1752.60	1513	UMTS 1750	RMC	21.0	20.28	-0.04	0 mm	47	0373M	1:1	bottom	2.150	1.180	2.537	
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 11-52
UMTS 1900 Phablet SAR Data**




MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	-0.01	8 mm	109	0380M	1:1	back	0.969	1.143	1.108	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	-0.05	6 mm	109	0380M	1:1	front	1.040	1.143	1.189	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	-0.05	12 mm	109	0380M	1:1	bottom	1.070	1.143	1.223	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	-0.12	0 mm	109	0380M	1:1	right	0.398	1.143	0.455	
1880.00	9400	UMTS 1900	RMC	24.0	23.42	0.05	0 mm	109	0380M	1:1	left	0.256	1.143	0.293	
1852.40	9262	UMTS 1900	RMC	21.0	20.45	0.06	0 mm	109	0380M	1:1	back	2.770	1.135	3.144	
1880.00	9400	UMTS 1900	RMC	21.0	20.35	0.04	0 mm	109	0380M	1:1	back	2.670	1.161	3.100	
1907.60	9538	UMTS 1900	RMC	21.0	20.60	0.07	0 mm	109	0380M	1:1	back	2.760	1.096	3.025	
1852.40	9262	UMTS 1900	RMC	21.0	20.45	0.08	0 mm	109	0380M	1:1	front	2.350	1.135	2.667	
1880.00	9400	UMTS 1900	RMC	21.0	20.35	0.07	0 mm	109	0380M	1:1	front	2.180	1.161	2.531	
1907.60	9538	UMTS 1900	RMC	21.0	20.60	0.12	0 mm	109	0380M	1:1	front	2.280	1.096	2.499	
1852.40	9262	UMTS 1900	RMC	21.0	20.45	0.00	0 mm	109	0380M	1:1	bottom	2.710	1.135	3.076	
1880.00	9400	UMTS 1900	RMC	21.0	20.35	-0.02	0 mm	109	0380M	1:1	bottom	2.510	1.161	2.914	
1907.60	9538	UMTS 1900	RMC	21.0	20.60	-0.12	0 mm	109	0380M	1:1	bottom	2.870	1.096	3.146	A66
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams							

FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your compliance</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 123 of 164	

**Table 11-53
LTE Band 66 (AWS) Phablet SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	-0.02	0	108	0357M	QPSK	1	50	8 mm	back	1:1	0.933	1.194	1.114	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.02	1	108	0357M	QPSK	50	50	8 mm	back	1:1	0.768	1.161	0.892	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	0.06	0	108	0357M	QPSK	1	50	6 mm	front	1:1	1.050	1.194	1.254	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.04	1	108	0357M	QPSK	50	50	6 mm	front	1:1	0.886	1.161	1.029	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	-0.04	0	4	0357M	QPSK	1	50	12 mm	bottom	1:1	0.881	1.194	1.052	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	0.07	1	4	0357M	QPSK	50	50	12 mm	bottom	1:1	0.729	1.161	0.846	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	-0.19	0	108	0357M	QPSK	1	50	0 mm	right	1:1	0.445	1.194	0.531	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	-0.13	1	108	0357M	QPSK	50	50	0 mm	right	1:1	0.372	1.161	0.432	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.5	23.73	-0.05	0	109	0357M	QPSK	1	50	0 mm	left	1:1	0.299	1.194	0.357	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.5	22.85	-0.08	1	109	0357M	QPSK	50	50	0 mm	left	1:1	0.243	1.161	0.282	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.35	-0.05	0	4	0357M	QPSK	1	50	0 mm	back	1:1	2.430	1.035	2.515	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	20.05	-0.08	0	4	0357M	QPSK	1	50	0 mm	back	1:1	2.470	1.109	2.739	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	20.15	-0.06	0	13	0357M	QPSK	1	0	0 mm	back	1:1	2.450	1.084	2.656	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.25	-0.06	0	4	0357M	QPSK	50	25	0 mm	back	1:1	2.610	1.059	2.764	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	20.24	-0.08	0	4	0357M	QPSK	50	25	0 mm	back	1:1	2.580	1.062	2.740	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	20.21	-0.08	0	13	0357M	QPSK	50	25	0 mm	back	1:1	2.560	1.069	2.737	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.24	-0.07	0	4	0357M	QPSK	100	0	0 mm	back	1:1	2.570	1.062	2.729	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.35	-0.08	0	108	0357M	QPSK	1	50	0 mm	front	1:1	1.840	1.035	1.904	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.25	-0.11	0	108	0357M	QPSK	50	25	0 mm	front	1:1	1.960	1.059	2.076	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	20.24	-0.07	0	108	0357M	QPSK	50	25	0 mm	front	1:1	2.040	1.062	2.166	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	20.21	-0.05	0	108	0357M	QPSK	50	25	0 mm	front	1:1	2.110	1.069	2.256	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.24	-0.08	0	108	0357M	QPSK	100	0	0 mm	front	1:1	1.910	1.062	2.028	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.35	0.01	0	108	0357M	QPSK	1	50	0 mm	bottom	1:1	2.640	1.035	2.732	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	20.05	-0.03	0	108	0357M	QPSK	1	50	0 mm	bottom	1:1	2.590	1.109	2.872	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	20.15	-0.02	0	14	0357M	QPSK	1	0	0 mm	bottom	1:1	2.700	1.084	2.927	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.25	-0.03	0	18	0357M	QPSK	50	25	0 mm	bottom	1:1	2.850	1.059	3.018	A67
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	20.24	-0.03	0	108	0357M	QPSK	50	25	0 mm	bottom	1:1	2.680	1.062	2.846	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	20.21	-0.03	0	14	0357M	QPSK	50	25	0 mm	bottom	1:1	2.750	1.069	2.940	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.24	0.00	0	18	0357M	QPSK	100	0	0 mm	bottom	1:1	2.760	1.062	2.931	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.25	0.03	0	18	0357M	QPSK	50	25	0 mm	bottom	1:1	2.800	1.059	2.965	
ANSI / IEEE C95.1 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 measurement.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 124 of 164	

**Table 11-54
LTE Band 25 (PCS) Phablet SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	-0.05	0	109	0357M	QPSK	1	50	8 mm	back	1:1	1.010	1.230	1.242	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.06	1	109	0357M	QPSK	50	25	8 mm	back	1:1	0.830	1.213	1.007	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	-0.01	0	109	0357M	QPSK	1	50	6 mm	front	1:1	1.210	1.230	1.488	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	0.13	1	109	0357M	QPSK	50	25	6 mm	front	1:1	0.996	1.213	1.208	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	-0.04	0	109	0357M	QPSK	1	50	12 mm	bottom	1:1	1.080	1.230	1.328	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.17	1	109	0357M	QPSK	50	25	12 mm	bottom	1:1	0.887	1.213	1.076	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	-0.05	0	109	0357M	QPSK	1	50	0 mm	right	1:1	0.364	1.230	0.448	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.04	1	109	0357M	QPSK	50	25	0 mm	right	1:1	0.293	1.213	0.355	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.60	0.01	0	109	0357M	QPSK	1	50	0 mm	left	1:1	0.251	1.230	0.309	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.66	-0.01	1	109	0357M	QPSK	50	25	0 mm	left	1:1	0.201	1.213	0.244	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.63	-0.03	0	109	0387M	QPSK	1	0	0 mm	back	1:1	2.850	1.089	3.104	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.42	-0.06	0	109	0387M	QPSK	1	99	0 mm	back	1:1	2.700	1.143	3.086	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.57	-0.03	0	109	0387M	QPSK	1	99	0 mm	back	1:1	2.790	1.104	3.080	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.72	0.03	0	109	0387M	QPSK	50	0	0 mm	back	1:1	2.740	1.067	2.924	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.63	-0.06	0	109	0387M	QPSK	50	50	0 mm	back	1:1	2.870	1.089	3.125	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.70	-0.03	0	109	0387M	QPSK	50	50	0 mm	back	1:1	2.890	1.072	3.098	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.62	-0.02	0	109	0387M	QPSK	100	0	0 mm	back	1:1	2.880	1.091	3.142	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.63	0.06	0	109	0387M	QPSK	1	0	0 mm	front	1:1	2.370	1.089	2.581	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.42	0.07	0	109	0387M	QPSK	1	99	0 mm	front	1:1	2.130	1.143	2.435	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.57	0.02	0	109	0387M	QPSK	1	99	0 mm	front	1:1	2.160	1.104	2.385	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.72	0.03	0	109	0387M	QPSK	50	0	0 mm	front	1:1	2.450	1.067	2.614	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.63	0.10	0	109	0387M	QPSK	50	50	0 mm	front	1:1	2.280	1.089	2.461	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.70	0.04	0	109	0387M	QPSK	50	50	0 mm	front	1:1	2.300	1.072	2.466	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.62	0.04	0	109	0387M	QPSK	100	0	0 mm	front	1:1	2.380	1.091	2.597	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.63	0.04	0	109	0387M	QPSK	1	0	0 mm	bottom	1:1	2.750	1.089	2.995	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.42	0.16	0	109	0387M	QPSK	1	99	0 mm	bottom	1:1	2.710	1.143	3.098	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.57	-0.17	0	109	0387M	QPSK	1	99	0 mm	bottom	1:1	2.500	1.104	2.760	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.72	0.10	0	109	0387M	QPSK	50	0	0 mm	bottom	1:1	2.720	1.067	2.902	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.63	0.05	0	109	0387M	QPSK	50	50	0 mm	bottom	1:1	2.890	1.089	3.147	A68
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	21.70	-0.14	0	109	0387M	QPSK	50	50	0 mm	bottom	1:1	2.610	1.072	2.798	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	21.62	0.02	0	109	0387M	QPSK	100	0	0 mm	bottom	1:1	2.810	1.091	3.066	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	21.63	-0.06	0	109	0387M	QPSK	50	50	0 mm	bottom	1:1	2.850	1.089	3.104	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

Note: Blue entry represents variability measurement.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of  Siemens	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 125 of 164	



**Table 11-55
LTE Band 30 Phablet SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	-0.04	0	0387M	QPSK	1	0	0 mm	back	1:1	2.900	1.038	3.010	A69
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	-0.17	1	0387M	QPSK	25	12	0 mm	back	1:1	2.280	1.028	2.344	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.68	-0.16	1	0387M	QPSK	50	0	0 mm	back	1:1	2.240	1.076	2.410	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	0.12	0	0387M	QPSK	1	0	0 mm	front	1:1	2.170	1.038	2.252	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	0.02	1	0387M	QPSK	25	12	0 mm	front	1:1	1.800	1.028	1.850	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.68	0.06	1	0387M	QPSK	50	0	0 mm	front	1:1	1.770	1.076	1.905	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	-0.03	0	0387M	QPSK	1	0	0 mm	bottom	1:1	2.490	1.038	2.585	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	-0.03	1	0387M	QPSK	25	12	0 mm	bottom	1:1	2.040	1.028	2.097	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.68	-0.02	1	0387M	QPSK	50	0	0 mm	bottom	1:1	2.010	1.076	2.163	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	-0.03	0	0387M	QPSK	1	0	0 mm	right	1:1	0.502	1.038	0.521	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	-0.03	1	0387M	QPSK	25	12	0 mm	right	1:1	0.407	1.028	0.418	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	-0.09	0	0387M	QPSK	1	0	0 mm	left	1:1	0.197	1.038	0.204	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.88	-0.08	1	0387M	QPSK	25	12	0 mm	left	1:1	0.153	1.028	0.157	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.84	0.08	0	0387M	QPSK	1	0	0 mm	back	1:1	2.860	1.038	2.969	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

Note: Blue entry represents variability measurement.

**Table 11-56
LTE Band 7 Phablet SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	-0.15	0	0394M	QPSK	1	50	8 mm	back	1:1	0.398	1.191	0.474	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	0.00	1	0394M	QPSK	50	25	8 mm	back	1:1	0.332	1.167	0.387	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	-0.19	0	0394M	QPSK	1	50	6 mm	front	1:1	0.301	1.191	0.358	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	-0.17	1	0394M	QPSK	50	25	6 mm	front	1:1	0.245	1.167	0.286	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	-0.02	0	0394M	QPSK	1	50	12 mm	bottom	1:1	0.436	1.191	0.519	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	0.01	1	0394M	QPSK	50	25	12 mm	bottom	1:1	0.353	1.167	0.412	
2510.00	20850	Low	LTE Band 7	20	24.0	23.24	-0.03	0	0394M	QPSK	1	50	0 mm	right	1:1	0.838	1.191	0.998	
2510.00	20850	Low	LTE Band 7	20	23.0	22.33	-0.03	1	0394M	QPSK	50	25	0 mm	right	1:1	0.681	1.167	0.795	
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	-0.01	0	0394M	QPSK	1	0	0 mm	back	1:1	1.260	1.143	1.440	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	-0.02	0	0394M	QPSK	50	25	0 mm	back	1:1	1.300	1.146	1.490	
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	0.17	0	0394M	QPSK	1	0	0 mm	front	1:1	0.943	1.143	1.078	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	0.13	0	0394M	QPSK	50	25	0 mm	front	1:1	0.991	1.146	1.136	
2510.00	20850	Low	LTE Band 7	20	20.0	19.42	-0.04	0	0394M	QPSK	1	0	0 mm	bottom	1:1	1.550	1.143	1.772	
2510.00	20850	Low	LTE Band 7	20	20.0	19.41	-0.05	0	0394M	QPSK	50	25	0 mm	bottom	1:1	1.630	1.146	1.868	A70
2535.00	21100	Mid	LTE Band 7	20	20.0	19.18	-0.06	0	0394M	QPSK	50	0	0 mm	bottom	1:1	1.390	1.208	1.679	
2560.00	21350	High	LTE Band 7	20	20.0	18.95	-0.08	0	0394M	QPSK	50	25	0 mm	bottom	1:1	1.480	1.274	1.886	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 126 of 164

**Table 11-57
LTE Band 41 Phablet SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g) (W/kg)	Scaling Factor	Reported SAR (10g) (W/kg)	Plot #	
MHz	Ch.																		
2680.00	41490	High	LTE Band 41	20	25.0	24.38	-0.01	0	0397M	QPSK	1	50	8 mm	back	1:1.58	0.336	1.153	0.387	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.00	1	0397M	QPSK	50	25	8 mm	back	1:1.58	0.267	1.156	0.309	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	0.03	0	0397M	QPSK	1	50	6 mm	front	1:1.58	0.313	1.153	0.361	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	0.04	1	0397M	QPSK	50	25	6 mm	front	1:1.58	0.256	1.156	0.296	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	0.00	0	0397M	QPSK	1	50	12 mm	bottom	1:1.58	0.270	1.153	0.311	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	-0.03	1	0397M	QPSK	50	25	12 mm	bottom	1:1.58	0.216	1.156	0.250	
2680.00	41490	High	LTE Band 41	20	25.0	24.38	-0.02	0	0397M	QPSK	1	50	0 mm	right	1:1.58	0.708	1.153	0.816	
2680.00	41490	High	LTE Band 41	20	24.0	23.37	-0.11	1	0397M	QPSK	50	25	0 mm	right	1:1.58	0.578	1.156	0.668	
2506.00	39750	Low	LTE Band 41	20	23.0	22.17	0.02	0	0397M	QPSK	1	50	0 mm	back	1:1.58	1.220	1.211	1.477	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.15	0.02	0	0397M	QPSK	1	99	0 mm	back	1:1.58	1.410	1.216	1.715	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.32	0.03	0	0397M	QPSK	1	50	0 mm	back	1:1.58	1.490	1.169	1.742	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.34	0.07	0	0397M	QPSK	1	50	0 mm	back	1:1.58	1.800	1.164	2.095	
2680.00	41490	High	LTE Band 41	20	23.0	22.59	0.04	0	0397M	QPSK	1	50	0 mm	back	1:1.58	1.490	1.099	1.638	
2680.00	41490	High	LTE Band 41	20	23.0	22.54	0.04	0	0397M	QPSK	50	25	0 mm	back	1:1.58	1.240	1.112	1.379	
2680.00	41490	High	LTE Band 41	20	23.0	22.50	0.04	0	0397M	QPSK	100	0	0 mm	back	1:1.58	1.220	1.122	1.369	
2680.00	41490	High	LTE Band 41	20	23.0	22.59	0.07	0	0397M	QPSK	1	50	0 mm	front	1:1.58	1.270	1.099	1.396	
2506.00	39750	Low	LTE Band 41	20	23.0	22.25	0.01	0	0397M	QPSK	50	50	0 mm	front	1:1.58	0.992	1.189	1.179	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.34	0.05	0	0397M	QPSK	50	25	0 mm	front	1:1.58	1.020	1.164	1.187	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.50	0.09	0	0397M	QPSK	50	25	0 mm	front	1:1.58	1.000	1.122	1.122	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.44	-0.06	0	0397M	QPSK	50	25	0 mm	front	1:1.58	1.100	1.138	1.252	
2680.00	41490	High	LTE Band 41	20	23.0	22.54	0.05	0	0397M	QPSK	50	25	0 mm	front	1:1.58	1.460	1.112	1.624	
2680.00	41490	High	LTE Band 41	20	23.0	22.50	0.03	0	0397M	QPSK	100	0	0 mm	front	1:1.58	1.250	1.122	1.403	
2506.00	39750	Low	LTE Band 41	20	23.0	22.17	-0.05	0	0397M	QPSK	1	50	0 mm	bottom	1:1.58	1.790	1.211	2.168	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.15	-0.05	0	0397M	QPSK	1	99	0 mm	bottom	1:1.58	1.960	1.216	2.383	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.32	-0.07	0	0397M	QPSK	1	50	0 mm	bottom	1:1.58	2.050	1.169	2.396	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.34	-0.06	0	0397M	QPSK	1	50	0 mm	bottom	1:1.58	2.470	1.164	2.875	
2680.00	41490	High	LTE Band 41	20	23.0	22.59	-0.02	0	0397M	QPSK	1	50	0 mm	bottom	1:1.58	2.430	1.099	2.671	
2506.00	39750	Low	LTE Band 41	20	23.0	22.25	-0.19	0	0397M	QPSK	50	50	0 mm	bottom	1:1.58	1.890	1.189	2.247	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.34	-0.03	0	0397M	QPSK	50	25	0 mm	bottom	1:1.58	2.020	1.164	2.351	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.50	-0.02	0	0397M	QPSK	50	25	0 mm	bottom	1:1.58	2.160	1.122	2.424	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.44	-0.03	0	0397M	QPSK	50	25	0 mm	bottom	1:1.58	2.570	1.138	2.925	
2680.00	41490	High	LTE Band 41	20	23.0	22.54	-0.02	0	0397M	QPSK	50	25	0 mm	bottom	1:1.58	2.830	1.112	3.147	A71
2680.00	41490	High	LTE Band 41	20	23.0	22.50	-0.03	0	0397M	QPSK	100	0	0 mm	bottom	1:1.58	2.800	1.122	3.142	
2680.00	41490	High	LTE Band 41	20	23.0	22.54	0.01	0	0397M	QPSK	50	25	0 mm	bottom	1:1.58	2.820	1.112	3.136	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

Note: Blue entry represents variability measurement.





FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT	Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 127 of 164

Table 11-58
NR Band n66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)		
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.04	0	108	0389M	DFT-S-OFDM QPSK	1	1	8 mm	back	1:1	0.930	1.130	1.051	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.04	0	108	0389M	DFT-S-OFDM QPSK	50	28	8 mm	back	1:1	0.971	1.172	1.138	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	-0.02	0	108	0389M	DFT-S-OFDM QPSK	1	1	6 mm	front	1:1	0.938	1.130	1.060	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.07	0	108	0389M	DFT-S-OFDM QPSK	50	28	6 mm	front	1:1	0.952	1.172	1.116	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.00	0	4	0389M	DFT-S-OFDM QPSK	1	1	12 mm	bottom	1:1	1.000	1.130	1.130	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.05	0	4	0389M	DFT-S-OFDM QPSK	50	28	12 mm	bottom	1:1	1.040	1.172	1.219	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	-0.06	0	108	0389M	DFT-S-OFDM QPSK	1	1	0 mm	right	1:1	0.514	1.130	0.581	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.01	0	108	0389M	DFT-S-OFDM QPSK	50	28	0 mm	right	1:1	0.521	1.172	0.611	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.97	0.00	0	109	0389M	DFT-S-OFDM QPSK	1	1	0 mm	left	1:1	0.302	1.130	0.341	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	0.02	0	109	0389M	DFT-S-OFDM QPSK	50	28	0 mm	left	1:1	0.303	1.172	0.355	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.09	-0.14	0	4	0389M	DFT-S-OFDM QPSK	1	53	0 mm	back	1:1	2.130	1.099	2.341	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	20.02	-0.10	0	4	0389M	DFT-S-OFDM QPSK	1	1	0 mm	back	1:1	2.020	1.117	2.256	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	20.07	0.08	0	13	0389M	DFT-S-OFDM QPSK	1	1	0 mm	back	1:1	2.180	1.104	2.407	A72
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.01	0.14	0	4	0389M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	2.120	1.119	2.372	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	19.85	0.06	0	4	0389M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	2.170	1.161	2.519	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	19.91	-0.12	0	13	0389M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	2.120	1.146	2.430	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.00	0.07	0	4	0389M	DFT-S-OFDM QPSK	100	0	0 mm	back	1:1	2.130	1.122	2.390	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	20.17	-0.12	0	13	0389M	CP-OFDM QPSK	1	1	0 mm	back	1:1	2.120	1.079	2.287	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.09	-0.06	0	108	0389M	DFT-S-OFDM QPSK	1	53	0 mm	front	1:1	2.020	1.099	2.220	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	20.02	-0.09	0	108	0389M	DFT-S-OFDM QPSK	1	1	0 mm	front	1:1	1.990	1.117	2.223	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	20.07	-0.07	0	108	0389M	DFT-S-OFDM QPSK	1	1	0 mm	front	1:1	2.020	1.104	2.230	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.01	-0.02	0	108	0389M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.920	1.119	2.148	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	19.85	-0.05	0	108	0389M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.980	1.161	2.299	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	19.91	-0.06	0	108	0389M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.890	1.146	2.166	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.00	-0.07	0	108	0389M	DFT-S-OFDM QPSK	100	0	0 mm	front	1:1	1.960	1.122	2.199	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.09	-0.05	0	18	0389M	DFT-S-OFDM QPSK	1	53	0 mm	bottom	1:1	2.110	1.099	2.319	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	20.02	-0.08	0	108	0389M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	1.910	1.117	2.133	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	20.07	-0.08	0	14	0389M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.100	1.104	2.318	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.01	-0.10	0	18	0389M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	2.150	1.119	2.406	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.5	19.85	-0.10	0	108	0389M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	1.860	1.161	2.159	
1770.00	354000	High	NR Band n66 (AWS)	20	20.5	19.91	-0.01	0	14	0389M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	2.060	1.146	2.361	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.5	20.00	-0.08	0	18	0389M	DFT-S-OFDM QPSK	100	0	0 mm	bottom	1:1	2.110	1.122	2.367	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 128 of 164	



**Table 11-59
WLAN SISO Phablet SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
5300	60	802.11a	OFDM	20	18.5	18.18	0.02	0 mm	1	0702M	6	back	99.0	11.153	0.931	1.076	1.010	1.012	
5300	60	802.11a	OFDM	20	18.5	18.18	-0.09	0 mm	1	0702M	6	front	99.0	1.273	0.157	1.076	1.010	0.171	
5300	60	802.11a	OFDM	20	18.5	18.18	0.11	0 mm	1	0702M	6	top	99.0	0.426	-	1.076	1.010	-	
5300	60	802.11a	OFDM	20	18.5	18.18	0.09	0 mm	1	0702M	6	left	99.0	5.519	0.456	1.076	1.010	0.496	
5260	52	802.11a	OFDM	20	18.5	18.30	-0.06	0 mm	2	0702M	6	back	98.9	14.974	1.480	1.047	1.011	1.567	
5280	56	802.11a	OFDM	20	18.5	18.26	-0.08	0 mm	2	0702M	6	back	98.9	11.500	1.440	1.057	1.011	1.539	
5320	64	802.11a	OFDM	20	18.5	18.12	-0.10	0 mm	2	0702M	6	back	98.9	15.147	1.360	1.091	1.011	1.500	
5260	52	802.11a	OFDM	20	18.5	18.30	-0.04	0 mm	2	0702M	6	front	98.9	0.164	0.014	1.047	1.011	0.015	
5260	52	802.11a	OFDM	20	18.5	18.30	0.06	0 mm	2	0702M	6	top	98.9	0.311	-	1.047	1.011	-	
5260	52	802.11a	OFDM	20	18.5	18.30	0.09	0 mm	2	0702M	6	left	98.9	0.707	0.086	1.047	1.011	0.091	
5600	120	802.11a	OFDM	20	18.5	18.28	0.08	0 mm	1	0702M	6	back	99.0	8.380	0.767	1.052	1.010	0.815	
5600	120	802.11a	OFDM	20	18.5	18.28	0.06	0 mm	1	0702M	6	front	99.0	1.523	0.156	1.052	1.010	0.166	
5600	120	802.11a	OFDM	20	18.5	18.28	0.14	0 mm	1	0702M	6	top	99.0	1.176	-	1.052	1.010	-	
5600	120	802.11a	OFDM	20	18.5	18.28	0.08	0 mm	1	0702M	6	left	99.0	4.580	0.393	1.052	1.010	0.418	
5720	144	802.11a	OFDM	20	18.5	18.42	0.02	0 mm	2	0702M	6	back	98.9	10.050	1.350	1.019	1.011	1.391	
5720	144	802.11a	OFDM	20	18.5	18.42	0.09	0 mm	2	0702M	6	front	98.9	0.258	0.034	1.019	1.011	0.035	
5720	144	802.11a	OFDM	20	18.5	18.42	0.20	0 mm	2	0702M	6	top	98.9	0.749	-	1.019	1.011	-	
5720	144	802.11a	OFDM	20	18.5	18.42	0.09	0 mm	2	0702M	6	left	98.9	2.036	0.214	1.019	1.011	0.220	
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 11-60
WLAN MIMO Phablet SAR**

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna	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)	
5300	60	802.11n	OFDM	20	18.5	18.30	18.5	18.25	-0.11	0 mm	MIMO	0702M	13	back	97.6	13.613	1.450	1.059	1.025	1.574	
5300	60	802.11n	OFDM	20	18.5	18.30	18.5	18.25	0.09	0 mm	MIMO	0702M	13	front	97.6	0.465	0.051	1.059	1.025	0.055	
5300	60	802.11n	OFDM	20	18.5	18.30	18.5	18.25	0.07	0 mm	MIMO	0702M	13	top	97.6	0.469	-	1.059	1.025	-	
5300	60	802.11n	OFDM	20	18.5	18.30	18.5	18.25	0.00	0 mm	MIMO	0702M	13	left	97.6	2.981	0.291	1.059	1.025	0.316	
5500	100	802.11n	OFDM	20	18.5	17.90	18.5	18.10	-0.07	0 mm	MIMO	0702M	13	back	97.6	11.580	2.230	1.148	1.025	2.624	A73
5620	124	802.11n	OFDM	20	18.5	18.26	18.5	18.16	-0.10	0 mm	MIMO	0702M	13	back	97.6	11.692	2.100	1.081	1.025	2.327	
5720	144	802.11n	OFDM	20	18.5	18.20	18.5	18.32	-0.08	0 mm	MIMO	0702M	13	back	97.6	12.352	1.970	1.072	1.025	2.165	
5720	144	802.11n	OFDM	20	18.5	18.20	18.5	18.32	0.00	0 mm	MIMO	0702M	13	front	97.6	0.871	0.106	1.072	1.025	0.116	
5720	144	802.11n	OFDM	20	18.5	18.20	18.5	18.32	0.05	0 mm	MIMO	0702M	13	top	97.6	0.975	-	1.072	1.025	-	
5720	144	802.11n	OFDM	20	18.5	18.20	18.5	18.32	0.00	0 mm	MIMO	0702M	13	left	97.6	3.463	0.479	1.072	1.025	0.526	
5500	100	802.11n	OFDM	20	18.5	17.90	18.5	18.10	0.14	0 mm	MIMO	0702M	13	back	97.6	10.677	2.170	1.148	1.025	2.553	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Note: To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm. Blue entries represent variability measurements.

FCC ID: A3LSMN986W		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 129 of 164	




11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 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.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. 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.
9. 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).
10. 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.
11. 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.
12. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
13. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
14. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).

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 for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 130 of 164	

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 for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ 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 was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. 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).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 or LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

FCC ID: A3LSMN986W	 <small>Thank to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 131 of 164	

NR Notes:




1. NR implementation of n71, n66, and n41 is limited to EN-DC operations only, with LTE Bands 2/5/7/13/66 acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
3. Simultaneous transmission analysis for EN-DC operations is addressed in the Part 2 Test Report (Serial Number can be found in the Section 1.11 -Bibliography).
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. Per FCC Guidance, the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency as the NR test results. Additional tuner states were evaluated per April 2019 TCBC Workshop Guidance. Please see Section 14 for supplemental data.
6. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.
7. For final implementation, NR Band n41 slot configuration is synchronized using maximum duty cycle of 25%. SAR testing was performed using FTM mode with a 25% duty cycle applied to match final duty cycle.

WLAN Notes:

1. For held-to-ear, and hotspot, and phablet 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 for 1g evaluations, 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/ax) 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 for 1g evaluations. 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 for 1g evaluations or all test channels were measured.
6. 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.
7. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Bluetooth Notes

1. 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 0 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BR tethering applications.

FCC ID: A3LSMN986W	 PCTEST <small> proud to be part of  Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 132 of 164	

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 1g 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 1g or 10g SAR.

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 (“-“).

(*) 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 the applicable exposure conditions was used for simultaneous transmission analysis.

Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G operations is demonstrated in the Qualcomm Part 2 Report during algorithm validation.

FCC ID: A3LSMN986W	 PCTEST <small> Proud to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 133 of 164

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/5G 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	Cell. CDMA/EVDO	0.210	0.589	0.027	0.799	0.237	0.826
	GSM 850	0.097	0.589	0.027	0.686	0.124	0.713
	GSM 1900	0.063	0.589	0.027	0.652	0.090	0.679
	UMTS 850	0.183	0.589	0.027	0.772	0.210	0.799
	UMTS 1750	0.156	0.589	0.027	0.745	0.183	0.772
	UMTS 1900	0.146	0.589	0.027	0.735	0.173	0.762
	LTE Band 71	0.156	0.589	0.027	0.745	0.183	0.772
	LTE Band 12	0.182	0.589	0.027	0.771	0.209	0.798
	LTE Band 13	0.203	0.589	0.027	0.792	0.230	0.819
	LTE Band 5 (Cell)	0.176	0.589	0.027	0.765	0.203	0.792
	LTE Band 66 (AWS)	0.139	0.589	0.027	0.728	0.166	0.755
	LTE Band 25 (PCS)	0.122	0.589	0.027	0.711	0.149	0.738
	LTE Band 30	0.048	0.589	0.027	0.637	0.075	0.664
	LTE Band 7	0.106	0.589	0.027	0.695	0.133	0.722
	LTE Band 41	0.062	0.589	0.027	0.651	0.089	0.678
	NR Band n71	0.162	0.589	0.027	0.751	0.189	0.778
NR Band n66	0.189	0.589	0.027	0.778	0.216	0.805	
NR Band n41	0.716	0.589	0.027	1.305	0.743	1.332	

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

Exposure Condition	Mode	2G/3G/4G/5G 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	Cell. CDMA/EVDO	0.210	0.032	0.020	0.242	0.230	0.262
	GSM 850	0.097	0.032	0.020	0.129	0.117	0.149
	GSM 1900	0.063	0.032	0.020	0.095	0.083	0.115
	UMTS 850	0.183	0.032	0.020	0.215	0.203	0.235
	UMTS 1750	0.156	0.032	0.020	0.188	0.176	0.208
	UMTS 1900	0.146	0.032	0.020	0.178	0.166	0.198
	LTE Band 71	0.156	0.032	0.020	0.188	0.176	0.208
	LTE Band 12	0.182	0.032	0.020	0.214	0.202	0.234
	LTE Band 13	0.203	0.032	0.020	0.235	0.223	0.255
	LTE Band 5 (Cell)	0.176	0.032	0.020	0.208	0.196	0.228
	LTE Band 66 (AWS)	0.139	0.032	0.020	0.171	0.159	0.191
	LTE Band 25 (PCS)	0.122	0.032	0.020	0.154	0.142	0.174
	LTE Band 30	0.048	0.032	0.020	0.080	0.068	0.100
	LTE Band 7	0.106	0.032	0.020	0.138	0.126	0.158
	LTE Band 41	0.062	0.032	0.020	0.094	0.082	0.114
	NR Band n71	0.162	0.032	0.020	0.194	0.182	0.214
NR Band n66	0.189	0.032	0.020	0.221	0.209	0.241	
NR Band n41	0.716	0.032	0.020	0.748	0.736	0.768	




FCC ID: A3LSMN986W	 PCTEST Proud to be part of  Siemens	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 134 of 164	

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 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	5	1+2+3+4+5
Head SAR	Cell. CDMA/EVDO	0.210	0.589	0.027	0.032	0.020	0.878
	GSM 850	0.097	0.589	0.027	0.032	0.020	0.765
	GSM 1900	0.063	0.589	0.027	0.032	0.020	0.731
	UMTS 850	0.183	0.589	0.027	0.032	0.020	0.851
	UMTS 1750	0.156	0.589	0.027	0.032	0.020	0.824
	UMTS 1900	0.146	0.589	0.027	0.032	0.020	0.814
	LTE Band 71	0.156	0.589	0.027	0.032	0.020	0.824
	LTE Band 12	0.182	0.589	0.027	0.032	0.020	0.850
	LTE Band 13	0.203	0.589	0.027	0.032	0.020	0.871
	LTE Band 5 (Cell)	0.176	0.589	0.027	0.032	0.020	0.844
	LTE Band 66 (AWS)	0.139	0.589	0.027	0.032	0.020	0.807
	LTE Band 25 (PCS)	0.122	0.589	0.027	0.032	0.020	0.790
	LTE Band 30	0.048	0.589	0.027	0.032	0.020	0.716
	LTE Band 7	0.106	0.589	0.027	0.032	0.020	0.774
	LTE Band 41	0.062	0.589	0.027	0.032	0.020	0.730
	NR Band n71	0.162	0.589	0.027	0.032	0.020	0.830
NR Band n66	0.189	0.589	0.027	0.032	0.020	0.857	
NR Band n41	0.716	0.589	0.027	0.032	0.020	1.384	

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.210	0.580	0.790
	GSM 850	0.097	0.580	0.677
	GSM 1900	0.063	0.580	0.643
	UMTS 850	0.183	0.580	0.763
	UMTS 1750	0.156	0.580	0.736
	UMTS 1900	0.146	0.580	0.726
	LTE Band 71	0.156	0.580	0.736
	LTE Band 12	0.182	0.580	0.762
	LTE Band 13	0.203	0.580	0.783
	LTE Band 5 (Cell)	0.176	0.580	0.756
	LTE Band 66 (AWS)	0.139	0.580	0.719
	LTE Band 25 (PCS)	0.122	0.580	0.702
	LTE Band 30	0.048	0.580	0.628
	LTE Band 7	0.106	0.580	0.686
	LTE Band 41	0.062	0.580	0.642
	NR Band n71	0.162	0.580	0.742
NR Band n66	0.189	0.580	0.769	
NR Band n41	0.716	0.580	1.296	



FCC ID: A3LSMN986W	 PCTEST <small>Trusted to be part of your compliance</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 135 of 164	

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth 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	1+2+4	1+2+3+4
Head SAR	Cell. CDMA/EVDO	0.210	0.580	0.032	0.020	0.822	0.810	0.842
	GSM 850	0.097	0.580	0.032	0.020	0.709	0.697	0.729
	GSM 1900	0.063	0.580	0.032	0.020	0.675	0.663	0.695
	UMTS 850	0.183	0.580	0.032	0.020	0.795	0.783	0.815
	UMTS 1750	0.156	0.580	0.032	0.020	0.768	0.756	0.788
	UMTS 1900	0.146	0.580	0.032	0.020	0.758	0.746	0.778
	LTE Band 71	0.156	0.580	0.032	0.020	0.768	0.756	0.788
	LTE Band 12	0.182	0.580	0.032	0.020	0.794	0.782	0.814
	LTE Band 13	0.203	0.580	0.032	0.020	0.815	0.803	0.835
	LTE Band 5 (Cell)	0.176	0.580	0.032	0.020	0.788	0.776	0.808
	LTE Band 66 (AWS)	0.139	0.580	0.032	0.020	0.751	0.739	0.771
	LTE Band 25 (PCS)	0.122	0.580	0.032	0.020	0.734	0.722	0.754
	LTE Band 30	0.048	0.580	0.032	0.020	0.660	0.648	0.680
	LTE Band 7	0.106	0.580	0.032	0.020	0.718	0.706	0.738
	LTE Band 41	0.062	0.580	0.032	0.020	0.674	0.662	0.694
	NR Band n71	0.162	0.580	0.032	0.020	0.774	0.762	0.794
	NR Band n66	0.189	0.580	0.032	0.020	0.801	0.789	0.821
NR Band n41	0.716	0.580	0.032	0.020	1.328	1.316	1.348	

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-6
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G/5G 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	Cell. CDMA	0.399	0.122	0.050	0.521	0.449	0.571
	GSM 850	0.162	0.122	0.050	0.284	0.212	0.334
	GSM 1900	0.365	0.122	0.050	0.487	0.415	0.537
	UMTS 850	0.350	0.122	0.050	0.472	0.400	0.522
	UMTS 1750	0.947	0.122	0.050	1.069	0.997	1.119
	UMTS 1900	0.513	0.122	0.050	0.635	0.563	0.685
	LTE Band 71	0.261	0.122	0.050	0.383	0.311	0.433
	LTE Band 12	0.270	0.122	0.050	0.392	0.320	0.442
	LTE Band 13	0.402	0.122	0.050	0.524	0.452	0.574
	LTE Band 5 (Cell)	0.282	0.122	0.050	0.404	0.332	0.454
	LTE Band 66 (AWS)	0.944	0.122	0.050	1.066	0.994	1.116
	LTE Band 25 (PCS)	0.856	0.122	0.050	0.978	0.906	1.028
	LTE Band 30	0.610	0.122	0.050	0.732	0.660	0.782
	LTE Band 7	0.442	0.122	0.050	0.564	0.492	0.614
	LTE Band 41	0.287	0.122	0.050	0.409	0.337	0.459
	NR Band n71	0.273	0.122	0.050	0.395	0.323	0.445
	NR Band n66	1.099	0.122	0.050	1.221	1.149	1.271
NR Band n41	0.089	0.122	0.050	0.211	0.139	0.261	



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 136 of 164	

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2	1+3	1+4
Body-Worn	Cell. CDMA	0.399	0.429	0.230	0.489	0.828	0.629	0.888
	GSM 850	0.162	0.429	0.230	0.489	0.591	0.392	0.651
	GSM 1900	0.365	0.429	0.230	0.489	0.794	0.595	0.854
	UMTS 850	0.350	0.429	0.230	0.489	0.779	0.580	0.839
	UMTS 1750	0.947	0.429	0.230	0.489	1.376	1.177	1.436
	UMTS 1900	0.513	0.429	0.230	0.489	0.942	0.743	1.002
	LTE Band 71	0.261	0.429	0.230	0.489	0.690	0.491	0.750
	LTE Band 12	0.270	0.429	0.230	0.489	0.699	0.500	0.759
	LTE Band 13	0.402	0.429	0.230	0.489	0.831	0.632	0.891
	LTE Band 5 (Cell)	0.282	0.429	0.230	0.489	0.711	0.512	0.771
	LTE Band 66 (AWS)	0.944	0.429	0.230	0.489	1.373	1.174	1.433
	LTE Band 25 (PCS)	0.856	0.429	0.230	0.489	1.285	1.086	1.345
	LTE Band 30	0.610	0.429	0.230	0.489	1.039	0.840	1.099
	LTE Band 7	0.442	0.429	0.230	0.489	0.871	0.672	0.931
	LTE Band 41	0.287	0.429	0.230	0.489	0.716	0.517	0.776
	NR Band n71	0.273	0.429	0.230	0.489	0.702	0.503	0.762
	NR Band n66	1.099	0.429	0.230	0.489	1.528	1.329	1.588
NR Band n41	0.089	0.429	0.230	0.489	0.518	0.319	0.578	

Table 12-8
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	Cell. CDMA	0.399	0.053	0.147	0.599
	GSM 850	0.162	0.053	0.147	0.362
	GSM 1900	0.365	0.053	0.147	0.565
	UMTS 850	0.350	0.053	0.147	0.550
	UMTS 1750	0.947	0.053	0.147	1.147
	UMTS 1900	0.513	0.053	0.147	0.713
	LTE Band 71	0.261	0.053	0.147	0.461
	LTE Band 12	0.270	0.053	0.147	0.470
	LTE Band 13	0.402	0.053	0.147	0.602
	LTE Band 5 (Cell)	0.282	0.053	0.147	0.482
	LTE Band 66 (AWS)	0.944	0.053	0.147	1.144
	LTE Band 25 (PCS)	0.856	0.053	0.147	1.056
	LTE Band 30	0.610	0.053	0.147	0.810
	LTE Band 7	0.442	0.053	0.147	0.642
	LTE Band 41	0.287	0.053	0.147	0.487
	NR Band n71	0.273	0.053	0.147	0.473
	NR Band n66	1.099	0.053	0.147	1.299
NR Band n41	0.089	0.053	0.147	0.289	




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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 137 of 164

Table 12-9
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	Cell. CDMA	0.399	0.022	0.421
	GSM 850	0.162	0.022	0.184
	GSM 1900	0.365	0.022	0.387
	UMTS 850	0.350	0.022	0.372
	UMTS 1750	0.947	0.022	0.969
	UMTS 1900	0.513	0.022	0.535
	LTE Band 71	0.261	0.022	0.283
	LTE Band 12	0.270	0.022	0.292
	LTE Band 13	0.402	0.022	0.424
	LTE Band 5 (Cell)	0.282	0.022	0.304
	LTE Band 66 (AWS)	0.944	0.022	0.966
	LTE Band 25 (PCS)	0.856	0.022	0.878
	LTE Band 30	0.610	0.022	0.632
	LTE Band 7	0.442	0.022	0.464
	LTE Band 41	0.287	0.022	0.309
	NR Band n71	0.273	0.022	0.295
	NR Band n66	1.099	0.022	1.121
NR Band n41	0.089	0.022	0.111	

Table 12-10
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN SISO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth 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	1+2+4
Body-Worn	Cell. CDMA	0.399	0.022	0.429	0.230	0.850	0.651
	GSM 850	0.162	0.022	0.429	0.230	0.613	0.414
	GSM 1900	0.365	0.022	0.429	0.230	0.816	0.617
	UMTS 850	0.350	0.022	0.429	0.230	0.801	0.602
	UMTS 1750	0.947	0.022	0.429	0.230	1.398	1.199
	UMTS 1900	0.513	0.022	0.429	0.230	0.964	0.765
	LTE Band 71	0.261	0.022	0.429	0.230	0.712	0.513
	LTE Band 12	0.270	0.022	0.429	0.230	0.721	0.522
	LTE Band 13	0.402	0.022	0.429	0.230	0.853	0.654
	LTE Band 5 (Cell)	0.282	0.022	0.429	0.230	0.733	0.534
	LTE Band 66 (AWS)	0.944	0.022	0.429	0.230	1.395	1.196
	LTE Band 25 (PCS)	0.856	0.022	0.429	0.230	1.307	1.108
	LTE Band 30	0.610	0.022	0.429	0.230	1.061	0.862
	LTE Band 7	0.442	0.022	0.429	0.230	0.893	0.694
	LTE Band 41	0.287	0.022	0.429	0.230	0.738	0.539
	NR Band n71	0.273	0.022	0.429	0.230	0.724	0.525
	NR Band n66	1.099	0.022	0.429	0.230	1.550	1.351
NR Band n41	0.089	0.022	0.429	0.230	0.540	0.341	





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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 138 of 164

Table 12-11
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3		1+2+3	1+2	1+3
Body-Worn	Cell. CDMA	0.399	0.022	0.489	0.910	N/A	N/A	N/A
	GSM 850	0.162	0.022	0.489	0.673	N/A	N/A	N/A
	GSM 1900	0.365	0.022	0.489	0.876	N/A	N/A	N/A
	UMTS 850	0.350	0.022	0.489	0.861	N/A	N/A	N/A
	UMTS 1750	0.947	0.022	0.489	1.458	N/A	N/A	N/A
	UMTS 1900	0.513	0.022	0.489	1.024	N/A	N/A	N/A
	LTE Band 71	0.261	0.022	0.489	0.772	N/A	N/A	N/A
	LTE Band 12	0.270	0.022	0.489	0.781	N/A	N/A	N/A
	LTE Band 13	0.402	0.022	0.489	0.913	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.282	0.022	0.489	0.793	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.944	0.022	0.489	1.455	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.856	0.022	0.489	1.367	N/A	N/A	N/A
	LTE Band 30	0.610	0.022	0.489	1.121	N/A	N/A	N/A
	LTE Band 7	0.442	0.022	0.489	0.953	N/A	N/A	N/A
	LTE Band 41	0.287	0.022	0.489	0.798	N/A	N/A	N/A
	NR Band n71	0.273	0.022	0.489	0.784	N/A	N/A	N/A
NR Band n66	1.099	0.022	0.489	See Note 1	0.01	0.01	0.01	
NR Band n41	0.089	0.022	0.489	0.600	N/A	N/A	N/A	

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLSR ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLSR ratio analysis.

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 139 of 164

12.5 Hotspot SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G/5G 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	Cell. EVDO	0.986	0.451	0.110	1.437	1.096	1.547
	GPRS 850	0.443	0.451	0.110	0.894	0.553	1.004
	GPRS 1900	0.804	0.451	0.110	1.255	0.914	1.365
	UMTS 850	0.757	0.451	0.110	1.208	0.867	1.318
	UMTS 1750	0.977	0.451	0.110	1.428	1.087	1.538
	UMTS 1900	1.076	0.451	0.110	1.527	1.186	See Table Below
	LTE Band 71	0.382	0.451	0.110	0.833	0.492	0.943
	LTE Band 12	0.435	0.451	0.110	0.886	0.545	0.996
	LTE Band 13	0.658	0.451	0.110	1.109	0.768	1.219
	LTE Band 5 (Cell)	0.572	0.451	0.110	1.023	0.682	1.133
	LTE Band 66 (AWS)	1.003	0.451	0.110	1.454	1.113	1.564
	LTE Band 25 (PCS)	1.257	0.451	0.110	See Table Below	1.367	See Table Below
	LTE Band 30	1.254	0.451	0.110	See Table Below	1.364	See Table Below
	LTE Band 7	0.589	0.451	0.110	1.040	0.699	1.150
	LTE Band 41	0.471	0.451	0.110	0.922	0.581	1.032
	NR Band n71	0.392	0.451	0.110	0.843	0.502	0.953
NR Band n66	1.122	0.451	0.110	1.573	1.232	See Table Below	
NR Band n41	0.536	0.451	0.110	0.987	0.646	1.097	

Simult Tx	Configuration	UMTS 1900 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)		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	1			2	3	1+2	1+2+3	
Hotspot SAR	Back	0.562	0.192	0.110	0.864		Hotspot SAR	Back	0.650	0.192	0.110	0.842	0.952
	Front	0.399	0.170	0.013	0.582			Front	0.516	0.170	0.013	0.686	0.699
	Top	-	0.451	0.110*	0.561			Top	-	0.451	0.110*	0.451	0.561
	Bottom	1.076	-	-	1.076			Bottom	1.257	-	-	1.257	1.257
	Right	0.057	-	-	0.057			Right	0.059	-	-	0.059	0.059
	Left	0.058	0.451*	0.110*	0.619			Left	0.052	0.451*	0.110*	0.503	0.613
Simult Tx	Configuration	LTE Band 30 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)		Simult Tx	Configuration	NR Band n66 (AWS) 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+2+3			1	2	3	1+2+3	
Hotspot SAR	Back	0.521	0.192	0.110	0.713	0.823	Hotspot SAR	Back	0.641	0.192	0.110	0.943	
	Front	0.388	0.170	0.013	0.558	0.571		Front	0.536	0.170	0.013	0.719	
	Top	-	0.451	0.110*	0.451	0.561		Top	-	0.451	0.110*	0.561	
	Bottom	1.254	-	-	1.254	1.254		Bottom	1.122	-	-	1.122	
	Right	0.079	-	-	0.079	0.079		Right	0.129	-	-	0.129	
	Left	0.032	0.451*	0.110*	0.483	0.593		Left	0.085	0.451*	0.110*	0.646	




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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 140 of 164

Table 12-13
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G 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
Hotspot SAR	Cell. EVDO	0.986	0.569	0.359	1.555	1.345
	GPRS 850	0.443	0.569	0.359	1.012	0.802
	GPRS 1900	0.804	0.569	0.359	1.373	1.163
	UMTS 850	0.757	0.569	0.359	1.326	1.116
	UMTS 1750	0.977	0.569	0.359	1.546	1.336
	UMTS 1900	1.076	0.569	0.359	See Table Below	1.435
	LTE Band 71	0.382	0.569	0.359	0.951	0.741
	LTE Band 12	0.435	0.569	0.359	1.004	0.794
	LTE Band 13	0.658	0.569	0.359	1.227	1.017
	LTE Band 5 (Cell)	0.572	0.569	0.359	1.141	0.931
	LTE Band 66 (AWS)	1.003	0.569	0.359	1.572	1.362
	LTE Band 25 (PCS)	1.257	0.569	0.359	See Table Below	See Table Below
	LTE Band 30	1.254	0.569	0.359	See Table Below	See Table Below
	LTE Band 7	0.589	0.569	0.359	1.158	0.948
	LTE Band 41	0.471	0.569	0.359	1.040	0.830
NR Band n71	0.392	0.569	0.359	0.961	0.751	
NR Band n66	1.122	0.569	0.359	See Table Below	1.481	
NR Band n41	0.536	0.569	0.359	1.105	0.895	

Simult Tx	Configuration	UMTS 1900 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)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	1+2			1	2	3	1+2	1+3
Hotspot SAR	Back	0.562	0.569	1.131	Hotspot SAR	Back	0.650	0.569	0.359	1.219	1.009
	Front	0.399	0.020	0.419		Front	0.516	0.020	0.015	0.536	0.531
	Top	-	0.569*	0.569		Top	-	0.569*	0.359*	0.569	0.359
	Bottom	1.076	-	1.076		Bottom	1.257	-	-	1.257	1.257
	Right	0.057	-	0.057		Right	0.059	-	-	0.059	0.059
	Left	0.058	0.107	0.165		Left	0.052	0.107	0.359*	0.159	0.411

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2	1+3			1	2	1+2
Hotspot SAR	Back	0.521	0.569	0.359	1.090	0.880	Hotspot SAR	Back	0.641	0.569	1.210
	Front	0.388	0.020	0.015	0.408	0.403		Front	0.536	0.020	0.556
	Top	-	0.569*	0.359*	0.569	0.359		Top	-	0.569*	0.569
	Bottom	1.254	-	-	1.254	1.254		Bottom	1.122	-	1.122
	Right	0.079	-	-	0.079	0.079		Right	0.129	-	0.129
	Left	0.032	0.107	0.359*	0.139	0.391		Left	0.085	0.107	0.192



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 141 of 164

Table 12-14
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.986	0.664	See Table Below
	GPRS 850	0.443	0.664	1.107
	GPRS 1900	0.804	0.664	1.468
	UMTS 850	0.757	0.664	1.421
	UMTS 1750	0.977	0.664	See Table Below
	UMTS 1900	1.076	0.664	See Table Below
	LTE Band 71	0.382	0.664	1.046
	LTE Band 12	0.435	0.664	1.099
	LTE Band 13	0.658	0.664	1.322
	LTE Band 5 (Cell)	0.572	0.664	1.236
	LTE Band 66 (AWS)	1.003	0.664	See Table Below
	LTE Band 25 (PCS)	1.257	0.664	See Table Below
	LTE Band 30	1.254	0.664	See Table Below
	LTE Band 7	0.589	0.664	1.253
	LTE Band 41	0.471	0.664	1.135
	NR Band n71	0.392	0.664	1.056
NR Band n66	1.122	0.664	See Table Below	
NR Band n41	0.536	0.664	1.200	

Simult Tx	Configuration	Cell. EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2				1+2	1	2			1+2	1	2
Hotspot SAR	Back	0.986	0.664	See Note 1	0.01	Hotspot SAR	Back	0.619	0.664	1.283	Hotspot SAR	Back	0.482	0.664	1.146
	Front	0.496	0.027	0.523	N/A		Front	0.537	0.027	0.564		Front	0.401	0.027	0.428
	Top	-	0.664*	0.664	N/A		Top	-	0.664*	0.664		Top	-	0.664*	0.664
	Bottom	0.433	-	0.433	N/A		Bottom	0.977	-	0.977		Bottom	1.003	-	1.003
	Right	0.081	-	0.081	N/A		Right	0.114	-	0.114		Right	0.092	-	0.092
Left	0.236	0.194	0.430	N/A	Left	0.074	0.194	0.268	Left	0.064	0.194	0.258			

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 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			1	2	1+2
Hotspot SAR	Back	0.650	0.664	1.314	Hotspot SAR	Back	0.562	0.664	1.226	Hotspot SAR	Back	0.521	0.664	1.185
	Front	0.516	0.027	0.543		Front	0.399	0.027	0.426		Front	0.388	0.027	0.415
	Top	-	0.664*	0.664		Top	-	0.664*	0.664		Top	-	0.664*	0.664
	Bottom	1.257	-	1.257		Bottom	1.076	-	1.076		Bottom	1.254	-	1.254
	Right	0.059	-	0.059		Right	0.057	-	0.057		Right	0.079	-	0.079
Left	0.052	0.194	0.246	Left	0.058	0.194	0.252	Left	0.032	0.194	0.226			

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.641	0.664	1.305
	Front	0.536	0.027	0.563
	Top	-	0.664*	0.664
	Bottom	1.122	-	1.122
	Right	0.129	-	0.129
Left	0.085	0.194	0.279	

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 142 of 164	

Table 12-15

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.986	0.170	0.204	1.360
	GPRS 850	0.443	0.170	0.204	0.817
	GPRS 1900	0.804	0.170	0.204	1.178
	UMTS 850	0.757	0.170	0.204	1.131
	UMTS 1750	0.977	0.170	0.204	1.351
	UMTS 1900	1.076	0.170	0.204	1.450
	LTE Band 71	0.382	0.170	0.204	0.756
	LTE Band 12	0.435	0.170	0.204	0.809
	LTE Band 13	0.658	0.170	0.204	1.032
	LTE Band 5 (Cell)	0.572	0.170	0.204	0.946
	LTE Band 66 (AWS)	1.003	0.170	0.204	1.377
	LTE Band 25 (PCS)	1.257	0.170	0.204	See Table Below
	LTE Band 30	1.254	0.170	0.204	See Table Below
	LTE Band 7	0.589	0.170	0.204	0.963
	LTE Band 41	0.471	0.170	0.204	0.845
	NR Band n71	0.392	0.170	0.204	0.766
NR Band n66	1.122	0.170	0.204	1.496	
NR Band n41	0.536	0.170	0.204	0.910	

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.650	0.123	0.204	0.977	Hotspot SAR	Back	0.521	0.123	0.204	0.848
	Front	0.516	0.170*	0.204*	0.890		Front	0.388	0.170*	0.204*	0.762
	Top	-	0.170	0.204*	0.374		Top	-	0.170	0.204*	0.374
	Bottom	1.257	-	-	1.257		Bottom	1.254	-	-	1.254
	Right	0.059	-	-	0.059		Right	0.079	-	-	0.079
	Left	0.052	0.170*	0.204*	0.426		Left	0.032	0.170*	0.204*	0.406



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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 143 of 164	

Table 12-16
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.986	0.130	1.116
	GPRS 850	0.443	0.130	0.573
	GPRS 1900	0.804	0.130	0.934
	UMTS 850	0.757	0.130	0.887
	UMTS 1750	0.977	0.130	1.107
	UMTS 1900	1.076	0.130	1.206
	LTE Band 71	0.382	0.130	0.512
	LTE Band 12	0.435	0.130	0.565
	LTE Band 13	0.658	0.130	0.788
	LTE Band 5 (Cell)	0.572	0.130	0.702
	LTE Band 66 (AWS)	1.003	0.130	1.133
	LTE Band 25 (PCS)	1.257	0.130	1.387
	LTE Band 30	1.254	0.130	1.384
	LTE Band 7	0.589	0.130	0.719
	LTE Band 41	0.471	0.130	0.601
	NR Band n71	0.392	0.130	0.522
	NR Band n66	1.122	0.130	1.252
NR Band n41	0.536	0.130	0.666	




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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 144 of 164	

Table 12-17
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth 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	1+2+4
Hotspot SAR	Cell. EVDO	0.986	0.130	0.569	0.359	See Table Below	1.475
	GPRS 850	0.443	0.130	0.569	0.359	1.142	0.932
	GPRS 1900	0.804	0.130	0.569	0.359	1.503	1.293
	UMTS 850	0.757	0.130	0.569	0.359	1.456	1.246
	UMTS 1750	0.977	0.130	0.569	0.359	See Table Below	1.466
	UMTS 1900	1.076	0.130	0.569	0.359	See Table Below	1.565
	LTE Band 71	0.382	0.130	0.569	0.359	1.081	0.871
	LTE Band 12	0.435	0.130	0.569	0.359	1.134	0.924
	LTE Band 13	0.658	0.130	0.569	0.359	1.357	1.147
	LTE Band 5 (Cell)	0.572	0.130	0.569	0.359	1.271	1.061
	LTE Band 66 (AWS)	1.003	0.130	0.569	0.359	See Table Below	1.492
	LTE Band 25 (PCS)	1.257	0.130	0.569	0.359	See Table Below	See Table Below
	LTE Band 30	1.254	0.130	0.569	0.359	See Table Below	See Table Below
	LTE Band 7	0.589	0.130	0.569	0.359	1.288	1.078
	LTE Band 41	0.471	0.130	0.569	0.359	1.170	0.960
	NR Band n71	0.392	0.130	0.569	0.359	1.091	0.881
	NR Band n66	1.122	0.130	0.569	0.359	See Table Below	See Table Below
NR Band n41	0.536	0.130	0.569	0.359	1.235	1.025	

Simult Tx	Configuration	Cell. EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.986	0.038	0.569	1.593	Hotspot SAR	Back	0.619	0.038	0.569	1.226	Hotspot SAR	Back	0.562	0.038	0.569	1.169
	Front	0.496	0.037	0.020	0.553		Front	0.537	0.037	0.020	0.594		Front	0.399	0.037	0.020	0.456
	Top	-	0.130	0.569*	0.699		Top	-	0.130	0.569*	0.699		Top	-	0.130	0.569*	0.699
	Bottom	0.433	-	-	0.433		Bottom	0.977	-	-	0.977		Bottom	1.076	-	-	1.076
	Right	0.081	-	-	0.081		Right	0.114	-	-	0.114		Right	0.057	-	-	0.057
Left	0.236	0.014	0.107	0.357	Left	0.074	0.014	0.107	0.195	Left	0.058	0.014	0.107	0.179			

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 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)	Bluetooth 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	1+2+4			1	2	3	4	1+2+3	1+2+4	
Hotspot SAR	Back	0.482	0.038	0.569	0.359	1.089	0.440	Hotspot SAR	Back	0.650	0.038	0.569	0.359	1.257	1.047	
	Front	0.401	0.037	0.020	0.458	0.458	0.440		Front	0.516	0.037	0.020	0.015	0.573	0.568	
	Top	-	0.130	0.569*	0.699	0.699	0.489		0.489	Top	-	0.130	0.569*	0.359*	0.699	0.489
	Bottom	1.003	-	-	1.003	1.003	1.257		1.257	Bottom	1.257	-	-	-	1.257	1.257
	Right	0.092	-	-	0.092	0.092	0.059		0.059	Right	0.059	-	-	-	0.059	0.059
Left	0.064	0.014	0.107	0.185	0.185	0.052	0.052	Left	0.052	0.014	0.107	0.359*	0.173	0.425		

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	Bluetooth 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	1+2+4			1	2	3	4	1+2+3	1+2+4	
Hotspot SAR	Back	0.521	0.038	0.569	0.359	1.128	0.918	Hotspot SAR	Back	0.641	0.038	0.569	0.359	1.248	1.038	
	Front	0.388	0.037	0.020	0.445	0.440	0.440		Front	0.536	0.037	0.020	0.015	0.593	0.588	
	Top	-	0.130	0.569*	0.359*	0.699	0.489		0.489	Top	-	0.130	0.569*	0.359*	0.699	0.489
	Bottom	1.254	-	-	-	1.254	1.254		1.122	Bottom	1.122	-	-	-	1.122	1.122
	Right	0.079	-	-	-	0.079	0.079		0.129	Right	0.129	-	-	-	0.129	0.129
Left	0.032	0.014	0.107	0.359*	0.153	0.405	0.085	Left	0.085	0.014	0.107	0.359*	0.206	0.458		

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.





FCC ID: A3LSMN986W	 <small>through to be part of</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 145 of 164	

Table 12-18
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.986	0.130	0.664	See Table Below
	GPRS 850	0.443	0.130	0.664	1.237
	GPRS 1900	0.804	0.130	0.664	See Table Below
	UMTS 850	0.757	0.130	0.664	1.551
	UMTS 1750	0.977	0.130	0.664	See Table Below
	UMTS 1900	1.076	0.130	0.664	See Table Below
	LTE Band 71	0.382	0.130	0.664	1.176
	LTE Band 12	0.435	0.130	0.664	1.229
	LTE Band 13	0.658	0.130	0.664	1.452
	LTE Band 5 (Cell)	0.572	0.130	0.664	1.366
	LTE Band 66 (AWS)	1.003	0.130	0.664	See Table Below
	LTE Band 25 (PCS)	1.257	0.130	0.664	See Table Below
	LTE Band 30	1.254	0.130	0.664	See Table Below
	LTE Band 7	0.589	0.130	0.664	1.383
	LTE Band 41	0.471	0.130	0.664	1.265
	NR Band n71	0.392	0.130	0.664	1.186
NR Band n66	1.122	0.130	0.664	See Table Below	
NR Band n41	0.536	0.130	0.664	1.330	

Simult Tx	Configuration	Cell. EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR				Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3	1+2	1+3	2+3	1			2	3	1+2+3	
Hotspot SAR	Back	0.986	0.038	0.664	See Note 1	0.01	0.01	0.01	Hotspot SAR	Back	0.326	0.038	0.664	1.028	
	Front	0.496	0.037	0.027	0.560	N/A	N/A	N/A	Front	0.273	0.037	0.027	0.337		
	Top	-	0.130	0.664*	0.794	N/A	N/A	N/A	Top	-	0.130	0.664*	0.794		
	Bottom	0.433	-	-	0.433	N/A	N/A	N/A	Bottom	0.804	-	-	0.804		
	Right	0.081	-	-	0.081	N/A	N/A	N/A	Right	0.044	-	-	0.044		
	Left	0.236	0.014	0.194	0.444	N/A	N/A	N/A	Left	0.040	0.014	0.194	0.248		

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.619	0.038	0.664	1.321	Hotspot SAR	Back	0.562	0.038	0.664	1.264	Hotspot SAR	Back	0.482	0.038	0.664	1.184
	Front	0.537	0.037	0.027	0.601		Front	0.399	0.037	0.027	0.463		Front	0.401	0.037	0.027	0.465
	Top	-	0.130	0.664*	0.794		Top	-	0.130	0.664*	0.794		Top	-	0.130	0.664*	0.794
	Bottom	0.977	-	-	0.977		Bottom	1.076	-	-	1.076		Bottom	1.003	-	-	1.003
	Right	0.114	-	-	0.114		Right	0.057	-	-	0.057		Right	0.092	-	-	0.092
	Left	0.074	0.014	0.194	0.282		Left	0.058	0.014	0.194	0.266		Left	0.064	0.014	0.194	0.272
Hotspot SAR	Back	0.650	0.038	0.664	1.352	Hotspot SAR	Back	0.521	0.038	0.664	1.223	Hotspot SAR	Back	0.641	0.038	0.664	1.343
	Front	0.516	0.037	0.027	0.580		Front	0.388	0.037	0.027	0.452		Front	0.536	0.037	0.027	0.600
	Top	-	0.130	0.664*	0.794		Top	-	0.130	0.664*	0.794		Top	-	0.130	0.664*	0.794
	Bottom	1.257	-	-	1.257		Bottom	1.254	-	-	1.254		Bottom	1.122	-	-	1.122
	Right	0.059	-	-	0.059		Right	0.079	-	-	0.079		Right	0.129	-	-	0.129
	Left	0.052	0.014	0.194	0.260		Left	0.032	0.014	0.194	0.240		Left	0.085	0.014	0.194	0.293

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Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 146 of 164	

12.6 Phablet Simultaneous Transmission Analysis

For SAR summation, the highest reported SAR across all test distances was used as the most conservative evaluation for simultaneous transmission analysis for each device edge.

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 12-19
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 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 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR
		1	2	3	1+2	1+3			1	2	3	1+2	1+3	
Phablet SAR	Back	1.806	1.012	1.567	2.818	3.373	Phablet SAR	Back	2.921	1.012	1.567	3.933	See Note 1	0.06
	Front	1.422	0.171	0.035	1.593	1.457		Front	2.513	0.171	0.035	2.684	2.548	N/A
	Top	-	1.012*	1.567*	1.012	1.567		Top	-	1.012*	1.567*	1.012	1.567	N/A
	Bottom	2.122	-	-	2.122	2.122		Bottom	2.537	-	-	2.537	2.537	N/A
	Right	0.301	-	-	0.301	0.301		Right	0.517	-	-	0.517	0.517	N/A
	Left	0.199	0.496	0.220	0.695	0.419		Left	0.311	0.496	0.220	0.807	0.531	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3				1+2	1+3	1	2	3		1+2
Phablet SAR	Back	3.144	1.012	1.567	See Note 1	See Note 1	0.06	0.07	Phablet SAR	Back	2.764	1.012	1.567	3.776	See Note 1	0.06
	Front	2.667	0.171	0.035	2.838	2.702	N/A	N/A		Front	2.256	0.171	0.035	2.427	2.291	N/A
	Top	-	1.012*	1.567*	1.012	1.567	N/A	N/A		Top	-	1.012*	1.567*	1.012	1.567	N/A
	Bottom	3.146	-	-	3.146	3.146	N/A	N/A		Bottom	3.018	-	-	3.018	3.018	N/A
	Right	0.455	-	-	0.455	0.455	N/A	N/A		Right	0.531	-	-	0.531	0.531	N/A
	Left	0.293	0.496	0.220	0.789	0.513	N/A	N/A		Left	0.357	0.496	0.220	0.853	0.577	N/A

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR		
		1	2	3	1+2	1+3				1+2	1+3	1	2	3		1+2	1+3
Phablet SAR	Back	3.142	1.012	1.567	See Note 1	See Note 1	0.06	0.07	Phablet SAR	Back	3.010	1.012	1.567	See Note 1	See Note 1	0.05	0.07
	Front	2.614	0.171	0.035	2.785	2.649	N/A	N/A		Front	2.252	0.171	0.035	2.423	2.287	N/A	N/A
	Top	-	1.012*	1.567*	1.012	1.567	N/A	N/A		Top	-	1.012*	1.567*	1.012	1.567	N/A	N/A
	Bottom	3.147	-	-	3.147	3.147	N/A	N/A		Bottom	2.585	-	-	2.585	2.585	N/A	N/A
	Right	0.448	-	-	0.448	0.448	N/A	N/A		Right	0.521	-	-	0.521	0.521	N/A	N/A
	Left	0.309	0.496	0.220	0.805	0.529	N/A	N/A		Left	0.204	0.496	0.220	0.700	0.424	N/A	N/A

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	LTE Band 41 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	1+2	1+3
Phablet SAR	Back	1.490	1.012	1.567	2.502	3.057	Phablet SAR	Back	2.095	1.012	1.567	3.107	3.662
	Front	1.136	0.171	0.035	1.307	1.171		Front	1.624	0.171	0.035	1.795	1.659
	Top	-	1.012*	1.567*	1.012	1.567		Top	-	1.012*	1.567*	1.012	1.567
	Bottom	1.886	-	-	1.886	1.886		Bottom	3.147	-	-	3.147	3.147
	Right	0.998	-	-	0.998	0.998		Right	0.816	-	-	0.816	0.816
	Left	-	0.496	0.220	0.496	0.220		Left	-	0.496	0.220	0.496	0.220

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR
		1	2	3	1+2	1+3	
Phablet SAR	Back	2.519	1.012	1.567	3.531	See Note 1	0.06
	Front	2.299	0.171	0.035	2.470	2.334	N/A
	Top	-	1.012*	1.567*	1.012	1.567	N/A
	Bottom	2.406	-	-	2.406	2.406	N/A
	Right	0.611	-	-	0.611	0.611	N/A
	Left	0.355	0.496	0.220	0.851	0.575	N/A

Note 1 - No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.



FCC ID: A3LSMN986W	 PCTEST Thought to be part of the Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 147 of 164	

Table 12-20
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2			1	2	1+2	1+2			1	2	1+2	1+2
Phablet SAR	Back	1.806	2.624	See Note 1	0.07	Phablet SAR	Back	2.921	2.624	See Note 1	0.09	Phablet SAR	Back	3.144	2.624	See Note 1	0.10
	Front	1.422	0.116	1.538	N/A		Front	2.513	0.116	2.629	N/A		Front	2.667	0.116	2.783	N/A
	Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A
	Bottom	2.122	-	2.122	N/A		Bottom	2.537	-	2.537	N/A		Bottom	3.146	-	3.146	N/A
	Right	0.301	-	0.301	N/A		Right	0.517	-	0.517	N/A		Right	0.455	-	0.455	N/A
	Left	0.199	0.526	0.725	N/A		Left	0.311	0.526	0.837	N/A		Left	0.293	0.526	0.819	N/A
Phablet SAR	Back	2.764	2.624	See Note 1	0.08	Phablet SAR	Back	3.142	2.624	See Note 1	0.09	Phablet SAR	Back	3.010	2.624	See Note 1	0.09
	Front	2.256	0.116	2.372	N/A		Front	2.614	0.116	2.730	N/A		Front	2.252	0.116	2.368	N/A
	Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A
	Bottom	3.018	-	3.018	N/A		Bottom	3.147	-	3.147	N/A		Bottom	2.585	-	2.585	N/A
	Right	0.531	-	0.531	N/A		Right	0.448	-	0.448	N/A		Right	0.521	-	0.521	N/A
	Left	0.357	0.526	0.883	N/A		Left	0.309	0.526	0.835	N/A		Left	0.204	0.526	0.730	N/A
Phablet SAR	Back	1.490	2.624	See Note 1	0.06	Phablet SAR	Back	2.095	2.624	See Note 1	0.07	Phablet SAR	Back	2.519	2.624	See Note 1	0.08
	Front	1.136	0.116	1.252	N/A		Front	1.624	0.116	1.740	N/A		Front	2.299	0.116	2.415	N/A
	Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A		Top	-	2.624*	2.624	N/A
	Bottom	1.886	-	1.886	N/A		Bottom	3.147	-	3.147	N/A		Bottom	2.406	-	2.406	N/A
	Right	0.998	-	0.998	N/A		Right	0.816	-	0.816	N/A		Right	0.611	-	0.611	N/A
	Left	-	0.526	0.526	N/A		Left	-	0.526	0.526	N/A		Left	0.355	0.526	0.881	N/A




Note 1 - No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.

12.7 SPLSR Evaluation and Analysis

Per FCC KDB Publication 447498 D01v06, when the sum of the standalone transmitters is more than 1.6 W/kg for 1g and 4 W/kg for 10g, the SAR sum to peak locations can be analyzed to determine SAR distribution overlaps. When the SAR peak to location ratio (shown below) for each pair of antennas is ≤ 0.04 for 1g and ≤ 0.10 for 10g, simultaneous SAR evaluation is not required. The distance between the transmitters was calculated using the following formula.

$$\text{Distance}_{\text{Tx}_1 - \text{Tx}_2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} \text{ (Body-Worn, Hotspot, Phablet)}$$

$$\text{SPLS Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{R_i}$$

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 148 of 164	

12.7.1 Bodyworn Back Side SPLSR Evaluation and Analysis

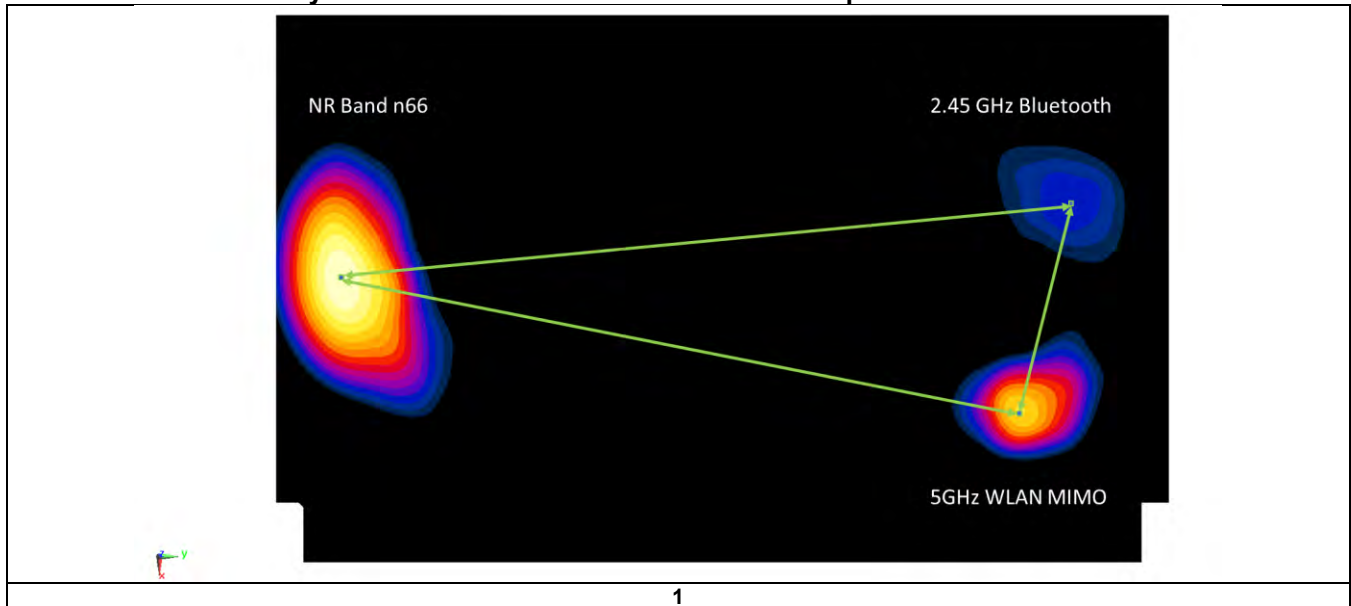
Table 12-21
Peak SAR Locations for Bodyworn Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	-2.00	67.00
2.45 GHz Bluetooth	-46.60	76.60
n66	-28.00	-84.00




Table 12-22
Bodyworn Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLSR Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
n66	2.45 GHz Bluetooth	1.099	0.022	1.121	161.67	0.01	1
n66	5 GHz WLAN MIMO	1.099	0.489	1.588	153.22	0.01	
2.45 GHz Bluetooth	5 GHz WLAN MIMO	0.022	0.489	0.511	45.62	0.01	

Table 12-23
Bodyworn Back Side SAR to Peak Location Separation Ratio Plots



1

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 149 of 164	

12.7.2 Hotspot Back Side SPLSR Evaluation and Analysis

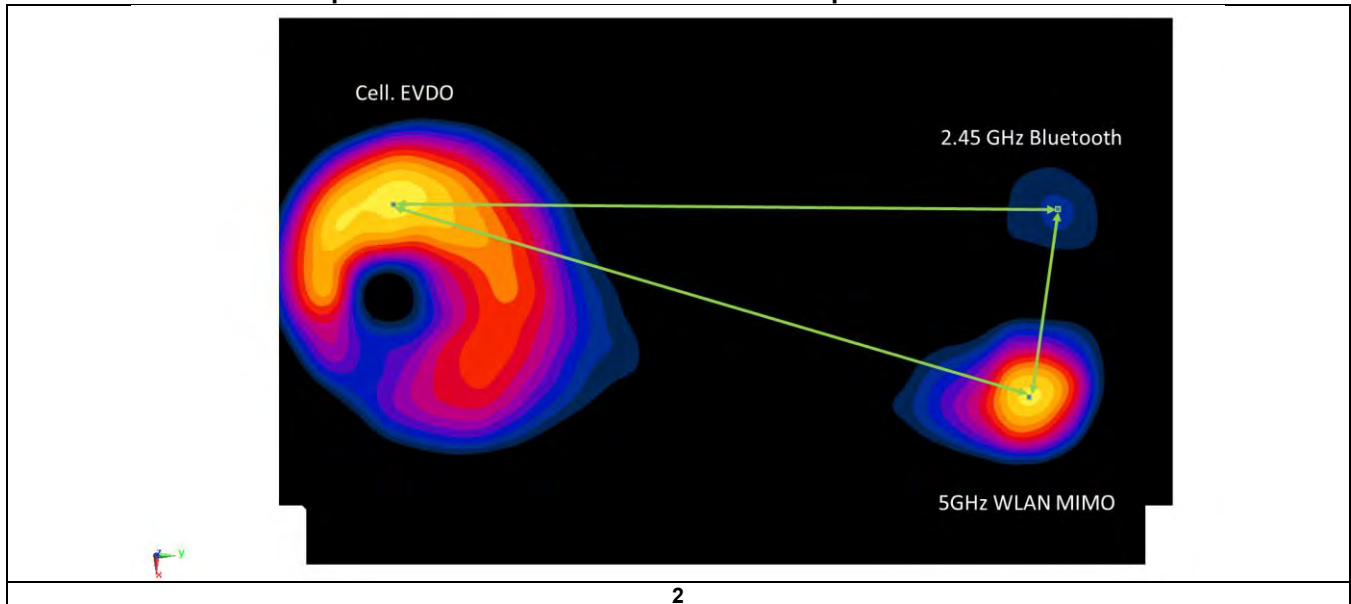
Table 12-24
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	-4.00	68.00
2.45 GHz Bluetooth	-44.00	77.00
Cell. EVDO	-46.00	-78.50

Table 12-25
Hotspot Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLSR Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
Cell. EVDO	2.45 GHz Bluetooth	0.986	0.038	1.024	155.51	0.01	2
Cell. EVDO	5 GHz WLAN MIMO	0.986	0.664	1.65	152.40	0.01	
2.45 GHz Bluetooth	5 GHz WLAN MIMO	0.038	0.664	0.702	41.00	0.01	

Table 12-26
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



2

FCC ID: A3LSMN986W	PCTEST "Proba te lo que puedes"	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 150 of 164

12.7.3 Phablet Back Side SPLSR Evaluation and Analysis

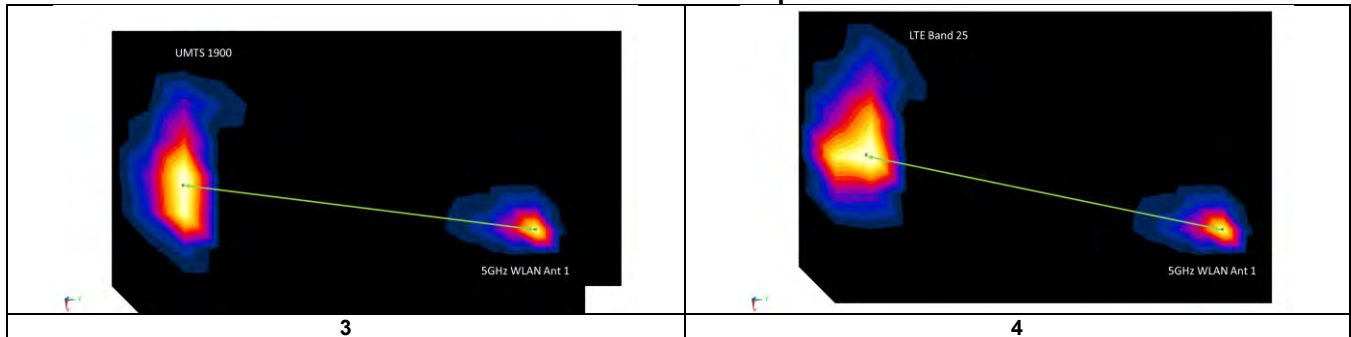
Table 12-27
Peak SAR Locations for Phablet Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 1	4.00	68.00
5 GHz WLAN Ant 2	-1.20	59.80
5 GHz WLAN MIMO	-0.90	61.10
GSM 1900	-12.50	-81.00
UMTS 1750	-31.40	-85.90
UMTS 1900	-9.50	-79.50
LTE Band 66 (AWS)	-28.00	-85.50
LTE Band 25 (PCS)	-26.50	-82.50
LTE Band 30	-51.40	-74.40
LTE Band 7	-57.40	-76.20
LTE Band 41	-58.60	-75.60
NR Band n66	-22.30	-78.30

Table 12-28
Phablet Back Side SAR to Peak Location Separation Ratio Calculations

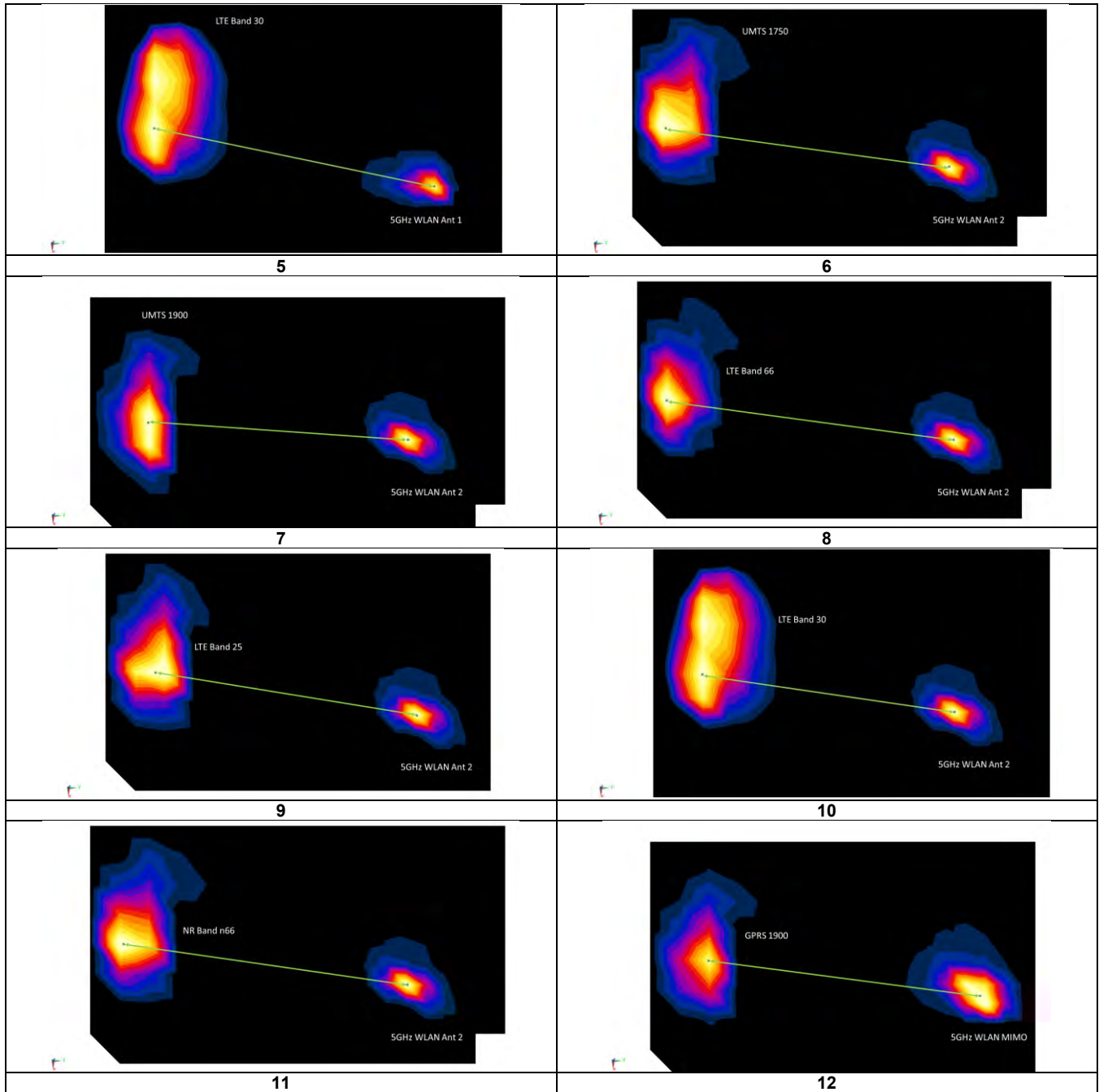
Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D _{a-b}	$(a+b)^{1.5}/D_{a-b}$	
UMTS 1900	5 GHz WLAN Ant 1	3.144	1.012	4.156	148.12	0.06	3
LTE Band 25 (PCS)	5 GHz WLAN Ant 1	3.142	1.012	4.154	153.56	0.06	4
LTE Band 30	5 GHz WLAN Ant 1	3.010	1.012	4.022	152.80	0.05	5
UMTS 1750	5 GHz WLAN Ant 2	2.921	1.567	4.488	148.80	0.06	6
UMTS 1900	5 GHz WLAN Ant 2	3.144	1.567	4.711	139.55	0.07	7
LTE Band 66 (AWS)	5 GHz WLAN Ant 2	2.764	1.567	4.331	147.75	0.06	8
LTE Band 25 (PCS)	5 GHz WLAN Ant 2	3.142	1.567	4.709	144.53	0.07	9
LTE Band 30	5 GHz WLAN Ant 2	3.010	1.567	4.577	143.28	0.07	10
NR Band n66	5 GHz WLAN Ant 2	2.519	1.567	4.086	139.70	0.06	11
GSM 1900	5 GHz WLAN MIMO	1.806	2.624	4.43	142.57	0.07	12
UMTS 1750	5 GHz WLAN MIMO	2.921	2.624	5.545	150.13	0.09	13
UMTS 1900	5 GHz WLAN MIMO	3.144	2.624	5.768	140.86	0.10	14
LTE Band 66 (AWS)	5 GHz WLAN MIMO	2.764	2.624	5.388	149.08	0.08	15
LTE Band 25 (PCS)	5 GHz WLAN MIMO	3.142	2.624	5.766	145.86	0.09	16
LTE Band 30	5 GHz WLAN MIMO	3.010	2.624	5.634	144.60	0.09	17
LTE Band 7	5 GHz WLAN MIMO	1.490	2.624	4.114	148.47	0.06	18
LTE Band 41	5 GHz WLAN MIMO	2.095	2.624	4.719	148.38	0.07	19
NR Band n66	5 GHz WLAN MIMO	2.519	2.624	5.143	141.03	0.08	20



Table 12-29
Back Side SAR to Peak Location Separation Ratio Plots



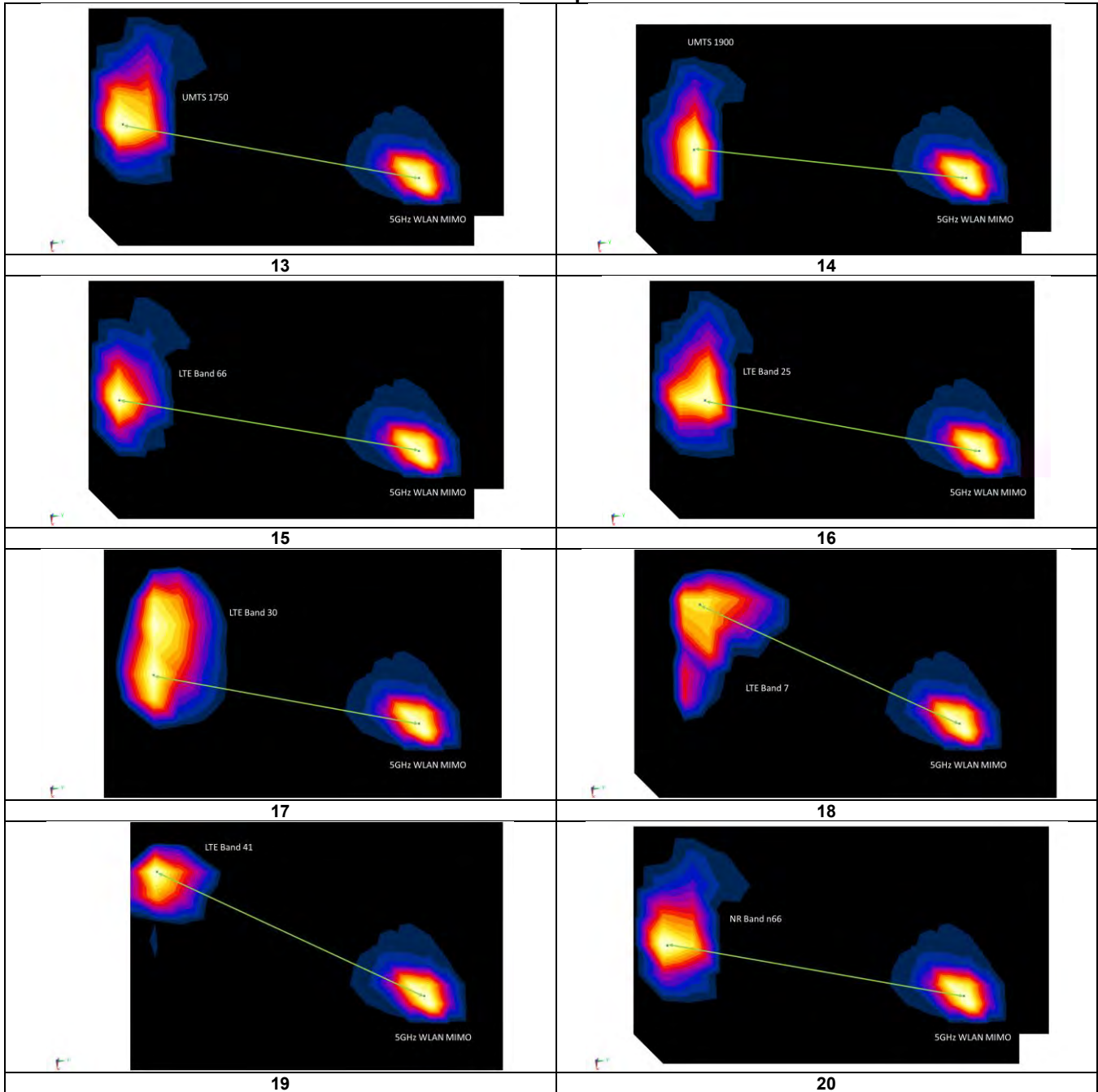
FCC ID: A3LSMN986W	PCTEST Proud to be part of Siemens	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 151 of 164

**Table 12-30
Back Side SAR to Peak Location Separation Ratio Plots**





FCC ID: A3LSMN986W	 <small>Provided to be part of</small>	SAR EVALUATION REPORT	 Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 152 of 164

**Table 12-31
Back Side SAR to Peak Location Separation Ratio Plots Continued**



12.8 Simultaneous Transmission Conclusion

The above numerical summed SAR results and SPLSR analysis are 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.

FCC ID: A3LSMN986W	 PCTEST <small>Think to be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 153 of 164

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 1g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .
- 4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
- 5) When 10g 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)	
1900	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	10 mm	1.160	1.140	1.02	N/A	N/A	N/A	N/A
1750	1770.00	354000	NR Band n66 (AWS), 20 MHz Bandwidth	DFT-S-OFDM QPSK, 50 RB, 0 RB Offset	bottom	10 mm	1.030	1.030	1.00	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 12 RB Offset	bottom	10 mm	1.070	1.060	1.01	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram						

**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, 25 RB Offset	bottom	0 mm	2.850	2.800	1.02	N/A	N/A	N/A	N/A
1900	1882.50	26365	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	bottom	0 mm	2.890	2.850	1.01	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	back	0 mm	2.900	2.860	1.01	N/A	N/A	N/A	N/A
2600	2680.00	41490	LTE Band 41, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.830	2.820	1.00	N/A	N/A	N/A	N/A
5600	5500.00	100	802.11n, 20 MHz Bandwidth	OFDM, MIMO	back	0 mm	2.230	2.170	1.03	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

13.2 Measurement Uncertainty

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

FCC ID: A3LSMN986W	 PCTEST Proud to be part of Samsung	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 154 of 164	

14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

Per April 2019 TCB Workshop Notes, 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. Per FCC Guidance, during NR testing the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency. 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 on the antenna characteristics, other than impedance matching.

To evaluate all the tuner states, the 120 tuner states were divided among the aggregate band, mode and exposure combinations. 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 120 states.

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



FCC ID: A3LSMN986W	 PCTEST <small>Should be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 155 of 164	

Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data							
UMTS B5		UMTS B4		UMTS B2		CDMA BC0	
RMC		RMC		RMC		EVDO Rev.A	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880.0	Frequency (MHz)	836.52
Channel	4183	Channel	1412	Channel	9400	Channel	384
Measured 1g SAR (W/kg)	0.158	Measured 1g SAR (W/kg)	0.138	Measured 1g SAR (W/kg)	0.128	Measured 1g SAR (W/kg)	0.158
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 19)	0.210	Auto-tune (State 109)	0.195	Auto-tune (State 109)	0.183	Auto-tune (State 66)	0.207
Default (State 0)	0.151	Default (State 0)	0.196	Default (State 0)	0.178	Default (State 0)	0.146
State 1	0.181	State 24	0.111	State 55	0.022	State 66	0.203
State 4	0.192	State 29	0.190	State 61	0.009	State 85	0.149
State 8	0.148	State 34	0.182	State 66	0.024	State 89	0.042
State 12	0.026	State 39	0.192	State 71	0.017	State 93	0.167
State 16	0.191	State 44	0.189	State 76	0.002	State 100	0.093
State 66	0.217	State 109	0.193	State 109	0.176	State 105	0.084

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data											
LTE B71		LTE B12		LTE B13		LTE B5		LTE B66/4		LTE B25/2	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset	
Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0	Frequency (MHz)	836.5	Frequency (MHz)	1720.0	Frequency (MHz)	1905.0
Channel	133297	Channel	23095	Channel	23230	Channel	20525	Channel	132072	Channel	26590
Measured 1g SAR (W/kg)	0.135	Measured 1g SAR (W/kg)	0.166	Measured 1g SAR (W/kg)	0.179	Measured 1g SAR (W/kg)	0.155	Measured 1g SAR (W/kg)	0.116	Measured 1g SAR (W/kg)	0.099
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)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 19)	0.173	Auto-tune (State 20)	0.216	Auto-tune (State 1)	0.252	Auto-tune (State 56)	0.197	Auto-tune (State 109)	0.171	Auto-tune (State 109)	0.143
Default (State 0)	0.110	Default (State 0)	0.146	Default (State 0)	0.233	Default (State 0)	0.111	Default (State 0)	0.174	Default (State 0)	0.133
State 19	0.173	State 20	0.213	State 1	0.252	State 5	0.159	State 43	0.170	State 80	0.023
State 91	0.085	State 63	0.032	State 25	0.028	State 9	0.072	State 53	0.024	State 87	0.010
State 97	0.055	State 69	0.117	State 30	0.213	State 14	0.149	State 58	0.020	State 96	0.020
State 111	0.081	State 74	0.051	State 36	0.065	State 17	0.158	State 60	0.016	State 99	0.010
State 115	0.084	State 82	0.074	State 41	0.214	State 22	0.067	State 65	0.021	State 103	0.000
State 117	0.050	State 86	0.037	State 46	0.180	State 56	0.193	State 109	0.164	State 109	0.137

Table 14-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data			
NR Band n71		NR Band n66	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 53 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset	
Test Position	Left Cheek	Test Position	Right Cheek
Frequency (MHz)	680.5	Frequency (MHz)	1720.0
Channel	136100	Channel	344000
Measured 1g SAR (W/kg)	0.148	Measured 1g SAR (W/kg)	0.167
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 19)	0.195	Auto-tune (State 109)	0.236
Default (State 0)	0.156	Default (State 0)	0.254
State 19	0.195	State 2	0.255
State 101	0.020	State 7	0.247
State 104	0.153	State 11	0.201
State 109	0.079	State 13	0.235
State 112	0.158	State 18	0.229
State 119	0.125	State 109	0.236





FCC ID: A3LSMN986W	 PCTEST Proud to be part of the Samsung ecosystem	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 156 of 164	

Table 14-4
UMTS/CDMA Supplemental Body SAR Data

UMTS B5				UMTS B4				UMTS B2				CDMA BC0			
RMC		RMC		RMC		RMC		RMC		RMC		RMC		RMC	
Test Position	Back	Test Position	Bottom	Test Position	Bottom	Test Position	Bottom	Test Position	Bottom	Test Position	Bottom	Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	846.6	Frequency (MHz)	1712.4	Frequency (MHz)	1907.6	Frequency (MHz)	1907.6	Frequency (MHz)	1907.6	Frequency (MHz)	1907.6	Frequency (MHz)	846.3	Frequency (MHz)	846.3
Channel	4233	Channel	1312	Channel	9538	Channel	9538	Channel	9538	Channel	9538	Channel	777	Channel	777
Measured 1g SAR (W/kg)	0.621	Measured 1g SAR (W/kg)	0.946	Measured 1g SAR (W/kg)	1.040	Measured 1g SAR (W/kg)	1.040	Measured 1g SAR (W/kg)	1.040	Measured 1g SAR (W/kg)	1.040	Measured 1g SAR (W/kg)	0.722	Measured 1g SAR (W/kg)	0.722
Average Value of Time Sweep (W/kg)	0.909	Average Value of Time Sweep (W/kg)	1.457	Average Value of Time Sweep (W/kg)	1.756	Average Value of Time Sweep (W/kg)	1.756	Average Value of Time Sweep (W/kg)	1.756	Average Value of Time Sweep (W/kg)	1.756	Average Value of Time Sweep (W/kg)	1.060	Average Value of Time Sweep (W/kg)	1.060
Auto-tune (State 0)	0.796	Auto-tune (State 0)	1.354	Auto-tune (State 0)	1.718	Auto-tune (State 0)	1.718	Auto-tune (State 0)	1.718	Auto-tune (State 0)	1.718	Auto-tune (State 0)	0.766	Auto-tune (State 0)	0.766
State 0	0.796	State 0	1.354	State 0	1.718	State 0	1.718	State 0	1.718	State 0	1.718	State 0	0.766	State 0	0.766
State 1	0.319	State 1	1.384	State 1	1.679	State 1	1.679	State 1	1.679	State 1	1.679	State 1	0.547	State 1	0.547
State 2	0.396	State 2	1.401	State 2	1.666	State 2	1.666	State 2	1.666	State 2	1.666	State 2	0.732	State 2	0.732
State 3	0.763	State 3	1.400	State 3	1.657	State 3	1.657	State 3	1.657	State 3	1.657	State 3	0.176	State 3	0.176
State 4	0.859	State 4	1.414	State 4	1.498	State 4	1.498	State 4	1.498	State 4	1.498	State 4	1.957	State 4	1.957
State 5	0.166	State 5	1.425	State 5	1.468	State 5	1.468	State 5	1.468	State 5	1.468	State 5	1.052	State 5	1.052
State 6	0.889	State 6	1.451	State 6	1.406	State 6	1.406	State 6	1.406	State 6	1.406	State 6	0.85	State 6	0.85
State 7		State 7	1.472	State 7	1.351	State 7	1.351	State 7	1.351	State 7	1.351	State 7		State 7	
State 8		State 8	1.598	State 8	1.257	State 8	1.257	State 8	1.257	State 8	1.257	State 8		State 8	
State 9		State 9	1.525	State 9	1.132	State 9	1.132	State 9	1.132	State 9	1.132	State 9		State 9	
State 10		State 10	1.518	State 10	1.015	State 10	1.015	State 10	1.015	State 10	1.015	State 10		State 10	
State 11		State 11	1.477	State 11	0.854	State 11	0.854	State 11	0.854	State 11	0.854	State 11		State 11	
State 12		State 12	1.322	State 12	0.856	State 12	0.856	State 12	0.856	State 12	0.856	State 12		State 12	
State 13		State 13	1.365	State 13	1.382	State 13	1.382	State 13	1.382	State 13	1.382	State 13		State 13	
State 14		State 14	1.395	State 14	1.338	State 14	1.338	State 14	1.338	State 14	1.338	State 14		State 14	
State 15		State 15	1.405	State 15	1.329	State 15	1.329	State 15	1.329	State 15	1.329	State 15		State 15	
State 16		State 16	1.404	State 16	1.311	State 16	1.311	State 16	1.311	State 16	1.311	State 16		State 16	
State 17		State 17	1.417	State 17	1.270	State 17	1.270	State 17	1.270	State 17	1.270	State 17		State 17	
State 18		State 18	1.419	State 18	1.277	State 18	1.277	State 18	1.277	State 18	1.277	State 18		State 18	
State 19		State 19	1.438	State 19	1.193	State 19	1.193	State 19	1.193	State 19	1.193	State 19		State 19	
State 20		State 20	1.452	State 20	1.132	State 20	1.132	State 20	1.132	State 20	1.132	State 20		State 20	
State 21		State 21	1.455	State 21	1.041	State 21	1.041	State 21	1.041	State 21	1.041	State 21		State 21	
State 22		State 22	1.442	State 22	0.910	State 22	0.910	State 22	0.910	State 22	0.910	State 22		State 22	
State 23		State 23	1.405	State 23	0.798	State 23	0.798	State 23	0.798	State 23	0.798	State 23		State 23	
State 24		State 24	1.312	State 24	0.688	State 24	0.688	State 24	0.688	State 24	0.688	State 24		State 24	
State 25		State 25	1.119	State 25	0.490	State 25	0.490	State 25	0.490	State 25	0.490	State 25		State 25	
State 26		State 26	1.143	State 26	0.495	State 26	0.495	State 26	0.495	State 26	0.495	State 26		State 26	
State 27		State 27	1.178	State 27	1.600	State 27	1.600	State 27	1.600	State 27	1.600	State 27		State 27	
State 28		State 28	1.199	State 28	1.586	State 28	1.586	State 28	1.586	State 28	1.586	State 28		State 28	
State 29		State 29	1.204	State 29	1.583	State 29	1.583	State 29	1.583	State 29	1.583	State 29		State 29	
State 30		State 30	1.219	State 30	1.557	State 30	1.557	State 30	1.557	State 30	1.557	State 30		State 30	
State 31		State 31	1.221	State 31	1.547	State 31	1.547	State 31	1.547	State 31	1.547	State 31		State 31	
State 32		State 32	1.273	State 32	1.496	State 32	1.496	State 32	1.496	State 32	1.496	State 32		State 32	
State 33		State 33	1.310	State 33	1.449	State 33	1.449	State 33	1.449	State 33	1.449	State 33		State 33	
State 34		State 34	1.364	State 34	1.370	State 34	1.370	State 34	1.370	State 34	1.370	State 34		State 34	
State 35		State 35	1.417	State 35	1.244	State 35	1.244	State 35	1.244	State 35	1.244	State 35		State 35	
State 36		State 36	1.447	State 36	1.138	State 36	1.138	State 36	1.138	State 36	1.138	State 36		State 36	
State 37		State 37	1.453	State 37	0.970	State 37	0.970	State 37	0.970	State 37	0.970	State 37		State 37	
State 38		State 38	1.555	State 38	0.747	State 38	0.747	State 38	0.747	State 38	0.747	State 38		State 38	
State 39		State 39	1.575	State 39	1.530	State 39	1.530	State 39	1.530	State 39	1.530	State 39		State 39	
State 40		State 40	1.307	State 40	1.471	State 40	1.471	State 40	1.471	State 40	1.471	State 40		State 40	
State 41		State 41	1.319	State 41	1.457	State 41	1.457	State 41	1.457	State 41	1.457	State 41		State 41	
State 42		State 42	1.329	State 42	1.450	State 42	1.450	State 42	1.450	State 42	1.450	State 42		State 42	
State 43		State 43	1.345	State 43	1.425	State 43	1.425	State 43	1.425	State 43	1.425	State 43		State 43	
State 44		State 44	1.345	State 44	1.432	State 44	1.432	State 44	1.432	State 44	1.432	State 44		State 44	
State 45		State 45	1.384	State 45	1.344	State 45	1.344	State 45	1.344	State 45	1.344	State 45		State 45	
State 46		State 46	1.406	State 46	1.291	State 46	1.291	State 46	1.291	State 46	1.291	State 46		State 46	
State 47		State 47	1.447	State 47	1.201	State 47	1.201	State 47	1.201	State 47	1.201	State 47		State 47	
State 48		State 48	1.469	State 48	1.069	State 48	1.069	State 48	1.069	State 48	1.069	State 48		State 48	
State 49		State 49	1.465	State 49	0.854	State 49	0.854	State 49	0.854	State 49	0.854	State 49		State 49	
State 50		State 50	1.438	State 50	0.811	State 50	0.811	State 50	0.811	State 50	0.811	State 50		State 50	
State 51		State 51	1.304	State 51	0.612	State 51	0.612	State 51	0.612	State 51	0.612	State 51		State 51	
State 52		State 52	0.249	State 52	0.250	State 52	0.250	State 52	0.250	State 52	0.250	State 52		State 52	
State 53		State 53	0.249	State 53	0.247	State 53	0.247	State 53	0.247	State 53	0.247	State 53		State 53	
State 54		State 54	0.244	State 54	0.235	State 54	0.235	State 54	0.235	State 54	0.235	State 54		State 54	
State 55		State 55	0.238	State 55	0.229	State 55	0.229	State 55	0.229	State 55	0.229	State 55		State 55	
State 56		State 56	0.230	State 56	0.214	State 56	0.214	State 56	0.214	State 56	0.214	State 56		State 56	
State 57		State 57	0.233	State 57	0.222	State 57	0.222	State 57	0.222	State 57	0.222	State 57		State 57	
State 58		State 58	0.238	State 58	0.185	State 58	0.185	State 58	0.185	State 58	0.185	State 58		State 58	
State 59		State 59	0.193	State 59	0.168	State 59	0.168	State 59	0.168	State 59	0.168	State 59		State 59	
State 60		State 60	0.167	State 60	0.136	State 60	0.136	State 60	0.136	State 60	0.136	State 60		State 60	
State 61		State 61	0.132	State 61	0.101	State 61	0.101	State 61	0.101	State 61	0.101	State 61		State 61	
State 62		State 62	0.108	State 62	0.078	State 62	0.078	State 62	0.078	State 62	0.078	State 62		State 62	
State 63		State 63	0.080	State 63	0.054	State 63	0.054	State 63	0.054	State 63	0.054	State 63		State 63	
State 64		State 64	0.049	State 64	0.029	State 64	0.029	State 64	0.029	State 64	0.029	State 64		State 64	
State 65		State 65	0.227	State 65	0.242	State 65	0.242	State 65	0.242	State 65	0.242	State 65		State 65	
State 66		State 66	0.210	State 66	0.224	State 66	0.224	State 66	0.224	State 66	0.224	State 66		State 66	
State 67		State 67	0.204	State 67	0.212	State 67	0.212	State 67	0.212	State 67	0.212	State 67		State 67	
State 68		State 68	0.198	State 68	0.203	State 68	0.203	State 68	0.203	State 68	0.203	State 68		State 68	
State 69		State 69	0.188	State 69	0.185	State 69	0.185	State 69	0.185	State 69	0.185	State 69		State 69	
State 70		State 70	0.188	State 70	0.190	State 70	0.190	State 70	0.190	State 70	0.190	State 70		State 70	
State 71		State 71	0.162	State 71	0.152	State 71	0.152	State 71	0.152	State 71	0.152	State 71		State 71	
State 72		State 72	0.146	State 72	0.134	State 72	0.134	State 72	0.134	State 72	0.134	State 72		State 72	
State 73		State 73	0.122	State 73	0.112	State 73	0.112	State 73	0.112	State 73	0.112	State 73		State 73	
State 74		State 74	0.094	State 74	0.080	State 74	0.080	State 74	0.080	State 74	0.080	State 74		State 74	
State 75		State 75	0.075	State 75	0.060	State 75	0.060	State 75	0.060	State 75	0.060	State 75		State 75	
State 76		State 76	0.054	State 76	0.039	State 76	0.039	State 76	0.039	State 76	0.039	State 76		State 76	
State 77		State 77	0.033	State 77	0.021	State 77	0.021	State 77	0.021	State 77	0.021	State 77		State 77	
State 78		State 78	0.276	State 78											




**Table 14-5
LTE Supplemental Body SAR Data**

Supplemental Body SAR Data											
LTE B71		LTE B12		LTE B13		LTE B5		LTE B66/4		LTE B25/2	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 25 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 25 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	880.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0	Frequency (MHz)	835.5	Frequency (MHz)	1770.0	Frequency (MHz)	1905.0
Channel	133297	Channel	23095	Channel	23230	Channel	20525	Channel	133272	Channel	26590
Measured 1g SAR (W/kg)	0.331	Measured 1g SAR (W/kg)	0.398	Measured 1g SAR (W/kg)	0.580	Measured 1g SAR (W/kg)	0.503	Measured 1g SAR (W/kg)	0.862	Measured 1g SAR (W/kg)	1.160
Average Value of Time Sweep (W/kg)	0.414	Average Value of Time Sweep (W/kg)	0.487	Average Value of Time Sweep (W/kg)	0.844	Average Value of Time Sweep (W/kg)	0.432	Average Value of Time Sweep (W/kg)	1.449	Average Value of Time Sweep (W/kg)	1.808
Auto-tune (State 19)	0.551	Auto-tune (State 20)	0.666	Auto-tune (State 52)	0.925	Auto-tune (State 53)	0.768	Auto-tune (State 2)	1.459	Auto-tune (State 109)	1.771
State 19	0.576	State 6	0.061	State 52	0.918	State 9	0.432	State 0	1.459	State 0	1.771
State 20	0.574	State 15	0.602	State 81	0.793	State 53	0.764	State 1	1.467	State 1	1.733
State 75	0.149	State 19	0.668	State 83	0.728	State 62	0.403	State 2	1.468	State 2	1.723
State 79	0.264	State 20	0.667	State 87	0.251	State 64	0.183	State 3	1.470	State 3	1.704
State 84	0.194	State 23	0.425	State 92	0.819	State 68	0.788	State 4	1.466	State 4	1.675
State 88	0.074	State 28	0.309	State 108	0.841	State 72	0.713	State 5	1.463	State 5	1.673
State 95	0.249	State 31	0.363	State 110	0.918	State 78	0.436	State 6	1.452	State 6	1.599
								State 7	1.441	State 7	1.536
								State 8	1.411	State 8	1.432
								State 9	1.356	State 9	1.284
								State 10	1.292	State 10	1.153
								State 11	1.192	State 11	0.978
								State 12	1.012	State 12	0.748
								State 13	1.324	State 13	1.589
								State 14	1.323	State 14	1.511
								State 15	1.319	State 15	1.495
								State 16	1.319	State 16	1.481
								State 17	1.306	State 17	1.445
								State 18	1.303	State 18	1.442
								State 19	1.280	State 19	1.351
								State 20	1.258	State 20	1.283
								State 21	1.217	State 21	1.180
								State 22	1.140	State 22	0.905
								State 23	1.070	State 23	0.808
								State 24	0.960	State 24	0.754
								State 25	0.785	State 25	0.561
								State 26	1.395	State 26	1.826
								State 27	1.409	State 27	1.802
								State 28	1.416	State 28	1.793
								State 29	1.417	State 29	1.783
								State 30	1.421	State 30	1.763
								State 31	1.421	State 31	1.759
								State 32	1.421	State 32	1.696
								State 33	1.431	State 33	1.643
								State 34	1.423	State 34	1.585
								State 35	1.404	State 35	1.415
								State 36	1.366	State 36	1.291
								State 37	1.290	State 37	1.111
								State 38	1.121	State 38	0.856
								State 39	1.409	State 39	1.715
								State 40	1.416	State 40	1.664
								State 41	1.417	State 41	1.656
								State 42	1.416	State 42	1.643
								State 43	1.416	State 43	1.617
								State 44	1.411	State 44	1.613
								State 45	1.404	State 45	1.526
								State 46	1.390	State 46	1.469
								State 47	1.371	State 47	1.371
								State 48	1.319	State 48	1.222
								State 49	1.286	State 49	1.095
								State 50	1.188	State 50	0.928
								State 51	0.994	State 51	0.706
								State 52	0.229	State 52	0.319
								State 53	0.225	State 53	0.314
								State 54	0.219	State 54	0.302
								State 55	0.213	State 55	0.291
								State 56	0.204	State 56	0.275
								State 57	0.206	State 57	0.284
								State 58	0.194	State 58	0.241
								State 59	0.169	State 59	0.218
								State 60	0.145	State 60	0.180
								State 61	0.115	State 61	0.136
								State 62	0.093	State 62	0.106
								State 63	0.069	State 63	0.075
								State 64	0.043	State 64	0.043
								State 65	0.210	State 65	0.306
								State 66	0.194	State 66	0.281
								State 67	0.186	State 67	0.268
								State 68	0.180	State 68	0.259
								State 69	0.169	State 69	0.237
								State 70	0.171	State 70	0.243
								State 71	0.143	State 71	0.196
								State 72	0.128	State 72	0.173
								State 73	0.105	State 73	0.137
								State 74	0.080	State 74	0.099
								State 75	0.063	State 75	0.075
								State 76	0.046	State 76	0.051
								State 77	0.026	State 77	0.028
								State 78	0.242	State 78	0.331
								State 79	0.255	State 79	0.342
								State 80	0.252	State 80	0.332
								State 81	0.247	State 81	0.324
								State 82	0.242	State 82	0.310
								State 83	0.250	State 83	0.322
								State 84	0.229	State 84	0.283
								State 85	0.217	State 85	0.282
								State 86	0.192	State 86	0.221
								State 87	0.156	State 87	0.171
								State 88	0.128	State 88	0.137
								State 89	0.095	State 89	0.097
								State 90	0.059	State 90	0.058
								State 91	0.230	State 91	0.325
								State 92	0.227	State 92	0.317
								State 93	0.222	State 93	0.305
								State 94	0.217	State 94	0.294
								State 95	0.207	State 95	0.276
								State 96	0.212	State 96	0.285
								State 97	0.188	State 97	0.241
								State 98	0.173	State 98	0.218
								State 99	0.148	State 99	0.180
								State 100	0.118	State 100	0.153
								State 101	0.096	State 101	0.106
								State 102	0.071	State 102	0.075
								State 103	0.045	State 103	0.045
								State 104	1.428	State 104	1.772
								State 105	1.360	State 105	1.624
								State 106	0.222	State 106	0.316
								State 107	0.241	State 107	0.327
								State 108	1.435	State 108	1.770
								State 109	1.361	State 109	1.632
								State 110	0.222	State 110	0.318
								State 111	0.241	State 111	0.328
								State 112	1.299	State 112	1.563
								State 113	1.383	State 113	1.717
								State 114	0.204	State 114	0.303
								State 115	0.227	State 115	0.320
								State 116	1.301	State 116	1.562
								State 117	1.382	State 117	1.716
								State 118	0.204	State 118	0.304
								State 119	0.228	State 119	0.322

FCC ID: A3LSMN986W	 PCTEST Proud to be part of the element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 158 of 164	

**Table 14-6
NR Supplemental Body SAR Data**



NR Band n7		NR Band n66	
DFT-s-OFDM QPSK, 20MHz Bandwidth, 50 RB, 28 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offset	
Test Position	Back	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	1770.0
Channel	138100	Channel	354000
Measured 1g SAR (W/kg)	0.345	Measured 1g SAR (W/kg)	1.030
Average Value of Time Sweep (W/kg)	0.586	Average Value of Time Sweep (W/kg)	1.668
Auto-tune (State 0)	0.470	Auto-tune (State 2)	1.677
State 19	0.585	State 0	1.677
State 20	0.567	State 1	1.672
State 49	0.234	State 2	1.670
State 52	0.512	State 3	1.690
State 59	0.224	State 4	1.684
State 67	0.378	State 5	1.682
State 73	0.174	State 6	1.646
		State 7	1.652
		State 8	1.695
		State 9	1.555
		State 10	1.476
		State 11	1.371
		State 12	1.159
		State 13	1.519
		State 14	1.515
		State 15	1.512
		State 16	1.511
		State 17	1.500
		State 18	1.495
		State 19	1.457
		State 20	1.422
		State 21	1.370
		State 22	1.278
		State 23	1.193
		State 24	1.076
		State 25	0.877
		State 26	1.596
		State 27	1.597
		State 28	1.596
		State 29	1.594
		State 30	1.590
		State 31	1.602
		State 32	1.608
		State 33	1.611
		State 34	1.601
		State 35	1.573
		State 36	1.554
		State 37	1.459
		State 38	1.277
		State 39	1.266
		State 40	1.622
		State 41	1.627
		State 42	1.624
		State 43	1.615
		State 44	1.604
		State 45	1.611
		State 46	1.582
		State 47	1.560
		State 48	1.492
		State 49	1.427
		State 50	1.323
		State 51	1.139
		State 52	0.231
		State 53	0.231
		State 54	0.228
		State 55	0.218
		State 56	0.210
		State 57	0.218
		State 58	0.192
		State 59	0.180
		State 60	0.155
		State 61	0.123
		State 62	0.101
		State 63	0.075
		State 64	0.046
		State 65	0.217
		State 66	0.201
		State 67	0.192
		State 68	0.196
		State 69	0.174
		State 70	0.178
		State 71	0.148
		State 72	0.133
		State 73	0.111
		State 74	0.084
		State 75	0.067
		State 76	0.048
		State 77	0.029
		State 78	0.250
		State 79	0.269
		State 80	0.266
		State 81	0.260
		State 82	0.254
		State 83	0.265
		State 84	0.246
		State 85	0.236
		State 86	0.212
		State 87	0.173
		State 88	0.145
		State 89	0.108
		State 90	0.068
		State 91	0.237
		State 92	0.239
		State 93	0.232
		State 94	0.229
		State 95	0.220
		State 96	0.224
		State 97	0.202
		State 98	0.186
		State 99	0.162
		State 100	0.130
		State 101	0.107
		State 102	0.080
		State 103	0.051
		State 104	1.627
		State 105	1.560
		State 106	0.228
		State 107	0.247
		State 108	1.671
		State 109	1.565
		State 110	0.230
		State 111	0.248
		State 112	1.501
		State 113	1.585
		State 114	0.212
		State 115	0.237
		State 116	1.516
		State 117	1.601
		State 118	0.212
		State 119	0.237

FCC ID: A3LSMN986W	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 159 of 164

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	[9]Hz-2 [9]GHz Spectrum Analyzer	N/A	N/A	N/A	3051400167
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	2/10/2020	Annual	2/10/2021	GB42230925
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	5/23/2019	Annual	5/23/2020	MY47270002
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US40053896
Agilent	N5182A	MXG Vector Signal Generator	5/13/2020	Annual	5/13/2021	MY47420603
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY47420800
Agilent	87535E	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	MY40000670
Agilent	87535E	S-Parameter Network Analyzer	12/31/2019	Annual	12/31/2020	US39170122
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	E5515C	Wireless Communications Test Set	1/14/2020	Triennial	1/14/2023	GB43304447
Agilent	N4010A	Wireless Connectivity Test Set	CBT	N/A	CBT	GB44450273
Agilent	N4010A	Wireless Connectivity Test Set	CBT	N/A	CBT	GB46170464
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433976
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433978
Anritsu	MN8110B	I/O Adaptor	CBT	N/A	CBT	6261747881
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	ML2496A	Power Meter	2/13/2020	Annual	2/13/2021	1306009
Anritsu	ML2496A	Power Meter	3/23/2020	Annual	3/23/2021	1351001
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	MT8821C	Radio Communication Analyzer	2/22/2020	Annual	2/22/2021	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	11/22/2019	Annual	11/22/2020	6262044715
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	5/6/2019	Annual	5/6/2020	1231538
Anritsu	MA24106A	USB Power Sensor	2/27/2020	Annual	2/27/2021	1244524
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
COMTECH	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M155A00-009
COMTECH	AR85729-5/S759B	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282739
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282744
Control Company	4040	Therm / Clock / Humidity Monitor	10/9/2020	Biennial	6/30/2020	181647812
Control Company	4040	Therm / Clock / Humidity Monitor	2/17/2020	Biennial	2/17/2022	200113269
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	7/2/2019	Annual	7/2/2020	MY53401181
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
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
Mini-Circuits	BW-N20W5+	Power Attenuator	CBT	N/A	CBT	1216
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	NC-100	Torque Wrench	7/18/2019	Biennial	7/18/2020	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	10/4/2019	Annual	10/4/2020	166462
Rohde & Schwarz	CMW500	Radio Communication Tester	4/23/2020	Annual	4/23/2021	167283
Rohde & Schwarz	ZNL65	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seokonk	NC-100	Torque Wrench (8" lb)	5/19/2018	Biennial	6/30/2020	210553
Seokonk	NC-100	Torque Wrench (8" lb)	5/23/2018	Biennial	5/23/2020	N/A
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Triennial	5/23/2021	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	54080
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d149
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D590HV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D750V3	750 MHz Dipole	3/11/2020	Annual	3/11/2021	1054
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Biennial	3/13/2021	4d947
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	4d132
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	4d133
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/20/2020	Annual	5/20/2021	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/18/2019	Annual	12/18/2020	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2020	Annual	3/12/2021	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/12/2019	Annual	9/12/2020	1449
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	4/21/2020	Annual	4/21/2021	7357
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	7488
SPEAG	EX3DV4	SAR Probe	3/17/2020	Annual	3/17/2021	7527
SPEAG	EX3DV4	SAR Probe	5/18/2020	Annual	5/18/2021	7538
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7552
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7570
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571

Note:



1. 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.
2. Each equipment item was used solely within its respective calibration period.

FCC ID: A3LSMN986W		 SAR EVALUATION REPORT				Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset		Page 160 of 164		

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: A3LSMN986W	 PCTEST <small>Providing the best part of the solution</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 161 of 164	

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: A3LSMN986W	 PCTEST <small>Should be part of Samsung</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 162 of 164	

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FCC ID: A3LSMN986W	 PCTEST <small> Proud to be part of  Siemens</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 163 of 164	

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FCC ID: A3LSMN986W	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M2004170066-01.A3L	Test Dates: 04/27/20 - 06/11/20	DUT Type: Portable Handset	Page 164 of 164

APPENDIX A: SAR TEST DATA

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
 $f = 836.52$ MHz; $\sigma = 0.92$ S/m; $\epsilon_r = 42.064$; $\rho = 1000$ kg/m³
Phantom section: Left Section

Test Date: 05/18/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.52 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. EVDO Rev. A, BC0, Left Head, Cheek, Mid.ch

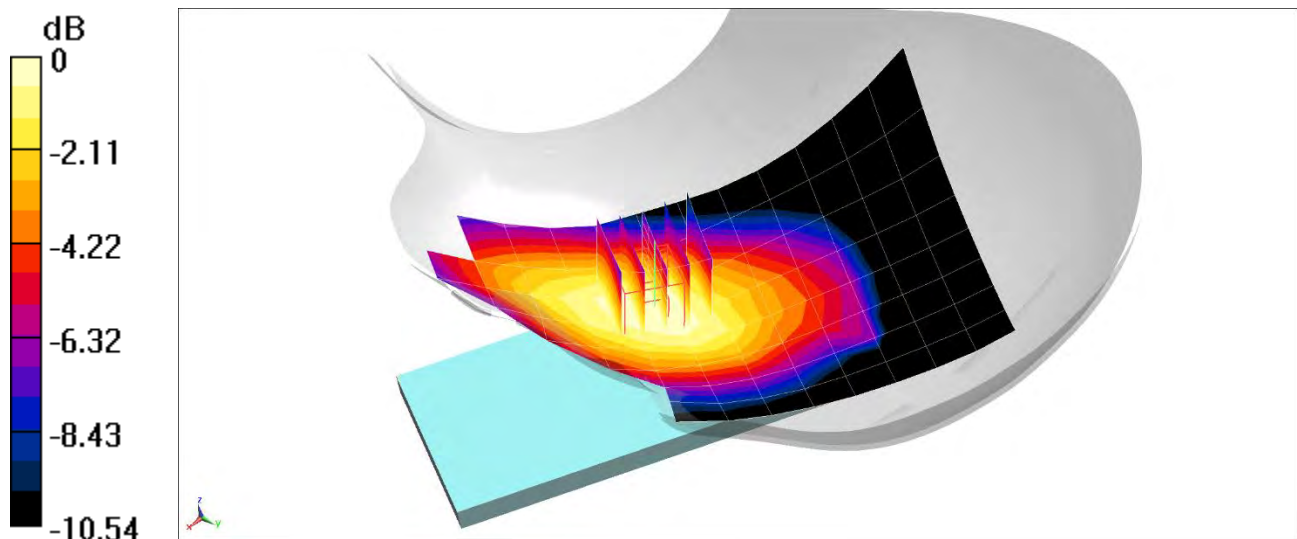
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.36 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.158 W/kg



0 dB = 0.190 W/kg = -7.21 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Head; Medium parameters used (interpolated):
 $f = 836.6 \text{ MHz}$; $\sigma = 0.907 \text{ S/m}$; $\epsilon_r = 40.969$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 05/13/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.6 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

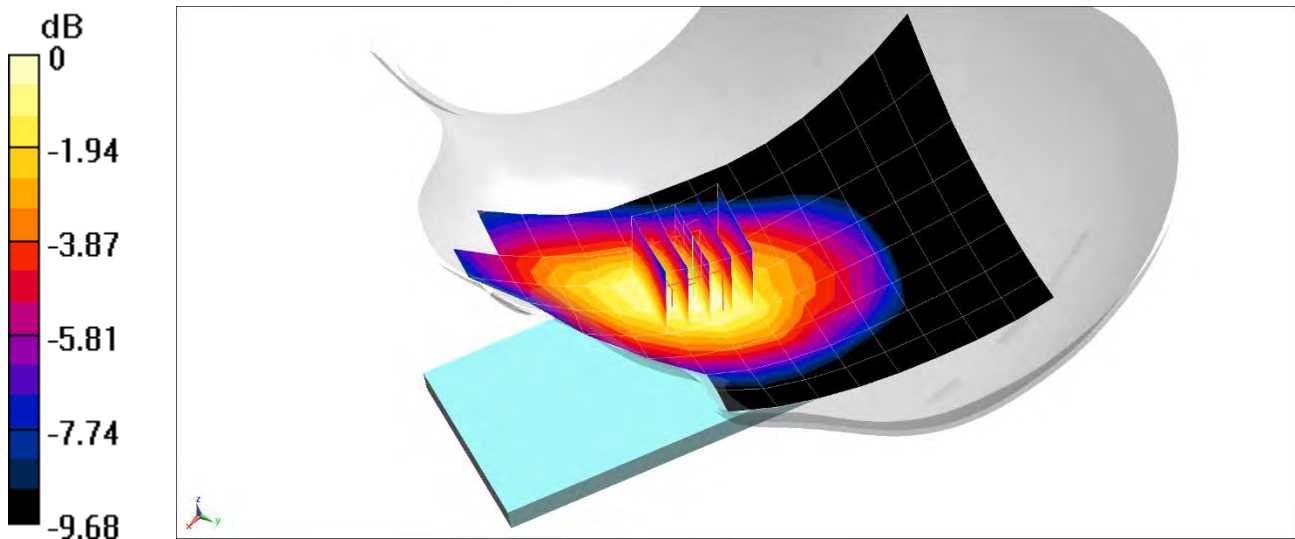
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 10.18 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.089 W/kg



0 dB = 0.106 W/kg = -9.73 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0380M

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

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.436 \text{ S/m}$; $\epsilon_r = 38.83$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05/12/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7357; ConvF(8.32, 8.32, 8.32) @ 1880 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

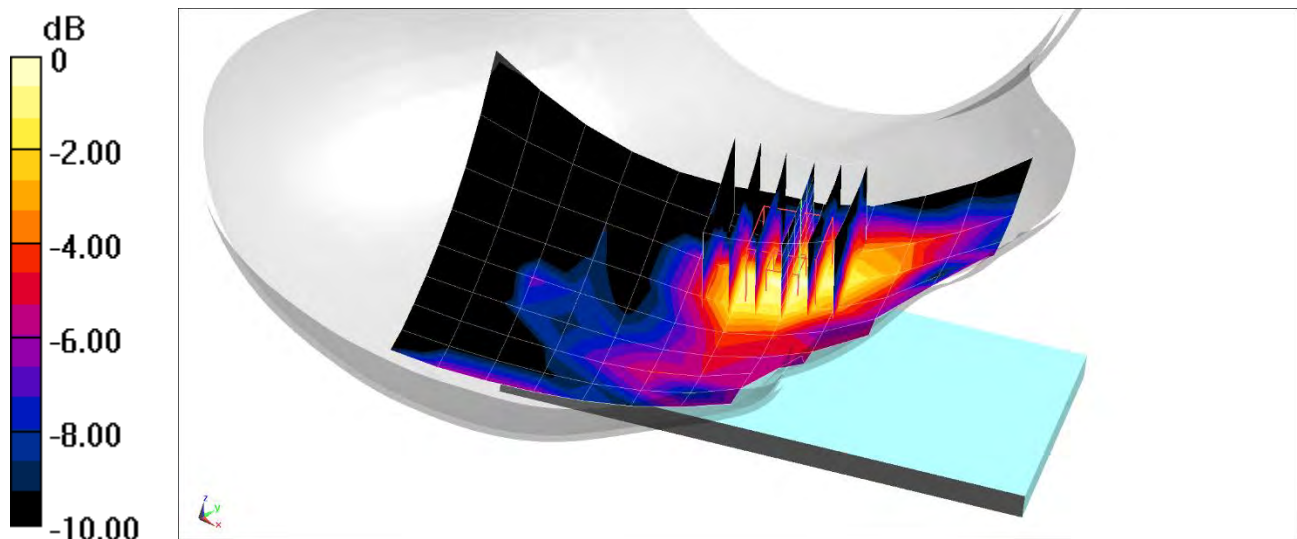
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 6.103 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.0800 W/kg

SAR(1 g) = 0.051 W/kg



0 dB = 0.0661 W/kg = -11.80 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
 $f = 836.6 \text{ MHz}$; $\sigma = 0.907 \text{ S/m}$; $\epsilon_r = 40.969$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 05/13/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.6 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

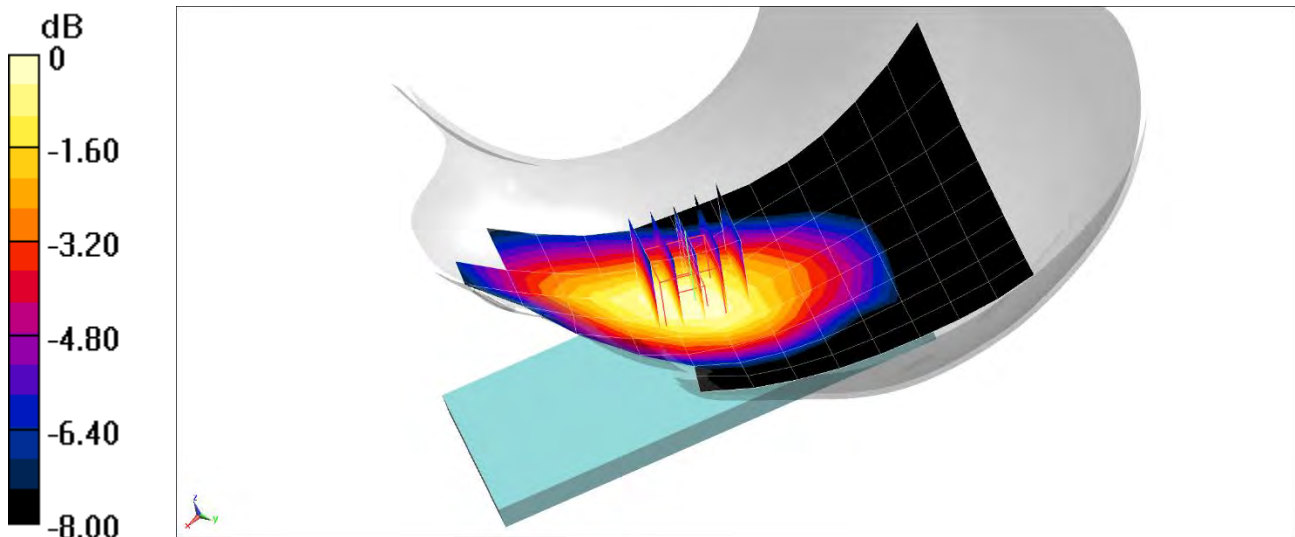
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.54 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.158 W/kg



0 dB = 0.188 W/kg = -7.26 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used (interpolated):
 $f = 1732.4$ MHz; $\sigma = 1.326$ S/m; $\epsilon_r = 40.642$; $\rho = 1000$ kg/m³
Phantom section: Right Section

Test Date: 05/13/2020; Ambient Temp: 23.9°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7410; ConvF(8.46, 8.46, 8.46) @ 1732.4 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

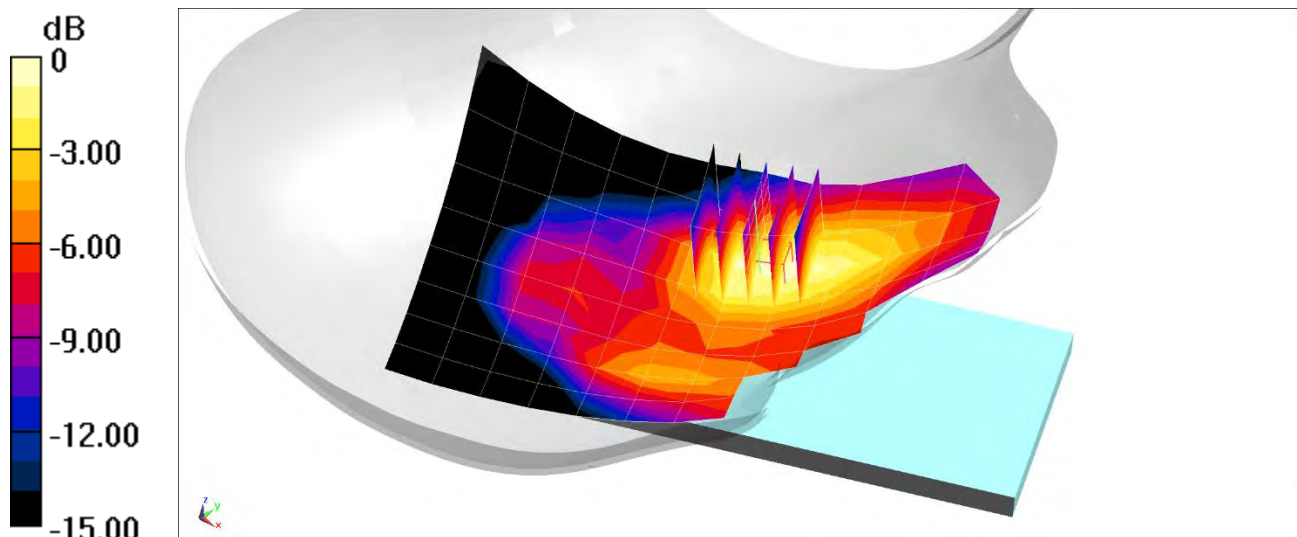
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 10.69 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.138 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0380M

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

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.436 \text{ S/m}$; $\epsilon_r = 38.83$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05/12/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7357; ConvF(8.32, 8.32, 8.32) @ 1880 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

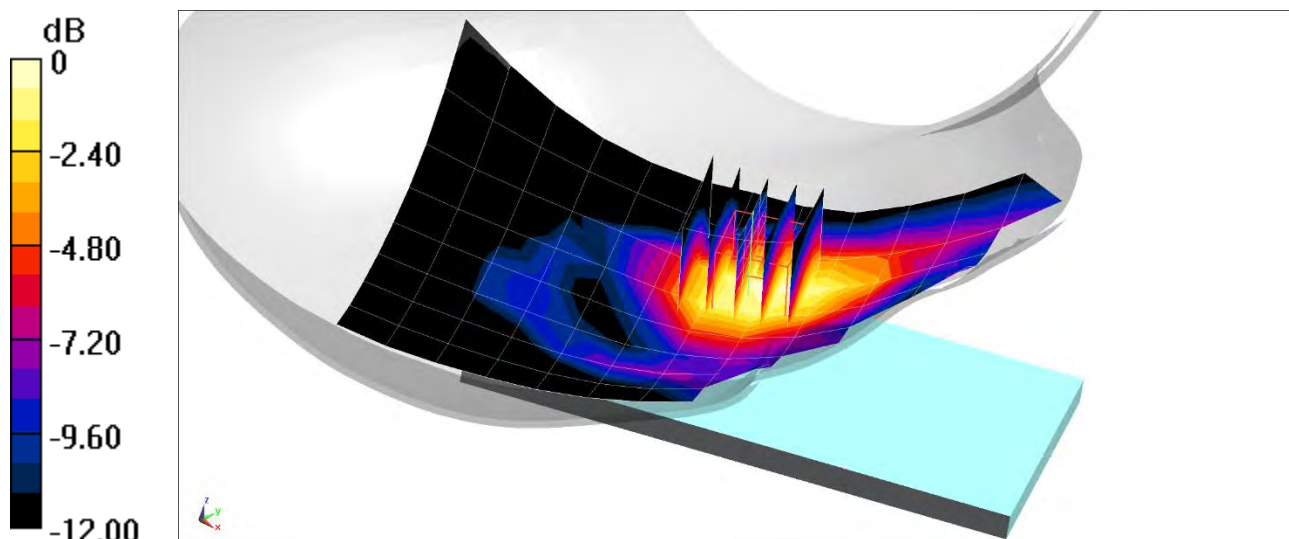
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 9.778 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.202 W/kg

SAR(1 g) = 0.128 W/kg



0 dB = 0.168 W/kg = -7.75 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
 $f = 680.5$ MHz; $\sigma = 0.867$ S/m; $\epsilon_r = 43.913$; $\rho = 1000$ kg/m³
Phantom section: Right Section

Test Date: 06/03/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7570; ConvF(10.16, 10.16, 10.16) @ 680.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 12/18/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 71, Right Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

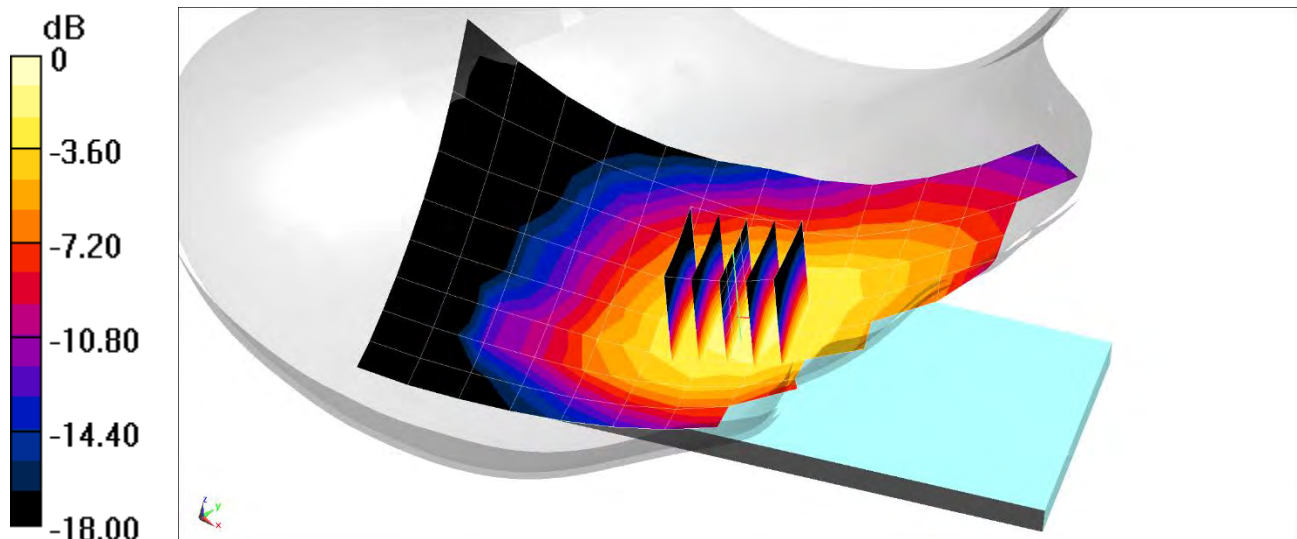
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 10.33 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.165 W/kg

SAR(1 g) = 0.135 W/kg



0 dB = 0.154 W/kg = -8.12 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
 $f = 707.5$ MHz; $\sigma = 0.877$ S/m; $\epsilon_r = 43.822$; $\rho = 1000$ kg/m³
Phantom section: Left Section

Test Date: 06/03/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7570; ConvF(10.16, 10.16, 10.16) @ 707.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 12/18/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 12, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset**

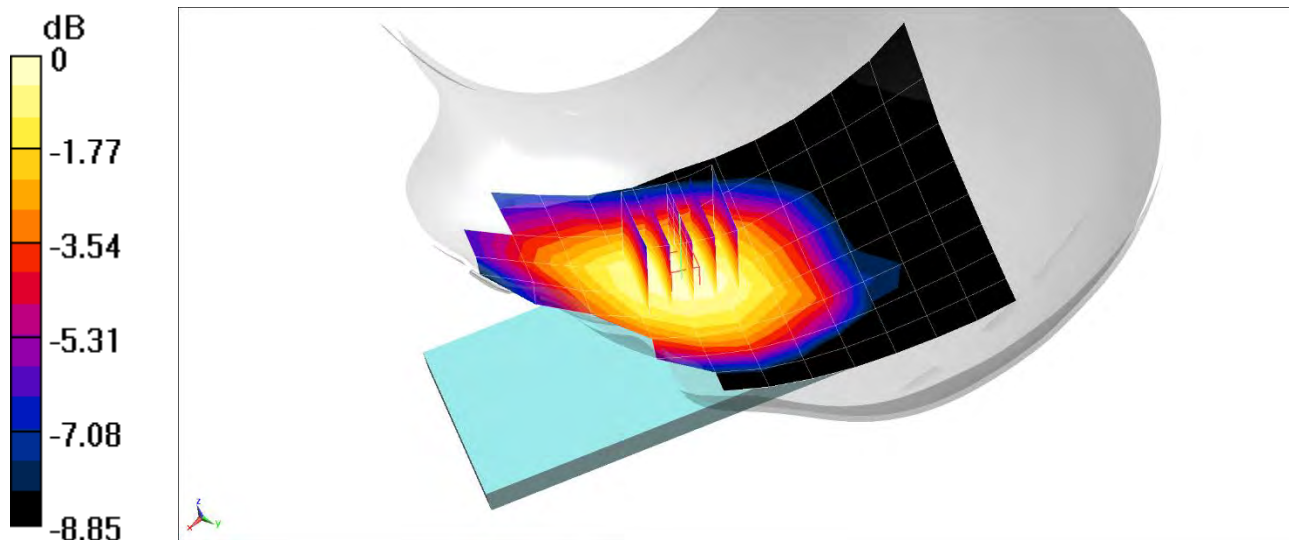
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.39 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.166 W/kg



0 dB = 0.196 W/kg = -7.08 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
 $f = 782 \text{ MHz}$; $\sigma = 0.906 \text{ S/m}$; $\epsilon_r = 43.573$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 06/03/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7570; ConvF(10.16, 10.16, 10.16) @ 782 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 12/18/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 13, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset**

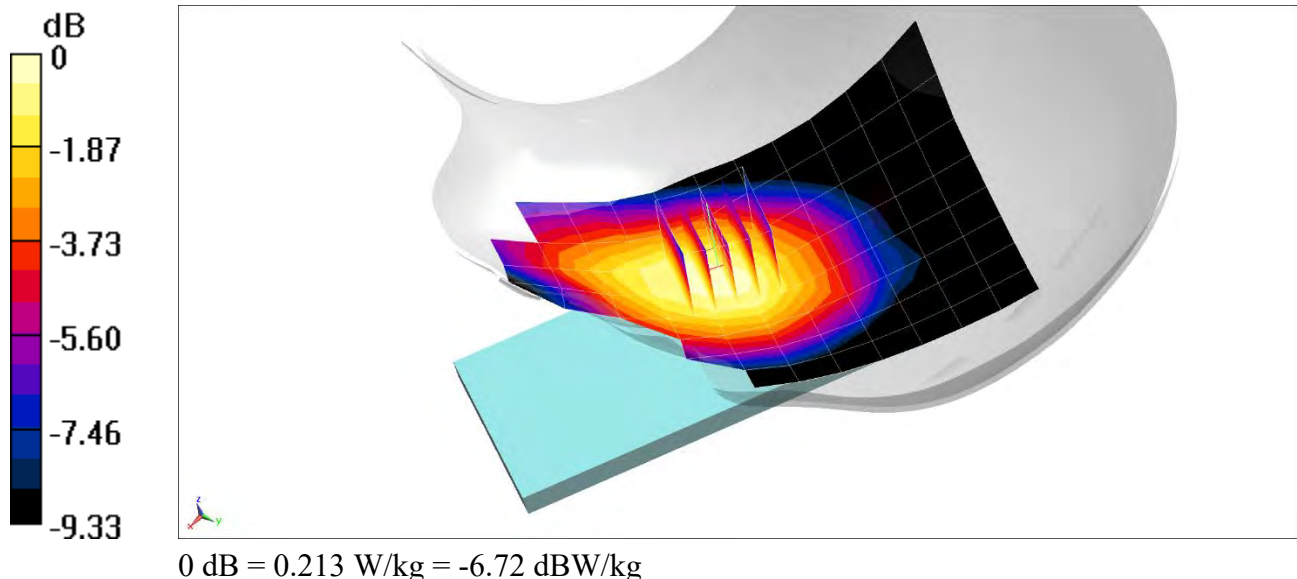
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.74 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.235 W/kg

SAR(1 g) = 0.179 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
 $f = 836.5 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 42.064$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 05/18/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7551; ConvF(9.88, 9.88, 9.88) @ 836.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 5 (Cell.), Left Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

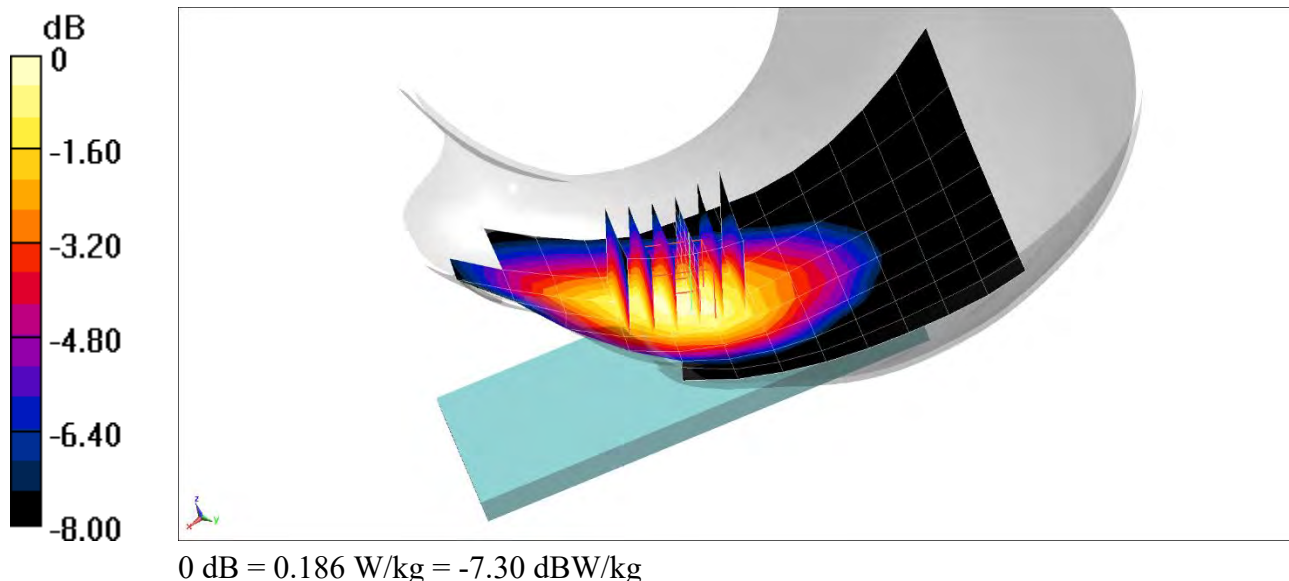
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.55 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.155 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0387M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used:

$f = 1720$ MHz; $\sigma = 1.318$ S/m; $\epsilon_r = 40.656$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 05/13/2020; Ambient Temp 23.9°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7410; ConvF(8.46, 8.46, 8.46) @ 1720 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 66 (AWS), Right Head, Cheek, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

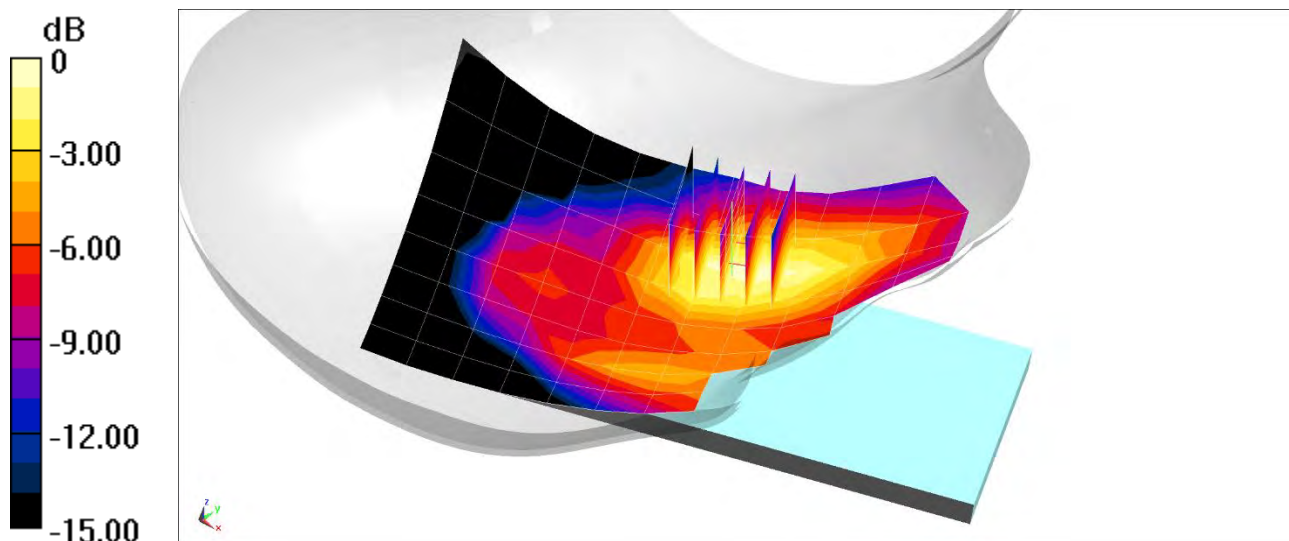
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 10.18 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.174 W/kg

SAR(1 g) = 0.116 W/kg



0 dB = 0.153 W/kg = -8.15 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

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

Medium: 1900 Head; Medium parameters used:

$f = 1905$ MHz; $\sigma = 1.461$ S/m; $\epsilon_r = 38.71$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Test Date: 05/12/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7357; ConvF(8.32, 8.32, 8.32) @ 1905 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 25 (PCS), Left Head, Cheek, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

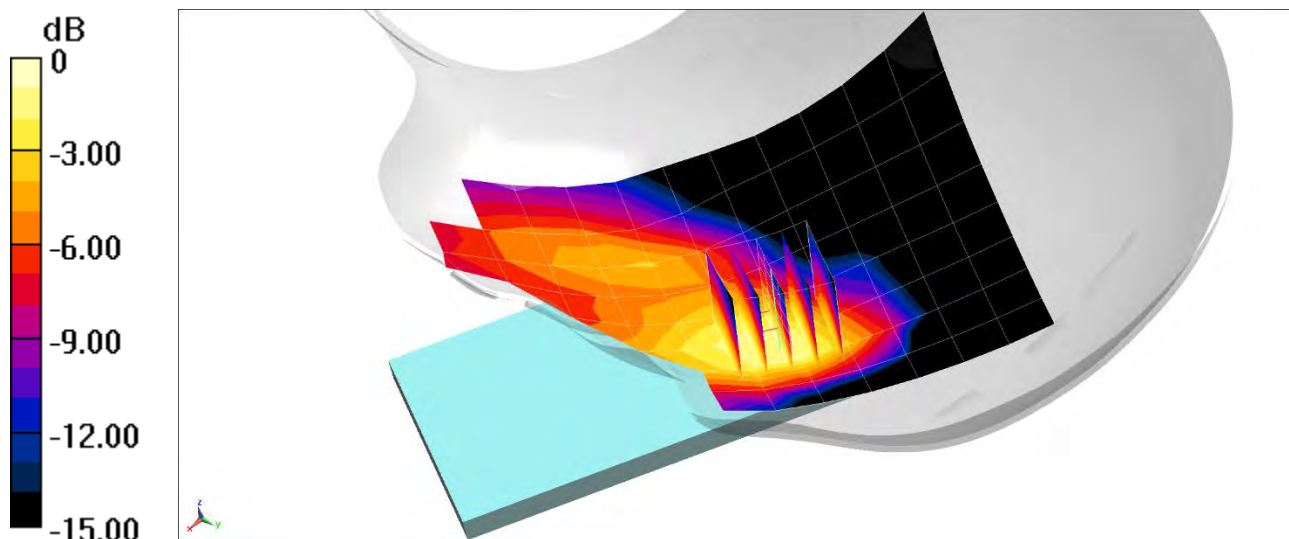
Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 8.702 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.151 W/kg

SAR(1 g) = 0.099 W/kg



0 dB = 0.130 W/kg = -8.86 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2300 Head; Medium parameters used:
 $f = 2310$ MHz; $\sigma = 1.689$ S/m; $\epsilon_r = 39.976$; $\rho = 1000$ kg/m³
Phantom section: Left Section

Test Date: 04/29/2020; Ambient Temp: 22.5°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3589; ConvF(7.11, 7.11, 7.11) @ 2310 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 30, Left Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

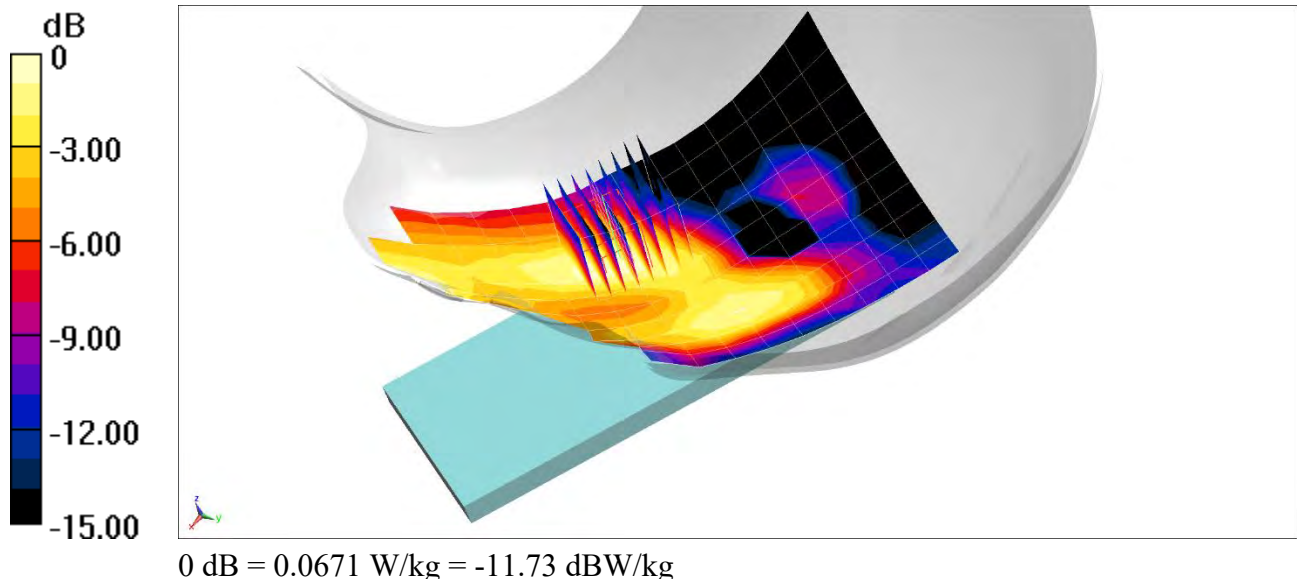
Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.646 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.0800 W/kg

SAR(1 g) = 0.046 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0394M

Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
 $f = 2510 \text{ MHz}$; $\sigma = 1.868 \text{ S/m}$; $\epsilon_r = 38.546$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 05/06/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2510 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 7, Left Head, Tilt, Low.ch, QPSK,
20 MHz Bandwidth, 1 RB, 50 RB Offset**

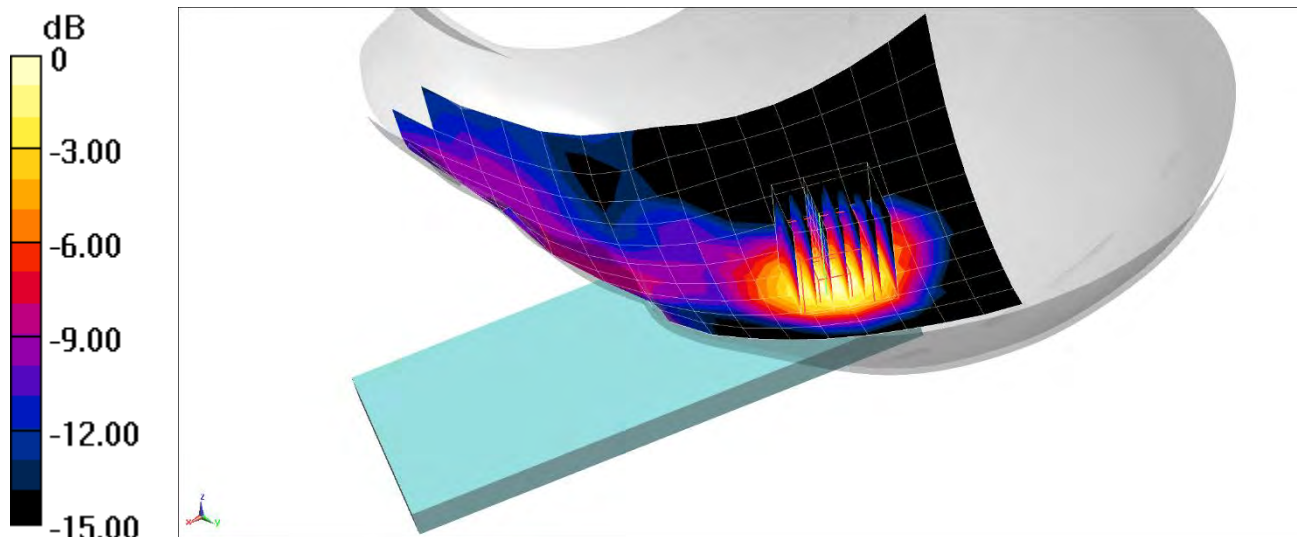
Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.514 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.089 W/kg



0 dB = 0.134 W/kg = -8.73 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0390M

Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2600 Head; Medium parameters used:

$f = 2680$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 38.986$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 05/10/2020; Ambient Temp: 23.2°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2680 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 41, Right Head, Cheek, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

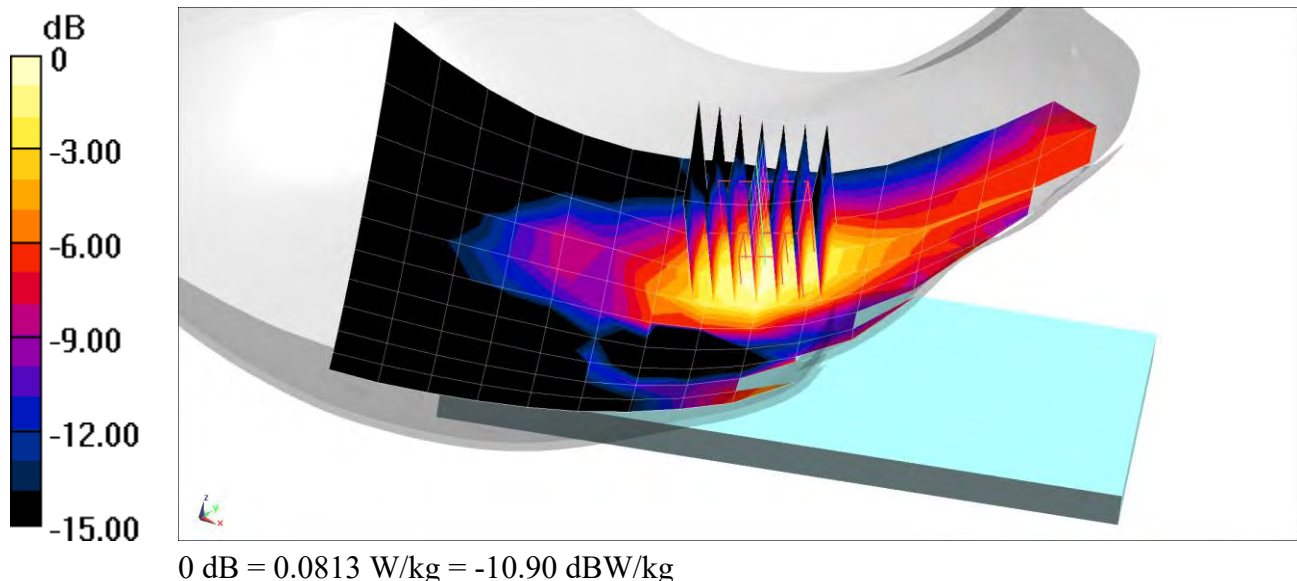
Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.106 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.102 W/kg

SAR(1 g) = 0.054 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0382M

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
 $f = 680.5 \text{ MHz}$; $\sigma = 0.867 \text{ S/m}$; $\epsilon_r = 43.913$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Left Section

Test Date: 06/03/2020; Ambient Temp: 21.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7570; ConvF(10.16, 10.16, 10.16) @ 680.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 12/18/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n71, Left Head, Cheek, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 53 RB Offset**

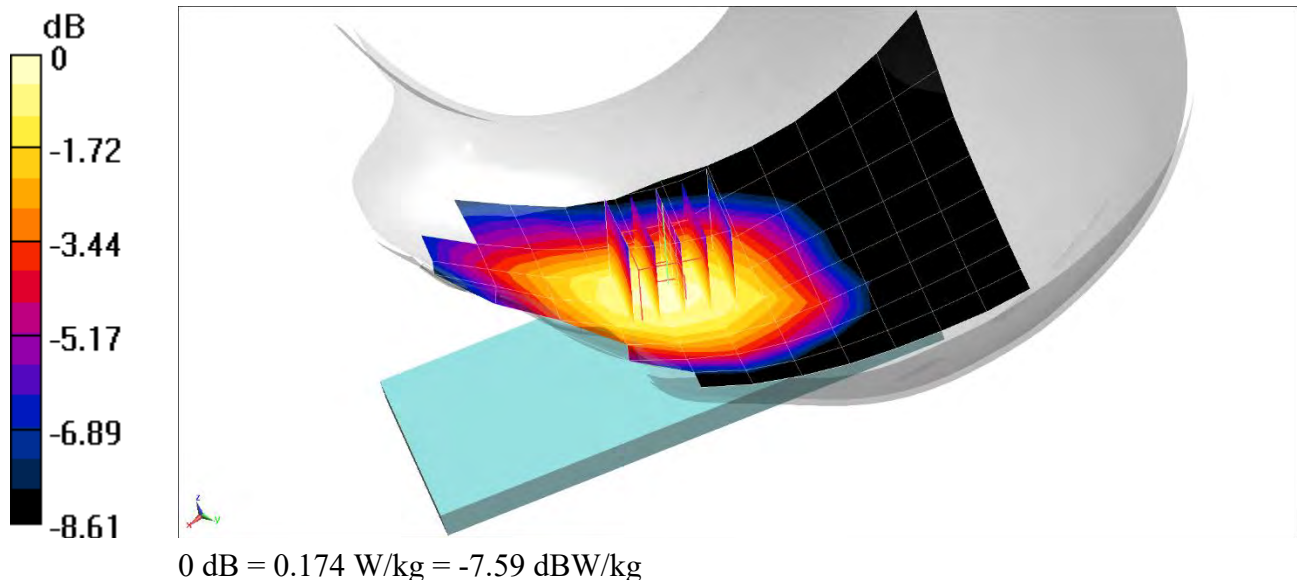
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 12.30 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.190 W/kg

SAR(1 g) = 0.148 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0389M

Communication System: UID 0, NR Band n66; Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used:

$f = 1720$ MHz; $\sigma = 1.318$ S/m; $\epsilon_r = 40.656$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 05/13/2020; Ambient Temp: 23.9°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7410; ConvF(8.46, 8.46, 8.46) @ 1720 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n66, Right Head, Cheek, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 344000, 1 RB, 1 RB Offset**

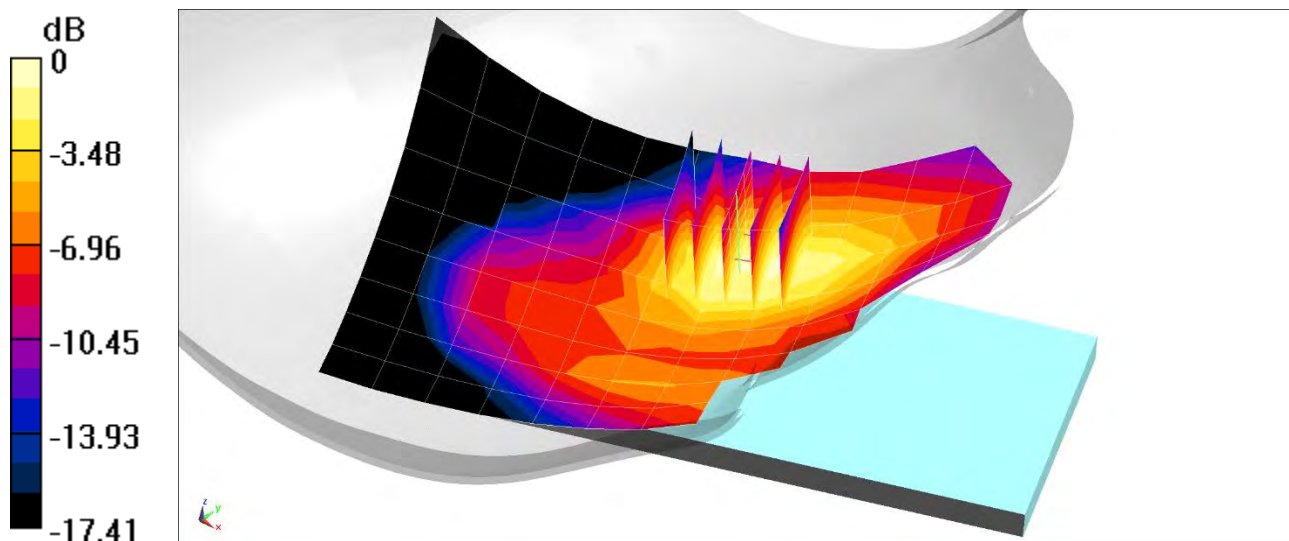
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 12.66 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.250 W/kg

SAR(1 g) = 0.167 W/kg



0 dB = 0.221 W/kg = -6.56 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 1244M

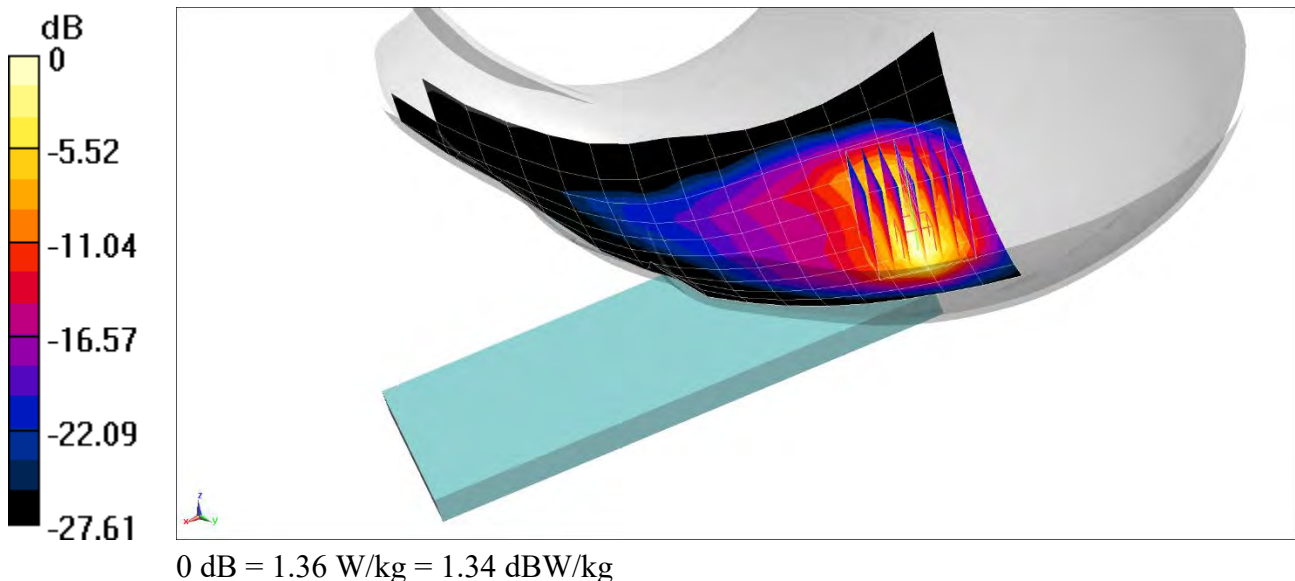
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Head; Medium parameters used (interpolated):
 $f = 2592.99$ MHz; $\sigma = 1.904$ S/m; $\epsilon_r = 39.85$; $\rho = 1000$ kg/m³
Phantom section: Left Section

Test Date: 06/02/2020; Ambient Temp: 23.6°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2592.99 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n41, Left Head, Tilt, 100 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 518598, 1 RB, 1 RB Offset**

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.50 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 0.715 W/kg



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0702M

Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used (interpolated):
 $f = 2412 \text{ MHz}$; $\sigma = 1.759 \text{ S/m}$; $\epsilon_r = 40.715$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Right Section

Test Date: 05/31/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2412 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Right Head, Tilt, Ch 1, 1 Mbps

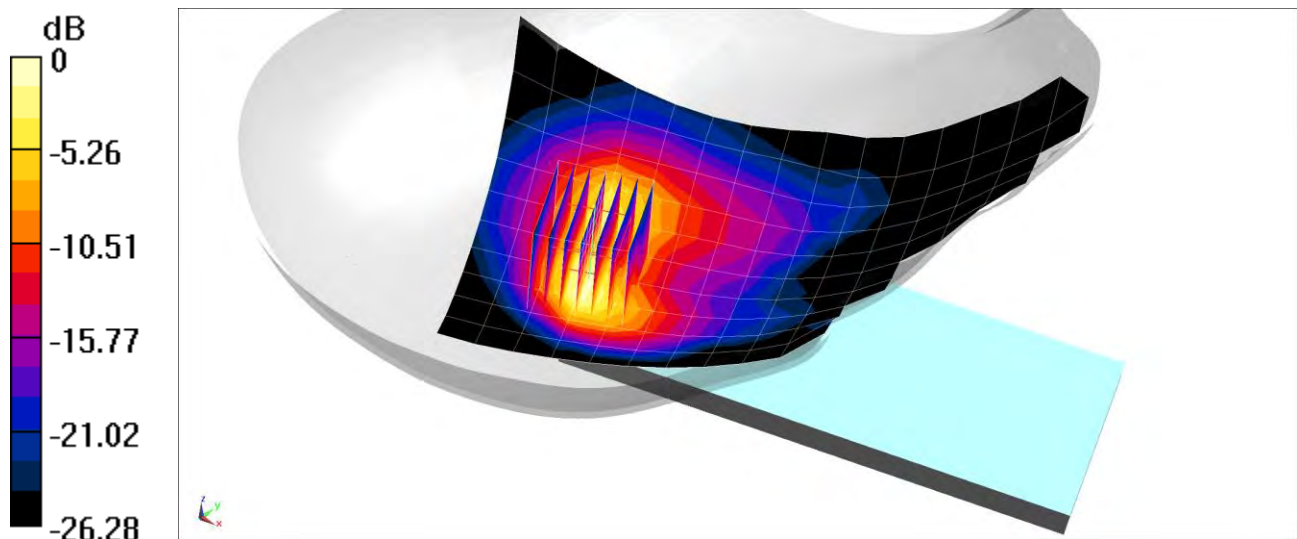
Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.09 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.587 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0702M

Communication System: UID 0, IEEE 802.11ac; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5775$ MHz; $\sigma = 5.267$ S/m; $\epsilon_r = 33.975$; $\rho = 1000$ kg/m³
Phantom section: Right Section

Test Date: 05/28/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7357; ConvF(5.05, 5.05, 5.05) @ 5775 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: IEEE 802.11ac, Antenna 1, U-NII-3, 80 MHz Bandwidth,
Right Head, Cheek, Ch 155, 29.3 Mbps**

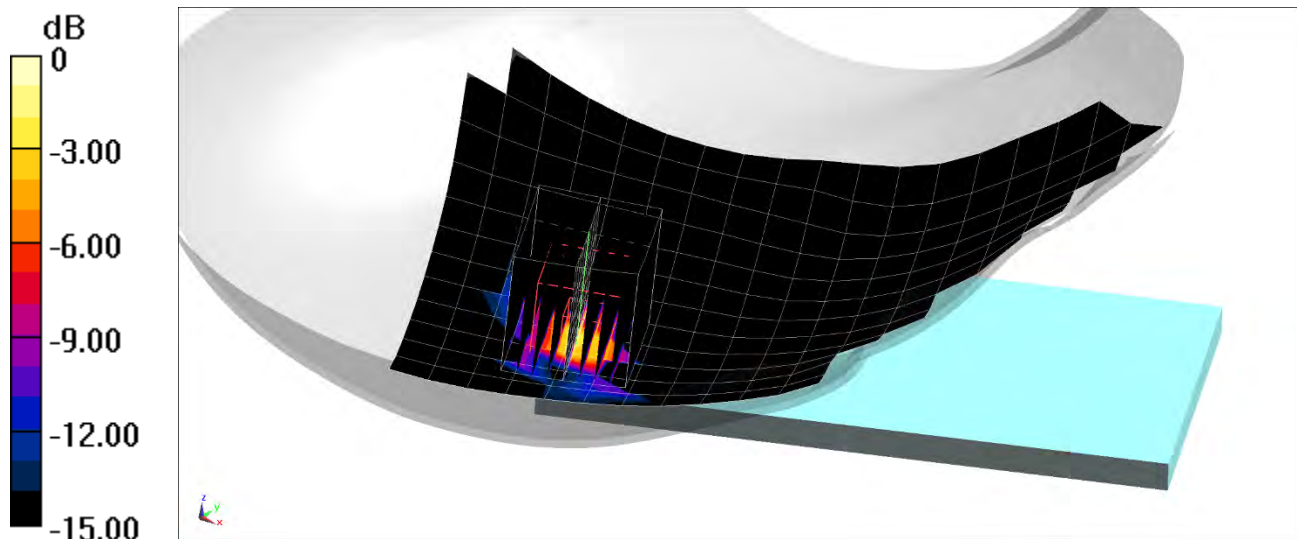
Area Scan (13x21x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (10x9x8)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 4.05 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.311 W/kg

SAR(1 g) = 0.028 W/kg



0 dB = 0.0929 W/kg = -10.32 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 1245M

Communication System: UID 0, Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1.294

Medium: 2450 Head; Medium parameters used:

$f = 2480$ MHz; $\sigma = 1.809$ S/m; $\epsilon_r = 40.631$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 05/31/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2480 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth, Right Head, Tilt, Ch 78, 1 Mbps

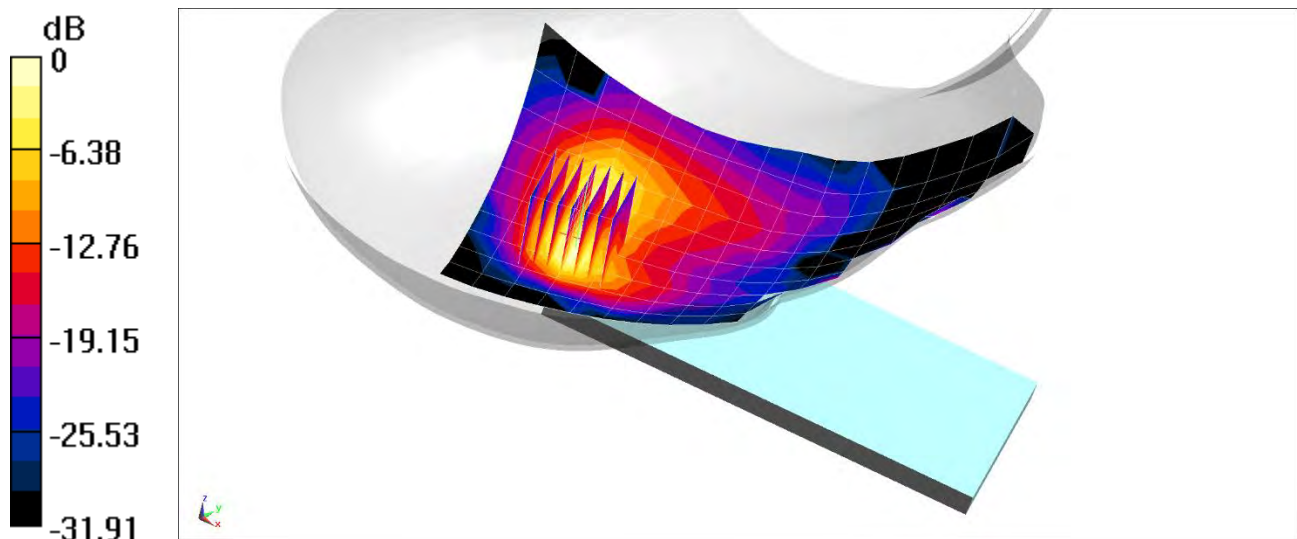
Area Scan (11x19x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.13 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.424 W/kg



0 dB = 0.833 W/kg = -0.79 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.52$ MHz; $\sigma = 0.962$ S/m; $\epsilon_r = 54.104$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/18/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.52 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. CDMA, BC0, Body SAR, Back side, Mid.ch

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

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

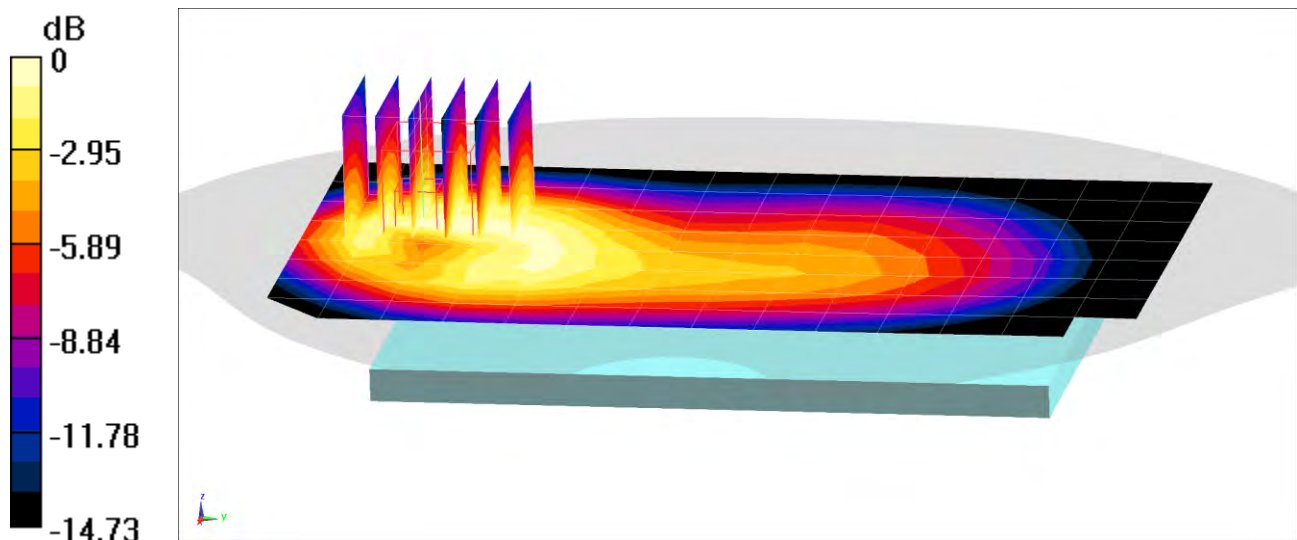
Reference Value = 18.31 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.502 W/kg

SAR(1 g) = 0.312 W/kg

Smallest distance from peaks to all points 3 dB below = 12.5 mm

Ratio of SAR at M2 to SAR at M1 = 64.3%



0 dB = 0.425 W/kg = -3.72 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, CDMA; Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 848.31$ MHz; $\sigma = 0.973$ S/m; $\epsilon_r = 53.982$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/18/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 848.31 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Cell. EVDO Rev.0, BC0, Body SAR, Back side, High.ch

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

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

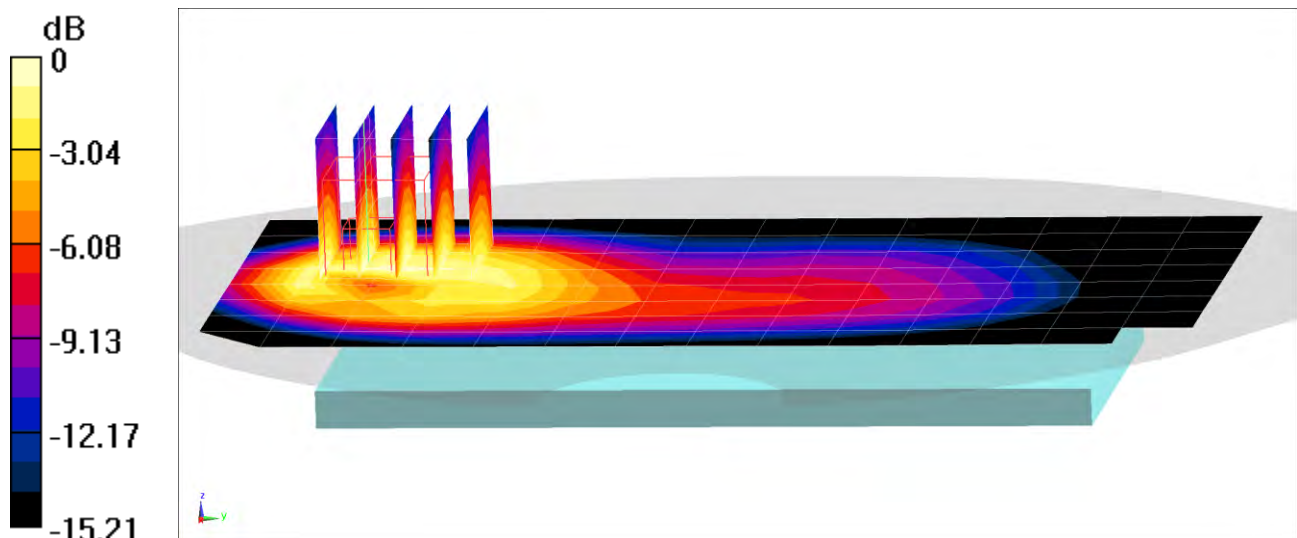
Reference Value = 27.71 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.722 W/kg

Smallest distance from peaks to all points 3 dB below = 10.7 mm

Ratio of SAR at M2 to SAR at M1 = 61.4%



0 dB = 1.01 W/kg = 0.04 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.6$ MHz; $\sigma = 0.958$ S/m; $\epsilon_r = 53.619$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/06/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GSM 850, Body SAR, Back side, Mid.ch

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

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

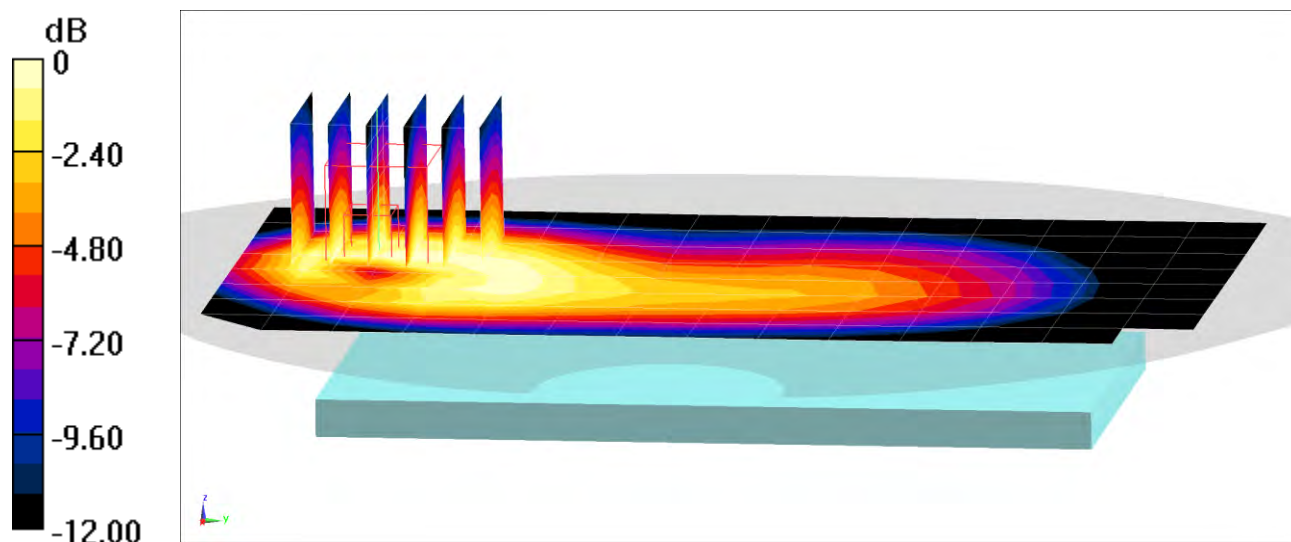
Reference Value = 12.71 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.239 W/kg

SAR(1 g) = 0.149 W/kg

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 63.6%



0 dB = 0.205 W/kg = -6.88 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

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):
 $f = 836.6$ MHz; $\sigma = 0.958$ S/m; $\epsilon_r = 53.619$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/06/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 3 Tx Slots

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

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

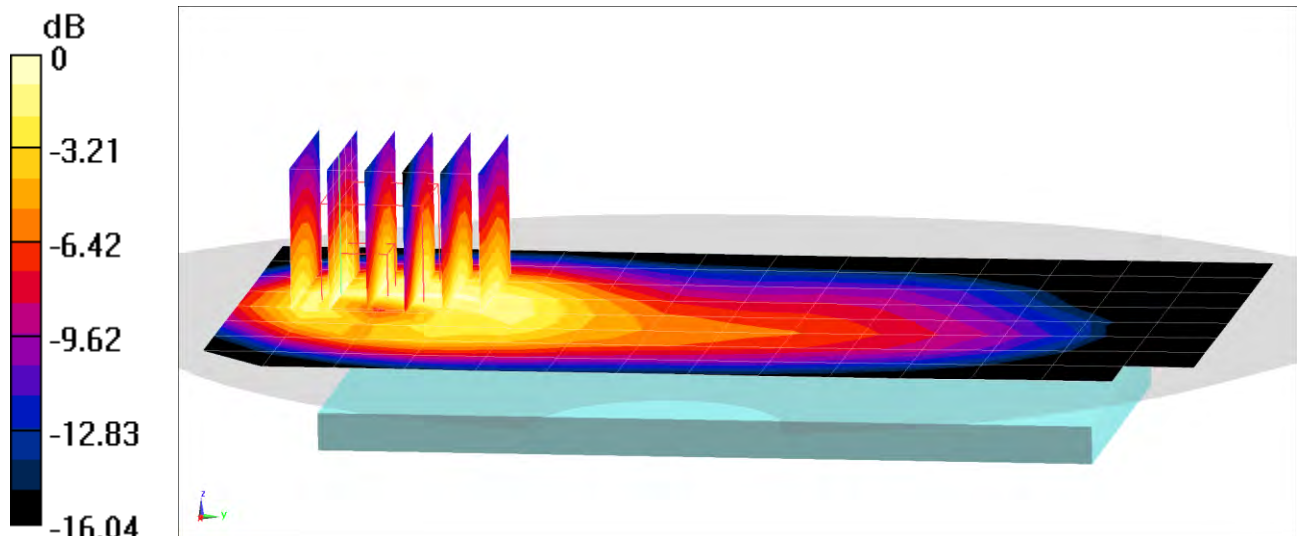
Reference Value = 19.85 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.675 W/kg

SAR(1 g) = 0.396 W/kg

Smallest distance from peaks to all points 3 dB below = 10.2 mm

Ratio of SAR at M2 to SAR at M1 = 59.1%



0 dB = 0.564 W/kg = -2.49 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Body; Medium parameters used:
 $f = 1880 \text{ MHz}$; $\sigma = 1.545 \text{ S/m}$; $\epsilon_r = 55.661$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/08/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GSM 1900, Body SAR, Back side, Mid.ch

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

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

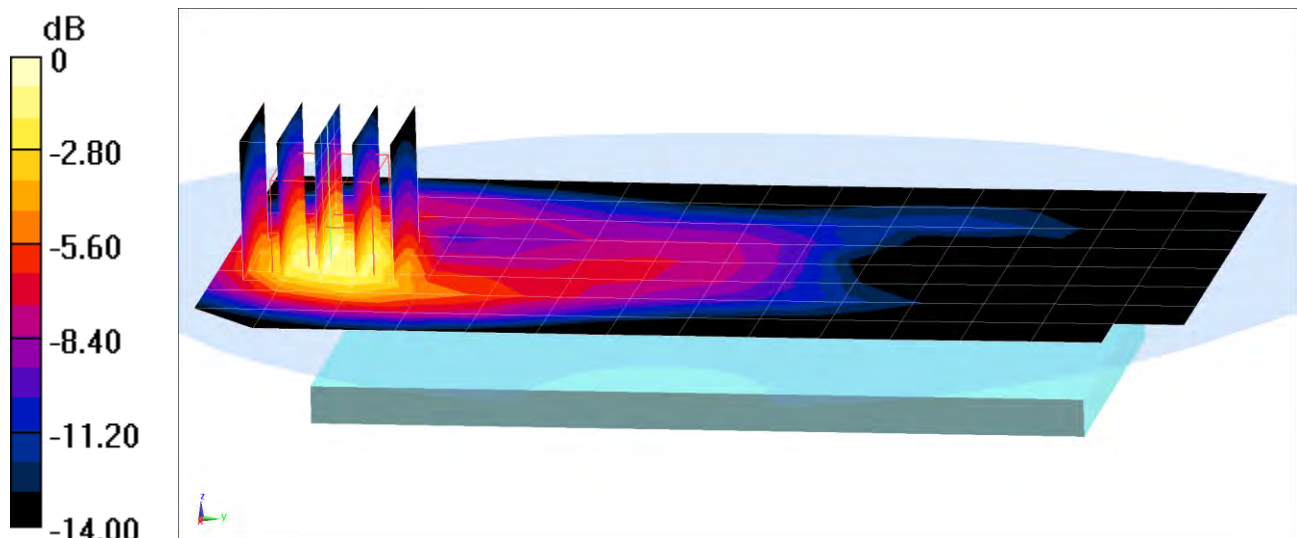
Reference Value = 14.55 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.478 W/kg

SAR(1 g) = 0.294 W/kg

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 62.1%



0 dB = 0.418 W/kg = -3.79 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.076

Medium: 1900 Body; Medium parameters used:

$f = 1910$ MHz; $\sigma = 1.573$ S/m; $\epsilon_r = 55.089$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/14/2020; Ambient Temp: 24.5°C; Tissue Temp: 24.0°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1909.8 MHz; Calibrated: 12/11/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1533; Calibrated: 12/5/2019

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 1900, Body SAR, Bottom Edge, High.ch, 4 Tx Slots

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

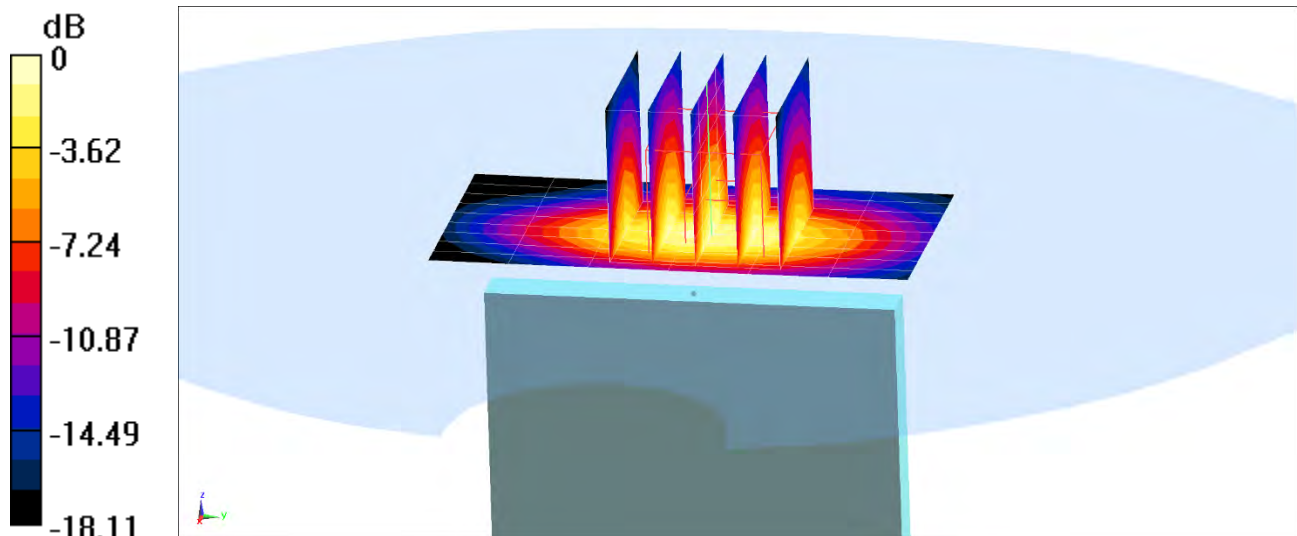
Reference Value = 23.37 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.742 W/kg

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 63.3%



0 dB = 1.06 W/kg = 0.25 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.6$ MHz; $\sigma = 0.967$ S/m; $\epsilon_r = 53.052$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/11/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

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

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

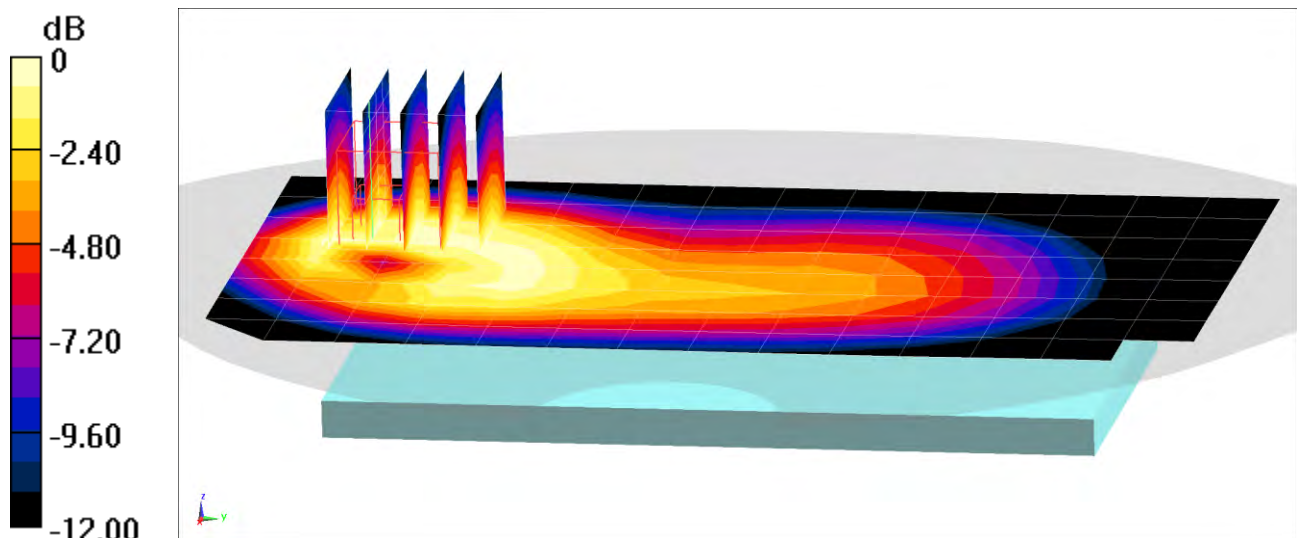
Reference Value = 18.11 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.485 W/kg

SAR(1 g) = 0.303 W/kg

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.2%



0 dB = 0.403 W/kg = -3.95 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0365M

Communication System: UID 0, UMTS; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 846.6$ MHz; $\sigma = 0.977$ S/m; $\epsilon_r = 52.949$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/11/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 846.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

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

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

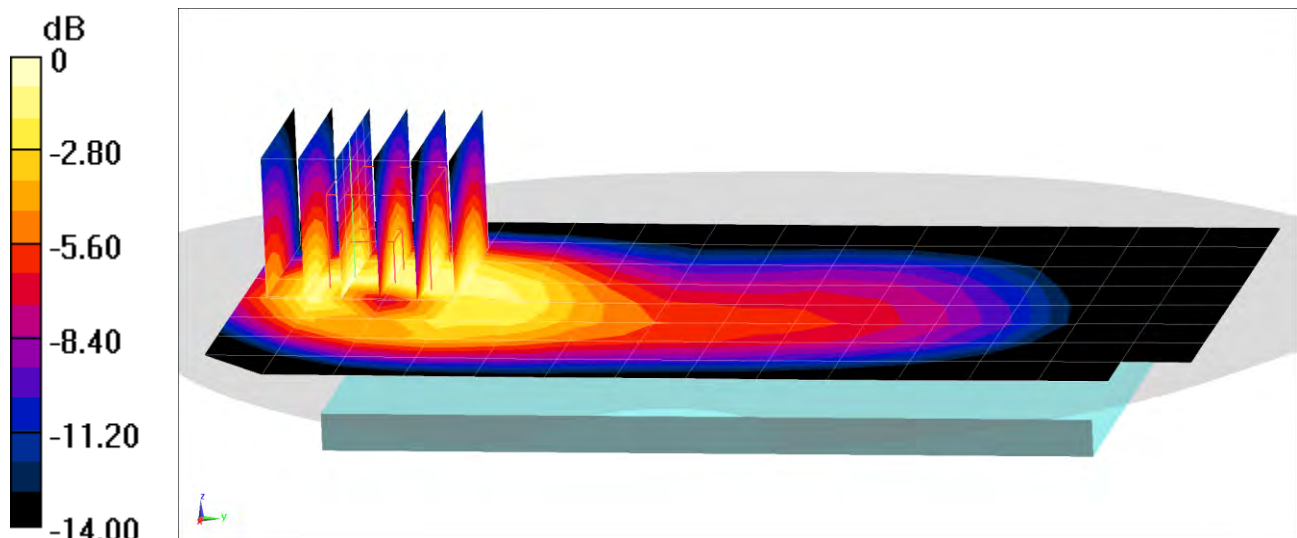
Reference Value = 26.10 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.621 W/kg

Smallest distance from peaks to all points 3 dB below = 11.5 mm

Ratio of SAR at M2 to SAR at M1 = 60.3%



0 dB = 0.882 W/kg = -0.55 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, UMTS; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
 $f = 1712.4$ MHz; $\sigma = 1.496$ S/m; $\epsilon_r = 51.453$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/18/2020; Ambient Temp: 21.6°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1712.4 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

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

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

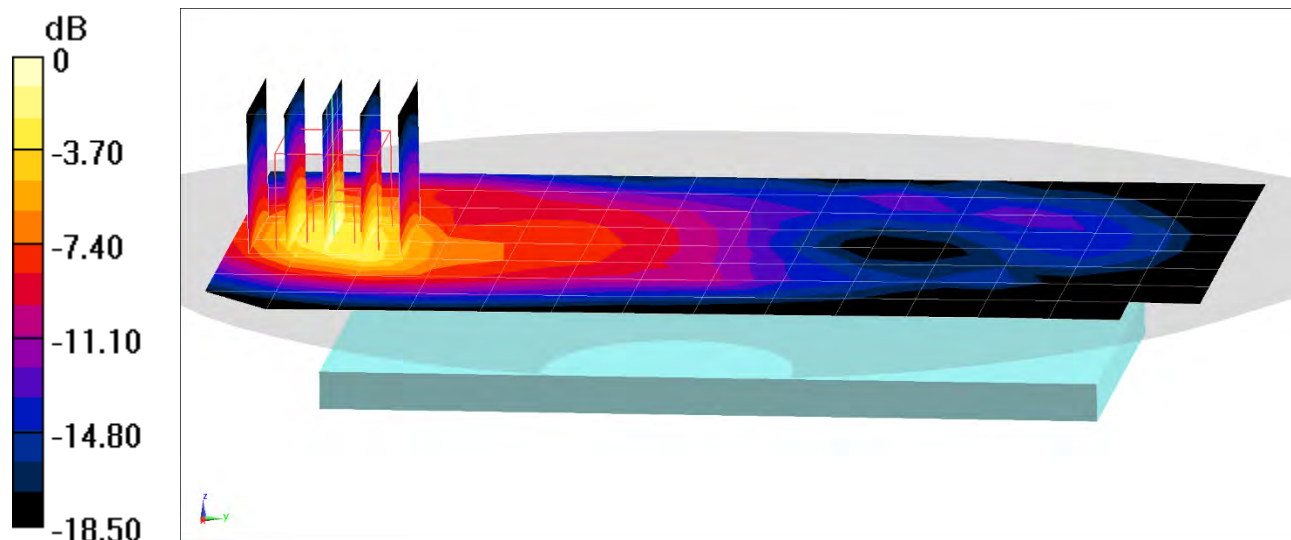
Reference Value = 25.30 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.880 W/kg

Smallest distance from peaks to all points 3 dB below = 14.3 mm

Ratio of SAR at M2 to SAR at M1 = 63%



0 dB = 1.24 W/kg = 0.93 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, UMTS; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
 $f = 1712.4$ MHz; $\sigma = 1.496$ S/m; $\epsilon_r = 51.453$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/18/2020; Ambient Temp: 21.6°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1712.4 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Body SAR, Bottom Edge, Low.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

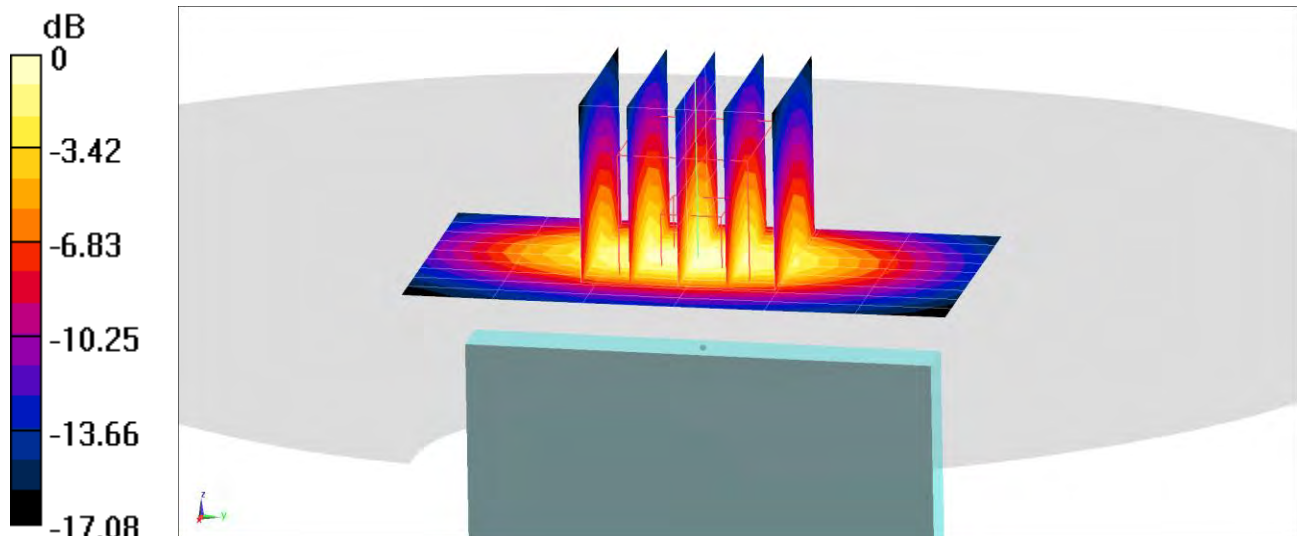
Reference Value = 26.57 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.61 W/kg

SAR(1 g) = 0.946 W/kg

Smallest distance from peaks to all points 3 dB below = 10.7 mm

Ratio of SAR at M2 to SAR at M1 = 60.3%



0 dB = 1.39 W/kg = 1.43 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
 $f = 1880 \text{ MHz}$; $\sigma = 1.546 \text{ S/m}$; $\epsilon_r = 53.249$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/21/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1880 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

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

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

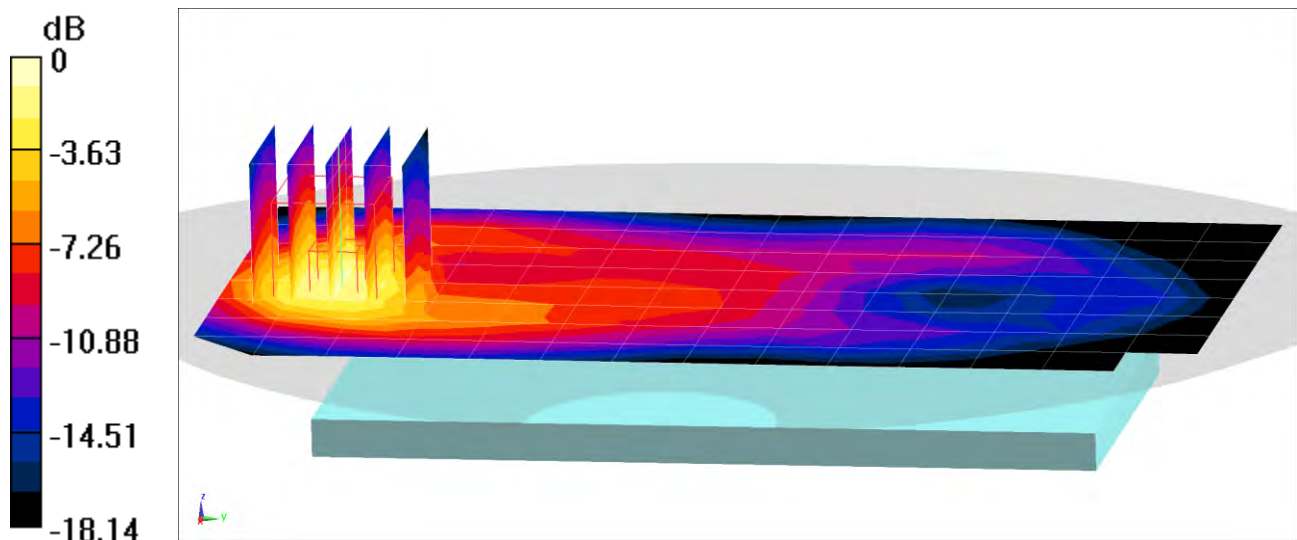
Reference Value = 18.46 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.791 W/kg

SAR(1 g) = 0.449 W/kg

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 57.5%



0 dB = 0.676 W/kg = -1.70 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0373M

Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
 $f = 1907.6$ MHz; $\sigma = 1.576$ S/m; $\epsilon_r = 53.157$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/21/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7552; ConvF(7.58, 7.58, 7.58) @ 1907.6 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1449; Calibrated: 9/12/2019
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1900, Body SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

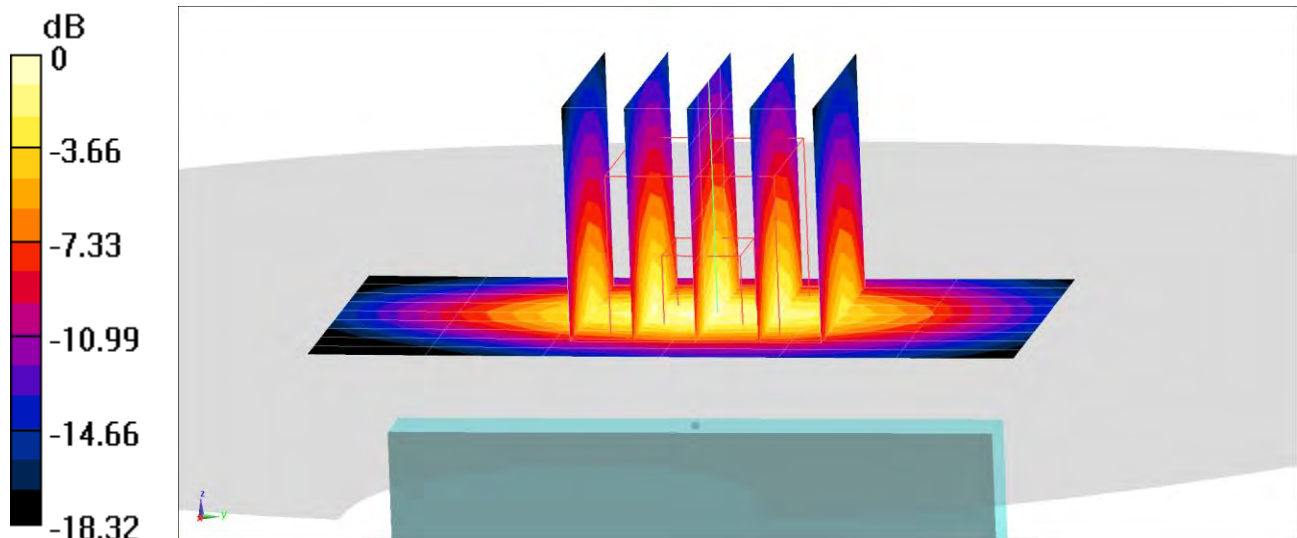
Reference Value = 27.24 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.84 W/kg

SAR(1 g) = 1.04 W/kg

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 58.3%



0 dB = 1.56 W/kg = 1.93 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 680.5$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 53.767$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 71, Body SAR, Back side, Mid.ch,
20 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

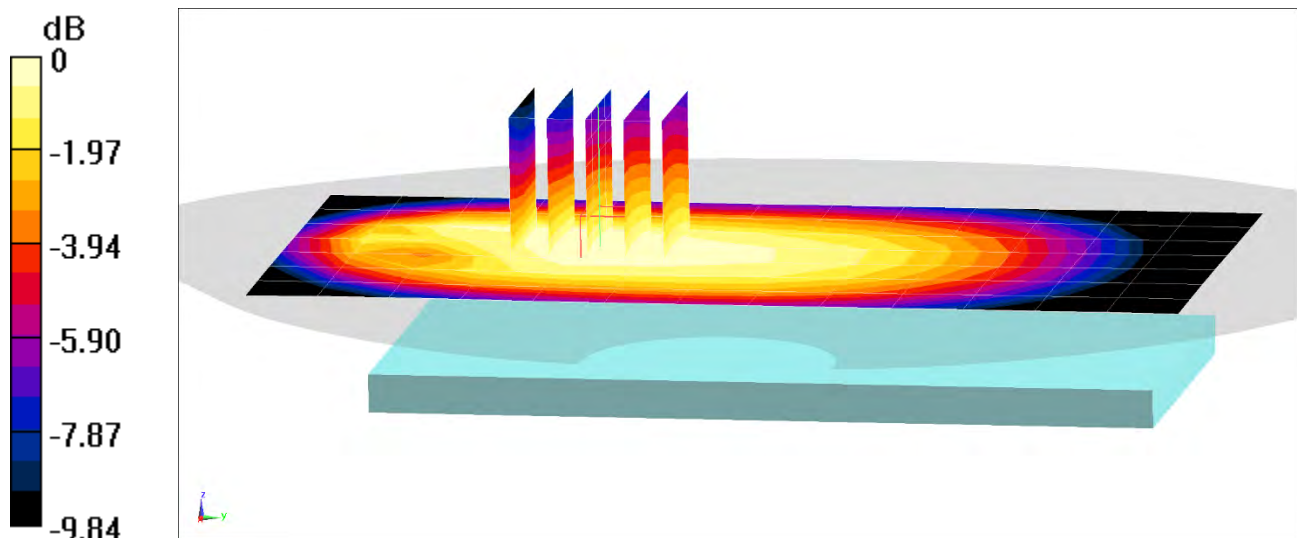
Reference Value = 15.95 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.297 W/kg

SAR(1 g) = 0.226 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 74.3%



0 dB = 0.273 W/kg = -5.64 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 680.5$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 53.767$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 71, Body SAR, Back side, 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

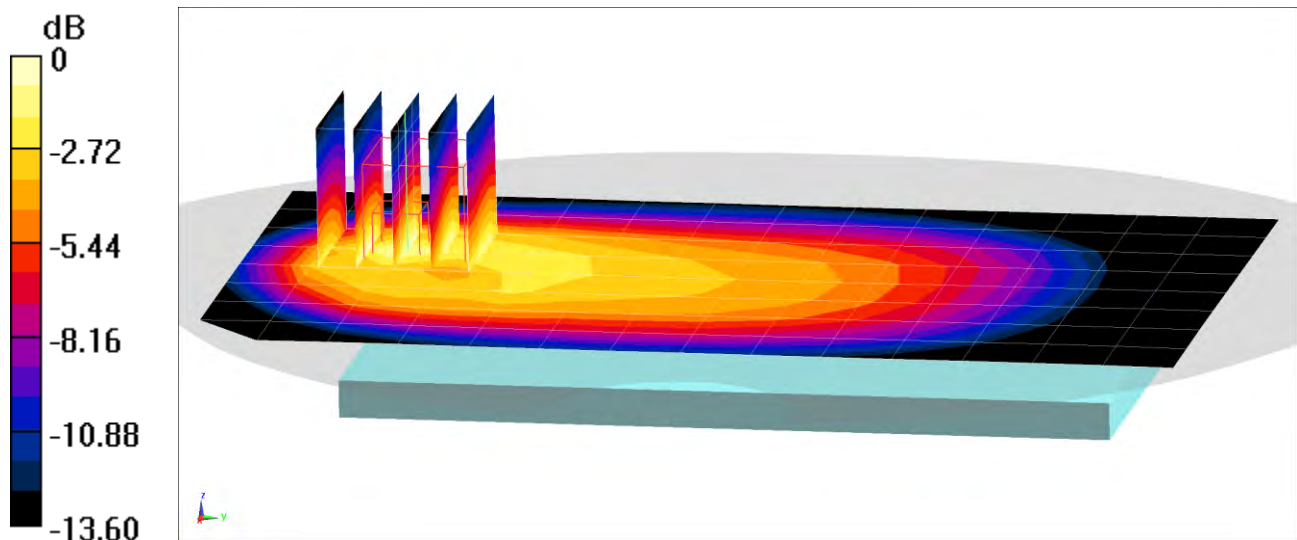
Reference Value = 19.45 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.603 W/kg

SAR(1 g) = 0.331 W/kg

Smallest distance from peaks to all points 3 dB below = 11.5 mm

Ratio of SAR at M2 to SAR at M1 = 54.9%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 707.5$ MHz; $\sigma = 0.941$ S/m; $\epsilon_r = 53.711$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 707.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 12, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

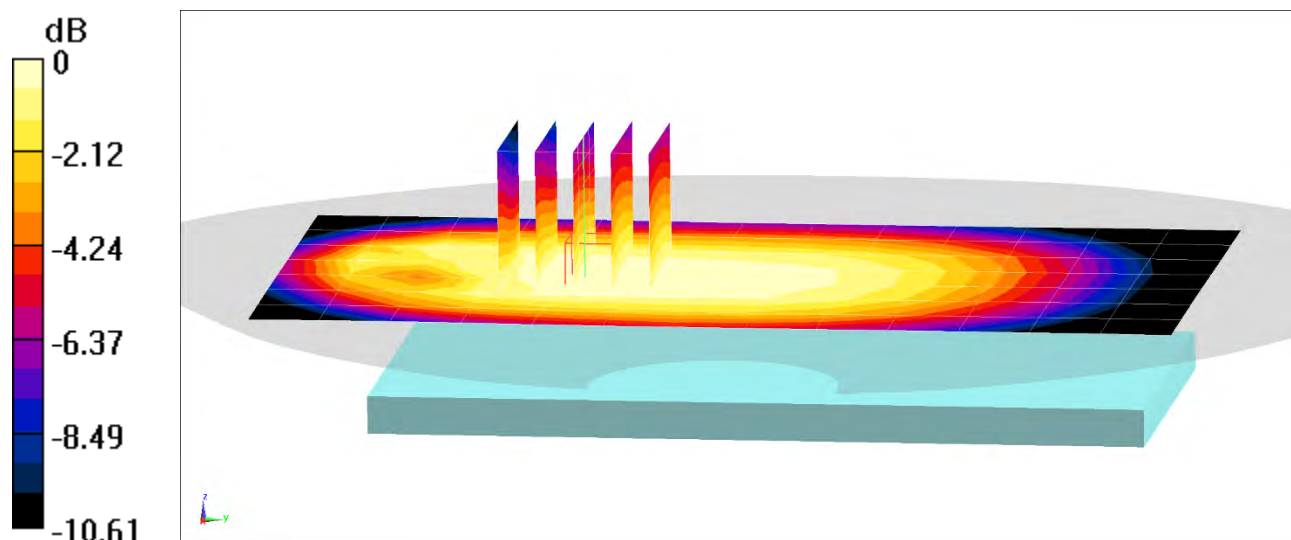
Reference Value = 16.61 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.247 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 78%



0 dB = 0.292 W/kg = -5.35 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 707.5$ MHz; $\sigma = 0.941$ S/m; $\epsilon_r = 53.711$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 707.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 12, 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

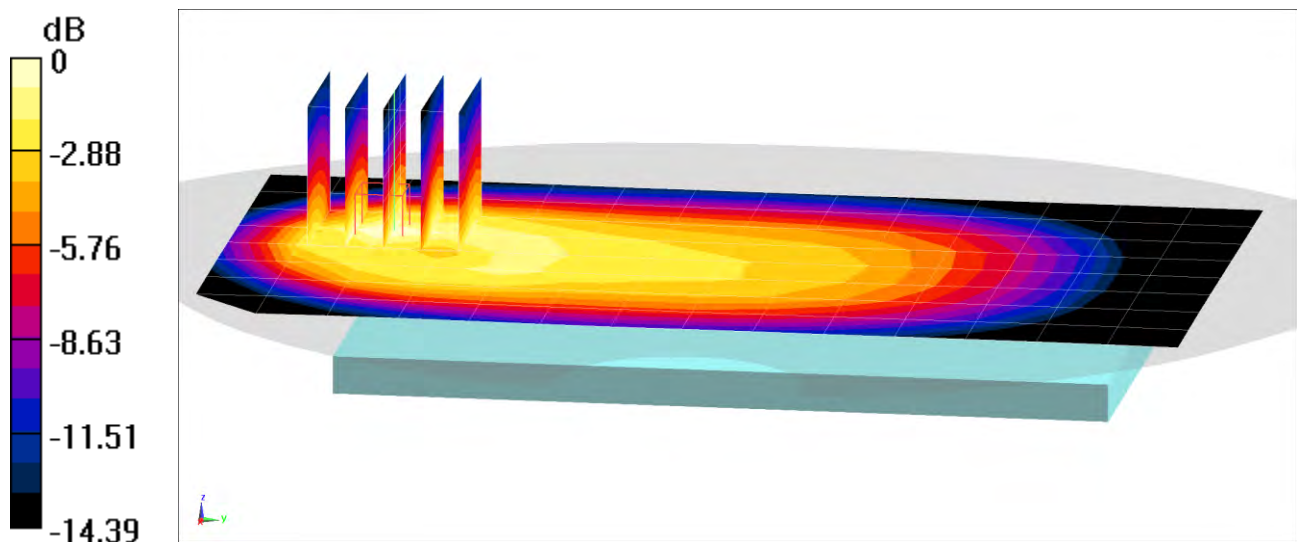
Reference Value = 21.23 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.727 W/kg

SAR(1 g) = 0.398 W/kg

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 55%



0 dB = 0.585 W/kg = -2.33 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

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

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

$f = 782 \text{ MHz}$; $\sigma = 0.969 \text{ S/m}$; $\epsilon_r = 53.508$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 782 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 13, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

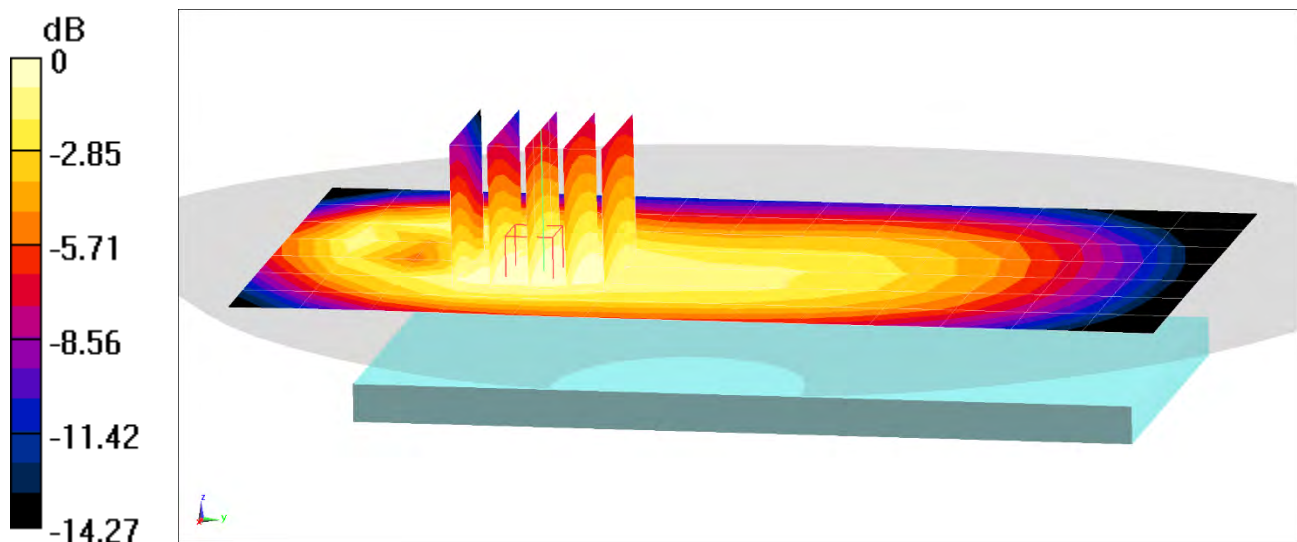
Reference Value = 19.59 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.354 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 77.1%



0 dB = 0.428 W/kg = -3.69 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 782 \text{ MHz}$; $\sigma = 0.969 \text{ S/m}$; $\epsilon_r = 53.508$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 782 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 13, Body SAR, Back side, Mid.ch,
10 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: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

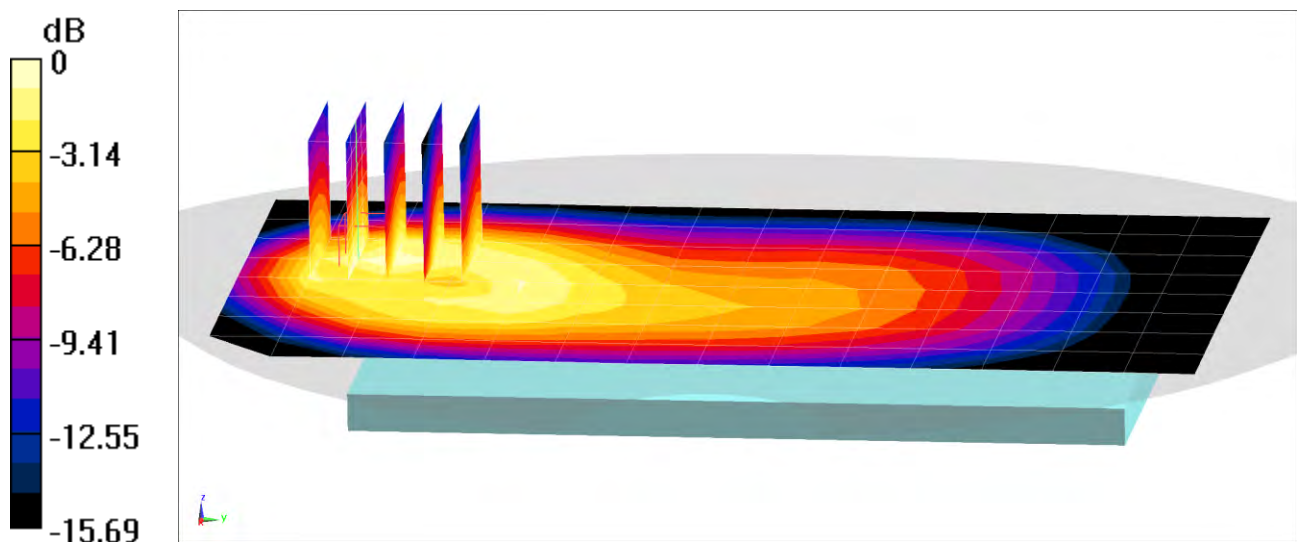
Reference Value = 24.00 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.00 W/kg

SAR(1 g) = 0.580 W/kg

Smallest distance from peaks to all points 3 dB below = 10.7 mm

Ratio of SAR at M2 to SAR at M1 = 60.2%



0 dB = 0.826 W/kg = -0.83 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

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

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

$f = 836.5$ MHz; $\sigma = 0.956$ S/m; $\epsilon_r = 53.573$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/26/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.5 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/13/2020

Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**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

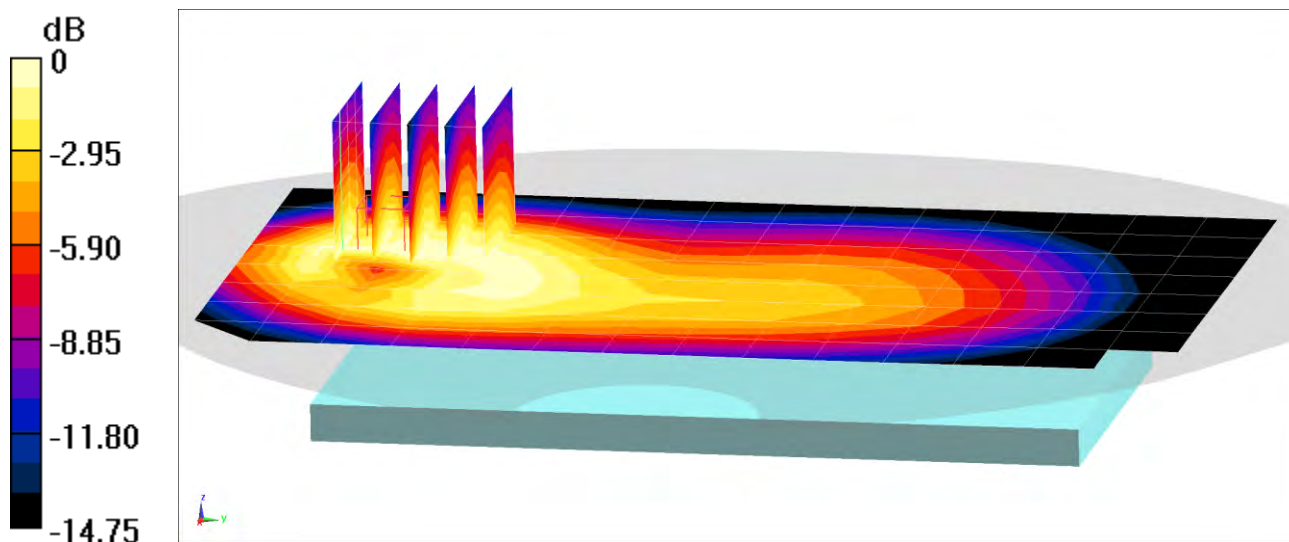
Reference Value = 16.38 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.394 W/kg

SAR(1 g) = 0.248 W/kg

Smallest distance from peaks to all points 3 dB below = 13.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.9%



0 dB = 0.339 W/kg = -4.70 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0361M

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
 $f = 836.5$ MHz; $\sigma = 0.956$ S/m; $\epsilon_r = 53.573$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/26/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**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

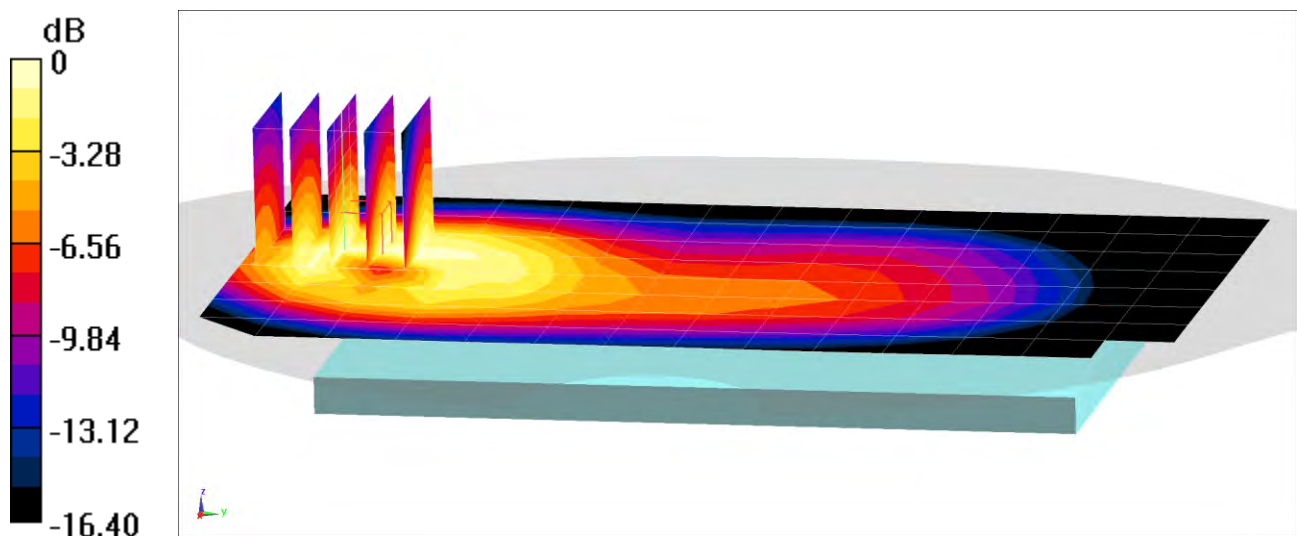
Reference Value = 23.74 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.852 W/kg

SAR(1 g) = 0.503 W/kg

Smallest distance from peaks to all points 3 dB below = 11.5 mm

Ratio of SAR at M2 to SAR at M1 = 59.9%



0 dB = 0.717 W/kg = -1.44 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used:

$f = 1770$ MHz; $\sigma = 1.559$ S/m; $\epsilon_r = 51.885$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/20/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1770 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 66 (AWS), Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

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

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

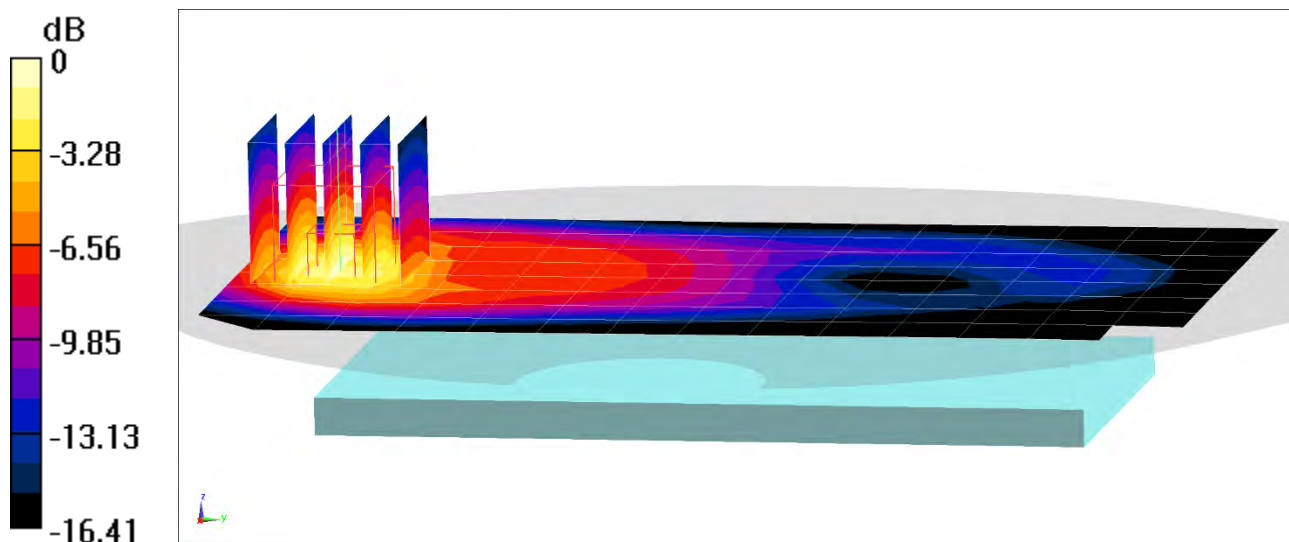
Reference Value = 23.58 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.30 W/kg

SAR(1 g) = 0.785 W/kg

Smallest distance from peaks to all points 3 dB below = 11.6 mm

Ratio of SAR at M2 to SAR at M1 = 61%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used:

$f = 1770$ MHz; $\sigma = 1.559$ S/m; $\epsilon_r = 51.885$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/20/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1770 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 66 (AWS), Body SAR, Bottom Edge, High.ch,
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset**

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm

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

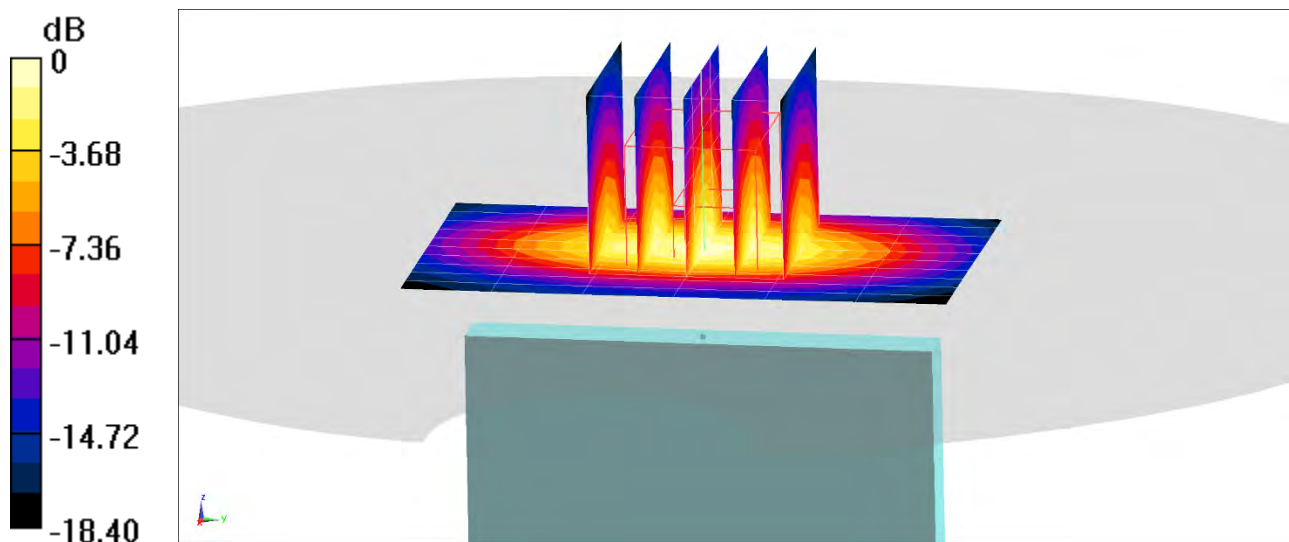
Reference Value = 24.92 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.862 W/kg

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 59.4%



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

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

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

Medium: 1900 Body; Medium parameters used:

$f = 1905$ MHz; $\sigma = 1.561$ S/m; $\epsilon_r = 51.194$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/01/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7357; ConvF(7.8, 7.8, 7.8) @ 1905 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

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

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

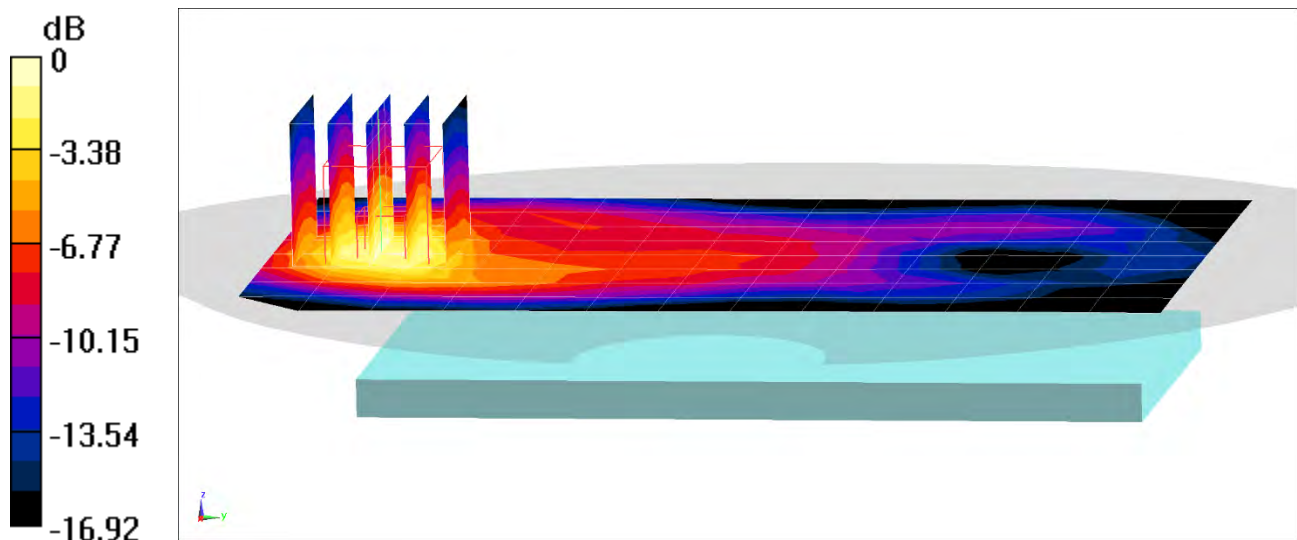
Reference Value = 22.31 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.691 W/kg

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.9%



0 dB = 0.996 W/kg = -0.02 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0357M

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

Medium: 1900 Body; Medium parameters used:

$f = 1905$ MHz; $\sigma = 1.561$ S/m; $\epsilon_r = 51.194$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/01/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7357; ConvF(7.8, 7.8, 7.8) @ 1905 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch,
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset**

Area Scan (11x9x1): Measurement grid: dx=5mm, dy=15mm

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

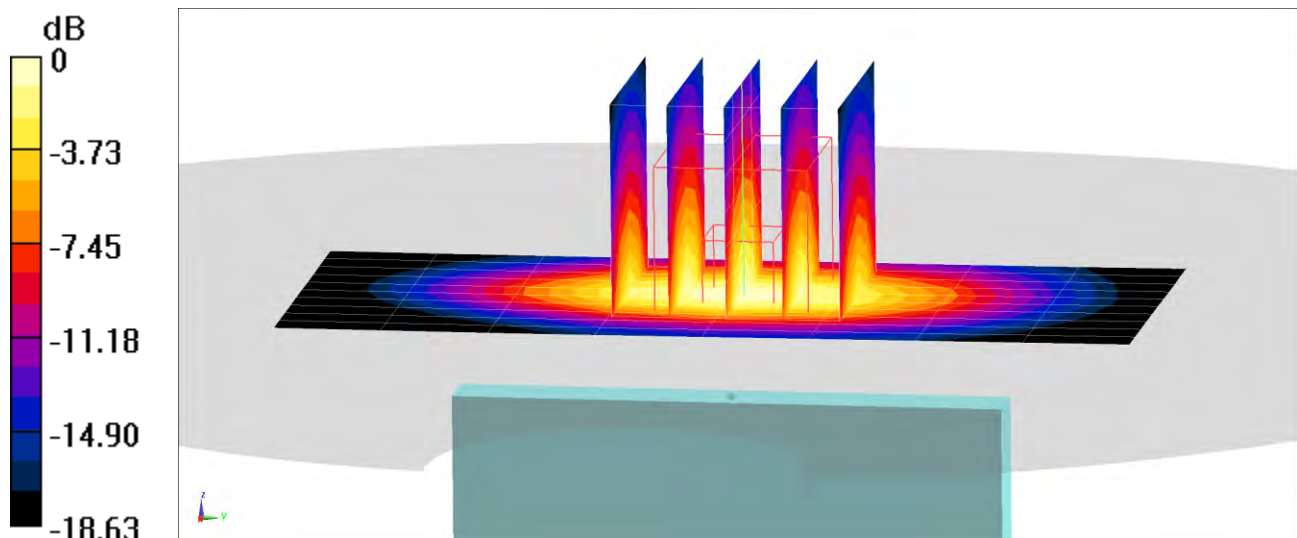
Reference Value = 28.54 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.02 W/kg

SAR(1 g) = 1.16 W/kg

Smallest distance from peaks to all points 3 dB below = 10.7 mm

Ratio of SAR at M2 to SAR at M1 = 58.8%



0 dB = 1.73 W/kg = 2.38 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0387M

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

Medium: 2300 Body; Medium parameters used:

$f = 2310$ MHz; $\sigma = 1.879$ S/m; $\epsilon_r = 52.053$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/06/2020; Ambient Temp: 24.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1323; Calibrated: 7/11/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**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=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

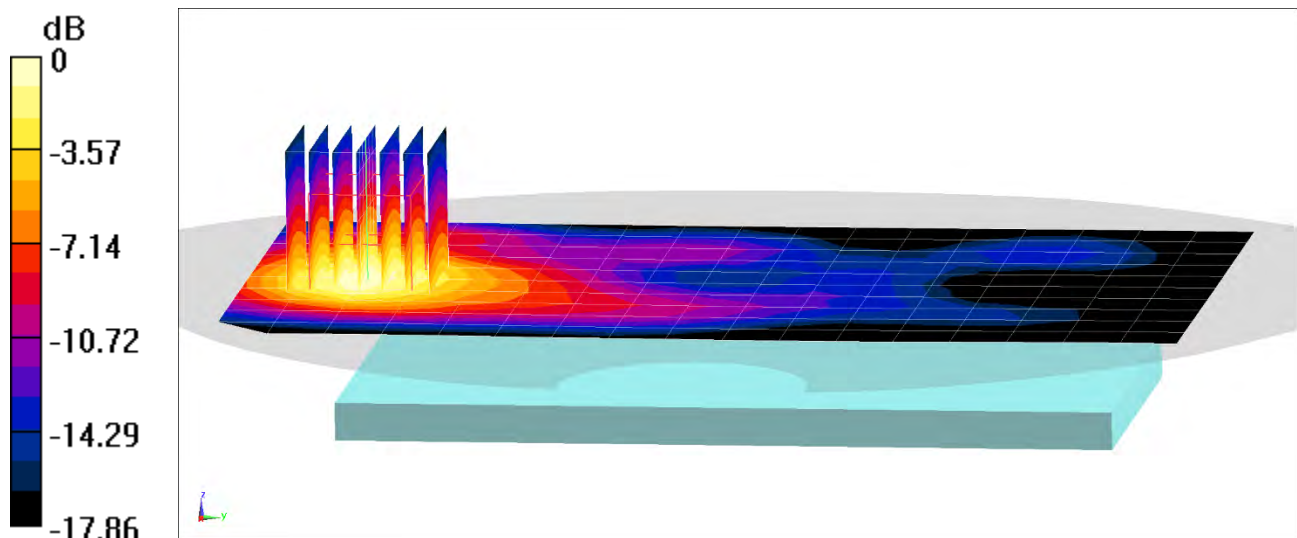
Reference Value = 18.63 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.588 W/kg

Smallest distance from peaks to all points 3 dB below = 14 mm

Ratio of SAR at M2 to SAR at M1 = 56.6%



0 dB = 0.877 W/kg = -0.57 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0387M

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2300 Body; Medium parameters used:
 $f = 2310 \text{ MHz}$; $\sigma = 1.879 \text{ S/m}$; $\epsilon_r = 52.053$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/06/2020; Ambient Temp: 24.4°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 30, Body SAR, Bottom Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset**

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

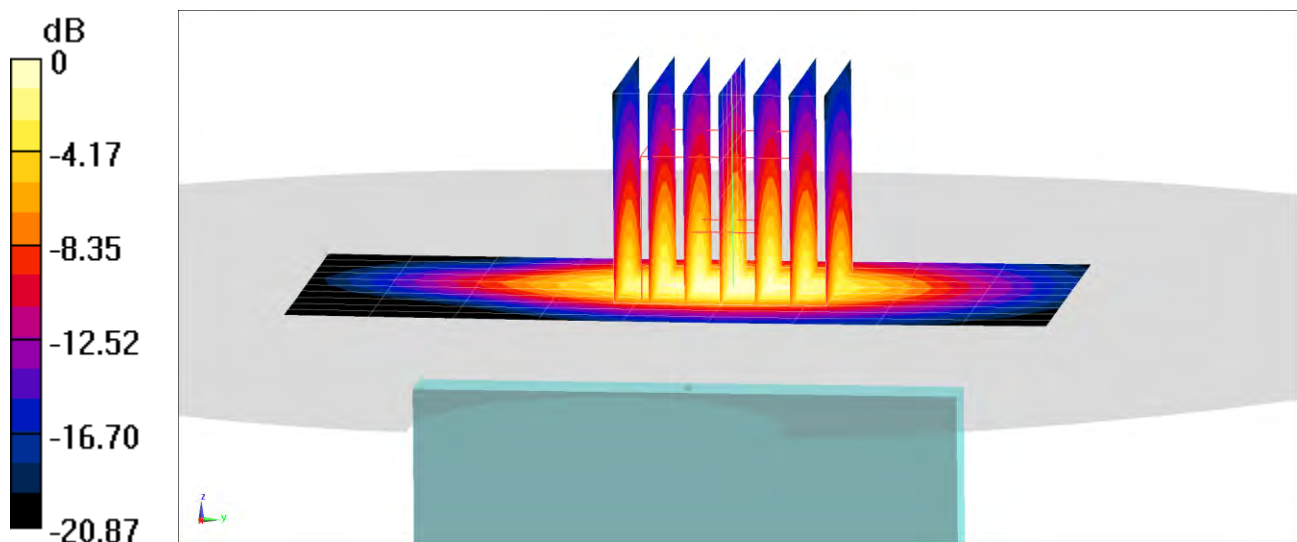
Reference Value = 25.58 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.06 W/kg

SAR(1 g) = 1.07 W/kg

Smallest distance from peaks to all points 3 dB below = 9.5 mm

Ratio of SAR at M2 to SAR at M1 = 53.3%



0 dB = 1.70 W/kg = 2.30 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0394M

Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used:

$f = 2510$ MHz; $\sigma = 2.103$ S/m; $\epsilon_r = 52.408$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/01/2020; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2510 MHz; Calibrated: 7/15/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1323; Calibrated: 7/11/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 7, Body SAR, Back side, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

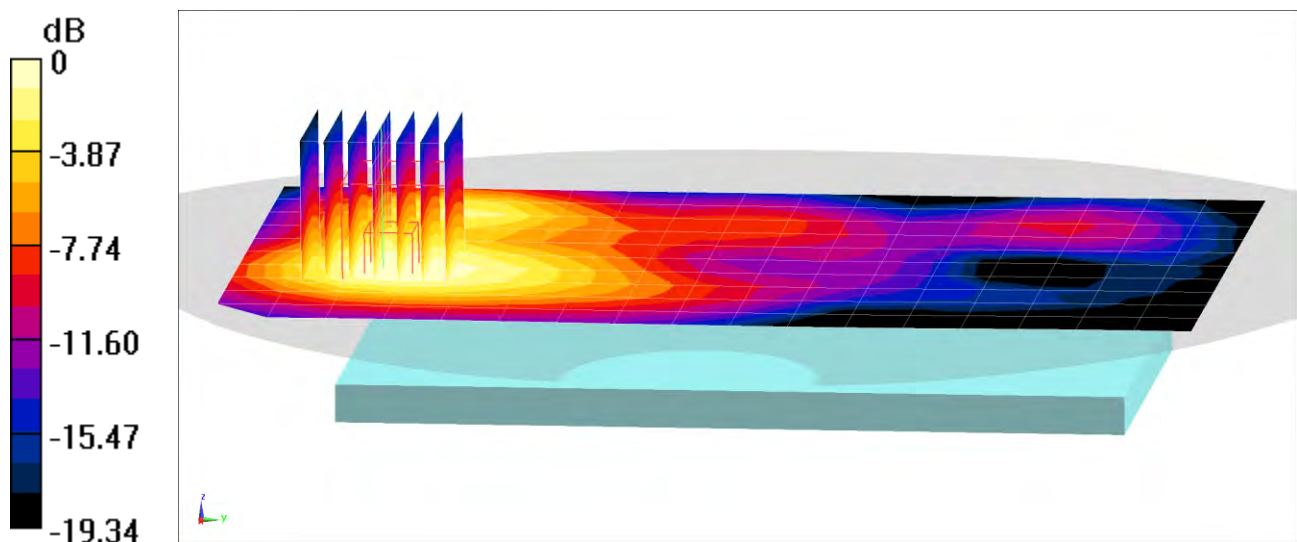
Reference Value = 13.88 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.673 W/kg

SAR(1 g) = 0.371 W/kg

Smallest distance from peaks to all points 3 dB below = 17.7 mm

Ratio of SAR at M2 to SAR at M1 = 54%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0394M

Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used:

$f = 2510$ MHz; $\sigma = 2.103$ S/m; $\epsilon_r = 52.408$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/01/2020; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2510 MHz; Calibrated: 7/15/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1323; Calibrated: 7/11/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 7, Body SAR, Bottom Edge, Low.ch,
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset**

Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

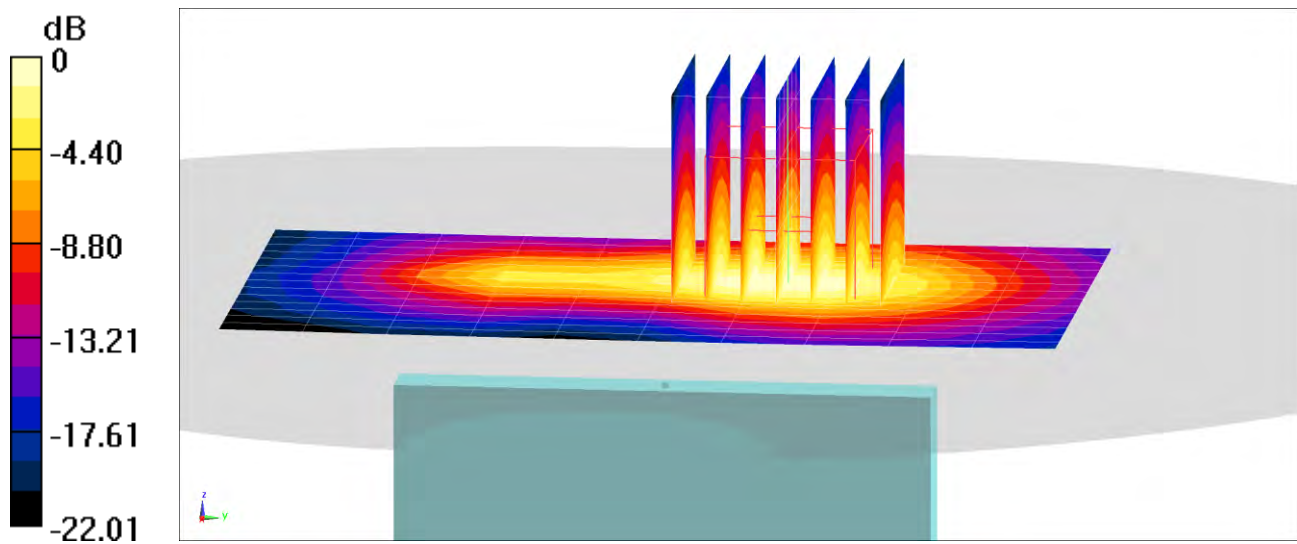
Reference Value = 16.57 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.995 W/kg

SAR(1 g) = 0.514 W/kg

Smallest distance from peaks to all points 3 dB below = 11.4 mm

Ratio of SAR at M2 to SAR at M1 = 51.9%



0 dB = 0.812 W/kg = -0.90 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0397M

Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body; Medium parameters used:

$f = 2680$ MHz; $\sigma = 2.3$ S/m; $\epsilon_r = 51.984$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/04/2020; Ambient Temp: 22.1°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2680 MHz; Calibrated: 7/15/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1323; Calibrated: 7/11/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 41, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

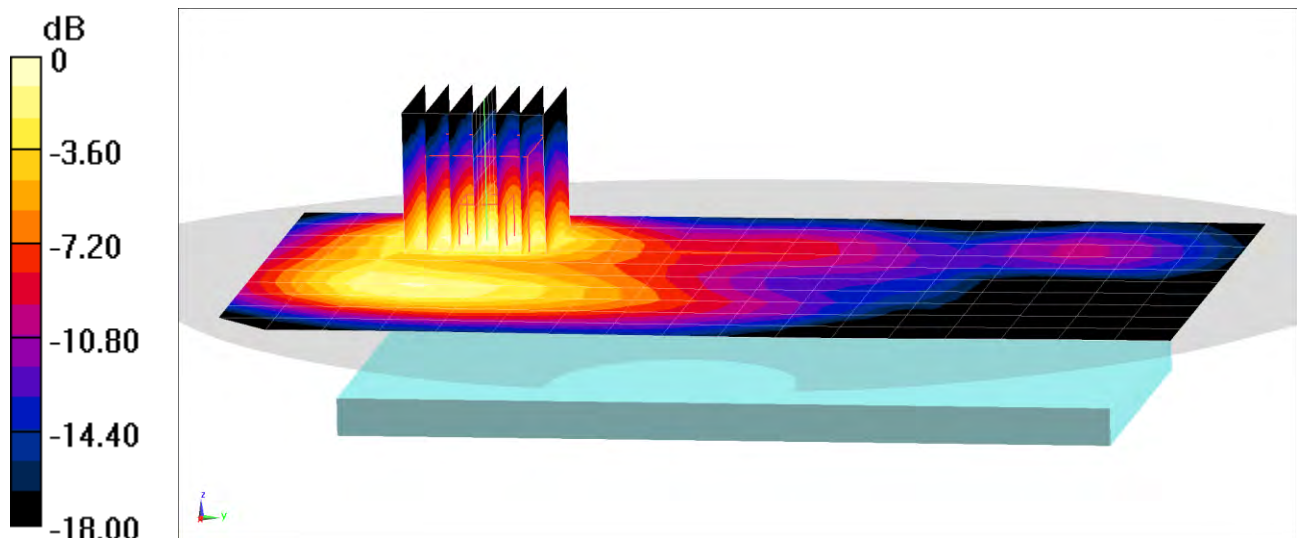
Reference Value = 10.93 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.249 W/kg

Smallest distance from peaks to all points 3 dB below = 14.8 mm

Ratio of SAR at M2 to SAR at M1 = 46.8%



0 dB = 0.409 W/kg = -3.88 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0397M

Communication System: UID 0, LTE Band 41; Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2600 Body; Medium parameters used:

$f = 2680$ MHz; $\sigma = 2.328$ S/m; $\epsilon_r = 51.99$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/07/2020; Ambient Temp: 23.6°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2680 MHz; Calibrated: 7/15/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1323; Calibrated: 7/11/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: LTE Band 41, Body SAR, Bottom Edge, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

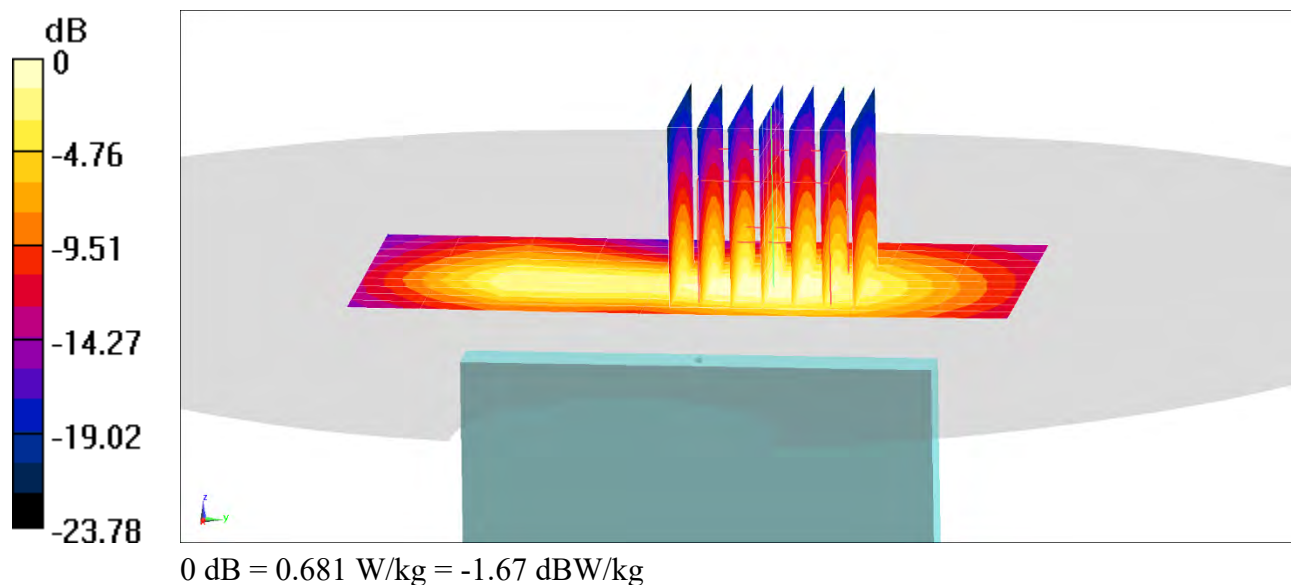
Reference Value = 14.04 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.857 W/kg

SAR(1 g) = 0.414 W/kg

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 48.3%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0382M

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 680.5$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 53.767$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 53 RB Offset**

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

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

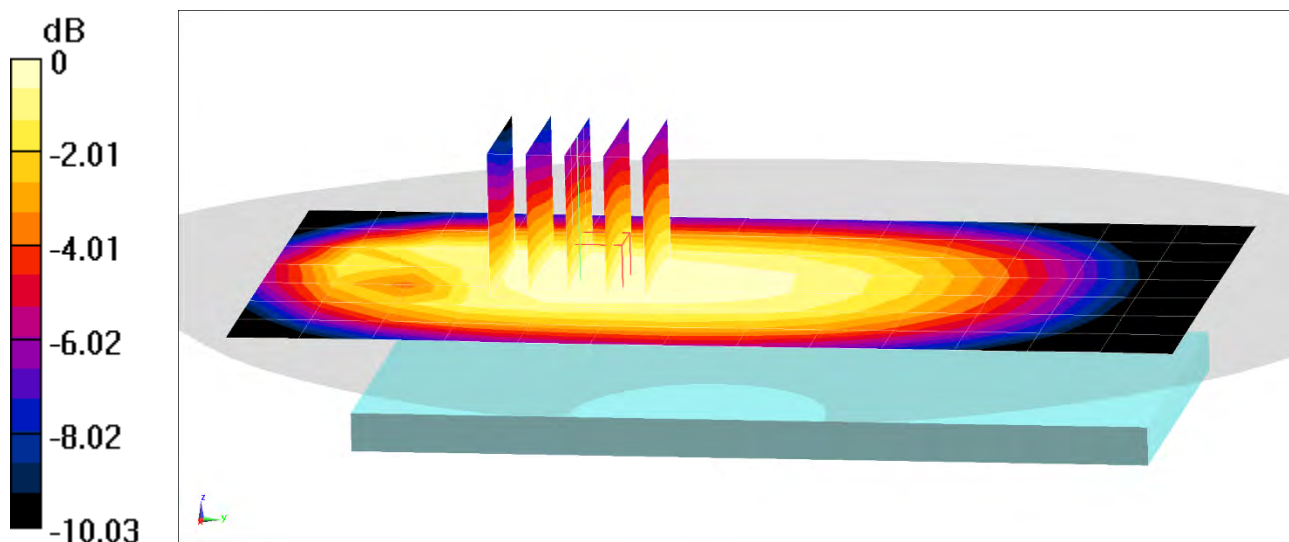
Reference Value = 14.72 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.249 W/kg

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 77.3%



0 dB = 0.296 W/kg = -5.29 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0382M

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
 $f = 680.5$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 53.767$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 04/27/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 136100, 50 RB, 28 RB Offset**

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

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

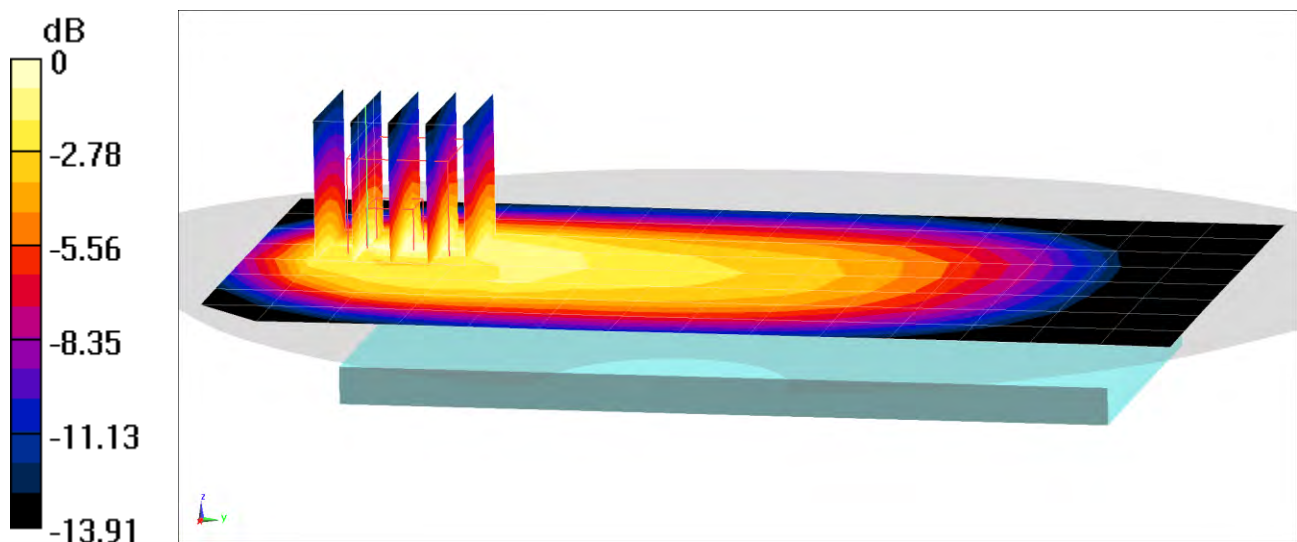
Reference Value = 19.60 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.623 W/kg

SAR(1 g) = 0.345 W/kg

Smallest distance from peaks to all points 3 dB below = 12.5 mm

Ratio of SAR at M2 to SAR at M1 = 56.2%



0 dB = 0.498 W/kg = -3.03 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0389M

Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
 $f = 1745 \text{ MHz}$; $\sigma = 1.515 \text{ S/m}$; $\epsilon_r = 51.369$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/26/2020; Ambient Temp: 20.5°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1745 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n66, Body SAR, Back Side, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 349000, 1 RB, 53 RB Offset**

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

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

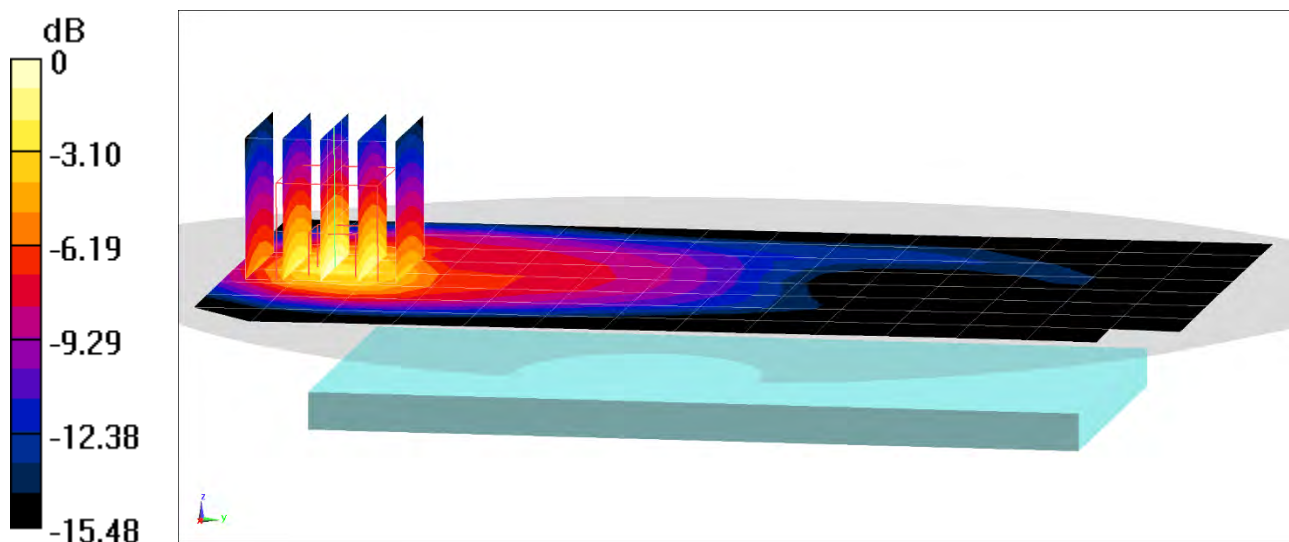
Reference Value = 25.38 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.891 W/kg

Smallest distance from peaks to all points 3 dB below = 12.9 mm

Ratio of SAR at M2 to SAR at M1 = 62.4%



0 dB = 1.25 W/kg = 0.97 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0389M

Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
 $f = 1770 \text{ MHz}$; $\sigma = 1.542 \text{ S/m}$; $\epsilon_r = 51.271$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05/26/2020; Ambient Temp: 20.5°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1770 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n66, Body SAR, Bottom Edge, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 0 RB Offset**

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

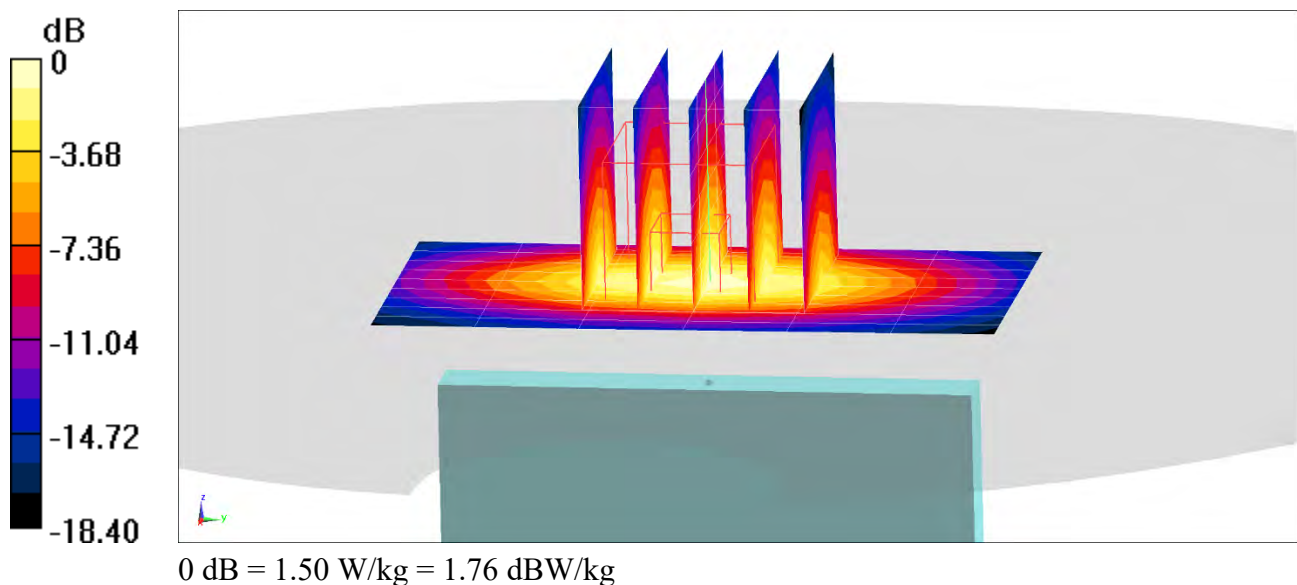
Reference Value = 27.37 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 1.03 W/kg

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 60.1%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 1244M

Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2600 Body; Medium parameters used (interpolated):
 $f = 2592.99$ MHz; $\sigma = 2.202$ S/m; $\epsilon_r = 52.15$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06/01/2020; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2592.99 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n41, Body SAR, Back Side, 100 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 518598, 1 RB, 1 RB Offset**

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

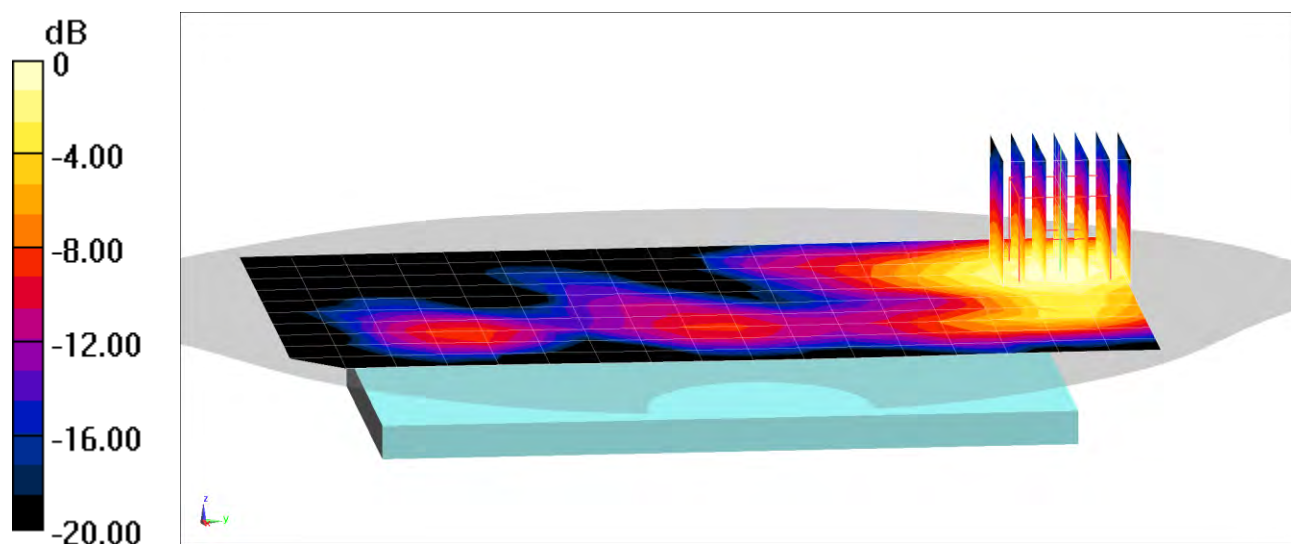
Reference Value = 4.983 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.079 W/kg

Smallest distance from peaks to all points 3 dB below = 16.6 mm

Ratio of SAR at M2 to SAR at M1 = 52.5%



0 dB = 0.120 W/kg = -9.21 dBW/kg

PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 1244M

Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2600 Body; Medium parameters used (interpolated):
 $f = 2592.99$ MHz; $\sigma = 2.202$ S/m; $\epsilon_r = 52.15$; $\rho = 1000$ kg/m³
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06/01/2020; Ambient Temp: 22.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2592.99 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n41, Body SAR, Top Edge, 100 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 518598, 1 RB, 1 RB Offset**

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

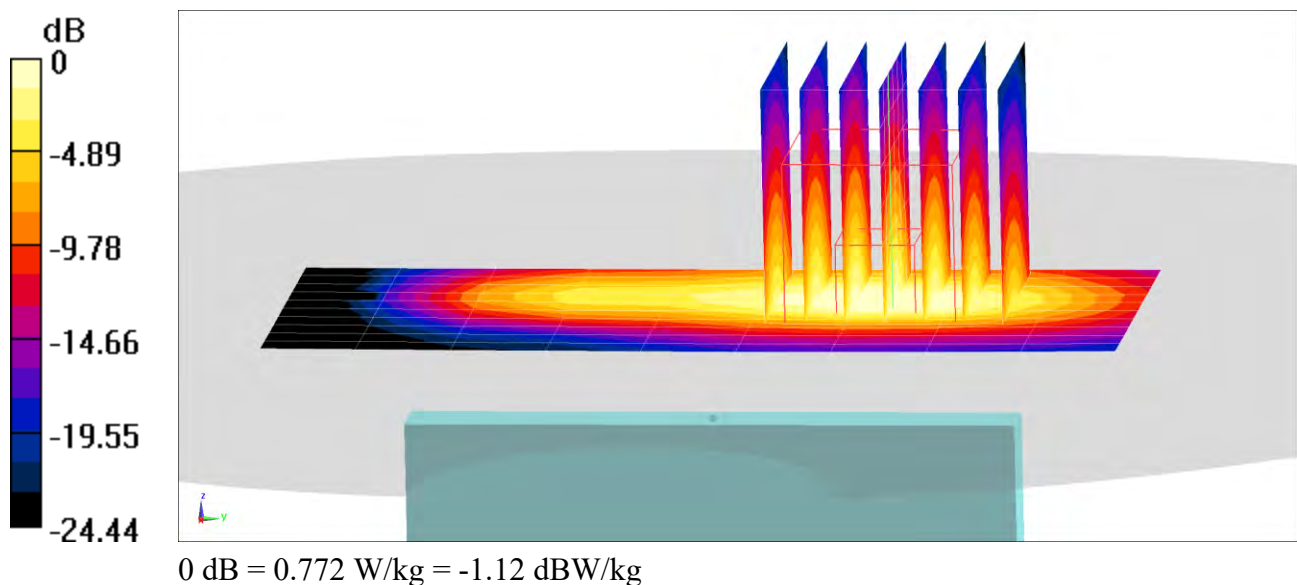
Reference Value = 15.24 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.991 W/kg

SAR(1 g) = 0.476 W/kg

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 49.4%



PCTEST

DUT: A3LSMN986W; Type: Portable Handset; Serial: 0702M

Communication System: UID 0, IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
 $f = 2462 \text{ MHz}$; $\sigma = 2.021 \text{ S/m}$; $\epsilon_r = 51.599$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05/29/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2462 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Back Side

Area Scan (10x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

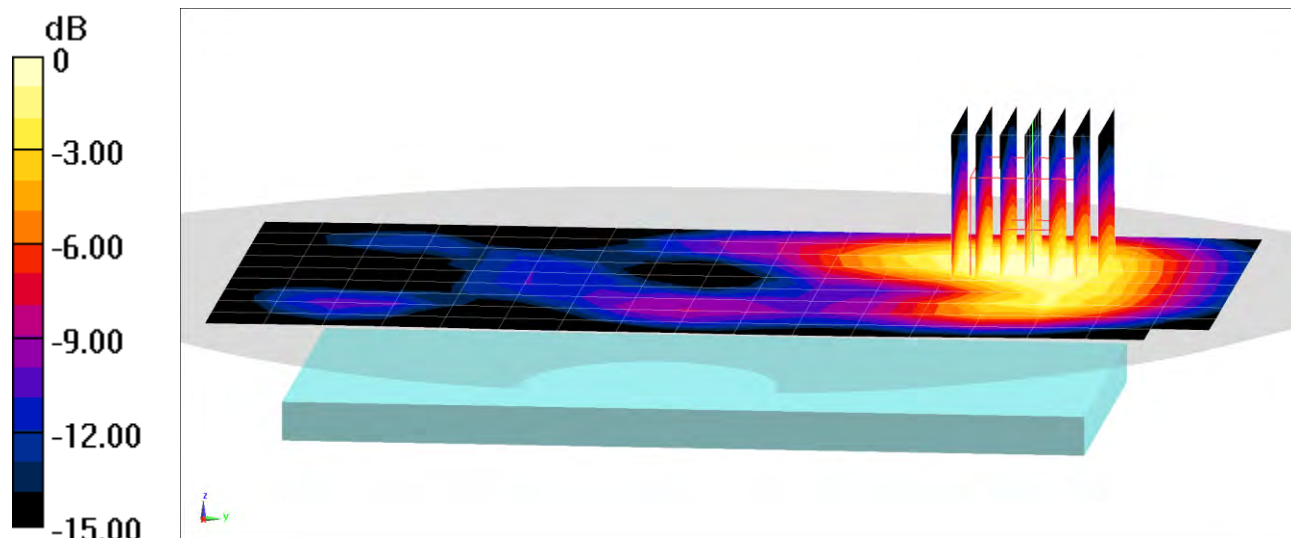
Reference Value = 8.083 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.223 W/kg

SAR(1 g) = 0.122 W/kg

Smallest distance from peaks to all points 3 dB below = 17.5 mm

Ratio of SAR at M2 to SAR at M1 = 54%



0 dB = 0.183 W/kg = -7.38 dBW/kg