PCTEST
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. +1.410.290.6652 / Fax +1.410.290.6654
http://www.pctest.com

SAR EVALUATION REPORT

Applicant Name:
LG Electronics U.S.A., Inc.
111 Sylvan Avenue, North Building
Englewood Cliffs, NJ 07632
United States

Date of Testing:
09/15/20 - 10/04/20
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M2008130119-01.ZNF

FCC ID: **ZNFK920AM**

APPLICANT: **LG ELECTRONICS U.S.A., INC.**

DUT Type:	Portable Handset
Application Type:	Class II Permissive Change
FCC Rule Part(s):	CFR §2.1093
Model:	LM-K920AM
Additional Model(s):	LM-K920TM, LM-K920QM, LMK920AM, LMK920TM, LMK920QM, K920AM, K920TM, K920QM
Permissive Change(s):	See FCC Change Document
Date of Original Certification	10/01/2020

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	CDMA/EVDO BC10 (§90S)	817.90 - 823.10 MHz	0.17	0.43	0.46	N/A
PCE	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	0.24	0.51	0.54	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.16	0.67	1.20	2.74
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.11	0.56	0.56	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.12	0.19	0.38	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.17	0.38	0.38	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.15	0.53	0.52	N/A
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.25	0.47	0.74	N/A
PCE	LTE Band 71	665.5 - 695.5 MHz	0.16	0.28	0.42	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.17	0.34	0.34	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.16	0.21	0.21	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.13	0.21	0.21	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.15	0.37	0.37	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.16	0.36	0.39	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.58	0.36	0.64	N/A
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	0.14	0.42	0.57	N/A
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	0.71	0.30	0.30	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	0.50	0.58	0.58	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.14	0.31	0.51	N/A
PCE	NR Band n71	665.5 - 695.5 MHz	0.16	0.28	0.37	N/A
PCE	NR Band n5 (Cell)	826.5 - 846.5 MHz	0.23	0.40	0.45	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.78	0.33	0.26	1.84
PCE	NR Band n2 (PCS)	1852.5 - 1907.5 MHz	1.11	0.93	0.27	2.35
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.63	0.26	0.35	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	0.14	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.15	0.14	N/A	0.51
NII	U-NII-2C	5500 - 5720 MHz	0.29	0.14	N/A	0.40
NII	U-NII-3	5745 - 5825 MHz	0.20	0.20	0.20	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.30	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.58	1.55	1.55	3.26

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.

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

Randy Ortanez
President

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

REV 21.4 M
09/11/2019

TABLE OF CONTENTS

1 DEVICE UNDER TEST 3

2 LTE AND NR INFORMATION 13

3 INTRODUCTION 15

4 DOSIMETRIC ASSESSMENT 16

5 DEFINITION OF REFERENCE POINTS 17

6 TEST CONFIGURATION POSITIONS 18

7 RF EXPOSURE LIMITS 22

8 FCC MEASUREMENT PROCEDURES 23

9 RF CONDUCTED POWERS 30

10 SYSTEM VERIFICATION 130

11 SAR DATA SUMMARY 137

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS 166

13 SAR MEASUREMENT VARIABILITY 201

14 EQUIPMENT LIST 202

15 MEASUREMENT UNCERTAINTIES 203

16 CONCLUSION 204

17 REFERENCES 205

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: PROBE AND DIPOLE CALIBRATION CERTIFICATES

APPENDIX G: POWER REDUCTION VERIFICATION

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
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 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n5 (Cell)	Data	826.5 - 846.5 MHz
NR Band n66 (AWS)	Data	1712.5 - 1777.5 MHz
NR Band n2 (PCS)	Data	1852.5 - 1907.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz

1.2 Power Reduction for SAR

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

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

1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

1.3.1 2G/3G/4G/5G Output Power

CDMA BC10 (815 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7
CDMA BC0 (835 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7
CDMA BC1 (1900 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.0	25.0	25.0
	Nominal	24.0	24.0	24.0
Hotspot Mode Active	Max allowed power	24.0	24.0	24.0
	Nominal	23.0	23.0	23.0

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	Max allowed power	34.0	34.0	32.0	30.5	29.0	27.0	27.0	26.0	26.0
	Nominal	33.0	33.0	31.0	29.5	28.0	26.0	26.0	25.0	25.0
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	Max allowed power	31.0	31.0	29.0	28.0	26.0	26.0	26.0	25.0	25.0
	Nominal	30.0	30.0	28.0	27.0	25.0	25.0	25.0	24.0	24.0

UMTS Band 5 (850 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA
Max	Max allowed power	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7
UMTS Band 4 (1750 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6
Max	Max allowed power	25.0	25.0	25.0
	Nominal	24.0	24.0	24.0
Hotspot Mode Active	Max allowed power	24.0	24.0	24.0
	Nominal	23.0	23.0	23.0
UMTS Band 2 (1900 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6
Max	Max allowed power	25.0	25.0	25.0
	Nominal	24.0	24.0	24.0
Hotspot Mode Active	Max allowed power	24.0	24.0	24.0
	Nominal	23.0	23.0	23.0

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	Hotspot Mode Active
LTE FDD Band 71	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 12	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 17	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 13	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 14	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 26	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 5	Max allowed	25.7	25.7
	Nominal	24.7	24.7
LTE FDD Band 66	Max allowed	25.0	24.0
	Nominal	24.0	23.0
LTE FDD Band 66 Antenna 7	Max allowed	22.0	22.0
	Nominal	21.0	21.0
LTE FDD Band 4	Max allowed	25.0	24.0
	Nominal	24.0	23.0
LTE FDD Band 25	Max allowed	25.0	24.0
	Nominal	24.0	23.0
LTE FDD Band 2	Max allowed	25.0	24.0
	Nominal	24.0	23.0
LTE FDD Band 2 Antenna 7	Max allowed	22.0	22.0
	Nominal	21.0	21.0
LTE FDD Band 30	Max allowed	25.0	25.0
	Nominal	24.0	24.0
LTE FDD Band 30 Antenna 7	Max allowed	22.0	22.0
	Nominal	21.0	21.0
LTE TDD Band 41	Max allowed	25.5	25.5
	Nominal	24.5	24.5

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	Hotspot Mode, Proximity Sensor, and/or RCV Active
NR FDD Band n71	Max allowed	25.7	25.7
	Nominal	24.7	24.7
NR FDD Band n5	Max allowed	25.7	25.7
	Nominal	24.7	24.7
NR FDD Band n66	Max allowed	25.5	22.5
	Nominal	24.5	21.5
NR FDD Band n2	Max allowed	25.5	22.0
	Nominal	24.5	21.0

1.3.2 2.4 GHz Maximum SISO/MIMO WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)													
		SISO Antenna 1/2								MIMO					
		b		g		n		ac		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)	
		Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum
2.4 GHz WIFI	2.45 GHz	20.0	21.0	19.0 ch. 1: 17.0 ch. 2: 17.0 ch. 10: 17.0 ch. 11: 17.0	20.0 ch. 1: 18.0 ch. 2: 18.0 ch. 10: 18.0 ch. 11: 18.0	18.0 ch. 1: 16.0 ch. 2: 16.0 ch. 10: 16.0 ch. 11: 16.0	19.0 ch. 1: 17.0 ch. 2: 17.0 ch. 10: 17.0 ch. 11: 17.0	18.0 ch. 1: 16.0 ch. 2: 16.0 ch. 10: 16.0 ch. 11: 16.0	19.0 ch. 1: 17.0 ch. 2: 17.0 ch. 10: 17.0 ch. 11: 17.0	22.0 ch. 1: 20.0 ch. 2: 20.0 ch. 10: 20.0 ch. 11: 20.0	23.0 ch. 1: 21.0 ch. 2: 21.0 ch. 10: 21.0 ch. 11: 21.0	21.0 ch. 1: 19.0 ch. 2: 19.0 ch. 10: 19.0 ch. 11: 19.0	22.0 ch. 1: 20.0 ch. 2: 20.0 ch. 10: 20.0 ch. 11: 20.0	21.0 ch. 1: 19.0 ch. 2: 19.0 ch. 10: 19.0 ch. 11: 19.0	22.0 ch. 1: 20.0 ch. 2: 20.0 ch. 10: 20.0 ch. 11: 20.0

1.3.3 2.4 GHz Reduced WLAN Output Powers

The below table is applicable in the following conditions:

- RCV Active

Mode	Band	IEEE 802.11 (in dBm)													
		SISO Antenna 1/2								MIMO					
		b		g		n		ac		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)	
		Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum
2.4 GHz WIFI	2.45 GHz	15.5	16.5	15.5	16.5	15.5	16.5	15.5	16.5	18.5	19.5	18.5	19.5	18.5	19.5

1.3.4 5 GHz Maximum SISO/MIMO WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)																	
		SISO Antenna 1						SISO Antenna 2						MIMO					
		a		n		ac		a		n		ac		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)	
		Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum
5 GHz WIFI (20MHz BW)	5200 MHz	15.5	16.5	15.5	16.5	15.5	16.5	15.0	16.0	15.0	16.0	15.0	16.0	18.3	19.3	18.3	19.3	18.3	19.3
	5300 MHz	15.5	16.5	15.5	16.5	15.5	16.5	15.0	16.0	15.0	16.0	15.0	16.0	18.3	19.3	18.3	19.3	18.3	19.3
	5500 MHz	15.5	16.5	15.5	16.5	15.5	16.5	15.0	16.0	15.0	16.0	15.0	16.0	18.3	19.3	18.3	19.3	18.3	19.3
	5800 MHz	15.5	16.5	15.5	16.5	15.5	16.5	15.0	16.0	15.0	16.0	15.0	16.0	18.3	19.3	18.3	19.3	18.3	19.3
5 GHz WIFI (40MHz BW)	5200 MHz			14.5	15.5	14.5	15.5			14.5	15.5	14.5	15.5			17.5	18.5	17.5	18.5
	5300 MHz			14.5 ch. 62: 13.5	15.5 ch. 62: 14.5	14.5 ch. 62: 13.5	15.5 ch. 62: 14.5			14.5 ch. 62: 13.5	15.5 ch. 62: 14.5	14.5 ch. 62: 13.5	15.5 ch. 62: 14.5			17.5 ch. 62: 16.5	18.5 ch. 62: 17.5	17.5 ch. 62: 16.5	18.5 ch. 62: 17.5
	5500 MHz			14.5 ch. 102: 13.0	15.5 ch. 102: 14.0	14.5 ch. 102: 13.0	15.5 ch. 102: 14.0			14.5 ch. 102: 13.0	15.5 ch. 102: 14.0	14.5 ch. 102: 13.0	15.5 ch. 102: 14.0			17.5 ch. 102: 16.0	18.5 ch. 102: 17.0	17.5 ch. 102: 16.0	18.5 ch. 102: 17.0
	5800 MHz			14.5	15.5	14.5	15.5			14.5	15.5	14.5	15.5			17.5	18.5	17.5	18.5
5 GHz WIFI (80MHz BW)	5200 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5300 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5500 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5800 MHz					12.5	13.5					12.5	13.5					15.5	16.5

1.3.5 5 GHz Reduced WLAN Output Powers

The below table is applicable in the following conditions:

- RCV Active

Mode	Band	IEEE 802.11 (in dBm)																	
		SISO Antenna 1						SISO Antenna 2						MIMO					
		a		n		ac		a		n		ac		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)	
		Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum
5 GHz WIFI (20MHz BW)	5200 MHz	14.5	15.5	14.5	15.5	14.5	15.5	14.0	15.0	14.0	15.0	14.0	15.0	17.3	18.3	17.3	18.3	17.3	18.3
	5300 MHz	14.5	15.5	14.5	15.5	14.5	15.5	14.0	15.0	14.0	15.0	14.0	15.0	17.3	18.3	17.3	18.3	17.3	18.3
	5500 MHz	14.5	15.5	14.5	15.5	14.5	15.5	14.0	15.0	14.0	15.0	14.0	15.0	17.3	18.3	17.3	18.3	17.3	18.3
	5800 MHz	14.5	15.5	14.5	15.5	14.5	15.5	14.0	15.0	14.0	15.0	14.0	15.0	17.3	18.3	17.3	18.3	17.3	18.3
5 GHz WIFI (40MHz BW)	5200 MHz			14.5	15.5	14.5	15.5			14.5	15.5	14.5	15.5			17.5	18.5	17.5	18.5
	5300 MHz			14.5 ch. 62: 13.5	15.5 ch. 62: 14.5	14.5 ch. 62: 13.5	15.5 ch. 62: 14.5			14.5 ch. 62: 13.5	15.5 ch. 62: 14.5	14.5 ch. 62: 13.5	15.5 ch. 62: 14.5			17.5 ch. 62: 16.5	18.5 ch. 62: 17.5	17.5 ch. 62: 16.5	18.5 ch. 62: 17.5
	5500 MHz			14.5 ch. 102: 13.0	15.5 ch. 102: 14.0	14.5 ch. 102: 13.0	15.5 ch. 102: 14.0			14.5 ch. 102: 13.0	15.5 ch. 102: 14.0	14.5 ch. 102: 13.0	15.5 ch. 102: 14.0			17.5 ch. 102: 16.0	18.5 ch. 102: 17.0	17.5 ch. 102: 16.0	18.5 ch. 102: 17.0
	5800 MHz			14.5	15.5	14.5	15.5			14.5	15.5	14.5	15.5			17.5	18.5	17.5	18.5
5 GHz WIFI (80MHz BW)	5200 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5300 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5500 MHz					12.5	13.5					12.5	13.5					15.5	16.5
	5800 MHz					12.5	13.5					12.5	13.5					15.5	16.5

1.3.6 2.4 GHz Bluetooth Maximum Output Power

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth 1 Mbps (GFSK)	Maximum	**12.5**
	Nominal	**11.5**
Bluetooth 2 Mbps (DPSK)	Maximum	**12.0**
	Nominal	**11.0**
Bluetooth 3 Mbps (8DPSK)	Maximum	**12.0**
	Nominal	**11.0**
Bluetooth LE	Maximum	**8.0**
	Nominal	**7.0**

1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in Appendix 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
EVDO BC10 (§90S)	Yes	Yes	No	Yes	No	Yes
EVDO BC0 (§22H)	Yes	Yes	No	Yes	No	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	No
GPRS 850	Yes	Yes	No	Yes	No	Yes
GPRS 1900	Yes	Yes	No	Yes	No	Yes
UMTS 850	Yes	Yes	No	Yes	No	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	No
UMTS 1900	Yes	Yes	No	Yes	Yes	No
LTE Band 71	Yes	Yes	No	Yes	No	Yes
LTE Band 12	Yes	Yes	No	Yes	No	Yes
LTE Band 13	Yes	Yes	No	Yes	No	Yes
LTE Band 14	Yes	Yes	No	Yes	No	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	No	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	No	Yes
LTE Band 66 (AWS) Ant 2	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS) Ant 7	Yes	Yes	Yes	No	Yes	No
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	No
LTE Band 2 (PCS) Ant 7	Yes	Yes	Yes	No	Yes	No
LTE Band 30 Ant 1	Yes	Yes	No	Yes	No	Yes
LTE Band 30 Ant 7	Yes	Yes	Yes	No	Yes	No
LTE Band 41	Yes	Yes	No	Yes	Yes	No
NR Band n71	Yes	Yes	No	Yes	No	Yes
NR Band n5 (Cell)	Yes	Yes	No	Yes	No	Yes
NR Band n66 (AWS)	Yes	Yes	Yes	No	Yes	No
NR Band n2 (PCS)	Yes	Yes	Yes	No	Yes	No
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN MIMO	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
5 GHz WLAN MIMO	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-2A and U-NII-2C operations are disabled.

1.5 Near Field Communications (NFC) Antenna

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

1.6 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^	Yes	N/A	Yes	^Bluetooth Tethering is considered
4	1x CDMA voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
5	1x CDMA voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
7	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
8	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
9	GSM voice + 2.4 GHz WI-FI	Yes	Yes	N/A	Yes	
10	GSM voice + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
12	GSM voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
13	GSM voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
15	GSM voice + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
16	GSM voice + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
17	UMTS + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
18	UMTS + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
19	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
20	UMTS + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
21	UMTS + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
22	UMTS + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
23	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
24	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
25	LTE + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
26	LTE + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
27	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
28	LTE + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
29	LTE + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
30	LTE + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
31	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
32	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
33	LTE + 5G NR	Yes	Yes	N/A	Yes	
34	LTE + 5G NR + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
35	LTE + 5G NR + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
36	LTE + 5G NR + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
37	LTE + 5G NR + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
38	LTE + 5G NR + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
39	LTE + 5G NR + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
40	LTE + 5G NR + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
41	LTE + 5G NR + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
42	CDMA/EVDO data + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
43	CDMA/EVDO data + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
44	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
45	CDMA/EVDO data + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
46	CDMA/EVDO data + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
47	CDMA/EVDO data + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
48	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
49	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
50	GPRS/EDGE + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
51	GPRS/EDGE + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
52	GPRS/EDGE + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
53	GPRS/EDGE + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
54	GPRS/EDGE + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
55	GPRS/EDGE + 2.4 GHz WI-FI Ant 2 + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
56	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
57	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered

1. 2.4 GHz WLAN Ant 1 and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 share the same antenna path and cannot transmit simultaneously.
3. All licensed modes share the same antenna path and cannot transmit simultaneously.
4. 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.

5. Per the manufacturer, WIFI Direct is 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.
6. 5 GHz Wireless Router is only supported for U-NII-1 and U-NII-3 by S/W, therefore U-NII-2A and U-NII-2C were not evaluated for wireless router conditions.
7. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
8. This device supports VOLTE.
9. This device supports VOWIFI.
10. This device supports Bluetooth Tethering.
11. LTE + 5G NR FR1 Scenarios are limited to EN-DC combinations with anchor bands shown in the NR FR1 Checklist.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ac with the following features:

a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) TDWR and Band gap channels are supported

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

(B) Licensed Transmitter(s)

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

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

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

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for 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 of the original certification report number 1M2007130107-01-R2.ZNF.

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. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (see Section 6.9 for more information).

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 LTE Carrier Aggregation (CA) for LTE Band 41 and LTE Band 5 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device supports 64QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225 D05v02r05. SAR was not required for 64QAM since the highest maximum output power for 64QAM is ≤ ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

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

NR implementation is limited to EN-DC operations only, with LTE Bands shown in the NR FR1 Checklist acting as anchor bands. Per FCC Guidance, SAR tests for NR Bands and LTE Anchor Bands were performed separately due to equipment limitations in SAR probe calibration factors. Please see Section 11 for more details.

1.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- 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)

1.9 Device Serial Numbers

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

2 LTE AND NR INFORMATION

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 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
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 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Frequencies (MHz) and Channel Numbers	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A	N/A	2310 (27710)	N/A	N/A
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 18, UL UE Cat 13				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 15. It supports carrier aggregation and downlink MIMO features as shown in section 9 and Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 15 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

NR Information			
Form Factor	Portable Handset		
Frequency Range of each NR transmission band	NR Band n71 (665.5 - 695.5 MHz)		
	NR Band n5 (Cell) (826.5 - 846.5 MHz)		
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)		
	NR Band n2 (PCS) (1852.5 - 1907.5 MHz)		
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz		
	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz		
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz		
	NR Band n2 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz		
Frequencies (MHz) and Channel Numbers	Low	Mid	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 n5 (Cell): 5 MHz	826.5 (165300)	836.5 (167300)	846.5 (169300)
NR Band n5 (Cell): 10 MHz	829 (165800)	836.5 (167300)	844 (168800)
NR Band n5 (Cell): 15 MHz	831.5 (166300)	836.5 (167300)	841.5 (168300)
NR Band n5 (Cell): 20 MHz	834 (166800)	836.5 (167300)	839 (167800)
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 n2 (PCS): 5 MHz	1852.5 (370500)	1880 (376000)	1907.5 (381500)
NR Band n2 (PCS): 10 MHz	1855 (371000)	1880 (376000)	1905 (381000)
NR Band n2 (PCS): 15 MHz	1857.5 (371500)	1880 (376000)	1902.5 (380500)
NR Band n2 (PCS): 20 MHz	1860 (372000)	1880 (376000)	1900 (380000)
SCS	15 kHz		
Modulations Supported in UL	DFT-s-OFDM: π/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		
LTE Anchor Bands for NR Band n5 (Cell)	LTE Band 2/30/66		
LTE Anchor Bands for NR Band n66 (AWS)	LTE Band 2/5/12/14/30		
LTE Anchor Bands for NR Band n2 (PCS)	LTE Band 5/12/14/30/66		

3 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

3.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

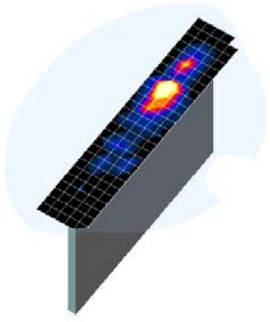


Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

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

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

*Also compliant to IEEE 1528-2013 Table 6

5 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].

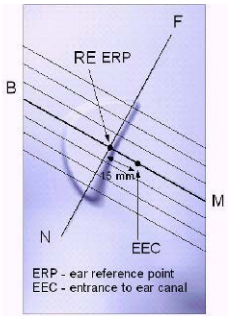


Figure 5-1
Close-Up Side view of ERP

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 than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at 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.

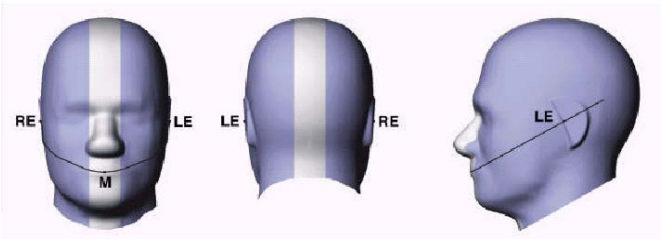


Figure 5-2
Front, back and side view of SAM Twin Phantom

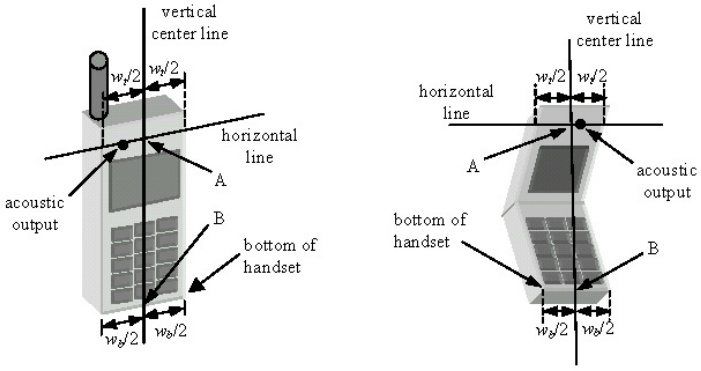


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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 ε = 3 and loss tangent δ = 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.

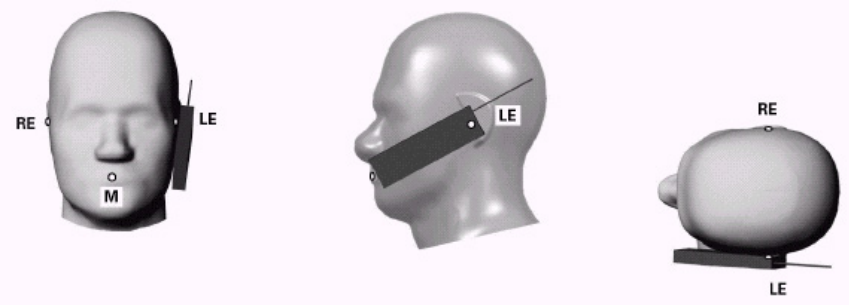


Figure 6-1 Front, Side and Top View of Cheek Position

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 was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the 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 / 15º 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 15degrees.
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).

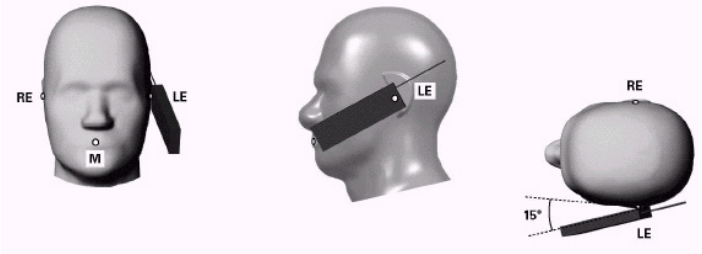


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

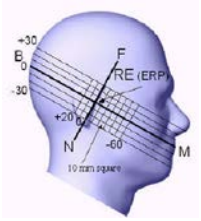


Figure 6-3
Side view w/ relevant markings

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

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

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

6.5 Body-Worn Accessory Configurations

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

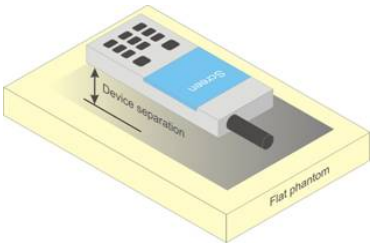


Figure 6-4
Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not

contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same 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 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.

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

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

8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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 SCH_0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
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
$\hat{I}_{or}$	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table 8-2
Parameters for Max. Power for RC3

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

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+SCHn), with FCH only as the primary mode. Otherwise, SAR is required for multiple code channel configuration (FCH + SCHn), 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.

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.

8.5 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 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.

8.6 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.6.1 Spectrum Plots for RB Configurations

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

8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
   i. The required channel and offset combination with the highest maximum output power is required for SAR.
   ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
   iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.

b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

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 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 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 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. 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.

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.

9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	564	90S	820.1	25.62	25.64	25.62	25.63	25.55	25.61
Cellular	1013	22H	824.7	25.56	25.56	25.57	25.55	25.45	25.57
	384	22H	836.52	25.65	25.64	25.64	25.65	25.50	25.65
	777	22H	848.31	25.54	25.54	25.53	25.54	25.54	25.57
PCS	25	24E	1851.25	24.96	24.95	24.96	24.95	24.94	24.99
	600	24E	1880	24.99	25.00	24.99	25.00	24.74	24.78
	1175	24E	1908.75	24.89	24.89	24.89	24.90	24.88	24.78

Table 9-2
Hotspot Mode Active Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	23.87	23.79	23.97	23.97	23.90	23.89
	600	24E	1880	23.83	23.75	23.90	23.90	23.94	23.94
	1175	24E	1908.75	23.98	23.79	23.72	23.99	23.65	23.98

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

Figure 9-1
Power Measurement Setup

9.2 GSM Conducted Powers

Table 9-3
Maximum Conducted Power

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	33.61	33.58	31.54	**29.98**	27.68	26.65	26.36	25.56	25.50
	190	33.65	33.60	31.55	**30.04**	27.84	26.62	26.34	25.54	25.41
	251	33.61	33.57	31.55	**29.97**	27.79	26.67	26.36	25.55	25.46
GSM 1900	512	30.88	30.92	28.78	**27.52**	25.79	24.89	24.67	24.58	24.50
	661	30.80	30.61	28.81	**27.91**	25.84	24.82	24.54	24.47	24.42
	810	30.75	30.75	28.72	**27.54**	25.60	24.51	24.44	24.42	24.35

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	24.41	24.38	25.35	**25.55**	24.50	17.45	20.17	21.13	22.32
	190	24.45	24.40	25.36	**25.61**	24.66	17.42	20.15	21.11	22.23
	251	24.41	24.37	25.36	**25.54**	24.61	17.47	20.17	21.12	22.28
GSM 1900	512	21.68	21.72	22.59	**23.09**	22.61	15.69	18.48	20.15	21.32
	661	21.60	21.41	22.62	**23.48**	22.66	15.62	18.35	20.04	21.24
	810	21.55	21.55	22.53	**23.11**	22.42	15.31	18.25	19.99	21.17

GSM 850	**Frame Avg.Targets:**	23.80	23.80	24.81	**25.07**	24.82	16.80	19.81	20.57	21.82
GSM 1900		20.80	20.80	21.81	**22.57**	21.82	15.80	18.81	19.57	20.82

Note:

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

GSM Class: B
GPRS Multislot class: 12 (Max 4 Tx uplink slots)
EDGE Multislot class: 12 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A

Figure 9-2
Power Measurement Setup

9.3 UMTS Conducted Powers

Table 9-4
Maximum Conducted Power

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	25.22	25.31	25.19	24.70	24.69	24.69	24.62	24.69	24.77	-
99		12.2 kbps AMR	25.18	25.36	25.19	24.65	24.66	24.71	24.64	24.53	24.70	-
6	HSDPA	Subtest 1	24.40	24.42	24.33	23.85	23.80	23.81	23.92	23.97	23.97	0
6		Subtest 2	24.39	24.42	24.31	23.86	23.86	23.90	24.03	23.95	23.98	0
6		Subtest 3	23.89	23.91	23.82	23.35	23.36	23.40	23.47	23.47	23.47	0.5
6		Subtest 4	23.90	23.91	23.84	23.35	23.35	23.40	23.45	23.48	23.48	0.5
6	HSUPA	Subtest 1	24.21	24.25	24.15	23.87	23.88	23.92	23.96	23.99	23.97	0
6		Subtest 2	22.41	22.44	22.37	21.87	21.87	21.88	22.01	22.02	22.00	2
6		Subtest 3	23.41	23.43	23.35	22.86	22.89	22.92	22.98	22.98	22.96	1
6		Subtest 4	22.40	22.45	22.39	21.88	21.90	21.89	21.99	22.00	22.00	2
6		Subtest 5	24.43	24.43	24.38	23.85	23.87	23.88	23.96	23.99	23.98	0

Table 9-5
Hotspot Mode Active Conducted Power

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	23.98	23.94	23.99	23.95	23.96	23.86	-
99		12.2 kbps AMR	24.00	23.96	23.89	23.86	23.99	23.92	-
6	HSDPA	Subtest 1	23.85	23.85	23.83	23.95	23.97	23.90	0
6		Subtest 2	23.81	23.85	23.89	23.96	23.97	23.91	0
6		Subtest 3	23.35	23.35	23.35	23.46	23.47	23.42	0.5
6		Subtest 4	23.35	23.34	23.34	23.47	23.47	23.43	0.5
6	HSUPA	Subtest 1	23.87	23.87	23.85	23.95	23.95	23.92	0
6		Subtest 2	21.88	21.88	21.91	21.95	21.98	21.96	2
6		Subtest 3	22.88	22.85	22.90	22.97	22.98	22.93	1
6		Subtest 4	21.86	21.87	21.91	21.96	21.99	21.95	2
6		Subtest 5	23.88	23.87	23.90	23.99	23.97	23.93	0

This device does not support DC-HSDPA.

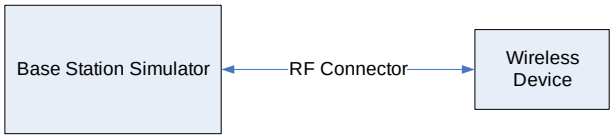


Figure 9-3
Power Measurement Setup

9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-6
LTE Band 71 Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	**25.35**	0	0
	1	50	25.32		0
	1	99	25.25		0
	50	0	**24.50**	0-1	1
	50	25	24.41		1
	50	50	24.38		1
	100	0	24.39		1
16QAM	1	0	24.69	0-1	1
	1	50	24.70		1
	1	99	24.68		1
	50	0	23.49	0-2	2
	50	25	23.42		2
	50	50	23.38		2
	100	0	23.41		2
64QAM	1	0	23.50	0-2	2
	1	50	23.62		2
	1	99	23.57		2
	50	0	22.50	0-3	3
	50	25	22.46		3
	50	50	22.41		3
	100	0	22.37		3

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 9-7
LTE Band 71 Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.76	0	0
	1	36	24.75		0
	1	74	24.75		0
	36	0	23.85	0-1	1
	36	18	23.84		1
	36	37	23.86		1
	75	0	23.78		1
16QAM	1	0	24.37	0-1	1
	1	36	24.41		1
	1	74	24.38		1
	36	0	22.89	0-2	2
	36	18	22.84		2
	36	37	22.87		2
	75	0	22.82		2
64QAM	1	0	23.20	0-2	2
	1	36	23.24		2
	1	74	23.23		2
	36	0	21.85	0-3	3
	36	18	21.82		3
	36	37	21.84		3
	75	0	21.86		3

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.

Table 9-8
LTE Band 71 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.01	24.96	24.82	0	0
	1	25	24.94	24.97	24.78		0
	1	49	25.01	25.00	24.80		0
	25	0	24.10	23.99	23.98	0-1	1
	25	12	24.09	24.00	24.07		1
	25	25	24.05	24.02	24.01		1
	50	0	24.02	23.90	23.89		1
16QAM	1	0	24.28	24.61	24.30	0-1	1
	1	25	24.10	24.56	24.29		1
	1	49	24.20	24.52	24.20		1
	25	0	23.09	23.07	23.07	0-2	2
	25	12	23.08	23.09	23.18		2
	25	25	23.02	23.11	23.16		2
	50	0	23.03	22.93	22.96		2
64QAM	1	0	23.15	23.55	23.20	0-2	2
	1	25	22.84	23.65	23.21		2
	1	49	22.96	23.61	23.16		2
	25	0	22.20	22.06	22.07	0-3	3
	25	12	22.19	22.04	22.16		3
	25	25	22.12	22.09	22.08		3
	50	0	22.08	21.96	21.91		3

Table 9-9
LTE Band 71 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.03	24.73	24.82	0	0
	1	12	25.09	24.88	24.92		0
	1	24	24.99	24.89	24.93		0
	12	0	24.12	23.93	23.94	0-1	1
	12	6	24.09	24.03	24.06		1
	12	13	24.06	24.08	24.02		1
	25	0	24.08	23.99	23.98		1
16QAM	1	0	24.51	24.13	24.32	0-1	1
	1	12	24.45	24.28	24.52		1
	1	24	24.45	24.27	24.50		1
	12	0	23.37	22.97	22.86	0-2	2
	12	6	23.29	23.02	22.95		2
	12	13	23.22	23.06	22.96		2
	25	0	23.06	23.04	23.02		2
64QAM	1	0	23.63	22.95	23.11	0-2	2
	1	12	23.50	23.09	23.20		2
	1	24	23.53	23.15	23.21		2
	12	0	22.06	22.02	22.00	0-3	3
	12	6	22.13	22.07	22.13		3
	12	13	22.08	22.13	22.11		3
	25	0	22.13	21.97	22.02		3

9.4.1 LTE Band 12

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

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.52	0	0
	1	25	25.50		0
	1	49	**25.55**		0
	25	0	24.54	0-1	1
	25	12	24.61		1
	25	25	**24.63**		1
	50	0	24.56		1
16QAM	1	0	24.70	0-1	1
	1	25	24.69		1
	1	49	24.67		1
	25	0	23.62	0-2	2
	25	12	23.69		2
	25	25	23.65		2
	50	0	23.60		2
64QAM	1	0	23.70	0-2	2
	1	25	23.56		2
	1	49	23.70		2
	25	0	22.61	0-3	3
	25	12	22.68		3
	25	25	22.70		3
	50	0	22.61		3

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.98	24.79	24.80	0	0
	1	12	24.88	24.84	24.79		0
	1	24	24.99	24.84	24.80		0
	12	0	24.30	24.16	24.15	0-1	1
	12	6	24.31	24.18	24.16		1
	12	13	24.25	24.19	24.18		1
	25	0	24.26	24.18	24.14		1
16QAM	1	0	24.50	24.39	24.51	0-1	1
	1	12	24.39	24.49	24.40		1
	1	24	24.55	24.44	24.53		1
	12	0	23.33	23.22	23.23	0-2	2
	12	6	23.31	23.21	23.22		2
	12	13	23.29	23.23	23.26		2
	25	0	23.20	23.23	23.18		2
64QAM	1	0	23.68	23.17	23.55	0-2	2
	1	12	23.60	23.28	23.52		2
	1	24	23.70	23.25	23.56		2
	12	0	22.24	22.25	22.23	0-3	3
	12	6	22.26	22.28	22.25		3
	12	13	22.23	22.29	22.26		3
	25	0	22.20	22.16	22.21		3

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

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.13	24.99	24.89	0	0
	1	7	25.00	24.95	24.85		0
	1	14	25.06	25.02	24.91		0
	8	0	24.23	24.16	24.11	0-1	1
	8	4	24.23	24.19	24.20		1
	8	7	24.21	24.22	24.19		1
	15	0	24.25	24.20	24.12		1
16QAM	1	0	24.56	24.67	24.45	0-1	1
	1	7	24.61	24.60	24.40		1
	1	14	24.48	24.67	24.46		1
	8	0	23.27	23.23	23.18	0-2	2
	8	4	23.30	23.25	23.25		2
	8	7	23.27	23.26	23.22		2
	15	0	23.35	23.23	23.17		2
64QAM	1	0	23.67	23.60	23.65	0-2	2
	1	7	23.58	23.65	23.56		2
	1	14	23.65	23.64	23.65		2
	8	0	22.31	22.21	22.15	0-3	3
	8	4	22.31	22.23	22.22		3
	8	7	22.27	22.26	22.19		3
	15	0	22.30	22.25	22.21		3

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

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.96	24.88	24.88	0	0
	1	2	25.01	25.01	24.94		0
	1	5	24.99	24.95	24.89		0
	3	0	25.00	24.86	24.81		0
	3	2	25.01	24.97	24.84		0
	3	3	24.96	24.91	24.82		0
	6	0	24.19	24.13	24.07	0-1	1
16QAM	1	0	24.65	24.57	24.37	0-1	1
	1	2	24.69	24.69	24.43		1
	1	5	24.65	24.63	24.39		1
	3	0	24.33	24.22	24.26		1
	3	2	24.35	24.30	24.26		1
	3	3	24.35	24.27	24.27		1
	6	0	23.27	23.13	23.17	0-2	2
64QAM	1	0	23.26	23.12	23.62	0-2	2
	1	2	23.30	23.24	23.64		2
	1	5	23.25	23.20	23.61		2
	3	0	23.43	23.27	23.31		2
	3	2	23.36	23.36	23.35		2
	3	3	23.41	23.34	23.30		2
	6	0	22.35	22.26	22.04	0-3	3

9.4.2 LTE Band 13

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

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.45	0	0
	1	25	**25.59**		0
	1	49	25.51		0
	25	0	**24.70**	0-1	1
	25	12	24.62		1
	25	25	24.65		1
	50	0	24.58		1
16QAM	1	0	24.66	0-1	1
	1	25	24.70		1
	1	49	24.68		1
	25	0	23.70	0-2	2
	25	12	23.67		2
	25	25	23.66		2
	50	0	23.53		2
64QAM	1	0	23.70	0-2	2
	1	25	23.68		2
	1	49	23.70		2
	25	0	22.69	0-3	3
	25	12	22.68		3
	25	25	22.65		3
	50	0	22.53		3

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

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.39	0	0
	1	12	25.68		0
	1	24	25.61		0
	12	0	24.50	0-1	1
	12	6	24.38		1
	12	13	24.52		1
	25	0	24.57		1
16QAM	1	0	24.60	0-1	1
	1	12	24.47		1
	1	24	24.68		1
	12	0	23.55	0-2	2
	12	6	23.55		2
	12	13	23.65		2
	25	0	23.64		2
64QAM	1	0	23.44	0-2	2
	1	12	23.57		2
	1	24	23.62		2
	12	0	22.50	0-3	3
	12	6	22.60		3
	12	13	22.53		3
	25	0	22.59		3

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

9.4.3 LTE Band 14

Table 9-16
LTE Band 14 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.21	0	0
	1	25	**25.53**		0
	1	49	25.27		0
	25	0	**24.56**	0-1	1
	25	12	24.54		1
	25	25	24.45		1
	50	0	24.53		1
16QAM	1	0	24.70	0-1	1
	1	25	24.69		1
	1	49	24.66		1
	25	0	23.60	0-2	2
	25	12	23.64		2
	25	25	23.51		2
	50	0	23.60		2
64QAM	1	0	23.69	0-2	2
	1	25	23.70		2
	1	49	23.45		2
	25	0	22.63	0-3	3
	25	12	22.63		3
	25	25	22.50		3
	50	0	22.60		3

Table 9-17
LTE Band 14 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.45	0	0
	1	12	25.51		0
	1	24	25.21		0
	12	0	24.67	0-1	1
	12	6	24.44		1
	12	13	24.58		1
	25	0	24.45		1
16QAM	1	0	24.50	0-1	1
	1	12	24.39		1
	1	24	24.30		1
	12	0	23.39	0-2	2
	12	6	23.53		2
	12	13	23.25		2
	25	0	23.42		2
64QAM	1	0	23.61	0-2	2
	1	12	23.50		2
	1	24	23.68		2
	12	0	22.69	0-3	3
	12	6	22.40		3
	12	13	22.65		3
	25	0	22.20		3

Note: LTE Band 14 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.

9.4.1 LTE Band 26

Table 9-18
LTE Band 26 (Cell) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.75	0	0
	1	36	**24.81**		0
	1	74	24.79		0
	36	0	24.46	0-1	1
	36	18	24.45		1
	36	37	**24.50**		1
	75	0	24.42		1
16QAM	1	0	24.66	0-1	1
	1	36	24.69		1
	1	74	24.65		1
	36	0	23.46	0-2	2
	36	18	23.42		2
	36	37	23.58		2
	75	0	23.48		2
64QAM	1	0	23.65	0-2	2
	1	36	23.56		2
	1	74	23.66		2
	36	0	22.50	0-3	3
	36	18	22.56		3
	36	37	22.51		3
	75	0	22.43		3

Note: LTE Band 26 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-19
LTE Band 26 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.04	25.00	24.97	0	0
	1	25	24.93	25.00	25.00		0
	1	49	24.94	24.95	24.89		0
	25	0	24.01	23.95	23.92	0-1	1
	25	12	24.10	24.04	24.06		1
	25	25	24.05	24.05	24.04		1
	50	0	24.02	23.95	23.94		1
16QAM	1	0	24.56	24.57	24.69	0-1	1
	1	25	24.53	24.48	24.65		1
	1	49	24.51	24.56	24.65		1
	25	0	23.01	22.95	22.91	0-2	2
	25	12	23.12	23.07	23.00		2
	25	25	23.06	23.04	23.01		2
	50	0	23.08	22.95	22.93		2
64QAM	1	0	23.65	23.59	23.54	0-2	2
	1	25	23.64	23.67	23.53		2
	1	49	23.51	23.65	23.65		2
	25	0	22.19	22.11	21.95	0-3	3
	25	12	22.29	22.19	22.05		3
	25	25	22.17	22.21	22.07		3
	50	0	22.06	22.01	22.01		3

Table 9-20
LTE Band 26 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.91	24.95	24.97	0	0
	1	12	24.91	25.01	24.97		0
	1	24	24.92	25.02	24.99		0
	12	0	24.16	24.05	24.06	0-1	1
	12	6	24.19	24.13	24.15		1
	12	13	24.09	24.16	24.10		1
	25	0	24.12	24.06	24.11		1
16QAM	1	0	24.47	24.56	24.64	0-1	1
	1	12	24.53	24.54	24.51		1
	1	24	24.41	24.65	24.61		1
	12	0	23.08	23.12	23.07	0-2	2
	12	6	23.15	23.20	23.13		2
	12	13	23.09	23.21	23.06		2
	25	0	23.14	23.09	23.01		2
64QAM	1	0	23.51	23.70	23.35	0-2	2
	1	12	23.61	23.62	23.29		2
	1	24	23.70	23.61	23.38		2
	12	0	22.13	22.09	21.99	0-3	3
	12	6	22.17	22.13	22.03		3
	12	13	22.16	22.16	22.01		3
	25	0	22.21	22.04	22.05		3

Table 9-21
LTE Band 26 (Cell) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.01	24.99	24.98	0	0
	1	7	25.00	24.95	24.91		0
	1	14	25.03	25.08	24.95		0
	8	0	24.23	24.11	24.09	0-1	1
	8	4	24.22	24.16	24.13		1
	8	7	24.23	24.16	24.09		1
	15	0	24.21	24.11	24.08		1
16QAM	1	0	24.64	24.54	24.54	0-1	1
	1	7	24.68	24.59	24.49		1
	1	14	24.67	24.60	24.51		1
	8	0	23.37	23.13	23.21	0-2	2
	8	4	23.38	23.23	23.25		2
	8	7	23.35	23.18	23.23		2
	15	0	23.30	22.99	23.20		2
64QAM	1	0	23.63	23.69	23.51	0-2	2
	1	7	23.65	23.68	23.43		2
	1	14	23.65	23.63	23.45		2
	8	0	22.33	22.08	22.18	0-3	3
	8	4	22.34	22.17	22.22		3
	8	7	22.29	22.17	22.23		3
	15	0	22.31	22.24	22.15		3

Table 9-22
LTE Band 26 (Cell) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.05	24.99	24.95	0	0
	1	2	25.14	25.11	24.99		0
	1	5	25.09	25.05	24.95		0
	3	0	25.11	25.04	24.95		0
	3	2	25.13	25.10	24.97		0
	3	3	25.09	25.08	24.98		0
	6	0	24.23	24.15	24.12	0-1	1
16QAM	1	0	24.51	24.44	24.47	0-1	1
	1	2	24.69	24.57	24.50		1
	1	5	24.65	24.50	24.45		1
	3	0	24.44	23.97	24.36		1
	3	2	24.47	24.12	24.43		1
	3	3	24.45	24.07	24.24		1
	6	0	23.21	23.08	23.11	0-2	2
64QAM	1	0	23.59	23.64	23.38	0-2	2
	1	2	23.67	23.59	23.44		2
	1	5	23.63	23.53	23.40		2
	3	0	23.34	23.35	23.31		2
	3	2	23.39	23.47	23.35		2
	3	3	23.36	23.41	23.36		2
	6	0	22.44	22.40	22.27	0-3	3

9.4.2 LTE Band 5

Table 9-23
LTE Band 5 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.63	0	0
	1	25	**25.66**		0
	1	49	25.52		0
	25	0	24.65	0-1	1
	25	12	24.64		1
	25	25	**24.70**		1
	50	0	24.56		1
16QAM	1	0	24.70	0-1	1
	1	25	24.36		1
	1	49	24.69		1
	25	0	23.67	0-2	2
	25	12	23.66		2
	25	25	23.70		2
	50	0	23.57		2
64QAM	1	0	23.70	0-2	2
	1	25	23.68		2
	1	49	23.69		2
	25	0	22.68	0-3	3
	25	12	22.62		3
	25	25	22.70		3
	50	0	22.54		3

Note: LTE Band 5 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 9-24
LTE Band 5 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.35	25.46	25.47	0	0
	1	12	25.20	25.63	25.45		0
	1	24	25.27	25.54	25.49		0
	12	0	24.40	24.46	24.26	0-1	1
	12	6	24.44	24.57	24.30		1
	12	13	24.44	24.52	24.30		1
	25	0	24.41	24.43	24.29		1
16QAM	1	0	24.10	24.21	24.48	0-1	1
	1	12	24.27	24.48	24.36		1
	1	24	24.51	24.57	24.64		1
	12	0	23.47	23.27	23.36	0-2	2
	12	6	23.57	23.31	23.39		2
	12	13	23.42	23.39	23.44		2
	25	0	23.42	23.25	23.28		2
64QAM	1	0	23.46	23.45	23.35	0-2	2
	1	12	23.66	23.59	23.23		2
	1	24	23.54	23.61	23.49		2
	12	0	22.54	22.35	22.33	0-3	3
	12	6	22.48	22.42	22.42		3
	12	13	22.47	22.43	22.43		3
	25	0	22.39	22.32	22.32		3

Table 9-25
LTE Band 5 (Cell) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.44	25.42	25.48	0	0
	1	7	25.49	25.42	25.30		0
	1	14	25.46	25.59	25.46		0
	8	0	24.38	24.26	24.25	0-1	1
	8	4	24.39	24.40	24.36		1
	8	7	24.38	24.35	24.33		1
	15	0	24.37	24.37	24.40		1
16QAM	1	0	24.43	24.54	24.46	0-1	1
	1	7	24.54	24.31	24.60		1
	1	14	24.46	24.49	24.50		1
	8	0	23.47	23.38	23.40	0-2	2
	8	4	23.47	23.47	23.32		2
	8	7	23.46	23.44	23.41		2
	15	0	23.38	23.30	23.35		2
64QAM	1	0	23.37	23.43	23.41	0-2	2
	1	7	23.70	23.58	23.59		2
	1	14	23.51	23.55	23.37		2
	8	0	22.43	22.47	22.49	0-3	3
	8	4	22.51	22.39	22.48		3
	8	7	22.49	22.50	22.46		3
	15	0	22.44	22.38	22.38		3

Table 9-26
LTE Band 5 (Cell) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.44	25.47	25.33	0	0
	1	2	25.51	25.65	25.42		0
	1	5	25.44	25.54	25.36		0
	3	0	25.53	25.43	25.48		0
	3	2	25.59	25.48	25.47		0
	3	3	25.55	25.47	25.46		0
	6	0	24.34	24.32	24.27	0-1	1
16QAM	1	0	24.46	24.31	24.33	0-1	1
	1	2	24.54	24.57	24.51		1
	1	5	24.45	24.51	24.02		1
	3	0	24.48	24.38	24.35		1
	3	2	24.46	24.48	24.28		1
	3	3	24.33	24.55	24.13		1
	6	0	23.37	23.38	23.29	0-2	2
64QAM	1	0	23.48	23.38	23.31	0-2	2
	1	2	23.64	23.31	23.34		2
	1	5	23.15	23.60	23.38		2
	3	0	23.24	23.42	23.30		2
	3	2	23.64	23.47	23.21		2
	3	3	23.51	23.51	23.37		2
	6	0	22.36	22.32	22.28	0-3	3

9.4.3 LTE Band 66

Table 9-27
LTE Band 66 (AWS) Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.46	24.44	**24.82**	0	0
	1	50	24.56	24.66	24.54		0
	1	99	24.49	24.50	24.63		0
	50	0	23.69	23.63	23.76	0-1	1
	50	25	23.73	23.77	**23.85**		1
	50	50	23.62	23.71	23.78		1
	100	0	23.65	23.58	23.70		1
16QAM	1	0	23.22	23.56	23.83	0-1	1
	1	50	23.43	23.78	23.71		1
	1	99	23.23	23.53	23.53		1
	50	0	22.69	22.64	22.75	0-2	2
	50	25	22.86	22.69	22.80		2
	50	50	22.74	22.71	22.74		2
	100	0	22.77	22.68	22.71		2
64QAM	1	0	22.60	22.61	22.96	0-2	2
	1	50	22.91	22.92	22.98		2
	1	99	22.75	22.87	22.87		2
	50	0	21.76	21.71	21.74	0-3	3
	50	25	21.89	21.81	21.88		3
	50	50	21.79	21.84	21.73		3
	100	0	21.80	21.72	21.70		3

Table 9-28
LTE Band 66 (AWS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.66	24.61	24.81	0	0
	1	36	24.86	24.80	24.76		0
	1	74	24.62	24.66	24.62		0
	36	0	23.39	23.29	23.42	0-1	1
	36	18	23.51	23.37	23.46		1
	36	37	23.40	23.41	23.44		1
	75	0	23.40	23.30	23.36		1
16QAM	1	0	23.55	23.75	23.90	0-1	1
	1	36	23.54	23.91	23.91		1
	1	74	23.45	23.74	23.84		1
	36	0	22.47	22.35	22.49	0-2	2
	36	18	22.59	22.39	22.52		2
	36	37	22.48	22.39	22.48		2
	75	0	22.41	22.26	22.38		2
64QAM	1	0	22.68	22.56	22.85	0-2	2
	1	36	22.89	22.76	22.81		2
	1	74	22.68	22.56	22.74		2
	36	0	21.45	21.33	21.44	0-3	3
	36	18	21.56	21.40	21.46		3
	36	37	21.49	21.44	21.43		3
	75	0	21.47	21.35	21.41		3

Table 9-29
LTE Band 66 (AWS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.68	24.49	24.68	0	0
	1	25	24.91	24.90	24.95		0
	1	49	24.67	24.73	24.65		0
	25	0	23.41	23.24	23.31	0-1	1
	25	12	23.44	23.35	23.38		1
	25	25	23.29	23.36	23.33		1
	50	0	23.35	23.26	23.29		1
16QAM	1	0	23.66	23.57	23.58	0-1	1
	1	25	23.74	23.87	23.81		1
	1	49	23.84	23.74	23.60		1
	25	0	22.48	22.32	22.30	0-2	2
	25	12	22.53	22.38	22.35		2
	25	25	22.41	22.38	22.32		2
	50	0	22.39	22.24	22.26		2
64QAM	1	0	22.79	22.38	22.59	0-2	2
	1	25	23.00	22.72	22.96		2
	1	49	22.83	22.57	22.62		2
	25	0	21.36	21.23	21.39	0-3	3
	25	12	21.44	21.27	21.43		3
	25	25	21.28	21.28	21.35		3
	50	0	21.35	21.24	21.32		3

Table 9-30
LTE Band 66 (AWS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.25	24.39	24.47	0	0
	1	12	24.09	24.46	24.44		0
	1	24	24.24	24.38	24.36		0
	12	0	23.42	23.31	23.38	0-1	1
	12	6	23.37	23.31	23.36		1
	12	13	23.29	23.28	23.29		1
	25	0	23.38	23.30	23.34		1
16QAM	1	0	23.88	23.77	23.82	0-1	1
	1	12	23.81	23.79	23.82		1
	1	24	23.77	23.79	23.91		1
	12	0	22.39	22.46	22.37	0-2	2
	12	6	22.44	22.47	22.35		2
	12	13	22.36	22.47	22.32		2
	25	0	22.36	22.37	22.33		2
64QAM	1	0	22.80	22.68	22.56	0-2	2
	1	12	22.76	22.89	22.50		2
	1	24	22.73	22.72	22.49		2
	12	0	21.45	21.36	21.40	0-3	3
	12	6	21.47	21.34	21.43		3
	12	13	21.37	21.31	21.33		3
	25	0	21.35	21.35	21.34		3

Table 9-31
LTE Band 66 (AWS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.36	24.54	24.37	0	0
	1	7	24.35	24.47	24.31		0
	1	14	24.29	24.53	24.26		0
	8	0	23.42	23.31	23.34	0-1	1
	8	4	23.42	23.35	23.35		1
	8	7	23.37	23.33	23.28		1
	15	0	23.37	23.34	23.34		1
16QAM	1	0	23.74	23.79	23.89	0-1	1
	1	7	23.77	23.79	23.88		1
	1	14	23.78	23.80	23.73		1
	8	0	22.39	22.37	22.28	0-2	2
	8	4	22.37	22.44	22.28		2
	8	7	22.31	22.36	22.19		2
	15	0	22.46	22.36	22.37		2
64QAM	1	0	22.75	22.97	22.73	0-2	2
	1	7	22.64	22.93	22.61		2
	1	14	22.68	22.97	22.61		2
	8	0	21.40	21.41	21.33	0-3	3
	8	4	21.40	21.48	21.29		3
	8	7	21.35	21.42	21.27		3
	15	0	21.44	21.31	21.35		3

Table 9-32
LTE Band 66 (AWS) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.55	24.33	24.55	0	0
	1	2	24.64	24.36	24.55		0
	1	5	24.49	24.28	24.47		0
	3	0	24.44	24.37	24.33		0
	3	2	24.42	24.42	24.36		0
	3	3	24.38	24.35	24.29		0
	6	0	23.35	23.29	23.27	0-1	1
16QAM	1	0	23.75	23.76	23.72	0-1	1
	1	2	23.79	23.80	23.76		1
	1	5	23.67	23.70	23.69		1
	3	0	23.52	23.33	23.39		1
	3	2	23.52	23.41	23.41		1
	3	3	23.47	23.31	23.35		1
	6	0	22.31	22.37	22.33	0-2	2
64QAM	1	0	22.96	22.67	22.81	0-2	2
	1	2	22.97	22.74	22.90		2
	1	5	22.91	22.61	22.75		2
	3	0	22.61	22.30	22.34		2
	3	2	22.59	22.37	22.37		2
	3	3	22.56	22.27	22.35		2
	6	0	21.33	21.25	21.18	0-3	3

Table 9-33
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.15	23.10	23.10	0	0
	1	50	**23.47**	23.40	23.46		0
	1	99	23.33	23.33	23.35		0
	50	0	23.16	23.27	23.22	0-1	0
	50	25	23.25	23.33	23.37		0
	50	50	23.41	23.43	**23.65**		0
	100	0	23.44	23.35	23.35		0
16QAM	1	0	23.84	23.81	23.80	0-1	0
	1	50	23.74	23.80	23.79		0
	1	99	23.67	23.65	23.57		0
	50	0	22.96	22.90	22.93	0-2	1
	50	25	22.87	23.00	22.98		1
	50	50	22.89	22.97	22.96		1
	100	0	22.90	22.89	22.89		1
64QAM	1	0	22.86	22.86	22.98	0-2	1
	1	50	22.89	22.90	22.90		1
	1	99	22.99	22.95	22.98		1
	50	0	21.85	21.89	21.89	0-3	2
	50	25	21.81	21.99	21.88		2
	50	50	21.97	21.89	21.82		2
	100	0	21.96	21.95	21.85		2

Table 9-34
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.19	22.92	23.26	0	0
	1	36	23.34	23.16	23.22		0
	1	74	23.12	22.99	23.07		0
	36	0	23.43	23.32	23.39	0-1	0
	36	18	23.52	23.37	23.43		0
	36	37	23.45	23.40	23.44		0
	75	0	23.42	23.28	23.36		0
16QAM	1	0	23.90	23.79	23.25	0-1	0
	1	36	23.96	23.91	23.79		0
	1	74	23.78	23.77	23.85		0
	36	0	22.73	22.60	22.74	0-2	1
	36	18	22.84	22.66	22.76		1
	36	37	22.76	22.66	22.73		1
	75	0	22.68	22.57	22.61		1
64QAM	1	0	22.72	22.55	22.83	0-2	1
	1	36	22.87	22.78	22.86		1
	1	74	22.68	22.56	22.77		1
	36	0	21.47	21.32	21.48	0-3	2
	36	18	21.58	21.41	21.47		2
	36	37	21.50	21.42	21.45		2
	75	0	21.51	21.35	21.40		2

Table 9-35
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.97	22.99	23.21	0	0
	1	25	23.32	23.33	23.49		0
	1	49	23.06	23.12	23.20		0
	25	0	23.34	23.19	23.28	0-1	0
	25	12	23.41	23.30	23.32		0
	25	25	23.34	23.29	23.26		0
	50	0	23.32	23.18	23.25		0
16QAM	1	0	23.57	23.46	23.76	0-1	0
	1	25	23.83	23.74	23.82		0
	1	49	23.75	23.59	23.71		0
	25	0	22.66	22.45	22.61	0-2	1
	25	12	22.70	22.52	22.66		1
	25	25	22.57	22.51	22.62		1
	50	0	22.53	22.46	22.47		1
64QAM	1	0	22.71	22.72	22.93	0-2	1
	1	25	22.72	22.85	22.99		1
	1	49	22.71	22.96	22.96		1
	25	0	21.54	21.53	21.50	0-3	2
	25	12	21.61	21.57	21.54		2
	25	25	21.51	21.54	21.50		2
	50	0	21.56	21.47	21.50		2

Table 9-36
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.22	23.27	23.33	0	0
	1	12	23.08	23.32	23.32		0
	1	24	23.17	23.25	23.25		0
	12	0	23.38	23.31	23.32	0-1	0
	12	6	23.35	23.28	23.32		0
	12	13	23.26	23.26	23.23		0
	25	0	23.31	23.31	23.27		0
16QAM	1	0	23.80	23.74	23.78	0-1	0
	1	12	23.82	23.78	23.89		0
	1	24	23.96	23.77	23.91		0
	12	0	22.62	22.66	22.61	0-2	1
	12	6	22.61	22.68	22.60		1
	12	13	22.52	22.64	22.51		1
	25	0	22.55	22.58	22.52		1
64QAM	1	0	22.94	22.90	22.74	0-2	1
	1	12	22.94	22.99	22.73		1
	1	24	22.90	22.95	22.68		1
	12	0	21.67	21.57	21.61	0-3	2
	12	6	21.63	21.57	21.62		2
	12	13	21.58	21.55	21.53		2
	25	0	21.54	21.52	21.55		2

Table 9-37
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.34	23.30	23.33	0	0
	1	7	23.33	23.25	23.24		0
	1	14	23.24	23.25	23.18		0
	8	0	23.44	23.28	23.35	0-1	0
	8	4	23.42	23.34	23.36		0
	8	7	23.39	23.29	23.31		0
	15	0	23.39	23.35	23.32		0
16QAM	1	0	23.76	23.76	23.87	0-1	0
	1	7	23.76	23.72	23.84		0
	1	14	23.78	23.79	23.73		0
	8	0	22.63	22.55	22.59	0-2	1
	8	4	22.62	22.63	22.58		1
	8	7	22.55	22.59	22.49		1
	15	0	22.72	22.63	22.63		1
64QAM	1	0	22.92	23.00	22.98	0-2	1
	1	7	22.90	22.94	22.89		1
	1	14	22.89	22.96	22.86		1
	8	0	21.68	21.64	21.58	0-3	2
	8	4	21.63	21.69	21.59		2
	8	7	21.60	21.66	21.51		2
	15	0	21.69	21.64	21.60		2

Table 9-38
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot Mode Active - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.53	23.26	23.36	0	0
	1	2	23.53	23.29	23.39		0
	1	5	23.50	23.21	23.30		0
	3	0	23.33	23.30	23.18		0
	3	2	23.33	23.30	23.19		0
	3	3	23.28	23.27	23.15		0
	6	0	23.42	23.34	23.34	0-1	0
16QAM	1	0	23.77	23.80	23.69	0-1	0
	1	2	23.84	23.83	23.74		0
	1	5	23.77	23.77	23.66		0
	3	0	23.61	23.36	23.45		0
	3	2	23.66	23.40	23.46		0
	3	3	23.54	23.38	23.42		0
	6	0	22.88	22.77	22.85	0-2	1
64QAM	1	0	22.93	22.69	22.91	0-2	1
	1	2	22.98	22.74	22.97		1
	1	5	22.88	22.69	22.86		1
	3	0	22.84	22.55	22.72		1
	3	2	22.79	22.63	22.74		1
	3	3	22.80	22.57	22.71		1
	6	0	21.60	21.66	21.69	0-3	2

Table 9-39
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.87	20.66	20.58	0	0
	1	50	21.04	20.94	20.92		0
	1	99	**21.05**	20.71	20.76		0
	50	0	20.22	20.08	20.02	0-1	1
	50	25	**20.29**	20.05	20.12		1
	50	50	20.11	19.96	20.02		1
	100	0	20.14	19.95	19.99		1
16QAM	1	0	19.79	19.75	19.72	0-1	1
	1	50	20.03	19.92	19.89		1
	1	99	19.88	19.81	19.79		1
	50	0	19.12	19.07	18.95	0-2	2
	50	25	19.25	19.05	19.05		2
	50	50	19.01	18.97	18.99		2
	100	0	19.10	18.97	18.98		2
64QAM	1	0	18.43	18.52	18.40	0-2	2
	1	50	19.07	18.99	18.70		2
	1	99	18.56	18.55	18.32		2
	50	0	18.13	18.10	17.95	0-3	3
	50	25	18.23	18.10	18.09		3
	50	50	17.99	17.94	18.00		3
	100	0	18.10	18.00	18.00		3

Table 9-40
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.96	20.93	21.02	0	0
	1	36	21.10	21.07	20.96		0
	1	74	21.00	20.87	20.92		0
	36	0	20.24	20.21	20.14	0-1	1
	36	18	20.17	20.05	20.15		1
	36	37	20.11	20.00	20.08		1
	75	0	20.13	20.03	20.10		1
16QAM	1	0	19.62	19.68	19.71	0-1	1
	1	36	19.96	19.91	19.86		1
	1	74	20.02	19.78	19.76		1
	36	0	18.77	18.76	18.60	0-2	2
	36	18	18.72	18.70	18.65		2
	36	37	18.67	18.63	18.60		2
	75	0	18.64	18.62	18.61		2
64QAM	1	0	18.71	18.70	18.66	0-2	2
	1	36	18.73	18.82	18.63		2
	1	74	18.60	18.60	18.60		2
	36	0	17.78	17.80	17.62	0-3	3
	36	18	17.66	17.65	17.61		3
	36	37	17.64	17.64	17.60		3
	75	0	17.70	17.70	17.66		3

Table 9-41
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.03	21.09	20.95	0	0
	1	25	21.42	21.38	21.28		0
	1	49	21.21	21.19	21.02		0
	25	0	20.38	20.36	20.21	0-1	1
	25	12	20.47	20.34	20.31		1
	25	25	20.28	20.22	20.18		1
	50	0	20.26	20.25	20.24		1
16QAM	1	0	19.60	19.61	19.60	0-1	1
	1	25	19.85	19.84	19.74		1
	1	49	19.79	19.74	19.61		1
	25	0	18.80	18.83	18.65	0-2	2
	25	12	18.98	18.81	18.83		2
	25	25	18.75	18.69	18.69		2
	50	0	18.77	18.76	18.72		2
64QAM	1	0	18.88	18.90	18.88	0-2	2
	1	25	19.06	19.08	19.02		2
	1	49	18.94	18.81	18.80		2
	25	0	17.85	17.82	17.69	0-3	3
	25	12	18.00	17.81	17.83		3
	25	25	17.78	17.70	17.71		3
	50	0	17.81	17.77	17.79		3

Table 9-42
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.18	21.11	21.06	0	0
	1	12	21.14	21.27	21.02		0
	1	24	21.21	21.20	21.03		0
	12	0	20.42	20.53	20.17	0-1	1
	12	6	20.32	20.48	20.22		1
	12	13	20.22	20.33	20.12		1
	25	0	20.29	20.41	20.15		1
16QAM	1	0	19.95	19.89	19.71	0-1	1
	1	12	19.85	19.88	19.77		1
	1	24	19.90	19.80	19.73		1
	12	0	18.89	18.94	18.81	0-2	2
	12	6	18.92	18.98	18.77		2
	12	13	18.86	18.79	18.61		2
	25	0	18.91	18.78	18.75		2
64QAM	1	0	18.90	18.92	18.81	0-2	2
	1	12	19.21	19.11	18.87		2
	1	24	19.05	18.98	18.76		2
	12	0	17.94	18.02	17.90	0-3	3
	12	6	18.07	18.05	18.00		3
	12	13	17.95	17.92	17.81		3
	25	0	17.96	17.85	17.73		3

Table 9-43
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.11	21.15	21.07	0	0
	1	7	20.98	21.09	20.99		0
	1	14	20.99	21.11	21.00		0
	8	0	20.31	20.34	20.12	0-1	1
	8	4	20.35	20.35	20.16		1
	8	7	20.24	20.25	20.16		1
	15	0	20.29	20.27	20.12		1
16QAM	1	0	19.93	19.93	19.79	0-1	1
	1	7	19.84	19.88	19.64		1
	1	14	19.83	19.85	19.67		1
	8	0	18.91	18.98	18.89	0-2	2
	8	4	19.03	18.98	18.86		2
	8	7	18.90	18.90	18.82		2
	15	0	18.89	18.91	18.74		2
64QAM	1	0	18.90	18.91	18.86	0-2	2
	1	7	18.99	19.04	18.85		2
	1	14	18.96	18.98	18.79		2
	8	0	17.94	17.96	17.83	0-3	3
	8	4	17.90	17.97	17.79		3
	8	7	17.85	17.86	17.77		3
	15	0	18.07	18.03	17.90		3

Table 9-44
LTE Band 66 (AWS) Maximum Conducted Powers During Conditions with 5G NR - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.11	21.14	21.00	0	0
	1	2	21.12	21.22	21.02		0
	1	5	21.02	21.12	20.99		0
	3	0	21.15	21.17	21.08		0
	3	2	21.19	21.20	21.07		0
	3	3	21.17	21.11	20.95		0
	6	0	20.16	20.16	20.03	0-1	1
16QAM	1	0	19.93	19.88	19.70	0-1	1
	1	2	19.84	19.87	19.72		1
	1	5	19.88	19.72	19.69		1
	3	0	20.10	20.10	19.98		1
	3	2	20.08	20.06	20.00		1
	3	3	20.08	20.04	19.93		1
	6	0	18.81	18.77	18.64	0-2	2
64QAM	1	0	19.00	18.99	18.97	0-2	2
	1	2	19.06	19.14	18.95		2
	1	5	19.03	18.93	18.82		2
	3	0	18.99	19.08	18.81		2
	3	2	19.08	19.08	18.85		2
	3	3	18.94	19.00	18.79		2
	6	0	17.80	17.79	17.60	0-3	3

9.4.4 LTE Band 25

Table 9-45
LTE Band 25 (PCS) Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.06	24.12	24.16	0	0
	1	50	24.11	24.15	24.06		0
	1	99	**24.29**	24.18	24.06		0
	50	0	23.99	23.86	23.99	0-1	1
	50	25	23.95	23.76	23.97		1
	50	50	**24.00**	23.90	23.78		1
	100	0	23.98	23.78	23.91		1
16QAM	1	0	23.89	23.70	23.69	0-1	1
	1	50	23.98	23.72	23.89		1
	1	99	23.99	23.79	23.80		1
	50	0	22.86	22.90	22.93	0-2	2
	50	25	22.89	22.83	22.66		2
	50	50	22.84	22.96	22.85		2
	100	0	22.92	22.69	22.69		2
64QAM	1	0	23.00	22.90	22.93	0-2	2
	1	50	22.96	22.76	22.90		2
	1	99	22.95	23.00	22.80		2
	50	0	21.91	21.74	21.92	0-3	3
	50	25	21.89	21.65	21.87		3
	50	50	21.93	21.75	21.71		3
	100	0	21.98	22.00	21.99		3

Table 9-46
LTE Band 25 (PCS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.00	23.98	23.88	0	0
	1	36	24.04	24.09	24.00		0
	1	74	24.15	24.05	24.02		0
	36	0	23.42	23.40	23.43	0-1	1
	36	18	23.54	23.51	23.58		1
	36	37	23.54	23.60	23.67		1
	75	0	23.45	23.51	23.51		1
16QAM	1	0	23.48	23.87	23.85	0-1	1
	1	36	23.98	23.95	23.80		1
	1	74	23.75	23.96	23.74		1
	36	0	22.50	22.42	22.52	0-2	2
	36	18	22.62	22.58	22.67		2
	36	37	22.62	22.64	22.73		2
	75	0	22.49	22.55	22.56		2
64QAM	1	0	22.07	22.52	22.48	0-2	2
	1	36	22.51	22.71	22.61		2
	1	74	22.37	22.82	22.56		2
	36	0	21.40	21.38	21.35	0-3	3
	36	18	21.55	21.54	21.36		3
	36	37	21.56	21.57	21.46		3
	75	0	21.45	21.45	21.20		3

Table 9-47
LTE Band 25 (PCS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.06	23.92	24.13	0	0
	1	25	24.04	24.11	24.14		0
	1	49	24.10	23.97	24.24		0
	25	0	23.48	23.41	23.45	0-1	1
	25	12	23.58	23.61	23.58		1
	25	25	23.51	23.58	23.62		1
	50	0	23.49	23.51	23.51		1
16QAM	1	0	23.55	23.69	23.86	0-1	1
	1	25	23.91	23.85	23.94		1
	1	49	23.67	23.65	23.81		1
	25	0	22.50	22.45	22.42	0-2	2
	25	12	22.61	22.63	22.59		2
	25	25	22.58	22.57	22.62		2
	50	0	22.54	22.50	22.48		2
64QAM	1	0	22.17	22.33	22.88	0-2	2
	1	25	22.42	22.61	22.84		2
	1	49	22.20	22.43	22.88		2
	25	0	21.53	21.47	21.48	0-3	3
	25	12	21.63	21.61	21.56		3
	25	25	21.57	21.58	21.66		3
	50	0	21.54	21.58	21.55		3

Table 9-48
LTE Band 25 (PCS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.02	24.09	24.31	0	0
	1	12	23.95	24.13	24.22		0
	1	24	24.04	24.27	24.31		0
	12	0	23.53	23.48	23.63	0-1	1
	12	6	23.59	23.60	23.67		1
	12	13	23.58	23.62	23.69		1
	25	0	23.53	23.58	23.63		1
16QAM	1	0	23.65	23.99	23.90	0-1	1
	1	12	23.60	23.82	23.81		1
	1	24	23.80	23.91	23.89		1
	12	0	22.59	22.57	22.63	0-2	2
	12	6	22.64	22.70	22.71		2
	12	13	22.66	22.75	22.72		2
	25	0	22.60	22.54	22.65		2
64QAM	1	0	22.71	22.77	22.87	0-2	2
	1	12	22.69	22.89	22.84		2
	1	24	22.77	22.87	22.93		2
	12	0	21.53	21.45	21.68	0-3	3
	12	6	21.57	21.56	21.73		3
	12	13	21.62	21.55	21.73		3
	25	0	21.54	21.53	21.66		3

Table 9-49
LTE Band 25 (PCS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.17	24.16	24.33	0	0
	1	7	24.11	24.15	24.27		0
	1	14	24.22	24.26	24.40		0
	8	0	23.52	23.51	23.59	0-1	1
	8	4	23.59	23.55	23.67		1
	8	7	23.57	23.57	23.67		1
	15	0	23.60	23.58	23.68		1
16QAM	1	0	23.70	23.89	23.82	0-1	1
	1	7	23.73	23.78	24.00		1
	1	14	23.78	23.91	23.96		1
	8	0	22.62	22.45	22.75	0-2	2
	8	4	22.67	22.53	22.82		2
	8	7	22.67	22.53	22.84		2
	15	0	22.61	22.72	22.80		2
64QAM	1	0	22.46	22.66	22.87	0-2	2
	1	7	22.43	22.59	22.87		2
	1	14	22.50	22.67	23.00		2
	8	0	21.51	21.68	21.73	0-3	3
	8	4	21.52	21.72	21.79		3
	8	7	21.55	21.71	21.80		3
	15	0	21.53	21.68	21.63		3

Table 9-50
LTE Band 25 (PCS) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.14	24.19	24.18	0	0
	1	2	24.14	24.28	24.28		0
	1	5	24.07	24.21	24.24		0
	3	0	24.18	24.15	24.26		0
	3	2	24.20	24.17	24.29		0
	3	3	24.17	24.15	24.29		0
	6	0	23.45	23.46	23.66	0-1	1
16QAM	1	0	23.73	23.48	23.70	0-1	1
	1	2	23.78	23.61	23.81		1
	1	5	23.74	23.53	23.79		1
	3	0	23.52	23.57	23.65		1
	3	2	23.54	23.65	23.67		1
	3	3	23.55	23.62	23.69		1
	6	0	22.46	22.64	22.87	0-2	2
64QAM	1	0	22.56	22.92	22.42	0-2	2
	1	2	22.61	22.98	22.54		2
	1	5	22.56	22.96	22.48		2
	3	0	22.43	22.45	22.61		2
	3	2	22.51	22.53	22.67		2
	3	3	22.47	22.50	22.68		2
	6	0	21.50	21.61	21.70	0-3	3

Table 9-51
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.40	23.40	23.53	0	0
	1	50	23.63	23.54	23.50		0
	1	99	23.37	23.49	**23.67**		0
	50	0	23.48	23.49	**23.78**	0-1	0
	50	25	23.61	23.61	23.60		0
	50	50	23.65	23.58	23.77		0
	100	0	23.45	23.46	23.40		0
16QAM	1	0	23.08	23.23	23.32	0-1	0
	1	50	23.24	23.37	23.24		0
	1	99	23.15	23.46	23.36		0
	50	0	22.11	22.06	22.13	0-2	1
	50	25	22.23	22.20	22.15		1
	50	50	22.17	22.20	22.23		1
	100	0	22.10	22.10	22.08		1
64QAM	1	0	22.43	22.35	22.60	0-2	1
	1	50	22.66	22.47	22.67		1
	1	99	22.52	22.45	22.73		1
	50	0	21.16	21.12	21.11	0-3	2
	50	25	21.26	21.24	21.17		2
	50	50	21.24	21.22	21.21		2
	100	0	21.13	21.14	21.11		2

Table 9-52
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.18	23.31	23.36	0	0
	1	36	23.55	23.42	23.45		0
	1	74	23.37	23.39	23.41		0
	36	0	23.47	23.39	23.35	0-1	0
	36	18	23.57	23.52	23.51		0
	36	37	23.56	23.58	23.59		0
	75	0	23.49	23.51	23.43		0
16QAM	1	0	22.68	23.04	22.96	0-1	0
	1	36	23.17	23.18	23.05		0
	1	74	22.98	23.31	23.08		0
	36	0	22.08	22.01	22.02	0-2	1
	36	18	22.19	22.16	22.19		1
	36	37	22.15	22.22	22.25		1
	75	0	22.06	22.06	22.07		1
64QAM	1	0	22.01	22.49	22.36	0-2	1
	1	36	22.40	22.65	22.49		1
	1	74	22.29	22.70	22.57		1
	36	0	21.11	20.95	20.99	0-3	2
	36	18	21.23	21.12	21.16		2
	36	37	21.24	21.18	21.23		2
	75	0	21.13	21.17	21.06		2

Table 9-53
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.17	23.24	23.61	0	0
	1	25	23.46	23.51	23.69		0
	1	49	23.27	23.33	23.73		0
	25	0	23.56	23.49	23.54	0-1	0
	25	12	23.70	23.72	23.68		0
	25	25	23.69	23.67	23.75		0
	50	0	23.65	23.64	23.59		0
16QAM	1	0	22.96	22.90	23.29	0-1	0
	1	25	23.15	23.08	23.43		0
	1	49	22.98	22.88	23.43		0
	25	0	22.30	22.18	22.17	0-2	1
	25	12	22.41	22.38	22.26		1
	25	25	22.37	22.35	22.34		1
	50	0	22.29	22.27	22.22		1
64QAM	1	0	22.52	22.45	22.42	0-2	1
	1	25	22.74	22.77	22.40		1
	1	49	22.58	22.62	22.59		1
	25	0	21.14	21.16	21.13	0-3	2
	25	12	21.25	21.34	21.25		2
	25	25	21.20	21.28	21.31		2
	50	0	21.28	21.26	21.13		2

Table 9-54
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.44	23.42	23.46	0	0
	1	12	23.50	23.54	23.43		0
	1	24	23.55	23.55	23.56		0
	12	0	23.64	23.59	23.72	0-1	0
	12	6	23.70	23.67	23.77		0
	12	13	23.68	23.68	23.81		0
	25	0	23.67	23.68	23.75		0
16QAM	1	0	23.16	23.16	23.06	0-1	0
	1	12	23.16	23.30	22.96		0
	1	24	23.19	23.36	23.12		0
	12	0	22.32	22.25	22.33	0-2	1
	12	6	22.42	22.37	22.40		1
	12	13	22.42	22.38	22.37		1
	25	0	22.29	22.28	22.31		1
64QAM	1	0	22.70	22.27	22.66	0-2	1
	1	12	22.75	22.37	22.67		1
	1	24	22.76	22.50	22.69		1
	12	0	21.26	21.33	21.30	0-3	2
	12	6	21.33	21.45	21.38		2
	12	13	21.34	21.46	21.36		2
	25	0	21.25	21.33	21.30		2

Table 9-55
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.50	23.61	23.59	0	0
	1	7	23.46	23.56	23.53		0
	1	14	23.56	23.69	23.63		0
	8	0	23.63	23.67	23.66	0-1	0
	8	4	23.69	23.74	23.71		0
	8	7	23.65	23.73	23.73		0
	15	0	23.69	23.70	23.74		0
16QAM	1	0	23.12	23.22	23.13	0-1	0
	1	7	23.08	23.23	23.09		0
	1	14	23.21	23.32	23.22		0
	8	0	22.47	22.35	22.44	0-2	1
	8	4	22.51	22.42	22.50		1
	8	7	22.49	22.42	22.50		1
	15	0	22.36	22.35	22.37		1
64QAM	1	0	22.67	22.53	22.58	0-2	1
	1	7	22.59	22.49	22.60		1
	1	14	22.70	22.56	22.74		1
	8	0	21.45	21.30	21.46	0-3	2
	8	4	21.49	21.34	21.52		2
	8	7	21.49	21.33	21.52		2
	15	0	21.30	21.32	21.26		2

Table 9-56
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot Mode Active - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.58	23.59	23.48	0	0
	1	2	23.63	23.64	23.55		0
	1	5	23.59	23.63	23.49		0
	3	0	23.41	23.46	23.52		0
	3	2	23.45	23.51	23.60		0
	3	3	23.44	23.49	23.56		0
	6	0	23.67	23.61	23.63	0-1	0
16QAM	1	0	23.18	23.17	23.15	0-1	0
	1	2	23.32	23.27	23.19		0
	1	5	23.21	23.19	23.15		0
	3	0	23.21	22.73	22.78		0
	3	2	23.27	22.83	22.82		0
	3	3	23.27	22.80	22.79		0
	6	0	22.39	22.21	22.39	0-2	1
64QAM	1	0	22.94	22.38	22.67	0-2	1
	1	2	22.96	22.49	22.73		1
	1	5	22.90	22.40	22.70		1
	3	0	22.15	22.05	22.52		1
	3	2	22.19	22.13	22.59		1
	3	3	22.19	22.08	22.57		1
	6	0	21.34	21.27	21.21	0-3	2

9.4.5 LTE Band 2

Table 9-57
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18700 (1860.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19100 (1900.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.86	20.92	20.89	0	0
	1	50	20.87	20.91	**20.93**		0
	1	99	20.74	20.72	20.74		0
	50	0	19.79	19.83	19.98	0-1	1
	50	25	20.01	19.99	**20.06**		1
	50	50	20.04	19.97	20.01		1
	100	0	19.90	19.90	19.98		1
16QAM	1	0	20.05	20.09	19.97	0-1	1
	1	50	19.85	19.85	19.91		1
	1	99	19.72	19.81	19.74		1
	50	0	18.77	18.86	18.89	0-2	2
	50	25	19.02	19.05	19.06		2
	50	50	18.99	19.02	19.05		2
	100	0	18.89	18.89	18.95		2
64QAM	1	0	19.12	19.13	19.08	0-2	2
	1	50	18.81	18.49	18.47		2
	1	99	18.43	18.53	18.37		2
	50	0	17.86	17.89	17.91	0-3	3
	50	25	18.04	18.03	18.09		3
	50	50	18.04	18.03	18.06		3
	100	0	18.02	17.96	18.06		3

Table 9-58
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18675 (1857.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19125 (1902.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.81	20.86	20.80	0	0
	1	36	20.95	20.87	20.70		0
	1	74	20.92	20.94	20.92		0
	36	0	19.94	19.84	19.87	0-1	1
	36	18	20.08	19.95	19.91		1
	36	37	20.12	19.97	19.99		1
	75	0	20.00	19.89	19.91		1
16QAM	1	0	19.54	19.71	19.73	0-1	1
	1	36	19.84	19.81	19.66		1
	1	74	19.69	19.90	19.90		1
	36	0	19.03	18.92	18.95	0-2	2
	36	18	19.14	19.03	19.05		2
	36	37	19.13	19.00	19.10		2
	75	0	18.98	18.87	18.88		2
64QAM	1	0	18.57	18.85	18.76	0-2	2
	1	36	18.87	18.78	18.90		2
	1	74	18.88	18.76	18.84		2
	36	0	18.09	18.16	18.02	0-3	3
	36	18	18.08	18.12	18.06		3
	36	37	18.17	18.12	18.11		3
	75	0	18.01	18.09	18.00		3

Table 9-59
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18650 (1855.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19150 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.00	20.97	21.28	0	0
	1	25	21.27	21.31	21.23		0
	1	49	21.08	21.11	21.24		0
	25	0	20.19	20.13	20.12	0-1	1
	25	12	20.32	20.21	20.26		1
	25	25	20.20	20.11	20.14		1
	50	0	20.17	20.08	20.09		1
16QAM	1	0	19.97	19.99	20.13	0-1	1
	1	25	20.11	20.02	19.97		1
	1	49	19.93	20.12	19.99		1
	25	0	19.19	19.16	19.12	0-2	2
	25	12	19.36	19.26	19.25		2
	25	25	19.15	19.17	19.12		2
	50	0	19.29	19.23	19.19		2
64QAM	1	0	18.79	18.78	19.08	0-2	2
	1	25	19.06	18.95	18.82		2
	1	49	18.85	18.72	18.84		2
	25	0	18.20	18.13	18.13	0-3	3
	25	12	18.35	18.25	18.22		3
	25	25	18.18	18.07	18.10		3
	50	0	18.26	18.15	18.16		3

Table 9-60
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18625 (1852.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19175 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.14	21.04	21.13	0	0
	1	12	21.09	21.27	21.11		0
	1	24	21.06	21.13	21.21		0
	12	0	20.29	20.24	20.13	0-1	1
	12	6	20.36	20.33	20.26		1
	12	13	20.35	20.35	20.17		1
	25	0	20.24	20.19	20.16		1
16QAM	1	0	20.30	20.23	20.02	0-1	1
	1	12	20.06	20.11	20.06		1
	1	24	20.11	20.08	20.03		1
	12	0	19.26	19.20	19.20	0-2	2
	12	6	19.34	19.34	19.30		2
	12	13	19.23	19.25	19.13		2
	25	0	19.34	19.29	19.28		2
64QAM	1	0	18.69	18.71	18.64	0-2	2
	1	12	18.86	18.80	18.59		2
	1	24	18.76	18.66	18.91		2
	12	0	18.26	18.24	18.21	0-3	3
	12	6	18.29	18.32	18.23		3
	12	13	18.20	18.28	18.16		3
	25	0	18.13	18.17	18.07		3

Table 9-61
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18615 (1851.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19185 (1908.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.19	21.25	21.14	0	0
	1	7	21.14	21.29	21.16		0
	1	14	21.12	21.20	20.94		0
	8	0	20.26	20.30	20.21	0-1	1
	8	4	20.30	20.38	20.26		1
	8	7	20.23	20.22	20.17		1
	15	0	20.31	20.33	20.15		1
16QAM	1	0	20.19	20.31	20.28	0-1	1
	1	7	20.07	20.03	20.01		1
	1	14	20.18	20.19	19.99		1
	8	0	19.26	19.32	19.21	0-2	2
	8	4	19.39	19.38	19.18		2
	8	7	19.27	19.34	19.13		2
	15	0	19.33	19.37	19.27		2
64QAM	1	0	18.85	18.86	18.67	0-2	2
	1	7	18.82	18.80	18.99		2
	1	14	18.78	18.94	18.82		2
	8	0	18.31	18.38	18.26	0-3	3
	8	4	18.31	18.31	18.18		3
	8	7	18.26	18.30	18.15		3
	15	0	18.36	18.35	18.27		3

Table 9-62
LTE Band 2 (PCS) Maximum Conducted Powers During Conditions with 5G NR - 1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18607 (1850.7 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19193 (1909.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.13	21.10	20.97	0	0
	1	2	21.11	21.18	21.04		0
	1	5	21.26	21.06	21.07		0
	3	0	21.26	21.24	21.13		0
	3	2	21.20	21.25	21.22		0
	3	3	21.21	21.26	21.17		0
	6	0	20.18	20.52	20.44	0-1	1
16QAM	1	0	20.00	19.90	19.91	0-1	1
	1	2	20.18	20.18	19.96		1
	1	5	19.93	19.98	19.97		1
	3	0	20.31	20.45	20.24		1
	3	2	20.29	20.29	20.17		1
	3	3	20.25	20.26	20.19		1
	6	0	19.16	19.20	19.08	0-2	2
64QAM	1	0	18.91	18.52	19.01	0-2	2
	1	2	18.83	18.83	18.84		2
	1	5	18.66	18.67	18.92		2
	3	0	19.35	19.21	19.13		2
	3	2	19.37	19.40	19.10		2
	3	3	19.34	19.35	19.07		2
	6	0	18.18	18.19	18.06	0-3	3

9.4.6 LTE Band 30

Table 9-63
LTE Band 30 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.98	0	0
	1	25	**24.05**		0
	1	49	24.03		0
	25	0	23.12	0-1	1
	25	12	**23.19**		1
	25	25	23.15		1
	50	0	23.17		1
16QAM	1	0	23.28	0-1	1
	1	25	23.58		1
	1	49	23.39		1
	25	0	22.12	0-2	2
	25	12	22.20		2
	25	25	22.20		2
	50	0	22.16		2
64QAM	1	0	22.54	0-2	2
	1	25	22.38		2
	1	49	22.34		2
	25	0	21.20	0-3	3
	25	12	21.31		3
	25	25	21.31		3
	50	0	21.17		3

Table 9-64
LTE Band 30 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **27710** **(2310.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	23.93	0	0
	1	12	24.06		0
	1	24	24.20		0
	12	0	23.18	0-1	1
	12	6	23.17		1
	12	13	23.38		1
	25	0	23.02		1
16QAM	1	0	23.25	0-1	1
	1	12	23.72		1
	1	24	23.59		1
	12	0	22.13	0-2	2
	12	6	22.17		2
	12	13	22.15		2
	25	0	22.36		2
64QAM	1	0	22.57	0-2	2
	1	12	22.51		2
	1	24	22.29		2
	12	0	21.14	0-3	3
	12	6	21.55		3
	12	13	21.14		3
	25	0	21.14		3

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-65
LTE Band 30 Maximum Conducted Powers During Conditions with 5G NR - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **27710** **(2310.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	**21.59**	0	0
	1	25	21.44		0
	1	49	21.35		0
	25	0	20.25	0-1	1
	25	12	20.31		1
	25	25	**20.32**		1
	50	0	20.15		1
16QAM	1	0	20.55	0-1	1
	1	25	20.47		1
	1	49	20.27		1
	25	0	19.31	0-2	2
	25	12	19.47		2
	25	25	19.15		2
	50	0	19.20		2
64QAM	1	0	18.74	0-2	2
	1	25	19.16		2
	1	49	19.27		2
	25	0	18.32	0-3	3
	25	12	18.41		3
	25	25	18.25		3
	50	0	18.14		3

Table 9-66
LTE Band 30 Maximum Conducted Powers During Conditions with 5G NR - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	20.90	0	0
	1	12	20.81		0
	1	24	20.84		0
	12	0	20.03	0-1	1
	12	6	20.14		1
	12	13	19.97		1
	25	0	20.07		1
16QAM	1	0	19.79	0-1	1
	1	12	20.05		1
	1	24	20.02		1
	12	0	19.04	0-2	2
	12	6	19.11		2
	12	13	18.94		2
	25	0	19.12		2
64QAM	1	0	19.20	0-2	2
	1	12	19.02		2
	1	24	18.47		2
	12	0	18.09	0-3	3
	12	6	18.17		3
	12	13	18.07		3
	25	0	17.98		3

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

9.4.7 LTE Band 41

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

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.41	24.37	24.43	24.32	24.41	0	0
	1	50	24.33	24.51	24.52	24.69	**24.70**		0
	1	99	24.25	24.66	24.46	24.30	24.62		0
	50	0	23.99	24.04	23.99	24.00	24.00	0-1	1
	50	25	23.95	24.07	24.08	24.06	**24.25**		1
	50	50	23.89	24.13	24.06	23.92	24.17		1
	100	0	23.82	23.97	23.99	24.01	24.10		1
16QAM	1	0	23.53	23.27	23.21	23.23	23.41	0-1	1
	1	50	23.60	23.23	23.73	23.65	24.00		1
	1	99	23.55	23.27	23.47	23.27	23.84		1
	50	0	22.50	22.37	22.47	22.53	22.63	0-2	2
	50	25	22.58	22.45	22.70	22.63	22.84		2
	50	50	22.50	22.38	22.61	22.57	22.78		2
	100	0	22.33	22.37	22.51	22.45	22.65		2
64QAM	1	0	22.25	22.40	22.40	22.18	22.35	0-2	2
	1	50	22.38	22.50	22.52	22.66	22.49		2
	1	99	22.28	22.43	22.20	22.22	22.41		2
	50	0	21.42	21.37	21.40	21.53	21.54	0-3	3
	50	25	21.52	21.48	21.65	21.65	21.77		3
	50	50	21.43	21.43	21.55	21.55	21.72		3
	100	0	21.40	21.38	21.56	21.52	21.72		3

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

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.19	23.95	24.03	24.13	24.13	0	0
	1	36	24.24	24.20	24.35	24.45	24.54		0
	1	74	24.17	23.98	24.26	24.24	24.52		0
	36	0	23.22	23.06	23.28	23.41	23.48	0-1	1
	36	18	23.28	23.22	23.47	23.55	23.64		1
	36	37	23.21	23.13	23.39	23.43	23.57		1
	75	0	23.22	23.13	23.35	23.35	23.52		1
16QAM	1	0	23.29	22.84	23.11	23.20	23.24	0-1	1
	1	36	23.33	23.13	23.46	23.51	23.67		1
	1	74	23.28	22.86	23.39	23.32	23.60		1
	36	0	22.31	22.13	22.35	22.42	22.55	0-2	2
	36	18	22.38	22.29	22.50	22.52	22.69		2
	36	37	22.31	22.17	22.43	22.41	22.64		2
	75	0	22.23	22.13	22.33	22.37	22.52		2
64QAM	1	0	22.42	21.74	22.26	21.94	22.28	0-2	2
	1	36	22.51	22.07	22.60	22.26	22.70		2
	1	74	22.36	21.77	22.43	21.93	22.66		2
	36	0	21.31	21.06	21.33	21.38	21.52	0-3	3
	36	18	21.39	21.23	21.48	21.54	21.68		3
	36	37	21.35	21.10	21.45	21.45	21.64		3
	75	0	21.27	21.14	21.43	21.39	21.58		3

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

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.47	24.14	24.30	24.30	24.54	0	0
	1	25	24.47	24.38	24.60	24.64	24.76		0
	1	49	24.51	24.21	24.43	24.39	24.54		0
	25	0	23.45	23.31	23.52	23.56	23.66	0-1	1
	25	12	23.48	23.47	23.62	23.70	23.76		1
	25	25	23.41	23.33	23.48	23.61	23.61		1
	50	0	23.39	23.37	23.55	23.55	23.67		1
16QAM	1	0	23.48	23.00	23.31	23.39	23.62	0-1	1
	1	25	23.49	23.36	23.61	23.73	23.75		1
	1	49	23.53	23.08	23.42	23.51	23.66		1
	25	0	22.49	22.29	22.55	22.64	22.71	0-2	2
	25	12	22.51	22.41	22.70	22.77	22.81		2
	25	25	22.43	22.29	22.59	22.62	22.66		2
	50	0	22.42	22.35	22.56	22.53	22.69		2
64QAM	1	0	22.92	21.98	22.71	22.21	22.89	0-2	2
	1	25	22.93	22.19	23.05	22.53	22.73		2
	1	49	22.93	21.96	22.81	22.26	22.22		2
	25	0	21.42	21.35	21.48	21.55	21.61	0-3	3
	25	12	21.47	21.42	21.59	21.64	21.71		3
	25	25	21.38	21.34	21.44	21.58	21.58		3
	50	0	21.36	21.36	21.52	21.56	21.61		3

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

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.53	24.42	24.63	24.55	24.73	0	0
	1	12	24.41	24.40	24.57	24.57	24.67		0
	1	24	24.47	24.39	24.58	24.55	24.65		0
	12	0	23.47	23.43	23.60	23.71	23.76	0-1	1
	12	6	23.47	23.45	23.64	23.76	23.77		1
	12	13	23.42	23.39	23.56	23.67	23.72		1
	25	0	23.49	23.47	23.63	23.71	23.75		1
16QAM	1	0	23.95	23.62	24.04	23.61	24.13	0-1	1
	1	12	23.85	23.55	24.00	23.63	24.12		1
	1	24	23.90	23.55	24.03	23.61	24.05		1
	12	0	22.42	22.42	22.58	22.80	22.62	0-2	2
	12	6	22.50	22.43	22.63	22.86	22.73		2
	12	13	22.39	22.35	22.55	22.81	22.68		2
	25	0	22.42	22.43	22.57	22.77	22.70		2
64QAM	1	0	22.40	22.33	22.46	22.83	22.64	0-2	2
	1	12	22.27	22.32	22.40	22.85	22.60		2
	1	24	22.33	22.26	22.42	22.81	22.55		2
	12	0	21.50	21.47	21.63	21.72	21.71	0-3	3
	12	6	21.53	21.47	21.64	21.70	21.74		3
	12	13	21.41	21.39	21.58	21.64	21.69		3
	25	0	21.43	21.45	21.60	21.73	21.68		3

9.4.8 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-71
LTE Uplink Carrier Aggregation Conducted Powers

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	0	LTE B5	5	20453	829.3	2453	874.3	QPSK	1	24	25.40	25.63

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	41490	2680.0	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	25.40	24.41

Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B and LTE CA_41C with a maximum of two component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

Figure 9-4
Power Measurement Setup

9.5 NR Conducted Powers

9.5.1 NR Band n71

Table 9-72
NR Band n71 Conducted Powers - 20 MHz Bandwidth

NR Band n71 20 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM π/2 BPSK	1	1	24.18	0	0.0
	1	53	24.19		0.0
	1	104	23.99		0.0
	50	0	24.00	0-0.5	0.5
	50	28	24.06	0	0.0
	50	56	24.08	0-0.5	0.5
	100	0	24.08		0.5
DFT-s-OFDM QPSK	1	1	**24.09**	0	0.0
	1	53	23.99		0.0
	1	104	23.84		0.0
	50	0	24.07	0-1	1.0
	50	28	**24.08**	0	0.0
	50	56	24.04	0-1	1.0
	100	0	24.06		1.0
DFT-s-OFDM 16QAM CP-OFDM QPSK	1	1	24.34	0-1	1.0
	1	1	24.14	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 9-73
NR Band n71 Conducted Powers - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM π/2 BPSK	1	1	24.13	0	0.0
	1	40	24.14		0.0
	1	77	23.97		0.0
	36	0	24.01	0-0.5	0.5
	36	22	24.02	0	0.0
	36	43	23.99	0-0.5	0.5
	75	0	24.16		0.5
DFT-s-OFDM QPSK	1	1	23.99	0	0.0
	1	40	24.01		0.0
	1	77	23.90		0.0
	36	0	24.09	0-1	1.0
	36	22	24.09	0	0.0
	36	43	24.03	0-1	1.0
	75	0	24.17		1.0
DFT-s-OFDM 16QAM	1	1	24.16	0-1	1.0
CP-OFDM QPSK	1	1	24.06	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.

Table 9-74
NR Band n71 Conducted Powers - 10 MHz Bandwidth

NR Band n71 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133600 (668 MHz)	136100 (680.5 MHz)	138600 (693 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.51	24.25	24.13	0	0.0
	1	26	24.37	24.27	24.09		0.0
	1	50	24.21	24.21	24.08		0.0
	25	0	24.32	24.17	24.11	0-0.5	0.5
	25	14	24.30	24.19	24.13	0	0.0
	25	27	24.25	24.16	24.07	0-0.5	0.5
	50	0	24.30	24.17	24.08		0.5
DFT-s-OFDM QPSK	1	1	24.32	24.04	24.14	0	0.0
	1	26	24.18	24.10	24.04		0.0
	1	50	24.20	24.14	23.94		0.0
	25	0	24.34	24.20	24.13	0-1	1.0
	25	14	24.27	24.13	24.10	0	0.0
	25	27	24.21	24.11	24.08	0-1	1.0
	50	0	24.31	24.17	24.09		1.0
DFT-s-OFDM 16QAM	1	1	24.52	24.22	24.25	0-1	1.0
CP-OFDM QPSK	1	1	24.20	24.19	24.17	0-1.5	1.5

Table 9-75
NR Band n71 Conducted Powers - 5 MHz Bandwidth

NR Band n71 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133100 (665.5 MHz)	136100 (680.5 MHz)	139100 (695.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.34	24.14	24.10	0	0.0
	1	13	24.47	24.24	24.08		0.0
	1	23	24.30	24.22	24.10		0.0
	12	0	24.41	24.14	24.07	0-0.5	0.5
	12	7	24.37	24.13	24.11	0	0.0
	12	13	24.33	24.15	24.08	0-0.5	0.5
	25	0	24.39	24.11	24.05		0.5
DFT-s-OFDM QPSK	1	1	24.56	24.12	24.01	0	0.0
	1	13	24.35	24.30	24.03		0.0
	1	23	24.39	24.19	23.97		0.0
	12	0	24.38	24.12	24.07	0-1	1.0
	12	7	24.41	24.08	24.00	0	0.0
	12	13	24.34	24.18	23.96	0-1	1.0
	25	0	24.38	24.13	23.99		1.0
DFT-s-OFDM 16QAM CP-OFDM QPSK	1	1	24.51	24.24	24.08	0-1	1.0
	1	1	24.20	23.92	23.83	0-1.5	1.5

9.5.2 NR Band n5 (Cell)

Table 9-76
NR Band n5 Conducted Powers - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM π/2 BPSK	1	1	25.16	0	0.0
	1	53	25.00		0.0
	1	104	24.81		0.0
	50	0	24.59	0-0.5	0.5
	50	28	25.07	0	0.0
	50	56	24.47	0-0.5	0.5
	100	0	24.60		0.5
DFT-s-OFDM QPSK	1	1	**24.90**	0	0.0
	1	53	24.78		0.0
	1	104	24.55		0.0
	50	0	24.00	0-1	1.0
	50	28	**25.05**	0	0.0
	50	56	23.91	0-1	1.0
	100	0	24.04		1.0
DFT-s-OFDM 16QAM	1	1	24.03	0-1	1.0
CP-OFDM QPSK	1	1	23.44	0-1.5	1.5

Note: NR Band n5 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 9-77
NR Band n5 Conducted Powers - 15 MHz Bandwidth

NR Band n5 15 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM π/2 BPSK	1	1	25.12	0	0.0
	1	40	25.04		0.0
	1	77	24.90		0.0
	36	0	24.59	0-0.5	0.5
	36	22	25.09	0	0.0
	36	43	24.51	0-0.5	0.5
	75	0	24.68		0.5
DFT-s-OFDM QPSK	1	1	24.84	0	0.0
	1	40	24.89		0.0
	1	77	24.75		0.0
	36	0	24.06	0-1	1.0
	36	22	25.06	0	0.0
	36	43	23.99	0-1	1.0
	75	0	24.13		1.0
DFT-s-OFDM 16QAM	1	1	24.10	0-1	1.0
CP-OFDM QPSK	1	1	23.44	0-1.5	1.5

Note: NR Band n5 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.

Table 9-78
NR Band n5 Conducted Powers - 10 MHz Bandwidth

NR Band n5 10 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM π/2 BPSK	1	1	25.23	0	0.0
	1	26	25.11		0.0
	1	50	25.19		0.0
	25	0	24.73	0-0.5	0.5
	25	14	25.20	0	0.0
	25	27	24.62	0-0.5	0.5
	50	0	24.70		0.5
DFT-s-OFDM QPSK	1	1	25.07	0	0.0
	1	26	24.99		0.0
	1	50	24.91		0.0
	25	0	24.23	0-1	1.0
	25	14	25.16	0	0.0
	25	27	24.10	0-1	1.0
	50	0	24.13		1.0
DFT-s-OFDM 16QAM	1	1	24.24	0-1	1.0
CP-OFDM QPSK	1	1	23.66	0-1.5	1.5

Note: NR Band n5 at 10 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 9-79
NR Band n5 Conducted Powers - 5 MHz Bandwidth

NR Band n5 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	165300 (826.5 MHz)	167300 (836.5 MHz)	169300 (846.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	25.35	25.17	25.03	0	0.0
	1	13	25.37	25.15	24.87		0.0
	1	23	25.27	25.17	24.91		0.0
	12	0	24.88	24.69	24.55	0-0.5	0.5
	12	7	25.39	25.22	25.08	0	0.0
	12	13	24.84	24.68	24.58	0-0.5	0.5
	25	0	24.85	24.65	24.57		0.5
DFT-s-OFDM QPSK	1	1	25.15	24.98	24.80	0	0.0
	1	13	25.14	25.01	24.73		0.0
	1	23	25.12	25.02	24.75		0.0
	12	0	24.25	24.18	24.01	0-1	1.0
	12	7	25.30	25.14	25.00	0	0.0
	12	13	24.22	24.16	24.01	0-1	1.0
	25	0	24.33	24.19	23.97		1.0
DFT-s-OFDM 16QAM	1	1	24.36	24.12	24.08	0-1	1.0
CP-OFDM QPSK	1	1	23.72	23.53	23.36	0-1.5	1.5

9.5.3 NR Band n66 (AWS)

Table 9-80
NR Band n66 (AWS) Maximum Conducted Powers - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.71	24.62	24.53	0	0.0
	1	53	24.70	24.69	24.52		0.0
	1	104	24.61	24.71	24.60		0.0
	50	0	24.66	24.52	23.79	0-0.5	0.5
	50	28	24.74	24.72	24.50	0	0.0
	50	56	24.66	24.67	24.58	0-0.5	0.5
	100	0	24.67	24.60	24.54		0.5
DFT-s-OFDM QPSK	1	1	24.72	**24.75**	24.40	0	0.0
	1	53	24.73	24.74	24.37		0.0
	1	104	24.68	24.37	24.41		0.0
	50	0	24.49	24.50	24.24	0-1	1.0
	50	28	24.64	**24.65**	24.53	0	0.0
	50	56	24.49	24.50	24.34	0-1	1.0
	100	0	24.47	24.50	24.18		1.0
DFT-s-OFDM 16QAM	1	1	24.34	24.50	24.49	0-1	1.0
CP-OFDM QPSK	1	1	23.66	23.96	23.95	0-1.5	1.5

Table 9-81
NR Band n66 (AWS) Maximum Conducted Powers - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.62	24.70	24.55	0	0.0
	1	40	24.69	24.71	24.53		0.0
	1	77	24.71	24.69	24.63		0.0
	36	0	24.60	24.65	24.00	0-0.5	0.5
	36	22	24.69	24.53	24.50	0	0.0
	36	43	24.63	24.64	24.54	0-0.5	0.5
	75	0	24.53	24.69	24.53		0.5
DFT-s-OFDM QPSK	1	1	24.70	24.71	24.59	0	0.0
	1	40	24.61	24.66	24.61		0.0
	1	77	24.66	24.61	24.66		0.0
	36	0	24.50	24.49	24.49	0-1	1.0
	36	22	24.68	24.70	24.50	0	0.0
	36	43	24.49	24.50	24.48	0-1	1.0
	75	0	24.50	24.49	24.26		1.0
DFT-s-OFDM 16QAM	1	1	24.50	24.50	24.43	0-1	1.0
CP-OFDM QPSK	1	1	23.84	23.91	23.89	0-1.5	1.5

Table 9-82
NR Band n66 (AWS) Maximum Conducted Powers - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.66	24.75	24.57	0	0.0
	1	26	24.65	24.78	24.63		0.0
	1	50	24.72	24.72	24.64		0.0
	25	0	24.55	24.65	24.59	0-0.5	0.5
	25	14	24.63	24.62	24.58	0	0.0
	25	27	24.64	24.65	24.58	0-0.5	0.5
	50	0	24.59	24.58	24.55		0.5
DFT-s-OFDM QPSK	1	1	24.70	24.72	24.62	0	0.0
	1	26	24.71	24.75	24.64		0.0
	1	50	24.79	24.77	24.67		0.0
	25	0	24.50	24.50	24.50	0-1	1.0
	25	14	24.63	24.68	24.56	0	0.0
	25	27	24.49	24.50	24.50	0-1	1.0
	50	0	24.47	24.49	24.38		1.0
DFT-s-OFDM 16QAM	1	1	24.48	24.50	24.49	0-1	1.0
CP-OFDM QPSK	1	1	23.69	24.00	23.96	0-1.5	1.5

Table 9-83
NR Band n66 (AWS) Maximum Conducted Powers - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.62	24.73	24.50	0	0.0
	1	13	24.64	24.78	24.61		0.0
	1	23	24.60	24.70	24.55		0.0
	12	0	24.48	24.61	24.46	0-0.5	0.5
	12	7	24.64	24.60	24.65	0	0.0
	12	13	24.48	24.57	24.01	0-0.5	0.5
	25	0	24.58	24.56	24.47		0.5
DFT-s-OFDM QPSK	1	1	24.63	24.71	24.57	0	0.0
	1	13	24.52	24.88	24.70		0.0
	1	23	24.67	24.61	24.58		0.0
	12	0	23.89	24.01	23.82	0-1	1.0
	12	7	24.51	24.80	24.77	0	0.0
	12	13	24.09	24.03	23.66	0-1	1.0
	25	0	24.21	24.49	24.16		1.0
DFT-s-OFDM 16QAM	1	1	24.49	24.50	24.46	0-1	1.0
CP-OFDM QPSK	1	1	23.55	23.93	24.00	0-1.5	1.5

Table 9-84
NR Band n66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.88	21.83	21.92	0	0.0
	1	53	21.90	21.86	21.87		0.0
	1	104	22.00	21.91	21.98		0.0
	50	0	21.92	21.88	21.93	0-0.5	0.0
	50	28	21.95	21.93	21.94	0	0.0
	50	56	21.98	21.93	21.98	0-0.5	0.0
	100	0	21.98	21.95	21.94		0.0
DFT-s-OFDM QPSK	1	1	21.93	21.87	21.93	0	0.0
	1	53	21.89	21.84	21.84		0.0
	1	104	**22.00**	21.95	21.88		0.0
	50	0	21.95	21.98	21.96	0-1	0.0
	50	28	21.97	21.96	21.93	0	0.0
	50	56	**21.99**	21.97	21.97	0-1	0.0
	100	0	21.98	21.96	21.91		0.0
DFT-s-OFDM 16QAM CP-OFDM QPSK	1	1	21.99	22.00	21.98	0-1	0.0
	1	1	22.00	22.00	21.99	0-1.5	0.0

Table 9-85
NR Band n66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.97	21.79	21.96	0	0.0
	1	40	21.99	21.86	21.89		0.0
	1	77	22.05	21.99	21.95		0.0
	36	0	21.89	21.90	21.79	0-0.5	0.0
	36	22	21.90	21.85	21.76	0	0.0
	36	43	21.97	21.95	21.82	0-0.5	0.0
	75	0	21.95	21.92	21.81		0.0
DFT-s-OFDM QPSK	1	1	21.94	21.93	21.96	0	0.0
	1	40	21.93	21.94	21.89		0.0
	1	77	22.08	21.98	21.94		0.0
	36	0	21.89	21.86	21.85	0-1	0.0
	36	22	21.88	21.85	21.82	0	0.0
	36	43	21.97	21.91	21.89	0-1	0.0
	75	0	21.96	21.93	21.91		0.0
DFT-s-OFDM 16QAM	1	1	22.24	22.26	22.21	0-1	0.0
CP-OFDM QPSK	1	1	22.01	21.97	21.96	0-1.5	0.0

Table 9-86
NR Band n66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.18	22.19	21.97	0	0.0
	1	26	22.22	22.15	22.02		0.0
	1	50	22.25	22.16	21.89		0.0
	25	0	22.11	22.03	21.78	0-0.5	0.0
	25	14	22.12	22.10	21.83	0	0.0
	25	27	22.15	22.05	21.79	0-0.5	0.0
	50	0	22.11	22.11	21.82		0.0
DFT-s-OFDM QPSK	1	1	22.01	22.20	21.85	0	0.0
	1	26	22.16	22.21	21.88		0.0
	1	50	22.22	22.17	21.79		0.0
	25	0	22.01	22.07	21.80	0-1	0.0
	25	14	22.04	22.08	21.79	0	0.0
	25	27	22.04	22.09	21.78	0-1	0.0
	50	0	22.02	22.10	21.77		0.0
DFT-s-OFDM 16QAM	1	1	22.35	22.44	22.10	0-1	0.0
CP-OFDM QPSK	1	1	22.22	22.22	21.83	0-1.5	0.0

Table 9-87
NR Band n66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.08	22.12	21.93	0	0.0
	1	13	22.13	22.18	21.97		0.0
	1	23	22.08	22.17	21.92		0.0
	12	0	21.99	22.01	21.87	0-0.5	0.0
	12	7	22.07	22.09	21.85	0	0.0
	12	13	22.04	22.04	21.84	0-0.5	0.0
	25	0	22.03	22.06	21.81		0.0
DFT-s-OFDM QPSK	1	1	22.06	22.08	21.89	0	0.0
	1	13	22.25	22.16	21.89		0.0
	1	23	22.17	22.22	21.88		0.0
	12	0	22.07	22.03	21.76	0-1	0.0
	12	7	22.08	22.09	21.85	0	0.0
	12	13	22.07	22.05	21.88	0-1	0.0
	25	0	22.02	22.00	21.79		0.0
DFT-s-OFDM 16QAM	1	1	22.34	22.39	22.12	0-1	0.0
CP-OFDM QPSK	1	1	22.14	22.15	21.88	0-1.5	0.0

9.5.4 NR Band n2 (PCS)

Table 9-88
NR Band n2 (PCS) Maximum Conducted Powers - 20 MHz Bandwidth

NR Band n2 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376000 (1880 MHz)	380000 (1900 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.96	24.02	23.91	0	0.0
	1	53	23.99	23.94	23.89		0.0
	1	104	23.98	23.91	23.88		0.0
	50	0	24.00	24.02	23.95	0-0.5	0.5
	50	28	24.01	23.97	23.91	0	0.0
	50	56	24.02	23.95	23.90	0-0.5	0.5
	100	0	24.04	23.98	23.95		0.5
DFT-s-OFDM QPSK	1	1	**23.87**	23.86	23.79	0	0.0
	1	53	23.86	23.74	23.77		0.0
	1	104	23.81	23.71	23.80		0.0
	50	0	24.04	23.98	23.92	0-1	1.0
	50	28	**24.05**	23.99	23.96	0	0.0
	50	56	24.03	23.96	23.95	0-1	1.0
	100	0	23.86	23.84	23.83		1.0
DFT-s-OFDM 16QAM	1	1	24.14	24.26	24.12	0-1	1.0
CP-OFDM QPSK	1	1	23.89	23.95	23.87	0-1.5	1.5

Table 9-89
NR Band n2 (PCS) Maximum Conducted Powers - 15 MHz Bandwidth

NR Band n2 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371500 (1857.5 MHz)	376000 (1880 MHz)	380500 (1902.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.05	23.94	23.88	0	0.0
	1	40	24.01	23.93	23.83		0.0
	1	77	24.13	23.88	23.86		0.0
	36	0	23.97	23.95	23.82	0-0.5	0.5
	36	22	23.99	23.91	23.79	0	0.0
	36	43	24.01	23.92	23.84	0-0.5	0.5
	75	0	23.99	23.95	23.85		0.5
DFT-s-OFDM QPSK	1	1	23.98	23.96	23.83	0	0.0
	1	40	23.96	23.83	23.77		0.0
	1	77	24.06	23.84	23.78		0.0
	36	0	24.05	23.95	23.86	0-1	1.0
	36	22	23.98	23.93	23.81	0	0.0
	36	43	24.09	23.92	23.84	0-1	1.0
	75	0	24.03	23.96	23.88		1.0
DFT-s-OFDM 16QAM	1	1	24.01	23.94	23.89	0-1	1.0
CP-OFDM QPSK	1	1	24.00	24.00	23.94	0-1.5	1.5

Table 9-90
NR Band n2 (PCS) Maximum Conducted Powers - 10 MHz Bandwidth

NR Band n2 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371000 (1855 MHz)	376000 (1880 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.11	24.13	23.98	0	0.0
	1	26	24.14	24.15	23.99		0.0
	1	50	24.13	24.01	24.05		0.0
	25	0	24.09	24.02	23.98	0-0.5	0.5
	25	14	24.09	24.00	23.94	0	0.0
	25	27	24.14	24.01	23.88	0-0.5	0.5
	50	0	24.05	24.03	23.90		0.5
DFT-s-OFDM QPSK	1	1	24.06	24.04	23.91	0	0.0
	1	26	24.16	23.99	23.88		0.0
	1	50	24.09	24.00	23.94		0.0
	25	0	24.03	23.97	23.93	0-1	1.0
	25	14	24.07	24.04	23.85	0	0.0
	25	27	24.06	23.96	23.88	0-1	1.0
	50	0	24.13	24.07	23.88		1.0
DFT-s-OFDM 16QAM	1	1	24.08	23.99	23.96	0-1	1.0
CP-OFDM QPSK	1	1	24.00	24.00	23.99	0-1.5	1.5

Table 9-91
NR Band n2 (PCS) Maximum Conducted Powers - 5 MHz Bandwidth

NR Band n2 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	370500 (1852.5 MHz)	376000 (1880 MHz)	381500 (1907.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.16	24.10	23.93	0	0.0
	1	13	24.32	24.23	24.06		0.0
	1	23	24.19	24.18	24.04		0.0
	12	0	24.12	24.00	24.01	0-0.5	0.5
	12	7	24.11	24.01	23.98	0	0.0
	12	13	24.10	24.02	23.99	0-0.5	0.5
	25	0	24.11	23.99	23.95		0.5
DFT-s-OFDM QPSK	1	1	24.06	24.05	23.94	0	0.0
	1	13	24.15	23.98	23.96		0.0
	1	23	24.12	24.00	23.95		0.0
	12	0	24.12	24.03	23.97	0-1	1.0
	12	7	24.14	24.04	24.00	0	0.0
	12	13	24.15	23.99	23.97	0-1	1.0
	25	0	24.13	24.00	23.99		1.0
DFT-s-OFDM 16QAM	1	1	24.11	23.97	24.01	0-1	1.0
CP-OFDM QPSK	1	1	23.99	24.00	23.98	0-1.5	1.5

Table 9-92
NR Band n2 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth

NR Band n2 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376000 (1880 MHz)	380000 (1900 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.50	21.55	21.40	0	0.0
	1	53	21.53	21.49	21.37		0.0
	1	104	21.51	21.40	21.40		0.0
	50	0	21.57	21.48	21.43	0-0.5	0.0
	50	28	21.54	21.47	21.41	0	0.0
	50	56	21.53	21.42	21.40	0-0.5	0.0
	100	0	21.58	21.44	21.44		0.0
DFT-s-OFDM QPSK	1	1	21.37	21.35	21.34	0	0.0
	1	53	**21.41**	21.31	21.23		0.0
	1	104	21.37	21.24	21.26		0.0
	50	0	21.54	21.47	21.43	0-1	0.0
	50	28	21.55	21.51	21.39	0	0.0
	50	56	**21.56**	21.44	21.44	0-1	0.0
	100	0	21.40	21.38	21.39		0.0
DFT-s-OFDM 16QAM	1	1	21.43	21.56	21.47	0-1	0.0
CP-OFDM QPSK	1	1	21.49	21.51	21.52	0-1.5	0.0

Table 9-93
NR Band n2 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth

NR Band n2 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371500 (1857.5 MHz)	376000 (1880 MHz)	380500 (1902.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.54	21.51	21.43	0	0.0
	1	40	21.50	21.43	21.37		0.0
	1	77	21.64	21.46	21.28		0.0
	36	0	21.59	21.48	21.36	0-0.5	0.0
	36	22	21.51	21.45	21.35	0	0.0
	36	43	21.55	21.44	21.36	0-0.5	0.0
	75	0	21.53	21.50	21.39		0.0
DFT-s-OFDM QPSK	1	1	21.54	21.49	21.33	0	0.0
	1	40	21.46	21.34	21.30		0.0
	1	77	21.62	21.42	21.29		0.0
	36	0	21.60	21.50	21.42	0-1	0.0
	36	22	21.56	21.43	21.37	0	0.0
	36	43	21.57	21.47	21.38	0-1	0.0
	75	0	21.58	21.53	21.40		0.0
DFT-s-OFDM 16QAM	1	1	21.61	21.55	21.39	0-1	0.0
CP-OFDM QPSK	1	1	21.58	21.59	21.38	0-1.5	0.0

Table 9-94
NR Band n2 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth

NR Band n2 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371000 (1855 MHz)	376000 (1880 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.62	21.67	21.31	0	0.0
	1	26	21.69	21.70	21.35		0.0
	1	50	21.63	21.59	21.29		0.0
	25	0	21.60	21.64	21.06	0-0.5	0.0
	25	14	21.65	21.65	21.10	0	0.0
	25	27	21.63	21.58	21.12	0-0.5	0.0
	50	0	21.64	21.55	21.08		0.0
DFT-s-OFDM QPSK	1	1	21.69	21.53	21.23	0	0.0
	1	26	21.72	21.60	21.25		0.0
	1	50	21.69	21.51	21.29		0.0
	25	0	21.61	21.49	21.10	0-1	0.0
	25	14	21.67	21.61	21.09	0	0.0
	25	27	21.68	21.46	21.13	0-1	0.0
	50	0	21.64	21.53	21.16		0.0
DFT-s-OFDM 16QAM	1	1	21.40	21.52	21.50	0-1	0.0
CP-OFDM QPSK	1	1	21.48	21.62	21.51	0-1.5	0.0

Table 9-95
NR Band n2 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth

NR Band n2 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	370500 (1852.5 MHz)	376000 (1880 MHz)	381500 (1907.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	21.25	21.29	21.20	0	0.0
	1	13	21.27	21.32	21.22		0.0
	1	23	21.26	21.31	21.24		0.0
	12	0	21.19	21.20	21.18	0-0.5	0.0
	12	7	21.25	21.18	21.22	0	0.0
	12	13	21.21	21.18	21.16	0-0.5	0.0
	25	0	21.19	21.12	21.13		0.0
DFT-s-OFDM QPSK	1	1	21.33	21.27	21.22	0	0.0
	1	13	21.42	21.28	21.22		0.0
	1	23	21.35	21.24	21.23		0.0
	12	0	21.18	21.18	21.27	0-1	0.0
	12	7	21.32	21.23	21.28	0	0.0
	12	13	21.28	21.23	21.37	0-1	0.0
	25	0	21.21	21.17	21.26		0.0
DFT-s-OFDM 16QAM	1	1	21.56	21.43	21.48	0-1	0.0
CP-OFDM QPSK	1	1	21.59	21.56	21.52	0-1.5	0.0

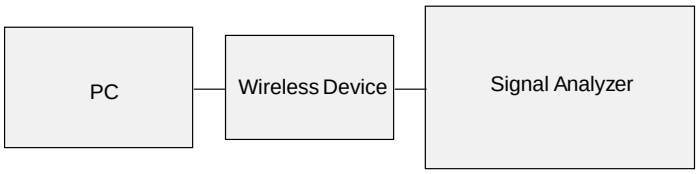


Figure 9-5
Power Measurement Setup

9.6 WLAN Conducted Powers

Table 9-96
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	802.11ac
		Average	Average	Average	Average
2412	1	20.39	17.41	16.33	16.30
2422	3	N/A	19.45	18.25	18.23
2437	6	20.29	19.36	18.15	18.16
2452	9	N/A	19.55	18.31	18.27
2462	11	20.35	17.48	16.39	16.36

Table 9-97
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	802.11ac
		Average	Average	Average	Average
2412	1	20.10	17.68	16.69	16.75
2422	3	N/A	18.55	17.81	17.80
2437	6	20.79	19.25	18.39	18.37
2452	9	N/A	18.50	17.91	17.85
2462	11	20.15	17.22	16.46	16.44

Table 9-98
2.4 GHz WLAN Maximum Average RF Power – MIMO

2.4GHz 802.11g Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	17.41	17.68	20.56
2422	3	19.45	18.55	22.03
2437	6	19.36	19.25	22.32
2452	9	19.55	18.50	22.07
2462	11	17.48	17.22	20.36

Table 9-99
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
		Average	Average	Average
5180	36	15.96	15.81	15.86
5200	40	16.17	16.13	15.97
5220	44	15.96	15.83	15.83
5240	48	15.97	15.92	15.92
5260	52	15.96	15.98	15.96
5280	56	16.47	16.36	16.42
5300	60	16.12	15.96	15.96
5320	64	15.96	15.93	15.85
5500	100	16.19	15.93	15.94
5600	120	16.15	15.97	15.96
5620	124	16.18	15.91	15.94
5720	144	16.14	15.97	15.97
5745	149	16.21	15.98	15.98
5785	157	16.47	16.49	16.48
5825	165	16.49	16.41	16.42

Table 9-100
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
		Average	Average	Average
5180	36	15.53	15.42	15.48
5200	40	15.59	15.55	15.54
5220	44	15.47	15.44	15.56
5240	48	15.45	15.31	15.40
5260	52	15.55	15.43	15.55
5280	56	15.56	15.39	15.42
5300	60	15.51	15.43	15.47
5320	64	15.38	15.21	15.27
5500	100	15.41	15.27	15.42
5600	120	15.23	15.08	15.12
5620	124	15.10	15.03	15.03
5720	144	15.19	15.08	15.07
5745	149	15.02	15.04	15.03
5785	157	15.22	15.18	15.13
5825	165	15.19	15.17	15.16

Table 9-101
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	15.81	15.42	18.63
5200	40	16.13	15.55	18.86
5220	44	15.83	15.44	18.65
5240	48	15.92	15.31	18.64
5260	52	15.98	15.43	18.72
5280	56	16.36	15.39	18.91
5300	60	15.96	15.43	18.71
5320	64	15.93	15.21	18.60
5500	100	15.93	15.27	18.62
5600	120	15.97	15.08	18.56
5620	124	15.91	15.03	18.50
5720	144	15.97	15.08	18.56
5745	149	15.98	15.04	18.55
5785	157	16.49	15.18	18.89
5825	165	16.41	15.17	18.84

Table 9-102
2.4 GHz WLAN Reduced Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	15.63	15.84	15.52	15.66
2437	6	15.69	15.62	15.48	15.78
2462	11	15.84	15.76	15.61	15.52

Table 9-103
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	16.10	16.35	16.17	16.12
2437	6	16.03	16.22	16.03	16.11
2462	11	16.07	16.37	16.24	16.23

Table 9-104
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	14.96	14.97
5230	46	14.80	14.83
5270	54	15.29	15.34
5310	62	14.22	14.23
5510	102	13.46	13.44
5550	110	14.97	14.97
5590	118	14.96	14.96
5630	126	15.23	15.27
5710	142	15.24	15.21
5755	151	15.29	15.32
5795	159	14.94	14.96

Table 9-105
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	15.41	15.46
5230	46	15.24	15.28
5270	54	15.43	14.84
5310	62	14.30	14.35
5510	102	13.74	13.76
5550	110	15.23	15.26
5590	118	15.12	15.07
5630	126	15.11	15.16
5710	142	15.18	15.09
5755	151	15.20	15.18
5795	159	15.49	15.48

Table 9-106
5 GHz WLAN Reduced Average RF Power – MIMO

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5190	38	14.96	15.41	18.20
5230	46	14.80	15.24	18.04
5270	54	15.29	15.43	18.37
5310	62	14.22	14.30	17.27
5510	102	13.46	13.74	16.61
5550	110	14.97	15.23	18.11
5590	118	14.96	15.12	18.05
5630	126	15.23	15.11	18.18
5710	142	15.24	15.18	18.22
5755	151	15.29	15.20	18.26
5795	159	14.94	15.49	18.23

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.

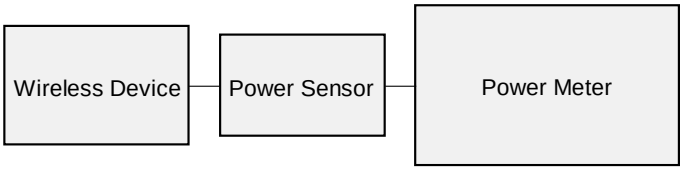


Figure 9-6
Power Measurement Setup

9.7 Bluetooth Conducted Powers

Table 9-107
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	10.51	11.246
2441	1.0	39	12.24	16.749
2480	1.0	78	10.39	10.940
2402	2.0	0	9.86	9.683
2441	2.0	39	11.58	14.388
2480	2.0	78	9.78	9.506
2402	3.0	0	9.92	9.817
2441	3.0	39	11.64	14.588
2480	3.0	78	9.79	9.528

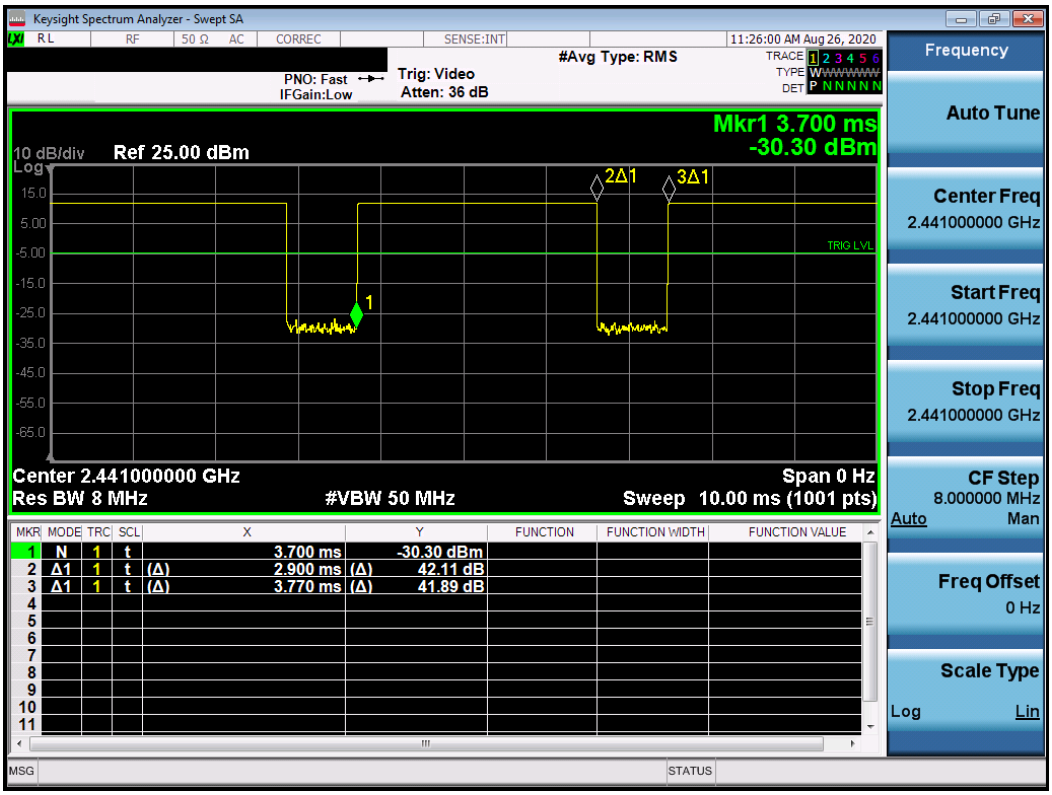


Figure 9-7
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$\boldsymbol{Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.90ms}{3.77ms} * 100\% = 76.9\%}$$

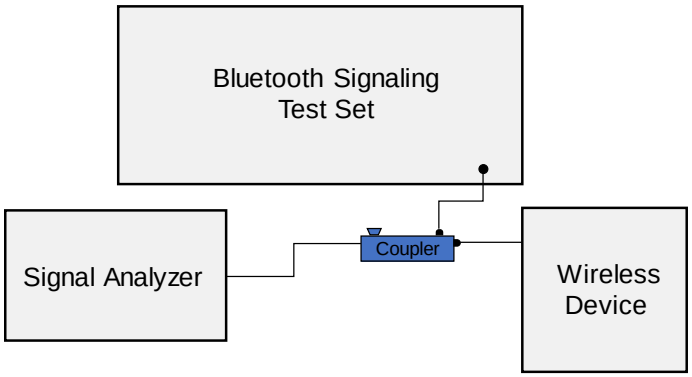


Figure 9-8
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties (1 of 2)

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
09/22/2020	750 Head	21.5	680	0.875	40.657	0.888	42.305	-1.46%	-3.90%
			695	0.880	40.620	0.889	42.227	-1.01%	-3.81%
			740	0.891	40.494	0.893	41.994	-0.22%	-3.57%
			755	0.896	40.444	0.894	41.916	0.22%	-3.51%
09/25/2020	750 Head	21.4	680	0.876	41.775	0.888	42.305	-1.35%	-1.25%
			695	0.880	41.734	0.889	42.227	-1.01%	-1.17%
			700	0.882	41.720	0.889	42.201	-0.79%	-1.14%
			710	0.885	41.696	0.890	42.149	-0.56%	-1.07%
			720	0.888	41.667	0.891	42.097	-0.34%	-1.02%
			725	0.890	41.653	0.891	42.071	-0.11%	-0.99%
			740	0.896	41.610	0.893	41.994	0.34%	-0.91%
			755	0.902	41.569	0.894	41.916	0.89%	-0.83%
			770	0.907	41.524	0.895	41.838	1.34%	-0.75%
			785	0.912	41.481	0.896	41.760	1.79%	-0.67%
			800	0.917	41.437	0.897	41.682	2.23%	-0.59%
09/22/2020	835 Head	21.7	820	0.876	40.576	0.899	41.578	-2.56%	-2.41%
			835	0.890	40.380	0.900	41.500	-1.11%	-2.70%
			850	0.903	40.199	0.916	41.500	-1.42%	-3.13%
09/24/2020	835 Head	21.5	820	0.875	40.722	0.899	41.578	-2.67%	-2.06%
			835	0.890	40.516	0.900	41.500	-1.11%	-2.37%
			850	0.904	40.331	0.916	41.500	-1.31%	-2.82%
09/29/2020	835 Head	21.1	820	0.936	43.346	0.899	41.578	4.12%	4.25%
			835	0.942	43.294	0.900	41.500	4.67%	4.32%
			850	0.948	43.257	0.916	41.500	3.49%	4.23%
09/30/2020	835 Head	21.8	820	0.936	43.346	0.899	41.578	4.12%	4.25%
			835	0.941	43.307	0.900	41.500	4.56%	4.35%
			850	0.946	43.266	0.916	41.500	3.28%	4.26%
10/02/2020	835 Head	21.7	820	0.939	43.009	0.899	41.578	4.45%	3.44%
			835	0.945	42.974	0.900	41.500	5.00%	3.55%
			850	0.950	42.920	0.916	41.500	3.71%	3.42%
09/18/2020	1750 Head	20.9	1710	1.307	39.364	1.348	40.142	-3.04%	-1.94%
			1750	1.339	39.194	1.371	40.079	-2.33%	-2.21%
			1790	1.379	39.030	1.394	40.016	-1.08%	-2.46%
09/21/2020	1750 Head	20.7	1710	1.306	38.877	1.348	40.142	-3.12%	-3.15%
			1750	1.342	38.703	1.371	40.079	-2.12%	-3.43%
			1790	1.379	38.534	1.394	40.016	-1.08%	-3.70%
09/29/2020	1750 Head	20.9	1710	1.305	39.038	1.348	40.142	-3.19%	-2.75%
			1750	1.339	38.888	1.371	40.079	-2.33%	-2.97%
			1790	1.377	38.734	1.394	40.016	-1.22%	-3.20%

Table 10-2
Measured Head Tissue Properties (2 of 2)

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
09/23/2020	1900 Head	23.1	1850	1.381	39.015	1.400	40.000	-1.36%	-2.46%
			1880	1.409	38.908	1.400	40.000	0.64%	-2.73%
			1910	1.436	38.798	1.400	40.000	2.57%	-3.01%
09/28/2020	1900 Head	22.5	1850	1.398	38.801	1.400	40.000	-0.14%	-3.00%
			1880	1.427	38.686	1.400	40.000	1.93%	-3.29%
			1910	1.452	38.582	1.400	40.000	3.71%	-3.55%
09/28/2020	1900 Head	21.4	1850	1.425	40.808	1.400	40.000	1.79%	2.02%
			1860	1.431	40.793	1.400	40.000	2.21%	1.98%
			1880	1.443	40.771	1.400	40.000	3.07%	1.93%
			1900	1.456	40.754	1.400	40.000	4.00%	1.88%
			1905	1.460	40.750	1.400	40.000	4.29%	1.88%
			1910	1.463	40.745	1.400	40.000	4.50%	1.86%
09/25/2020	2450 Head	25.0	2300	1.637	39.875	1.670	39.500	-1.98%	0.95%
			2310	1.648	39.837	1.679	39.480	-1.85%	0.90%
			2320	1.659	39.797	1.687	39.460	-1.66%	0.85%
			2600	1.986	38.727	1.964	39.009	1.12%	-0.72%
			2650	2.043	38.531	2.018	38.945	1.24%	-1.06%
			2700	2.105	38.320	2.073	38.882	1.54%	-1.45%
09/29/2020	2450 Head	22.8	2400	1.793	38.870	1.756	39.289	2.11%	-1.07%
			2450	1.827	38.791	1.800	39.200	1.50%	-1.04%
			2480	1.849	38.746	1.833	39.162	0.87%	-1.06%
10/02/2020	2450 Head	22.6	2400	1.789	38.394	1.756	39.289	1.88%	-2.28%
			2450	1.830	38.329	1.800	39.200	1.67%	-2.22%
			2480	1.852	38.291	1.833	39.162	1.04%	-2.22%
09/28/2020	5200-5800 Head	22.8	5250	4.494	35.188	4.706	35.929	-4.50%	-2.06%
			5270	4.514	35.142	4.727	35.906	-4.51%	-2.13%
			5550	4.788	34.828	5.014	35.586	-4.51%	-2.13%
			5600	4.839	34.706	5.065	35.529	-4.46%	-2.32%
			5710	4.947	34.529	5.178	35.403	-4.46%	-2.47%
			5750	5.001	34.562	5.219	35.357	-4.18%	-2.25%
			5755	5.003	34.556	5.224	35.351	-4.23%	-2.25%
			5795	5.031	34.428	5.265	35.305	-4.44%	-2.48%

Table 10-3
Measured Body Tissue Properties (1 of 2)

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
09/23/2020	750 Body	21.7	740	0.963	54.942	0.963	55.570	0.00%	-1.13%
			755	0.969	54.908	0.964	55.512	0.52%	-1.09%
			770	0.974	54.877	0.965	55.453	0.93%	-1.04%
			785	0.980	54.851	0.966	55.395	1.45%	-0.98%
			800	0.985	54.824	0.967	55.336	1.86%	-0.93%
09/25/2020	750 Body	21.8	680	0.940	53.956	0.958	55.804	-1.88%	-3.31%
			695	0.944	53.922	0.959	55.745	-1.56%	-3.27%
			740	0.961	53.832	0.963	55.570	-0.21%	-3.13%
			755	0.967	53.797	0.964	55.512	0.31%	-3.09%
09/30/2020	750 Body	21.1	680	0.953	54.269	0.958	55.804	-0.52%	-2.75%
			695	0.958	54.239	0.959	55.745	-0.10%	-2.70%
			700	0.960	54.237	0.959	55.726	0.10%	-2.67%
			710	0.963	54.189	0.960	55.687	0.31%	-2.69%
			725	0.967	54.160	0.961	55.629	0.62%	-2.64%
			740	0.974	54.150	0.963	55.570	1.14%	-2.56%
			755	0.980	54.099	0.964	55.512	1.66%	-2.55%
09/30/2020	750 Body	21.3	680	0.969	54.129	0.958	55.804	1.15%	-3.00%
			695	0.974	54.102	0.959	55.745	1.56%	-2.95%
			740	0.989	53.996	0.963	55.570	2.70%	-2.83%
			755	0.995	53.958	0.964	55.512	3.22%	-2.80%
09/23/2020	835 Body	22.5	820	0.987	54.524	0.969	55.258	1.86%	-1.33%
			835	0.993	54.480	0.970	55.200	2.37%	-1.30%
			850	1.000	54.436	0.988	55.154	1.21%	-1.30%
09/24/2020	835 Body	20.8	820	1.008	53.406	0.969	55.258	4.02%	-3.35%
			835	1.014	53.355	0.970	55.200	4.54%	-3.34%
			850	1.021	53.328	0.988	55.154	3.34%	-3.31%
09/25/2020	835 Body	20.6	820	0.986	54.783	0.969	55.258	1.75%	-0.86%
			835	0.992	54.730	0.970	55.200	2.27%	-0.85%
			850	0.998	54.700	0.988	55.154	1.01%	-0.82%
09/28/2020	835 Body	21.3	820	0.938	54.756	0.969	55.258	-3.20%	-0.91%
			835	0.954	54.606	0.970	55.200	-1.65%	-1.08%
			850	0.970	54.443	0.988	55.154	-1.82%	-1.29%
09/28/2020	835 Body	21.7	820	1.003	53.792	0.969	55.258	3.51%	-2.65%
			835	1.010	53.737	0.970	55.200	4.12%	-2.65%
			850	1.016	53.689	0.988	55.154	2.83%	-2.66%
09/22/2020	1750 Body	19.6	1710	1.467	52.215	1.463	53.537	0.27%	-2.47%
			1750	1.505	52.063	1.488	53.432	1.14%	-2.56%
			1790	1.544	51.935	1.514	53.326	1.98%	-2.61%
09/24/2020	1750 Body	20.8	1710	1.483	51.953	1.463	53.537	1.37%	-2.96%
			1750	1.510	51.895	1.488	53.432	1.48%	-2.88%
			1790	1.539	51.816	1.514	53.326	1.65%	-2.83%
09/28/2020	1750 Body	21.1	1710	1.456	52.219	1.463	53.537	-0.48%	-2.46%
			1750	1.494	52.105	1.488	53.432	0.40%	-2.48%
			1790	1.533	51.987	1.514	53.326	1.25%	-2.51%
09/30/2020	1750 Body	21.3	1710	1.473	52.384	1.463	53.537	0.68%	-2.15%
			1750	1.498	52.327	1.488	53.432	0.67%	-2.07%
			1790	1.526	52.282	1.514	53.326	0.79%	-1.96%
10/04/2020	1750 Body	22.0	1710	1.501	52.269	1.463	53.537	2.60%	-2.37%
			1750	1.528	52.206	1.488	53.432	2.69%	-2.29%
			1790	1.559	52.164	1.514	53.326	2.97%	-2.18%

Table 10-4
Measured Body Tissue Properties (2 of 2)

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
09/22/2020	1900 Body	21.8	1850	1.542	51.128	1.520	53.300	1.45%	-4.08%
			1880	1.565	51.101	1.520	53.300	2.96%	-4.13%
			1910	1.583	51.076	1.520	53.300	4.14%	-4.17%
09/24/2020	1900 Body	21.9	1850	1.485	51.710	1.520	53.300	-2.30%	-2.98%
			1880	1.519	51.596	1.520	53.300	-0.07%	-3.20%
			1910	1.552	51.477	1.520	53.300	2.11%	-3.42%
09/28/2020	1900 Body	23.6	1850	1.557	51.157	1.520	53.300	2.43%	-4.02%
			1880	1.577	51.120	1.520	53.300	3.75%	-4.09%
			1910	1.595	51.083	1.520	53.300	4.93%	-4.16%
10/01/2020	1900 Body	22.1	1850	1.546	53.365	1.520	53.300	1.71%	0.12%
			1880	1.567	53.325	1.520	53.300	3.09%	0.05%
			1910	1.586	53.293	1.520	53.300	4.34%	-0.01%
10/04/2020	1900 Body	24.6	1850	1.487	52.878	1.520	53.300	-2.17%	-0.79%
			1860	1.498	52.849	1.520	53.300	-1.45%	-0.85%
			1880	1.518	52.781	1.520	53.300	-0.13%	-0.97%
			1900	1.540	52.713	1.520	53.300	1.32%	-1.10%
			1905	1.546	52.694	1.520	53.300	1.71%	-1.14%
			1910	1.552	52.677	1.520	53.300	2.11%	-1.17%
09/15/2020	2450 Body	22.8	2400	1.933	50.705	1.902	52.767	1.63%	-3.91%
			2450	1.989	50.544	1.950	52.700	2.00%	-4.09%
			2480	2.023	50.454	1.993	52.662	1.51%	-4.19%
09/19/2020	2450 Body	24.0	2300	1.887	51.335	1.809	52.900	4.31%	-2.96%
			2310	1.896	51.325	1.816	52.887	4.41%	-2.95%
			2320	1.905	51.319	1.826	52.873	4.33%	-2.94%
09/20/2020	2450 Body	22.8	2600	2.207	50.517	2.163	52.509	2.03%	-3.79%
			2650	2.267	50.360	2.234	52.445	1.48%	-3.98%
			2700	2.328	50.199	2.305	52.382	1.00%	-4.17%
09/21/2020	2450 Body	24.0	2400	1.956	51.995	1.902	52.767	2.84%	-1.46%
			2450	2.014	51.864	1.950	52.700	3.28%	-1.59%
			2480	2.046	51.778	1.993	52.662	2.66%	-1.68%
09/22/2020	5200-5800 Body	24.1	5250	5.418	48.595	5.358	48.947	1.12%	-0.72%
			5280	5.453	48.541	5.393	48.906	1.11%	-0.75%
			5500	5.746	48.196	5.650	48.607	1.70%	-0.85%
			5600	5.889	48.045	5.766	48.471	2.13%	-0.88%
09/30/2020	5200-5800 Body	22.5	5200	5.382	48.690	5.299	49.014	1.57%	-0.66%
			5250	5.462	48.612	5.358	48.947	1.94%	-0.68%
			5280	5.489	48.566	5.393	48.906	1.78%	-0.70%
			5500	5.793	48.195	5.650	48.607	2.53%	-0.85%
			5600	5.920	48.039	5.766	48.471	2.67%	-0.89%
			5750	6.125	47.813	5.942	48.268	3.08%	-0.94%
			5785	6.170	47.758	5.982	48.220	3.14%	-0.96%
			5825	6.229	47.717	6.029	48.166	3.32%	-0.93%

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.

10.2 Test System Verification

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

Table 10-5
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)	$Deviation_{1g}$ (%)
AM7	750	HEAD	09/22/2020	20.9	21.5	0.200	1034	7490	1.690	8.320	8.450	1.56%
AM8	750	HEAD	09/25/2020	22.1	21.3	0.200	1034	7532	1.660	8.320	8.300	-0.24%
AM1	835	HEAD	09/22/2020	22.2	20.6	0.200	4d040	7427	1.840	9.500	9.200	-3.16%
AM1	835	HEAD	09/24/2020	22.4	21.2	0.200	4d040	7427	1.980	9.500	9.900	4.21%
L	835	HEAD	09/30/2020	22.7	21.7	0.200	4d132	7406	1.920	9.650	9.600	-0.52%
L	835	HEAD	10/02/2020	22.9	21.8	0.200	4d132	7406	1.960	9.650	9.800	1.55%
AM4	850	HEAD	09/29/2020	22.7	20.7	0.200	1009	7421	2.140	10.100	10.700	5.94%
AM8	1750	HEAD	09/18/2020	20.5	20.7	0.100	1083	7532	3.710	36.100	37.100	2.77%
AM8	1750	HEAD	09/21/2020	20.7	20.7	0.100	1092	7532	3.600	36.100	36.000	-0.28%
AM1	1750	HEAD	09/29/2020	22.0	21.0	0.100	1092	7427	3.660	36.100	36.600	1.39%
AM8	1900	HEAD	09/23/2020	23.5	21.1	0.100	5d026	7532	3.850	40.200	38.500	-4.23%
AM1	1900	HEAD	09/28/2020	21.9	22.0	0.100	5d030	7427	3.990	39.900	39.900	0.00%
L	1900	HEAD	09/28/2020	21.9	21.5	0.100	5d148	7406	4.060	39.100	40.600	3.84%
AM4	2300	HEAD	09/25/2020	23.0	23.7	0.100	1038	7421	5.070	49.300	50.700	2.84%
E	2450	HEAD	09/29/2020	23.1	22.8	0.100	981	3589	5.190	52.300	51.900	-0.76%
E	2450	HEAD	10/02/2020	23.1	22.9	0.100	981	3589	5.350	52.300	53.500	2.29%
AM4	2600	HEAD	09/25/2020	23.0	23.7	0.100	1042	7421	6.030	57.700	60.300	4.51%
K2	5250	HEAD	09/28/2020	22.5	22.8	0.050	1120	7402	3.900	80.300	78.000	-2.86%
K2	5600	HEAD	09/28/2020	22.5	22.8	0.050	1120	7402	4.090	83.600	81.800	-2.15%
K2	5750	HEAD	09/28/2020	22.5	22.8	0.050	1120	7402	3.940	80.400	78.800	-1.99%

Table 10-6
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)	$Deviation_{1g}$ (%)
AM3	750	BODY	09/23/2020	21.9	21.6	0.200	1034	7491	1.730	8.570	8.650	0.93%
AM3	750	BODY	09/25/2020	22.3	21.9	0.200	1034	7491	1.740	8.570	8.700	1.52%
AM6	750	BODY	09/30/2020	20.0	19.9	0.200	1034	3837	1.800	8.570	9.000	5.02%
AM7	750	BODY	09/30/2020	22.7	21.4	0.200	1034	7490	1.700	8.570	8.500	-0.82%
AM7	835	BODY	09/24/2020	23.3	21.1	0.200	4d040	7490	1.990	9.530	9.950	4.41%
P	835	BODY	09/28/2020	22.0	21.5	0.200	4d132	7308	1.880	9.960	9.400	-5.62%
AM6	835	BODY	09/28/2020	24.5	22.1	0.200	4d040	3837	2.070	9.530	10.350	8.60%
AM6	850	BODY	09/23/2020	22.3	22.5	0.200	1009	3837	2.050	10.000	10.250	2.50%
AM6	850	BODY	09/25/2020	25.0	21.8	0.200	1009	3837	2.170	10.000	10.850	8.50%
AM5	1750	BODY	09/22/2020	20.1	19.4	0.100	1083	7416	3.780	37.100	37.800	1.89%
AM7	1750	BODY	09/24/2020	23.3	21.1	0.100	1083	7490	3.590	37.100	35.900	-3.23%
AM2	1750	BODY	09/28/2020	18.9	20.5	0.100	1083	7420	3.940	37.100	39.400	6.20%
AM7	1750	BODY	10/04/2020	20.1	20.7	0.100	1083	7490	3.810	37.100	38.100	2.70%
AM4	1900	BODY	09/22/2020	23.4	23.8	0.100	5d180	7421	4.210	39.000	42.100	7.95%
AM4	1900	BODY	09/24/2020	21.5	23.0	0.100	5d030	7421	4.250	39.900	42.500	6.52%
AM7	1900	BODY	09/28/2020	23.1	21.7	0.100	5d030	7490	4.040	39.900	40.400	1.25%
AM6	1900	BODY	10/01/2020	21.1	20.4	0.100	5d030	3837	4.220	39.900	42.200	5.76%
J	1900	BODY	10/04/2020	21.3	22.6	0.100	5d080	7571	4.100	39.200	41.000	4.59%
AM4	2300	BODY	09/19/2020	22.5	23.5	0.100	1038	7421	4.880	46.700	48.800	4.50%
K2	2450	BODY	09/15/2020	22.0	22.8	0.100	882	7402	5.330	51.500	53.300	3.50%
K	2450	BODY	09/21/2020	23.2	23.1	0.100	981	7409	5.240	50.900	52.400	2.95%
AM1	2600	BODY	09/20/2020	21.1	21.0	0.100	1009	7427	5.780	55.500	57.800	4.14%
G	5250	BODY	09/30/2020	22.4	22.5	0.050	1237	7538	3.670	75.600	73.400	-2.91%
G	5600	BODY	09/30/2020	22.4	22.5	0.050	1237	7538	4.000	78.500	80.000	1.91%
G	5750	BODY	09/30/2020	22.4	22.5	0.050	1237	7538	3.710	75.900	74.200	-2.24%

Table 10-7
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)	$Deviation_{10g}$ (%)
AM7	1750	BODY	09/30/2020	20.3	21.0	0.100	1092	7490	1.900	19.400	19.000	-2.06%
AM7	1900	BODY	09/28/2020	23.1	21.7	0.100	5d030	7490	2.100	21.100	21.000	-0.47%
J	1900	BODY	10/04/2020	21.3	22.6	0.100	5d080	7571	2.110	20.600	21.100	2.43%
G	5250	BODY	09/22/2020	23.5	24.1	0.050	1237	7538	1.010	21.200	20.200	-4.72%
G	5600	BODY	09/22/2020	23.5	24.1	0.050	1237	7538	1.090	22.000	21.800	-0.91%

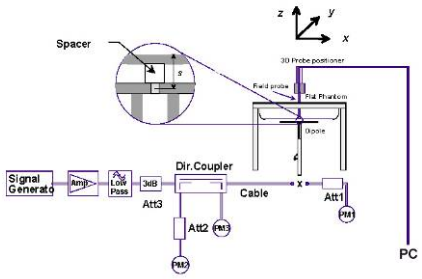


Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
CDMA BC10 (§90S) 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)	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.7	25.64	0.00	Right	Cheek	92679	1:1	0.158	1.014	0.160	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.7	25.64	0.13	Right	Tilt	92679	1:1	0.080	1.014	0.081	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.7	25.64	-0.03	Left	Cheek	92679	1:1	0.155	1.014	0.157	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.7	25.64	0.11	Left	Tilt	92679	1:1	0.086	1.014	0.087	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.7	25.61	0.04	Right	Cheek	92679	1:1	0.165	1.021	0.168	A1
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.7	25.61	0.08	Right	Tilt	92679	1:1	0.081	1.021	0.083	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.7	25.61	-0.01	Left	Cheek	92679	1:1	0.156	1.021	0.159	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.7	25.61	0.10	Left	Tilt	92679	1:1	0.089	1.021	0.091	
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
CDMA BC0 (§22H) 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)	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.7	25.64	0.01	Right	Cheek	92679	1:1	0.211	1.014	0.214	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.7	25.64	0.12	Right	Tilt	92679	1:1	0.092	1.014	0.093	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.7	25.64	-0.14	Left	Cheek	92679	1:1	0.167	1.014	0.169	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.7	25.64	0.08	Left	Tilt	92679	1:1	0.085	1.014	0.086	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.7	25.65	0.04	Right	Cheek	92679	1:1	0.234	1.012	0.237	A2
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.7	25.65	0.09	Right	Tilt	92679	1:1	0.100	1.012	0.101	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.7	25.65	0.00	Left	Cheek	92679	1:1	0.171	1.012	0.173	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.7	25.65	0.02	Left	Tilt	92679	1:1	0.092	1.012	0.093	
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
PCS CDMA 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	600	PCS CDMA	RC3 / SO55	25.0	25.00	0.17	Right	Cheek	92679	1:1	0.139	1.000	0.139	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	25.00	0.16	Right	Tilt	92679	1:1	0.100	1.000	0.100	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	25.00	0.12	Left	Cheek	92679	1:1	0.129	1.000	0.129	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	25.00	0.06	Left	Tilt	92679	1:1	0.097	1.000	0.097	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.78	0.16	Right	Cheek	92679	1:1	0.156	1.052	0.164	A3
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.78	0.14	Right	Tilt	92679	1:1	0.114	1.052	0.120	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.78	0.18	Left	Cheek	92679	1:1	0.142	1.052	0.149	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.78	0.11	Left	Tilt	92679	1:1	0.090	1.052	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							

Table 11-4
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	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.65	-0.04	Right	Cheek	15787	1	1:8.3	0.085	1.084	0.092	
836.60	190	GSM 850	GSM	34.0	33.65	0.03	Right	Tilt	15787	1	1:8.3	0.036	1.084	0.039	
836.60	190	GSM 850	GSM	34.0	33.65	-0.20	Left	Cheek	15787	1	1:8.3	0.076	1.084	0.082	
836.60	190	GSM 850	GSM	34.0	33.65	-0.03	Left	Tilt	15787	1	1:8.3	0.040	1.084	0.043	
836.60	190	GSM 850	GPRS	30.5	30.04	0.10	Right	Cheek	15787	3	1:2.76	0.098	1.112	0.109	A4
836.60	190	GSM 850	GPRS	30.5	30.04	0.00	Right	Tilt	15787	3	1:2.76	0.051	1.112	0.057	
836.60	190	GSM 850	GPRS	30.5	30.04	0.09	Left	Cheek	15787	3	1:2.76	0.078	1.112	0.087	
836.60	190	GSM 850	GPRS	30.5	30.04	-0.14	Left	Tilt	15787	3	1:2.76	0.055	1.112	0.061	
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
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	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	31.0	30.80	0.15	Right	Cheek	15795	1	1:8.3	0.092	1.047	0.096	
1880.00	661	GSM 1900	GSM	31.0	30.80	0.15	Right	Tilt	15795	1	1:8.3	0.071	1.047	0.074	
1880.00	661	GSM 1900	GSM	31.0	30.80	0.12	Left	Cheek	15795	1	1:8.3	0.075	1.047	0.079	
1880.00	661	GSM 1900	GSM	31.0	30.80	0.16	Left	Tilt	15795	1	1:8.3	0.039	1.047	0.041	
1880.00	661	GSM 1900	GPRS	28.0	27.91	0.16	Right	Cheek	15795	3	1:2.76	0.116	1.021	0.118	
1880.00	661	GSM 1900	GPRS	28.0	27.91	0.20	Right	Tilt	15795	3	1:2.76	0.090	1.021	0.092	
1880.00	661	GSM 1900	GPRS	28.0	27.91	0.12	Left	Cheek	15795	3	1:2.76	0.117	1.021	0.119	A5
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.05	Left	Tilt	15795	3	1:2.76	0.060	1.021	0.061	
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 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	4183	UMTS 850	RMC	25.7	25.31	0.13	Right	Cheek	01579	1:1	0.159	1.094	0.174	A6
836.60	4183	UMTS 850	RMC	25.7	25.31	0.14	Right	Tilt	01579	1:1	0.071	1.094	0.078	
836.60	4183	UMTS 850	RMC	25.7	25.31	0.01	Left	Cheek	01579	1:1	0.134	1.094	0.147	
836.60	4183	UMTS 850	RMC	25.7	25.31	-0.09	Left	Tilt	01579	1:1	0.087	1.094	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							

Table 11-7
UMTS 1750 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)	
1732.40	1412	UMTS 1750	RMC	25.0	24.69	0.17	Right	Cheek	01581	1:1	0.113	1.074	0.121	
1732.40	1412	UMTS 1750	RMC	25.0	24.69	0.01	Right	Tilt	01581	1:1	0.102	1.074	0.110	
1732.40	1412	UMTS 1750	RMC	25.0	24.69	0.11	Left	Cheek	01581	1:1	0.136	1.074	0.146	A7
1732.40	1412	UMTS 1750	RMC	25.0	24.69	0.20	Left	Tilt	01581	1:1	0.076	1.074	0.082	
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
UMTS 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	9400	UMTS 1900	RMC	25.0	24.69	0.00	Right	Cheek	15795	1:1	0.234	1.074	0.251	A8
1880.00	9400	UMTS 1900	RMC	25.0	24.69	0.10	Right	Tilt	15795	1:1	0.141	1.074	0.151	
1880.00	9400	UMTS 1900	RMC	25.0	24.69	0.06	Left	Cheek	15795	1:1	0.147	1.074	0.158	
1880.00	9400	UMTS 1900	RMC	25.0	24.69	0.14	Left	Tilt	15795	1:1	0.095	1.074	0.102	
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 71 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)	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	0.11	0	Right	Cheek	QPSK	1	0	15803	1:1	0.137	1.084	0.149	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.02	1	Right	Cheek	QPSK	50	0	15803	1:1	0.124	1.047	0.130	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	-0.20	0	Right	Tilt	QPSK	1	0	15803	1:1	0.080	1.084	0.087	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.17	1	Right	Tilt	QPSK	50	0	15803	1:1	0.070	1.047	0.073	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	0.18	0	Left	Cheek	QPSK	1	0	15803	1:1	0.151	1.084	0.164	A9
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.04	1	Left	Cheek	QPSK	50	0	15803	1:1	0.130	1.047	0.136	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	-0.01	0	Left	Tilt	QPSK	1	0	15803	1:1	0.099	1.084	0.107	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.01	1	Left	Tilt	QPSK	50	0	15803	1:1	0.090	1.047	0.094	
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 11-10
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	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.02	0	Right	Cheek	QPSK	1	49	15811	1:1	0.159	1.035	0.165	A10
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	0.11	1	Right	Cheek	QPSK	25	25	15811	1:1	0.135	1.016	0.137	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.00	0	Right	Tilt	QPSK	1	49	15811	1:1	0.093	1.035	0.096	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	0.10	1	Right	Tilt	QPSK	25	25	15811	1:1	0.078	1.016	0.079	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.02	0	Left	Cheek	QPSK	1	49	15811	1:1	0.159	1.035	0.165	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	0.07	1	Left	Cheek	QPSK	25	25	15811	1:1	0.128	1.016	0.130	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.14	0	Left	Tilt	QPSK	1	49	15811	1:1	0.114	1.035	0.118	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.08	1	Left	Tilt	QPSK	25	25	15811	1:1	0.093	1.016	0.094	
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 13 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)	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	-0.01	0	Right	Cheek	QPSK	1	25	15787	1:1	0.160	1.026	0.164	A11
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	-0.15	1	Right	Cheek	QPSK	25	0	15787	1:1	0.124	1.000	0.124	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	0.13	0	Right	Tilt	QPSK	1	25	15787	1:1	0.090	1.026	0.092	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	0.04	1	Right	Tilt	QPSK	25	0	15787	1:1	0.074	1.000	0.074	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	0.18	0	Left	Cheek	QPSK	1	25	15787	1:1	0.145	1.026	0.149	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	0.01	1	Left	Cheek	QPSK	25	0	15787	1:1	0.104	1.000	0.104	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	0.09	0	Left	Tilt	QPSK	1	25	15787	1:1	0.087	1.026	0.089	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	0.17	1	Left	Tilt	QPSK	25	0	15787	1:1	0.067	1.000	0.067	
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 14 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)	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	0.13	0	Right	Cheek	QPSK	1	25	15811	1:1	0.124	1.040	0.129	A12
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	0.07	1	Right	Cheek	QPSK	25	0	15811	1:1	0.096	1.033	0.099	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	0.13	0	Right	Tilt	QPSK	1	25	15811	1:1	0.060	1.040	0.062	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	0.09	1	Right	Tilt	QPSK	25	0	15811	1:1	0.050	1.033	0.052	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	0.00	0	Left	Cheek	QPSK	1	25	15811	1:1	0.087	1.040	0.090	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	0.03	1	Left	Cheek	QPSK	25	0	15811	1:1	0.079	1.033	0.082	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	-0.18	0	Left	Tilt	QPSK	1	25	15811	1:1	0.056	1.040	0.058	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	0.08	1	Left	Tilt	QPSK	25	0	15811	1:1	0.048	1.033	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 11-13
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	0.04	0	Right	Cheek	QPSK	1	36	15787	1:1	0.122	1.227	0.150	A13
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.11	1	Right	Cheek	QPSK	36	37	15787	1:1	0.113	1.047	0.118	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	0.03	0	Right	Tilt	QPSK	1	36	15787	1:1	0.058	1.227	0.071	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.06	1	Right	Tilt	QPSK	36	37	15787	1:1	0.054	1.047	0.057	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	-0.03	0	Left	Cheek	QPSK	1	36	15787	1:1	0.106	1.227	0.130	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.14	1	Left	Cheek	QPSK	36	37	15787	1:1	0.099	1.047	0.104	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	-0.05	0	Left	Tilt	QPSK	1	36	15787	1:1	0.058	1.227	0.071	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.03	1	Left	Tilt	QPSK	36	37	15787	1:1	0.056	1.047	0.059	
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 5 (Cell) Head SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.63	0.01	0	Right	Cheek	QPSK	1	0	15811	1:1	0.155	1.016	0.157	A14
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	0.07	0	Right	Cheek	QPSK	1	25	15811	1:1	0.140	1.009	0.141	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	-0.01	1	Right	Cheek	QPSK	25	25	15811	1:1	0.115	1.000	0.115	
2CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.40	0.00	0	Right	Cheek	QPSK	1	0	15811	1:1	0.142	1.072	0.152	
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5								1	24						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	0.10	0	Right	Tilt	QPSK	1	25	15811	1:1	0.068	1.009	0.069	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	0.09	1	Right	Tilt	QPSK	25	25	15811	1:1	0.055	1.000	0.055	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	0.10	0	Left	Cheek	QPSK	1	25	15811	1:1	0.119	1.009	0.120	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	0.13	1	Left	Cheek	QPSK	25	25	15811	1:1	0.095	1.000	0.095	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	-0.05	0	Left	Tilt	QPSK	1	25	15811	1:1	0.069	1.009	0.070	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	0.11	1	Left	Tilt	QPSK	25	25	15811	1:1	0.057	1.000	0.057	

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 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 Config.	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.82	0.21	0	Right	Cheek	Ant 2	QPSK	1	0	15811	1:1	0.162	1.042	0.169	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.85	0.11	1	Right	Cheek	Ant 2	QPSK	50	25	15811	1:1	0.129	1.035	0.134	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.82	0.16	0	Right	Tilt	Ant 2	QPSK	1	0	15811	1:1	0.147	1.042	0.153	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.85	0.11	1	Right	Tilt	Ant 2	QPSK	50	25	15811	1:1	0.123	1.035	0.127	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.82	0.12	0	Left	Cheek	Ant 2	QPSK	1	0	15811	1:1	0.134	1.042	0.140	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.85	0.14	1	Left	Cheek	Ant 2	QPSK	50	25	15811	1:1	0.119	1.035	0.123	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.82	0.18	0	Left	Tilt	Ant 2	QPSK	1	0	15811	1:1	0.080	1.042	0.083	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.85	0.20	1	Left	Tilt	Ant 2	QPSK	50	25	15811	1:1	0.058	1.035	0.060	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	0.03	0	Right	Cheek	Ant 7	QPSK	1	99	15803	1:1	0.180	1.245	0.224	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	0.08	1	Right	Cheek	Ant 7	QPSK	50	25	15803	1:1	0.143	1.178	0.168	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	0.14	0	Right	Tilt	Ant 7	QPSK	1	99	15803	1:1	0.135	1.245	0.168	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	0.06	1	Right	Tilt	Ant 7	QPSK	50	25	15803	1:1	0.119	1.178	0.140	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	0.05	0	Left	Cheek	Ant 7	QPSK	1	99	15803	1:1	0.466	1.245	0.580	A15
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	0.04	1	Left	Cheek	Ant 7	QPSK	50	25	15803	1:1	0.378	1.178	0.445	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	0.13	0	Left	Tilt	Ant 7	QPSK	1	99	15803	1:1	0.164	1.245	0.204	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	0.06	1	Left	Tilt	Ant 7	QPSK	50	25	15803	1:1	0.128	1.178	0.151	

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 11-16
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	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.29	0.17	0	Right	Cheek	QPSK	1	99	15803	1:1	0.115	1.178	0.135	A16
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	24.00	0.15	1	Right	Cheek	QPSK	50	50	15803	1:1	0.108	1.000	0.108	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.29	0.20	0	Right	Tilt	QPSK	1	99	15803	1:1	0.084	1.178	0.099	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	24.00	-0.12	1	Right	Tilt	QPSK	50	50	15803	1:1	0.084	1.000	0.084	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.29	0.20	0	Left	Cheek	QPSK	1	99	15803	1:1	0.105	1.178	0.124	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	24.00	0.14	1	Left	Cheek	QPSK	50	50	15803	1:1	0.112	1.000	0.112	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.29	0.19	0	Left	Tilt	QPSK	1	99	15803	1:1	0.080	1.178	0.094	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	24.00	0.16	1	Left	Tilt	QPSK	50	50	15803	1:1	0.080	1.000	0.080	

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
LTE Band 2 (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 Config.	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.06	0	Right	Cheek	Ant 7	QPSK	1	50	01581	1:1	0.281	1.279	0.359	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Right	Cheek	Ant 7	QPSK	50	25	01581	1:1	0.225	1.242	0.279	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.03	0	Right	Tilt	Ant 7	QPSK	1	50	01581	1:1	0.268	1.279	0.343	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Right	Tilt	Ant 7	QPSK	50	25	01581	1:1	0.217	1.242	0.270	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.0	20.87	-0.02	0	Left	Cheek	Ant 7	QPSK	1	50	01581	1:1	0.544	1.297	0.706	A17
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.0	20.91	0.00	0	Left	Cheek	Ant 7	QPSK	1	50	01581	1:1	0.536	1.285	0.689	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.05	0	Left	Cheek	Ant 7	QPSK	1	50	01581	1:1	0.502	1.279	0.642	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Left	Cheek	Ant 7	QPSK	50	25	01581	1:1	0.410	1.242	0.509	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.03	0	Left	Tilt	Ant 7	QPSK	1	50	01581	1:1	0.368	1.279	0.471	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Left	Tilt	Ant 7	QPSK	50	25	01581	1:1	0.290	1.242	0.360	
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
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	Antenna Config.	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	0.16	0	Right	Cheek	Ant 1	QPSK	1	25	15803	1:1	0.054	1.245	0.067	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	-0.06	1	Right	Cheek	Ant 1	QPSK	25	12	15803	1:1	0.045	1.205	0.054	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	0.15	0	Right	Tilt	Ant 1	QPSK	1	25	15803	1:1	0.050	1.245	0.062	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	-0.08	1	Right	Tilt	Ant 1	QPSK	25	12	15803	1:1	0.041	1.205	0.049	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	0.07	0	Left	Cheek	Ant 1	QPSK	1	25	15803	1:1	0.079	1.245	0.098	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	0.01	1	Left	Cheek	Ant 1	QPSK	25	12	15803	1:1	0.064	1.205	0.077	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	-0.06	0	Left	Tilt	Ant 1	QPSK	1	25	15803	1:1	0.034	1.245	0.042	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	0.14	1	Left	Tilt	Ant 1	QPSK	25	12	15803	1:1	0.027	1.205	0.033	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	0.15	0	Right	Cheek	Ant 7	QPSK	1	0	15795	1:1	0.125	1.099	0.137	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	0.06	1	Right	Cheek	Ant 7	QPSK	25	25	15795	1:1	0.092	1.169	0.108	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	0.11	0	Right	Tilt	Ant 7	QPSK	1	0	15795	1:1	0.082	1.099	0.090	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	0.01	1	Right	Tilt	Ant 7	QPSK	25	25	15795	1:1	0.065	1.169	0.076	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	0.01	0	Left	Cheek	Ant 7	QPSK	1	0	15795	1:1	0.458	1.099	0.503	A18
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	0.06	1	Left	Cheek	Ant 7	QPSK	25	25	15795	1:1	0.362	1.169	0.423	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	0.01	0	Left	Tilt	Ant 7	QPSK	1	0	15795	1:1	0.180	1.099	0.198	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	-0.05	1	Left	Tilt	Ant 7	QPSK	25	25	15795	1:1	0.134	1.169	0.157	
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 11-19
LTE Band 41 Head SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.41	0.13	0	Right	Cheek	QPSK	1	0	01581	1:1.58	0.112	1.285	0.144	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.20	0	Right	Cheek	QPSK	1	50	01581	1:1.58	0.109	1.202	0.131	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.17	1	Right	Cheek	QPSK	50	25	01581	1:1.58	0.103	1.194	0.123	
2 CC Uplink	PCC	2680.00	41490	High	LTE Band 41	20	25.5	25.40	0.15	0	Right	Cheek	QPSK	1	0	01581	1:1.58	0.137	1.023	0.140	A19
	SCC	2660.20	41292	High		20					Right	Cheek	QPSK	1	99						
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.17	0	Right	Tilt	QPSK	1	50	01581	1:1.58	0.028	1.202	0.034	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	-0.20	1	Right	Tilt	QPSK	50	25	01581	1:1.58	0.025	1.194	0.030	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.16	0	Left	Cheek	QPSK	1	50	01581	1:1.58	0.026	1.202	0.031	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.13	1	Left	Cheek	QPSK	50	25	01581	1:1.58	0.021	1.194	0.025	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.14	0	Left	Tilt	QPSK	1	50	01581	1:1.58	0.048	1.202	0.058	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.20	1	Left	Tilt	QPSK	50	25	01581	1:1.58	0.039	1.194	0.047	
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
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	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	25.7	24.09	0.12	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	15829	1:1	0.109	1.449	0.158	A20
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.17	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	15829	1:1	0.097	1.452	0.141	
680.50	136100	Mid	NR Band n71	20	24.2	24.14	-0.02	1.5	Right	Cheek	CP-OFDM QPSK	1	1	15829	1:1	0.097	1.014	0.098	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.10	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	15829	1:1	0.061	1.449	0.088	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.11	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	15829	1:1	0.046	1.452	0.067	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.01	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	15829	1:1	0.094	1.449	0.136	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.04	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	15829	1:1	0.097	1.452	0.141	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.17	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	15829	1:1	0.056	1.449	0.081	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.18	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	15829	1:1	0.053	1.452	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 11-21
NR Band n5 (Cell) 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)	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	0.08	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	11257	1:1	0.193	1.202	0.232	A21
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.04	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	11257	1:1	0.149	1.161	0.173	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.2	23.44	-0.12	1.5	Right	Cheek	CP-OFDM QPSK	1	1	11257	1:1	0.086	1.191	0.102	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	0.05	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	11257	1:1	0.063	1.202	0.076	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.10	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	11257	1:1	0.064	1.161	0.074	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	-0.03	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	11257	1:1	0.128	1.202	0.154	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.18	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	11257	1:1	0.124	1.161	0.144	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	0.02	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	11257	1:1	0.064	1.202	0.077	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.02	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	11257	1:1	0.072	1.161	0.084	
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 11-22
NR Band n66 (AWS) 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)	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.01	0	Right	Cheek	DFT-S-OFDM QPSK	1	104	11257	1:1	0.204	1.122	0.229	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.01	0	Right	Cheek	DFT-S-OFDM QPSK	50	56	11257	1:1	0.207	1.125	0.233	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.01	0	Right	Tilt	DFT-S-OFDM QPSK	1	104	11257	1:1	0.136	1.122	0.153	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.11	0	Right	Tilt	DFT-S-OFDM QPSK	50	56	11257	1:1	0.139	1.125	0.156	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	11257	1:1	0.606	1.122	0.680	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.5	21.95	-0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	11257	1:1	0.667	1.135	0.757	
1770.00	354000	High	NR Band n66 (AWS)	20	22.5	21.93	0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	11257	1:1	0.682	1.140	0.777	A22
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.06	0	Left	Cheek	DFT-S-OFDM QPSK	50	56	11257	1:1	0.599	1.125	0.674	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.04	0	Left	Cheek	CP-OFDM QPSK	1	1	11257	1:1	0.555	1.122	0.623	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.02	0	Left	Tilt	DFT-S-OFDM QPSK	1	104	11257	1:1	0.181	1.122	0.203	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.06	0	Left	Tilt	DFT-S-OFDM QPSK	50	56	11257	1:1	0.174	1.125	0.196	
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 11-23
NR Band n2 (PCS) 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)	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	0.03	0	Right	Cheek	DFT-S-OFDM QPSK	1	53	15837	1:1	0.363	1.146	0.416	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	0.00	0	Right	Cheek	DFT-S-OFDM QPSK	50	56	15837	1:1	0.366	1.107	0.405	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	0.03	0	Right	Tilt	DFT-S-OFDM QPSK	1	53	15837	1:1	0.328	1.146	0.376	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	0.02	0	Right	Tilt	DFT-S-OFDM QPSK	50	56	15837	1:1	0.336	1.107	0.372	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.05	0	Left	Cheek	DFT-S-OFDM QPSK	1	53	15837	1:1	0.917	1.146	1.051	
1880.00	376000	Mid	NR Band n2 (PCS)	20	22.0	21.35	-0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	15837	1:1	0.930	1.161	1.080	
1900.00	380000	High	NR Band n2 (PCS)	20	22.0	21.34	0.01	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	15837	1:1	0.954	1.164	**1.110**	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.06	0	Left	Cheek	DFT-S-OFDM QPSK	50	56	15837	1:1	0.912	1.107	1.010	
1880.00	376000	Mid	NR Band n2 (PCS)	20	22.0	21.51	-0.04	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	15837	1:1	0.945	1.119	1.057	
1900.00	380000	High	NR Band n2 (PCS)	20	22.0	21.44	-0.01	0	Left	Cheek	DFT-S-OFDM QPSK	50	56	15837	1:1	0.976	1.138	**1.111**	A23
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.40	-0.03	0	Left	Cheek	DFT-S-OFDM QPSK	100	0	15837	1:1	0.898	1.148	1.031	
1900.00	380000	High	NR Band n2 (PCS)	20	22.0	21.52	0.02	0	Left	Cheek	CP-OFDM QPSK	1	1	15837	1:1	0.918	1.117	1.025	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	0.03	0	Left	Tilt	DFT-S-OFDM QPSK	1	53	15837	1:1	0.453	1.146	0.519	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	0.05	0	Left	Tilt	DFT-S-OFDM QPSK	50	56	15837	1:1	0.441	1.107	0.488	
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 11-24
DTS Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	16.5	15.63	0.14	Right	Cheek	1	15951	1	99.0	0.529	0.458	1.222	1.010	0.565	
2437	6	802.11b	DSSS	22	16.5	15.69	0.15	Right	Cheek	1	15951	1	99.0	0.667	0.459	1.205	1.010	0.559	
2462	11	802.11b	DSSS	22	16.5	15.84	-0.19	Right	Cheek	1	15951	1	99.0	0.577	0.536	1.164	1.010	**0.630**	A24
2462	11	802.11b	DSSS	22	16.5	15.84	0.13	Right	Tilt	1	15951	1	99.0	0.169	-	1.164	1.010	-	
2462	11	802.11b	DSSS	22	16.5	15.84	-0.11	Left	Cheek	1	15951	1	99.0	0.225	0.131	1.164	1.010	0.154	
2462	11	802.11b	DSSS	22	16.5	15.84	0.19	Left	Tilt	1	15951	1	99.0	0.059	0.031	1.164	1.010	0.036	
2412	1	802.11b	DSSS	22	16.5	16.10	0.12	Right	Cheek	2	15951	1	99.1	0.142	-	1.096	1.009	-	
2412	1	802.11b	DSSS	22	16.5	16.10	0.10	Right	Tilt	2	15951	1	99.1	0.155	0.063	1.096	1.009	0.070	
2412	1	802.11b	DSSS	22	16.5	16.10	-0.11	Left	Cheek	2	15951	1	99.1	0.012	-	1.096	1.009	-	
2412	1	802.11b	DSSS	22	16.5	16.10	0.15	Left	Tilt	2	15951	1	99.1	0.022	0.013	1.096	1.009	0.014	
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 11-25
NII Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.5	15.29	0.16	Right	Cheek	1	15928	13.5	97.3	0.282	0.116	1.050	1.028	0.125	
5270	54	802.11n	OFDM	40	15.5	15.29	-0.13	Right	Tilt	1	15928	13.5	97.3	0.268	-	1.050	1.028	-	
5270	54	802.11n	OFDM	40	15.5	15.29	-0.16	Left	Cheek	1	15928	13.5	97.3	0.115	-	1.050	1.028	-	
5270	54	802.11n	OFDM	40	15.5	15.29	0.18	Left	Tilt	1	15928	13.5	97.3	0.123	-	1.050	1.028	-	
5270	54	802.11n	OFDM	40	15.5	15.43	0.19	Right	Cheek	2	15928	13.5	97.2	0.273	0.146	1.016	1.029	0.153	
5270	54	802.11n	OFDM	40	15.5	15.43	0.18	Right	Tilt	2	15928	13.5	97.2	0.173	-	1.016	1.029	-	
5270	54	802.11n	OFDM	40	15.5	15.43	0.11	Left	Cheek	2	15928	13.5	97.2	0.066	0.025	1.016	1.029	0.026	
5270	54	802.11n	OFDM	40	15.5	15.43	0.17	Left	Tilt	2	15928	13.5	97.2	0.090	-	1.016	1.029	-	
5710	142	802.11n	OFDM	40	15.5	15.24	0.11	Right	Cheek	1	15928	13.5	97.3	0.251	-	1.062	1.028	-	
5710	142	802.11n	OFDM	40	15.5	15.24	0.20	Right	Tilt	1	15928	13.5	97.3	0.328	0.149	1.062	1.028	0.163	
5710	142	802.11n	OFDM	40	15.5	15.24	0.20	Left	Cheek	1	15928	13.5	97.3	0.225	-	1.062	1.028	-	
5710	142	802.11n	OFDM	40	15.5	15.24	0.15	Left	Tilt	1	15928	13.5	97.3	0.264	-	1.062	1.028	-	
5550	110	802.11n	OFDM	40	15.5	15.23	0.19	Right	Cheek	2	15928	13.5	97.2	0.504	0.261	1.064	1.029	**0.286**	
5550	110	802.11n	OFDM	40	15.5	15.23	0.17	Right	Tilt	2	15928	13.5	97.2	0.262	-	1.064	1.029	-	
5550	110	802.11n	OFDM	40	15.5	15.23	-0.18	Left	Cheek	2	15928	13.5	97.2	0.120	0.042	1.064	1.029	0.046	
5550	110	802.11n	OFDM	40	15.5	15.23	0.18	Left	Tilt	2	15928	13.5	97.2	0.089	-	1.064	1.029	-	
5755	151	802.11n	OFDM	40	15.5	15.29	0.12	Right	Cheek	1	15928	13.5	97.3	0.300	-	1.050	1.028	-	
5755	151	802.11n	OFDM	40	15.5	15.29	0.13	Right	Tilt	1	15928	13.5	97.3	0.319	0.181	1.050	1.028	0.195	
5755	151	802.11n	OFDM	40	15.5	15.29	0.12	Left	Cheek	1	15928	13.5	97.3	0.262	-	1.050	1.028	-	
5755	151	802.11n	OFDM	40	15.5	15.29	0.15	Left	Tilt	1	15928	13.5	97.3	0.305	-	1.050	1.028	-	
5795	159	802.11n	OFDM	40	15.5	15.49	0.11	Right	Cheek	2	15928	13.5	97.2	0.272	0.085	1.002	1.029	0.088	
5795	159	802.11n	OFDM	40	15.5	15.49	0.18	Right	Tilt	2	15928	13.5	97.2	0.198	-	1.002	1.029	-	
5795	159	802.11n	OFDM	40	15.5	15.49	0.10	Left	Cheek	2	15928	13.5	97.2	0.079	0.031	1.002	1.029	0.032	
5795	159	802.11n	OFDM	40	15.5	15.49	0.20	Left	Tilt	2	15928	13.5	97.2	0.055	-	1.002	1.029	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Head
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-26
NII MIMO Head 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]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.5	15.29	15.5	15.43	0.20	Right	Cheek	MIMO	15936	27	98.4	0.699	0.315	1.050	1.016	0.336	
5270	54	802.11n	OFDM	40	15.5	15.29	15.5	15.43	0.12	Right	Tilt	MIMO	15936	27	98.4	0.759	0.342	1.050	1.016	0.365	
5270	54	802.11n	OFDM	40	15.5	15.29	15.5	15.43	-0.17	Left	Cheek	MIMO	15936	27	98.4	0.244	0.046	1.050	1.016	0.049	
5270	54	802.11n	OFDM	40	15.5	15.29	15.5	15.43	0.16	Left	Tilt	MIMO	15936	27	98.4	0.278	-	1.050	1.016	-	
5710	142	802.11n	OFDM	40	15.5	15.24	15.5	15.18	0.09	Right	Cheek	MIMO	15936	27	98.4	1.176	0.486	1.076	1.016	0.531	A25
5710	142	802.11n	OFDM	40	15.5	15.24	15.5	15.18	-0.03	Right	Tilt	MIMO	15936	27	98.4	0.952	0.399	1.076	1.016	0.436	
5710	142	802.11n	OFDM	40	15.5	15.24	15.5	15.18	0.18	Left	Cheek	MIMO	15936	27	98.4	0.475	0.138	1.076	1.016	0.151	
5710	142	802.11n	OFDM	40	15.5	15.24	15.5	15.18	0.02	Left	Tilt	MIMO	15936	27	98.4	0.573	-	1.076	1.016	-	
5755	151	802.11n	OFDM	40	15.5	15.29	15.5	15.20	0.08	Right	Cheek	MIMO	15936	27	98.4	0.899	0.413	1.072	1.016	0.450	
5755	151	802.11n	OFDM	40	15.5	15.29	15.5	15.20	-0.14	Right	Tilt	MIMO	15936	27	98.4	0.714	0.409	1.072	1.016	0.445	
5755	151	802.11n	OFDM	40	15.5	15.29	15.5	15.20	0.15	Left	Cheek	MIMO	15936	27	98.4	0.490	0.086	1.072	1.016	0.094	
5755	151	802.11n	OFDM	40	15.5	15.29	15.5	15.20	0.13	Left	Tilt	MIMO	15936	27	98.4	0.554	-	1.072	1.016	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Head
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

To achieve the 18.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15.5 dBm.

Table 11-27
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)	
2441.00	39	Bluetooth	FHSS	12.5	12.24	-0.12	Right	Cheek	15951	1	76.9	0.219	1.062	1.300	**0.302**	A26
2441.00	39	Bluetooth	FHSS	12.5	12.24	-0.01	Right	Tilt	15951	1	76.9	0.053	1.062	1.300	0.073	
2441.00	39	Bluetooth	FHSS	12.5	12.24	-0.19	Left	Cheek	15951	1	76.9	0.038	1.062	1.300	0.052	
2441.00	39	Bluetooth	FHSS	12.5	12.24	0.14	Left	Tilt	15951	1	76.9	0.010	1.062	1.300	0.014	
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 11-28
GSM/UMTS/CDMA Body-Worn 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)	
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	25.7	25.63	0.03	10 mm	92638	N/A	1:1	back	0.419	1.016	0.426	A27
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.7	25.65	0.00	10 mm	92638	N/A	1:1	back	0.508	1.012	0.514	A29
1851.25	25	PCS CDMA	TDSO / SO32	25.0	24.95	-0.07	10 mm	92679	N/A	1:1	back	0.660	1.012	**0.668**	A31
1880.00	600	PCS CDMA	TDSO / SO32	25.0	25.00	-0.07	10 mm	92679	N/A	1:1	back	0.615	1.000	0.615	
1908.75	1175	PCS CDMA	TDSO / SO32	25.0	24.90	0.00	10 mm	92679	N/A	1:1	back	0.569	1.023	0.582	
836.60	190	GSM 850	GSM	34.0	33.65	-0.07	10 mm	15787	1	1:8.3	back	0.287	1.084	0.311	
836.60	190	GSM 850	GPRS	30.5	30.04	0.03	10 mm	15787	3	1:2.76	back	0.504	1.112	0.560	A33
1880.00	661	GSM 1900	GSM	31.0	30.80	-0.02	10 mm	15787	1	1:8.3	back	0.138	1.047	0.144	
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.08	10 mm	15787	3	1:2.76	back	0.183	1.021	0.187	A34
836.60	4183	UMTS 850	RMC	25.7	25.31	0.06	10 mm	15787	N/A	1:1	back	0.344	1.094	0.376	A36
1732.40	1412	UMTS 1750	RMC	25.0	24.69	-0.09	10 mm	15787	N/A	1:1	back	0.491	1.074	0.527	A37
1880.00	9400	UMTS 1900	RMC	25.0	24.69	0.01	10 mm	15795	N/A	1:1	back	0.433	1.074	0.465	A39
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 11-29
LTE Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	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	25.7	25.35	-0.01	0	Ant 1	15811	QPSK	1	0	10 mm	back	1:1	0.255	1.084	0.276	A41
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	-0.02	1	Ant 1	15811	QPSK	50	0	10 mm	back	1:1	0.207	1.047	0.217	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.11	0	Ant 1	15811	QPSK	1	49	10 mm	back	1:1	0.328	1.035	0.339	A43
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.05	1	Ant 1	15811	QPSK	25	25	10 mm	back	1:1	0.264	1.016	0.268	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	-0.01	0	Ant 1	15811	QPSK	1	25	10 mm	back	1:1	0.206	1.026	0.211	A44
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	0.01	1	Ant 1	15811	QPSK	25	0	10 mm	back	1:1	0.196	1.000	0.196	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	0.00	0	Ant 1	15811	QPSK	1	25	10 mm	back	1:1	0.198	1.040	0.206	A45
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	-0.02	1	Ant 1	15811	QPSK	25	0	10 mm	back	1:1	0.190	1.033	0.196	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	0.16	0	Ant 1	15803	QPSK	1	36	10 mm	back	1:1	0.298	1.227	0.366	A47
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.00	1	Ant 1	15803	QPSK	36	37	10 mm	back	1:1	0.289	1.047	0.303	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.82	-0.06	0	Ant 2	15837	QPSK	1	0	10 mm	back	1:1	0.346	1.042	0.361	A50
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.85	0.01	1	Ant 2	15837	QPSK	50	25	10 mm	back	1:1	0.279	1.035	0.289	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	-0.04	0	Ant 7	15803	QPSK	1	99	10 mm	back	1:1	0.081	1.245	0.101	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	-0.05	1	Ant 7	15803	QPSK	50	25	10 mm	back	1:1	0.066	1.178	0.078	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.29	-0.09	0	Ant 2	15811	QPSK	1	99	10 mm	back	1:1	0.356	1.178	0.419	A52
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	24.00	0.00	1	Ant 2	15811	QPSK	50	50	10 mm	back	1:1	0.298	1.000	0.298	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.00	0	Ant 7	15787	QPSK	1	50	10 mm	back	1:1	0.231	1.279	0.295	A54
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Ant 7	15787	QPSK	50	25	10 mm	back	1:1	0.209	1.242	0.260	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	-0.03	0	Ant 1	15803	QPSK	1	25	10 mm	back	1:1	0.462	1.245	0.575	A55
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	-0.05	1	Ant 1	15803	QPSK	25	12	10 mm	back	1:1	0.393	1.205	0.474	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	-0.09	0	Ant 7	15803	QPSK	1	0	10 mm	back	1:1	0.093	1.099	0.102	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	-0.16	1	Ant 7	15803	QPSK	25	25	10 mm	back	1:1	0.082	1.169	0.096	
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 11-30
LTE Band 5 (Cell) Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.63	0.01	0	15803	QPSK	1	0	10 mm	back	1:1	0.357	1.016	0.363	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	-0.02	0	15803	QPSK	1	25	10 mm	back	1:1	0.361	1.009	0.364	A48
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	0.03	1	15803	QPSK	25	25	10 mm	back	1:1	0.296	1.000	0.296	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.40	0.00	0	15803	QPSK	1	0	10 mm	back	1:1	0.334	1.072	0.358	
	SCC	829.30	20453	Mid		5							1	24							
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 11-31
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.41	-0.01	0	15811	QPSK	1	0	10 mm	back	1:1.58	0.227	1.285	0.292	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.14	0	15811	QPSK	1	50	10 mm	back	1:1.58	0.222	1.202	0.267	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.07	1	15811	QPSK	50	25	10 mm	back	1:1.58	0.177	1.194	0.211	
2 CC Uplink	PCC	2680.00	41490	High	LTE Band 41	20	25.5	25.40	-0.19	0	15811	QPSK	1	0	10 mm	back	1:1.58	0.299	1.023	0.306	A56
	SCC	2660.20	41292	High		20						QPSK	1	99							
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
NR Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.01	0	15829	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.194	1.449	0.281	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.02	0	15829	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.195	1.452	0.283	
680.50	136100	Mid	NR Band n71	20	24.2	24.14	-0.02	1.5	15829	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.204	1.014	0.207	A58
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	-0.14	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.319	1.202	0.383	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.02	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.346	1.161	0.402	A60
836.50	167300	Mid	NR Band n5 (Cell)	20	24.2	23.44	-0.02	1.5	15837	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.244	1.191	0.291	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.75	0.04	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.269	1.189	0.320	A62
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.65	0.10	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.269	1.216	0.327	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.0	23.96	0.09	1.5	15837	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.151	1.009	0.152	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	23.87	0.18	0	15795	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.526	1.455	0.765	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	24.05	0.10	0	15795	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.632	1.396	0.882	
1880.00	376000	Mid	NR Band n2 (PCS)	20	25.5	23.99	-0.05	0	15795	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.655	1.416	**0.927**	A64
1900.00	380000	High	NR Band n2 (PCS)	20	25.5	23.96	-0.01	0	15795	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.633	1.426	0.903	
1880.00	376000	Mid	NR Band n2 (PCS)	20	24.0	23.95	0.17	1.5	15795	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.418	1.012	0.423	
1860.00	372000	Low	NR Band n2 (PCS)	20	24.5	23.86	0.00	1	15795	DFT-S-OFDM QPSK	100	0	10 mm	back	1:1	0.554	1.159	0.642	
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 11-33
DTS Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	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	21.0	20.39	-0.03	10 mm	1	15936	1	back	99.0	0.349	0.219	1.151	1.010	**0.255**	A66
2437	6	802.11b	DSSS	22	21.0	20.79	0.12	10 mm	2	15936	1	back	99.1	0.116	0.101	1.050	1.009	0.107	
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 11-34
DTS 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 Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2437	6	802.11g	OFDM	20	20.0	19.36	20.0	19.25	-0.02	10 mm	MIMO	15936	6	back	98.1	0.293	0.192	1.189	1.019	0.233	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**										**Body** **1.6 W/kg (mW/g)** averaged over 1 gram											

To achieve the 23 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 20 dBm.

Table 11-35
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	16.5	16.47	-0.09	10 mm	1	15928	6	back	98.3	0.097	0.038	1.007	1.017	0.039	
5280	56	802.11a	OFDM	20	16.0	15.56	-0.12	10 mm	2	15928	6	back	98.3	0.291	0.125	1.107	1.017	0.141	
5500	100	802.11a	OFDM	20	16.5	16.19	-0.18	10 mm	1	15928	6	back	98.3	0.161	0.077	1.074	1.017	0.084	
5500	100	802.11a	OFDM	20	16.0	15.41	0.09	10 mm	2	15928	6	back	98.3	0.275	0.117	1.146	1.017	0.136	
5825	165	802.11a	OFDM	20	16.5	16.49	0.20	10 mm	1	15928	6	back	98.3	0.201	0.096	1.002	1.017	0.098	
5785	157	802.11a	OFDM	20	16.0	15.22	-0.19	10 mm	2	15928	6	back	98.3	0.388	0.163	1.197	1.017	**0.198**	A68
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
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 Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5280	56	802.11n	OFDM	20	16.5	16.36	16.0	15.39	0.08	10 mm	MIMO	15928	13	back	97.9	0.169	0.078	1.151	1.021	0.092	
5500	100	802.11n	OFDM	20	16.5	15.93	16.0	15.27	0.11	10 mm	MIMO	15928	13	back	97.9	0.299	0.135	1.183	1.021	0.163	
5785	157	802.11n	OFDM	20	16.5	16.49	16.0	15.18	-0.17	10 mm	MIMO	15928	13	back	97.9	0.351	0.142	1.208	1.021	0.175	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**										**Body** **1.6 W/kg (mW/g)** averaged over 1 gram											

Notes:

1. To achieve the 19.3 dBm maximum allowed MIMO power shown in the documentation for channels 56, 100 and 157, antenna 1 transmits at a maximum allowed power of 16.5 dBm, and antenna 2 transmits at a maximum allowed power of 16.0 dBm.

Table 11-37
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)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	12.5	12.24	0.13	10 mm	15928	1	back	76.9	0.021	1.062	1.300	**0.029**	A69
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**							**Body** **1.6 W/kg (mW/g)** averaged over 1 gram									

11.3 Standalone Hotspot SAR Data

Table 11-38
GPRS/UMTS/CDMA 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)	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.7	25.55	0.01	10 mm	92638	N/A	1:1	back	0.440	1.035	0.455	A28
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.7	25.55	0.04	10 mm	92638	N/A	1:1	front	0.434	1.035	0.449	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.7	25.55	-0.10	10 mm	92638	N/A	1:1	bottom	0.299	1.035	0.309	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.7	25.55	-0.02	10 mm	92638	N/A	1:1	left	0.175	1.035	0.181	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.7	25.50	-0.01	10 mm	92638	N/A	1:1	back	0.516	1.047	0.540	A30
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.7	25.50	0.03	10 mm	92638	N/A	1:1	front	0.493	1.047	0.516	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.7	25.50	-0.02	10 mm	92638	N/A	1:1	bottom	0.341	1.047	0.357	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.7	25.50	-0.10	10 mm	92638	N/A	1:1	left	0.203	1.047	0.213	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.0	23.94	-0.10	10 mm	92679	N/A	1:1	back	0.555	1.014	0.563	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.0	23.94	0.05	10 mm	92679	N/A	1:1	front	0.662	1.014	0.671	
1851.25	25	PCS CDMA	EVDO Rev. 0	24.0	23.90	0.02	10 mm	92679	N/A	1:1	bottom	1.090	1.023	1.115	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.0	23.94	-0.02	10 mm	92679	N/A	1:1	bottom	1.110	1.014	1.126	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.0	23.65	0.00	10 mm	92679	N/A	1:1	bottom	1.110	1.084	**1.203**	A32
1880.00	600	PCS CDMA	EVDO Rev. 0	24.0	23.94	-0.13	10 mm	92679	N/A	1:1	right	0.295	1.014	0.299	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.0	23.65	0.00	10 mm	92679	N/A	1:1	bottom	1.110	1.084	**1.203**	
836.60	190	GSM 850	GPRS	30.5	30.04	0.03	10 mm	15787	3	1:2.76	back	0.504	1.112	0.560	A33
836.60	190	GSM 850	GPRS	30.5	30.04	-0.05	10 mm	15787	3	1:2.76	front	0.388	1.112	0.431	
836.60	190	GSM 850	GPRS	30.5	30.04	-0.20	10 mm	15787	3	1:2.76	bottom	0.225	1.112	0.250	
836.60	190	GSM 850	GPRS	30.5	30.04	-0.10	10 mm	15787	3	1:2.76	left	0.133	1.112	0.148	
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.08	10 mm	15787	3	1:2.76	back	0.183	1.021	0.187	
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.12	10 mm	15787	3	1:2.76	front	0.192	1.021	0.196	
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.11	10 mm	15787	3	1:2.76	bottom	0.369	1.021	0.377	A35
1880.00	661	GSM 1900	GPRS	28.0	27.91	-0.05	10 mm	15787	3	1:2.76	right	0.099	1.021	0.101	
836.60	4183	UMTS 850	RMC	25.7	25.31	0.06	10 mm	15787	N/A	1:1	back	0.344	1.094	0.376	A36
836.60	4183	UMTS 850	RMC	25.7	25.31	-0.01	10 mm	15787	N/A	1:1	front	0.343	1.094	0.375	
836.60	4183	UMTS 850	RMC	25.7	25.31	0.03	10 mm	15787	N/A	1:1	bottom	0.222	1.094	0.243	
836.60	4183	UMTS 850	RMC	25.7	25.31	-0.07	10 mm	15787	N/A	1:1	left	0.139	1.094	0.152	
1732.40	1412	UMTS 1750	RMC	24.0	23.94	0.19	10 mm	15787	N/A	1:1	back	0.431	1.014	0.437	
1732.40	1412	UMTS 1750	RMC	24.0	23.94	-0.08	10 mm	15787	N/A	1:1	front	0.382	1.014	0.387	
1732.40	1412	UMTS 1750	RMC	24.0	23.94	-0.07	10 mm	15787	N/A	1:1	bottom	0.517	1.014	0.524	A38
1732.40	1412	UMTS 1750	RMC	24.0	23.94	-0.05	10 mm	15787	N/A	1:1	right	0.189	1.014	0.192	
1880.00	9400	UMTS 1900	RMC	24.0	23.96	0.06	10 mm	15795	N/A	1:1	back	0.369	1.009	0.372	
1880.00	9400	UMTS 1900	RMC	24.0	23.96	-0.03	10 mm	15795	N/A	1:1	front	0.451	1.009	0.455	
1852.40	9262	UMTS 1900	RMC	24.0	23.95	-0.04	10 mm	15795	N/A	1:1	bottom	0.728	1.012	0.737	A40
1880.00	9400	UMTS 1900	RMC	24.0	23.96	-0.05	10 mm	15795	N/A	1:1	bottom	0.725	1.009	0.732	
1907.60	9538	UMTS 1900	RMC	24.0	23.86	-0.05	10 mm	15795	N/A	1:1	bottom	0.700	1.033	0.723	
1880.00	9400	UMTS 1900	RMC	24.0	23.96	-0.03	10 mm	15795	N/A	1:1	right	0.199	1.009	0.201	
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 indicates variability measurement.

REV 21.4 M
09/11/2019

Table 11-39
LTE Band 71 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)	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	-0.01	0	15811	QPSK	1	0	10 mm	back	1:1	0.255	1.084	0.276	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	-0.02	1	15811	QPSK	50	0	10 mm	back	1:1	0.207	1.047	0.217	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	-0.01	0	15811	QPSK	1	0	10 mm	front	1:1	0.257	1.084	0.279	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	-0.02	1	15811	QPSK	50	0	10 mm	front	1:1	0.206	1.047	0.216	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	-0.08	0	15811	QPSK	1	0	10 mm	bottom	1:1	0.100	1.084	0.108	
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.11	1	15811	QPSK	50	0	10 mm	bottom	1:1	0.090	1.047	0.094	
680.50	133297	Mid	LTE Band 71	20	25.7	25.35	0.01	0	15811	QPSK	1	0	10 mm	left	1:1	0.389	1.084	0.422	A42
680.50	133297	Mid	LTE Band 71	20	24.7	24.50	0.00	1	15811	QPSK	50	0	10 mm	left	1:1	0.299	1.047	0.313	
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 11-40
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	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	25.7	25.55	0.11	0	15811	QPSK	1	49	10 mm	back	1:1	0.328	1.035	0.339	A43
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.05	1	15811	QPSK	25	25	10 mm	back	1:1	0.264	1.016	0.268	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	0.00	0	15811	QPSK	1	49	10 mm	front	1:1	0.264	1.035	0.273	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.01	1	15811	QPSK	25	25	10 mm	front	1:1	0.219	1.016	0.223	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	-0.07	0	15811	QPSK	1	49	10 mm	bottom	1:1	0.124	1.035	0.128	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.06	1	15811	QPSK	25	25	10 mm	bottom	1:1	0.101	1.016	0.103	
707.50	23095	Mid	LTE Band 12	10	25.7	25.55	-0.08	0	15811	QPSK	1	49	10 mm	left	1:1	0.279	1.035	0.289	
707.50	23095	Mid	LTE Band 12	10	24.7	24.63	-0.09	1	15811	QPSK	25	25	10 mm	left	1:1	0.239	1.016	0.243	
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 11-41
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	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	25.7	25.59	-0.01	0	15811	QPSK	1	25	10 mm	back	1:1	0.206	1.026	0.211	A44
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	0.01	1	15811	QPSK	25	0	10 mm	back	1:1	0.196	1.000	0.196	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	0.01	0	15811	QPSK	1	25	10 mm	front	1:1	0.193	1.026	0.198	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	-0.03	1	15811	QPSK	25	0	10 mm	front	1:1	0.178	1.000	0.178	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	-0.05	0	15811	QPSK	1	25	10 mm	bottom	1:1	0.102	1.026	0.105	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	-0.02	1	15811	QPSK	25	0	10 mm	bottom	1:1	0.094	1.000	0.094	
782.00	23230	Mid	LTE Band 13	10	25.7	25.59	-0.09	0	15811	QPSK	1	25	10 mm	left	1:1	0.162	1.026	0.166	
782.00	23230	Mid	LTE Band 13	10	24.7	24.70	-0.02	1	15811	QPSK	25	0	10 mm	left	1:1	0.144	1.000	0.144	
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 14 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)	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	0.00	0	15811	QPSK	1	25	10 mm	back	1:1	0.198	1.040	0.206	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	-0.02	1	15811	QPSK	25	0	10 mm	back	1:1	0.190	1.033	0.196	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	-0.01	0	15811	QPSK	1	25	10 mm	front	1:1	0.202	1.040	0.210	A46
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	0.00	1	15811	QPSK	25	0	10 mm	front	1:1	0.196	1.033	0.202	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	-0.01	0	15811	QPSK	1	25	10 mm	bottom	1:1	0.126	1.040	0.131	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	-0.01	1	15811	QPSK	25	0	10 mm	bottom	1:1	0.115	1.033	0.119	
793.00	23330	Mid	LTE Band 14	10	25.7	25.53	-0.01	0	15811	QPSK	1	25	10 mm	left	1:1	0.162	1.040	0.168	
793.00	23330	Mid	LTE Band 14	10	24.7	24.56	-0.03	1	15811	QPSK	25	0	10 mm	left	1:1	0.158	1.033	0.163	
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
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	0.16	0	15803	QPSK	1	36	10 mm	back	1:1	0.298	1.227	0.366	A47
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.00	1	15803	QPSK	36	37	10 mm	back	1:1	0.289	1.047	0.303	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	-0.01	0	15803	QPSK	1	36	10 mm	front	1:1	0.281	1.227	0.345	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.02	1	15803	QPSK	36	37	10 mm	front	1:1	0.270	1.047	0.283	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	-0.13	0	15803	QPSK	1	36	10 mm	bottom	1:1	0.190	1.227	0.233	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	-0.06	1	15803	QPSK	36	37	10 mm	bottom	1:1	0.176	1.047	0.184	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.81	-0.01	0	15803	QPSK	1	36	10 mm	left	1:1	0.102	1.227	0.125	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	24.50	0.01	1	15803	QPSK	36	37	10 mm	left	1:1	0.098	1.047	0.103	
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 11-44
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	-0.02	0	15803	QPSK	1	25	10 mm	back	1:1	0.361	1.009	0.364	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	0.03	1	15803	QPSK	25	25	10 mm	back	1:1	0.296	1.000	0.296	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.63	-0.04	0	15803	QPSK	1	0	10 mm	front	1:1	0.387	1.016	0.393	A49
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	0.03	0	15803	QPSK	1	25	10 mm	front	1:1	0.376	1.009	0.379	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	-0.02	1	15803	QPSK	25	25	10 mm	front	1:1	0.305	1.000	0.305	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.40	-0.01	0	15803	QPSK	1	0	10 mm	front	1:1	0.351	1.072	0.376	
	SCC	829.30	20453	Mid		5						QPSK	1	24							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	-0.08	0	15803	QPSK	1	25	10 mm	bottom	1:1	0.228	1.009	0.230	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	-0.04	1	15803	QPSK	25	25	10 mm	bottom	1:1	0.185	1.000	0.185	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.66	-0.07	0	15803	QPSK	1	25	10 mm	left	1:1	0.123	1.009	0.124	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.70	-0.03	1	15803	QPSK	25	25	10 mm	left	1:1	0.099	1.000	0.099	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-45
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 Config.	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	24.0	23.47	0.01	0	Ant 2	15837	QPSK	1	50	10 mm	back	1:1	0.271	1.130	0.306	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.65	0.03	0	Ant 2	15837	QPSK	50	50	10 mm	back	1:1	0.344	1.084	0.373	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.47	-0.03	0	Ant 2	15837	QPSK	1	50	10 mm	front	1:1	0.405	1.130	0.458	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.65	0.05	0	Ant 2	15837	QPSK	50	50	10 mm	front	1:1	0.419	1.084	0.454	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.47	0.03	0	Ant 2	15837	QPSK	1	50	10 mm	bottom	1:1	0.462	1.130	0.522	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.41	-0.05	0	Ant 2	15837	QPSK	50	50	10 mm	bottom	1:1	0.486	1.146	0.557	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.43	0.01	0	Ant 2	15837	QPSK	50	50	10 mm	bottom	1:1	0.532	1.140	0.606	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.65	0.02	0	Ant 2	15837	QPSK	50	50	10 mm	bottom	1:1	0.590	1.084	0.640	A51
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.47	-0.03	0	Ant 2	15837	QPSK	1	50	10 mm	right	1:1	0.167	1.130	0.189	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.65	-0.01	0	Ant 2	15837	QPSK	50	50	10 mm	right	1:1	0.204	1.084	0.221	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	-0.04	0	Ant 7	15803	QPSK	1	99	10 mm	back	1:1	0.081	1.245	0.101	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	-0.05	1	Ant 7	15803	QPSK	50	25	10 mm	back	1:1	0.066	1.178	0.078	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	-0.02	0	Ant 7	15803	QPSK	1	99	10 mm	front	1:1	0.068	1.245	0.085	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	0.05	1	Ant 7	15803	QPSK	50	25	10 mm	front	1:1	0.053	1.178	0.062	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	-0.04	0	Ant 7	15803	QPSK	1	99	10 mm	top	1:1	0.030	1.245	0.037	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	-0.02	1	Ant 7	15803	QPSK	50	25	10 mm	top	1:1	0.030	1.178	0.035	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	21.05	-0.05	0	Ant 7	15083	QPSK	1	99	10 mm	right	1:1	0.130	1.245	0.162	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.29	-0.05	1	Ant 7	15083	QPSK	50	25	10 mm	right	1:1	0.116	1.178	0.137	
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 11-46
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	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	24.0	23.67	0.03	0	15811	QPSK	1	99	10 mm	back	1:1	0.215	1.079	0.232	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.78	-0.06	0	15811	QPSK	50	0	10 mm	back	1:1	0.229	1.052	0.241	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.67	-0.01	0	15811	QPSK	1	99	10 mm	front	1:1	0.310	1.079	0.334	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.78	0.01	0	15811	QPSK	50	0	10 mm	front	1:1	0.330	1.052	0.347	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.67	-0.03	0	15811	QPSK	1	99	10 mm	bottom	1:1	0.527	1.079	0.569	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.78	-0.05	0	15811	QPSK	50	0	10 mm	bottom	1:1	0.546	1.052	0.574	A53
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.67	-0.08	0	15811	QPSK	1	99	10 mm	right	1:1	0.135	1.079	0.146	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.78	0.01	0	15811	QPSK	50	0	10 mm	right	1:1	0.138	1.052	0.145	
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
LTE Band 2 (PCS) Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																			
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.00	0	Ant 7	15787	QPSK	1	50	10 mm	back	1:1	0.231	1.279	0.295	A54
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.03	1	Ant 7	15787	QPSK	50	25	10 mm	back	1:1	0.209	1.242	0.260	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	-0.04	0	Ant 7	15787	QPSK	1	50	10 mm	front	1:1	0.115	1.279	0.147	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.00	1	Ant 7	15787	QPSK	50	25	10 mm	front	1:1	0.092	1.242	0.114	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	0.03	0	Ant 7	15787	QPSK	1	50	10 mm	top	1:1	0.113	1.279	0.145	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	0.11	1	Ant 7	15787	QPSK	50	25	10 mm	top	1:1	0.089	1.242	0.111	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.0	20.93	-0.04	0	Ant 7	15787	QPSK	1	50	10 mm	right	1:1	0.135	1.279	0.173	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.0	20.06	-0.03	1	Ant 7	15787	QPSK	50	25	10 mm	right	1:1	0.112	1.242	0.139	
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 11-48
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																			
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	-0.03	0	Ant 1	15803	QPSK	1	25	10 mm	back	1:1	0.462	1.245	0.575	A55
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	-0.05	1	Ant 1	15803	QPSK	25	12	10 mm	back	1:1	0.393	1.205	0.474	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	-0.16	0	Ant 1	15803	QPSK	1	25	10 mm	front	1:1	0.151	1.245	0.188	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	-0.01	1	Ant 1	15803	QPSK	25	12	10 mm	front	1:1	0.126	1.205	0.152	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	-0.04	0	Ant 1	15803	QPSK	1	25	10 mm	bottom	1:1	0.297	1.245	0.370	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	0.00	1	Ant 1	15803	QPSK	25	12	10 mm	bottom	1:1	0.255	1.205	0.307	
2310.00	27710	Mid	LTE Band 30	10	25.0	24.05	0.04	0	Ant 1	15803	QPSK	1	25	10 mm	left	1:1	0.107	1.245	0.133	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.19	0.03	1	Ant 1	15803	QPSK	25	12	10 mm	left	1:1	0.092	1.205	0.111	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	-0.09	0	Ant 7	15803	QPSK	1	0	10 mm	back	1:1	0.093	1.099	0.102	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	-0.16	1	Ant 7	15803	QPSK	25	25	10 mm	back	1:1	0.082	1.169	0.096	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	-0.11	0	Ant 7	15803	QPSK	1	0	10 mm	front	1:1	0.088	1.099	0.097	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	0.12	1	Ant 7	15803	QPSK	25	25	10 mm	front	1:1	0.077	1.169	0.090	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	-0.14	0	Ant 7	15803	QPSK	1	0	10 mm	top	1:1	0.035	1.099	0.038	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	0.18	1	Ant 7	15803	QPSK	25	25	10 mm	top	1:1	0.028	1.169	0.033	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.59	-0.01	0	Ant 7	15803	QPSK	1	0	10 mm	right	1:1	0.090	1.099	0.099	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.32	-0.19	1	Ant 7	15803	QPSK	25	25	10 mm	right	1:1	0.073	1.169	0.085	
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 11-49
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
		MHz	Ch.																		
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.14	0	15811	QPSK	1	50	10 mm	back	1:1.58	0.222	1.202	0.267	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.07	1	15811	QPSK	50	25	10 mm	back	1:1.58	0.177	1.194	0.211	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	-0.01	0	15811	QPSK	1	50	10 mm	front	1:1.58	0.320	1.202	0.385	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	-0.01	1	15811	QPSK	50	25	10 mm	front	1:1.58	0.262	1.194	0.313	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.41	0.06	0	15811	QPSK	1	0	10 mm	bottom	1:1.58	0.388	1.285	0.499	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	-0.02	0	15811	QPSK	1	50	10 mm	bottom	1:1.58	0.393	1.202	0.472	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	-0.12	1	15811	QPSK	50	25	10 mm	bottom	1:1.58	0.312	1.194	0.373	
2 CC Uplink	PCC	2680.00	41490	High	LTE Band 41	20	25.5	25.40	0.07	0	15811	QPSK	1	0	10 mm	bottom	1:1.58	0.501	1.023	0.513	A57
	SCC	2660.20	41292	High		20						QPSK	1	99							
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	25.5	24.70	0.03	0	15811	QPSK	1	50	10 mm	right	1:1.58	0.121	1.202	0.145	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	24.5	23.73	0.00	1	15811	QPSK	50	25	10 mm	right	1:1.58	0.107	1.194	0.128	
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 11-50
NR Band n71 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)	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.01	0	15829	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.194	1.449	0.281	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.02	0	15829	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.195	1.452	0.283	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	-0.05	0	15829	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.186	1.449	0.270	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.07	0	15829	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.181	1.452	0.263	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	-0.05	0	15829	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.083	1.449	0.120	
680.50	136100	Mid	NR Band n71	20	25.7	24.08	0.00	0	15829	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.082	1.452	0.119	
680.50	136100	Mid	NR Band n71	20	25.7	24.09	0.02	0	15829	DFT-S-OFDM QPSK	1	1	10 mm	left	1:1	0.253	1.449	0.367	A59
680.50	136100	Mid	NR Band n71	20	25.7	24.08	-0.14	0	15829	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.238	1.452	0.346	
680.50	136100	Mid	NR Band n71	20	24.2	24.14	0.08	1.5	15829	CP-OFDM QPSK	1	1	10 mm	left	1:1	0.199	1.014	0.202	
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 11-51
NR Band n5 (Cell) 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)	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	-0.14	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.319	1.202	0.383	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.02	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.346	1.161	0.402	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	0.00	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.357	1.202	0.429	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	-0.02	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.385	1.161	0.447	A61
836.50	167300	Mid	NR Band n5 (Cell)	20	24.2	23.44	0.11	1.5	15837	CP-OFDM QPSK	1	1	10 mm	front	1:1	0.264	1.191	0.314	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	-0.02	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.224	1.202	0.269	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	0.07	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.236	1.161	0.274	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	24.90	0.02	0	15837	DFT-S-OFDM QPSK	1	1	10 mm	left	1:1	0.138	1.202	0.166	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.7	25.05	-0.01	0	15837	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.130	1.161	0.151	
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 11-52
NR Band n66 (AWS) 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)	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.20	0	15829	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.112	1.122	0.126	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.14	0	15829	DFT-S-OFDM QPSK	50	56	10 mm	back	1:1	0.114	1.125	0.128	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.20	0	15829	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.078	1.122	0.088	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.13	0	15829	DFT-S-OFDM QPSK	50	56	10 mm	front	1:1	0.071	1.125	0.080	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.08	0	15829	DFT-S-OFDM QPSK	1	104	10 mm	top	1:1	0.048	1.122	0.054	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.05	0	15829	DFT-S-OFDM QPSK	50	56	10 mm	top	1:1	0.049	1.125	0.055	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.14	0	15829	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.225	1.122	0.252	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.03	0	15829	DFT-S-OFDM QPSK	50	56	10 mm	right	1:1	0.226	1.125	0.254	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.00	0	15829	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.231	1.122	0.259	A63
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 11-53
NR Band n2 (PCS) 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)	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.01	0	11257	DFT-S-OFDM QPSK	1	53	10 mm	back	1:1	0.231	1.146	0.265	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	0.04	0	11257	DFT-S-OFDM QPSK	50	56	10 mm	back	1:1	0.242	1.107	0.268	A65
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.52	0.05	0	11257	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.225	1.117	0.251	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.06	0	11257	DFT-S-OFDM QPSK	1	53	10 mm	front	1:1	0.123	1.146	0.141	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.04	0	11257	DFT-S-OFDM QPSK	50	56	10 mm	front	1:1	0.115	1.107	0.127	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	0.20	0	11257	DFT-S-OFDM QPSK	1	53	10 mm	top	1:1	0.025	1.146	0.029	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.19	0	11257	DFT-S-OFDM QPSK	50	56	10 mm	top	1:1	0.026	1.107	0.029	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	0.03	0	11257	DFT-S-OFDM QPSK	1	53	10 mm	right	1:1	0.230	1.146	0.264	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.01	0	11257	DFT-S-OFDM QPSK	50	56	10 mm	right	1:1	0.234	1.107	0.259	
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 11-54
WLAN Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																		
2412	1	802.11b	DSSS	22	21.0	20.39	-0.03	10 mm	1	15936	1	back	99.0	0.349	0.219	1.151	1.010	0.255	
2412	1	802.11b	DSSS	22	21.0	20.39	0.10	10 mm	1	15936	1	front	99.0	0.385	0.265	1.151	1.010	0.308	
2412	1	802.11b	DSSS	22	21.0	20.39	0.19	10 mm	1	15936	1	top	99.0	0.092	-	1.151	1.010	-	
2412	1	802.11b	DSSS	22	21.0	20.39	0.02	10 mm	1	15936	1	left	99.0	0.495	0.297	1.151	1.010	**0.345**	A67
2437	6	802.11b	DSSS	22	21.0	20.79	0.12	10 mm	2	15936	1	back	99.1	0.116	0.101	1.050	1.009	0.107	
2437	6	802.11b	DSSS	22	21.0	20.79	0.18	10 mm	2	15936	1	front	99.1	0.033	0.018	1.050	1.009	0.019	
2437	6	802.11b	DSSS	22	21.0	20.79	-0.11	10 mm	2	15936	1	top	99.1	0.070	-	1.050	1.009	-	
2437	6	802.11b	DSSS	22	21.0	20.79	0.13	10 mm	2	15936	1	left	99.1	0.062	-	1.050	1.009	-	
5200	40	802.11a	OFDM	20	16.5	16.17	-0.15	10 mm	1	15928	6	back	98.3	0.130	0.046	1.079	1.017	0.050	
5200	40	802.11a	OFDM	20	16.5	16.17	0.00	10 mm	1	15928	6	front	98.3	0.064	-	1.079	1.017	-	
5200	40	802.11a	OFDM	20	16.5	16.17	0.12	10 mm	1	15928	6	top	98.3	0.098	-	1.079	1.017	-	
5200	40	802.11a	OFDM	20	16.5	16.17	-0.15	10 mm	1	15928	6	left	98.3	0.114	-	1.079	1.017	-	
5200	40	802.11a	OFDM	20	16.0	15.59	0.15	10 mm	2	15928	6	back	98.3	0.281	0.125	1.099	1.017	0.140	
5200	40	802.11a	OFDM	20	16.0	15.59	0.20	10 mm	2	15928	6	front	98.3	0.108	-	1.099	1.017	-	
5200	40	802.11a	OFDM	20	16.0	15.59	-0.17	10 mm	2	15928	6	top	98.3	0.081	-	1.099	1.017	-	
5200	40	802.11a	OFDM	20	16.0	15.59	0.19	10 mm	2	15928	6	left	98.3	0.236	-	1.099	1.017	-	
5825	165	802.11a	OFDM	20	16.5	16.49	0.20	10 mm	1	15928	6	back	98.3	0.201	0.096	1.002	1.017	0.098	
5825	165	802.11a	OFDM	20	16.5	16.49	0.00	10 mm	1	15928	6	front	98.3	0.092	-	1.002	1.017	-	
5825	165	802.11a	OFDM	20	16.5	16.49	0.07	10 mm	1	15928	6	top	98.3	0.283	0.107	1.002	1.017	0.109	
5825	165	802.11a	OFDM	20	16.5	16.49	0.07	10 mm	1	15928	6	left	98.3	0.143	-	1.002	1.017	-	
5785	157	802.11a	OFDM	20	16.0	15.22	-0.19	10 mm	2	15928	6	back	98.3	0.388	0.163	1.197	1.017	**0.198**	A68
5785	157	802.11a	OFDM	20	16.0	15.22	0.18	10 mm	2	15928	6	front	98.3	0.124	-	1.197	1.017	-	
5785	157	802.11a	OFDM	20	16.0	15.22	-0.14	10 mm	2	15928	6	top	98.3	0.116	-	1.197	1.017	-	
5785	157	802.11a	OFDM	20	16.0	15.22	-0.19	10 mm	2	15928	6	left	98.3	0.243	-	1.197	1.017	-	
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 11-55
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 Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2437	6	802.11g	OFDM	20	20.0	19.36	20.0	19.25	-0.02	10 mm	MIMO	15928	6	back	98.1	0.293	0.192	1.189	1.019	0.233	
2437	6	802.11g	OFDM	20	20.0	19.36	20.0	19.25	0.00	10 mm	MIMO	15928	6	front	98.1	0.295	0.211	1.189	1.019	0.256	
2437	6	802.11g	OFDM	20	20.0	19.36	20.0	19.25	-0.11	10 mm	MIMO	15928	6	top	98.1	0.124	-	1.189	1.019	-	
2437	6	802.11g	OFDM	20	20.0	19.36	20.0	19.25	0.02	10 mm	MIMO	15928	6	left	98.1	0.391	0.229	1.189	1.019	0.277	
5200	40	802.11n	OFDM	20	16.5	16.13	16.0	15.55	-0.10	10 mm	MIMO	15928	13	back	97.9	0.184	0.078	1.109	1.021	0.088	
5200	40	802.11n	OFDM	20	16.5	16.13	16.0	15.55	0.00	10 mm	MIMO	15928	13	front	97.9	0.121	0.036	1.109	1.021	0.041	
5200	40	802.11n	OFDM	20	16.5	16.13	16.0	15.55	0.03	10 mm	MIMO	15928	13	top	97.9	0.107	0.044	1.109	1.021	0.050	
5200	40	802.11n	OFDM	20	16.5	16.13	16.0	15.55	0.13	10 mm	MIMO	15928	13	left	97.9	0.169	0.072	1.109	1.021	0.082	
5785	157	802.11n	OFDM	20	16.5	16.49	16.0	15.18	-0.17	10 mm	MIMO	15928	13	back	97.9	0.351	0.142	1.208	1.021	0.175	
5785	157	802.11n	OFDM	20	16.5	16.49	16.0	15.18	0.11	10 mm	MIMO	15928	13	front	97.9	0.106	0.037	1.208	1.021	0.046	
5785	157	802.11n	OFDM	20	16.5	16.49	16.0	15.18	-0.18	10 mm	MIMO	15928	13	top	97.9	0.252	0.107	1.208	1.021	0.132	
5785	157	802.11n	OFDM	20	16.5	16.49	16.0	15.18	0.16	10 mm	MIMO	15928	13	left	97.9	0.285	0.104	1.208	1.021	0.128	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Notes:

1. To achieve the 23 dBm maximum allowed MIMO power shown in the documentation for channel 6, each antenna transmits at a maximum allowed power of 20 dBm.
2. To achieve the 19.3 dBm maximum allowed 5GHz WLAN MIMO power shown in the documentation for channels 40 and 157, antenna 1 transmits at a maximum allowed power of 16.5 dBm, and antenna 2 transmits at a maximum allowed power of 16.0 dBm.

Table 11-56
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)	
2441	39	Bluetooth	FHSS	12.5	12.24	0.13	10 mm	15928	1	back	76.9	0.021	1.062	1.300	0.029	
2441	39	Bluetooth	FHSS	12.5	12.24	-0.20	10 mm	15928	1	front	76.9	0.024	1.062	1.300	0.033	
2441	39	Bluetooth	FHSS	12.5	12.24	0.19	10 mm	15928	1	top	76.9	0.005	1.062	1.300	0.007	
2441	39	Bluetooth	FHSS	12.5	12.24	0.12	10 mm	15928	1	left	76.9	0.042	1.062	1.300	**0.058**	A70
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 11-57
CDMA Phablet SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.0	24.94	-0.18	0 mm	92679	1:1	bottom	2.510	1.014	2.545	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.74	-0.08	0 mm	92679	1:1	bottom	2.580	1.062	**2.740**	A71
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.0	24.88	-0.20	0 mm	92679	1:1	bottom	2.470	1.028	2.539	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.74	0.08	0 mm	92679	1:1	bottom	2.550	1.062	2.708	
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 indicated variability measurement.

Table 11-58
NR Band n66 (AWS) 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 (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.75	-0.14	0	15083	DFT-S-OFDM QPSK	1	1	5 mm	back	1:1	0.539	1.189	0.641	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.65	-0.14	0	15083	DFT-S-OFDM QPSK	50	28	5 mm	back	1:1	0.537	1.216	0.653	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.75	-0.13	0	15083	DFT-S-OFDM QPSK	1	1	4 mm	front	1:1	0.583	1.189	0.693	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.65	-0.02	0	15083	DFT-S-OFDM QPSK	50	28	4 mm	front	1:1	0.592	1.216	0.720	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.75	-0.02	0	15083	DFT-S-OFDM QPSK	1	1	6 mm	top	1:1	0.075	1.189	0.089	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.65	-0.07	0	15083	DFT-S-OFDM QPSK	50	28	6 mm	top	1:1	0.072	1.216	0.088	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.75	-0.06	0	15083	DFT-S-OFDM QPSK	1	1	2 mm	right	1:1	1.280	1.189	1.522	
1720.00	344000	Low	NR Band n66 (AWS)	20	25.5	24.64	-0.08	0	15083	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.170	1.219	1.426	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.5	24.65	-0.07	0	15083	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.510	1.216	1.836	A72
1770.00	354000	High	NR Band n66 (AWS)	20	25.5	24.53	0.00	0	15083	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.280	1.250	1.600	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.0	23.96	-0.06	1.5	15083	CP-OFDM QPSK	1	1	2 mm	right	1:1	0.894	1.009	0.902	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	0.21	0	15829	DFT-S-OFDM QPSK	1	104	0 mm	back	1:1	0.680	1.122	0.763	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.16	0	15829	DFT-S-OFDM QPSK	50	56	0 mm	back	1:1	0.674	1.125	0.758	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.15	0	15829	DFT-S-OFDM QPSK	1	104	0 mm	front	1:1	0.705	1.122	0.791	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	-0.13	0	15829	DFT-S-OFDM QPSK	50	56	0 mm	front	1:1	0.687	1.125	0.773	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.01	0	15829	DFT-S-OFDM QPSK	1	104	0 mm	top	1:1	0.132	1.122	0.148	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.00	0	15829	DFT-S-OFDM QPSK	50	56	0 mm	top	1:1	0.132	1.125	0.149	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	22.00	-0.02	0	15829	DFT-S-OFDM QPSK	1	104	0 mm	right	1:1	1.240	1.122	1.391	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.5	21.99	0.17	0	15829	DFT-S-OFDM QPSK	50	56	0 mm	right	1:1	1.250	1.125	1.406	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams									

REV 21.4 M
09/11/2019

Table 11-59
NR Band n2 (PCS) 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 (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	23.87	-0.07	0	15837	DFT-S-OFDM QPSK	1	1	5 mm	back	1:1	0.699	1.455	1.017	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	24.05	-0.17	0	15837	DFT-S-OFDM QPSK	50	28	5 mm	back	1:1	0.675	1.396	0.942	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	23.87	-0.13	0	15837	DFT-S-OFDM QPSK	1	1	4 mm	front	1:1	0.533	1.455	0.776	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	24.05	-0.11	0	15837	DFT-S-OFDM QPSK	50	28	4 mm	front	1:1	0.536	1.396	0.748	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	23.87	-0.09	0	15837	DFT-S-OFDM QPSK	1	1	6 mm	top	1:1	0.142	1.455	0.207	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	24.05	0.06	0	15837	DFT-S-OFDM QPSK	50	28	6 mm	top	1:1	0.146	1.396	0.204	
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	23.87	-0.02	0	15837	DFT-S-OFDM QPSK	1	1	2 mm	right	1:1	1.510	1.455	2.197	
1880.00	376000	Mid	NR Band n2 (PCS)	20	25.5	23.86	-0.10	0	15837	DFT-S-OFDM QPSK	1	1	2 mm	right	1:1	1.300	1.459	1.897	
1900.00	380000	High	NR Band n2 (PCS)	20	25.5	23.80	-0.06	0	15837	DFT-S-OFDM QPSK	1	104	2 mm	right	1:1	1.590	1.479	2.352	A73
1860.00	372000	Low	NR Band n2 (PCS)	20	25.5	24.05	-0.09	0	15837	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.510	1.396	2.108	
1880.00	376000	Mid	NR Band n2 (PCS)	20	25.5	23.99	-0.09	0	15837	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.540	1.416	2.181	
1900.00	380000	High	NR Band n2 (PCS)	20	25.5	23.96	-0.07	0	15837	DFT-S-OFDM QPSK	50	28	2 mm	right	1:1	1.420	1.426	2.025	
1880.00	376000	Mid	NR Band n2 (PCS)	20	24.0	23.95	0.03	1.5	15837	CP-OFDM QPSK	1	1	2 mm	right	1:1	1.560	1.012	1.579	
1860.00	372000	Low	NR Band n2 (PCS)	20	24.5	23.86	-0.01	1	15837	DFT-S-OFDM QPSK	100	0	2 mm	right	1:1	1.520	1.159	1.762	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.06	0	11257	DFT-S-OFDM QPSK	1	53	0 mm	back	1:1	0.885	1.146	1.014	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	0.01	0	11257	DFT-S-OFDM QPSK	50	56	0 mm	back	1:1	0.904	1.107	1.001	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.06	0	11257	DFT-S-OFDM QPSK	1	53	0 mm	front	1:1	0.610	1.146	0.699	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.05	0	11257	DFT-S-OFDM QPSK	50	56	0 mm	front	1:1	0.609	1.107	0.674	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.12	0	11257	DFT-S-OFDM QPSK	1	53	0 mm	top	1:1	0.094	1.146	0.108	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.14	0	11257	DFT-S-OFDM QPSK	50	56	0 mm	top	1:1	0.092	1.107	0.102	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.41	-0.04	0	11257	DFT-S-OFDM QPSK	1	53	0 mm	right	1:1	1.050	1.146	1.203	
1860.00	372000	Low	NR Band n2 (PCS)	20	22.0	21.56	-0.01	0	11257	DFT-S-OFDM QPSK	50	56	0 mm	right	1:1	0.970	1.107	1.074	
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 SISO Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	16.5	16.47	0.13	0 mm	1	15928	6	back	98.3	1.633	-	1.007	1.017	-	
5280	56	802.11a	OFDM	20	16.5	16.47	-0.20	0 mm	1	15928	6	front	98.3	1.126	-	1.007	1.017	-	
5280	56	802.11a	OFDM	20	16.5	16.47	-0.20	0 mm	1	15928	6	top	98.3	3.489	0.257	1.007	1.017	0.263	
5280	56	802.11a	OFDM	20	16.5	16.47	0.20	0 mm	1	15928	6	left	98.3	1.106	-	1.007	1.017	-	
5280	56	802.11a	OFDM	20	16.0	15.56	-0.16	0 mm	2	15928	6	back	98.3	3.332	-	1.107	1.017	-	
5280	56	802.11a	OFDM	20	16.0	15.56	0.20	0 mm	2	15928	6	front	98.3	1.628	-	1.107	1.017	-	
5280	56	802.11a	OFDM	20	16.0	15.56	-0.12	0 mm	2	15928	6	top	98.3	0.931	-	1.107	1.017	-	
5280	56	802.11a	OFDM	20	16.0	15.56	0.20	0 mm	2	15928	6	left	98.3	4.216	0.449	1.107	1.017	**0.505**	A74
5500	100	802.11a	OFDM	20	16.5	16.19	-0.17	0 mm	1	15928	6	back	98.3	2.162	-	1.074	1.017	-	
5500	100	802.11a	OFDM	20	16.5	16.19	-0.16	0 mm	1	15928	6	front	98.3	1.114	-	1.074	1.017	-	
5500	100	802.11a	OFDM	20	16.5	16.19	0.20	0 mm	1	15928	6	top	98.3	2.804	0.262	1.074	1.017	0.286	
5500	100	802.11a	OFDM	20	16.5	16.19	-0.20	0 mm	1	15928	6	left	98.3	0.834	-	1.074	1.017	-	
5500	100	802.11a	OFDM	20	16.0	15.41	-0.13	0 mm	2	15928	6	back	98.3	3.585	0.342	1.146	1.017	0.399	
5500	100	802.11a	OFDM	20	16.0	15.41	0.20	0 mm	2	15928	6	front	98.3	2.063	-	1.146	1.017	-	
5500	100	802.11a	OFDM	20	16.0	15.41	0.14	0 mm	2	15928	6	top	98.3	0.395	-	1.146	1.017	-	
5500	100	802.11a	OFDM	20	16.0	15.41	-0.12	0 mm	2	15928	6	left	98.3	3.557	-	1.146	1.017	-	
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 11-61
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 Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5280	56	802.11n	OFDM	20	16.5	16.36	16.0	15.39	0.01	0 mm	MIMO	15928	13	back	97.9	4.278	0.442	1.151	1.021	0.519	
5280	56	802.11n	OFDM	20	16.5	16.36	16.0	15.39	0.17	0 mm	MIMO	15928	13	front	97.9	2.557	-	1.151	1.021	-	
5280	56	802.11n	OFDM	20	16.5	16.36	16.0	15.39	0.16	0 mm	MIMO	15928	13	top	97.9	3.689	-	1.151	1.021	-	
5280	56	802.11n	OFDM	20	16.5	16.36	16.0	15.39	0.15	0 mm	MIMO	15928	13	left	97.9	4.217	-	1.151	1.021	-	
5500	100	802.11n	OFDM	20	16.5	15.93	16.0	15.27	0.12	0 mm	MIMO	15928	13	back	97.9	3.840	0.426	1.183	1.021	0.515	
5500	100	802.11n	OFDM	20	16.5	15.93	16.0	15.27	0.11	0 mm	MIMO	15928	13	front	97.9	2.070	-	1.183	1.021	-	
5500	100	802.11n	OFDM	20	16.5	15.93	16.0	15.27	0.16	0 mm	MIMO	15928	13	top	97.9	3.294	-	1.183	1.021	-	
5500	100	802.11n	OFDM	20	16.5	15.93	16.0	15.27	0.10	0 mm	MIMO	15928	13	left	97.9	3.786	-	1.183	1.021	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams					

Notes:

1. To achieve the 19.3 dBm maximum allowed MIMO power shown in the documentation for channels 56 and 100, antenna 1 transmits at a maximum allowed power of 16.5 dBm, and antenna 2 transmits at a maximum allowed power of 16.0 dBm.

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 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 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. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
12. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
13. The orange highlights throughout the report represents the highest SAR per FCC Equipment Class reflected on the FCC Grant.

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 > ½ dB, instead of the middle channel, the highest output power channel was used.
4. GPRS was additionally evaluated for head and body-worn exposure conditions to address possible VoIP scenarios.

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 > ½ dB, instead of the middle channel, the highest output power channel was used.

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 > ½ 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 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 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.
7. For LTE Band 5, LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

NR Notes:

1. NR implementation is limited to EN-DC operations only. 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. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
4. 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.

WLAN Notes:

1. For held-to-ear, 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) 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 **Error! Reference source not found.** 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.

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 9.7 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.

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.

LTE B25 SAR additionally represents LTE B2 Ant 2 since their transmission frequency ranges are overlapped and they share the same transmission path and signal characteristics.

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 a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

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.

12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear) [1 of 3]

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	CDMA BC10 (§90S)	0.168	0.630	0.070	0.798	0.238	0.868
	CDMA BC0 (§22H)	0.237	0.630	0.070	0.867	0.307	0.937
	PCS CDMA	0.164	0.630	0.070	0.794	0.234	0.864
	GSM/GPRS 850	0.109	0.630	0.070	0.739	0.179	0.809
	GSM/GPRS 1900	0.119	0.630	0.070	0.749	0.189	0.819
	UMTS 850	0.174	0.630	0.070	0.804	0.244	0.874
	UMTS 1750	0.146	0.630	0.070	0.776	0.216	0.846
	UMTS 1900	0.251	0.630	0.070	0.881	0.321	**0.951**
	LTE Band 71	0.164	0.630	0.070	0.794	0.234	0.864
	LTE Band 12	0.165	0.630	0.070	0.795	0.235	0.865
	LTE Band 13	0.164	0.630	0.070	0.794	0.234	0.864
	LTE Band 14	0.129	0.630	0.070	0.759	0.199	0.829
	LTE Band 26 (Cell)	0.150	0.630	0.070	0.780	0.220	0.850
	LTE Band 5 (Cell)	0.157	0.630	0.070	0.787	0.227	0.857
	LTE Band 66 (AWS)	0.169	0.630	0.070	0.799	0.239	0.869
	LTE Band 25 (PCS)	0.135	0.630	0.070	0.765	0.205	0.835
	LTE Band 30	0.098	0.630	0.070	0.728	0.168	0.798
	LTE Band 41	0.144	0.630	0.070	0.774	0.214	0.844

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.630	0.070	**1.565**	1.005	See Table Below
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.630	0.070	1.494	0.934	1.564

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.630	0.070	See Table Below	1.079	See Table Below
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.630	0.070	**1.568**	1.008	See Table Below
	LTE Band 30 Ant 7	0.503	0.232	0.630	0.070	1.365	0.805	1.435

Configuration	Mode	Anchor Band SAR (W/kg)	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	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 12	0.165	0.777	0.630	0.070	1.572	1.012	See Table Below
	LTE Band 14	0.129	0.777	0.630	0.070	1.536	0.976	See Table Below
	LTE Band 5 (Cell)	0.157	0.777	0.630	0.070	1.564	1.004	See Table Below
	LTE Band 2 (PCS)	0.135	0.777	0.630	0.070	1.542	0.982	See Table Below
	LTE Band 30	0.098	0.777	0.630	0.070	1.505	0.945	**1.575**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 12	0.165	1.111	0.630	0.070	See Table Below	1.346	See Table Below
	LTE Band 14	0.129	1.111	0.630	0.070	See Table Below	1.310	See Table Below
	LTE Band 5 (Cell)	0.157	1.111	0.630	0.070	See Table Below	1.338	See Table Below
	LTE Band 66 (AWS)	0.169	1.111	0.630	0.070	See Table Below	**1.350**	See Table Below
	LTE Band 30	0.098	1.111	0.630	0.070	See Table Below	1.279	See Table Below

Table 12-2
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear) [2 of 3]

Simult Tx	Configuration	NR Band n71 SAR (W/kg)	LTE Band 66 (AWS) Ant 7 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	4	1+2+3+4
Head SAR	Right Cheek	0.158	0.233	0.630	0.070*	1.091
	Right Tilt	0.088	0.156	0.630*	0.070	0.944
	Left Cheek	0.141	0.777	0.154	0.070*	**1.142**
	Left Tilt	0.081	0.203	0.036	0.014	0.334

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 66 (AWS) Ant 7 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	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.232	0.233	0.630	0.070*	1.095	**1.165**
	Right Tilt	0.076	0.156	0.630*	0.070	0.862	0.932
	Left Cheek	0.154	0.777	0.154	0.070*	1.085	1.155
	Left Tilt	0.084	0.203	0.036	0.014	0.323	0.337

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 2 (PCS) Ant 7 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	4	1+2+3+4
Head SAR	Right Cheek	0.232	0.359	0.630	0.070*	**1.291**
	Right Tilt	0.076	0.343	0.630*	0.070	1.119
	Left Cheek	0.154	0.706	0.154	0.070*	1.084
	Left Tilt	0.084	0.471	0.036	0.014	0.605

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 12 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	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.165	0.630	0.070*	1.098
	Right Tilt	0.156	0.096	0.630*	0.070	0.952
	Left Cheek	0.777	0.165	0.154	0.070*	**1.166**
	Left Tilt	0.203	0.118	0.036	0.014	0.371

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 14 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	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.129	0.630	0.070*	1.062
	Right Tilt	0.156	0.062	0.630*	0.070	0.918
	Left Cheek	0.777	0.090	0.154	0.070*	**1.091**
	Left Tilt	0.203	0.058	0.036	0.014	0.311

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 5 (Cell) 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	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.157	0.630	0.070*	1.090
	Right Tilt	0.156	0.069	0.630*	0.070	0.925
	Left Cheek	0.777	0.120	0.154	0.070*	**1.121**
	Left Tilt	0.203	0.070	0.036	0.014	0.323

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 2 (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	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.135	0.630	0.070*	1.068
	Right Tilt	0.156	0.099	0.630*	0.070	0.955
	Left Cheek	0.777	0.124	0.154	0.070*	**1.125**
	Left Tilt	0.203	0.094	0.036	0.014	0.347

Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear) [3 of 3]

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 12 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	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.416	0.165	0.630	0.070*	1.211	1.281
	Right Tilt	0.376	0.096	0.630*	0.070	1.102	1.172
	Left Cheek	1.111	0.165	0.154	0.070*	1.430	**1.500**
	Left Tilt	0.519	0.118	0.036	0.014	0.673	0.687

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 14 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	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.416	0.129	0.630	0.070*	1.175	1.245
	Right Tilt	0.376	0.062	0.630*	0.070	1.068	1.138
	Left Cheek	1.111	0.090	0.154	0.070*	1.355	**1.425**
	Left Tilt	0.519	0.058	0.036	0.014	0.613	0.627

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 5 (Cell) 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	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.416	0.157	0.630	0.070*	1.203	1.273
	Right Tilt	0.376	0.069	0.630*	0.070	1.075	1.145
	Left Cheek	1.111	0.120	0.154	0.070*	1.385	**1.455**
	Left Tilt	0.519	0.070	0.036	0.014	0.625	0.639

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 66 (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	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.416	0.169	0.630	0.070*	1.215	1.285
	Right Tilt	0.376	0.153	0.630*	0.070	1.159	1.229
	Left Cheek	1.111	0.140	0.154	0.070*	1.405	**1.475**
	Left Tilt	0.519	0.083	0.036	0.014	0.638	0.652

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	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)	
		1	2	3	4	1+2+3	1+2+3+4
Head SAR	Right Cheek	0.416	0.067	0.630	0.070*	1.113	1.183
	Right Tilt	0.376	0.062	0.630*	0.070	1.068	1.138
	Left Cheek	1.111	0.098	0.154	0.070*	1.363	**1.433**
	Left Tilt	0.519	0.042	0.036	0.014	0.597	0.611

Table 12-4
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Head SAR	CDMA BC10 (§90S)	0.168	0.195	0.286	0.363	0.454
	CDMA BC0 (§22H)	0.237	0.195	0.286	0.432	0.523
	PCS CDMA	0.164	0.195	0.286	0.359	0.450
	GSM/GPRS 850	0.109	0.195	0.286	0.304	0.395
	GSM/GPRS 1900	0.119	0.195	0.286	0.314	0.405
	UMTS 850	0.174	0.195	0.286	0.369	0.460
	UMTS 1750	0.146	0.195	0.286	0.341	0.432
	UMTS 1900	0.251	0.195	0.286	0.446	**0.537**
	LTE Band 71	0.164	0.195	0.286	0.359	0.450
	LTE Band 12	0.165	0.195	0.286	0.360	0.451
	LTE Band 13	0.164	0.195	0.286	0.359	0.450
	LTE Band 14	0.129	0.195	0.286	0.324	0.415
	LTE Band 26 (Cell)	0.150	0.195	0.286	0.345	0.436
	LTE Band 5 (Cell)	0.157	0.195	0.286	0.352	0.443
	LTE Band 66 (AWS)	0.169	0.195	0.286	0.364	0.455
	LTE Band 25 (PCS)	0.135	0.195	0.286	0.330	0.421
	LTE Band 30	0.098	0.195	0.286	0.293	0.384
	LTE Band 41	0.144	0.195	0.286	0.339	0.430

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.195	0.286	1.130	**1.221**
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.195	0.286	1.059	1.150

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.195	0.286	1.204	**1.295**
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.195	0.286	1.133	1.224
	LTE Band 30 Ant 7	0.503	0.232	0.195	0.286	0.930	1.021

Configuration	Mode	Anchor Band SAR (W/kg)	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)	
		1	2	3	4	1+2+3	1+2+4
Head SAR	LTE Band 12	0.165	0.777	0.195	0.286	1.137	**1.228**
	LTE Band 14	0.129	0.777	0.195	0.286	1.101	1.192
	LTE Band 5 (Cell)	0.157	0.777	0.195	0.286	1.129	1.220
	LTE Band 2 (PCS)	0.135	0.777	0.195	0.286	1.107	1.198
	LTE Band 30	0.098	0.777	0.195	0.286	1.070	1.161

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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	3	4	1+2+3	1+2+4
Head SAR	LTE Band 12	0.165	1.111	0.195	0.286	1.471	1.562
	LTE Band 14	0.129	1.111	0.195	0.286	1.435	1.526
	LTE Band 5 (Cell)	0.157	1.111	0.195	0.286	1.463	1.554
	LTE Band 66 (AWS)	0.169	1.111	0.195	0.286	1.475	**1.566**
	LTE Band 30	0.098	1.111	0.195	0.286	1.404	1.495

Table 12-5
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Held to Ear) [1 of 2]

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA BC10 (§90S)	0.168	0.531	0.699
	CDMA BC0 (§22H)	0.237	0.531	0.768
	PCS CDMA	0.164	0.531	0.695
	GSM/GPRS 850	0.109	0.531	0.640
	GSM/GPRS 1900	0.119	0.531	0.650
	UMTS 850	0.174	0.531	0.705
	UMTS 1750	0.146	0.531	0.677
	UMTS 1900	0.251	0.531	**0.782**
	LTE Band 71	0.164	0.531	0.695
	LTE Band 12	0.165	0.531	0.696
	LTE Band 13	0.164	0.531	0.695
	LTE Band 14	0.129	0.531	0.660
	LTE Band 26 (Cell)	0.150	0.531	0.681
	LTE Band 5 (Cell)	0.157	0.531	0.688
	LTE Band 66 (AWS)	0.169	0.531	0.700
	LTE Band 25 (PCS)	0.135	0.531	0.666
	LTE Band 30	0.098	0.531	0.629
	LTE Band 41	0.144	0.531	0.675

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.531	**1.466**
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.531	1.395

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.531	**1.540**
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.531	1.469
	LTE Band 30 Ant 7	0.503	0.232	0.531	1.266

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 12	0.165	0.777	0.531	**1.473**
	LTE Band 14	0.129	0.777	0.531	1.437
	LTE Band 5 (Cell)	0.157	0.777	0.531	1.465
	LTE Band 2 (PCS)	0.135	0.777	0.531	1.443
	LTE Band 30	0.098	0.777	0.531	1.406

Table 12-6
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Held to Ear) [2 of 2]

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 14 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.416	0.129	0.531	1.076
	Right Tilt	0.376	0.062	0.445	0.883
	Left Cheek	1.111	0.090	0.151	**1.352**
	Left Tilt	0.519	0.058	0.531*	1.108
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.416	0.157	0.531	1.104
	Right Tilt	0.376	0.069	0.445	0.890
	Left Cheek	1.111	0.120	0.151	**1.382**
	Left Tilt	0.519	0.070	0.531*	1.120
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.416	0.169	0.531	1.116
	Right Tilt	0.376	0.153	0.445	0.974
	Left Cheek	1.111	0.140	0.151	**1.402**
	Left Tilt	0.519	0.083	0.531*	1.133
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.416	0.067	0.531	1.014
	Right Tilt	0.376	0.062	0.445	0.883
	Left Cheek	1.111	0.098	0.151	**1.360**
	Left Tilt	0.519	0.042	0.531*	1.092

Table 12-7
Simultaneous Transmission Scenario with Bluetooth (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA BC10 (§90S)	0.168	0.302	0.470
	CDMA BC0 (§22H)	0.237	0.302	0.539
	PCS CDMA	0.164	0.302	0.466
	GSM/GPRS 850	0.109	0.302	0.411
	GSM/GPRS 1900	0.119	0.302	0.421
	UMTS 850	0.174	0.302	0.476
	UMTS 1750	0.146	0.302	0.448
	UMTS 1900	0.251	0.302	**0.553**
	LTE Band 71	0.164	0.302	0.466
	LTE Band 12	0.165	0.302	0.467
	LTE Band 13	0.164	0.302	0.466
	LTE Band 14	0.129	0.302	0.431
	LTE Band 26 (Cell)	0.150	0.302	0.452
	LTE Band 5 (Cell)	0.157	0.302	0.459
	LTE Band 66 (AWS)	0.169	0.302	0.471
	LTE Band 25 (PCS)	0.135	0.302	0.437
	LTE Band 30	0.098	0.302	0.400
	LTE Band 41	0.144	0.302	0.446

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.302	**1.237**
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.302	1.166

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.302	**1.311**
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.302	1.240
	LTE Band 30 Ant 7	0.503	0.232	0.302	1.037

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 12	0.165	0.777	0.302	**1.244**
	LTE Band 14	0.129	0.777	0.302	1.208
	LTE Band 5 (Cell)	0.157	0.777	0.302	1.236
	LTE Band 2 (PCS)	0.135	0.777	0.302	1.214
	LTE Band 30	0.098	0.777	0.302	1.177

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 12	0.165	1.111	0.302	1.578
	LTE Band 14	0.129	1.111	0.302	1.542
	LTE Band 5 (Cell)	0.157	1.111	0.302	1.570
	LTE Band 66 (AWS)	0.169	1.111	0.302	**1.582**
	LTE Band 30	0.098	1.111	0.302	1.511

Table 12-8
Simultaneous Transmission Scenario with 2.4 GHz WLAN Antenna 2 and Bluetooth (Held to Ear) [1 of 2]

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA BC10 (§90S)	0.168	0.070	0.302	0.540
	CDMA BC0 (§22H)	0.237	0.070	0.302	0.609
	PCS CDMA	0.164	0.070	0.302	0.536
	GSM/GPRS 850	0.109	0.070	0.302	0.481
	GSM/GPRS 1900	0.119	0.070	0.302	0.491
	UMTS 850	0.174	0.070	0.302	0.546
	UMTS 1750	0.146	0.070	0.302	0.518
	UMTS 1900	0.251	0.070	0.302	**0.623**
	LTE Band 71	0.164	0.070	0.302	0.536
	LTE Band 12	0.165	0.070	0.302	0.537
	LTE Band 13	0.164	0.070	0.302	0.536
	LTE Band 14	0.129	0.070	0.302	0.501
	LTE Band 26 (Cell)	0.150	0.070	0.302	0.522
	LTE Band 5 (Cell)	0.157	0.070	0.302	0.529
	LTE Band 66 (AWS)	0.169	0.070	0.302	0.541
	LTE Band 25 (PCS)	0.135	0.070	0.302	0.507
	LTE Band 30	0.098	0.070	0.302	0.470
	LTE Band 41	0.144	0.070	0.302	0.516

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.070	0.302	**1.307**
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.070	0.302	1.236

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.070	0.302	**1.381**
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.070	0.302	1.310
	LTE Band 30 Ant 7	0.503	0.232	0.070	0.302	1.107

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 12	0.165	0.777	0.070	0.302	**1.314**
	LTE Band 14	0.129	0.777	0.070	0.302	1.278
	LTE Band 5 (Cell)	0.157	0.777	0.070	0.302	1.306
	LTE Band 2 (PCS)	0.135	0.777	0.070	0.302	1.284
	LTE Band 30	0.098	0.777	0.070	0.302	1.247

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 12	0.165	1.111	0.070	0.302	See Table Below
	LTE Band 14	0.129	1.111	0.070	0.302	See Table Below
	LTE Band 5 (Cell)	0.157	1.111	0.070	0.302	See Table Below
	LTE Band 66 (AWS)	0.169	1.111	0.070	0.302	See Table Below
	LTE Band 30	0.098	1.111	0.070	0.302	**1.581**

Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN Antenna 2 and Bluetooth (Held to Ear) [2 of 2]

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 12 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.165	0.070*	0.302	0.953
	Right Tilt	0.376	0.096	0.070	0.073	0.615
	Left Cheek	1.111	0.165	0.070*	0.052	**1.398**
	Left Tilt	0.519	0.118	0.014	0.014	0.665
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 14 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.129	0.070*	0.302	0.917
	Right Tilt	0.376	0.062	0.070	0.073	0.581
	Left Cheek	1.111	0.090	0.070*	0.052	**1.323**
	Left Tilt	0.519	0.058	0.014	0.014	0.605
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.157	0.070*	0.302	0.945
	Right Tilt	0.376	0.069	0.070	0.073	0.588
	Left Cheek	1.111	0.120	0.070*	0.052	**1.353**
	Left Tilt	0.519	0.070	0.014	0.014	0.617
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.169	0.070*	0.302	0.957
	Right Tilt	0.376	0.153	0.070	0.073	0.672
	Left Cheek	1.111	0.140	0.070*	0.052	**1.373**
	Left Tilt	0.519	0.083	0.014	0.014	0.630

Table 12-10
Simultaneous Transmission Scenario with 5 GHz WLAN SISO and Bluetooth (Held to Ear) [1 of 2]

Configuration	Mode	2G/3G/4G 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
Head SAR	CDMA BC10 (§90S)	0.168	0.302	0.195	0.286	0.665	0.756
	CDMA BC0 (§22H)	0.237	0.302	0.195	0.286	0.734	0.825
	PCS CDMA	0.164	0.302	0.195	0.286	0.661	0.752
	GSM/GPRS 850	0.109	0.302	0.195	0.286	0.606	0.697
	GSM/GPRS 1900	0.119	0.302	0.195	0.286	0.616	0.707
	UMTS 850	0.174	0.302	0.195	0.286	0.671	0.762
	UMTS 1750	0.146	0.302	0.195	0.286	0.643	0.734
	UMTS 1900	0.251	0.302	0.195	0.286	0.748	**0.839**
	LTE Band 71	0.164	0.302	0.195	0.286	0.661	0.752
	LTE Band 12	0.165	0.302	0.195	0.286	0.662	0.753
	LTE Band 13	0.164	0.302	0.195	0.286	0.661	0.752
	LTE Band 14	0.129	0.302	0.195	0.286	0.626	0.717
	LTE Band 26 (Cell)	0.150	0.302	0.195	0.286	0.647	0.738
	LTE Band 5 (Cell)	0.157	0.302	0.195	0.286	0.654	0.745
	LTE Band 66 (AWS)	0.169	0.302	0.195	0.286	0.666	0.757
	LTE Band 25 (PCS)	0.135	0.302	0.195	0.286	0.632	0.723
	LTE Band 30	0.098	0.302	0.195	0.286	0.595	0.686
	LTE Band 41	0.144	0.302	0.195	0.286	0.641	0.732

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	5	1+2+3+4	1+2+3+5
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.158	0.302	0.195	0.286	1.432	**1.523**
	LTE Band 2 (PCS) Ant 7	0.706	0.158	0.302	0.195	0.286	1.361	1.452

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	5	1+2+3+4	1+2+3+5
Head SAR	LTE Band 66 (AWS) Ant 7	0.777	0.232	0.302	0.195	0.286	1.506	See Table Below
	LTE Band 2 (PCS) Ant 7	0.706	0.232	0.302	0.195	0.286	1.435	**1.526**
	LTE Band 30 Ant 7	0.503	0.232	0.302	0.195	0.286	1.232	1.323

Configuration	Mode	Anchor Band SAR (W/kg)	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	5	1+2+3+4	1+2+3+5
Head SAR	LTE Band 12	0.165	0.777	0.302	0.195	0.286	1.439	**1.530**
	LTE Band 14	0.129	0.777	0.302	0.195	0.286	1.403	1.494
	LTE Band 5 (Cell)	0.157	0.777	0.302	0.195	0.286	1.431	1.522
	LTE Band 2 (PCS)	0.135	0.777	0.302	0.195	0.286	1.409	1.500
	LTE Band 30	0.098	0.777	0.302	0.195	0.286	1.372	1.463

Table 12-11
Simultaneous Transmission Scenario with 5 GHz WLAN SISO and Bluetooth (Held to Ear) [2 of 2]

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 66 (AWS) Ant 7 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	5	1+2+3+4	1+2+3+5
Head SAR	Right Cheek	0.232	0.233	0.302	0.125	0.286	0.892	1.053
	Right Tilt	0.076	0.156	0.073	0.195	0.286*	0.500	0.591
	Left Cheek	0.154	0.777	0.052	0.195*	0.046	**1.178**	1.029
	Left Tilt	0.084	0.203	0.014	0.195*	0.286*	0.496	0.587
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 12 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	5	1+2+3+4	1+2+3+4
Head SAR	Right Cheek	0.416	0.165	0.302	0.125	0.286	1.008	1.169
	Right Tilt	0.376	0.096	0.073	0.195	0.286*	0.740	0.831
	Left Cheek	1.111	0.165	0.052	0.195*	0.046	**1.523**	1.374
	Left Tilt	0.519	0.118	0.014	0.195*	0.286*	0.846	0.937
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 14 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	5	1+2+3+4	1+2+3+4
Head SAR	Right Cheek	0.416	0.129	0.302	0.125	0.286	0.972	1.133
	Right Tilt	0.376	0.062	0.073	0.195	0.286*	0.706	0.797
	Left Cheek	1.111	0.090	0.052	0.195*	0.046	**1.448**	1.299
	Left Tilt	0.519	0.058	0.014	0.195*	0.286*	0.786	0.877
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 5 (Cell) 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	5	1+2+3+4	1+2+3+4
Head SAR	Right Cheek	0.416	0.157	0.302	0.125	0.286	1.000	1.161
	Right Tilt	0.376	0.069	0.073	0.195	0.286*	0.713	0.804
	Left Cheek	1.111	0.120	0.052	0.195*	0.046	**1.478**	1.329
	Left Tilt	0.519	0.070	0.014	0.195*	0.286*	0.798	0.889
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	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)	
		1	2	3	4	5	1+2+3+4	1+2+3+4
Head SAR	Right Cheek	0.416	0.169	0.302	0.125	0.286	1.012	1.173
	Right Tilt	0.376	0.153	0.073	0.195	0.286*	0.797	0.888
	Left Cheek	1.111	0.140	0.052	0.195*	0.046	**1.498**	1.349
	Left Tilt	0.519	0.083	0.014	0.195*	0.286*	0.811	0.902
Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	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)	
		1	1	2	3	5	1+2+3+4	1+2+3+4
Head SAR	Right Cheek	0.416	0.067	0.302	0.125	0.286	0.910	1.071
	Right Tilt	0.376	0.062	0.073	0.195	0.286*	0.706	0.797
	Left Cheek	1.111	0.098	0.052	0.195*	0.046	**1.456**	1.307
	Left Tilt	0.519	0.042	0.014	0.195*	0.286*	0.770	0.861

Table 12-12
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Held to Ear) [1 of 2]

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA BC10 (§90S)	0.168	0.302	0.531	1.001
	CDMA BC0 (§22H)	0.237	0.302	0.531	1.070
	PCS CDMA	0.164	0.302	0.531	0.997
	GSM/GPRS 850	0.109	0.302	0.531	0.942
	GSM/GPRS 1900	0.119	0.302	0.531	0.952
	UMTS 850	0.174	0.302	0.531	1.007
	UMTS 1750	0.146	0.302	0.531	0.979
	UMTS 1900	0.251	0.302	0.531	**1.084**
	LTE Band 71	0.164	0.302	0.531	0.997
	LTE Band 12	0.165	0.302	0.531	0.998
	LTE Band 13	0.164	0.302	0.531	0.997
	LTE Band 14	0.129	0.302	0.531	0.962
	LTE Band 26 (Cell)	0.150	0.302	0.531	0.983
	LTE Band 5 (Cell)	0.157	0.302	0.531	0.990
	LTE Band 66 (AWS)	0.169	0.302	0.531	1.002
	LTE Band 25 (PCS)	0.135	0.302	0.531	0.968
	LTE Band 30	0.098	0.302	0.531	0.931
	LTE Band 41	0.144	0.302	0.531	0.977

Simult Tx	Configuration	NR Band n71 SAR (W/kg)	LTE Band 66 (AWS) Ant 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.158	0.233	0.302	0.531	**1.224**
	Right Tilt	0.088	0.156	0.073	0.445	0.762
	Left Cheek	0.141	0.777	0.052	0.151	1.121
	Left Tilt	0.081	0.203	0.014	0.531*	0.829

Simult Tx	Configuration	NR Band n71 SAR (W/kg)	LTE Band 2 (PCS) Ant 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.158	0.359	0.302	0.531	**1.350**
	Right Tilt	0.088	0.343	0.073	0.445	0.949
	Left Cheek	0.141	0.706	0.052	0.151	1.050
	Left Tilt	0.081	0.471	0.014	0.531*	1.097

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 66 (AWS) Ant 7 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
Head SAR	Right Cheek	0.232	0.233	0.125	0.286	0.590	0.751
	Right Tilt	0.076	0.156	0.195	0.286*	0.427	0.518
	Left Cheek	0.154	0.777	0.195*	0.046	**1.126**	0.977
	Left Tilt	0.084	0.203	0.195*	0.286*	0.482	0.573

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 2 (PCS) Ant 7 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
Head SAR	Right Cheek	0.232	0.359	0.125	0.286	0.716	0.877
	Right Tilt	0.076	0.343	0.195	0.286*	0.614	0.705
	Left Cheek	0.154	0.706	0.195*	0.046	**1.055**	0.906
	Left Tilt	0.084	0.471	0.195*	0.286*	0.750	0.841

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	LTE Band 30 Ant 7 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
Head SAR	Right Cheek	0.232	0.137	0.125	0.286	0.494	0.655
	Right Tilt	0.076	0.090	0.195	0.286*	0.361	0.452
	Left Cheek	0.154	0.503	0.195*	0.046	**0.852**	0.703
	Left Tilt	0.084	0.198	0.195*	0.286*	0.477	0.568

Table 12-13
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Held to Ear) [2 of 2]

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.165	0.302	0.531	**1.231**
	Right Tilt	0.156	0.096	0.073	0.445	0.770
	Left Cheek	0.777	0.165	0.052	0.151	1.145
	Left Tilt	0.203	0.118	0.014	0.531*	0.866

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.165	0.302	0.531	1.414
	Right Tilt	0.376	0.096	0.073	0.445	0.990
	Left Cheek	1.111	0.165	0.052	0.151	**1.479**
	Left Tilt	0.519	0.118	0.014	0.531*	1.182

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.129	0.302	0.531	**1.195**
	Right Tilt	0.156	0.062	0.073	0.445	0.736
	Left Cheek	0.777	0.090	0.052	0.151	1.070
	Left Tilt	0.203	0.058	0.014	0.531*	0.806

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.129	0.302	0.531	1.378
	Right Tilt	0.376	0.062	0.073	0.445	0.956
	Left Cheek	1.111	0.090	0.052	0.151	**1.404**
	Left Tilt	0.519	0.058	0.014	0.531*	1.122

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.157	0.302	0.531	**1.223**
	Right Tilt	0.156	0.069	0.073	0.445	0.743
	Left Cheek	0.777	0.120	0.052	0.151	1.100
	Left Tilt	0.203	0.070	0.014	0.531*	0.818

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.157	0.302	0.531	1.406
	Right Tilt	0.376	0.069	0.073	0.445	0.963
	Left Cheek	1.111	0.120	0.052	0.151	**1.434**
	Left Tilt	0.519	0.070	0.014	0.531*	1.134

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.135	0.302	0.531	**1.201**
	Right Tilt	0.156	0.099	0.073	0.445	0.773
	Left Cheek	0.777	0.124	0.052	0.151	1.104
	Left Tilt	0.203	0.094	0.014	0.531*	0.842

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	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	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.169	0.302	0.531	1.418
	Right Tilt	0.376	0.153	0.073	0.445	1.047
	Left Cheek	1.111	0.140	0.052	0.151	**1.454**
	Left Tilt	0.519	0.083	0.014	0.531*	1.147

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.233	0.067	0.302	0.531	**1.133**
	Right Tilt	0.156	0.062	0.073	0.445	0.736
	Left Cheek	0.777	0.098	0.052	0.151	1.078
	Left Tilt	0.203	0.042	0.014	0.531*	0.790

Simult Tx	Configuration	NR Band n2 (PCS) SAR (W/kg)	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.416	0.067	0.302	0.531	1.316
	Right Tilt	0.376	0.062	0.073	0.445	0.956
	Left Cheek	1.111	0.098	0.052	0.151	**1.412**
	Left Tilt	0.519	0.042	0.014	0.531*	1.106

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-14
Simultaneous Transmission Scenario with 2.4 GHz WLAN SISO (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.255	0.107	0.681	0.533
	CDMA BC0 (§22H)	0.514	0.255	0.107	0.769	0.621
	PCS CDMA	0.668	0.255	0.107	**0.923**	0.775
	GSM/GPRS 850	0.560	0.255	0.107	0.815	0.667
	GSM/GPRS 1900	0.187	0.255	0.107	0.442	0.294
	UMTS 850	0.376	0.255	0.107	0.631	0.483
	UMTS 1750	0.527	0.255	0.107	0.782	0.634
	UMTS 1900	0.465	0.255	0.107	0.720	0.572
	LTE Band 71	0.276	0.255	0.107	0.531	0.383
	LTE Band 12	0.339	0.255	0.107	0.594	0.446
	LTE Band 13	0.211	0.255	0.107	0.466	0.318
	LTE Band 14	0.206	0.255	0.107	0.461	0.313
	LTE Band 26 (Cell)	0.366	0.255	0.107	0.621	0.473
	LTE Band 5 (Cell)	0.364	0.255	0.107	0.619	0.471
	LTE Band 66 (AWS)	0.361	0.255	0.107	0.616	0.468
	LTE Band 25 (PCS)	0.419	0.255	0.107	0.674	0.526
	LTE Band 30	0.575	0.255	0.107	0.830	0.682
	LTE Band 41	0.306	0.255	0.107	0.561	0.413

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.255	0.107	**0.873**	0.725
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.255	0.107	0.833	0.685

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.255	0.107	**0.992**	0.844
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.255	0.107	0.952	0.804
	LTE Band 30 Ant 7	0.102	0.402	0.255	0.107	0.759	0.611

Configuration	Mode	Anchor Band SAR (W/kg)	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	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 12	0.339	0.335	0.255	0.107	0.929	0.781
	LTE Band 14	0.206	0.335	0.255	0.107	0.796	0.648
	LTE Band 5 (Cell)	0.364	0.335	0.255	0.107	0.954	0.806
	LTE Band 2 (PCS)	0.419	0.335	0.255	0.107	1.009	0.861
	LTE Band 30	0.575	0.335	0.255	0.107	**1.165**	1.017

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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)		SPLSR				
		1	2	3	4	1+2+3	1+2+4	1+2	1+3	1+4	2+3	2+4
Body - Worn SAR	LTE Band 12	0.339	0.927	0.255	0.107	1.521	1.373	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.255	0.107	1.388	1.240	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.255	0.107	**1.546**	1.398	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.255	0.107	1.543	1.395	N/A	N/A	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.255	0.107	See Note 1	See Note 1	0.01	0.01	0.00	0.02	0.02

Table 12-15
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.233	0.659
	CDMA BC0 (§22H)	0.514	0.233	0.747
	PCS CDMA	0.668	0.233	**0.901**
	GSM/GPRS 850	0.560	0.233	0.793
	GSM/GPRS 1900	0.187	0.233	0.420
	UMTS 850	0.376	0.233	0.609
	UMTS 1750	0.527	0.233	0.760
	UMTS 1900	0.465	0.233	0.698
	LTE Band 71	0.276	0.233	0.509
	LTE Band 12	0.339	0.233	0.572
	LTE Band 13	0.211	0.233	0.444
	LTE Band 14	0.206	0.233	0.439
	LTE Band 26 (Cell)	0.366	0.233	0.599
	LTE Band 5 (Cell)	0.364	0.233	0.597
	LTE Band 66 (AWS)	0.361	0.233	0.594
	LTE Band 25 (PCS)	0.419	0.233	0.652
	LTE Band 30	0.575	0.233	0.808
	LTE Band 41	0.306	0.233	0.539

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.233	**0.851**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.233	0.811

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.233	**0.970**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.233	0.930
	LTE Band 30 Ant 7	0.102	0.402	0.233	0.737

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.339	0.335	0.233	0.907
	LTE Band 14	0.206	0.335	0.233	0.774
	LTE Band 5 (Cell)	0.364	0.335	0.233	0.932
	LTE Band 2 (PCS)	0.419	0.335	0.233	0.987
	LTE Band 30	0.575	0.335	0.233	**1.143**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Body - Worn SAR	LTE Band 12	0.339	0.927	0.233	1.499	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.233	1.366	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.233	**1.524**	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.233	1.521	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.233	See Note 1	0.01	0.01	0.02

Table 12-16
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.098	0.198	0.524	0.624
	CDMA BC0 (§22H)	0.514	0.098	0.198	0.612	0.712
	PCS CDMA	0.668	0.098	0.198	0.766	0.866
	GSM/GPRS 850	0.560	0.098	0.198	0.658	0.758
	GSM/GPRS 1900	0.187	0.098	0.198	0.285	0.385
	UMTS 850	0.376	0.098	0.198	0.474	0.574
	UMTS 1750	0.527	0.098	0.198	0.625	0.725
	UMTS 1900	0.465	0.098	0.198	0.563	0.663
	LTE Band 71	0.276	0.098	0.198	0.374	0.474
	LTE Band 12	0.339	0.098	0.198	0.437	0.537
	LTE Band 13	0.211	0.098	0.198	0.309	0.409
	LTE Band 14	0.206	0.098	0.198	0.304	0.404
	LTE Band 26 (Cell)	0.366	0.098	0.198	0.464	0.564
	LTE Band 5 (Cell)	0.364	0.098	0.198	0.462	0.562
	LTE Band 66 (AWS)	0.361	0.098	0.198	0.459	0.559
	LTE Band 25 (PCS)	0.419	0.098	0.198	0.517	0.617
	LTE Band 30	0.575	0.098	0.198	0.673	**0.773**
	LTE Band 41	0.306	0.098	0.198	0.404	0.504

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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 SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.098	0.198	0.716	**0.816**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.098	0.198	0.676	0.776

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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 SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.098	0.198	0.835	**0.935**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.098	0.198	0.795	0.895
	LTE Band 30 Ant 7	0.102	0.402	0.098	0.198	0.602	0.702

Configuration	Mode	Anchor Band SAR (W/kg)	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)	
		1	2	3	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 12	0.339	0.335	0.098	0.198	0.772	0.872
	LTE Band 14	0.206	0.335	0.098	0.198	0.639	0.739
	LTE Band 5 (Cell)	0.364	0.335	0.098	0.198	0.797	0.897
	LTE Band 2 (PCS)	0.419	0.335	0.098	0.198	0.852	0.952
	LTE Band 30	0.575	0.335	0.098	0.198	1.008	**1.108**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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				
		1	2	3	4	1+2+3	1+2+4	1+2	1+3	1+4	2+3	2+4
Body - Worn SAR	LTE Band 12	0.339	0.927	0.098	0.198	1.364	1.464	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.098	0.198	1.231	1.331	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.098	0.198	1.389	**1.489**	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.098	0.198	1.386	1.486	N/A	N/A	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.098	0.198	See Note 1	See Note 1	0.01	0.00	0.01	0.03	0.02

Table 12-17
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.175	0.601
	CDMA BC0 (§22H)	0.514	0.175	0.689
	PCS CDMA	0.668	0.175	**0.843**
	GSM/GPRS 850	0.560	0.175	0.735
	GSM/GPRS 1900	0.187	0.175	0.362
	UMTS 850	0.376	0.175	0.551
	UMTS 1750	0.527	0.175	0.702
	UMTS 1900	0.465	0.175	0.640
	LTE Band 71	0.276	0.175	0.451
	LTE Band 12	0.339	0.175	0.514
	LTE Band 13	0.211	0.175	0.386
	LTE Band 14	0.206	0.175	0.381
	LTE Band 26 (Cell)	0.366	0.175	0.541
	LTE Band 5 (Cell)	0.364	0.175	0.539
	LTE Band 66 (AWS)	0.361	0.175	0.536
	LTE Band 25 (PCS)	0.419	0.175	0.594
	LTE Band 30	0.575	0.175	0.750
	LTE Band 41	0.306	0.175	0.481

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.175	**0.793**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.175	0.753

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.175	**0.912**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.175	0.872
	LTE Band 30 Ant 7	0.102	0.402	0.175	0.679

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.339	0.335	0.175	0.849
	LTE Band 14	0.206	0.335	0.175	0.716
	LTE Band 5 (Cell)	0.364	0.335	0.175	0.874
	LTE Band 2 (PCS)	0.419	0.335	0.175	0.929
	LTE Band 30	0.575	0.335	0.175	**1.085**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) 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	2+3
Body - Worn SAR	LTE Band 12	0.339	0.927	0.175	1.441	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.175	1.308	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.175	**1.466**	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.175	1.463	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.175	See Note 1	0.01	0.00	0.02

Table 12-18
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.029	0.455
	CDMA BC0 (§22H)	0.514	0.029	0.543
	PCS CDMA	0.668	0.029	**0.697**
	GSM/GPRS 850	0.560	0.029	0.589
	GSM/GPRS 1900	0.187	0.029	0.216
	UMTS 850	0.376	0.029	0.405
	UMTS 1750	0.527	0.029	0.556
	UMTS 1900	0.465	0.029	0.494
	LTE Band 71	0.276	0.029	0.305
	LTE Band 12	0.339	0.029	0.368
	LTE Band 13	0.211	0.029	0.240
	LTE Band 14	0.206	0.029	0.235
	LTE Band 26 (Cell)	0.366	0.029	0.395
	LTE Band 5 (Cell)	0.364	0.029	0.393
	LTE Band 66 (AWS)	0.361	0.029	0.390
	LTE Band 25 (PCS)	0.419	0.029	0.448
	LTE Band 30	0.575	0.029	0.604
	LTE Band 41	0.306	0.029	0.335

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.029	**0.647**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.029	0.607

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.029	**0.766**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.029	0.726
	LTE Band 30 Ant 7	0.102	0.402	0.029	0.533

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.339	0.335	0.029	0.703
	LTE Band 14	0.206	0.335	0.029	0.570
	LTE Band 5 (Cell)	0.364	0.335	0.029	0.728
	LTE Band 2 (PCS)	0.419	0.335	0.029	0.783
	LTE Band 30	0.575	0.335	0.029	**0.939**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.339	0.927	0.029	1.295
	LTE Band 14	0.206	0.927	0.029	1.162
	LTE Band 5 (Cell)	0.364	0.927	0.029	1.320
	LTE Band 66 (AWS)	0.361	0.927	0.029	1.317
	LTE Band 30	0.575	0.927	0.029	**1.531**

Table 12-19
Simultaneous Transmission Scenario with 2.4 GHz WLAN Antenna 2 and Bluetooth (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.107	0.029	0.562
	CDMA BC0 (§22H)	0.514	0.107	0.029	0.650
	PCS CDMA	0.668	0.107	0.029	0.804
	GSM/GPRS 850	0.560	0.107	0.029	0.696
	GSM/GPRS 1900	0.187	0.107	0.029	0.323
	UMTS 850	0.376	0.107	0.029	0.512
	UMTS 1750	0.527	0.107	0.029	0.663
	UMTS 1900	0.465	0.107	0.029	0.601
	LTE Band 71	0.276	0.107	0.029	0.412
	LTE Band 12	0.339	0.107	0.029	0.475
	LTE Band 13	0.211	0.107	0.029	0.347
	LTE Band 14	0.206	0.107	0.029	0.342
	LTE Band 26 (Cell)	0.366	0.107	0.029	0.502
	LTE Band 5 (Cell)	0.364	0.107	0.029	0.500
	LTE Band 66 (AWS)	0.361	0.107	0.029	0.497
	LTE Band 25 (PCS)	0.419	0.107	0.029	0.555
	LTE Band 30	0.575	0.107	0.029	**0.711**
	LTE Band 41	0.306	0.107	0.029	0.442

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.107	0.029	**0.754**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.107	0.029	0.714

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.107	0.029	**0.873**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.107	0.029	0.833
	LTE Band 30 Ant 7	0.102	0.402	0.107	0.029	0.640

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.339	0.335	0.107	0.029	0.810
	LTE Band 14	0.206	0.335	0.107	0.029	0.677
	LTE Band 5 (Cell)	0.364	0.335	0.107	0.029	0.835
	LTE Band 2 (PCS)	0.419	0.335	0.107	0.029	0.890
	LTE Band 30	0.575	0.335	0.107	0.029	**1.046**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)	SPLSR				
		1	2	3	4	1+2+3+4	1+2	1+3	1+4	2+3	2+4
Body - Worn SAR	LTE Band 12	0.339	0.927	0.107	0.029	1.402	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.107	0.029	1.269	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.107	0.029	1.427	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.107	0.029	**1.424**	N/A	N/A	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.107	0.029	See Note 1	0.01	0.00	0.00	0.02	0.01

Table 12-20
Simultaneous Transmission Scenario with 5 GHz WLAN SISO and Bluetooth (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G 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 SAR	CDMA BC10 (§90S)	0.426	0.029	0.098	0.198	0.553	0.653
	CDMA BC0 (§22H)	0.514	0.029	0.098	0.198	0.641	0.741
	PCS CDMA	0.668	0.029	0.098	0.198	0.795	0.895
	GSM/GPRS 850	0.560	0.029	0.098	0.198	0.687	0.787
	GSM/GPRS 1900	0.187	0.029	0.098	0.198	0.314	0.414
	UMTS 850	0.376	0.029	0.098	0.198	0.503	0.603
	UMTS 1750	0.527	0.029	0.098	0.198	0.654	0.754
	UMTS 1900	0.465	0.029	0.098	0.198	0.592	0.692
	LTE Band 71	0.276	0.029	0.098	0.198	0.403	0.503
	LTE Band 12	0.339	0.029	0.098	0.198	0.466	0.566
	LTE Band 13	0.211	0.029	0.098	0.198	0.338	0.438
	LTE Band 14	0.206	0.029	0.098	0.198	0.333	0.433
	LTE Band 26 (Cell)	0.366	0.029	0.098	0.198	0.493	0.593
	LTE Band 5 (Cell)	0.364	0.029	0.098	0.198	0.491	0.591
	LTE Band 66 (AWS)	0.361	0.029	0.098	0.198	0.488	0.588
	LTE Band 25 (PCS)	0.419	0.029	0.098	0.198	0.546	0.646
	LTE Band 30	0.575	0.029	0.098	0.198	0.702	**0.802**
	LTE Band 41	0.306	0.029	0.098	0.198	0.433	0.533

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	5	1+2+3+4	1+2+3+5
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.029	0.098	0.198	0.745	**0.845**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.029	0.098	0.198	0.705	0.805

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	5	1+2+3+4	1+2+3+5
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.029	0.098	0.198	0.864	**0.964**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.029	0.098	0.198	0.824	0.924
	LTE Band 30 Ant 7	0.102	0.402	0.029	0.098	0.198	0.631	0.731

Configuration	Mode	Anchor Band SAR (W/kg)	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	5	1+2+3+4	1+2+3+5
Body - Worn SAR	LTE Band 12	0.339	0.335	0.029	0.098	0.198	0.801	0.901
	LTE Band 14	0.206	0.335	0.029	0.098	0.198	0.668	0.768
	LTE Band 5 (Cell)	0.364	0.335	0.029	0.098	0.198	0.826	0.926
	LTE Band 2 (PCS)	0.419	0.335	0.029	0.098	0.198	0.881	0.981
	LTE Band 30	0.575	0.335	0.029	0.098	0.198	1.037	**1.137**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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)		SPLSR								
		1	2	3	4	5	1+2+3+4	1+2+3+5	1+2	1+3	1+4	1+5	2+3	2+4	2+5	3+4	3+5
Body - Worn SAR	LTE Band 12	0.339	0.927	0.029	0.098	0.198	1.393	1.493	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.029	0.098	0.198	1.260	1.360	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.029	0.098	0.198	1.418	**1.518**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.029	0.098	0.198	1.415	1.515	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.029	0.098	0.198	See Note 1	See Note 1	0.01	0.00	0.00	0.01	0.01	0.03	0.02	0.00	0.01

Table 12-21
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	CDMA BC10 (§90S)	0.426	0.029	0.175	0.630
	CDMA BC0 (§22H)	0.514	0.029	0.175	0.718
	PCS CDMA	0.668	0.029	0.175	0.872
	GSM/GPRS 850	0.560	0.029	0.175	0.764
	GSM/GPRS 1900	0.187	0.029	0.175	0.391
	UMTS 850	0.376	0.029	0.175	0.580
	UMTS 1750	0.527	0.029	0.175	0.731
	UMTS 1900	0.465	0.029	0.175	0.669
	LTE Band 71	0.276	0.029	0.175	0.480
	LTE Band 12	0.339	0.029	0.175	0.543
	LTE Band 13	0.211	0.029	0.175	0.415
	LTE Band 14	0.206	0.029	0.175	0.410
	LTE Band 26 (Cell)	0.366	0.029	0.175	0.570
	LTE Band 5 (Cell)	0.364	0.029	0.175	0.568
	LTE Band 66 (AWS)	0.361	0.029	0.175	0.565
	LTE Band 25 (PCS)	0.419	0.029	0.175	0.623
	LTE Band 30	0.575	0.029	0.175	**0.779**
	LTE Band 41	0.306	0.029	0.175	0.510

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.283	0.029	0.175	**0.822**
	LTE Band 2 (PCS) Ant 7	0.295	0.283	0.029	0.175	0.782

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS) Ant 7	0.335	0.402	0.029	0.175	**0.941**
	LTE Band 2 (PCS) Ant 7	0.295	0.402	0.029	0.175	0.901
	LTE Band 30 Ant 7	0.102	0.402	0.029	0.175	0.708

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.339	0.335	0.029	0.175	0.878
	LTE Band 14	0.206	0.335	0.029	0.175	0.745
	LTE Band 5 (Cell)	0.364	0.335	0.029	0.175	0.903
	LTE Band 2 (PCS)	0.419	0.335	0.029	0.175	0.958
	LTE Band 30	0.575	0.335	0.029	0.175	**1.114**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR					
		1	2	3	4	1+2+3+4	1+2	1+3	1+4	2+3	2+4	3+4
Body - Worn SAR	LTE Band 12	0.339	0.927	0.029	0.175	1.470	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.206	0.927	0.029	0.175	1.337	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.364	0.927	0.029	0.175	**1.495**	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.361	0.927	0.029	0.175	1.492	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 30	0.575	0.927	0.029	0.175	See Note 1	0.01	0.00	0.00	0.01	0.02	0.01

Notes:

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.

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-22
Simultaneous Transmission Scenario with 2.4 GHz WLAN SISO (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot	EVDO BC10 (§90S)	0.455	0.345	0.107	0.800	0.562
	EVDO BC0 (§22H)	0.540	0.345	0.107	0.885	0.647
	PCS EVDO	1.203	0.345	0.107	**1.548**	1.310
	GPRS 850	0.560	0.345	0.107	0.905	0.667
	GPRS 1900	0.377	0.345	0.107	0.722	0.484
	UMTS 850	0.376	0.345	0.107	0.721	0.483
	UMTS 1750	0.524	0.345	0.107	0.869	0.631
	UMTS 1900	0.737	0.345	0.107	1.082	0.844
	LTE Band 71	0.422	0.345	0.107	0.767	0.529
	LTE Band 12	0.339	0.345	0.107	0.684	0.446
	LTE Band 13	0.211	0.345	0.107	0.556	0.318
	LTE Band 14	0.210	0.345	0.107	0.555	0.317
	LTE Band 26 (Cell)	0.366	0.345	0.107	0.711	0.473
	LTE Band 5 (Cell)	0.393	0.345	0.107	0.738	0.500
	LTE Band 66 (AWS)	0.640	0.345	0.107	0.985	0.747
	LTE Band 25 (PCS)	0.574	0.345	0.107	0.919	0.681
	LTE Band 30	0.575	0.345	0.107	0.920	0.682
	LTE Band 41	0.513	0.345	0.107	0.858	0.620

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	4	1+2+3	1+2+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.345	0.107	0.971	0.733
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.345	0.107	**1.007**	0.769

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3	1+2+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.345	0.107	1.051	0.813
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.345	0.107	**1.087**	0.849
	LTE Band 30 Ant 7	0.102	0.447	0.345	0.107	0.894	0.656

Configuration	Mode	Anchor Band SAR (W/kg)	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	4	1+2+3	1+2+4
Hotspot	LTE Band 12	0.339	0.259	0.345	0.107	0.943	0.705
	LTE Band 14	0.210	0.259	0.345	0.107	0.814	0.576
	LTE Band 5 (Cell)	0.393	0.259	0.345	0.107	0.997	0.759
	LTE Band 2 (PCS)	0.574	0.259	0.345	0.107	1.178	0.940
	LTE Band 30	0.575	0.259	0.345	0.107	**1.179**	0.941

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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	4	1+2+3	1+2+4
Hotspot	LTE Band 12	0.339	0.268	0.345	0.107	0.952	0.714
	LTE Band 14	0.210	0.268	0.345	0.107	0.823	0.585
	LTE Band 5 (Cell)	0.393	0.268	0.345	0.107	1.006	0.768
	LTE Band 66 (AWS)	0.640	0.268	0.345	0.107	**1.253**	1.015
	LTE Band 30	0.575	0.268	0.345	0.107	1.188	0.950

Table 12-23
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.455	0.277	0.732
	EVDO BC0 (§22H)	0.540	0.277	0.817
	PCS EVDO	1.203	0.277	**1.480**
	GPRS 850	0.560	0.277	0.837
	GPRS 1900	0.377	0.277	0.654
	UMTS 850	0.376	0.277	0.653
	UMTS 1750	0.524	0.277	0.801
	UMTS 1900	0.737	0.277	1.014
	LTE Band 71	0.422	0.277	0.699
	LTE Band 12	0.339	0.277	0.616
	LTE Band 13	0.211	0.277	0.488
	LTE Band 14	0.210	0.277	0.487
	LTE Band 26 (Cell)	0.366	0.277	0.643
	LTE Band 5 (Cell)	0.393	0.277	0.670
	LTE Band 66 (AWS)	0.640	0.277	0.917
	LTE Band 25 (PCS)	0.574	0.277	0.851
	LTE Band 30	0.575	0.277	0.852
	LTE Band 41	0.513	0.277	0.790

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.277	0.903
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.277	**0.939**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.277	0.983
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.277	**1.019**
	LTE Band 30 Ant 7	0.102	0.447	0.277	0.826

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.259	0.277	0.875
	LTE Band 14	0.210	0.259	0.277	0.746
	LTE Band 5 (Cell)	0.393	0.259	0.277	0.929
	LTE Band 2 (PCS)	0.574	0.259	0.277	1.110
	LTE Band 30	0.575	0.259	0.277	**1.111**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.268	0.277	0.884
	LTE Band 14	0.210	0.268	0.277	0.755
	LTE Band 5 (Cell)	0.393	0.268	0.277	0.938
	LTE Band 66 (AWS)	0.640	0.268	0.277	**1.185**
	LTE Band 30	0.575	0.268	0.277	1.120

Table 12-24
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot	EVDO BC10 (§90S)	0.455	0.109	0.198	0.564	0.653
	EVDO BC0 (§22H)	0.540	0.109	0.198	0.649	0.738
	PCS EVDO	1.203	0.109	0.198	1.312	**1.401**
	GPRS 850	0.560	0.109	0.198	0.669	0.758
	GPRS 1900	0.377	0.109	0.198	0.486	0.575
	UMTS 850	0.376	0.109	0.198	0.485	0.574
	UMTS 1750	0.524	0.109	0.198	0.633	0.722
	UMTS 1900	0.737	0.109	0.198	0.846	0.935
	LTE Band 71	0.422	0.109	0.198	0.531	0.620
	LTE Band 12	0.339	0.109	0.198	0.448	0.537
	LTE Band 13	0.211	0.109	0.198	0.320	0.409
	LTE Band 14	0.210	0.109	0.198	0.319	0.408
	LTE Band 26 (Cell)	0.366	0.109	0.198	0.475	0.564
	LTE Band 5 (Cell)	0.393	0.109	0.198	0.502	0.591
	LTE Band 66 (AWS)	0.640	0.109	0.198	0.749	0.838
	LTE Band 25 (PCS)	0.574	0.109	0.198	0.683	0.772
	LTE Band 30	0.575	0.109	0.198	0.684	0.773
	LTE Band 41	0.513	0.109	0.198	0.622	0.711

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.109	0.198	0.735	0.824
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.109	0.198	0.771	**0.860**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.109	0.198	0.815	0.904
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.109	0.198	0.851	**0.940**
	LTE Band 30 Ant 7	0.102	0.447	0.109	0.198	0.658	0.747

Configuration	Mode	Anchor Band SAR (W/kg)	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)	
		1	2	3	4	1+2+3	1+2+4
Hotspot	LTE Band 12	0.339	0.259	0.109	0.198	0.707	0.796
	LTE Band 14	0.210	0.259	0.109	0.198	0.578	0.667
	LTE Band 5 (Cell)	0.393	0.259	0.109	0.198	0.761	0.850
	LTE Band 2 (PCS)	0.574	0.259	0.109	0.198	0.942	1.031
	LTE Band 30	0.575	0.259	0.109	0.198	0.943	**1.032**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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	3	4	1+2+3	1+2+4
Hotspot	LTE Band 12	0.339	0.268	0.109	0.198	0.716	0.805
	LTE Band 14	0.210	0.268	0.109	0.198	0.587	0.676
	LTE Band 5 (Cell)	0.393	0.268	0.109	0.198	0.770	0.859
	LTE Band 66 (AWS)	0.640	0.268	0.109	0.198	1.017	**1.106**
	LTE Band 30	0.575	0.268	0.109	0.198	0.952	1.041

Table 12-25
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.455	0.175	0.630
	EVDO BC0 (§22H)	0.540	0.175	0.715
	PCS EVDO	1.203	0.175	**1.378**
	GPRS 850	0.560	0.175	0.735
	GPRS 1900	0.377	0.175	0.552
	UMTS 850	0.376	0.175	0.551
	UMTS 1750	0.524	0.175	0.699
	UMTS 1900	0.737	0.175	0.912
	LTE Band 71	0.422	0.175	0.597
	LTE Band 12	0.339	0.175	0.514
	LTE Band 13	0.211	0.175	0.386
	LTE Band 14	0.210	0.175	0.385
	LTE Band 26 (Cell)	0.366	0.175	0.541
	LTE Band 5 (Cell)	0.393	0.175	0.568
	LTE Band 66 (AWS)	0.640	0.175	0.815
	LTE Band 25 (PCS)	0.574	0.175	0.749
	LTE Band 30	0.575	0.175	0.750
	LTE Band 41	0.513	0.175	0.688

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.175	0.801
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.175	**0.837**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.175	0.881
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.175	**0.917**
	LTE Band 30 Ant 7	0.102	0.447	0.175	0.724

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.259	0.175	0.773
	LTE Band 14	0.210	0.259	0.175	0.644
	LTE Band 5 (Cell)	0.393	0.259	0.175	0.827
	LTE Band 2 (PCS)	0.574	0.259	0.175	1.008
	LTE Band 30	0.575	0.259	0.175	**1.009**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.268	0.175	0.782
	LTE Band 14	0.210	0.268	0.175	0.653
	LTE Band 5 (Cell)	0.393	0.268	0.175	0.836
	LTE Band 66 (AWS)	0.640	0.268	0.175	**1.083**
	LTE Band 30	0.575	0.268	0.175	1.018

Table 12-26
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.455	0.058	0.513
	EVDO BC0 (§22H)	0.540	0.058	0.598
	PCS EVDO	1.203	0.058	**1.261**
	GPRS 850	0.560	0.058	0.618
	GPRS 1900	0.377	0.058	0.435
	UMTS 850	0.376	0.058	0.434
	UMTS 1750	0.524	0.058	0.582
	UMTS 1900	0.737	0.058	0.795
	LTE Band 71	0.422	0.058	0.480
	LTE Band 12	0.339	0.058	0.397
	LTE Band 13	0.211	0.058	0.269
	LTE Band 14	0.210	0.058	0.268
	LTE Band 26 (Cell)	0.366	0.058	0.424
	LTE Band 5 (Cell)	0.393	0.058	0.451
	LTE Band 66 (AWS)	0.640	0.058	0.698
	LTE Band 25 (PCS)	0.574	0.058	0.632
	LTE Band 30	0.575	0.058	0.633
	LTE Band 41	0.513	0.058	0.571

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.058	0.684
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.058	**0.720**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.058	0.764
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.058	**0.800**
	LTE Band 30 Ant 7	0.102	0.447	0.058	0.607

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.259	0.058	0.656
	LTE Band 14	0.210	0.259	0.058	0.527
	LTE Band 5 (Cell)	0.393	0.259	0.058	0.710
	LTE Band 2 (PCS)	0.574	0.259	0.058	0.891
	LTE Band 30	0.575	0.259	0.058	**0.892**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	LTE Band 12	0.339	0.268	0.058	0.665
	LTE Band 14	0.210	0.268	0.058	0.536
	LTE Band 5 (Cell)	0.393	0.268	0.058	0.719
	LTE Band 66 (AWS)	0.640	0.268	0.058	**0.966**
	LTE Band 30	0.575	0.268	0.058	0.901

Table 12-27
Simultaneous Transmission Scenario with 2.4 GHz WLAN Antenna 2 and Bluetooth (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	EVDO BC10 (§90S)	0.455	0.107	0.058	0.620
	EVDO BC0 (§22H)	0.540	0.107	0.058	0.705
	PCS EVDO	1.203	0.107	0.058	**1.368**
	GPRS 850	0.560	0.107	0.058	0.725
	GPRS 1900	0.377	0.107	0.058	0.542
	UMTS 850	0.376	0.107	0.058	0.541
	UMTS 1750	0.524	0.107	0.058	0.689
	UMTS 1900	0.737	0.107	0.058	0.902
	LTE Band 71	0.422	0.107	0.058	0.587
	LTE Band 12	0.339	0.107	0.058	0.504
	LTE Band 13	0.211	0.107	0.058	0.376
	LTE Band 14	0.210	0.107	0.058	0.375
	LTE Band 26 (Cell)	0.366	0.107	0.058	0.531
	LTE Band 5 (Cell)	0.393	0.107	0.058	0.558
	LTE Band 66 (AWS)	0.640	0.107	0.058	0.805
	LTE Band 25 (PCS)	0.574	0.107	0.058	0.739
	LTE Band 30	0.575	0.107	0.058	0.740
	LTE Band 41	0.513	0.107	0.058	0.678

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.107	0.058	0.791
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.107	0.058	**0.827**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.107	0.058	0.871
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.107	0.058	**0.907**
	LTE Band 30 Ant 7	0.102	0.447	0.107	0.058	0.714

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 12	0.339	0.259	0.107	0.058	0.763
	LTE Band 14	0.210	0.259	0.107	0.058	0.634
	LTE Band 5 (Cell)	0.393	0.259	0.107	0.058	0.817
	LTE Band 2 (PCS)	0.574	0.259	0.107	0.058	0.998
	LTE Band 30	0.575	0.259	0.107	0.058	**0.999**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 12	0.339	0.268	0.107	0.058	0.772
	LTE Band 14	0.210	0.268	0.107	0.058	0.643
	LTE Band 5 (Cell)	0.393	0.268	0.107	0.058	0.826
	LTE Band 66 (AWS)	0.640	0.268	0.107	0.058	**1.073**
	LTE Band 30	0.575	0.268	0.107	0.058	1.008

Table 12-28
Simultaneous Transmission Scenario with 5 GHz WLAN SISO and Bluetooth (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G 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	EVDO BC10 (§90S)	0.455	0.058	0.109	0.198	0.622	0.711
	EVDO BC0 (§22H)	0.540	0.058	0.109	0.198	0.707	0.796
	PCS EVDO	1.203	0.058	0.109	0.198	1.370	**1.459**
	GPRS 850	0.560	0.058	0.109	0.198	0.727	0.816
	GPRS 1900	0.377	0.058	0.109	0.198	0.544	0.633
	UMTS 850	0.376	0.058	0.109	0.198	0.543	0.632
	UMTS 1750	0.524	0.058	0.109	0.198	0.691	0.780
	UMTS 1900	0.737	0.058	0.109	0.198	0.904	0.993
	LTE Band 71	0.422	0.058	0.109	0.198	0.589	0.678
	LTE Band 12	0.339	0.058	0.109	0.198	0.506	0.595
	LTE Band 13	0.211	0.058	0.109	0.198	0.378	0.467
	LTE Band 14	0.210	0.058	0.109	0.198	0.377	0.466
	LTE Band 26 (Cell)	0.366	0.058	0.109	0.198	0.533	0.622
	LTE Band 5 (Cell)	0.393	0.058	0.109	0.198	0.560	0.649
	LTE Band 66 (AWS)	0.640	0.058	0.109	0.198	0.807	0.896
	LTE Band 25 (PCS)	0.574	0.058	0.109	0.198	0.741	0.830
	LTE Band 30	0.575	0.058	0.109	0.198	0.742	0.831
	LTE Band 41	0.513	0.058	0.109	0.198	0.680	0.769

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 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	5	1+2+3+4	1+2+3+5
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.058	0.109	0.198	0.793	0.882
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.058	0.109	0.198	0.829	**0.918**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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	5	1+2+3+4	1+2+3+5
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.058	0.109	0.198	0.873	0.962
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.058	0.109	0.198	0.909	**0.998**
	LTE Band 30 Ant 7	0.102	0.447	0.058	0.109	0.198	0.716	0.805

Configuration	Mode	Anchor Band SAR (W/kg)	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	5	1+2+3+4	1+2+3+5
Hotspot	LTE Band 12	0.339	0.259	0.058	0.109	0.198	0.765	0.854
	LTE Band 14	0.210	0.259	0.058	0.109	0.198	0.636	0.725
	LTE Band 5 (Cell)	0.393	0.259	0.058	0.109	0.198	0.819	0.908
	LTE Band 2 (PCS)	0.574	0.259	0.058	0.109	0.198	1.000	1.089
	LTE Band 30	0.575	0.259	0.058	0.109	0.198	1.001	**1.090**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (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	5	1+2+3+4	1+2+3+5
Hotspot	LTE Band 12	0.339	0.268	0.058	0.109	0.198	0.774	0.863
	LTE Band 14	0.210	0.268	0.058	0.109	0.198	0.645	0.734
	LTE Band 5 (Cell)	0.393	0.268	0.058	0.109	0.198	0.828	0.917
	LTE Band 66 (AWS)	0.640	0.268	0.058	0.109	0.198	1.075	**1.164**
	LTE Band 30	0.575	0.268	0.058	0.109	0.198	1.010	1.099

Table 12-29
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G 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	EVDO BC10 (§90S)	0.455	0.058	0.175	0.688
	EVDO BC0 (§22H)	0.540	0.058	0.175	0.773
	PCS EVDO	1.203	0.058	0.175	**1.436**
	GPRS 850	0.560	0.058	0.175	0.793
	GPRS 1900	0.377	0.058	0.175	0.610
	UMTS 850	0.376	0.058	0.175	0.609
	UMTS 1750	0.524	0.058	0.175	0.757
	UMTS 1900	0.737	0.058	0.175	0.970
	LTE Band 71	0.422	0.058	0.175	0.655
	LTE Band 12	0.339	0.058	0.175	0.572
	LTE Band 13	0.211	0.058	0.175	0.444
	LTE Band 14	0.210	0.058	0.175	0.443
	LTE Band 26 (Cell)	0.366	0.058	0.175	0.599
	LTE Band 5 (Cell)	0.393	0.058	0.175	0.626
	LTE Band 66 (AWS)	0.640	0.058	0.175	0.873
	LTE Band 25 (PCS)	0.574	0.058	0.175	0.807
	LTE Band 30	0.575	0.058	0.175	0.808
	LTE Band 41	0.513	0.058	0.175	0.746

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n71 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.367	0.058	0.175	0.859
	LTE Band 2 (PCS) Ant 7	0.295	0.367	0.058	0.175	**0.895**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 66 (AWS) Ant 7	0.259	0.447	0.058	0.175	0.939
	LTE Band 2 (PCS) Ant 7	0.295	0.447	0.058	0.175	**0.975**
	LTE Band 30 Ant 7	0.102	0.447	0.058	0.175	0.782

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 12	0.339	0.259	0.058	0.175	0.831
	LTE Band 14	0.210	0.259	0.058	0.175	0.702
	LTE Band 5 (Cell)	0.393	0.259	0.058	0.175	0.885
	LTE Band 2 (PCS)	0.574	0.259	0.058	0.175	1.066
	LTE Band 30	0.575	0.259	0.058	0.175	**1.067**

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot	LTE Band 12	0.339	0.268	0.058	0.175	0.840
	LTE Band 14	0.210	0.268	0.058	0.175	0.711
	LTE Band 5 (Cell)	0.393	0.268	0.058	0.175	0.894
	LTE Band 66 (AWS)	0.640	0.268	0.058	0.175	**1.141**
	LTE Band 30	0.575	0.268	0.058	0.175	1.076

12.6 Phablet Simultaneous Transmission Analysis

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

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.

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.

Table 12-30
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Phablet)

Table 12-31
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Configuration	Mode	CDMA/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	PCS EVDO	2.740	0.519	**3.259**
	NR Band n66 (AWS)	1.880	0.519	2.399
	NR Band n2 (PCS)	2.352	0.519	2.871

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, 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, simultaneous SAR evaluation is not required. The distance between the transmitters was calculated using the following formula.

$$\text{Distance}_{Tx1-Tx2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} \text{ (Body-Worn)}$$

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

12.7.1 Body-Worn Back Side SPLSR Evaluation and Analysis

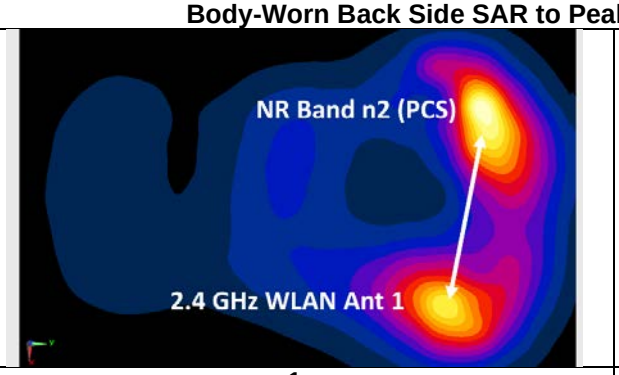
Table 12-32
Peak SAR Locations for Body-Worn Back Side

Mode/Band	x (mm)	y (mm)
2.4 GHz WLAN Ant 1	12.20	49.20
2.4 GHz WLAN Ant 2	9.80	76.80
2.4 GHz WLAN MIMO	17.20	54.20
5 GHz WLAN Ant 1	-22.00	77.00
5 GHz WLAN Ant 2	6.00	58.00
5 GHz WLAN MIMO	9.00	61.00
Bluetooth	9.60	43.20
LTE Band 30	-3.21	-73.63
NR Band n2 (PCS)	-53.50	61.50

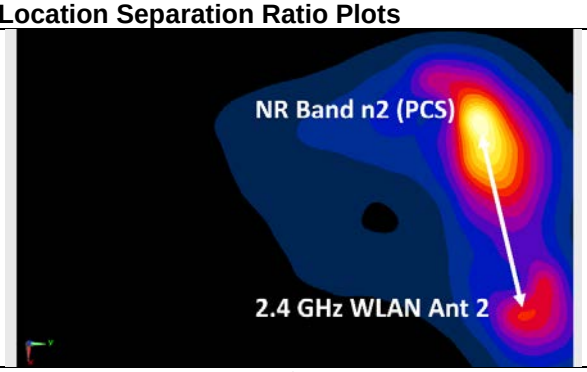
Table 12-33
Body-Worn Back Side SAR to Peak Location Separation Ratio Calculations

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}	$(a+b)^{1.5}/D_{a-b}$	
NR Band n2 (PCS)	2.4 GHz WLAN Ant 1	0.927	0.255	1.182	66.84	0.02	1
NR Band n2 (PCS)	2.4 GHz WLAN Ant 2	0.927	0.107	1.034	65.12	0.02	2
Bluetooth	2.4 GHz WLAN Ant 2	0.029	0.107	0.136	33.60	0.00	3
LTE Band 30	NR Band n2 (PCS)	0.575	0.927	1.502	144.18	0.01	4
LTE Band 30	2.4 GHz WLAN Ant 1	0.575	0.255	0.83	123.79	0.01	5
LTE Band 30	2.4 GHz WLAN Ant 2	0.575	0.107	0.682	150.99	0.00	6
LTE Band 30	2.4 GHz WLAN MIMO	0.575	0.233	0.808	129.45	0.01	7
NR Band n2 (PCS)	2.4 GHz WLAN MIMO	0.927	0.233	1.16	71.08	0.02	8
NR Band n2 (PCS)	5 GHz WLAN Ant 1	0.927	0.098	1.025	35.11	0.03	9
NR Band n2 (PCS)	5 GHz WLAN Ant 2	0.927	0.198	1.125	59.60	0.02	10
Bluetooth	5 GHz WLAN Ant 1	0.029	0.098	0.127	46.27	0.00	11
Bluetooth	5 GHz WLAN Ant 2	0.029	0.198	0.227	15.23	0.01	12
NR Band n2 (PCS)	Bluetooth	0.927	0.029	0.956	65.70	0.01	13
LTE Band 30	5 GHz WLAN Ant 1	0.575	0.098	0.673	151.80	0.00	14
LTE Band 30	5 GHz WLAN Ant 2	0.575	0.198	0.773	131.95	0.01	15
LTE Band 30	Bluetooth	0.575	0.029	0.604	117.53	0.00	16
LTE Band 30	5 GHz WLAN MIMO	0.575	0.175	0.75	135.18	0.00	17
NR Band n2 (PCS)	5 GHz WLAN MIMO	0.927	0.175	1.102	62.50	0.02	18
Bluetooth	5 GHz WLAN MIMO	0.029	0.175	0.204	17.81	0.01	19

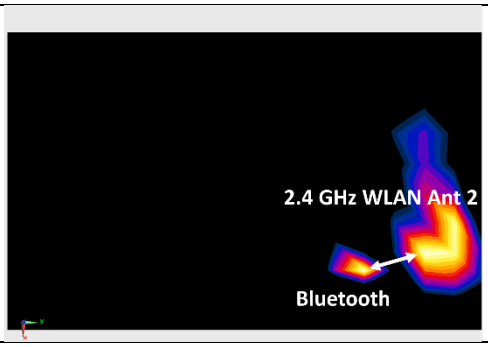
Table 12-34
Body-Worn Back Side SAR to Peak Location Separation Ratio Plots



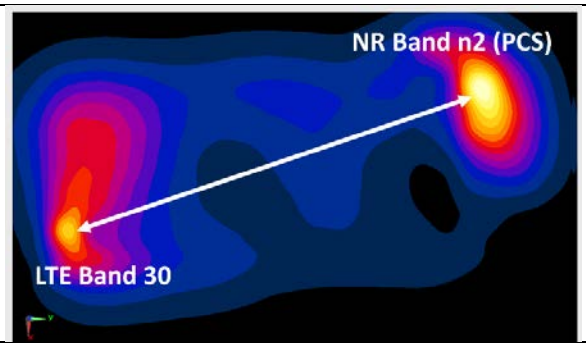
1



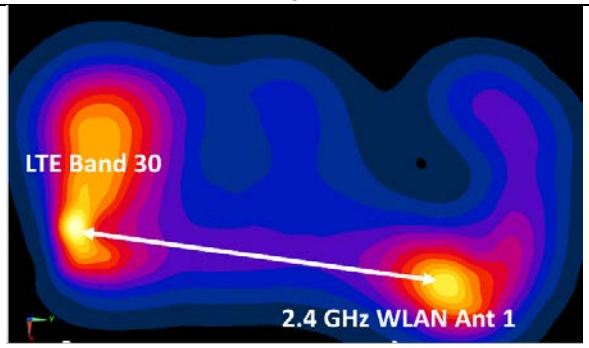
2



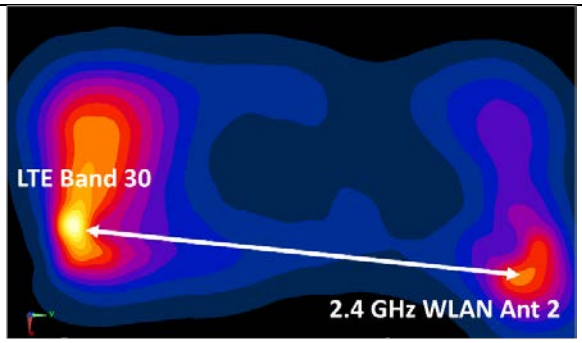
3



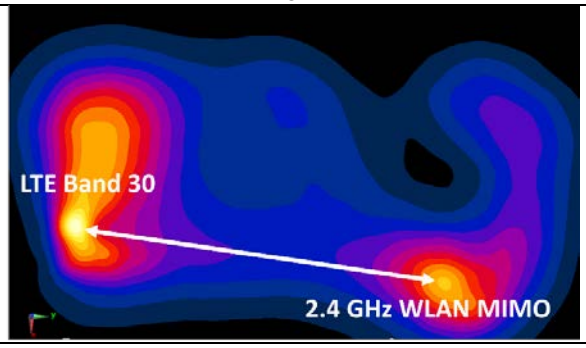
4



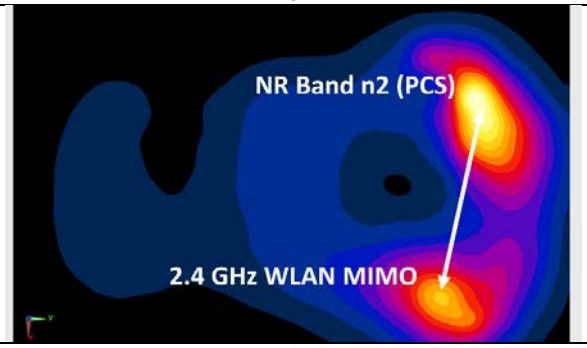
5



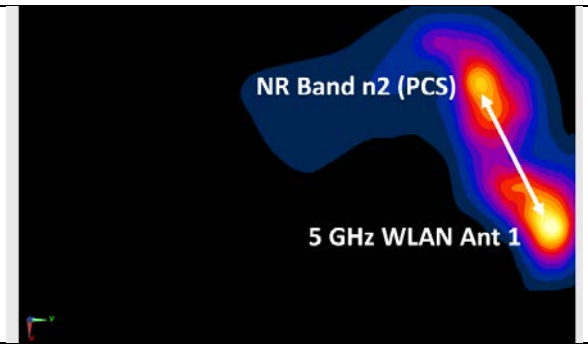
6



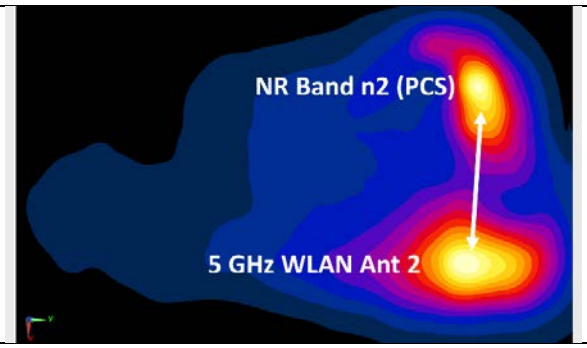
7



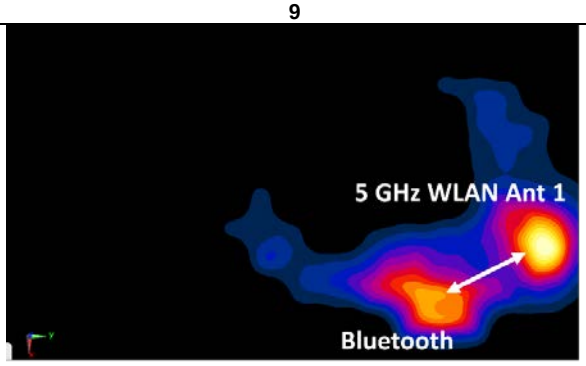
8



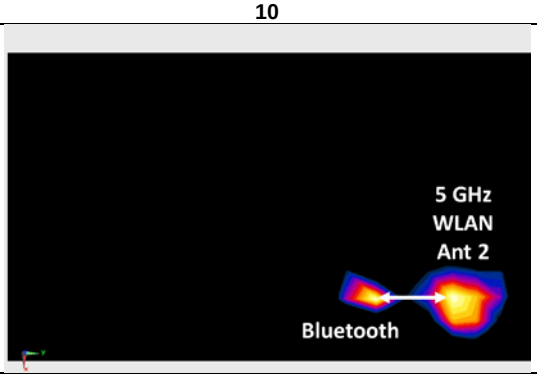
9



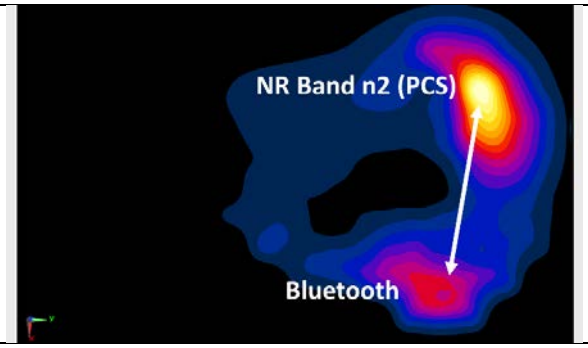
10



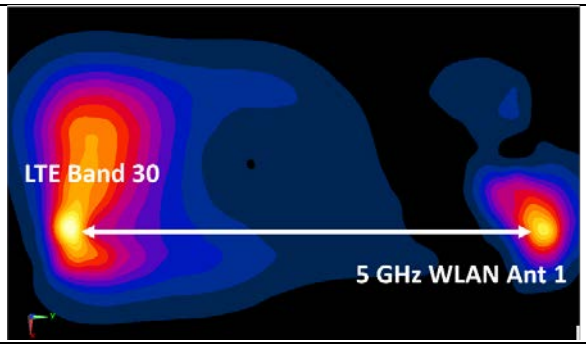
11



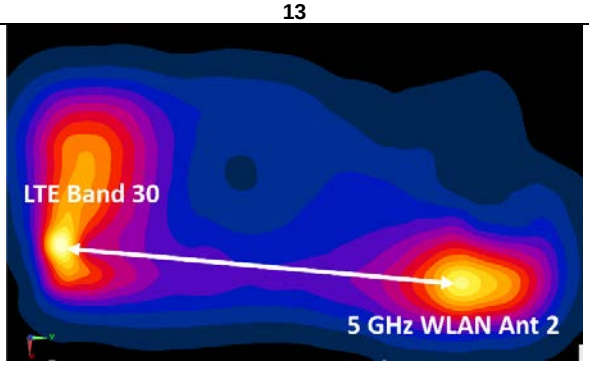
12



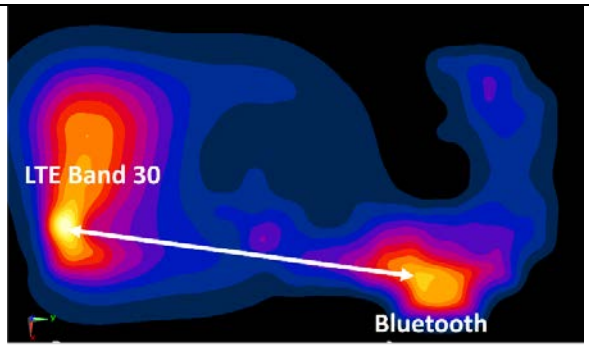
13



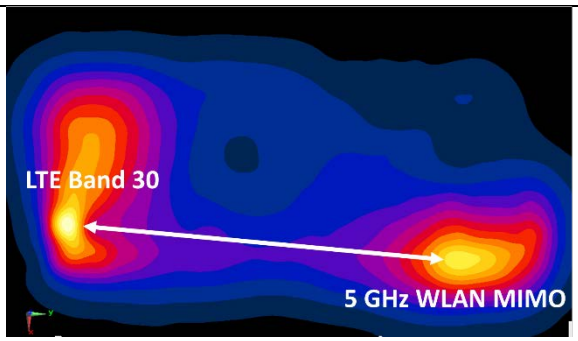
14



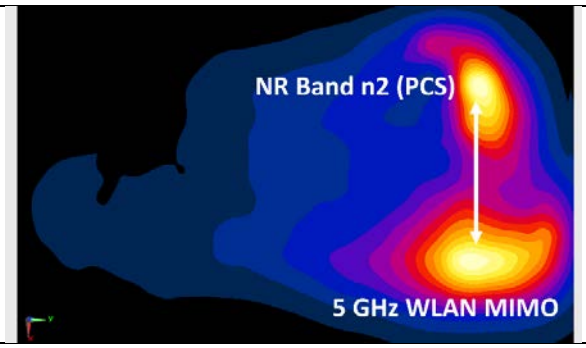
15



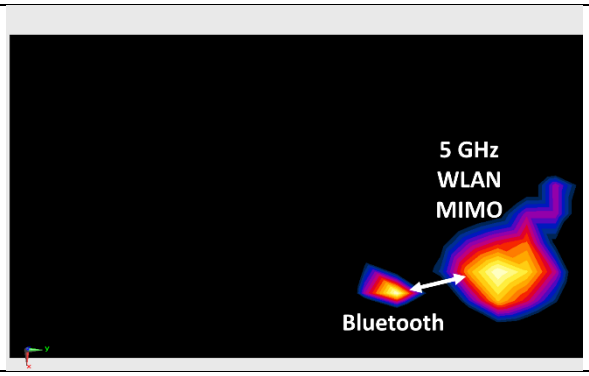
16



17



18



19

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 6.3.4.1.2

13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 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	1908.75	1175	PCS CDMA	EVDO Rev. 0	bottom	10 mm	1.110	1.110	1.00	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)	
1900	1880.00	600	PCS CDMA	EVDO Rev. 0	bottom	0 mm	2.580	2.550	1.01	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.

14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	6/6/2020	Annual	6/6/2021	MY53402352
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	8753ES	Network Analyzer	3/5/2020	Annual	3/5/2021	MY40001472
Agilent	8753ES	S-Parameter Network Analyzer	1/16/2020	Annual	1/16/2021	US39170118
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	12/13/2019	Annual	12/13/2020	MY42082659
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	2/10/2020	Annual	2/10/2021	GB42230325
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N5182A	MXG Vector Signal Generator	5/13/2020	Annual	5/13/2021	MY47420603
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353317
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353468
Anritsu	MA24106A	USB Power Sensor	7/24/2020	Annual	7/24/2021	1231535
Anritsu	MA24106A	USB Power Sensor	7/24/2020	Annual	7/24/2021	1231538
Anritsu	MA24106A	USB Power Sensor	9/15/2020	Annual	9/15/2021	1244515
Anritsu	MA24106A	USB Power Sensor	2/27/2020	Annual	2/27/2021	1244524
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	MA2411B	Pulse Power Sensor	8/12/2020	Annual	8/12/2021	1207364
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	ML2495A	Power Meter	11/15/2019	Annual	11/15/2020	1039008
Anritsu	MT8820C	Radio Communication Analyzer	9/17/2020	Annual	9/17/2021	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6203901190
Anritsu	MT8821C	Radio Communication Analyzer	6/15/2020	Annual	6/15/2021	6201381794
Anritsu	MT8821C	Radio Communication Analyzer	9/11/2020	Annual	9/11/2021	6201524637
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766777
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766801
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
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
KEYSIGHT	E4438C	VECTOR SIGNAL GENERATOR	6/22/2020	Annual	6/22/2021	MY45092078
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	9/1/2020	Annual	9/1/2021	MY53401181
Keysight Technologies	AT/N6705B	DC Power Supply	N/A	N/A	N/A	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	N9020A	MXA Signal Analyzer	8/14/2020	Annual	8/14/2021	US46470561
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8975500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	1445
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	10/15/2019	Annual	10/15/2020	109366
Rohde & Schwarz	CMW500	Radio Communication Tester	3/27/2020	Annual	3/27/2021	128633
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	6/23/2020	Annual	6/23/2021	161662
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	2/4/2020	Annual	2/4/2021	162125
Rohde & Schwarz	CMW500	Radio Communication Tester	4/23/2020	Annual	4/23/2021	167283
Rohde & Schwarz	CMW500	Radio Communication Tester	4/28/2020	Annual	4/28/2021	167285
Rohde & Schwarz	CMW500	Radio Communication Tester	5/13/2020	Annual	5/13/2021	167284
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
SPEAG	D750V3	750 MHz SAR Dipole	5/18/2018	Triennial	5/18/2021	1034
SPEAG	D835V2	835 MHz SAR Dipole	6/20/2019	Biennial	6/20/2021	4d040
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	4d132
SPEAG	D850V2	850 MHz SAR Dipole	8/13/2020	Annual	8/13/2021	1009
SPEAG	D1750V2	1750 MHz SAR Dipole	6/19/2019	Biennial	6/19/2021	1083
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2018	Triennial	5/15/2021	1092
SPEAG	D1900V2	1900 MHz SAR Dipole	5/14/2018	Triennial	5/14/2021	5d026
SPEAG	D1900V2	1900 MHz SAR Dipole	6/19/2019	Biennial	6/19/2021	5d030
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d080
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	8/10/2020	Triennial	8/10/2023	5d180
SPEAG	D2300V2	2300 MHz SAR Dipole	3/7/2018	Triennial	3/7/2021	1038
SPEAG	D2450V2	2450 MHz SAR Dipole	2/10/2020	Annual	2/10/2021	882
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Triennial	8/16/2021	981
SPEAG	D2600V2	2600 MHz SAR Dipole	6/19/2018	Triennial	6/19/2021	1009
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Biennial	6/14/2021	1042
SPEAG	D5GHzV2	5 GHz SAR Dipole	2/18/2020	Annual	2/18/2021	1120
SPEAG	D5GHzV2	5 GHz SAR Dipole	8/10/2018	Triennial	8/10/2021	1237
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	501
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/19/2020	Annual	3/19/2021	604
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/11/2020	Annual	6/11/2021	701
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/20/2020	Annual	5/20/2021	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/14/2020	Annual	1/14/2021	793
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/13/2019	Annual	11/13/2020	1213
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2020	Annual	6/18/2021	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/9/2020	Annual	7/9/2021	1402
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2020	Annual	2/13/2021	1403
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/11/2020	Annual	8/11/2021	1450
SPEAG	DAE4	Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1502
SPEAG	DAE4	Data Acquisition Electronics	4/14/2020	Annual	4/14/2021	1532
SPEAG	DAE4	Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/14/2020	Annual	5/14/2021	1583
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/12/2020	Annual	5/12/2021	1070
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	1/20/2020	Annual	1/20/2021	3837
SPEAG	EX3DV4	SAR Probe	7/31/2020	Annual	7/31/2021	7308
SPEAG	EX3DV4	SAR Probe	4/21/2020	Annual	4/21/2021	7402
SPEAG	EX3DV4	SAR Probe	6/23/2020	Annual	6/23/2021	7406
SPEAG	EX3DV4	SAR Probe	6/23/2020	Annual	6/23/2021	7409
SPEAG	EX3DV4	SAR Probe	6/22/2020	Annual	6/22/2021	7416
SPEAG	EX3DV4	SAR Probe	11/21/2019	Annual	11/21/2020	7420
SPEAG	EX3DV4	SAR Probe	3/20/2020	Annual	3/20/2021	7421
SPEAG	EX3DV4	SAR Probe	2/19/2020	Annual	2/19/2021	7427
SPEAG	EX3DV4	SAR Probe	12/13/2019	Annual	12/13/2020	7490
SPEAG	EX3DV4	SAR Probe	7/16/2020	Annual	7/16/2021	7491
SPEAG	EX3DV4	SAR Probe	4/20/2020	Annual	4/20/2021	7532
SPEAG	EX3DV4	SAR Probe	5/18/2020	Annual	5/18/2021	7538
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571

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

15 MEASUREMENT UNCERTAINTIES

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

16 CONCLUSION

16.1 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]

17 REFERENCES

[1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.

[2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.

[3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.

[4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.

[5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

[6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.

[7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.

[8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.

[9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.

[10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.

[11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.

[12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.

[14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.

[15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.

[16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

[17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.

[19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hoschschule Zürich, Dosimetric Evaluation of the Cellular Phone.

[20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.

[21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.

[22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015

[23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07

[24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01

[25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04

[26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04

[27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02

[28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02

[29] Anexo à Resolução No. 533, de 10 de Septembro de 2009.

[30] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), Mar. 2010.