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SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
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Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
11/11/18 - 01/14/19
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M1810250195-01-R3.A3L

FCC ID: A3LSMG973U

APPLICANT: SAMSUNG ELECTRONICS CO., LTD.

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-G973U
Additional Model(s): SM-G973U1, SM-G973W, SM-G973XU

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	0.30	0.43	0.68	N/A
PCE	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	0.34	0.38	0.76	N/A
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.28	0.30	0.78	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.33	0.40	0.70	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.18	0.90	0.97	2.91
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.34	1.37	0.91	3.09
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.12	0.53	1.35	3.10
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.26	1.14	1.31	3.29
PCE	LTE Band 71	665.5 - 695.5 MHz	0.17	0.36	0.50	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.23	0.37	0.50	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.27	0.34	0.52	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.28	0.36	0.60	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.33	0.33	0.61	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.39	0.36	0.61	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.31	0.89	0.90	2.81
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	0.29	1.34	0.98	3.07
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	0.10	0.70	1.34	2.36
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.10	0.70	0.99	2.16
CBE	LTE Band 48	3552.5 - 3697.5 MHz	< 0.1	0.19	0.56	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.53	1.02	2.64
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.64	0.13	0.43	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.19	0.26	N/A	1.37
NII	U-NII-2C	5500 - 5720 MHz	0.21	0.27	N/A	2.50
NII	U-NII-3	5745 - 5825 MHz	0.27	0.26	0.57	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	1.05	< 0.1	0.14	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.59	1.59	1.59	3.99

Note: This revised Test Report (S/N: 1M1810250195-01-R3.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.
This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

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

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APPENDIX I: IEEE 802.11AX RU SAR EXCLUSION

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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
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 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 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz

1.2 Power Reduction for SAR

This device utilizes a power reduction mechanism for some wireless modes and bands for SAR compliance under portable hotspot conditions, under some conditions when the device is being used in close proximity to the user's hand, and when headphones are inserted. 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. When headset SAR was required per KDB Publication 648474 D04, SAR was performed at the reduced output power levels. Detailed descriptions of the power reduction mechanism are included in the operational description.

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

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1.3 Nominal and Maximum Output Power Specifications

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

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

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*
GSM/GPRS/EDGE 850	Maximum	**33.5**	**33.5**	**32.5**	**30.5**	**28.5**	**28.0**	**26.0**	**24.0**	**23.0**
	Nominal	**32.5**	**32.5**	**31.5**	**29.5**	**27.5**	**27.0**	**25.0**	**23.0**	**22.0**
GSM/GPRS/EDGE 1900	Maximum	**30.5**	**30.5**	**29.5**	**27.5**	**25.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**29.5**	**29.5**	**28.5**	**26.5**	**24.5**	**26.0**	**24.0**	**22.0**	**21.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**25.5**	**24.5**	**24.5**	**24.5**
	Nominal	**24.5**	**23.5**	**23.5**	**23.5**
UMTS Band 4 (1750 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**
UMTS Band 2 (1900 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**26.0**
	Nominal	**25.0**
CDMA/EVDO BC0 (§22H)	Maximum	**26.0**
	Nominal	**25.0**
PCS CDMA/EVDO	Maximum	**24.5**
	Nominal	**23.5**

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Mode / Band		Modulated Average (dBm)
LTE Band 71	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 12	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 13	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 14	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 26 (Cell)	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 5 (Cell)	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 66 (AWS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 4 (AWS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 25 (PCS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 2 (PCS)	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 30	Maximum	**23.5**
	Nominal	**22.5**
LTE Band 7	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 48	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 41 (PC3)	Maximum	**25.3**
	Nominal	**24.3**
LTE Band 41 (PC2)	Maximum	**28.3**
	Nominal	**27.3**
LTE Band 38	Maximum	**24.0**
	Nominal	**23.0**

1.3.2 Reduced 2G/3G/4G Output Power – Hotspot Mode Activated

Mode / Band		Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slots	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*
GSM/GPRS/EDGE 1900	Maximum	**28.5**	**27.5**	**25.5**	**23.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**27.5**	**26.5**	**24.5**	**22.5**	**26.0**	**24.0**	**22.0**	**21.0**

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Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 4 (1750 MHz)	Maximum	**21.0**	**20.0**	**20.0**	**20.0**
	Nominal	**20.0**	**19.0**	**19.0**	**19.0**
UMTS Band 2 (1900 MHz)	Maximum	**20.0**	**19.0**	**19.0**	**19.0**
	Nominal	**19.0**	**18.0**	**18.0**	**18.0**

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**20.0**
	Nominal	**19.0**

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 4 (AWS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 25 (PCS)	Maximum	**20.0**
	Nominal	**19.0**
LTE Band 2 (PCS)	Maximum	**20.0**
	Nominal	**19.0**
LTE Band 30	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 7	Maximum	**22.0**
	Nominal	**21.0**
LTE Band 41 (PC3)	Maximum	**23.5**
	Nominal	**22.5**
LTE Band 41 (PC2)	Maximum	**23.5**
	Nominal	**22.5**
LTE Band 38	Maximum	**23.0**
	Nominal	**22.0**

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1.3.3 Reduced 2G/3G/4G Output Power – Grip Sensor and/or Earjack Activated

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*
GSM/GPRS/EDGE 1900	Maximum	**28.5**	**28.5**	**27.5**	**25.5**	**23.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**27.5**	**27.5**	**26.5**	**24.5**	**22.5**	**26.0**	**24.0**	**22.0**	**21.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 4 (1750 MHz)	Maximum	**21.0**	**20.0**	**20.0**	**20.0**
	Nominal	**20.0**	**19.0**	**19.0**	**19.0**
UMTS Band 2 (1900 MHz)	Maximum	**21.5**	**20.5**	**20.5**	**20.5**
	Nominal	**20.5**	**19.5**	**19.5**	**19.5**

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**21.5**
	Nominal	**20.5**

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 4 (AWS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 25 (PCS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 2 (PCS)	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 30	Maximum	**22.0**
	Nominal	**21.0**
LTE Band 7	Maximum	**22.0**
	Nominal	**21.0**
LTE Band 41 (PC2)	Maximum	**25.3**
	Nominal	**24.3**

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1.3.4 Maximum Bluetooth and SISO/MIMO WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in appendix I.

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
Channels		1	2-10	11
IEEE 802.11b (2.4 GHz)	Maximum	21.0		
	Nominal	20.0		
IEEE 802.11g (2.4 GHz)	Maximum	18.0		
	Nominal	17.0		
IEEE 802.11n (2.4 GHz)	Maximum	18.0		
	Nominal	17.0		
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	18.0	17.0
	Nominal	15.0	17.0	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)											
		20 MHz Bandwidth					40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36	40-60	64	100	104-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	18.5	18.0	17.5	18.5							
	Nominal	14.5	17.5	17.0	16.5	17.5							
IEEE 802.11n (5 GHz)	Maximum	15.5	18.5	18.0	17.5	18.5	14.0	17.5	13.5	14.0	17.5		
	Nominal	14.5	17.5	17.0	16.5	17.5	13.0	16.5	12.5	13.0	16.5		
IEEE 802.11ac (5 GHz)	Maximum	15.5	18.5	18.0	17.5	18.5	14.0	17.5	13.5	14.0	17.5	13.0	16.5
	Nominal	14.5	17.5	17.0	16.5	17.5	13.0	16.5	12.5	13.0	16.5	12.0	15.5
IEEE 802.11ax SU (5 GHz)	Maximum	16.0	18.5	16.5	17.5	18.5	13.5	17.5	13.5	12.5	17.5	12.5	16.5
	Nominal	15.0	17.5	15.5	16.5	17.5	12.5	16.5	12.5	11.5	16.5	11.5	15.5

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	21.0		
	Nominal	20.0		
IEEE 802.11n (2.4 GHz)	Maximum	21.0		
	Nominal	20.0		
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	21.0	17.0
	Nominal	15.0	20.0	16.0

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth						40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36	40-60	64	100	104-144	149-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	21.5	18.0	20.5	21.0	21.5							
	Nominal	14.5	20.5	17.0	19.5	20.0	20.5							
IEEE 802.11n (5 GHz)	Maximum	15.5	21.5	18.0	20.5	21.0	21.5	14.0	20.5	13.5	14.0	20.5		
	Nominal	14.5	20.5	17.0	19.5	20.0	20.5	13.0	19.5	12.5	13.0	19.5		
IEEE 802.11ac (5 GHz)	Maximum	15.5	21.5	18.0	20.5	21.0	21.5	14.0	20.5	13.5	14.0	20.5	13.0	19.5
	Nominal	14.5	20.5	17.0	19.5	20.0	20.5	13.0	19.5	12.5	13.0	19.5	12.0	18.5
IEEE 802.11ax SU (5 GHz)	Maximum	16.0	21.5	16.5	20.5	21.0	21.5	13.5	20.5	13.5	12.5	20.5	12.5	19.5
	Nominal	15.0	20.5	15.5	19.5	20.0	20.5	12.5	19.5	12.5	11.5	19.5	11.5	18.5

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Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	**18.5**
	Nominal	**17.5**
Bluetooth LE	Maximum	**10.0**
	Nominal	**9.0**
Bluetooth EDR	Maximum	**12.5**
	Nominal	**11.5**

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1.3.5 Reduced SISO and MIMO WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in appendix I.

Mode / Band		Modulated Average - Single Tx Chain (dBm)	
Channels		1	2-11
IEEE 802.11b (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11g (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11n (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	17.0
	Nominal	15.0	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)							
		20 MHz Bandwidth	40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	14.0							
	Nominal	13.0							
IEEE 802.11n (5 GHz)	Maximum	14.0	14.0		13.5	14.0			
	Nominal	13.0	13.0		12.5	13.0			
IEEE 802.11ac (5 GHz)	Maximum	14.0	14.0		13.5	14.0		13.0	14.0
	Nominal	13.0	13.0		12.5	13.0		12.0	13.0
IEEE 802.11ax SU (5 GHz)	Maximum	14.0	13.5	14.0	13.5	12.5	14.0	12.5	14.0
	Nominal	13.0	12.5	13.0	12.5	11.5	13.0	11.5	13.0

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11n (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	20.0	17.0
	Nominal	15.0	19.0	16.0

Mode / Band		Modulated Average - MIMO (dBm)										
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36	40-60	64	100-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	17.0	17.0	17.0							
	Nominal	14.5	16.0	16.0	16.0							
IEEE 802.11n (5 GHz)	Maximum	15.5	17.0	17.0	17.0	14.0	17.0	13.5	14.0	17.0		
	Nominal	14.5	16.0	16.0	16.0	13.0	16.0	12.5	13.0	16.0		
IEEE 802.11ac (5 GHz)	Maximum	15.5	17.0	17.0	17.0	14.0	17.0	13.5	14.0	17.0	13.0	17.0
	Nominal	14.5	16.0	16.0	16.0	13.0	16.0	12.5	13.0	16.0	12.0	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0	17.0	16.5	17.0	13.5	17.0	13.5	12.5	17.0	12.5	17.0
	Nominal	15.0	16.0	15.5	16.0	12.5	16.0	12.5	11.5	16.0	11.5	16.0

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1.3.6 Maximum Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN

Note: Targets for 802.11ax RU operations can be found in appendix I.

Mode / Band		Modulated Average - Single Tx Chain (dBm)	
Channels		1	2-11
IEEE 802.11b (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11g (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11n (2.4 GHz)	Maximum	17.0	
	Nominal	16.0	
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	17.0
	Nominal	15.0	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)							
		20 MHz Bandwidth	40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	14.0							
	Nominal	13.0							
IEEE 802.11n (5 GHz)	Maximum	14.0	14.0		13.5	14.0			
	Nominal	13.0	13.0		12.5	13.0			
IEEE 802.11ac (5 GHz)	Maximum	14.0	14.0		13.5	14.0		13.0	14.0
	Nominal	13.0	13.0		12.5	13.0		12.0	13.0
IEEE 802.11ax SU (5 GHz)	Maximum	14.0	13.5	14.0	13.5	12.5	14.0	12.5	14.0
	Nominal	13.0	12.5	13.0	12.5	11.5	13.0	11.5	13.0

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11n (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	20.0	17.0
	Nominal	15.0	19.0	16.0

Mode / Band		Modulated Average - MIMO (dBm)										
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36	40-60	64	100-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	17.0	17.0	17.0							
	Nominal	14.5	16.0	16.0	16.0							
IEEE 802.11n (5 GHz)	Maximum	15.5	17.0	17.0	17.0	14.0	17.0	13.5	14.0	17.0		
	Nominal	14.5	16.0	16.0	16.0	13.0	16.0	12.5	13.0	16.0		
IEEE 802.11ac (5 GHz)	Maximum	15.5	17.0	17.0	17.0	14.0	17.0	13.5	14.0	17.0	13.0	17.0
	Nominal	14.5	16.0	16.0	16.0	13.0	16.0	12.5	13.0	16.0	12.0	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0	17.0	16.5	17.0	13.5	17.0	13.5	12.5	17.0	12.5	17.0
	Nominal	15.0	16.0	15.5	16.0	12.5	16.0	12.5	11.5	16.0	11.5	16.0

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1.3.7 Reduced Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN

Note: Targets for 802.11ax RU operations can be found in appendix I.

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Channels		1-11
IEEE 802.11b (2.4 GHz)	Maximum	**14.0**
	Nominal	**13.0**
IEEE 802.11g (2.4 GHz)	Maximum	**14.0**
	Nominal	**13.0**
IEEE 802.11n (2.4 GHz)	Maximum	**14.0**
	Nominal	**13.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**14.0**
	Nominal	**13.0**

Mode / Band		Modulated Average - Single Tx Chain (dBm)							
		20 MHz Bandwidth	40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**14.0**							
	Nominal	**13.0**							
IEEE 802.11n (5 GHz)	Maximum	**14.0**	**14.0**		**13.5**	**14.0**			
	Nominal	**13.0**	**13.0**		**12.5**	**13.0**			
IEEE 802.11ac (5 GHz)	Maximum	**14.0**	**14.0**		**13.5**	**14.0**		**13.0**	**14.0**
	Nominal	**13.0**	**13.0**		**12.5**	**13.0**		**12.0**	**13.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**14.0**	**13.5**	**14.0**	**13.5**	**12.5**	**14.0**	**12.5**	**14.0**
	Nominal	**13.0**	**12.5**	**13.0**	**12.5**	**11.5**	**13.0**	**11.5**	**13.0**

Mode / Band		Modulated Average - MIMO (dBm)	
Channels		1	2-11
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**
	Nominal	**15.0**	**16.0**

Mode / Band		Modulated Average - MIMO (dBm)										
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth	
	Channel	36	40-60	64	100-165	38	46-54	62	102	110-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**15.5**	**17.0**	**17.0**	**17.0**							
	Nominal	**14.5**	**16.0**	**16.0**	**16.0**							
IEEE 802.11n (5 GHz)	Maximum	**15.5**	**17.0**	**17.0**	**17.0**	**14.0**	**17.0**	**13.5**	**14.0**	**17.0**		
	Nominal	**14.5**	**16.0**	**16.0**	**16.0**	**13.0**	**16.0**	**12.5**	**13.0**	**16.0**		
IEEE 802.11ac (5 GHz)	Maximum	**15.5**	**17.0**	**17.0**	**17.0**	**14.0**	**17.0**	**13.5**	**14.0**	**17.0**	**13.0**	**17.0**
	Nominal	**14.5**	**16.0**	**16.0**	**16.0**	**13.0**	**16.0**	**12.5**	**13.0**	**16.0**	**12.0**	**16.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**16.0**	**17.0**	**16.5**	**17.0**	**13.5**	**17.0**	**13.5**	**12.5**	**17.0**	**12.5**	**17.0**
	Nominal	**15.0**	**16.0**	**15.5**	**16.0**	**12.5**	**16.0**	**12.5**	**11.5**	**16.0**	**11.5**	**16.0**

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1.4 DUT Antenna Locations

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

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
EVDO BC10 (§90S)	Yes	Yes	No	Yes	Yes	Yes
EVDO BC0 (§22H)	Yes	Yes	No	Yes	Yes	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 14	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7 Ant A	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7 Ant B	Yes	Yes	No	Yes	No	Yes
LTE Band 48	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

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

1.5 Near Field Communications (NFC) Antenna

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

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

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1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. 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.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VOLTE.
8. This device supports VoWIFI.
9. This device supports Bluetooth Tethering.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ax with the following features:

a) Up to 80 MHz Bandwidth only for 5 GHz
b) Up to 20 MHz Bandwidth only for 2.4 GHz
c) No aggregate channel configurations
d) 2 Tx antenna output
e) Up to 1024 QAM is supported
f) TDWR and Band gap channels are supported for 5 GHz
g) 802.11ax MU-MIMO UL Operations are not supported

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

Per FCC Guidance, SAR testing was not required for 802.11ax when applying the initial test configuration Procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

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

CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1x Advanced was not more than 0.25 dB higher than the maximum powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg per FCC KDB Publication 941225 D01v03r01.

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

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

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive.

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 both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 14.2).

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This device supports LTE Carrier Aggregation (CA) for LTE Band 5, LTE Band 66, and LTE B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device uses antenna B for LTE Band 7 standalone operations. During some inter-band downlink carrier aggregation scenarios with Band 7 as the PCC, the transmit operations for these bands are switched to Antenna A. Both antennas were completely evaluated for SAR following FCC KDB procedures for all test positions and exposure conditions for LTE Band 7. Per FCC Guidance, the device was connected in a radiated downlink carrier aggregation scenario for evaluations of Antenna A. The operational description contains more information about this switching mechanism.

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, LTE Band 41 Power Class 2/3)
- 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.

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2 LTE 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 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 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 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 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
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 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		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	N/A	3649.2 (56232)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	3690 (56640)
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)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
UE Category	DL UE Cat 20 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat 18 (QPSK, 16QAM, 64QAM, 256QAM)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
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 14. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9 and Appendix H. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 14 Features are not supported: Relay, HetNet, Enhanced eICIC, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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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]

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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:

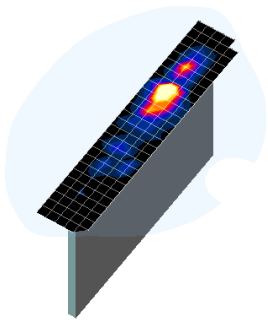

Figure 4-1 Sample SAR Area Scan

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

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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].

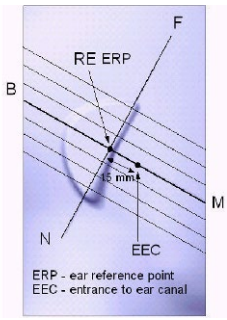

Figure 5-1
Close-Up Side view of ERP

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.

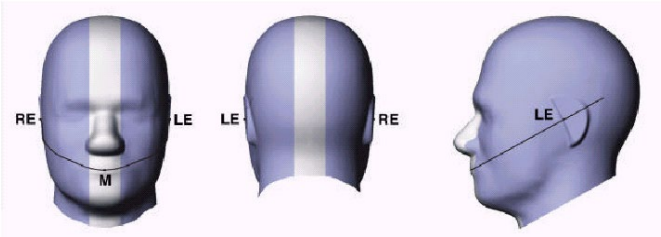

Figure 5-2
Front, back and side view of SAM Twin Phantom

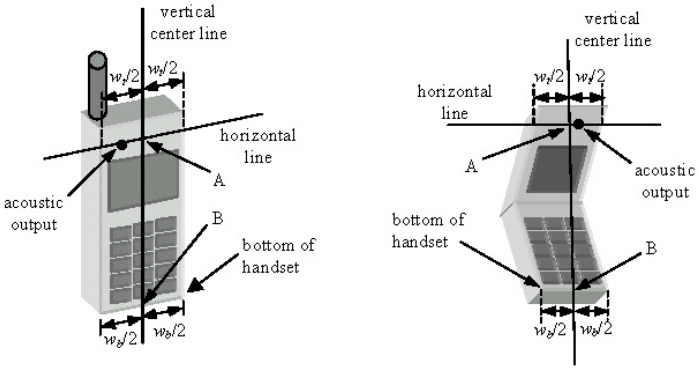

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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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).

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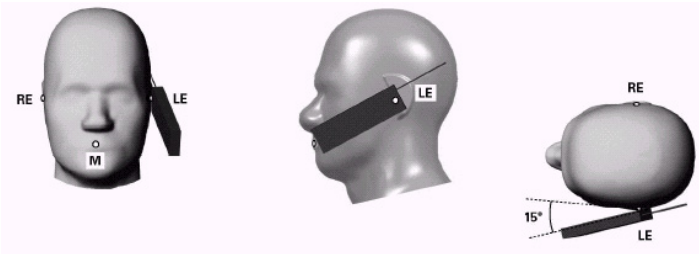

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

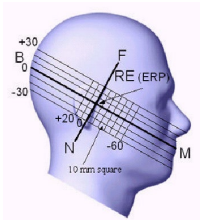

Figure 6-3
Side view w/ relevant markings

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.

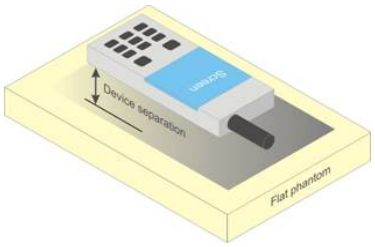

Figure 6-4
Sample Body-Worn Diagram

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

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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

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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.

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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.

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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.

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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.

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When SAR is required for EVDO Rev. A, SAR is measured with a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations, using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0 or 1x RTT RC3, as appropriate.

8.4.5 Body SAR Measurements for EVDO Hotspot

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

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

8.4.6 CDMA2000 1x Advanced

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

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

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

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

8.5.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the

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primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.5.3 Body SAR Measurements

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

8.5.4 SAR Measurements with Rel 5 HSDPA

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

8.5.5 SAR Measurements with Rel 6 HSUPA

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

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

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

8.6 SAR Measurement Conditions for LTE

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

8.6.1 Spectrum Plots for RB Configurations

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

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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.

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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.

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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/ax OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per FCC Guidance, 802.11ax was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 Guidance. 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.

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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.

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9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Powers

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	564	90S	820.1	24.89	24.88	24.89	24.85	24.90	24.84	24.85
Cellular	1013	22H	824.7	24.87	24.85	24.87	24.82	24.83	24.80	24.83
	384	22H	836.52	24.97	24.98	24.99	24.96	24.95	24.94	24.93
	777	22H	848.31	24.90	24.86	24.89	24.85	24.84	24.84	24.86
PCS	25	24E	1851.25	23.31	23.27	23.24	23.24	23.27	23.31	23.37
	600	24E	1880	23.28	23.25	23.25	23.16	23.18	23.26	23.31
	1175	24E	1908.75	23.24	23.24	23.21	23.15	23.22	23.25	23.30

Table 9-2
Reduced Conducted Powers – Hotspot Mode Active

Band	Channel	Rule Part	Frequency	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	19.00	18.96	19.01	19.00
	600	24E	1880	18.99	18.95	18.95	18.97
	1175	24E	1908.75	18.95	18.94	18.99	18.93

Table 9-3
Reduced Conducted Powers- Grip Sensor and/or Earjack Mode Active

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	20.88	20.94	21.15	21.00	20.96	21.12	21.06
	600	24E	1880	20.86	20.91	21.17	20.98	20.92	21.03	21.02
	1175	24E	1908.75	20.82	20.87	21.24	20.95	20.93	20.97	21.03

Note:
1) 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.
2) CDMA 1x Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

Table 9-4
Maximum Conducted Powers

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	32.30	32.22	31.30	**28.97**	27.13	26.33	24.68	22.65	21.50
	190	32.34	32.17	31.33	**29.08**	27.13	26.25	24.71	22.59	21.66
	251	32.19	32.12	31.04	**29.07**	27.01	26.25	24.57	22.61	21.71
GSM 1900	512	29.44	29.50	28.13	**26.24**	24.29	25.36	23.84	21.66	20.74
	661	29.21	29.29	28.11	**26.11**	24.13	25.50	23.60	21.55	20.61
	810	29.00	29.01	27.78	**25.62**	24.02	25.01	23.06	21.19	20.30

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	23.27	23.19	25.28	**24.71**	24.12	17.30	18.66	18.39	18.49
	190	23.31	23.14	25.31	**24.82**	24.12	17.22	18.69	18.33	18.65
	251	23.16	23.09	25.02	**24.81**	24.00	17.22	18.55	18.35	18.70
GSM 1900	512	20.41	20.47	22.11	**21.98**	21.28	16.33	17.82	17.40	17.73
	661	20.18	20.26	22.09	**21.85**	21.12	16.47	17.58	17.29	17.60
	810	19.97	19.98	21.76	**21.36**	21.01	15.98	17.04	16.93	17.29
GSM 850	**Frame Avg.Targets:**	23.47	23.47	25.48	**25.24**	24.49	17.97	18.98	18.74	18.99
GSM 1900		20.47	20.47	22.48	**22.24**	21.49	16.97	17.98	17.74	17.99

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Table 9-5
Reduced Conducted Powers- Hotspot/Grip Sensor and/or Earjack Mode Active

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	26.90	26.91	26.49	**24.50**	22.36	25.36	23.84	21.66	20.74
	661	26.96	27.00	26.50	**24.44**	22.18	25.50	23.60	21.55	20.61
	810	26.63	26.65	26.09	**24.03**	21.90	25.01	23.06	21.19	20.30

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	17.87	17.88	20.47	**20.24**	19.35	16.33	17.82	17.40	17.73
	661	17.93	17.97	20.48	**20.18**	19.17	16.47	17.58	17.29	17.60
	810	17.60	17.62	20.07	**19.77**	18.89	15.98	17.04	16.93	17.29
GSM 1900	**Frame Avg.Targets:**	18.47	18.47	20.48	**20.24**	19.49	16.97	17.98	17.74	17.99

Note:

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

GSM Class: B
GPRS Multislot class: 33 (Max 4 Tx uplink slots)
EDGE Multislot class: 33 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A

Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-6
Maximum Conducted Powers

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.22	24.31	24.30	23.72	23.94	23.97	23.92	23.80	23.70	-
99		12.2 kbps AMR	24.21	24.32	24.29	23.73	23.92	23.98	23.91	23.84	23.68	-
6	HSDPA	Subtest 1	23.17	23.21	23.17	22.92	22.96	22.91	22.85	22.68	22.73	0
6		Subtest 2	23.16	23.23	23.18	22.92	22.95	22.88	22.87	22.67	22.72	0
6		Subtest 3	22.66	22.71	22.64	22.41	22.44	22.39	22.34	22.20	22.22	0.5
6		Subtest 4	22.66	22.69	22.67	22.39	22.41	22.38	22.32	22.19	22.21	0.5
6	HSUPA	Subtest 1	23.16	23.22	23.18	22.91	22.94	22.90	22.83	22.69	22.72	0
6		Subtest 2	21.15	21.20	21.14	20.86	20.91	20.84	20.83	20.61	20.62	2
6		Subtest 3	22.21	22.23	22.18	21.90	21.93	21.85	21.82	21.64	21.64	1
6		Subtest 4	21.13	21.17	21.11	20.83	20.86	20.80	20.79	20.62	20.61	2
6		Subtest 5	23.10	23.15	23.16	22.87	22.91	22.88	22.87	22.64	22.71	0
8	DC-HSDPA	Subtest 1	23.12	23.20	23.11	22.88	22.92	22.89	22.81	22.66	22.70	0
8		Subtest 2	23.23	23.25	23.18	22.94	23.01	22.96	22.94	22.72	22.75	0
8		Subtest 3	22.78	22.77	22.66	22.41	22.49	22.45	22.38	22.20	22.28	0.5
8		Subtest 4	22.73	22.75	22.69	22.43	22.51	22.45	22.39	22.20	22.27	0.5

Table 9-7
Reduced Conducted Powers- Hotspot Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.66	19.88	19.91	18.79	18.72	18.72	-
99		12.2 kbps AMR	19.68	19.86	19.87	18.73	18.71	18.71	-
6	HSDPA	Subtest 1	18.85	19.00	19.04	17.94	17.76	17.65	0
6		Subtest 2	18.84	18.97	18.95	17.91	17.75	17.68	0
6		Subtest 3	18.30	18.48	18.53	17.38	17.29	17.17	0.5
6		Subtest 4	18.40	18.51	18.54	17.44	17.26	17.17	0.5
6	HSUPA	Subtest 1	18.83	19.00	19.01	17.92	17.80	17.69	0
6		Subtest 2	16.85	16.98	17.01	15.92	15.77	15.66	2
6		Subtest 3	17.77	17.97	17.99	16.90	16.74	16.63	1
6		Subtest 4	16.84	17.02	16.97	15.91	15.81	15.62	2
6		Subtest 5	18.88	19.04	19.03	17.95	17.83	17.70	0
8	DC-HSDPA	Subtest 1	18.86	19.04	19.05	17.99	17.84	17.70	0
8		Subtest 2	18.92	19.03	19.08	17.96	17.83	17.71	0
8		Subtest 3	18.41	18.56	18.57	17.49	17.30	17.19	0.5
8		Subtest 4	18.40	18.58	18.56	17.48	17.31	17.19	0.5

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Table 9-8
Reduced Conducted Powers - Grip Sensor and/or Earjack Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.66	19.88	19.91	20.80	20.73	20.70	-
99		12.2 kbps AMR	19.68	19.86	19.87	20.82	20.71	20.66	-
6	HSDPA	Subtest 1	18.85	19.00	19.04	19.98	19.80	19.71	0
6		Subtest 2	18.84	18.97	18.95	19.94	19.78	19.71	0
6		Subtest 3	18.30	18.48	18.53	19.47	19.31	19.20	0.5
6		Subtest 4	18.40	18.51	18.54	19.45	19.34	19.18	0.5
6	HSUPA	Subtest 1	18.83	19.00	19.01	19.94	19.81	19.72	0
6		Subtest 2	16.85	16.98	17.01	17.91	17.78	17.64	2
6		Subtest 3	17.77	17.97	17.99	18.90	18.78	18.66	1
6		Subtest 4	16.84	17.02	16.97	17.93	17.77	17.67	2
6		Subtest 5	18.88	19.04	19.03	19.98	19.86	19.75	0
8	DC-HSDPA	Subtest 1	18.86	19.04	19.05	20.03	19.86	19.75	0
8		Subtest 2	18.92	19.03	19.08	20.00	19.84	19.72	0
8		Subtest 3	18.41	18.56	18.57	19.56	19.39	19.26	0.5
8		Subtest 4	18.40	18.58	18.56	19.57	19.39	19.29	0.5

DC-HSDPA considerations

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

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

Figure 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-9
LTE Band 71 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	**24.47**	0	0
	1	50	24.03		0
	1	99	24.32		0
	50	0	**23.61**	0-1	1
	50	25	23.59		1
	50	50	23.53		1
	100	0	23.54		1
16QAM	1	0	23.63	0-1	1
	1	50	23.26		1
	1	99	23.48		1
	50	0	22.58	0-2	2
	50	25	22.54		2
	50	50	22.48		2
	100	0	22.52		2
64QAM	1	0	22.61	0-2	2
	1	50	22.26		2
	1	99	22.46		2
	50	0	21.64	0-3	3
	50	25	21.56		3
	50	50	21.52		3
	100	0	21.52		3
256QAM	1	0	19.76	0-5	5
	1	50	19.39		5
	1	99	19.53		5
	50	0	19.58		5
	50	25	19.61		5
	50	50	19.55		5
	100	0	19.60		5

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

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Table 9-10
LTE Band 71 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	24.13	0	0
	1	36	24.00		0
	1	74	24.01		0
	36	0	23.30	0-1	1
	36	18	23.21		1
	36	37	23.20		1
	75	0	23.16		1
16QAM	1	0	23.52	0-1	1
	1	36	23.34		1
	1	74	23.32		1
	36	0	22.26	0-2	2
	36	18	22.21		2
	36	37	22.20		2
	75	0	22.15		2
64QAM	1	0	22.44	0-2	2
	1	36	22.31		2
	1	74	22.25		2
	36	0	21.24	0-3	3
	36	18	21.20		3
	36	37	21.16		3
	75	0	21.15		3
256QAM	1	0	19.43	0-5	5
	1	36	19.23		5
	1	74	19.27		5
	36	0	19.22		5
	36	18	19.18		5
	36	37	19.15		5
	75	0	19.16		5

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-11
LTE Band 71 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	23.73	23.91	23.90	0	0
	1	25	23.61	23.95	24.08		0
	1	49	23.85	23.85	24.00		0
	25	0	22.86	23.08	23.22	0-1	1
	25	12	22.89	23.01	23.15		1
	25	25	22.91	22.95	23.11		1
	50	0	23.02	23.02	23.18		1
16QAM	1	0	23.00	23.20	23.17	0-1	1
	1	25	22.89	23.21	23.40		1
	1	49	23.15	23.15	23.28		1
	25	0	21.95	22.11	22.22	0-2	2
	25	12	22.00	22.02	22.16		2
	25	25	21.96	21.93	22.09		2
	50	0	22.01	21.96	22.14		2
64QAM	1	0	22.04	22.18	22.12	0-2	2
	1	25	21.83	22.16	22.38		2
	1	49	22.12	22.07	22.31		2
	25	0	20.93	21.05	21.21	0-3	3
	25	12	20.95	21.01	21.15		3
	25	25	20.92	20.89	21.09		3
	50	0	21.00	20.99	21.17		3
256QAM	1	0	19.23	19.22	19.29	0-5	5
	1	25	18.82	19.05	19.27		5
	1	49	19.06	19.04	19.10		5
	25	0	19.12	19.06	19.24		5
	25	12	19.10	19.01	19.14		5
	25	25	19.18	18.92	19.08		5
	50	0	19.07	19.00	19.15		5

Table 9-12
LTE Band 71 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	23.67	23.85	23.99	0	0
	1	12	23.98	23.94	24.11		0
	1	24	23.91	23.90	24.12		0
	12	0	22.76	23.00	23.18	0-1	1
	12	6	22.99	23.09	23.23		1
	12	13	22.92	23.04	23.16		1
	25	0	22.80	23.03	23.19		1
16QAM	1	0	22.96	23.18	23.42	0-1	1
	1	12	23.25	23.28	23.43		1
	1	24	23.13	23.23	23.39		1
	12	0	21.79	22.07	22.23	0-2	2
	12	6	22.11	22.12	22.27		2
	12	13	22.06	22.09	22.26		2
	25	0	21.82	22.04	22.15		2
64QAM	1	0	21.92	22.11	22.36	0-2	2
	1	12	22.20	22.18	22.37		2
	1	24	22.13	22.18	22.33		2
	12	0	20.85	21.06	21.19	0-3	3
	12	6	21.17	21.10	21.32		3
	12	13	21.05	21.08	21.12		3
	25	0	20.86	21.04	21.15		3
256QAM	1	0	19.09	19.04	19.51	0-5	5
	1	12	19.14	19.12	19.34		5
	1	24	19.09	19.09	19.24		5
	12	0	19.11	19.02	19.15		5
	12	6	19.14	19.11	19.19		5
	12	13	19.10	19.03	19.21		5
	25	0	19.12	19.05	19.18		5

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9.4.2 LTE Band 12

Table 9-13
LTE Band 12 Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	24.36	0	0
	1	25	24.00		0
	1	49	**24.49**		0
	25	0	23.45	0-1	1
	25	12	23.48		1
	25	25	**23.53**		1
	50	0	23.42		1
16QAM	1	0	23.06	0-1	1
	1	25	22.79		1
	1	49	23.28		1
	25	0	22.41	0-2	2
	25	12	22.48		2
	25	25	22.52		2
	50	0	22.38		2
64QAM	1	0	22.29	0-2	2
	1	25	22.11		2
	1	49	22.52		2
	25	0	21.46	0-3	3
	25	12	21.39		3
	25	25	21.47		3
	50	0	21.41		3
256QAM	1	0	19.70	0-5	5
	1	25	19.52		5
	1	49	19.75		5
	25	0	19.64		5
	25	12	19.57		5
	25	25	19.61		5
	50	0	19.59		5

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

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Table 9-14
LTE Band 12 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	24.08	24.30	24.47	0	0
	1	12	24.23	24.45	24.59		0
	1	24	24.26	24.60	24.60		0
	12	0	23.27	23.48	23.62	0-1	1
	12	6	23.38	23.57	23.70		1
	12	13	23.37	23.56	23.70		1
	25	0	23.36	23.57	23.63		1
16QAM	1	0	23.44	23.55	23.77	0-1	1
	1	12	23.55	23.80	23.96		1
	1	24	23.57	23.74	23.85		1
	12	0	22.36	22.53	22.69	0-2	2
	12	6	22.38	22.62	22.72		2
	12	13	22.40	22.66	22.76		2
	25	0	22.35	22.55	22.65		2
64QAM	1	0	22.37	22.61	22.74	0-2	2
	1	12	22.53	22.76	22.85		2
	1	24	22.55	22.71	22.80		2
	12	0	21.26	21.51	21.69	0-3	3
	12	6	21.41	21.62	21.71		3
	12	13	21.40	21.61	21.73		3
	25	0	21.39	21.56	21.64		3
256QAM	1	0	19.32	19.51	19.74	0-5	5
	1	12	19.47	19.71	19.75		5
	1	24	19.46	19.62	19.73		5
	12	0	19.24	19.48	19.59		5
	12	6	19.35	19.60	19.64		5
	12	13	19.34	19.55	19.67		5
	25	0	19.33	19.54	19.61		5

Table 9-15
LTE Band 12 Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.12	24.36	24.56	0	0
	1	7	24.18	24.43	24.59		0
	1	14	24.22	24.44	24.65		0
	8	0	23.23	23.49	23.71	0-1	1
	8	4	23.33	23.57	23.74		1
	8	7	23.31	23.54	23.70		1
	15	0	23.34	23.59	23.75		1
16QAM	1	0	23.51	23.66	23.88	0-1	1
	1	7	23.55	23.79	23.93		1
	1	14	23.57	23.76	23.91		1
	8	0	22.33	22.57	22.75	0-2	2
	8	4	22.44	22.66	22.82		2
	8	7	22.39	22.63	22.79		2
	15	0	22.34	22.59	22.78		2
64QAM	1	0	22.45	22.66	22.88	0-2	2
	1	7	22.50	22.71	22.87		2
	1	14	22.46	22.84	22.89		2
	8	0	21.22	21.50	21.69	0-3	3
	8	4	21.38	21.61	21.80		3
	8	7	21.32	21.62	21.75		3
	15	0	21.35	21.58	21.76		3
256QAM	1	0	19.37	19.54	19.69	0-5	5
	1	7	19.41	19.63	19.75		5
	1	14	19.45	19.64	19.76		5
	8	0	19.24	19.47	19.64		5
	8	4	19.33	19.58	19.74		5
	8	7	19.31	19.56	19.72		5
	15	0	19.28	19.53	19.73		5

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Table 9-16
LTE Band 12 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	24.01	24.30	24.52	0	0
	1	2	24.11	24.42	24.61		0
	1	5	24.10	24.35	24.56		0
	3	0	24.01	24.30	24.48		0
	3	2	24.13	24.43	24.61		0
	3	3	24.09	24.36	24.58		0
	6	0	23.12	23.48	23.70	0-1	1
16QAM	1	0	23.46	23.58	23.83	0-1	1
	1	2	23.50	23.68	23.92		1
	1	5	23.44	23.72	23.85		1
	3	0	23.20	23.52	23.64		1
	3	2	23.34	23.55	23.75		1
	3	3	23.27	23.55	23.74		1
	6	0	22.27	22.50	22.67	0-2	2
64QAM	1	0	22.37	22.54	22.80	0-2	2
	1	2	22.40	22.72	22.91		2
	1	5	22.42	22.61	22.80		2
	3	0	22.27	22.48	22.63		2
	3	2	22.36	22.63	22.77		2
	3	3	22.28	22.55	22.74		2
	6	0	21.15	21.46	21.69	0-3	3
256QAM	1	0	19.31	19.50	19.63	0-5	5
	1	2	19.42	19.63	19.74		5
	1	5	19.32	19.57	19.70		5
	3	0	19.27	19.51	19.62		5
	3	2	19.37	19.61	19.78		5
	3	3	19.33	19.56	19.71		5
	6	0	19.16	19.43	19.62		5

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9.4.3 LTE Band 13

Table 9-17
LTE Band 13 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	24.32	0	0
	1	25	24.28		0
	1	49	**24.55**		0
	25	0	**23.89**	0-1	1
	25	12	23.83		1
	25	25	23.78		1
	50	0	23.84		1
16QAM	1	0	23.53	0-1	1
	1	25	23.51		1
	1	49	23.95		1
	25	0	22.88	0-2	2
	25	12	22.80		2
	25	25	22.79		2
	50	0	22.79		2
64QAM	1	0	22.52	0-2	2
	1	25	22.58		2
	1	49	22.85		2
	25	0	21.87	0-3	3
	25	12	21.80		3
	25	25	21.71		3
	50	0	21.79		3
256QAM	1	0	19.88	0-5	5
	1	25	19.50		5
	1	49	19.71		5
	25	0	19.83		5
	25	12	19.87		5
	25	25	19.79		5
	50	0	19.83		5

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Table 9-18
LTE Band 13 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	24.56	0	0
	1	12	24.51		0
	1	24	24.80		0
	12	0	23.86	0-1	1
	12	6	23.72		1
	12	13	23.97		1
	25	0	23.79		1
16QAM	1	0	23.87	0-1	1
	1	12	23.78		1
	1	24	23.98		1
	12	0	22.93	0-2	2
	12	6	22.92		2
	12	13	22.79		2
	25	0	22.82		2
64QAM	1	0	22.82	0-2	2
	1	12	22.90		2
	1	24	22.89		2
	12	0	21.88	0-3	3
	12	6	21.92		3
	12	13	21.95		3
	25	0	21.80		3
256QAM	1	0	19.78	0-5	5
	1	12	19.50		5
	1	24	19.61		5
	12	0	19.83		5
	12	6	19.88		5
	12	13	19.72		5
	25	0	19.91		5

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

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9.4.4 LTE Band 14

Table 9-19
LTE Band 14 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	**25.02**	0	0
	1	25	24.99		0
	1	49	24.95		0
	25	0	**24.16**	0-1	1
	25	12	24.07		1
	25	25	24.00		1
	50	0	24.05		1
16QAM	1	0	24.25	0-1	1
	1	25	24.07		1
	1	49	24.05		1
	25	0	23.16	0-2	2
	25	12	23.08		2
	25	25	23.03		2
	50	0	23.00		2
64QAM	1	0	23.36	0-2	2
	1	25	23.19		2
	1	49	23.11		2
	25	0	22.09	0-3	3
	25	12	22.04		3
	25	25	21.90		3
	50	0	22.01		3
256QAM	1	0	20.22	0-5	5
	1	25	20.20		5
	1	49	20.09		5
	25	0	20.05		5
	25	12	20.04		5
	25	25	19.96		5
	50	0	20.01		5

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Table 9-20
LTE Band 14 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	25.01	0	0
	1	12	24.70		0
	1	24	24.86		0
	12	0	24.03	0-1	1
	12	6	23.99		1
	12	13	23.95		1
	25	0	24.13		1
16QAM	1	0	24.37	0-1	1
	1	12	23.86		1
	1	24	24.26		1
	12	0	23.15	0-2	2
	12	6	23.08		2
	12	13	23.18		2
	25	0	23.16		2
64QAM	1	0	23.27	0-2	2
	1	12	22.96		2
	1	24	23.25		2
	12	0	22.41	0-3	3
	12	6	22.42		3
	12	13	22.35		3
	25	0	22.45		3
256QAM	1	0	20.43	0-5	5
	1	12	20.39		5
	1	24	20.29		5
	12	0	20.34		5
	12	6	20.25		5
	12	13	20.26		5
	25	0	20.18		5

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.

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9.4.5 LTE Band 26 (Cell)

Table 9-21
LTE Band 26 (Cell) 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	**24.96**	0	0
	1	36	24.95		0
	1	74	24.82		0
	36	0	**24.09**	0-1	1
	36	18	24.07		1
	36	37	24.00		1
	75	0	24.05		1
16QAM	1	0	24.20	0-1	1
	1	36	24.28		1
	1	74	24.07		1
	36	0	23.13	0-2	2
	36	18	23.06		2
	36	37	22.99		2
	75	0	23.05		2
64QAM	1	0	23.19	0-2	2
	1	36	23.24		2
	1	74	23.03		2
	36	0	22.15	0-3	3
	36	18	22.06		3
	36	37	21.97		3
	75	0	22.05		3
256QAM	1	0	20.14	0-5	5
	1	36	20.21		5
	1	74	20.01		5
	36	0	20.03		5
	36	18	20.05		5
	36	37	20.03		5
	75	0	20.04		5

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

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Table 9-22
LTE Band 26 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.58	24.82	24.64	0	0
	1	25	24.27	24.43	24.26		0
	1	49	24.57	24.68	24.35		0
	25	0	23.77	23.90	23.73	0-1	1
	25	12	23.74	23.92	23.67		1
	25	25	23.70	23.82	23.54		1
	50	0	23.77	23.94	23.66		1
16QAM	1	0	23.91	24.18	23.97	0-1	1
	1	25	23.44	23.80	23.51		1
	1	49	23.93	24.03	23.69		1
	25	0	22.77	22.96	22.72	0-2	2
	25	12	22.76	22.92	22.67		2
	25	25	22.67	22.85	22.55		2
	50	0	22.70	22.91	22.65		2
64QAM	1	0	22.90	23.10	22.93	0-2	2
	1	25	22.40	22.75	22.43		2
	1	49	22.88	23.01	22.73		2
	25	0	21.75	21.94	21.69	0-3	3
	25	12	21.74	21.93	21.67		3
	25	25	21.64	21.83	21.58		3
	50	0	21.72	21.91	21.65		3
256QAM	1	0	19.85	20.12	19.90	0-5	5
	1	25	19.32	19.69	19.35		5
	1	49	19.84	19.92	19.63		5
	25	0	19.76	19.94	19.72		5
	25	12	19.71	20.01	19.71		5
	25	25	19.63	19.84	19.58		5
	50	0	19.72	19.91	19.63		5

Table 9-23
LTE Band 26 (Cell) 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	24.51	24.76	24.55	0	0
	1	12	24.61	24.86	24.54		0
	1	24	24.62	24.73	24.26		0
	12	0	23.70	23.92	23.65	0-1	1
	12	6	23.79	23.95	23.67		1
	12	13	23.76	23.92	23.59		1
	25	0	23.74	23.88	23.63		1
16QAM	1	0	23.87	24.09	23.87	0-1	1
	1	12	23.97	24.20	23.91		1
	1	24	23.90	24.12	23.62		1
	12	0	22.75	22.89	22.68	0-2	2
	12	6	22.84	22.95	22.70		2
	12	13	22.81	22.97	22.64		2
	25	0	22.72	22.85	22.61		2
64QAM	1	0	22.77	23.04	22.85	0-2	2
	1	12	22.89	23.13	22.85		2
	1	24	22.78	22.99	22.64		2
	12	0	21.74	21.95	21.69	0-3	3
	12	6	21.80	21.98	21.72		3
	12	13	21.79	21.92	21.61		3
	25	0	21.75	21.90	21.62		3
256QAM	1	0	19.65	19.98	19.78	0-5	5
	1	12	19.83	20.08	19.76		5
	1	24	19.74	19.91	19.63		5
	12	0	19.64	19.77	19.66		5
	12	6	19.77	19.92	19.71		5
	12	13	19.69	19.93	19.60		5
	25	0	19.75	19.83	19.65		5

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Table 9-24
LTE Band 26 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.57	24.88	24.53	0	0
	1	7	24.59	24.92	24.44		0
	1	14	24.60	24.92	24.22		0
	8	0	23.62	23.96	23.60	0-1	1
	8	4	23.73	24.03	23.57		1
	8	7	23.71	24.01	23.56		1
	15	0	23.74	24.02	23.63		1
16QAM	1	0	23.84	24.25	23.97	0-1	1
	1	7	23.89	24.32	23.86		1
	1	14	23.90	24.21	23.79		1
	8	0	22.73	23.01	22.77	0-2	2
	8	4	22.82	23.11	22.86		2
	8	7	22.79	23.12	22.74		2
	15	0	22.69	23.05	22.75		2
64QAM	1	0	22.99	23.21	22.95	0-2	2
	1	7	22.88	23.25	22.83		2
	1	14	22.83	23.19	22.77		2
	8	0	21.71	22.00	21.73	0-3	3
	8	4	21.77	22.05	21.72		3
	8	7	21.73	22.08	21.71		3
	15	0	21.76	22.03	21.72		3
256QAM	1	0	19.67	20.15	19.91	0-5	5
	1	7	19.74	20.24	19.82		5
	1	14	19.80	20.12	19.80		5
	8	0	19.65	19.93	19.66		5
	8	4	19.76	20.03	19.78		5
	8	7	19.70	20.11	19.67		5
	15	0	19.62	19.95	19.76		5

Table 9-25
LTE Band 26 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.59	24.76	24.40	0	0
	1	2	24.68	24.92	24.38		0
	1	5	24.61	24.83	24.21		0
	3	0	24.62	24.79	24.34		0
	3	2	24.67	24.86	24.30		0
	3	3	24.63	24.87	24.23		0
	6	0	23.76	23.92	23.68	0-1	1
16QAM	1	0	23.92	24.15	23.76	0-1	1
	1	2	23.97	24.24	23.67		1
	1	5	23.96	24.21	23.54		1
	3	0	23.79	24.00	23.55		1
	3	2	23.84	24.08	23.51		1
	3	3	23.83	24.05	23.43		1
	6	0	22.79	22.97	22.69	0-2	2
64QAM	1	0	22.83	23.14	22.78	0-2	2
	1	2	23.02	23.24	22.73		2
	1	5	22.84	23.17	22.58		2
	3	0	22.83	23.04	22.65		2
	3	2	22.88	23.14	22.60		2
	3	3	22.82	23.08	22.51		2
	6	0	21.74	21.85	21.62	0-3	3
256QAM	1	0	19.73	20.08	19.78	0-5	5
	1	2	19.85	20.24	19.83		5
	1	5	19.81	20.13	19.75		5
	3	0	19.79	20.05	19.80		5
	3	2	19.90	20.17	19.79		5
	3	3	19.86	20.15	19.73		5
	6	0	19.74	19.87	19.63		5

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9.4.6 LTE Band 5 (Cell)

Table 9-26
LTE Band 5 (Cell) 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	**24.73**	0	0
	1	25	24.50		0
	1	49	24.71		0
	25	0	**23.97**	0-1	1
	25	12	23.93		1
	25	25	23.88		1
	50	0	23.92		1
16QAM	1	0	24.22	0-1	1
	1	25	23.89		1
	1	49	24.02		1
	25	0	22.93	0-2	2
	25	12	22.91		2
	25	25	22.82		2
	50	0	22.91		2
64QAM	1	0	23.22	0-2	2
	1	25	22.79		2
	1	49	23.07		2
	25	0	21.89	0-3	3
	25	12	21.93		3
	25	25	21.84		3
	50	0	21.92		3
256QAM	1	0	20.15	0-5	5
	1	25	19.76		5
	1	49	19.96		5
	25	0	19.97		5
	25	12	19.91		5
	25	25	19.87		5
	50	0	19.91		5

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-27
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.30	24.41	24.59	0	0
	1	12	24.42	24.45	24.30		0
	1	24	24.35	24.26	24.34		0
	12	0	23.53	23.58	23.88	0-1	1
	12	6	23.65	23.60	23.90		1
	12	13	23.55	23.37	23.98		1
	25	0	23.59	23.50	23.95		1
16QAM	1	0	23.65	23.72	23.92	0-1	1
	1	12	23.79	23.80	23.45		1
	1	24	23.80	23.59	23.43		1
	12	0	22.59	22.60	22.98	0-2	2
	12	6	22.67	22.70	22.95		2
	12	13	22.60	22.43	23.02		2
	25	0	22.57	22.52	22.90		2
64QAM	1	0	22.66	22.65	22.87	0-2	2
	1	12	22.77	22.72	22.61		2
	1	24	22.75	22.60	22.65		2
	12	0	21.57	21.58	22.03	0-3	3
	12	6	21.64	21.62	21.96		3
	12	13	21.62	21.45	22.00		3
	25	0	21.58	21.49	21.96		3
256QAM	1	0	19.60	19.60	19.98	0-5	5
	1	12	19.72	19.68	20.00		5
	1	24	19.66	19.55	20.02		5
	12	0	19.52	19.51	19.83		5
	12	6	19.54	19.62	19.82		5
	12	13	19.61	19.53	20.00		5
	25	0	19.60	19.54	19.92		5

Table 9-28
LTE Band 5 (Cell) 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	24.33	24.64	24.52	0	0
	1	7	24.40	24.62	24.44		0
	1	14	24.45	24.63	24.24		0
	8	0	23.51	23.57	23.73	0-1	1
	8	4	23.61	23.58	23.73		1
	8	7	23.55	23.45	23.69		1
	15	0	23.57	23.54	23.80		1
16QAM	1	0	23.62	23.86	23.93	0-1	1
	1	7	23.91	23.76	23.95		1
	1	14	23.75	23.55	23.90		1
	8	0	22.63	22.72	22.82	0-2	2
	8	4	22.68	22.68	22.82		2
	8	7	22.69	22.70	22.75		2
	15	0	22.61	22.57	22.76		2
64QAM	1	0	22.64	22.76	22.98	0-2	2
	1	7	22.75	22.69	22.88		2
	1	14	22.76	22.56	22.90		2
	8	0	21.48	21.63	21.77	0-3	3
	8	4	21.64	21.65	21.76		3
	8	7	21.57	21.57	21.72		3
	15	0	21.66	21.61	21.80		3
256QAM	1	0	19.67	19.72	19.85	0-5	5
	1	7	19.66	19.63	19.83		5
	1	14	19.68	19.65	19.78		5
	8	0	19.54	19.62	19.61		5
	8	4	19.64	19.69	19.76		5
	8	7	19.60	19.58	19.70		5
	15	0	19.56	19.61	19.75		5

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Table 9-29
LTE Band 5 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.26	24.36	24.69	0	0
	1	2	24.37	24.46	24.65		0
	1	5	24.35	24.35	24.47		0
	3	0	24.25	24.41	24.50		0
	3	2	24.37	24.45	24.53		0
	3	3	24.35	24.37	24.44		0
	6	0	23.51	23.34	23.36	0-1	1
16QAM	1	0	23.59	23.70	23.33	0-1	1
	1	2	23.71	23.76	23.38		1
	1	5	23.75	23.71	23.33		1
	3	0	23.48	23.54	23.15		1
	3	2	23.52	23.57	23.20		1
	3	3	23.53	23.57	23.13		1
	6	0	22.52	22.53	22.86	0-2	2
64QAM	1	0	22.58	22.64	22.23	0-2	2
	1	2	22.69	22.75	22.31		2
	1	5	22.69	22.67	22.20		2
	3	0	22.50	22.60	22.19		2
	3	2	22.60	22.64	22.19		2
	3	3	22.57	22.55	22.15		2
	6	0	21.52	21.52	21.86	0-3	3
256QAM	1	0	19.55	19.57	19.45	0-5	5
	1	2	19.62	19.66	19.50		5
	1	5	19.61	19.55	19.31		5
	3	0	19.57	19.61	19.46		5
	3	2	19.66	19.65	19.45		5
	3	3	19.63	19.59	19.38		5
	6	0	19.49	19.48	19.54		5

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9.4.7 LTE Band 66 (AWS)

Table 9-30
LTE Band 66 (AWS) Max 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	23.80	24.03	**24.06**	0	0
	1	50	23.70	23.88	23.71		0
	1	99	23.75	23.89	23.98		0
	50	0	22.97	23.10	**23.23**	0-1	1
	50	25	22.92	23.05	23.21		1
	50	50	22.92	23.02	23.19		1
	100	0	22.91	23.01	23.19		1
16QAM	1	0	23.12	23.17	23.41	0-1	1
	1	50	23.08	22.95	22.98		1
	1	99	23.16	23.03	23.34		1
	50	0	21.91	22.08	22.21	0-2	2
	50	25	21.92	22.05	22.19		2
	50	50	21.89	22.01	22.20		2
	100	0	21.93	22.01	22.17		2
64QAM	1	0	22.15	22.39	22.34	0-2	2
	1	50	22.01	22.17	21.90		2
	1	99	22.09	22.13	22.22		2
	50	0	20.94	21.06	21.26	0-3	3
	50	25	20.91	20.97	21.20		3
	50	50	20.93	20.93	21.17		3
	100	0	20.89	21.03	21.19		3
256QAM	1	0	19.25	19.20	19.23	0-5	5
	1	50	18.90	19.05	18.89		5
	1	99	18.85	18.95	19.21		5
	50	0	18.88	19.02	19.20		5
	50	25	18.85	19.01	19.19		5
	50	50	18.86	18.92	19.09		5
	100	0	18.85	18.98	19.16		5

Table 9-31
LTE Band 66 (AWS) Max 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	23.94	23.85	23.84	0	0
	1	36	23.68	23.73	23.84		0
	1	74	23.68	23.80	23.76		0
	36	0	22.88	22.94	22.99	0-1	1
	36	18	22.82	22.90	23.01		1
	36	37	22.79	22.87	22.98		1
	75	0	22.84	22.91	23.03		1
16QAM	1	0	23.14	23.25	23.27	0-1	1
	1	36	23.02	23.05	23.16		1
	1	74	23.03	23.02	23.12		1
	36	0	21.87	21.94	22.04	0-2	2
	36	18	21.82	21.93	22.05		2
	36	37	21.79	21.90	22.00		2
	75	0	21.83	21.91	22.02		2
64QAM	1	0	22.11	22.18	22.17	0-2	2
	1	36	21.92	22.01	22.11		2
	1	74	21.98	22.03	22.06		2
	36	0	20.90	20.96	21.07	0-3	3
	36	18	20.83	20.94	21.06		3
	36	37	20.75	20.87	20.98		3
	75	0	20.84	20.89	21.03		3
256QAM	1	0	19.15	19.14	19.17	0-5	5
	1	36	18.82	18.92	19.02		5
	1	74	18.88	18.88	19.04		5
	36	0	18.85	18.96	19.02		5
	36	18	18.77	18.93	18.99		5
	36	37	18.69	18.86	18.90		5
	75	0	18.78	18.92	19.01		5

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Table 9-32
LTE Band 66 (AWS) Max 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	23.80	23.87	23.80	0	0
	1	25	23.76	23.90	23.89		0
	1	49	23.63	23.76	23.93		0
	25	0	22.87	23.02	23.06	0-1	1
	25	12	22.89	23.03	23.04		1
	25	25	22.81	22.99	23.04		1
	50	0	22.86	22.98	23.05		1
16QAM	1	0	23.11	23.24	23.32	0-1	1
	1	25	23.07	23.14	23.27		1
	1	49	22.98	23.14	23.34		1
	25	0	21.88	22.04	22.15	0-2	2
	25	12	21.84	22.03	22.05		2
	25	25	21.80	21.96	22.04		2
	50	0	21.94	21.99	22.09		2
64QAM	1	0	22.10	22.24	22.24	0-2	2
	1	25	21.98	22.06	22.25		2
	1	49	21.92	22.08	22.14		2
	25	0	20.87	20.99	21.09	0-3	3
	25	12	20.83	21.01	21.08		3
	25	25	20.78	20.96	21.01		3
	50	0	20.85	21.00	21.05		3
256QAM	1	0	18.99	19.18	19.25	0-5	5
	1	25	18.89	19.06	19.13		5
	1	49	18.71	18.91	19.08		5
	25	0	18.90	18.97	19.03		5
	25	12	18.79	18.95	19.00		5
	25	25	18.76	18.91	18.98		5
	50	0	18.83	18.93	18.97		5

Table 9-33
LTE Band 66 (AWS) Max 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	23.79	23.83	23.81	0	0
	1	12	23.88	23.90	23.91		0
	1	24	23.80	23.86	23.85		0
	12	0	23.00	23.02	23.02	0-1	1
	12	6	23.03	23.01	23.07		1
	12	13	22.96	23.04	23.01		1
	25	0	23.00	22.98	23.03		1
16QAM	1	0	23.16	23.15	23.03	0-1	1
	1	12	23.21	23.25	23.20		1
	1	24	23.10	23.21	23.17		1
	12	0	22.06	22.07	22.05	0-2	2
	12	6	22.08	22.08	22.17		2
	12	13	22.04	22.10	22.07		2
	25	0	21.98	21.98	22.05		2
64QAM	1	0	22.08	22.10	22.09	0-2	2
	1	12	22.17	22.16	22.18		2
	1	24	22.10	22.08	22.12		2
	12	0	21.02	21.01	21.00	0-3	3
	12	6	21.04	21.05	21.07		3
	12	13	20.98	21.02	21.03		3
	25	0	20.95	20.98	21.04		3
256QAM	1	0	19.03	18.98	18.99	0-5	5
	1	12	19.06	19.02	19.11		5
	1	24	18.95	19.01	19.00		5
	12	0	18.96	18.95	18.94		5
	12	6	18.98	18.93	19.01		5
	12	13	18.88	18.94	18.96		5
	25	0	18.95	18.96	18.99		5

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Table 9-34
LTE Band 66 (AWS) Max 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	23.85	23.77	23.85	0	0
	1	7	23.87	23.83	23.91		0
	1	14	23.85	23.83	23.90		0
	8	0	22.96	22.86	23.00	0-1	1
	8	4	22.99	22.95	23.04		1
	8	7	22.98	22.96	23.04		1
	15	0	23.07	22.94	23.06		1
16QAM	1	0	23.18	23.10	23.19	0-1	1
	1	7	23.24	23.15	23.20		1
	1	14	23.18	23.16	23.24		1
	8	0	22.09	22.01	22.04	0-2	2
	8	4	22.10	22.09	22.15		2
	8	7	22.07	22.05	22.12		2
	15	0	22.05	21.96	22.06		2
64QAM	1	0	22.12	22.06	22.15	0-2	2
	1	7	22.16	22.13	22.15		2
	1	14	22.14	22.10	22.17		2
	8	0	20.97	20.93	21.01	0-3	3
	8	4	21.04	21.04	21.10		3
	8	7	21.01	20.97	21.07		3
	15	0	21.05	20.93	21.06		3
256QAM	1	0	19.06	18.98	18.99	0-5	5
	1	7	19.11	18.99	19.02		5
	1	14	19.00	19.01	19.06		5
	8	0	19.03	18.87	18.95		5
	8	4	18.96	18.92	19.02		5
	8	7	18.99	18.98	19.00		5
	15	0	19.03	18.88	19.02		5

Table 9-35
LTE Band 66 (AWS) Max 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	23.77	23.69	23.75	0	0
	1	2	23.87	23.77	23.87		0
	1	5	23.83	23.70	23.81		0
	3	0	23.86	23.71	23.73		0
	3	2	23.85	23.78	23.87		0
	3	3	23.81	23.73	23.77		0
	6	0	22.91	22.88	22.93	0-1	1
16QAM	1	0	23.05	23.06	23.06	0-1	1
	1	2	23.15	23.13	23.15		1
	1	5	23.13	23.01	23.17		1
	3	0	22.99	22.87	22.94		1
	3	2	23.03	22.96	23.05		1
	3	3	22.96	22.81	23.01		1
	6	0	22.01	21.92	21.96	0-2	2
64QAM	1	0	22.06	21.98	22.04	0-2	2
	1	2	22.12	22.07	22.15		2
	1	5	22.10	21.99	22.09		2
	3	0	21.96	21.92	21.95		2
	3	2	22.05	21.94	22.03		2
	3	3	22.02	21.89	21.98		2
	6	0	20.93	20.86	20.92	0-3	3
256QAM	1	0	18.92	18.90	18.96	0-5	5
	1	2	19.07	18.96	19.07		5
	1	5	18.95	18.91	19.01		5
	3	0	19.02	18.90	18.97		5
	3	2	19.09	18.97	19.06		5
	3	3	19.05	18.89	19.02		5
	6	0	18.87	18.82	18.78		5

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Table 9-36
LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	20.04	20.03	**20.25**	0	0
	1	50	19.73	19.92	19.85		0
	1	99	19.80	19.91	20.00		0
	50	0	20.02	20.14	**20.30**	0-1	0
	50	25	19.95	20.13	20.25		0
	50	50	19.97	20.08	20.21		0
	100	0	19.99	20.13	20.24		0
16QAM	1	0	20.15	20.37	20.41	0-1	0
	1	50	19.99	20.28	19.97		0
	1	99	20.00	20.16	20.30		0
	50	0	19.95	20.11	20.29	0-2	0
	50	25	19.90	20.10	20.22		0
	50	50	19.95	20.05	20.19		0
	100	0	19.96	20.15	20.21		0
64QAM	1	0	20.12	20.28	20.33	0-2	0
	1	50	20.05	20.14	19.83		0
	1	99	20.03	20.08	20.28		0
	50	0	19.96	20.11	20.32	0-3	0
	50	25	19.94	20.10	20.27		0
	50	50	19.96	20.05	20.27		0
	100	0	19.94	20.08	20.26		0
256QAM	1	0	19.14	19.21	19.30	0-5	1
	1	50	18.97	19.09	18.95		1
	1	99	18.91	19.01	19.26		1
	50	0	18.94	19.13	19.29		1
	50	25	18.90	19.07	19.25		1
	50	50	18.98	19.02	19.22		1
	100	0	18.96	19.04	19.27		1

Table 9-37
LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	19.84	20.00	19.92	0	0
	1	36	19.63	19.85	19.84		0
	1	74	19.57	19.81	19.88		0
	36	0	19.74	19.80	20.15	0-1	0
	36	18	19.73	19.82	20.23		0
	36	37	19.66	19.77	20.19		0
	75	0	19.71	19.80	20.05		0
16QAM	1	0	19.94	20.42	20.36	0-1	0
	1	36	19.78	20.19	20.09		0
	1	74	19.81	20.31	20.27		0
	36	0	19.72	20.21	20.18	0-2	0
	36	18	19.73	20.19	20.19		0
	36	37	19.71	20.14	20.15		0
	75	0	19.79	20.19	20.03		0
64QAM	1	0	20.08	20.26	20.18	0-2	0
	1	36	19.89	20.12	20.13		0
	1	74	19.82	20.07	20.13		0
	36	0	19.85	20.03	20.07	0-3	0
	36	18	19.81	20.02	20.07		0
	36	37	19.76	19.99	20.05		0
	75	0	19.81	20.02	20.05		0
256QAM	1	0	18.98	19.13	19.09	0-5	1
	1	36	18.82	19.06	19.19		1
	1	74	18.75	19.07	19.02		1
	36	0	18.83	19.01	19.03		1
	36	18	18.81	19.00	19.03		1
	36	37	18.74	18.98	18.99		1
	75	0	18.79	19.01	19.04		1

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Table 9-38
LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	19.70	20.02	19.76	0	0
	1	25	19.59	19.89	19.71		0
	1	49	19.69	19.92	19.73		0
	25	0	19.72	20.08	19.87	0-1	0
	25	12	19.70	20.07	19.86		0
	25	25	19.71	20.05	19.86		0
	50	0	19.79	20.04	19.87		0
16QAM	1	0	19.86	20.23	19.97	0-1	0
	1	25	19.80	20.21	19.93		0
	1	49	19.79	20.15	19.91		0
	25	0	19.74	20.07	19.92	0-2	0
	25	12	19.73	20.04	19.92		0
	25	25	19.74	20.04	19.90		0
	50	0	19.67	20.07	19.84		0
64QAM	1	0	19.95	20.05	20.23	0-2	0
	1	25	19.82	20.06	20.12		0
	1	49	19.68	19.93	20.05		0
	25	0	19.68	19.73	19.97	0-3	0
	25	12	19.64	19.77	19.99		0
	25	25	19.59	19.71	19.93		0
	50	0	19.67	19.78	19.98		0
256QAM	1	0	18.80	18.90	19.11	0-5	1
	1	25	18.72	18.88	19.07		1
	1	49	18.69	18.82	19.00		1
	25	0	18.68	18.74	19.03		1
	25	12	18.63	18.78	18.98		1
	25	25	18.59	18.73	18.95		1
	50	0	18.64	18.75	18.97		1

Table 9-39
LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	19.76	19.99	19.92	0	0
	1	12	19.69	19.62	20.19		0
	1	24	19.77	19.81	20.02		0
	12	0	19.64	19.67	20.03	0-1	0
	12	6	19.57	19.70	20.05		0
	12	13	19.60	19.63	20.04		0
	25	0	19.61	19.77	19.89		0
16QAM	1	0	19.89	19.97	20.10	0-1	0
	1	12	19.80	19.99	19.78		0
	1	24	19.98	20.04	19.96		0
	12	0	19.72	19.62	19.91	0-2	0
	12	6	19.71	19.57	19.98		0
	12	13	19.70	19.60	19.76		0
	25	0	19.69	19.58	19.97		0
64QAM	1	0	19.81	20.14	20.33	0-2	0
	1	12	19.88	20.23	20.25		0
	1	24	19.97	20.12	20.32		0
	12	0	19.78	19.75	20.31	0-3	0
	12	6	19.85	19.85	20.30		0
	12	13	19.85	19.71	20.25		0
	25	0	19.73	19.79	20.22		0
256QAM	1	0	19.00	19.13	19.21	0-5	1
	1	12	18.52	19.17	19.25		1
	1	24	18.63	19.10	19.21		1
	12	0	18.68	18.76	19.05		1
	12	6	18.77	18.65	18.76		1
	12	13	18.67	19.09	18.89		1
	25	0	18.72	18.80	18.96		1

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Table 9-40
LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	19.70	19.89	19.63	0	0
	1	7	19.74	19.95	20.15		0
	1	14	19.82	19.97	19.60		0
	8	0	19.78	19.80	19.98	0-1	0
	8	4	19.85	19.71	19.93		0
	8	7	19.73	19.81	19.85		0
	15	0	19.62	19.55	19.79		0
16QAM	1	0	19.65	19.66	19.61	0-1	0
	1	7	19.57	19.69	20.45		0
	1	14	19.61	19.55	19.70		0
	8	0	19.71	19.60	19.98	0-2	0
	8	4	19.74	19.98	19.96		0
	8	7	19.55	19.61	19.76		0
	15	0	19.60	19.62	19.98		0
64QAM	1	0	19.98	19.88	19.95	0-2	0
	1	7	19.62	19.98	19.95		0
	1	14	19.67	19.75	19.96		0
	8	0	19.75	19.80	19.98	0-3	0
	8	4	19.82	19.83	19.97		0
	8	7	19.78	19.66	19.93		0
	15	0	19.72	19.72	19.99		0
256QAM	1	0	18.84	18.95	18.89	0-5	1
	1	7	18.74	18.80	18.97		1
	1	14	18.83	18.75	18.73		1
	8	0	18.56	18.62	18.88		1
	8	4	18.67	18.78	18.98		1
	8	7	18.63	18.74	18.87		1
	15	0	18.68	18.77	18.80		1

Table 9-41
LTE Band 66 (AWS) Reduced Conducted Powers - 1.4 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

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	19.58	19.83	19.90	0	0
	1	2	19.69	19.90	19.89		0
	1	5	19.66	19.37	19.48		0
	3	0	19.63	19.90	20.12		0
	3	2	19.80	19.97	20.17		0
	3	3	19.71	19.91	20.10		0
	6	0	19.82	20.04	20.28	0-1	0
16QAM	1	0	19.81	19.93	19.99	0-1	0
	1	2	19.93	19.94	19.86		0
	1	5	19.83	19.93	19.96		0
	3	0	19.80	19.75	19.72		0
	3	2	19.92	19.73	19.75		0
	3	3	19.86	19.89	19.74		0
	6	0	19.79	19.79	19.90	0-2	0
64QAM	1	0	19.85	19.89	20.31	0-2	0
	1	2	19.87	19.85	20.30		0
	1	5	19.95	19.98	20.35		0
	3	0	19.72	20.12	19.69		0
	3	2	19.64	19.71	19.74		0
	3	3	19.72	19.66	19.64		0
	6	0	19.74	19.73	19.88	0-3	0
256QAM	1	0	18.73	18.83	18.94	0-5	1
	1	2	18.95	18.75	18.72		1
	1	5	18.76	18.87	18.67		1
	3	0	18.57	18.67	18.92		1
	3	2	18.60	18.65	18.95		1
	3	3	18.75	18.80	18.87		1
	6	0	18.65	19.05	18.83		1

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9.4.8 LTE Band 25 (PCS)

Table 9-42
LTE Band 25 (PCS) Max 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	23.70	**23.88**	23.80	0	0
	1	50	23.41	23.46	23.42		0
	1	99	23.57	23.81	23.75		0
	50	0	22.83	**22.95**	22.94	0-1	1
	50	25	22.77	22.94	22.89		1
	50	50	22.74	22.91	22.90		1
	100	0	22.76	22.94	22.94		1
16QAM	1	0	22.89	23.05	22.93	0-1	1
	1	50	22.45	22.81	22.55		1
	1	99	22.76	22.95	22.89		1
	50	0	21.78	21.98	21.94	0-2	2
	50	25	21.73	21.95	21.87		2
	50	50	21.68	21.91	21.88		2
	100	0	21.74	21.91	21.89		2
64QAM	1	0	22.05	22.09	22.03	0-2	2
	1	50	21.60	21.82	21.51		2
	1	99	21.80	22.04	22.05		2
	50	0	20.81	21.01	20.96	0-3	3
	50	25	20.75	20.85	20.91		3
	50	50	20.73	20.80	20.85		3
	100	0	20.78	20.86	20.88		3
256QAM	1	0	18.95	18.92	18.96	0-5	5
	1	50	18.59	18.62	18.62		5
	1	99	18.74	18.99	18.99		5
	50	0	18.78	18.88	18.82		5
	50	25	18.76	18.87	18.81		5
	50	50	18.69	18.86	18.80		5
	100	0	18.75	18.88	18.85		5

Table 9-43
LTE Band 25 (PCS) Max 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	23.89	23.86	23.79	0	0
	1	36	23.66	23.58	23.73		0
	1	74	23.69	23.49	23.58		0
	36	0	22.92	22.96	22.92	0-1	1
	36	18	22.90	22.98	22.84		1
	36	37	22.88	23.01	22.83		1
	75	0	22.86	22.93	22.90		1
16QAM	1	0	23.13	23.14	23.14	0-1	1
	1	36	23.05	22.89	23.01		1
	1	74	23.09	22.80	22.89		1
	36	0	21.92	22.07	21.98	0-2	2
	36	18	21.94	22.06	21.90		2
	36	37	21.89	22.01	21.95		2
	75	0	21.91	21.96	21.97		2
64QAM	1	0	22.23	22.17	22.09	0-2	2
	1	36	22.08	21.87	22.12		2
	1	74	22.07	21.90	21.98		2
	36	0	20.96	21.03	21.04	0-3	3
	36	18	20.93	20.98	20.95		3
	36	37	20.91	20.90	20.99		3
	75	0	20.90	21.04	20.92		3
256QAM	1	0	19.14	19.08	19.20	0-5	5
	1	36	19.04	18.99	18.99		5
	1	74	18.99	19.03	19.17		5
	36	0	18.85	19.00	18.87		5
	36	18	18.88	18.94	18.84		5
	36	37	18.81	19.00	18.76		5
	75	0	18.83	18.97	18.87		5

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Table 9-44
LTE Band 25 (PCS) Max 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	23.72	23.71	23.63	0	0
	1	25	23.60	23.50	23.33		0
	1	49	23.46	23.34	23.58		0
	25	0	22.68	22.71	22.77	0-1	1
	25	12	22.67	22.69	22.80		1
	25	25	22.65	22.65	22.77		1
	50	0	22.65	22.68	22.81		1
16QAM	1	0	22.90	22.97	22.94	0-1	1
	1	25	22.75	22.84	22.66		1
	1	49	22.81	22.68	22.81		1
	25	0	21.67	21.78	21.85	0-2	2
	25	12	21.67	21.73	21.79		2
	25	25	21.63	21.68	21.77		2
	50	0	21.66	21.69	21.76		2
64QAM	1	0	21.98	22.02	21.93	0-2	2
	1	25	21.86	21.89	21.61		2
	1	49	21.83	21.70	21.79		2
	25	0	20.68	20.76	20.78	0-3	3
	25	12	20.66	20.69	20.80		3
	25	25	20.60	20.67	20.68		3
	50	0	20.67	20.70	20.76		3
256QAM	1	0	19.01	18.91	18.74	0-5	5
	1	25	18.92	18.99	18.70		5
	1	49	18.79	18.84	18.92		5
	25	0	18.68	18.74	18.72		5
	25	12	18.67	18.81	18.78		5
	25	25	18.69	18.77	18.74		5
	50	0	18.70	18.75	18.77		5

Table 9-45
LTE Band 25 (PCS) Max 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	23.60	23.65	23.69	0	0
	1	12	23.36	23.45	23.54		0
	1	24	23.48	23.54	23.71		0
	12	0	23.00	22.93	23.10	0-1	1
	12	6	22.99	22.95	23.07		1
	12	13	23.00	22.96	23.24		1
	25	0	22.96	22.83	22.90		1
16QAM	1	0	22.77	23.04	22.59	0-1	1
	1	12	23.00	22.98	22.61		1
	1	24	23.08	22.74	22.79		1
	12	0	21.90	22.00	22.01	0-2	2
	12	6	22.03	22.12	21.87		2
	12	13	21.88	21.99	21.71		2
	25	0	22.11	21.98	21.74		2
64QAM	1	0	22.04	22.13	22.14	0-2	2
	1	12	22.03	21.95	21.86		2
	1	24	21.99	21.63	22.02		2
	12	0	20.87	20.91	20.90	0-3	3
	12	6	20.79	20.92	20.94		3
	12	13	20.80	20.92	20.89		3
	25	0	20.76	20.87	20.86		3
256QAM	1	0	18.89	18.99	19.04	0-5	5
	1	12	18.77	18.68	18.82		5
	1	24	18.83	18.82	19.10		5
	12	0	18.78	18.86	18.89		5
	12	6	18.71	18.77	18.95		5
	12	13	18.71	18.78	18.78		5
	25	0	18.83	18.83	18.91		5

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Table 9-46
LTE Band 25 (PCS) Max 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	23.63	23.88	23.64	0	0
	1	7	23.54	23.27	23.45		0
	1	14	23.34	23.59	23.61		0
	8	0	22.62	22.89	22.75	0-1	1
	8	4	22.61	22.91	22.78		1
	8	7	22.55	22.83	22.62		1
	15	0	22.74	22.81	22.82		1
16QAM	1	0	23.04	22.87	22.73	0-1	1
	1	7	22.67	22.56	22.77		1
	1	14	22.46	22.92	22.90		1
	8	0	21.72	22.01	21.84	0-2	2
	8	4	21.70	21.98	21.84		2
	8	7	21.63	21.90	21.81		2
	15	0	21.67	21.88	21.79		2
64QAM	1	0	21.96	21.85	21.73	0-2	2
	1	7	21.72	21.60	21.49		2
	1	14	21.68	22.01	21.96		2
	8	0	20.71	20.96	20.86	0-3	3
	8	4	20.76	20.93	20.85		3
	8	7	20.62	20.81	20.71		3
	15	0	20.78	20.94	20.78		3
256QAM	1	0	18.99	19.05	18.79	0-5	5
	1	7	18.92	18.84	18.69		5
	1	14	18.71	18.69	18.60		5
	8	0	18.67	18.74	18.66		5
	8	4	18.70	18.81	18.66		5
	8	7	18.59	18.79	18.58		5
	15	0	18.74	18.77	18.78		5

Table 9-47
LTE Band 25 (PCS) Max 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	23.70	23.92	23.51	0	0
	1	2	23.56	23.73	23.58		0
	1	5	23.69	23.81	23.52		0
	3	0	23.61	23.59	23.51		0
	3	2	23.72	23.74	23.61		0
	3	3	23.68	23.68	23.49		0
	6	0	22.83	22.89	22.66	0-1	1
16QAM	1	0	23.01	22.82	22.76	0-1	1
	1	2	22.98	22.85	22.92		1
	1	5	22.79	22.76	22.89		1
	3	0	22.61	22.80	22.60		1
	3	2	22.93	22.92	22.72		1
	3	3	22.89	22.89	22.67		1
	6	0	21.88	21.82	21.70	0-2	2
64QAM	1	0	21.65	21.75	21.64	0-2	2
	1	2	21.86	21.81	21.77		2
	1	5	21.71	21.78	21.82		2
	3	0	21.59	21.63	21.51		2
	3	2	21.76	21.73	21.64		2
	3	3	21.88	21.91	21.73		2
	6	0	20.82	20.86	20.52	0-3	3
256QAM	1	0	18.81	19.01	19.06	0-5	5
	1	2	18.94	18.93	18.96		5
	1	5	19.09	18.85	18.93		5
	3	0	18.62	18.67	18.81		5
	3	2	18.67	18.74	18.81		5
	3	3	18.58	18.71	18.78		5
	6	0	18.55	18.61	18.70		5

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Table 9-48
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

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	18.60	**18.77**	18.70	0	0
	1	50	18.34	18.42	18.41		0
	1	99	18.50	18.65	18.67		0
	50	0	18.81	**18.89**	18.87	0-1	0
	50	25	18.79	18.85	18.82		0
	50	50	18.72	18.85	18.80		0
	100	0	18.68	18.76	18.75		0
16QAM	1	0	18.91	19.02	19.10	0-1	0
	1	50	18.66	18.85	18.67		0
	1	99	18.80	19.01	19.07		0
	50	0	18.75	18.90	18.87	0-2	0
	50	25	18.76	18.89	18.82		0
	50	50	18.67	18.80	18.90		0
	100	0	18.79	18.86	18.63		0
64QAM	1	0	19.02	19.06	19.07	0-2	0
	1	50	18.65	18.81	18.67		0
	1	99	18.85	19.10	19.20		0
	50	0	18.79	18.91	18.91	0-3	0
	50	25	18.79	18.40	18.90		0
	50	50	18.74	18.85	18.87		0
	100	0	18.80	18.91	18.89		0
256QAM	1	0	18.94	19.00	19.02	0-5	0
	1	50	18.56	18.68	18.64		0
	1	99	18.89	19.02	19.03		0
	50	0	18.73	18.97	18.89		0
	50	25	18.75	18.95	18.85		0
	50	50	18.77	18.88	18.85		0
	100	0	18.80	18.92	18.89		0

Table 9-49
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

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	18.79	18.70	18.61	0	0
	1	36	18.54	18.65	18.54		0
	1	74	18.59	18.71	18.60		0
	36	0	18.80	18.83	18.76	0-1	0
	36	18	18.79	18.82	18.74		0
	36	37	18.75	18.76	18.72		0
	75	0	18.92	18.77	18.77		0
16QAM	1	0	19.21	19.04	18.93	0-1	0
	1	36	19.04	19.05	18.92		0
	1	74	18.95	18.84	19.02		0
	36	0	18.88	18.83	18.76	0-2	0
	36	18	18.77	18.83	18.75		0
	36	37	18.74	18.82	18.77		0
	75	0	18.76	18.78	18.66		0
64QAM	1	0	19.21	19.04	18.97	0-2	0
	1	36	19.06	18.96	18.92		0
	1	74	18.92	19.05	19.10		0
	36	0	18.80	18.86	18.75	0-3	0
	36	18	18.85	18.90	18.76		0
	36	37	18.83	18.85	18.81		0
	75	0	18.86	18.84	18.80		0
256QAM	1	0	19.14	19.02	18.88	0-5	0
	1	36	18.98	18.94	18.88		0
	1	74	18.89	18.94	19.03		0
	36	0	18.81	18.87	18.83		0
	36	18	18.80	18.85	18.85		0
	36	37	18.81	18.85	18.94		0
	75	0	18.87	18.84	18.83		0

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Table 9-50
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

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	18.63	18.87	18.65	0	0
	1	25	18.55	18.51	18.64		0
	1	49	18.47	18.45	18.68		0
	25	0	18.64	18.62	18.57	0-1	0
	25	12	18.68	18.65	18.60		0
	25	25	18.59	18.59	18.58		0
	50	0	18.63	18.63	18.63		0
16QAM	1	0	19.03	18.90	18.80	0-1	0
	1	25	18.88	18.90	18.75		0
	1	49	18.87	18.80	18.85		0
	25	0	18.68	18.66	18.51	0-2	0
	25	12	18.67	18.64	18.65		0
	25	25	18.62	18.61	18.72		0
	50	0	18.65	18.65	18.59		0
64QAM	1	0	19.02	18.91	18.78	0-2	0
	1	25	18.87	18.54	18.55		0
	1	49	18.87	18.93	18.97		0
	25	0	18.67	18.65	18.58	0-3	0
	25	12	18.70	18.69	18.64		0
	25	25	18.63	18.64	18.66		0
	50	0	18.68	18.72	18.81		0
256QAM	1	0	18.90	18.81	18.71	0-5	0
	1	25	18.85	18.84	18.65		0
	1	49	18.75	18.73	18.93		0
	25	0	18.68	18.71	18.63		0
	25	12	18.55	18.63	18.78		0
	25	25	18.61	18.64	18.66		0
	50	0	18.64	18.69	18.63		0

Table 9-51
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

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	18.78	18.80	18.75	0	0
	1	12	18.79	18.90	18.71		0
	1	24	18.81	18.85	18.72		0
	12	0	18.90	18.78	18.54	0-1	0
	12	6	18.87	18.61	18.73		0
	12	13	18.83	18.65	18.71		0
	25	0	18.94	18.66	18.69		0
16QAM	1	0	19.08	18.76	18.72	0-1	0
	1	12	18.98	18.80	18.69		0
	1	24	19.04	18.65	18.79		0
	12	0	18.82	18.76	18.81	0-2	0
	12	6	18.66	18.77	18.68		0
	12	13	18.66	18.50	18.72		0
	25	0	18.66	18.55	18.92		0
64QAM	1	0	19.17	18.83	18.81	0-2	0
	1	12	19.19	18.79	18.76		0
	1	24	19.14	18.80	18.86		0
	12	0	18.78	18.77	18.90	0-3	0
	12	6	18.94	18.89	18.62		0
	12	13	18.30	18.88	18.81		0
	25	0	18.84	18.69	18.81		0
256QAM	1	0	19.15	19.21	19.15	0-5	0
	1	12	18.82	19.25	19.19		0
	1	24	19.16	19.18	19.27		0
	12	0	18.77	18.82	18.73		0
	12	6	18.92	18.80	18.71		0
	12	13	18.77	18.82	18.62		0
	25	0	18.74	18.73	18.72		0

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Table 9-52
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth - Hotspot Mode Active

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	18.60	18.75	18.70	0	0
	1	7	18.53	18.64	18.63		0
	1	14	18.45	18.66	18.75		0
	8	0	18.64	18.74	18.80	0-1	0
	8	4	18.80	18.67	18.60		0
	8	7	18.66	18.52	18.39		0
	15	0	18.68	18.70	18.77		0
16QAM	1	0	18.81	18.79	18.75	0-1	0
	1	7	18.87	19.11	18.95		0
	1	14	18.44	18.62	18.97		0
	8	0	18.42	18.66	18.69	0-2	0
	8	4	18.65	18.56	18.78		0
	8	7	18.65	18.38	18.72		0
	15	0	18.53	18.77	18.74		0
64QAM	1	0	18.63	18.85	18.71	0-2	0
	1	7	18.91	18.50	18.67		0
	1	14	19.27	18.55	18.55		0
	8	0	18.64	18.65	18.68	0-3	0
	8	4	18.46	18.84	18.75		0
	8	7	18.56	18.52	18.70		0
	15	0	18.64	18.40	18.42		0
256QAM	1	0	18.61	18.65	19.08	0-5	0
	1	7	18.93	18.64	19.19		0
	1	14	19.10	18.87	19.22		0
	8	0	18.70	18.62	18.64		0
	8	4	18.76	18.81	18.72		0
	8	7	18.41	18.50	18.60		0
	15	0	18.78	18.71	18.55		0

Table 9-53
LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth - Hotspot Mode Active

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	18.71	18.70	18.66	0	0
	1	2	18.68	18.66	18.58		0
	1	5	18.68	18.75	18.63		0
	3	0	18.15	18.39	18.59		0
	3	2	18.38	18.41	18.41		0
	3	3	18.42	18.22	18.28		0
	6	0	18.40	18.29	18.66	0-1	0
16QAM	1	0	18.72	18.77	18.74	0-1	0
	1	2	18.84	18.87	18.57		0
	1	5	18.79	18.97	18.72		0
	3	0	18.40	18.69	18.35		0
	3	2	18.64	18.71	18.81		0
	3	3	18.76	18.57	18.83		0
	6	0	18.58	18.69	18.87	0-2	0
64QAM	1	0	18.84	18.60	18.52	0-2	0
	1	2	18.42	18.98	18.91		0
	1	5	18.73	18.62	18.41		0
	3	0	18.63	18.51	18.61		0
	3	2	18.88	18.42	18.56		0
	3	3	18.49	18.52	18.69		0
	6	0	18.54	18.57	18.67	0-3	0
256QAM	1	0	18.94	18.63	18.92	0-5	0
	1	2	18.57	18.82	18.84		0
	1	5	18.71	18.31	18.35		0
	3	0	18.82	18.69	18.63		0
	3	2	18.40	18.73	18.67		0
	3	3	18.67	18.61	18.67		0
	6	0	18.80	18.68	18.51		0

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Table 9-54
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	**20.77**	20.59	20.63	0	0
	1	50	20.34	20.21	20.27		0
	1	99	20.63	20.57	20.61		0
	50	0	20.85	20.84	20.77	0-1	0
	50	25	**20.88**	20.75	20.79		0
	50	50	20.72	20.73	20.75		0
	100	0	20.75	20.76	20.72		0
16QAM	1	0	20.98	20.74	20.78	0-1	0
	1	50	20.48	20.42	20.35		0
	1	99	20.70	20.77	20.83		0
	50	0	20.78	20.82	20.80	0-2	0
	50	25	20.81	20.79	20.79		0
	50	50	20.73	20.77	20.78		0
	100	0	20.77	20.80	20.76		0
64QAM	1	0	20.95	20.87	20.91	0-2	0
	1	50	20.58	20.57	20.46		0
	1	99	20.76	20.85	21.00		0
	50	0	20.83	20.82	20.85	0-3	0
	50	25	20.77	20.79	20.84		0
	50	50	20.75	20.78	20.81		0
	100	0	20.77	20.75	20.84		0
256QAM	1	0	18.97	18.92	18.96	0-5	2
	1	50	18.67	18.62	18.51		2
	1	99	18.83	18.97	18.96		2
	50	0	18.81	18.77	18.76		2
	50	25	18.72	18.76	18.75		2
	50	50	18.70	18.74	18.73		2
	100	0	18.77	18.81	18.75		2

Table 9-55
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.95	20.82	20.89	0	0
	1	36	20.85	20.80	20.84		0
	1	74	20.88	20.82	20.88		0
	36	0	20.83	20.86	20.89	0-1	0
	36	18	20.87	20.79	20.89		0
	36	37	20.81	20.86	20.84		0
	75	0	20.89	20.78	20.84		0
16QAM	1	0	20.93	20.89	20.95	0-1	0
	1	36	20.92	20.90	20.90		0
	1	74	20.95	20.89	20.88		0
	36	0	20.90	20.86	20.89	0-2	0
	36	18	20.89	20.84	20.86		0
	36	37	20.81	20.82	20.87		0
	75	0	20.85	20.31	20.82		0
64QAM	1	0	20.91	20.75	20.92	0-2	0
	1	36	20.87	20.84	20.90		0
	1	74	20.95	20.89	20.91		0
	36	0	20.89	20.86	20.82	0-3	0
	36	18	20.89	20.85	20.90		0
	36	37	20.92	20.80	20.89		0
	75	0	20.93	20.88	20.93		0
256QAM	1	0	18.95	18.93	18.94	0-5	2
	1	36	18.92	18.90	18.91		2
	1	74	18.91	18.68	18.85		2
	36	0	18.84	18.78	18.89		2
	36	18	18.90	18.67	18.82		2
	36	37	18.82	18.78	18.79		2
	75	0	18.85	18.79	18.81		2

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Table 9-56
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.73	20.66	20.59	0	0
	1	25	20.64	20.68	20.14		0
	1	49	20.57	20.55	20.66		0
	25	0	20.83	20.73	20.76	0-1	0
	25	12	20.82	20.77	20.68		0
	25	25	20.77	20.71	20.76		0
	50	0	20.83	20.79	20.78		0
16QAM	1	0	20.98	20.97	20.98	0-1	0
	1	25	21.00	20.99	20.68		0
	1	49	20.80	20.97	20.75		0
	25	0	20.84	20.76	20.79	0-2	0
	25	12	20.83	20.85	20.81		0
	25	25	20.73	20.78	20.70		0
	50	0	20.78	20.79	20.83		0
64QAM	1	0	20.87	20.95	20.96	0-2	0
	1	25	20.85	20.98	20.63		0
	1	49	20.87	20.96	20.70		0
	25	0	20.87	20.87	20.84	0-3	0
	25	12	20.80	20.84	20.86		0
	25	25	20.77	20.70	20.84		0
	50	0	20.78	20.86	20.80		0
256QAM	1	0	18.96	18.89	18.80	0-5	2
	1	25	18.97	18.94	18.52		2
	1	49	18.95	18.74	18.94		2
	25	0	18.80	18.78	18.74		2
	25	12	18.81	18.73	18.76		2
	25	25	18.82	18.80	18.84		2
	50	0	18.80	18.70	18.78		2

Table 9-57
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.66	20.61	20.70	0	0
	1	12	20.58	20.69	20.66		0
	1	24	20.74	20.65	20.70		0
	12	0	20.90	20.76	20.80	0-1	0
	12	6	20.94	20.78	20.84		0
	12	13	20.96	20.82	20.81		0
	25	0	20.91	20.76	20.81		0
16QAM	1	0	20.76	20.88	20.81	0-1	0
	1	12	20.75	20.97	20.95		0
	1	24	20.71	20.96	20.94		0
	12	0	20.92	20.88	20.80	0-2	0
	12	6	20.90	20.92	20.83		0
	12	13	20.87	20.88	20.91		0
	25	0	20.84	20.73	20.50		0
64QAM	1	0	21.00	20.94	20.83	0-2	0
	1	12	20.98	20.98	20.54		0
	1	24	20.96	20.97	20.81		0
	12	0	20.94	20.76	20.74	0-3	0
	12	6	20.83	20.94	20.79		0
	12	13	20.90	20.88	20.88		0
	25	0	20.92	20.79	20.92		0
256QAM	1	0	18.96	18.89	18.96	0-5	2
	1	12	18.92	18.92	19.00		2
	1	24	18.72	18.82	18.62		2
	12	0	18.87	18.79	18.72		2
	12	6	18.96	18.81	18.83		2
	12	13	18.83	18.84	18.67		2
	25	0	18.87	18.79	18.68		2

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Table 9-58
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.76	20.60	20.66	0	0
	1	7	20.73	20.72	20.68		0
	1	14	20.77	20.71	20.80		0
	8	0	20.74	20.78	20.71	0-1	0
	8	4	20.89	20.86	20.74		0
	8	7	20.88	20.82	20.81		0
	15	0	21.00	20.80	20.76		0
16QAM	1	0	20.98	20.95	20.86	0-1	0
	1	7	21.00	20.93	20.00		0
	1	14	20.97	20.96	20.82		0
	8	0	21.00	20.92	20.78	0-2	0
	8	4	20.95	20.94	20.84		0
	8	7	20.96	20.96	20.87		0
	15	0	20.92	20.98	20.79		0
64QAM	1	0	21.00	20.61	20.74	0-2	0
	1	7	20.95	20.94	20.44		0
	1	14	20.81	20.97	20.83		0
	8	0	20.84	20.92	20.87	0-3	0
	8	4	20.95	20.83	20.83		0
	8	7	20.91	20.88	20.72		0
	15	0	20.96	20.83	20.80		0
256QAM	1	0	19.00	18.94	18.86	0-5	2
	1	7	18.96	18.86	18.87		2
	1	14	18.95	18.94	18.82		2
	8	0	18.93	18.84	18.81		2
	8	4	18.93	18.95	18.79		2
	8	7	18.69	18.87	18.86		2
	15	0	18.91	18.79	18.76		2

Table 9-59
LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.67	20.72	20.56	0	0
	1	2	20.74	20.68	20.62		0
	1	5	20.67	20.64	20.53		0
	3	0	20.72	20.64	20.60		0
	3	2	20.76	20.67	20.70		0
	3	3	20.76	20.63	20.57		0
	6	0	20.79	20.77	20.76	0-1	0
16QAM	1	0	20.92	21.00	21.00	0-1	0
	1	2	20.93	20.96	20.84		0
	1	5	20.86	20.95	20.98		0
	3	0	20.94	20.80	20.83		0
	3	2	20.94	20.83	20.92		0
	3	3	20.89	20.79	20.87		0
	6	0	20.90	20.79	20.76	0-2	0
64QAM	1	0	20.94	20.97	20.94	0-2	0
	1	2	20.97	21.00	20.96		0
	1	5	20.98	20.92	20.83		0
	3	0	21.00	20.88	20.96		0
	3	2	20.96	20.93	20.91		0
	3	3	20.94	20.89	20.89		0
	6	0	20.88	20.78	20.80	0-3	0
256QAM	1	0	18.97	18.86	18.97	0-5	2
	1	2	18.94	18.90	18.95		2
	1	5	18.95	18.87	18.94		2
	3	0	18.87	18.86	18.91		2
	3	2	18.93	18.95	18.98		2
	3	3	18.97	18.89	18.87		2
	6	0	18.95	18.71	18.66		2

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9.4.9 LTE Band 30

Table 9-60
LTE Band 30 Max Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	22.54	0	0
	1	25	22.36		0
	1	49	**22.60**		0
	25	0	**21.79**	0-1	1
	25	12	21.75		1
	25	25	21.74		1
	50	0	21.70		1
16QAM	1	0	21.84	0-1	1
	1	25	21.40		1
	1	49	21.78		1
	25	0	20.73	0-2	2
	25	12	20.73		2
	25	25	20.76		2
	50	0	20.70		2
64QAM	1	0	20.79	0-2	2
	1	25	20.47		2
	1	49	20.68		2
	25	0	19.72	0-3	3
	25	12	19.68		3
	25	25	19.66		3
	50	0	19.67		3
256QAM	1	0	17.72	0-5	5
	1	25	17.49		5
	1	49	17.57		5
	25	0	17.63		5
	25	12	17.61		5
	25	25	17.55		5
	50	0	17.62		5

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Table 9-61
LTE Band 30 Max 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	22.59	0	0
	1	12	22.69		0
	1	24	22.54		0
	12	0	21.75	0-1	1
	12	6	21.82		1
	12	13	21.73		1
	25	0	21.72		1
16QAM	1	0	21.97	0-1	1
	1	12	21.98		1
	1	24	21.86		1
	12	0	20.78	0-2	2
	12	6	20.84		2
	12	13	20.72		2
	25	0	20.69		2
64QAM	1	0	20.88	0-2	2
	1	12	20.90		2
	1	24	20.74		2
	12	0	19.73	0-3	3
	12	6	19.81		3
	12	13	19.69		3
	25	0	19.68		3
256QAM	1	0	17.76	0-5	5
	1	12	17.85		5
	1	24	17.69		5
	12	0	17.53		5
	12	6	17.68		5
	12	13	17.62		5
	25	0	17.67		5

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

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Table 9-62
LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

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	**19.55**	0	0
	1	25	19.50		0
	1	49	19.41		0
	25	0	19.57	0-1	0
	25	12	**19.60**		0
	25	25	19.50		0
	50	0	19.53		0
16QAM	1	0	19.63	0-1	0
	1	25	19.26		0
	1	49	19.59		0
	25	0	19.55	0-2	0
	25	12	19.55		0
	25	25	19.50		0
	50	0	19.53		0
64QAM	1	0	19.71	0-2	0
	1	25	19.21		0
	1	49	19.51		0
	25	0	19.55	0-3	0
	25	12	19.47		0
	25	25	19.53		0
	50	0	19.56		0
256QAM	1	0	17.53	0-5	2
	1	25	17.15		2
	1	49	17.40		2
	25	0	17.49		2
	25	12	17.48		2
	25	25	17.41		2
	50	0	17.34		2

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Table 9-63
LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

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	19.39	0	0
	1	12	19.47		0
	1	24	19.31		0
	12	0	19.54	0-1	0
	12	6	19.62		0
	12	13	19.48		0
	25	0	19.55		0
16QAM	1	0	19.76	0-1	0
	1	12	19.73		0
	1	24	19.66		0
	12	0	19.59	0-2	0
	12	6	19.65		0
	12	13	19.56		0
	25	0	19.55		0
64QAM	1	0	19.68	0-2	0
	1	12	19.64		0
	1	24	19.62		0
	12	0	19.57	0-3	0
	12	6	19.65		0
	12	13	19.55		0
	25	0	19.53		0
256QAM	1	0	17.63	0-5	2
	1	12	17.68		2
	1	24	17.53		2
	12	0	17.67		2
	12	6	17.61		2
	12	13	17.53		2
	25	0	17.56		2

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

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Table 9-64
LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.94	0	0
	1	25	20.86		0
	1	49	**21.11**		0
	25	0	21.12	0-1	0
	25	12	**21.14**		0
	25	25	21.13		0
	50	0	21.10		0
16QAM	1	0	21.20	0-1	0
	1	25	20.81		0
	1	49	21.14		0
	25	0	20.64	0-2	0.5
	25	12	20.62		0.5
	25	25	20.53		0.5
	50	0	20.58		0.5
64QAM	1	0	20.70	0-2	0.5
	1	25	20.36		0.5
	1	49	20.60		0.5
	25	0	19.61	0-3	1.5
	25	12	19.55		1.5
	25	25	19.57		1.5
	50	0	19.57		1.5
256QAM	1	0	17.58	0-5	3.5
	1	25	17.17		3.5
	1	49	17.54		3.5
	25	0	17.52		3.5
	25	12	17.54		3.5
	25	25	17.46		3.5
	50	0	17.51		3.5

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Table 9-65
LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

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	20.99	0	0
	1	12	21.04		0
	1	24	20.93		0
	12	0	21.13	0-1	0
	12	6	21.18		0
	12	13	21.06		0
	25	0	21.13		0
16QAM	1	0	21.25	0-1	0
	1	12	21.40		0
	1	24	21.23		0
	12	0	20.67	0-2	0.5
	12	6	20.75		0.5
	12	13	20.61		0.5
	25	0	20.59		0.5
64QAM	1	0	20.72	0-2	0.5
	1	12	20.81		0.5
	1	24	20.66		0.5
	12	0	19.59	0-3	1.5
	12	6	19.72		1.5
	12	13	19.58		1.5
	25	0	19.60		1.5
256QAM	1	0	17.68	0-5	3.5
	1	12	17.71		3.5
	1	24	17.55		3.5
	12	0	17.61		3.5
	12	6	17.66		3.5
	12	13	17.49		3.5
	25	0	17.58		3.5

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

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9.4.10 LTE Band 7

Table 9-66
LTE Band 7 Ant A Max Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.61	23.60	**23.96**	0	0
	1	50	23.26	23.40	23.45		0
	1	99	23.46	23.95	23.76		0
	50	0	22.89	22.82	22.90	0-1	1
	50	25	22.80	22.80	23.02		1
	50	50	22.71	22.92	**23.14**		1
	100	0	22.79	22.83	23.04		1
16QAM	1	0	23.06	23.04	23.40	0-1	1
	1	50	22.78	22.95	22.91		1
	1	99	22.95	23.39	23.34		1
	50	0	21.75	21.76	22.19	0-2	2
	50	25	21.68	21.77	22.24		2
	50	50	21.59	21.81	22.14		2
	100	0	21.67	21.79	22.22		2
64QAM	1	0	21.85	21.85	22.31	0-2	2
	1	50	21.56	21.69	21.85		2
	1	99	21.78	22.18	22.30		2
	50	0	20.76	20.76	21.16	0-3	3
	50	25	20.70	20.74	21.18		3
	50	50	20.65	20.72	21.14		3
	100	0	20.64	20.71	21.11		3
256QAM	1	0	18.83	18.77	19.19	0-5	5
	1	50	18.54	18.49	18.88		5
	1	99	18.66	18.96	19.22		5
	50	0	18.69	18.59	19.07		5
	50	25	18.63	18.67	19.05		5
	50	50	18.55	18.61	19.01		5
	100	0	18.61	18.67	19.07		5

Table 9-67
LTE Band 7 Ant A Max Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.75	23.66	23.30	0	0
	1	36	23.70	23.74	23.24		0
	1	74	23.70	23.92	23.65		0
	36	0	22.91	22.81	22.97	0-1	1
	36	18	22.82	22.86	23.15		1
	36	37	22.76	22.86	23.04		1
	75	0	22.83	22.86	23.11		1
16QAM	1	0	23.26	23.05	22.52	0-1	1
	1	36	23.20	23.31	22.84		1
	1	74	23.11	23.44	23.20		1
	36	0	21.85	21.82	22.06	0-2	2
	36	18	21.72	21.75	22.15		2
	36	37	21.74	21.87	22.11		2
	75	0	21.80	21.91	22.12		2
64QAM	1	0	22.15	21.89	21.59	0-2	2
	1	36	22.06	22.12	21.78		2
	1	74	22.00	22.24	22.20		2
	36	0	20.87	20.80	21.10	0-3	3
	36	18	20.73	20.75	21.05		3
	36	37	20.72	20.84	21.06		3
	75	0	20.75	20.78	21.06		3
256QAM	1	0	18.93	18.86	19.15	0-5	5
	1	36	18.83	18.92	19.15		5
	1	74	18.80	19.11	19.18		5
	36	0	18.76	18.72	18.97		5
	36	18	18.70	18.75	18.97		5
	36	37	18.62	18.73	18.85		5
	75	0	18.66	18.75	18.92		5

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Table 9-68
LTE Band 7 Max Ant A Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.48	23.34	23.40	0	0
	1	25	23.13	23.00	23.41		0
	1	49	23.43	23.42	23.70		0
	25	0	22.70	22.45	23.01	0-1	1
	25	12	22.64	22.48	22.98		1
	25	25	22.58	22.48	22.87		1
	50	0	22.64	22.50	22.89		1
16QAM	1	0	23.02	22.80	22.71	0-1	1
	1	25	22.70	22.48	22.80		1
	1	49	22.90	22.89	23.32		1
	25	0	21.71	21.47	22.00	0-2	2
	25	12	21.65	21.48	21.92		2
	25	25	21.61	21.42	21.93		2
	50	0	21.60	21.41	21.80		2
64QAM	1	0	21.84	21.65	21.62	0-2	2
	1	25	21.45	21.32	21.84		2
	1	49	21.82	21.70	22.10		2
	25	0	20.62	20.40	20.90	0-3	3
	25	12	20.55	20.37	20.87		3
	25	25	20.54	20.40	20.87		3
	50	0	20.60	20.40	20.83		3
256QAM	1	0	18.75	18.50	19.15	0-5	5
	1	25	18.22	18.16	18.70		5
	1	49	18.60	18.57	19.00		5
	25	0	18.55	18.56	18.80		5
	25	12	18.50	18.51	18.76		5
	25	25	18.44	18.50	18.72		5
	50	0	18.50	18.48	18.76		5

Table 9-69
LTE Band 7 Ant A Max Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.65	23.30	23.25	0	0
	1	12	23.62	23.40	23.65		0
	1	24	23.60	23.38	23.57		0
	12	0	22.74	22.40	22.95	0-1	1
	12	6	22.75	22.50	23.02		1
	12	13	22.70	22.50	22.94		1
	25	0	22.74	22.47	22.91		1
16QAM	1	0	23.04	22.82	22.70	0-1	1
	1	12	23.01	22.93	23.14		1
	1	24	22.90	22.88	23.14		1
	12	0	21.78	21.43	22.05	0-2	2
	12	6	21.80	21.54	22.05		2
	12	13	21.71	21.51	21.95		2
	25	0	21.73	21.42	21.85		2
64QAM	1	0	21.86	21.60	21.62	0-2	2
	1	12	21.87	21.70	22.10		2
	1	24	21.86	21.73	22.19		2
	12	0	20.76	20.40	20.95	0-3	3
	12	6	20.73	20.50	21.01		3
	12	13	20.66	20.46	20.92		3
	25	0	20.68	20.40	20.82		3
256QAM	1	0	18.75	18.50	19.15	0-5	5
	1	12	18.78	18.60	19.13		5
	1	24	18.71	18.51	19.05		5
	12	0	18.55	18.55	18.77		5
	12	6	18.60	18.61	18.88		5
	12	13	18.54	18.58	18.78		5
	25	0	18.57	18.59	18.73		5

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Table 9-70
LTE Band 7 Ant A Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.97	20.82	**21.45**	0	0
	1	50	20.84	20.66	21.05		0
	1	99	20.88	20.84	21.32		0
	50	0	21.20	20.89	**21.61**	0-1	0
	50	25	21.16	20.92	21.51		0
	50	50	21.08	20.91	21.44		0
	100	0	20.96	20.95	21.40		0
16QAM	1	0	21.40	21.33	21.79	0-1	0
	1	50	21.26	20.97	21.52		0
	1	99	21.43	21.38	21.82		0
	50	0	21.21	20.99	21.59	0-2	0
	50	25	21.19	20.90	21.55		0
	50	50	21.12	20.89	21.64		0
	100	0	21.17	20.91	21.51		0
64QAM	1	0	21.44	21.28	21.75	0-2	0
	1	50	21.17	20.86	21.47		0
	1	99	21.34	21.19	21.80		0
	50	0	20.73	20.52	20.88	0-3	0
	50	25	20.68	20.43	21.14		0
	50	50	20.67	20.38	20.99		0
	100	0	20.63	20.42	21.05		0
256QAM	1	0	18.85	18.68	19.06	0-5	2.5
	1	50	18.63	18.28	18.83		2.5
	1	99	18.69	18.72	19.12		2.5
	50	0	18.73	18.47	19.02		2.5
	50	25	18.63	18.36	18.93		2.5
	50	50	18.59	18.31	18.89		2.5
	100	0	18.67	18.39	18.96		2.5

Table 9-71
LTE Band 7 Ant A Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.92	20.94	21.33	0	0
	1	36	20.94	20.86	21.39		0
	1	74	20.91	21.02	21.30		0
	36	0	21.05	21.04	21.55	0-1	0
	36	18	21.07	21.05	21.52		0
	36	37	21.08	21.08	21.46		0
	75	0	21.09	21.02	21.57		0
16QAM	1	0	21.43	21.40	21.66	0-1	0
	1	36	21.49	21.36	21.69		0
	1	74	21.51	21.06	21.70		0
	36	0	21.05	21.03	21.54	0-2	0
	36	18	21.10	21.02	21.55		0
	36	37	21.04	21.03	21.40		0
	75	0	21.02	21.04	21.50		0
64QAM	1	0	21.35	21.30	21.65	0-2	0
	1	36	21.37	21.35	21.61		0
	1	74	21.39	21.48	21.52		0
	36	0	20.59	20.57	21.11	0-3	0
	36	18	20.57	20.56	21.10		0
	36	37	20.55	20.53	20.98		0
	75	0	20.59	20.52	21.06		0
256QAM	1	0	18.69	18.64	19.14	0-5	2.5
	1	36	18.68	18.70	19.10		2.5
	1	74	18.71	18.85	19.15		2.5
	36	0	18.51	18.51	19.23		2.5
	36	18	18.52	18.49	18.99		2.5
	36	37	18.47	18.41	18.93		2.5
	75	0	18.50	18.46	18.95		2.5

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Table 9-72
LTE Band 7 Ant A Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.73	20.74	21.29	0	0
	1	25	20.66	20.66	20.89		0
	1	49	20.74	20.77	21.16		0
	25	0	20.81	20.86	21.39	0-1	0
	25	12	20.85	20.87	21.35		0
	25	25	20.80	20.84	21.32		0
	50	0	20.86	20.88	21.37		0
16QAM	1	0	21.18	21.16	21.66	0-1	0
	1	25	20.83	20.85	21.52		0
	1	49	21.30	21.18	21.67		0
	25	0	20.86	20.86	21.46	0-2	0
	25	12	20.78	20.87	21.44		0
	25	25	20.89	20.84	21.26		0
	50	0	20.81	20.83	21.38		0
64QAM	1	0	21.07	21.12	21.68	0-2	0
	1	25	20.73	20.78	21.25		0
	1	49	21.13	21.22	21.55		0
	25	0	20.36	20.38	20.89	0-3	0
	25	12	20.34	20.36	20.86		0
	25	25	20.33	20.34	20.76		0
	50	0	20.40	20.37	20.88		0
256QAM	1	0	18.49	18.50	18.96	0-5	2.5
	1	25	18.19	18.18	18.67		2.5
	1	49	18.51	18.51	18.91		2.5
	25	0	18.30	18.31	18.47		2.5
	25	12	18.31	18.28	18.69		2.5
	25	25	18.28	18.26	18.74		2.5
	50	0	18.29	18.22	18.78		2.5

Table 9-73
LTE Band 7 Ant A Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.76	20.69	21.25	0	0
	1	12	20.78	20.79	21.30		0
	1	24	20.89	20.76	21.28		0
	12	0	20.95	20.81	21.13	0-1	0
	12	6	20.89	20.92	21.44		0
	12	13	20.88	20.86	21.30		0
	25	0	20.85	20.87	21.31		0
16QAM	1	0	21.16	21.18	21.77	0-1	0
	1	12	21.28	21.24	21.82		0
	1	24	21.22	21.21	21.8		0
	12	0	20.93	20.94	21.40	0-2	0
	12	6	20.97	21.00	21.53		0
	12	13	20.96	20.98	21.44		0
	25	0	20.86	20.86	21.38		0
64QAM	1	0	21.09	21.09	21.72	0-2	0
	1	12	21.13	21.20	21.73		0
	1	24	21.15	21.18	21.62		0
	12	0	20.50	20.42	20.82	0-3	0
	12	6	20.52	20.51	20.98		0
	12	13	20.46	20.48	20.89		0
	25	0	20.42	20.36	20.86		0
256QAM	1	0	18.41	18.49	19.06	0-5	2.5
	1	12	18.52	18.47	19.10		2.5
	1	24	18.54	18.61	19.03		2.5
	12	0	18.37	18.21	18.62		2.5
	12	6	18.34	18.36	18.86		2.5
	12	13	18.36	18.30	18.78		2.5
	25	0	18.32	18.32	18.76		2.5

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Table 9-74
LTE Band 7 Ant B Max Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.75	23.75	23.65	0	0
	1	50	23.54	23.39	23.30		0
	1	99	**23.82**	23.64	23.76		0
	50	0	**22.97**	22.94	22.85	0-1	1
	50	25	22.95	22.87	22.75		1
	50	50	22.92	22.76	22.81		1
	100	0	22.96	22.85	22.79		1
16QAM	1	0	23.05	23.08	22.98	0-1	1
	1	50	22.81	22.77	22.69		1
	1	99	23.08	22.95	23.00		1
	50	0	21.96	21.94	21.84	0-2	2
	50	25	21.91	21.83	21.73		2
	50	50	21.87	21.75	21.70		2
	100	0	21.92	21.84	21.72		2
64QAM	1	0	22.08	22.06	21.99	0-2	2
	1	50	21.89	21.74	21.63		2
	1	99	22.01	21.83	21.90		2
	50	0	20.90	20.87	20.73	0-3	3
	50	25	20.87	20.84	20.69		3
	50	50	20.88	20.77	20.71		3
	100	0	20.88	20.75	20.72		3
256QAM	1	0	18.86	18.90	18.76	0-5	5
	1	50	18.61	18.63	18.49		5
	1	99	18.85	18.74	18.76		5
	50	0	18.82	18.84	18.74		5
	50	25	18.83	18.73	18.65		5
	50	50	18.81	18.67	18.61		5
	100	0	18.85	18.75	18.65		5

Table 9-75
LTE Band 7 Ant B Max Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.56	23.70	23.63	0	0
	1	36	23.57	23.62	23.60		0
	1	74	23.62	23.57	23.73		0
	36	0	22.75	22.82	22.80	0-1	1
	36	18	22.73	22.77	22.76		1
	36	37	22.73	22.70	22.73		1
	75	0	22.75	22.74	22.78		1
16QAM	1	0	22.90	23.00	23.02	0-1	1
	1	36	22.93	22.90	22.98		1
	1	74	22.92	22.78	23.03		1
	36	0	21.72	21.80	21.75	0-2	2
	36	18	21.70	21.73	21.73		2
	36	37	21.66	21.60	21.74		2
	75	0	21.67	21.63	21.72		2
64QAM	1	0	21.80	22.00	21.94	0-2	2
	1	36	21.83	21.83	21.86		2
	1	74	21.83	21.64	21.90		2
	36	0	20.69	20.70	20.71	0-3	3
	36	18	20.69	20.62	20.71		3
	36	37	20.70	20.58	20.69		3
	75	0	20.65	20.60	20.69		3
256QAM	1	0	18.67	18.80	18.73	0-5	5
	1	36	18.65	18.66	18.67		5
	1	74	18.66	18.54	18.70		5
	36	0	18.56	18.60	18.62		5
	36	18	18.59	18.58	18.58		5
	36	37	18.56	18.50	18.60		5
	75	0	18.58	18.52	18.59		5

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Table 9-76
LTE Band 7 Max Ant B Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.82	23.80	23.60	0	0
	1	25	23.44	23.42	23.26		0
	1	49	23.80	23.74	23.80		0
	25	0	22.91	22.94	22.92	0-1	1
	25	12	22.93	22.90	22.90		1
	25	25	22.95	22.84	22.84		1
	50	0	22.96	22.90	22.89		1
16QAM	1	0	23.25	23.19	23.13	0-1	1
	1	25	22.71	22.71	22.74		1
	1	49	23.20	23.11	23.13		1
	25	0	21.97	21.87	21.87	0-2	2
	25	12	21.95	21.90	21.88		2
	25	25	21.93	21.83	21.83		2
	50	0	21.89	21.83	21.84		2
64QAM	1	0	22.13	22.12	22.09	0-2	2
	1	25	21.72	21.66	21.77		2
	1	49	22.14	22.03	22.07		2
	25	0	20.95	20.87	20.84	0-3	3
	25	12	20.92	20.87	20.81		3
	25	25	20.92	20.78	20.80		3
	50	0	20.89	20.83	20.73		3
256QAM	1	0	18.92	18.97	18.95	0-5	5
	1	25	18.61	18.53	18.52		5
	1	49	18.94	18.80	18.82		5
	25	0	18.86	18.83	18.73		5
	25	12	18.88	18.80	18.75		5
	25	25	18.87	18.75	18.71		5
	50	0	18.88	18.78	18.75		5

Table 9-77
LTE Band 7 Ant B Max Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.90	23.81	23.78	0	0
	1	12	23.88	23.81	23.85		0
	1	24	23.90	23.77	23.91		0
	12	0	22.92	22.95	22.91	0-1	1
	12	6	23.00	22.93	22.93		1
	12	13	22.95	22.85	22.90		1
	25	0	22.94	22.93	22.94		1
16QAM	1	0	23.17	23.15	23.17	0-1	1
	1	12	23.14	23.12	23.15		1
	1	24	23.14	23.05	23.17		1
	12	0	21.92	22.05	21.92	0-2	2
	12	6	21.96	22.00	21.92		2
	12	13	21.91	21.89	21.90		2
	25	0	21.90	21.90	21.86		2
64QAM	1	0	22.08	22.06	22.07	0-2	2
	1	12	22.04	22.05	22.06		2
	1	24	22.07	22.00	22.02		2
	12	0	20.93	20.91	20.89	0-3	3
	12	6	20.94	20.91	20.87		3
	12	13	20.89	20.85	20.83		3
	25	0	20.94	20.82	20.81		3
256QAM	1	0	18.95	18.90	18.92	0-5	5
	1	12	18.91	18.91	18.87		5
	1	24	18.92	18.83	18.88		5
	12	0	18.80	18.78	18.73		5
	12	6	18.83	18.82	18.77		5
	12	13	18.77	18.77	18.71		5
	25	0	18.80	18.80	18.74		5

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Table 9-78
LTE Band 7 Ant B Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.67	20.58	20.62	0	0
	1	50	20.62	20.51	20.53		0
	1	99	20.64	20.57	**20.74**		0
	50	0	20.81	20.80	**20.84**	0-1	0
	50	25	20.81	20.81	20.75		0
	50	50	20.78	20.76	20.82		0
	100	0	20.72	20.70	20.73		0
16QAM	1	0	21.04	20.93	21.01	0-1	0
	1	50	20.77	20.58	20.92		0
	1	99	21.01	20.95	21.16		0
	50	0	20.96	20.82	20.89	0-2	0
	50	25	20.95	20.81	20.94		0
	50	50	20.89	20.78	20.87		0
	100	0	20.88	20.85	20.88		0
64QAM	1	0	21.03	20.92	20.92	0-2	0
	1	50	20.74	20.64	20.60		0
	1	99	21.00	20.91	21.09		0
	50	0	20.44	20.24	20.33	0-3	0
	50	25	20.41	20.34	20.37		0
	50	50	20.39	20.29	20.38		0
	100	0	20.42	20.31	20.42		0
256QAM	1	0	18.42	18.30	18.37	0-5	2.5
	1	50	18.13	18.03	17.92		2.5
	1	99	18.33	18.29	18.46		2.5
	50	0	18.39	18.26	18.33		2.5
	50	25	18.37	18.33	18.31		2.5
	50	50	18.28	18.22	18.25		2.5
	100	0	18.37	18.27	18.34		2.5

Table 9-79
LTE Band 7 Ant B Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.74	20.70	20.85	0	0
	1	36	20.69	20.72	20.82		0
	1	74	20.70	20.73	20.90		0
	36	0	20.89	20.93	21.00	0-1	0
	36	18	20.93	20.92	21.02		0
	36	37	20.94	20.91	21.05		0
	75	0	20.95	20.93	21.03		0
16QAM	1	0	21.22	21.13	21.17	0-1	0
	1	36	21.19	21.12	21.15		0
	1	74	21.20	21.04	21.21		0
	36	0	21.08	20.96	21.01	0-2	0
	36	18	21.03	20.99	21.03		0
	36	37	21.02	20.92	21.05		0
	75	0	21.04	21.09	21.03		0
64QAM	1	0	21.20	21.08	21.12	0-2	0
	1	36	21.19	21.08	21.16		0
	1	74	21.16	20.49	21.24		0
	36	0	20.61	20.48	20.55	0-3	0
	36	18	20.57	20.46	20.56		0
	36	37	20.58	20.47	20.58		0
	75	0	20.54	20.48	20.55		0
256QAM	1	0	18.35	18.34	18.36	0-5	2.5
	1	36	18.28	18.30	18.34		2.5
	1	74	18.25	18.23	18.35		2.5
	36	0	18.27	18.24	18.28		2.5
	36	18	18.29	18.21	18.25		2.5
	36	37	18.21	18.18	18.22		2.5
	75	0	18.19	18.17	18.26		2.5

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Table 9-80
LTE Band 7 Ant B Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.75	20.67	20.70	0	0
	1	25	20.33	20.53	20.51		0
	1	49	20.67	20.65	20.75		0
	25	0	20.90	20.80	20.87	0-1	0
	25	12	20.88	20.84	20.89		0
	25	25	20.81	20.81	20.93		0
	50	0	20.87	20.80	20.94		0
16QAM	1	0	20.98	21.05	20.96	0-1	0
	1	25	20.63	21.03	20.69		0
	1	49	21.04	20.63	21.09		0
	25	0	20.88	20.84	20.90	0-2	0
	25	12	20.89	20.83	20.96		0
	25	25	20.83	20.85	20.91		0
	50	0	20.85	20.81	20.90		0
64QAM	1	0	20.97	21.02	21.03	0-2	0
	1	25	20.64	20.59	20.70		0
	1	49	20.96	20.95	21.06		0
	25	0	20.35	20.32	20.27	0-3	0
	25	12	20.37	20.41	20.39		0
	25	25	20.33	20.28	20.38		0
	50	0	20.32	20.31	20.40		0
256QAM	1	0	18.17	18.11	18.23	0-5	2.5
	1	25	18.08	17.94	18.05		2.5
	1	49	18.10	18.06	18.19		2.5
	25	0	18.07	18.00	18.10		2.5
	25	12	18.08	18.02	18.11		2.5
	25	25	18.02	18.01	18.09		2.5
	50	0	18.03	18.00	18.10		2.5

Table 9-81
LTE Band 7 Ant B Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.85	20.70	20.81	0	0
	1	12	20.83	20.71	20.84		0
	1	24	20.80	20.64	20.87		0
	12	0	20.95	20.80	20.95	0-1	0
	12	6	20.94	20.87	20.98		0
	12	13	20.93	20.88	20.97		0
	25	0	20.96	20.84	20.98		0
16QAM	1	0	21.16	21.02	21.15	0-1	0
	1	12	21.17	21.07	21.17		0
	1	24	21.11	20.98	21.16		0
	12	0	20.99	21.00	20.99	0-2	0
	12	6	21.06	20.97	21.11		0
	12	13	20.95	20.90	21.05		0
	25	0	20.94	20.86	20.98		0
64QAM	1	0	21.17	20.95	21.20	0-2	0
	1	12	21.08	21.00	21.18		0
	1	24	21.04	20.97	21.22		0
	12	0	20.51	20.39	20.53	0-3	0
	12	6	20.52	20.43	20.59		0
	12	13	20.48	20.38	20.54		0
	25	0	20.45	20.37	20.49		0
256QAM	1	0	18.25	18.15	18.36	0-5	2.5
	1	12	18.19	18.11	18.33		2.5
	1	24	18.10	18.09	18.28		2.5
	12	0	18.14	18.04	18.11		2.5
	12	6	18.13	18.08	18.26		2.5
	12	13	18.05	18.01	18.15		2.5
	25	0	18.07	18.05	18.21		2.5

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9.4.11 LTE Band 48

Table 9-82
LTE Band 48 Conducted Powers - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55340 (3560.0 MHz)	Low-Mid Channel 55773 (3603.3 MHz)	Mid-High Channel 56207 (3646.7 MHz)	High Channel 56640 (3690.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.48	23.45	23.48	23.67	0	0
	1	50	23.24	23.23	23.18	23.45		0
	1	99	23.59	23.56	23.53	**23.92**		0
	50	0	22.91	22.75	22.74	22.84	0-1	1
	50	25	22.91	22.83	22.74	22.98		1
	50	50	22.93	22.87	22.73	**23.02**		1
	100	0	22.92	22.83	22.75	22.90		1
16QAM	1	0	22.77	22.73	22.77	22.91	0-1	1
	1	50	22.53	22.47	22.45	22.71		1
	1	99	22.87	22.88	22.82	23.10		1
	50	0	21.86	21.75	21.76	21.93	0-2	2
	50	25	21.89	21.80	21.73	22.00		2
	50	50	21.90	21.85	21.72	22.07		2
	100	0	21.88	21.82	21.75	22.03		2
64QAM	1	0	21.58	21.54	21.57	21.71	0-2	2
	1	50	21.36	21.29	21.23	21.52		2
	1	99	21.69	21.68	21.62	21.99		2
	50	0	20.89	20.77	20.77	21.00	0-3	3
	50	25	20.92	20.82	20.79	21.06		3
	50	50	20.95	20.91	20.76	21.13		3
	100	0	20.89	20.82	20.74	21.03		3
256QAM	1	0	18.71	18.61	18.61	18.74	0-5	5
	1	50	18.46	18.34	18.30	18.59		5
	1	99	18.82	18.75	18.70	19.09		5
	50	0	18.96	18.80	18.83	18.90		5
	50	25	18.98	18.86	18.81	18.93		5
	50	50	19.02	18.88	18.81	19.11		5
	100	0	18.92	18.80	18.78	19.05		5

Table 9-83
LTE Band 48 Conducted Powers - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55315 (3557.5 MHz)	Low-Mid Channel 55765 (3602.5 MHz)	Mid-High Channel 56215 (3647.5 MHz)	High Channel 56665 (3692.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.72	23.68	23.75	23.77	0	0
	1	36	23.78	23.49	23.72	23.98		0
	1	74	23.82	23.78	23.80	24.17		0
	36	0	23.02	22.93	22.95	23.18	0-1	1
	36	18	23.05	22.98	22.97	23.26		1
	36	37	23.08	23.00	22.94	23.31		1
	75	0	23.14	23.04	23.02	23.29		1
16QAM	1	0	22.79	22.80	22.82	23.00	0-1	1
	1	36	22.86	22.79	22.79	23.05		1
	1	74	22.86	22.85	22.87	23.25		1
	36	0	21.93	21.83	21.90	22.10	0-2	2
	36	18	21.95	21.95	21.90	22.19		2
	36	37	22.01	21.98	21.89	22.22		2
	75	0	22.07	21.99	21.98	22.24		2
64QAM	1	0	21.55	21.38	21.56	21.72	0-2	2
	1	36	21.61	21.44	21.32	21.78		2
	1	74	21.62	21.54	21.48	21.97		2
	36	0	20.99	20.88	20.89	21.16	0-3	3
	36	18	21.04	20.94	20.87	21.24		3
	36	37	21.07	20.96	20.86	21.28		3
	75	0	21.10	20.97	20.95	21.31		3
256QAM	1	0	18.58	18.67	18.63	18.92	0-5	5
	1	36	18.60	18.62	18.60	18.97		5
	1	74	18.75	18.73	18.69	19.18		5
	36	0	19.04	18.91	18.93	19.23		5
	36	18	19.05	18.97	18.90	19.28		5
	36	37	19.07	18.99	18.88	19.33		5
	75	0	19.09	18.99	18.93	19.32		5

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Table 9-84
LTE Band 48 Conducted Powers - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55290 (3555.0 MHz)	Low-Mid Channel 55757 (3601.7 MHz)	Mid-High Channel 56223 (3648.3 MHz)	High Channel 56690 (3695.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.70	23.79	23.69	23.64	0	0
	1	25	23.77	23.88	23.78	24.05		0
	1	49	23.73	23.94	23.69	23.93		0
	25	0	22.94	22.93	22.95	23.09	0-1	1
	25	12	22.98	23.04	22.95	23.14		1
	25	25	22.99	23.04	22.98	23.18		1
	50	0	22.98	23.07	22.97	23.14		1
16QAM	1	0	22.71	22.87	22.74	22.92	0-1	1
	1	25	22.83	22.53	22.84	23.09		1
	1	49	22.78	23.02	22.73	23.06		1
	25	0	21.94	21.99	21.97	22.10	0-2	2
	25	12	21.92	22.05	21.94	22.12		2
	25	25	21.97	22.04	21.94	22.20		2
	50	0	21.95	22.06	21.94	22.16		2
64QAM	1	0	21.48	21.65	21.47	21.69	0-2	2
	1	25	21.57	21.69	21.55	21.82		2
	1	49	21.51	21.74	21.57	21.81		2
	25	0	20.88	20.96	20.94	21.02	0-3	3
	25	12	20.87	21.02	20.94	21.20		3
	25	25	20.90	21.01	20.90	21.17		3
	50	0	20.99	21.11	21.01	21.23		3
256QAM	1	0	18.62	18.83	18.69	18.81	0-5	5
	1	25	18.78	18.89	18.78	19.01		5
	1	49	18.67	18.93	18.69	19.19		5
	25	0	18.93	19.04	18.98	19.17		5
	25	12	18.93	19.09	18.93	19.16		5
	25	25	18.97	19.10	18.93	19.23		5
	50	0	19.01	19.16	18.99	19.25		5

Table 9-85
LTE Band 48 Conducted Powers - 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55265 (3552.5 MHz)	Low-Mid Channel 55748 (3600.8 MHz)	Mid-High Channel 56232 (3649.2 MHz)	High Channel 56715 (3697.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.81	24.02	23.56	23.96	0	0
	1	12	23.84	24.08	23.82	24.09		0
	1	24	23.90	23.96	23.75	24.16		0
	12	0	23.04	23.19	23.06	23.28	0-1	1
	12	6	23.11	23.21	23.04	23.34		1
	12	13	23.07	23.11	23.09	23.33		1
	25	0	23.13	23.17	23.02	23.36		1
16QAM	1	0	22.93	23.08	22.93	23.19	0-1	1
	1	12	22.95	23.13	22.79	23.21		1
	1	24	22.96	23.00	22.82	23.24		1
	12	0	21.96	22.09	21.94	22.17	0-2	2
	12	6	22.01	22.15	21.97	22.22		2
	12	13	21.97	22.05	21.90	22.19		2
	25	0	22.10	22.23	22.06	22.21		2
64QAM	1	0	21.63	21.82	21.63	21.89	0-2	2
	1	12	21.67	21.86	21.60	21.94		2
	1	24	21.69	21.47	21.52	21.93		2
	12	0	20.98	21.17	20.94	21.19	0-3	3
	12	6	21.01	21.16	20.98	21.26		3
	12	13	20.98	21.09	20.98	21.24		3
	25	0	21.07	21.19	21.03	21.24		3
256QAM	1	0	18.81	19.02	18.75	19.01	0-5	5
	1	12	18.86	19.04	18.79	19.10		5
	1	24	18.81	19.01	18.64	19.07		5
	12	0	19.12	19.36	19.05	19.35		5
	12	6	19.19	19.35	19.08	19.40		5
	12	13	19.15	19.29	19.02	19.38		5
	25	0	19.10	19.25	18.99	19.31		5

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9.4.12 LTE Band 41

Table 9-86
LTE Band 41 PC3 Max Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.30	24.56	24.38	**24.58**	24.37	0	0
	1	50	24.16	24.21	24.17	24.29	24.10		0
	1	99	24.41	24.42	24.15	24.26	24.07		0
	50	0	23.76	23.77	23.51	**23.78**	23.49	0-1	1
	50	25	23.71	23.68	23.44	23.56	23.40		1
	50	50	23.68	23.63	23.35	23.46	23.32		1
	100	0	23.72	23.68	23.42	23.56	23.39		1
16QAM	1	0	23.65	23.56	23.46	23.64	23.45	0-1	1
	1	50	23.28	23.27	23.19	23.33	23.14		1
	1	99	23.53	23.40	23.14	23.26	23.11		1
	50	0	22.75	22.73	22.47	22.61	22.50	0-2	2
	50	25	22.70	22.67	22.40	22.54	22.38		2
	50	50	22.67	22.62	22.34	22.46	22.33		2
	100	0	22.72	22.69	22.42	22.55	22.40		2
64QAM	1	0	22.37	22.27	22.20	22.31	22.16	0-2	2
	1	50	22.00	21.95	21.94	22.04	21.82		2
	1	99	22.22	22.09	21.82	21.93	21.83		2
	50	0	21.78	21.75	21.53	21.63	21.51	0-3	3
	50	25	21.72	21.69	21.42	21.56	21.40		3
	50	50	21.69	21.64	21.37	21.47	21.33		3
	100	0	21.70	21.65	21.42	21.56	21.37		3
256QAM	1	0	19.51	19.47	19.33	19.53	19.33	0-5	5
	1	50	19.14	19.16	19.07	19.20	19.00		5
	1	99	19.36	19.30	18.99	19.12	18.96		5
	50	0	19.75	19.74	19.49	19.65	19.49		5
	50	25	19.72	19.70	19.44	19.59	19.41		5
	50	50	19.67	19.63	19.35	19.48	19.25		5
	100	0	19.66	19.62	19.39	19.54	19.32		5

Table 9-87
LTE Band 41 PC3 Max Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.51	24.59	24.33	24.56	24.43	0	0
	1	36	24.41	24.52	24.07	24.36	24.17		0
	1	74	24.32	24.54	24.03	24.29	24.14		0
	36	0	23.51	23.77	23.32	23.60	23.49	0-1	1
	36	18	23.55	23.74	23.28	23.54	23.42		1
	36	37	23.51	23.68	23.19	23.49	23.35		1
	75	0	23.55	23.70	23.27	23.55	23.42		1
16QAM	1	0	23.56	23.79	23.35	23.63	23.47	0-1	1
	1	36	23.47	23.56	23.16	23.38	23.20		1
	1	74	23.46	23.58	23.11	23.39	23.21		1
	36	0	22.51	22.71	22.29	22.52	22.41	0-2	2
	36	18	22.48	22.63	22.27	22.45	22.33		2
	36	37	22.44	22.57	22.20	22.37	22.27		2
	75	0	22.53	22.69	22.27	22.50	22.46		2
64QAM	1	0	22.18	22.46	22.09	22.34	22.16	0-2	2
	1	36	22.05	22.29	21.85	22.12	21.97		2
	1	74	22.07	22.26	21.84	22.06	21.90		2
	36	0	21.52	21.74	21.30	21.59	21.42	0-3	3
	36	18	21.48	21.70	21.23	21.51	21.38		3
	36	37	21.43	21.63	21.18	21.43	21.33		3
	75	0	21.52	21.73	21.29	21.55	21.43		3
256QAM	1	0	19.51	19.58	19.32	19.39	19.14	0-5	5
	1	36	19.46	19.54	19.21	19.30	18.88		5
	1	74	19.49	19.44	19.14	19.11	18.89		5
	36	0	19.73	19.71	19.44	19.52	19.27		5
	36	18	19.75	19.70	19.46	19.47	19.21		5
	36	37	19.71	19.66	19.41	19.41	19.14		5
	75	0	19.75	19.71	19.44	19.51	19.22		5

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Table 9-88
LTE Band 41 PC3 Max Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.52	24.59	24.18	24.23	24.18	0	0
	1	25	24.36	24.48	24.17	24.32	24.05		0
	1	49	24.51	24.41	24.01	24.10	23.90		0
	25	0	23.77	23.59	23.29	23.45	23.20	0-1	1
	25	12	23.73	23.55	23.25	23.43	23.18		1
	25	25	23.71	23.51	23.19	23.40	23.13		1
	50	0	23.76	23.59	23.28	23.48	23.20		1
16QAM	1	0	23.67	23.51	23.12	23.44	23.19	0-1	1
	1	25	23.37	23.52	22.97	23.41	23.13		1
	1	49	23.56	23.44	22.93	23.28	23.02		1
	25	0	22.79	22.58	22.10	22.44	22.22	0-2	2
	25	12	22.74	22.56	22.08	22.43	22.17		2
	25	25	22.64	22.53	22.04	22.39	22.14		2
	50	0	22.74	22.57	22.10	22.48	22.20		2
64QAM	1	0	22.37	22.26	21.98	22.15	21.90	0-2	2
	1	25	22.09	22.15	22.06	22.02	21.82		2
	1	49	22.30	22.14	21.89	21.98	21.76		2
	25	0	21.72	21.56	21.15	21.50	21.21	0-3	3
	25	12	21.69	21.50	21.13	21.48	21.20		3
	25	25	21.67	21.47	21.09	21.40	21.15		3
	50	0	21.80	21.62	21.22	21.44	21.17		3
256QAM	1	0	19.48	19.51	19.32	19.33	19.04	0-5	5
	1	25	19.14	19.43	19.25	19.23	18.92		5
	1	49	19.44	19.41	19.18	19.19	18.88		5
	25	0	19.72	19.66	19.47	19.50	19.21		5
	25	12	19.68	19.62	19.44	19.44	19.16		5
	25	25	19.66	19.62	19.38	19.39	19.09		5
	50	0	19.74	19.71	19.50	19.51	19.20		5

Table 9-89
LTE Band 41 PC3 Max Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.56	24.51	24.10	24.23	24.10	0	0
	1	12	24.55	24.55	24.21	24.32	24.13		0
	1	24	24.53	24.42	24.11	24.24	24.04		0
	12	0	23.79	23.62	23.27	23.41	23.24	0-1	1
	12	6	23.81	23.65	23.32	23.43	23.26		1
	12	13	23.76	23.52	23.26	23.41	23.22		1
	25	0	23.79	23.50	23.31	23.48	23.20		1
16QAM	1	0	23.80	23.55	23.27	23.37	23.18	0-1	1
	1	12	23.71	23.58	23.37	23.29	23.21		1
	1	24	23.73	23.44	23.31	23.28	23.14		1
	12	0	22.73	22.56	22.14	22.29	22.13	0-2	2
	12	6	22.71	22.49	22.20	22.30	22.14		2
	12	13	22.67	22.41	22.11	22.27	22.19		2
	25	0	22.78	22.53	22.20	22.45	22.24		2
64QAM	1	0	22.46	22.26	21.88	21.94	21.83	0-2	2
	1	12	22.37	22.26	21.95	22.00	21.93		2
	1	24	22.41	22.13	21.99	21.98	21.81		2
	12	0	21.73	21.52	21.15	21.30	21.15	0-3	3
	12	6	21.76	21.51	21.21	21.32	21.16		3
	12	13	21.68	21.42	21.16	21.32	21.19		3
	25	0	21.73	21.49	21.22	21.37	21.11		3
256QAM	1	0	18.98	19.39	19.12	19.13	18.86	0-5	5
	1	12	19.45	19.38	19.15	19.21	18.90		5
	1	24	19.45	19.22	19.12	19.08	18.81		5
	12	0	19.74	19.62	19.38	19.42	19.13		5
	12	6	19.74	19.65	19.45	19.42	19.12		5
	12	13	19.68	19.56	19.40	19.42	19.12		5
	25	0	19.68	19.49	19.36	19.39	19.04		5

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Table 9-90
LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.70	**22.75**	22.62	22.72	22.46	0	0
	1	50	22.34	22.42	22.36	22.48	22.27		0
	1	99	22.60	22.60	22.33	22.42	22.18		0
	50	0	22.89	**22.94**	22.74	22.84	22.62	0-1	0
	50	25	22.86	22.90	22.65	22.77	22.54		0
	50	50	22.85	22.86	22.58	22.68	22.47		0
	100	0	22.68	22.74	22.60	22.71	22.45		0
16QAM	1	0	22.88	22.85	22.78	22.84	22.65	0-1	0
	1	50	22.51	22.52	22.47	22.56	22.32		0
	1	99	22.71	22.68	22.45	22.49	22.25		0
	50	0	22.52	22.54	22.32	22.44	22.21	0-2	0.5
	50	25	22.48	22.49	22.25	22.35	22.13		0.5
	50	50	22.47	22.45	22.17	22.28	22.05		0.5
	100	0	22.51	22.50	22.26	22.36	22.16		0.5
64QAM	1	0	22.15	22.12	22.01	22.14	21.98	0-2	0.5
	1	50	21.85	21.82	21.74	21.88	21.63		0.5
	1	99	22.03	21.94	21.66	21.75	21.57		0.5
	50	0	21.59	21.57	21.34	21.44	21.25	0-3	1.5
	50	25	21.54	21.51	21.26	21.38	21.16		1.5
	50	50	21.49	21.48	21.19	21.29	21.08		1.5
	100	0	21.52	21.49	21.25	21.34	21.12		1.5
256QAM	1	0	19.33	19.27	19.18	19.31	19.09	0-5	3.5
	1	50	18.95	19.00	18.92	19.05	18.82		3.5
	1	99	19.19	19.13	18.84	18.92	18.74		3.5
	50	0	19.58	19.60	19.32	19.46	19.24		3.5
	50	25	19.55	19.53	19.26	19.39	19.16		3.5
	50	50	19.50	19.48	19.19	19.31	19.07		3.5
	100	0	19.49	19.48	19.22	19.35	19.13		3.5

Table 9-91
LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.93	22.76	22.53	22.67	22.49	0	0
	1	36	22.85	22.60	22.41	22.43	22.32		0
	1	74	22.95	22.53	22.46	22.43	22.31		0
	36	0	23.11	22.86	22.63	22.68	22.59	0-1	0
	36	18	23.09	22.80	22.60	22.65	22.54		0
	36	37	23.08	22.74	22.58	22.58	22.53		0
	75	0	23.10	22.79	22.63	22.62	22.56		0
16QAM	1	0	23.02	22.87	22.60	22.73	22.58	0-1	0
	1	36	23.01	22.68	22.45	22.50	22.39		0
	1	74	23.03	22.68	22.53	22.45	22.45		0
	36	0	22.65	22.36	22.12	22.20	22.17	0-2	0.5
	36	18	22.65	22.31	22.11	22.15	22.11		0.5
	36	37	22.61	22.27	22.10	22.07	22.08		0.5
	75	0	22.69	22.39	22.22	22.23	22.19		0.5
64QAM	1	0	22.29	22.19	21.92	22.00	21.92	0-2	0.5
	1	36	22.27	21.94	21.75	21.80	21.75		0.5
	1	74	22.31	21.97	21.78	21.77	21.71		0.5
	36	0	21.69	21.41	21.20	21.28	21.25	0-3	1.5
	36	18	21.69	21.37	21.19	21.21	21.20		1.5
	36	37	21.66	21.26	21.15	21.11	21.12		1.5
	75	0	21.70	21.38	21.22	21.25	21.22		1.5
256QAM	1	0	19.10	19.17	18.95	19.08	18.78	0-5	3.5
	1	36	19.03	18.97	18.75	18.83	18.55		3.5
	1	74	19.07	19.03	18.71	18.78	18.50		3.5
	36	0	19.33	19.31	19.09	19.13	18.90		3.5
	36	18	19.33	19.29	19.01	19.11	18.88		3.5
	36	37	19.28	19.28	18.99	19.08	18.75		3.5
	75	0	19.32	19.30	19.08	19.13	18.83		3.5

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Table 9-92
LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.65	22.49	22.50	22.42	22.41	0	0
	1	25	22.49	22.52	22.45	22.34	22.24		0
	1	49	22.67	22.39	22.24	22.25	22.13		0
	25	0	22.91	22.64	22.42	22.52	22.37	0-1	0
	25	12	22.89	22.53	22.37	22.47	22.38		0
	25	25	22.90	22.58	22.43	22.43	22.32		0
	50	0	22.96	22.65	22.47	22.50	22.41		0
16QAM	1	0	22.77	22.65	22.53	22.44	22.31	0-1	0
	1	25	22.65	22.48	22.58	22.41	22.32		0
	1	49	22.85	22.51	22.46	22.38	22.28		0
	25	0	22.60	22.18	22.07	22.09	22.06	0-2	0.5
	25	12	22.66	22.23	22.06	22.11	22.03		0.5
	25	25	22.55	22.17	22.02	21.06	21.98		0.5
	50	0	22.59	22.24	22.04	22.14	22.02		0.5
64QAM	1	0	22.18	21.88	21.70	21.75	21.64	0-2	0.5
	1	25	21.78	21.86	21.74	21.69	21.60		0.5
	1	49	22.13	21.66	21.60	21.70	21.55		0.5
	25	0	21.47	21.23	21.02	21.11	20.95	0-3	1.5
	25	12	21.54	21.19	20.94	21.08	20.97		1.5
	25	25	21.48	21.13	21.02	21.16	20.88		1.5
	50	0	21.63	21.30	21.07	21.16	20.66		1.5
256QAM	1	0	18.81	18.98	18.78	18.82	18.51	0-5	3.5
	1	25	18.72	18.92	18.65	18.70	18.41		3.5
	1	49	18.84	18.93	18.65	18.64	18.34		3.5
	25	0	19.18	19.17	18.92	18.97	18.70		3.5
	25	12	19.14	19.12	18.87	18.95	18.65		3.5
	25	25	19.19	19.12	18.87	18.93	18.62		3.5
	50	0	19.24	19.24	18.97	19.01	18.72		3.5

Table 9-93
LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.85	22.58	22.43	22.24	22.28	0	0
	1	12	22.83	22.57	22.42	22.27	22.33		0
	1	24	22.85	22.40	22.36	22.33	22.22		0
	12	0	22.97	22.69	22.39	22.45	22.38	0-1	0
	12	6	23.01	22.55	22.50	22.51	22.37		0
	12	13	22.95	22.58	22.50	22.43	22.40		0
	25	0	22.96	22.64	22.50	22.48	22.34		0
16QAM	1	0	23.00	22.63	22.39	22.38	22.35	0-1	0
	1	12	22.93	22.65	22.44	22.44	22.37		0
	1	24	22.97	22.49	22.43	22.39	22.32		0
	12	0	22.52	22.17	21.93	21.97	21.95	0-2	0.5
	12	6	21.55	22.20	21.93	22.01	21.93		0.5
	12	13	22.53	22.08	22.00	21.97	21.96		0.5
	25	0	22.63	22.20	22.12	22.12	22.01		0.5
64QAM	1	0	22.24	21.88	21.66	21.67	21.54	0-2	0.5
	1	12	22.26	21.91	21.77	21.72	21.63		0.5
	1	24	22.24	21.79	22.72	21.71	21.58		0.5
	12	0	21.52	21.23	20.96	21.02	20.96	0-3	1.5
	12	6	21.57	21.22	20.98	21.05	20.88		1.5
	12	13	21.53	21.10	21.84	21.06	21.95		1.5
	25	0	21.52	21.17	21.08	21.06	20.95		1.5
256QAM	1	0	19.08	18.97	18.72	18.75	18.46	0-5	3.5
	1	12	19.03	19.17	18.73	18.81	18.49		3.5
	1	24	19.03	18.85	18.65	18.67	18.37		3.5
	12	0	19.28	19.26	18.97	19.01	18.69		3.5
	12	6	19.30	19.30	19.07	19.01	18.75		3.5
	12	13	19.32	19.19	19.01	19.02	18.76		3.5
	25	0	19.25	19.18	18.92	18.98	18.64		3.5

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Table 9-94
LTE Band 41 PC2 Max Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	27.83	27.85	27.56	27.72	27.52	0	0
	1	50	27.51	27.48	27.47	27.60	27.36		0
	1	99	27.79	27.77	27.48	27.54	27.31		0
	50	0	27.02	27.07	26.69	26.82	26.62	0-1	1
	50	25	27.03	27.01	26.67	26.78	26.56		1
	50	50	26.98	26.96	26.66	26.73	26.49		1
	100	0	26.99	26.99	26.68	26.76	26.55		1
16QAM	1	0	27.08	27.02	26.70	27.07	26.88	0-1	1
	1	50	26.67	26.62	26.63	26.81	26.62		1
	1	99	26.96	26.82	26.54	26.72	26.55		1
	50	0	25.96	25.93	25.67	25.84	25.67	0-2	2
	50	25	25.92	25.84	25.57	25.76	25.56		2
	50	50	25.85	25.78	25.47	25.65	25.47		2
	100	0	25.94	25.85	25.56	25.76	25.57		2
64QAM	1	0	25.94	25.79	25.58	25.88	25.67	0-2	2
	1	50	25.60	25.39	25.42	25.61	25.42		2
	1	99	25.73	25.60	25.32	25.52	25.32		2
	50	0	24.98	24.95	24.66	24.86	24.69	0-3	3
	50	25	24.94	24.88	24.58	24.78	24.60		3
	50	50	24.91	24.84	24.51	24.70	24.50		3
	100	0	24.88	24.85	24.55	24.73	24.55		3
256QAM	1	0	22.87	22.76	22.45	22.85	22.66	0-5	5
	1	50	22.60	22.34	22.34	22.54	22.35		5
	1	99	22.68	22.65	22.29	22.41	22.29		5
	50	0	22.89	22.90	22.63	22.81	22.63		5
	50	25	22.88	22.84	22.55	22.74	22.54		5
	50	50	22.86	22.78	22.52	22.65	22.45		5
	100	0	22.82	22.79	22.53	22.70	22.48		5

Table 9-95
LTE Band 41 PC2 Max Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	27.33	27.37	27.06	27.18	27.03	0	0
	1	36	27.36	27.24	26.98	27.06	26.91		0
	1	74	27.39	27.24	27.00	27.06	26.94		0
	36	0	26.61	26.41	26.17	26.24	26.12	0-1	1
	36	18	26.74	26.40	26.17	26.22	26.11		1
	36	37	26.56	26.36	26.12	26.15	26.05		1
	75	0	26.57	26.37	26.23	26.22	26.10		1
16QAM	1	0	26.56	26.55	26.27	26.35	26.22	0-1	1
	1	36	26.59	26.39	26.14	26.22	26.09		1
	1	74	26.60	26.39	26.18	26.20	26.10		1
	36	0	25.52	25.34	25.09	25.17	25.04	0-2	2
	36	18	25.51	25.32	25.09	25.13	25.02		2
	36	37	25.46	25.27	25.04	25.08	25.00		2
	75	0	25.54	25.35	25.13	25.16	25.08		2
64QAM	1	0	25.56	25.46	25.22	25.32	25.16	0-2	2
	1	36	25.51	25.33	25.12	25.16	25.03		2
	1	74	25.53	25.32	25.15	25.17	25.04		2
	36	0	24.56	24.39	24.14	24.23	24.07	0-3	3
	36	18	24.56	24.37	24.13	24.20	24.05		3
	36	37	24.52	24.32	24.18	24.16	24.02		3
	75	0	24.52	24.34	24.12	24.26	24.06		3
256QAM	1	0	22.50	22.53	22.41	22.43	22.15	0-5	5
	1	36	22.46	22.39	22.20	22.24	21.92		5
	1	74	22.44	22.38	22.15	22.15	21.92		5
	36	0	22.59	22.53	22.37	22.41	22.12		5
	36	18	22.59	22.53	22.33	22.37	22.06		5
	36	37	22.54	22.48	22.24	22.30	22.00		5
	75	0	22.57	22.52	22.30	22.37	22.06		5

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Table 9-96
LTE Band 41 PC2 Max Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	27.18	27.07	26.89	26.92	26.80	0	0
	1	25	27.02	27.09	26.92	26.93	26.78		0
	1	49	27.18	27.01	26.85	26.82	26.96		0
	25	0	26.34	26.21	26.00	26.07	25.93	0-1	1
	25	12	26.34	26.19	26.00	26.06	25.91		1
	25	25	26.29	26.17	25.98	26.02	25.89		1
	50	0	26.36	26.23	26.09	26.08	25.92		1
16QAM	1	0	26.40	26.30	26.09	26.14	26.00	0-1	1
	1	25	26.17	26.30	26.08	26.14	25.98		1
	1	49	26.39	26.24	26.07	26.03	25.92		1
	25	0	25.40	25.23	25.05	25.08	24.95	0-2	2
	25	12	25.38	25.20	25.03	25.07	24.94		2
	25	25	25.37	25.17	25.01	25.03	24.92		2
	50	0	25.35	25.17	25.01	25.04	24.91		2
64QAM	1	0	25.32	25.27	25.01	25.09	24.93	0-2	2
	1	25	25.10	25.26	25.01	25.25	24.91		2
	1	49	25.32	25.16	24.98	24.99	24.88		2
	25	0	24.29	24.15	23.94	24.01	23.85	0-3	3
	25	12	24.28	24.11	23.95	23.98	23.82		3
	25	25	24.29	24.11	23.94	23.96	23.81		3
	50	0	24.38	24.27	24.03	24.09	23.92		3
256QAM	1	0	22.32	22.33	22.16	22.18	21.91	0-5	5
	1	25	22.08	22.28	22.08	22.11	21.82		5
	1	49	22.25	22.20	21.99	22.00	21.74		5
	25	0	22.42	22.37	22.18	22.23	21.96		5
	25	12	22.39	22.35	22.16	22.19	21.92		5
	25	25	22.37	22.32	22.10	22.15	21.88		5
	50	0	22.46	22.40	22.20	22.27	21.97		5

Table 9-97
LTE Band 41 PC2 Max Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	27.30	27.14	26.88	27.05	26.81	0	0
	1	12	27.31	27.18	26.99	27.01	26.90		0
	1	24	27.31	27.07	26.96	26.94	26.80		0
	12	0	26.41	26.25	25.99	26.01	25.93	0-1	1
	12	6	26.45	26.27	26.06	26.04	25.93		1
	12	13	26.39	26.14	26.03	26.08	25.96		1
	25	0	26.41	26.18	26.04	26.06	25.91		1
16QAM	1	0	26.49	26.38	26.05	26.16	25.96	0-1	1
	1	12	26.52	26.34	26.13	26.21	26.04		1
	1	24	26.50	26.24	26.11	26.14	26.00		1
	12	0	25.36	25.19	24.92	24.99	24.88	0-2	2
	12	6	25.38	25.23	25.04	25.02	24.89		2
	12	13	25.34	25.12	25.01	25.02	24.92		2
	25	0	25.49	25.25	25.11	25.13	24.98		2
64QAM	1	0	25.48	25.24	25.00	25.04	24.92	0-2	2
	1	12	25.45	25.30	25.08	25.14	25.02		2
	1	24	25.46	25.17	25.07	25.04	24.96		2
	12	0	24.39	24.20	23.95	24.00	23.85	0-3	3
	12	6	24.40	24.23	24.01	24.02	23.85		3
	12	13	24.34	24.14	23.99	24.04	23.89		3
	25	0	24.37	24.14	23.99	24.05	23.87		3
256QAM	1	0	22.43	22.35	22.00	22.11	21.83	0-5	5
	1	12	22.36	22.34	22.11	22.15	21.88		5
	1	24	22.42	22.21	22.02	22.09	21.83		5
	12	0	22.53	22.47	22.19	22.27	21.96		5
	12	6	22.56	22.50	22.31	22.27	21.97		5
	12	13	22.48	22.37	22.22	22.26	21.97		5
	25	0	22.44	22.34	22.17	22.22	21.87		5

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Table 9-98
LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.67	22.68	22.50	22.60	22.38	0	0
	1	50	22.28	22.23	22.25	22.38	22.11		0
	1	99	22.60	22.46	22.17	22.26	22.00		0
	50	0	22.87	22.88	22.60	22.71	22.48	0-1	0
	50	25	22.83	22.85	22.55	22.64	22.37		0
	50	50	22.79	22.76	22.45	22.54	22.31		0
	100	0	22.66	22.67	22.52	22.59	22.37		0
16QAM	1	0	22.99	22.93	22.84	22.92	22.68	0-1	0
	1	50	22.60	22.56	22.57	22.67	22.39		0
	1	99	22.89	22.79	22.51	22.58	22.32		0
	50	0	22.94	22.91	22.63	22.71	22.51	0-2	0
	50	25	22.89	22.84	22.58	22.65	22.40		0
	50	50	22.83	22.78	22.47	22.55	22.34		0
	100	0	22.90	22.86	22.59	22.68	22.44		0
64QAM	1	0	22.81	22.77	22.62	22.72	22.51	0-2	0
	1	50	22.38	22.33	22.36	22.45	22.23		0
	1	99	22.72	22.58	22.26	22.35	22.15		0
	50	0	22.94	22.91	22.64	22.74	22.54	0-3	0
	50	25	22.90	22.86	22.56	22.67	22.45		0
	50	50	22.84	22.80	22.48	22.59	22.37		0
	100	0	22.87	22.80	22.53	22.63	22.41		0
256QAM	1	0	22.45	22.36	22.24	22.35	22.14	0-5	0.5
	1	50	22.00	21.95	21.98	22.07	21.84		0.5
	1	99	22.30	22.22	21.90	21.94	21.79		0.5
	50	0	22.55	22.51	22.26	22.36	22.12		0.5
	50	25	22.51	22.46	22.20	22.30	22.04		0.5
	50	50	22.47	22.40	22.12	22.20	21.97		0.5
	100	0	22.44	22.41	22.13	22.23	22.00		0.5

Table 9-99
LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.96	22.75	22.60	22.65	22.51	0	0
	1	36	22.85	22.54	22.50	22.61	22.37		0
	1	74	22.98	22.54	22.45	22.38	22.35		0
	36	0	23.18	22.87	22.74	22.77	22.63	0-1	0
	36	18	23.23	22.80	22.74	22.72	22.57		0
	36	37	23.21	22.74	22.76	22.63	22.56		0
	75	0	23.21	22.77	22.74	22.97	22.57		0
16QAM	1	0	22.99	23.11	22.84	22.77	22.82	0-1	0
	1	36	22.75	22.90	22.79	22.71	22.61		0
	1	74	22.70	22.85	22.85	22.70	22.63		0
	36	0	22.72	22.82	22.84	22.75	22.57	0-2	0
	36	18	22.66	22.83	22.86	22.65	22.52		0
	36	37	22.53	22.71	22.76	22.52	22.48		0
	75	0	22.71	22.85	22.80	22.60	22.57		0
64QAM	1	0	22.78	22.90	22.73	22.77	22.56	0-2	0
	1	36	22.58	22.70	22.64	22.54	22.46		0
	1	74	22.53	22.67	22.66	22.47	22.39		0
	36	0	22.74	22.93	22.78	22.70	22.61	0-3	0
	36	18	22.75	22.85	22.76	22.71	22.60		0
	36	37	22.60	22.70	22.75	22.63	22.55		0
	75	0	22.71	22.84	22.81	22.60	22.58		0
256QAM	1	0	22.15	22.27	22.06	22.11	21.85	0-5	0.5
	1	36	22.06	22.11	21.88	21.91	21.65		0.5
	1	74	22.10	22.10	21.84	21.83	21.62		0.5
	36	0	22.28	22.27	22.07	22.10	21.83		0.5
	36	18	22.30	22.26	22.01	22.07	21.79		0.5
	36	37	22.24	22.21	21.95	21.99	21.73		0.5
	75	0	22.30	22.25	22.02	22.06	21.77		0.5

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Table 9-100
LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.57	22.42	22.28	22.27	22.24	0	0
	1	25	22.41	22.35	22.25	22.18	22.07		0
	1	49	22.56	22.18	22.21	22.07	22.09		0
	25	0	22.90	22.50	22.45	22.41	22.40	0-1	0
	25	12	22.81	22.51	22.45	22.39	22.33		0
	25	25	22.77	22.47	22.39	22.44	22.35		0
	50	0	22.85	22.52	22.46	22.45	22.40		0
16QAM	1	0	22.90	22.74	22.58	22.55	22.59	0-1	0
	1	25	22.64	22.72	22.58	22.52	22.52		0
	1	49	22.89	22.62	22.51	22.41	22.41		0
	25	0	22.85	22.61	22.57	22.45	22.45	0-2	0
	25	12	22.88	22.55	22.42	22.48	22.39		0
	25	25	22.88	22.50	22.48	22.36	22.42		0
	50	0	22.87	22.56	22.47	22.42	22.38		0
64QAM	1	0	22.83	22.52	22.38	22.42	22.40	0-2	0
	1	25	22.78	22.42	22.37	22.31	22.26		0
	1	49	22.70	22.35	22.30	22.18	22.18		0
	25	0	22.80	22.54	22.40	22.46	22.46	0-3	0
	25	12	22.80	22.48	22.41	22.40	22.36		0
	25	25	22.78	22.47	22.35	22.38	22.35		0
	50	0	22.88	22.58	22.49	22.46	22.45		0
256QAM	1	0	22.05	22.07	21.80	21.90	21.63	0-5	0.5
	1	25	21.77	22.02	21.74	21.82	21.55		0.5
	1	49	22.01	21.96	21.69	21.73	21.47		0.5
	25	0	22.18	22.13	21.88	21.95	21.66		0.5
	25	12	22.16	22.10	21.86	21.91	21.63		0.5
	25	25	22.14	22.07	21.81	21.88	21.59		0.5
	50	0	22.21	22.15	21.92	21.97	21.68		0.5

Table 9-101
LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.63	22.35	22.22	22.19	22.05	0	0
	1	12	22.64	22.36	22.29	22.24	22.11		0
	1	24	22.67	22.23	22.28	22.15	22.10		0
	12	0	22.79	22.51	22.31	22.27	22.23	0-1	0
	12	6	22.78	22.51	22.38	22.33	22.24		0
	12	13	22.81	22.42	22.25	22.35	22.26		0
	25	0	22.82	22.42	22.37	22.31	22.20		0
16QAM	1	0	22.97	22.72	22.46	22.51	22.36	0-1	0
	1	12	22.92	22.69	22.54	22.54	22.39		0
	1	24	22.95	22.63	22.55	22.45	22.36		0
	12	0	22.79	22.49	22.35	22.30	22.20	0-2	0
	12	6	22.82	22.50	22.38	22.32	22.24		0
	12	13	22.76	22.41	22.39	22.32	22.26		0
	25	0	22.83	22.51	22.44	22.43	22.27		0
64QAM	1	0	22.74	22.47	22.23	22.29	22.10	0-2	0
	1	12	22.75	22.43	22.35	22.35	22.25		0
	1	24	22.75	22.32	22.31	22.24	22.18		0
	12	0	22.84	22.52	22.34	22.33	22.17	0-3	0
	12	6	22.84	22.53	22.37	22.35	22.29		0
	12	13	22.79	22.47	22.35	22.33	22.25		0
	25	0	22.80	22.44	22.38	22.38	22.28		0
256QAM	1	0	22.09	22.09	21.86	21.91	21.64	0-5	0.5
	1	12	22.11	22.07	21.82	21.87	21.59		0.5
	1	24	21.55	21.98	21.75	21.79	21.52		0.5
	12	0	22.23	22.17	21.93	21.98	21.72		0.5
	12	6	22.28	22.22	21.97	22.02	21.75		0.5
	12	13	22.26	22.21	21.96	22.03	21.72		0.5
	25	0	22.19	22.13	21.90	21.94	21.65		0.5

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Table 9-102
LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.15	24.29	23.93	24.01	23.83	0	0
	1	50	23.71	23.90	23.66	23.75	23.53		0
	1	99	23.84	24.09	23.60	23.68	23.45		0
	50	0	24.31	24.48	24.00	24.12	23.94	0-1	0
	50	25	24.29	24.40	23.93	24.08	23.84		0
	50	50	24.25	24.37	23.86	23.98	23.77		0
	100	0	24.20	24.28	23.92	24.04	23.86		0
16QAM	1	0	24.41	24.34	24.23	24.33	24.18	0-1	0
	1	50	24.00	23.91	23.99	24.07	23.88		0
	1	99	24.32	24.17	23.89	23.98	23.83		0
	50	0	24.31	24.27	24.02	24.14	23.97	0-2	0
	50	25	24.26	24.21	23.94	24.08	23.87		0
	50	50	24.24	24.13	23.86	23.96	23.79		0
	100	0	24.30	24.24	23.94	24.09	23.88		0
64QAM	1	0	24.26	24.18	24.04	24.19	24.01	0-2	0
	1	50	23.82	23.74	23.85	23.95	23.73		0
	1	99	24.13	23.99	23.71	23.81	23.67		0
	50	0	24.36	24.31	24.06	24.21	24.03	0-3	0
	50	25	24.35	24.27	24.00	24.13	23.96		0
	50	50	24.30	24.22	23.91	24.06	23.88		0
	100	0	24.33	24.23	23.97	24.09	23.89		0
256QAM	1	0	22.26	22.15	22.02	22.16	22.33	0-5	2
	1	50	21.83	21.71	21.76	21.88	22.05		2
	1	99	22.11	21.97	21.70	21.76	21.98		2
	50	0	22.35	22.30	22.05	22.18	22.28		2
	50	25	22.30	22.25	21.98	22.11	22.19		2
	50	50	22.27	22.18	21.89	22.03	22.14		2
	100	0	22.25	22.20	21.92	22.06	22.17		2

Table 9-103
LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.18	23.80	23.88	23.90	23.69	0	0
	1	36	24.07	24.03	23.82	23.89	23.69		0
	1	74	24.04	23.88	23.59	23.67	23.43		0
	36	0	24.25	24.17	23.96	24.02	23.90	0-1	0
	36	18	24.34	24.28	24.04	24.11	23.95		0
	36	37	24.18	24.13	23.86	23.93	23.79		0
	75	0	24.19	24.23	23.93	23.99	23.81		0
16QAM	1	0	24.50	24.05	23.88	23.93	23.81	0-1	0
	1	36	24.37	24.30	24.11	24.17	24.01		0
	1	74	24.33	23.87	23.61	23.69	23.54		0
	36	0	24.21	24.08	23.93	23.98	23.87	0-2	0
	36	18	24.03	24.19	23.82	24.07	23.92		0
	36	37	24.07	24.05	23.92	23.89	23.75		0
	75	0	24.20	24.12	23.92	24.03	23.84		0
64QAM	1	0	24.32	23.89	23.73	23.61	23.66	0-2	0
	1	36	24.22	24.13	23.94	23.85	23.84		0
	1	74	24.18	23.72	23.43	23.36	23.38		0
	36	0	24.25	24.19	23.99	23.88	23.96	0-3	0
	36	18	24.35	24.25	24.08	23.98	23.97		0
	36	37	24.18	24.13	23.87	23.81	23.81		0
	75	0	24.23	24.19	23.96	23.87	23.89		0
256QAM	1	0	22.24	22.27	22.07	21.62	21.84	0-5	2
	1	36	22.18	22.12	21.88	21.82	21.66		2
	1	74	22.17	22.09	21.83	21.38	21.62		2
	36	0	22.33	22.18	22.04	21.83	21.84		2
	36	18	22.30	22.17	22.00	21.91	21.79		2
	36	37	22.26	22.22	21.96	21.76	21.73		2
	75	0	22.30	22.16	22.02	21.82	21.81		2

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Table 9-104
LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.94	23.55	23.85	23.68	23.67	0	0
	1	25	23.88	23.94	23.95	24.00	23.94		0
	1	49	23.82	23.61	23.56	23.78	23.56		0
	25	0	23.92	23.86	23.89	23.93	23.88	0-1	0
	25	12	24.09	24.04	24.05	23.98	24.07		0
	25	25	23.85	23.83	23.80	23.88	23.82		0
	50	0	23.90	23.86	23.86	23.92	23.87		0
16QAM	1	0	24.25	23.51	23.53	24.01	23.59	0-1	0
	1	25	24.18	23.94	24.20	23.78	24.27		0
	1	49	24.13	23.56	23.34	23.42	23.41		0
	25	0	23.97	23.64	23.92	23.98	23.96	0-2	0
	25	12	24.13	23.80	24.08	24.25	24.10		0
	25	25	23.90	23.58	23.84	23.93	23.88		0
	50	0	23.91	23.59	23.87	23.97	23.93		0
64QAM	1	0	24.10	23.56	23.41	23.46	23.96	0-2	0
	1	25	24.05	23.75	23.98	23.89	24.02		0
	1	49	24.01	23.56	23.21	23.30	23.94		0
	25	0	23.96	23.56	23.89	23.56	23.96	0-3	0
	25	12	24.10	23.75	24.05	23.69	24.09		0
	25	25	23.98	23.51	23.81	23.90	23.86		0
	50	0	24.00	23.64	23.94	24.02	23.97		0
256QAM	1	0	22.10	21.56	21.38	22.03	21.41	0-5	2
	1	25	21.83	21.89	21.56	22.11	22.07		2
	1	49	22.02	21.98	21.98	21.27	22.03		2
	25	0	22.19	21.98	21.90	21.93	21.94		2
	25	12	22.17	21.98	22.07	22.11	22.09		2
	25	25	22.14	21.53	21.81	21.89	21.86		2
	50	0	22.22	21.21	21.92	21.97	21.94		2

Table 9-105
LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.16	23.84	23.88	23.93	23.87	0	0
	1	12	24.12	24.01	24.10	24.15	24.08		0
	1	24	24.10	23.74	23.89	23.95	23.87		0
	12	0	24.17	24.11	24.14	24.19	24.09	0-1	0
	12	6	24.26	24.22	24.24	24.26	24.19		0
	12	13	24.13	24.00	24.16	24.20	24.15		0
	25	0	24.18	24.06	24.18	24.27	24.11		0
16QAM	1	0	24.42	24.25	24.20	24.17	24.16	0-1	0
	1	12	24.36	24.46	24.38	24.40	24.37		0
	1	24	24.35	24.21	24.19	24.19	24.16		0
	12	0	24.17	24.27	24.11	24.12	24.10	0-2	0
	12	6	24.23	24.34	24.25	24.19	24.21		0
	12	13	24.15	24.18	24.13	24.18	24.13		0
	25	0	24.24	24.26	24.21	24.29	24.17		0
64QAM	1	0	24.20	24.11	24.01	24.04	23.96	0-2	0
	1	12	24.17	24.36	24.22	24.28	24.22		0
	1	24	24.12	24.02	24.00	24.00	23.96		0
	12	0	24.20	24.33	24.14	24.19	24.16	0-3	0
	12	6	24.28	24.37	24.27	24.25	24.20		0
	12	13	24.19	24.31	24.18	24.20	24.18		0
	25	0	24.20	24.38	24.21	24.24	24.16		0
256QAM	1	0	22.10	22.06	21.76	21.79	21.53	0-5	2
	1	12	22.11	22.05	21.85	21.85	21.58		2
	1	24	22.12	21.93	21.76	21.81	21.52		2
	12	0	22.25	22.23	21.92	21.96	21.67		2
	12	6	22.28	22.27	22.00	22.00	21.69		2
	12	13	22.23	22.13	21.93	21.98	21.71		2
	25	0	22.18	22.08	21.90	21.94	21.62		2

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9.4.13 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-106
LTE Uplink Carrier Aggregation Max 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	25.50	24.75
	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_66C	LTE B66	20	132572	1770.0	67036	2170.0	QPSK	1	0	LTE B66	20	132374	1750.2	66838	2150.2	QPSK	1	99	24.84	24.06
CA_66B	LTE B66	10	132622	1775.0	67086	2175.0	QPSK	1	0	LTE B66	10	132523	1765.1	66987	2165.1	QPSK	1	49	24.58	23.80
	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_66C	LTE B66	20	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	20	132124	1725.2	66588	2125.2	QPSK	1	99	24.22	24.03
CA_66B	LTE B66	10	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	10	132223	1735.1	66687	2135.1	QPSK	1	49	24.25	23.87
	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 (1)	LTE B41	20	41055	2636.5	QPSK	1	0	LTE B41	20	40857	2616.7	QPSK	1	99	25.23	24.58				
CA_41C(1)	LTE B41	20	39750	2506.0	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.82	24.41				
CA_41C(1)	LTE B41 PC2	20	41055	2636.5	QPSK	1	0	LTE B41	20	40857	2616.7	QPSK	1	99	27.89	27.72				

Table 9-107
LTE Uplink Carrier Aggregation Reduced Conducted Powers - Hotspot Mode Active

	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_66C	LTE B66	20	132572	1770.0	67036	2170.0	QPSK	1	0	LTE B66	20	132374	1750.2	66838	2150.2	QPSK	1	99	21.00	20.25
CA_66B	LTE B66	10	132622	1775.0	67086	2175.0	QPSK	1	0	LTE B66	10	132523	1765.1	66987	2165.1	QPSK	1	49	20.69	19.76
	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 (1)	LTE B41	20	40185	2549.5	QPSK	1	0	LTE B41	20	39987	2529.7	QPSK	1	99	23.32	22.75				
CA_41C(1)	LTE B41 PC2	20	40185	2549.5	QPSK	1	0	LTE B41	20	39987	2529.7	QPSK	1	99	22.98	22.68				

Table 9-108
LTE Uplink Carrier Aggregation Reduced Conducted Powers - Grip Sensor and/or Earjack Mode Active

	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_66C	LTE B66	20	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	20	132124	1725.2	66588	2125.2	QPSK	1	99	20.55	20.03
CA_66B	LTE B66	10	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	10	132223	1735.1	66687	2135.1	QPSK	1	49	21.00	20.02
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(1)	LTE B41 PC2	20	39750	2506.0	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	24.30	23.84				

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REV 21.2 M
12/05/2018

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Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B, LTE CA_66B, LTE CA_66C, and LTE CA_41C (1) 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

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9.5 WLAN Conducted Powers

Table 9-109
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	20.94	17.68	17.76	15.94
2417	2	N/A	N/A	N/A	17.86
2437	6	20.68	17.66	17.94	17.96
2457	10	N/A	N/A	N/A	17.57
2462	11	20.74	17.80	17.83	16.62

Table 9-110
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	20.97	17.37	17.33	15.76
2417	2	N/A	N/A	N/A	17.42
2437	6	20.64	17.83	17.74	17.98
2457	10	N/A	N/A	N/A	17.75
2462	11	20.93	17.97	17.98	16.81

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Table 9-111
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	15.29	15.20	15.38	15.57
5200	40	18.36	18.35	18.47	18.19
5220	44	18.35	18.45	18.40	18.24
5240	48	18.44	18.43	18.49	18.27
5260	52	18.06	18.41	18.04	18.41
5280	56	18.10	18.12	18.01	18.49
5300	60	18.18	18.10	18.19	17.98
5320	64	17.59	17.62	17.57	16.42
5500	100	17.42	17.36	17.42	17.22
5520	104	18.02	18.03	18.00	18.19
5600	120	18.20	18.24	18.26	18.30
5620	124	18.13	18.16	18.16	18.23
5720	144	18.09	18.15	18.19	18.21
5745	149	18.22	18.26	18.27	18.46
5785	157	18.20	18.23	18.23	18.49
5825	165	18.45	18.37	18.46	18.36

Table 9-112
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	15.46	15.47	15.49	15.77
5200	40	18.32	18.29	18.43	18.48
5220	44	18.28	18.26	18.37	18.10
5240	48	18.42	18.35	18.33	18.18
5260	52	18.11	18.11	18.14	18.07
5280	56	18.26	18.29	18.23	18.18
5300	60	18.37	18.32	18.39	18.23
5320	64	17.97	17.98	17.98	16.47
5500	100	17.17	17.44	17.39	17.11
5520	104	18.27	18.23	18.31	18.21
5600	120	18.34	18.40	18.40	18.25
5620	124	18.30	18.41	18.35	18.23
5720	144	18.39	18.38	18.37	18.26
5745	149	18.05	18.05	18.06	18.45
5785	157	18.24	18.20	18.20	18.10
5825	165	17.93	18.05	17.96	18.49

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Table 9-113
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	12.01	12.45	15.25
5200	40	18.35	18.29	21.33
5220	44	18.45	18.26	21.37
5240	48	18.43	18.35	21.40
5260	52	18.41	18.11	21.27
5280	56	18.12	18.29	21.22
5300	60	18.10	18.32	21.22
5320	64	14.99	14.37	17.70
5500	100	17.36	17.44	20.41
5520	104	17.68	17.88	20.79
5600	120	17.75	17.85	20.81
5620	124	17.88	17.98	20.94
5720	144	17.69	17.90	20.81
5745	149	18.26	18.05	21.17
5785	157	18.23	18.20	21.23
5825	165	18.37	18.05	21.22

Table 9-114
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
2412	1	16.40	16.33
2437	6	16.42	16.52
2462	11	16.32	16.22
5GHz (40MHz) 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5190	38	10.47	10.15
5230	46	13.64	13.82
5270	54	13.47	13.79
5310	62	10.06	10.09
5GHz (80MHz) 802.11ac Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5530	106	9.56	9.73
5610	122	13.91	13.89
5690	138	13.89	13.81
5775	155	13.82	13.65

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Table 9-115
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	802.11ax
		Average	Average	Average	Average
2412	1	16.82	16.80	16.40	15.94
2417	2	N/A	N/A	N/A	16.99
2437	6	16.50	16.78	16.42	16.73
2462	11	16.64	16.70	16.32	16.62

Table 9-116
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	802.11ax
		Average	Average	Average	Average
2412	1	16.85	16.89	16.33	15.76
2417	2	N/A	N/A	N/A	16.49
2437	6	16.91	16.50	16.52	16.85
2462	11	16.43	16.40	16.22	16.81

Table 9-117
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	13.87	13.63	12.99
5230	46	13.64	13.57	13.12
5270	54	13.47	13.98	13.35
5310	62	13.46	13.05	13.22

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5530	106	12.95	12.44
5610	122	13.91	13.97
5690	138	13.89	13.99
5775	155	13.82	13.93

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Table 9-118
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	13.93	13.67	13.12
5230	46	13.82	13.91	13.35
5270	54	13.79	13.82	13.22
5310	62	13.48	13.34	13.10

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5530	106	12.97	12.30
5610	122	13.89	13.98
5690	138	13.81	13.97
5775	155	13.65	13.94

Table 9-119
5 GHz WLAN Reduced Average RF Power – MIMO

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5190	38	10.47	10.15	13.32
5230	46	13.64	13.82	16.74
5270	54	13.47	13.79	16.64
5310	62	10.06	10.09	13.09
5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5530	106	9.56	9.73	12.66
5610	122	13.91	13.89	16.91
5690	138	13.89	13.81	16.86
5775	155	13.82	13.65	16.75

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Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

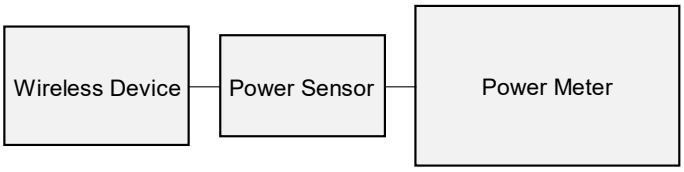

Figure 9-5
Power Measurement Setup

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9.6 Bluetooth Conducted Powers

Table 9-120
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	16.67	46.452
2441	1.0	39	**18.13**	64.963
2480	1.0	78	16.78	47.643
2402	2.0	0	10.24	10.563
2441	2.0	39	11.77	15.023
2480	2.0	78	10.51	11.238
2402	3.0	0	9.88	9.730
2441	3.0	39	11.42	13.859
2480	3.0	78	10.42	11.017

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

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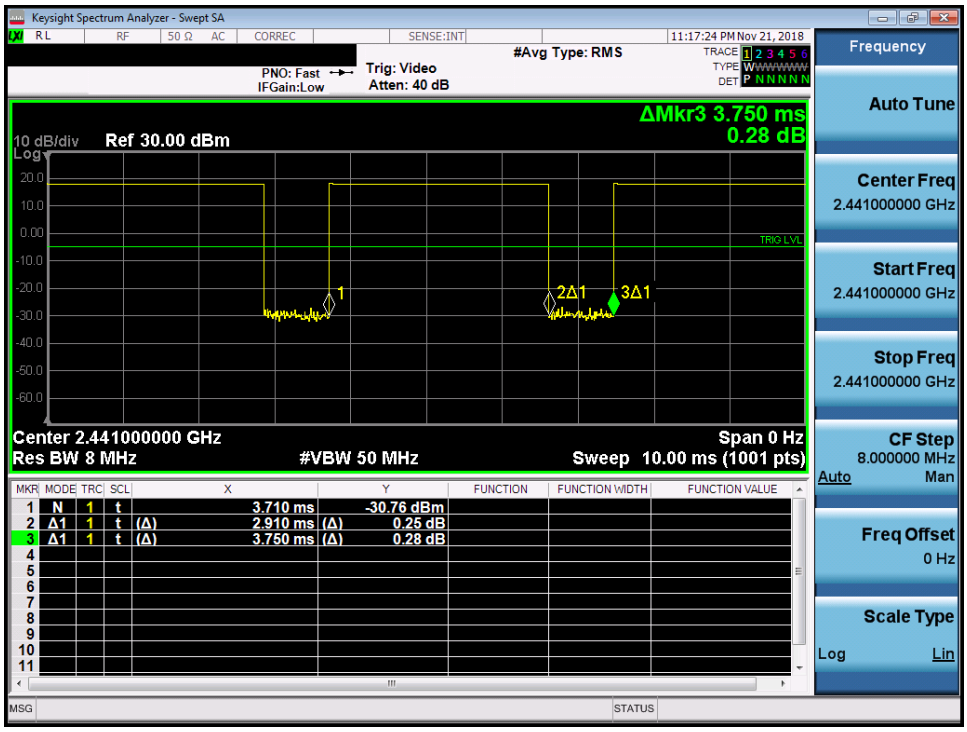

Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.91ms}{3.75ms} * 100\% = 77.6\%$$

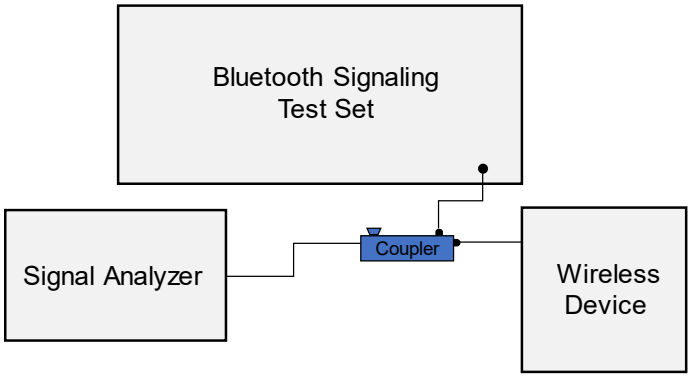

Figure 9-7
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/13/2018	750H	20.7	680	0.870	43.661	0.888	42.305	-2.03%	3.21%
			695	0.875	43.580	0.889	42.227	-1.57%	3.20%
			740	0.894	43.490	0.893	41.994	0.11%	3.56%
			755	0.900	43.446	0.894	41.916	0.67%	3.65%
			770	0.905	43.383	0.895	41.838	1.12%	3.69%
			785	0.910	43.300	0.896	41.760	1.56%	3.69%
			800	0.916	43.233	0.897	41.682	2.12%	3.72%
11/15/2018	750H	20.6	700	0.874	42.868	0.889	42.201	-1.69%	1.58%
			710	0.878	42.813	0.890	42.149	-1.35%	1.58%
			740	0.890	42.675	0.893	41.994	-0.34%	1.62%
			755	0.895	42.614	0.894	41.916	0.11%	1.67%
11/15/2018	835H	18.1	820	0.898	41.835	0.899	41.578	-0.11%	0.62%
			835	0.913	41.620	0.900	41.500	1.44%	0.29%
			850	0.928	41.416	0.916	41.500	1.31%	-0.20%
11/19/2018	835H	22.4	820	0.892	42.555	0.899	41.578	-0.78%	2.35%
			835	0.907	42.361	0.900	41.500	0.78%	2.07%
			850	0.922	42.174	0.916	41.500	0.66%	1.62%
11/23/2018	835H	19.5	820	0.896	41.539	0.899	41.578	-0.33%	-0.09%
			835	0.911	41.309	0.900	41.500	1.22%	-0.46%
			850	0.927	41.092	0.916	41.500	1.20%	-0.98%
11/21/2018	1750H	22.1	1710	1.369	40.184	1.348	40.142	1.56%	0.10%
			1750	1.397	40.104	1.371	40.079	1.90%	0.06%
			1790	1.420	40.058	1.394	40.016	1.87%	0.10%
11/30/2018	1750H	20.7	1710	1.341	39.130	1.348	40.142	-0.52%	-2.52%
			1750	1.365	39.030	1.371	40.079	-0.44%	-2.62%
			1790	1.386	38.955	1.394	40.016	-0.57%	-2.65%
11/12/2018	1900H	22.2	1850	1.400	41.411	1.400	40.000	0.00%	3.53%
			1880	1.431	41.278	1.400	40.000	2.21%	3.20%
			1910	1.463	41.148	1.400	40.000	4.50%	2.87%
11/30/2018	1900H	20.7	1850	1.421	38.875	1.400	40.000	1.50%	-2.81%
			1880	1.440	38.818	1.400	40.000	2.86%	-2.96%
			1910	1.459	38.785	1.400	40.000	4.21%	-3.04%
11/16/2018	2450H	23.1	2300	1.704	39.167	1.670	39.500	2.04%	-0.84%
			2310	1.715	39.136	1.679	39.480	2.14%	-0.87%
			2320	1.725	39.093	1.687	39.460	2.25%	-0.93%
11/18/2018	2450H	23.4	2400	1.792	38.650	1.756	39.289	2.05%	-1.63%
			2450	1.846	38.444	1.800	39.200	2.56%	-1.93%
			2500	1.903	38.267	1.855	39.136	2.59%	-2.22%
			2550	1.960	38.081	1.909	39.073	2.67%	-2.54%
12/26/2018	2450H	22.0	2400	1.813	39.589	1.756	39.289	3.25%	0.76%
			2450	1.871	39.417	1.800	39.200	3.94%	0.55%
			2500	1.926	39.206	1.855	39.136	3.83%	0.18%
01/07/2019	2450H	20.8	2600	1.945	39.842	1.964	39.009	-0.97%	2.14%
			2650	1.986	39.745	2.018	38.945	-1.59%	2.05%
			2700	2.027	39.695	2.073	38.882	-2.22%	2.09%
11/27/2018	3700H	21.6	3645	3.035	37.237	3.061	37.763	-0.85%	-1.39%
			3685	3.071	37.170	3.102	37.717	-1.00%	-1.45%
			3725	3.099	37.085	3.143	37.671	-1.40%	-1.56%
12/26/2018	5200H-5800H	20.2	5240	4.582	35.294	4.696	35.940	-2.43%	-1.80%
			5260	4.604	35.320	4.717	35.917	-2.40%	-1.66%
			5280	4.629	35.233	4.737	35.894	-2.28%	-1.84%
			5300	4.656	35.211	4.758	35.871	-2.14%	-1.84%
			5320	4.672	35.215	4.778	35.849	-2.22%	-1.77%
			5520	4.869	34.947	4.983	35.620	-2.29%	-1.89%
			5540	4.891	34.892	5.004	35.597	-2.26%	-1.98%
			5600	4.957	34.816	5.065	35.529	-2.13%	-2.01%
			5620	4.977	34.798	5.086	35.506	-2.14%	-1.99%
			5680	5.050	34.736	5.147	35.437	-1.88%	-1.98%
			5700	5.056	34.711	5.168	35.414	-2.17%	-1.99%
			5745	5.105	34.613	5.214	35.363	-2.09%	-2.12%
			5765	5.131	34.588	5.234	35.340	-1.97%	-2.13%
			5785	5.161	34.572	5.255	35.317	-1.79%	-2.11%

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Table 10-2
Measured Body Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/18/2018	750B	20.5	680	0.935	53.487	0.958	55.804	-2.40%	-4.15%
			695	0.941	53.400	0.959	55.745	-1.88%	-4.21%
			700	0.943	53.356	0.959	55.726	-1.67%	-4.25%
			710	0.948	53.261	0.960	55.687	-1.25%	-4.36%
			740	0.962	53.023	0.963	55.570	-0.10%	-4.58%
			755	0.968	52.976	0.964	55.512	0.41%	-4.57%
			770	0.973	52.978	0.965	55.453	0.83%	-4.46%
			785	0.979	52.990	0.966	55.395	1.35%	-4.34%
			800	0.985	52.972	0.967	55.336	1.86%	-4.27%
11/14/2018	835B	21.4	820	0.941	53.962	0.969	55.258	-2.89%	-2.35%
			835	0.957	53.795	0.970	55.200	-1.34%	-2.55%
			850	0.974	53.638	0.988	55.154	-1.42%	-2.75%
11/25/2018	835B	21.3	820	0.942	53.587	0.969	55.258	-2.79%	-3.02%
			835	0.957	53.433	0.970	55.200	-1.34%	-3.20%
			850	0.973	53.283	0.988	55.154	-1.52%	-3.39%
11/27/2018	835B	20.3	820	0.948	55.329	0.969	55.258	-2.17%	0.13%
			835	0.954	55.283	0.970	55.200	-1.65%	0.15%
			850	0.960	55.254	0.988	55.154	-2.83%	0.18%
11/29/2018	835B	20.0	820	0.966	53.802	0.969	55.258	-0.31%	-2.63%
			835	0.982	53.648	0.970	55.200	1.24%	-2.81%
			850	0.997	53.476	0.988	55.154	0.91%	-3.04%
12/03/2018	835B	21.5	820	0.970	55.089	0.969	55.258	0.10%	-0.31%
			835	0.974	55.000	0.970	55.200	0.41%	-0.36%
			850	0.979	54.974	0.988	55.154	-0.91%	-0.33%
11/15/2018	1750B	19.6	1710	1.500	51.261	1.463	53.537	2.53%	-4.25%
			1750	1.544	51.081	1.488	53.432	3.76%	-4.40%
			1790	1.589	50.911	1.514	53.326	4.95%	-4.53%
11/18/2018	1750B	22.6	1710	1.449	51.001	1.463	53.537	-0.96%	-4.74%
			1750	1.490	50.865	1.488	53.432	0.13%	-4.80%
			1790	1.533	50.704	1.514	53.326	1.25%	-4.92%
11/21/2018	1750B	21.1	1710	1.467	51.038	1.463	53.537	0.27%	-4.67%
			1750	1.513	50.840	1.488	53.432	1.68%	-4.85%
			1790	1.561	50.676	1.514	53.326	3.10%	-4.97%
12/04/2018	1750B	20.1	1710	1.494	51.286	1.463	53.537	2.12%	-4.20%
			1750	1.542	51.118	1.488	53.432	3.63%	-4.33%
			1790	1.587	50.947	1.514	53.326	4.82%	-4.46%
11/12/2018	1900B	21.0	1850	1.534	51.571	1.520	53.300	0.92%	-3.24%
			1880	1.558	51.512	1.520	53.300	2.50%	-3.35%
			1910	1.583	51.501	1.520	53.300	4.14%	-3.38%
11/14/2018	1900B	22.7	1850	1.521	51.464	1.520	53.300	0.07%	-3.44%
			1880	1.556	51.360	1.520	53.300	2.37%	-3.64%
			1910	1.591	51.249	1.520	53.300	4.67%	-3.85%
11/19/2018	1900B	23.1	1850	1.489	51.591	1.520	53.300	-2.04%	-3.21%
			1880	1.524	51.536	1.520	53.300	0.26%	-3.31%
			1910	1.555	51.448	1.520	53.300	2.30%	-3.47%
11/28/2018	1900B	21.8	1850	1.516	51.382	1.520	53.300	-0.26%	-3.60%
			1880	1.560	51.262	1.520	53.300	2.63%	-3.82%
			1910	1.590	51.164	1.520	53.300	4.61%	-4.01%
12/02/2018	1900B	22.8	1850	1.521	52.465	1.520	53.300	0.07%	-1.57%
			1880	1.554	52.359	1.520	53.300	2.24%	-1.77%
			1910	1.589	52.273	1.520	53.300	4.54%	-1.93%
12/05/2018	1900B	23.5	1850	1.517	51.165	1.520	53.300	-0.20%	-4.01%
			1880	1.550	51.085	1.520	53.300	1.97%	-4.16%
			1910	1.583	50.992	1.520	53.300	4.14%	-4.33%
11/12/2018	2450B	22.3	2400	1.971	52.177	1.902	52.767	3.63%	-1.12%
			2450	2.033	52.107	1.950	52.700	4.26%	-1.13%
			2500	2.090	51.871	2.021	52.636	3.41%	-1.45%
11/14/2018	2450B	22.5	2300	1.871	51.484	1.809	52.900	3.43%	-2.68%
			2310	1.882	51.461	1.816	52.887	3.63%	-2.70%
			2400	1.985	51.189	1.902	52.767	4.36%	-2.99%
			2450	2.045	51.016	1.950	52.700	4.87%	-3.20%
11/17/2018	2450B	22.7	2450	2.030	51.031	1.950	52.700	4.10%	-3.17%
			2500	2.089	50.867	2.021	52.636	3.36%	-3.36%
			2550	2.148	50.728	2.092	52.573	2.68%	-3.51%
			2600	2.208	50.554	2.163	52.509	2.08%	-3.72%
11/20/2018	2450B	23.5	2300	1.878	51.069	1.809	52.900	3.81%	-3.46%
			2310	1.887	51.033	1.816	52.887	3.91%	-3.51%
			2320	1.897	50.989	1.826	52.873	3.89%	-3.56%
11/29/2018	2450B	22.9	2450	2.036	50.942	1.950	52.700	4.41%	-3.34%
			2500	2.091	50.788	2.021	52.636	3.46%	-3.51%
			2550	2.150	50.678	2.092	52.573	2.77%	-3.60%
			2600	2.210	50.505	2.163	52.509	2.17%	-3.82%
			2650	2.271	50.350	2.234	52.445	1.66%	-3.99%
			2700	2.336	50.186	2.305	52.382	1.34%	-4.19%

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Table 10-3
Measured Body Tissue Properties Continued

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
12/05/2018	2450B	22.2	2450	2.031	51.814	1.950	52.700	4.15%	-1.68%
			2500	2.086	51.669	2.021	52.636	3.22%	-1.84%
			2550	2.148	51.524	2.092	52.573	2.68%	-2.00%
			2600	2.203	51.338	2.163	52.509	1.85%	-2.23%
12/27/2018	2450B	23.2	2400	1.990	51.367	1.902	52.767	4.63%	-2.65%
			2450	2.028	51.398	1.950	52.700	4.00%	-2.47%
			2500	2.067	51.127	2.021	52.636	2.28%	-2.87%
01/07/2019	2450B	23.5	2600	2.220	52.401	2.163	52.509	2.64%	-0.21%
			2650	2.278	52.240	2.234	52.445	1.97%	-0.39%
			2700	2.341	52.107	2.305	52.382	1.56%	-0.52%
01/14/2019	2450B	23.5	2450	2.039	51.588	1.950	52.700	4.56%	-2.11%
			2500	2.095	51.439	2.021	52.636	3.66%	-2.27%
			2550	2.155	51.316	2.092	52.573	3.01%	-2.39%
			2600	2.208	51.169	2.163	52.509	2.08%	-2.55%
			2650	2.270	50.984	2.234	52.445	1.61%	-2.79%
			2700	2.330	50.864	2.305	52.382	1.08%	-2.90%
11/27/2018	3700B	20.9	3645	3.348	50.889	3.483	51.125	-3.88%	-0.46%
			3685	3.395	50.786	3.530	51.070	-3.82%	-0.56%
			3725	3.439	50.749	3.577	51.016	-3.86%	-0.52%
11/11/2018	5200B-5800B	23.5	5200	5.410	49.441	5.299	49.014	2.09%	0.87%
			5220	5.447	49.425	5.323	48.987	2.33%	0.89%
			5240	5.482	49.424	5.346	48.960	2.54%	0.95%
			5260	5.513	49.384	5.369	48.933	2.68%	0.92%
			5280	5.522	49.373	5.393	48.906	2.39%	0.95%
			5300	5.539	49.294	5.416	48.879	2.27%	0.85%
			5320	5.570	49.223	5.439	48.851	2.41%	0.76%
			5500	5.800	48.960	5.650	48.607	2.65%	0.73%
			5520	5.838	48.899	5.673	48.580	2.91%	0.66%
			5540	5.883	48.884	5.696	48.553	3.28%	0.68%
			5560	5.909	48.858	5.720	48.526	3.30%	0.68%
			5580	5.940	48.827	5.743	48.499	3.43%	0.68%
			5600	5.957	48.810	5.766	48.471	3.31%	0.70%
			5620	5.982	48.764	5.790	48.444	3.32%	0.66%
			5640	6.011	48.726	5.813	48.417	3.41%	0.64%
			5660	6.052	48.696	5.837	48.390	3.68%	0.63%
			5680	6.080	48.675	5.860	48.363	3.75%	0.65%
			5700	6.107	48.657	5.883	48.336	3.81%	0.66%
			5745	6.166	48.589	5.936	48.275	3.87%	0.65%
			5765	6.196	48.558	5.959	48.248	3.98%	0.64%
			5785	6.232	48.527	5.982	48.220	4.18%	0.64%
			5800	6.259	48.490	6.000	48.200	4.32%	0.60%
			5805	6.258	48.452	6.006	48.193	4.20%	0.54%
			5825	6.274	48.484	6.029	48.166	4.06%	0.66%
11/18/2018	5200B-5800B	22.8	5200	5.367	49.068	5.299	49.014	1.28%	0.11%
			5220	5.390	49.059	5.323	48.987	1.26%	0.15%
			5240	5.402	49.013	5.346	48.960	1.05%	0.11%
			5260	5.425	48.928	5.369	48.933	1.04%	-0.01%
			5280	5.465	48.895	5.393	48.906	1.34%	-0.02%
			5300	5.510	48.894	5.416	48.879	1.74%	0.03%
			5320	5.523	48.889	5.439	48.851	1.54%	0.08%
			5500	5.761	48.538	5.650	48.607	1.96%	-0.14%
			5520	5.784	48.493	5.673	48.580	1.96%	-0.18%
			5540	5.823	48.519	5.696	48.553	2.23%	-0.07%
			5560	5.836	48.490	5.720	48.526	2.03%	-0.07%
			5580	5.853	48.430	5.743	48.499	1.92%	-0.14%
			5600	5.888	48.371	5.766	48.471	2.12%	-0.21%
			5620	5.945	48.351	5.790	48.444	2.68%	-0.19%
			5640	5.956	48.344	5.813	48.417	2.46%	-0.15%
			5660	5.956	48.338	5.837	48.390	2.04%	-0.11%
			5680	5.977	48.245	5.860	48.363	2.00%	-0.24%
			5700	6.038	48.221	5.883	48.336	2.63%	-0.24%
			5745	6.081	48.179	5.936	48.275	2.44%	-0.20%
			5765	6.102	48.122	5.959	48.248	2.40%	-0.26%
			5785	6.140	48.121	5.982	48.220	2.64%	-0.21%
			5800	6.160	48.085	6.000	48.200	2.67%	-0.24%
			5805	6.167	48.072	6.006	48.193	2.68%	-0.25%
			5825	6.194	48.014	6.029	48.166	2.74%	-0.32%
12/26/2018	5200B-5800B	21.9	5600	5.939	47.285	5.766	48.471	3.00%	-2.45%
			5620	5.959	47.254	5.790	48.444	2.92%	-2.46%
			5640	5.989	47.225	5.813	48.417	3.03%	-2.46%
			5660	6.032	47.158	5.837	48.390	3.34%	-2.55%
			5680	6.071	47.118	5.860	48.363	3.60%	-2.57%
			5700	6.085	47.116	5.883	48.336	3.43%	-2.52%
			5745	6.147	47.016	5.936	48.275	3.55%	-2.61%
			5765	6.176	46.990	5.959	48.248	3.64%	-2.61%
			5785	6.219	46.931	5.982	48.220	3.96%	-2.67%
			5800	6.241	46.875	6.000	48.200	4.02%	-2.75%
			5805	6.243	46.872	6.006	48.193	3.95%	-2.74%
			5825	6.274	46.853	6.029	48.166	4.06%	-2.73%

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.

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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 10-4
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
I	750	HEAD	11/13/2018	21.3	20.5	0.200	1054	7406	1.630	8.370	8.150	-2.63%
I	750	HEAD	11/15/2018	21.8	20.6	0.200	1054	7406	1.630	8.370	8.150	-2.63%
L	835	HEAD	11/15/2018	19.8	18.1	0.200	4d047	7308	1.950	9.470	9.750	2.96%
L	835	HEAD	11/19/2018	23.3	22.4	0.200	4d047	7308	1.860	9.470	9.300	-1.80%
L	835	HEAD	11/23/2018	20.3	19.5	0.200	4d133	7308	2.020	9.430	10.100	7.10%
M	1750	HEAD	11/21/2018	20.5	21.1	0.100	1150	3287	3.790	36.500	37.900	3.84%
M	1750	HEAD	11/30/2018	21.3	20.5	0.100	1148	3287	3.750	36.400	37.500	3.02%
E	1900	HEAD	11/12/2018	22.5	21.0	0.100	5d148	3213	3.980	40.100	39.800	-0.75%
M	1900	HEAD	11/30/2018	21.3	20.5	0.100	5d148	3287	4.290	40.100	42.900	6.98%
G	2300	HEAD	11/16/2018	22.4	23.1	0.100	1073	7410	4.770	49.200	47.700	-3.05%
G	2450	HEAD	11/18/2018	23.2	23.4	0.100	981	7410	5.370	52.300	53.700	2.68%
I	2450	HEAD	12/26/2018	20.9	20.5	0.100	981	7406	5.280	52.300	52.800	0.96%
G	2600	HEAD	01/07/2019	21.7	20.8	0.100	1004	7410	5.590	55.900	55.900	0.00%
H	3700	HEAD	11/27/2018	22.7	21.6	0.100	1002	3949	7.220	67.900	72.200	6.33%
H	5250	HEAD	12/26/2018	20.5	20.2	0.050	1057	7409	3.870	79.200	77.400	-2.27%
H	5600	HEAD	12/26/2018	20.5	20.2	0.050	1057	7409	4.090	84.100	81.800	-2.73%
H	5750	HEAD	12/26/2018	20.5	20.2	0.050	1057	7409	3.790	80.500	75.800	-5.84%
I	750	BODY	11/18/2018	21.4	20.4	0.200	1054	7406	1.780	8.610	8.900	3.37%
G	835	BODY	11/14/2018	23.5	21.4	0.200	4d047	7410	2.080	9.710	10.400	7.11%
H	835	BODY	11/25/2018	20.1	21.3	0.200	4d132	7409	2.040	9.710	10.200	5.05%
L	835	BODY	11/27/2018	22.0	20.3	0.200	4d133	7308	1.870	9.750	9.350	-4.10%
I	835	BODY	11/29/2018	21.4	19.9	0.200	4d047	7406	2.040	9.710	10.200	5.05%
I	835	BODY	12/03/2018	21.3	21.5	0.200	4d047	7406	2.010	9.710	10.050	3.50%
J	1750	BODY	11/15/2018	19.7	19.6	0.100	1148	3347	3.930	37.000	39.300	6.22%
J	1750	BODY	11/21/2018	19.7	21.1	0.100	1150	3347	3.800	36.600	38.000	3.83%
H	1750	BODY	12/04/2018	22.6	20.2	0.100	1148	7409	3.920	37.000	39.200	5.95%
H	1900	BODY	11/12/2018	21.8	21.0	0.100	5d148	7409	4.170	39.600	41.700	5.30%
E	1900	BODY	11/14/2018	23.9	21.3	0.100	5d148	3213	4.230	39.600	42.300	6.82%
E	1900	BODY	11/19/2018	24.4	21.8	0.100	5d148	3213	3.970	39.600	39.700	0.25%
E	1900	BODY	11/28/2018	21.2	20.8	0.100	5d148	3213	3.890	39.600	38.900	-1.77%
H	1900	BODY	12/02/2018	21.9	21.8	0.100	5d080	7409	4.190	39.200	41.900	6.89%
E	1900	BODY	12/05/2018	24.5	23.3	0.100	5d148	3332	4.150	39.600	41.500	4.80%
K	2300	BODY	11/14/2018	21.9	22.5	0.100	1073	3319	4.850	47.700	48.500	1.68%
K	2300	BODY	11/20/2018	23.2	23.5	0.100	1073	3319	5.080	47.700	50.800	6.50%
K	2450	BODY	11/12/2018	22.7	21.0	0.100	719	3319	5.130	50.100	51.300	2.40%
K	2450	BODY	11/14/2018	21.9	22.5	0.100	719	3319	5.090	50.100	50.900	1.60%
K	2450	BODY	11/17/2018	24.9	22.7	0.100	797	3319	4.940	51.100	49.400	-3.33%
K	2450	BODY	11/29/2018	22.6	22.9	0.100	797	3319	5.260	51.100	52.600	2.94%
K	2450	BODY	12/05/2018	22.7	21.3	0.100	719	3319	5.230	50.100	52.300	4.39%
I	2450	BODY	12/27/2018	22.5	21.9	0.100	719	7406	5.340	50.100	53.400	6.59%
K	2600	BODY	11/17/2018	24.9	22.7	0.100	1071	3319	5.080	54.200	50.800	-6.27%
K	2600	BODY	11/29/2018	22.6	22.9	0.100	1071	3319	5.670	54.200	56.700	4.61%
K	2600	BODY	12/05/2018	22.7	21.3	0.100	1126	3319	5.450	54.100	54.500	0.74%
K	2600	BODY	01/07/2019	22.6	21.6	0.100	1071	3319	5.520	54.200	55.200	1.85%
L	3700	BODY	11/27/2018	22.8	20.6	0.100	1002	3914	6.370	65.000	63.700	-2.00%
D	5250	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	3.560	77.000	71.200	-7.53%
D	5600	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	3.910	79.200	78.200	-1.26%
D	5750	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	3.560	76.100	71.200	-6.44%
D	5250	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	3.540	77.000	70.800	-8.05%
D	5600	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	3.840	79.200	76.800	-3.03%
D	5750	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	3.600	76.100	72.000	-5.39%
L	5600	BODY	12/26/2018	21.3	21.5	0.050	1191	7308	3.890	79.200	77.800	-1.77%
L	5750	BODY	12/26/2018	21.3	21.5	0.050	1191	7308	3.470	76.100	69.400	-8.80%

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Table 10-5
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)	$Deviation_{10g}$ (%)
J	1750	BODY	11/15/2018	19.7	19.6	0.100	1148	3347	2.070	19.800	20.700	4.55%
J	1750	BODY	11/18/2018	19.9	21.0	0.100	1148	3347	1.970	19.800	19.700	-0.51%
E	1900	BODY	11/19/2018	24.4	21.8	0.100	5d148	3213	2.060	20.900	20.600	-1.44%
H	1900	BODY	12/02/2018	21.9	21.8	0.100	5d080	7409	2.140	20.600	21.400	3.88%
K	2300	BODY	11/14/2018	21.9	22.5	0.100	1073	3319	2.300	23.200	23.000	-0.86%
K	2450	BODY	11/17/2018	24.9	22.7	0.100	797	3319	2.250	24.200	22.500	-7.02%
K	2450	BODY	01/14/2019	22.3	21.6	0.100	981	3319	2.270	24.200	22.700	-6.20%
K	2600	BODY	11/17/2018	24.9	22.7	0.100	1071	3319	2.230	24.500	22.300	-8.98%
K	2600	BODY	01/14/2019	22.3	21.6	0.100	1004	3319	2.410	24.700	24.100	-2.43%
D	5250	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	0.976	21.600	19.520	-9.63%
D	5600	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	1.080	22.200	21.600	-2.70%
D	5750	BODY	11/11/2018	22.5	21.7	0.050	1191	7357	0.990	21.200	19.800	-6.60%

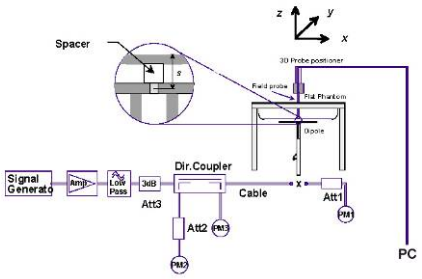

Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
CDMA BC10 (§90S) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	26.0	24.88	2	0.09	Right	Cheek	0003M	1:1	0.234	1.294	0.303	A1
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	24.88	2	0.18	Right	Tilt	0003M	1:1	0.174	1.294	0.225	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	24.88	2	0.06	Left	Cheek	0003M	1:1	0.223	1.294	0.289	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	24.88	2	0.12	Left	Tilt	0003M	1:1	0.145	1.294	0.188	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	24.85	2	-0.12	Right	Cheek	0003M	1:1	0.211	1.303	0.275	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	24.85	2	-0.03	Right	Tilt	0003M	1:1	0.113	1.303	0.147	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	24.85	2	0.03	Left	Cheek	0003M	1:1	0.157	1.303	0.205	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	24.85	2	-0.04	Left	Tilt	0003M	1:1	0.112	1.303	0.146	
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/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	26.0	24.98	2	0.04	Right	Cheek	0003M	1:1	0.268	1.265	0.339	A2
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	24.98	2	0.11	Right	Tilt	0003M	1:1	0.156	1.265	0.197	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	24.98	2	0.18	Left	Cheek	0003M	1:1	0.230	1.265	0.291	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	24.98	2	0.06	Left	Tilt	0003M	1:1	0.176	1.265	0.223	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	24.93	2	0.06	Right	Cheek	0003M	1:1	0.209	1.279	0.267	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	24.93	2	-0.06	Right	Tilt	0003M	1:1	0.101	1.279	0.129	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	24.93	2	-0.01	Left	Cheek	0003M	1:1	0.152	1.279	0.194	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	24.93	2	0.07	Left	Tilt	0003M	1:1	0.101	1.279	0.129	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-3
GSM 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	32.34	-0.02	Right	Cheek	0003M	1:8.3	0.215	1.306	0.281	A3
836.60	190	GSM 850	GSM	33.5	32.34	0.15	Right	Tilt	0003M	1:8.3	0.108	1.306	0.141	
836.60	190	GSM 850	GSM	33.5	32.34	-0.18	Left	Cheek	0003M	1:8.3	0.176	1.306	0.230	
836.60	190	GSM 850	GSM	33.5	32.34	-0.07	Left	Tilt	0003M	1:8.3	0.102	1.306	0.133	
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
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.31	2	0.08	Right	Cheek	0003M	1:1	0.249	1.315	0.327	A4
836.60	4183	UMTS 850	RMC	25.5	24.31	2	0.20	Right	Tilt	0003M	1:1	0.127	1.315	0.167	
836.60	4183	UMTS 850	RMC	25.5	24.31	2	-0.01	Left	Cheek	0003M	1:1	0.187	1.315	0.246	
836.60	4183	UMTS 850	RMC	25.5	24.31	2	-0.15	Left	Tilt	0003M	1:1	0.125	1.315	0.164	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
UMTS 1750 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	23.94	16	0.20	Right	Cheek	0017M	1:1	0.110	1.276	0.140	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	16	0.13	Right	Tilt	0017M	1:1	0.090	1.276	0.115	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	16	0.09	Left	Cheek	0017M	1:1	0.142	1.276	0.181	A5
1732.40	1412	UMTS 1750	RMC	25.0	23.94	16	-0.16	Left	Tilt	0017M	1:1	0.083	1.276	0.106	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-6
PCS CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	24.5	23.25	16	0.00	Right	Cheek	0017M	1:1	0.185	1.334	0.247	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.25	16	0.21	Right	Tilt	0017M	1:1	0.094	1.334	0.125	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.25	16	-0.04	Left	Cheek	0017M	1:1	0.251	1.334	0.335	A6
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.25	16	0.07	Left	Tilt	0017M	1:1	0.069	1.334	0.092	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.31	16	0.04	Right	Cheek	0017M	1:1	0.131	1.315	0.172	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.31	16	0.02	Right	Tilt	0017M	1:1	0.059	1.315	0.078	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.31	16	0.15	Left	Cheek	0017M	1:1	0.191	1.315	0.251	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.31	16	-0.04	Left	Tilt	0017M	1:1	0.049	1.315	0.064	
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
GSM 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.5	29.21	0.12	Right	Cheek	0017M	1:8.3	0.076	1.346	0.102	
1880.00	661	GSM 1900	GSM	30.5	29.21	0.03	Right	Tilt	0017M	1:8.3	0.039	1.346	0.052	
1880.00	661	GSM 1900	GSM	30.5	29.21	0.16	Left	Cheek	0017M	1:8.3	0.088	1.346	0.118	A7
1880.00	661	GSM 1900	GSM	30.5	29.21	0.01	Left	Tilt	0017M	1:8.3	0.031	1.346	0.042	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	23.80	16	0.00	Right	Cheek	0017M	1:1	0.187	1.318	0.246	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	0.03	Right	Tilt	0017M	1:1	0.094	1.318	0.124	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	0.16	Left	Cheek	0017M	1:1	0.199	1.318	0.262	A8
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	0.21	Left	Tilt	0017M	1:1	0.064	1.318	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							

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Table 11-9
LTE Band 71 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.47	0	0.17	0	Right	Cheek	QPSK	1	0	0049M	1:1	0.131	1.268	0.166	A9
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	0.06	1	Right	Cheek	QPSK	50	0	0049M	1:1	0.111	1.227	0.136	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.15	0	Right	Tilt	QPSK	1	0	0049M	1:1	0.069	1.268	0.087	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	0.03	1	Right	Tilt	QPSK	50	0	0049M	1:1	0.056	1.227	0.069	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.13	0	Left	Cheek	QPSK	1	0	0049M	1:1	0.112	1.268	0.142	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	0.03	1	Left	Cheek	QPSK	50	0	0049M	1:1	0.096	1.227	0.118	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.01	0	Left	Tilt	QPSK	1	0	0049M	1:1	0.066	1.268	0.084	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	-0.02	1	Left	Tilt	QPSK	50	0	0049M	1:1	0.057	1.227	0.070	
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]	Ant State	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	25.5	24.49	0	0.01	0	Right	Cheek	QPSK	1	49	0049M	1:1	0.183	1.262	0.231	A10
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	0.06	1	Right	Cheek	QPSK	25	25	0049M	1:1	0.124	1.250	0.155	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	-0.09	0	Right	Tilt	QPSK	1	49	0049M	1:1	0.087	1.262	0.110	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	0.03	1	Right	Tilt	QPSK	25	25	0049M	1:1	0.068	1.250	0.085	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	-0.08	0	Left	Cheek	QPSK	1	49	0049M	1:1	0.147	1.262	0.186	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	0.05	1	Left	Cheek	QPSK	25	25	0049M	1:1	0.113	1.250	0.141	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	0.03	0	Left	Tilt	QPSK	1	49	0049M	1:1	0.094	1.262	0.119	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	-0.02	1	Left	Tilt	QPSK	25	25	0049M	1:1	0.073	1.250	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 11-11
LTE Band 13 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.55	0	-0.01	0	Right	Cheek	QPSK	1	49	0049M	1:1	0.219	1.245	0.273	A11
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	0.06	1	Right	Cheek	QPSK	25	0	0049M	1:1	0.155	1.151	0.178	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	0.04	0	Right	Tilt	QPSK	1	49	0049M	1:1	0.113	1.245	0.141	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	0.01	1	Right	Tilt	QPSK	25	0	0049M	1:1	0.080	1.151	0.092	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	0.05	0	Left	Cheek	QPSK	1	49	0049M	1:1	0.157	1.245	0.195	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	0.04	1	Left	Cheek	QPSK	25	0	0049M	1:1	0.134	1.151	0.154	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	0.01	0	Left	Tilt	QPSK	1	49	0049M	1:1	0.102	1.245	0.127	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	0.04	1	Left	Tilt	QPSK	25	0	0049M	1:1	0.084	1.151	0.097	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-12
LTE Band 14 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	25.02	0	0.01	0	Right	Cheek	QPSK	1	0	0049M	1:1	0.253	1.117	0.283	A12
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	-0.01	1	Right	Cheek	QPSK	25	0	0049M	1:1	0.230	1.081	0.249	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	-0.03	0	Right	Tilt	QPSK	1	0	0049M	1:1	0.111	1.117	0.124	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	0.00	1	Right	Tilt	QPSK	25	0	0049M	1:1	0.103	1.081	0.111	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	0.03	0	Left	Cheek	QPSK	1	0	0049M	1:1	0.199	1.117	0.222	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	0.01	1	Left	Cheek	QPSK	25	0	0049M	1:1	0.161	1.081	0.174	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	0.01	0	Left	Tilt	QPSK	1	0	0049M	1:1	0.110	1.117	0.123	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	0.03	1	Left	Tilt	QPSK	25	0	0049M	1:1	0.089	1.081	0.096	
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]	Ant State	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	25.5	24.96	0	0.03	0	Right	Cheek	QPSK	1	0	0049M	1:1	0.290	1.132	0.328	A13
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	0	0.04	1	Right	Cheek	QPSK	36	0	0049M	1:1	0.272	1.099	0.299	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	0	0.07	0	Right	Tilt	QPSK	1	0	0049M	1:1	0.150	1.132	0.170	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	0	0.04	1	Right	Tilt	QPSK	36	0	0049M	1:1	0.143	1.099	0.157	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	0	0.09	0	Left	Cheek	QPSK	1	0	0049M	1:1	0.230	1.132	0.260	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	0	0.04	1	Left	Cheek	QPSK	36	0	0049M	1:1	0.207	1.099	0.227	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	0	0.08	0	Left	Tilt	QPSK	1	0	0049M	1:1	0.156	1.132	0.177	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	0	0.08	1	Left	Tilt	QPSK	36	0	0049M	1:1	0.138	1.099	0.152	
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]	Ant State	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	0	25.5	24.73	-0.02	0	Right	Cheek	QPSK	1	0	0049M	1:1	0.325	1.194	0.388	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.5	23.97	0.02	1	Right	Cheek	QPSK	25	0	0049M	1:1	0.255	1.130	0.288	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.5	25.50	-0.08	0	Right	Cheek	QPSK	1	0	0049M	1:1	0.369	1.000	0.369	A14
	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	0	25.5	24.73	0.11	0	Right	Tilt	QPSK	1	0	0049M	1:1	0.175	1.194	0.209	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.5	23.97	-0.01	1	Right	Tilt	QPSK	25	0	0049M	1:1	0.131	1.130	0.148	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.5	24.73	-0.15	0	Left	Cheek	QPSK	1	0	0049M	1:1	0.246	1.194	0.294	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.5	23.97	0.08	1	Left	Cheek	QPSK	25	0	0049M	1:1	0.199	1.130	0.225	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.5	24.73	-0.15	0	Left	Tilt	QPSK	1	0	0049M	1:1	0.170	1.194	0.203	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.5	23.97	-0.02	1	Left	Tilt	QPSK	25	0	0049M	1:1	0.139	1.130	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											

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Table 11-15
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																							
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	16	0.15	0	Right	Cheek	QPSK	1	0	0053M	1:1	0.134	1.242	0.166	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	16	0.16	1	Right	Cheek	QPSK	50	0	0053M	1:1	0.113	1.194	0.135	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	16	0.11	0	Right	Tilt	QPSK	1	0	0053M	1:1	0.110	1.242	0.137	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	16	0.02	1	Right	Tilt	QPSK	50	0	0053M	1:1	0.087	1.194	0.104	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	16	0.15	0	Left	Cheek	QPSK	1	0	0053M	1:1	0.202	1.242	0.251	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	16	-0.01	1	Left	Cheek	QPSK	50	0	0053M	1:1	0.171	1.194	0.204	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.84	16	0.09	0	Left	Cheek	QPSK	1	0	0053M	1:1	0.230	1.038	0.239	
	SCC	1750.20	132374	High	LTE Band 66 (AWS)	20									1	99						
CA_66B 2 CC Uplink	PCC	1775.00	132622	High	LTE Band 66 (AWS)	10	25.0	24.58	16	-0.01	0	Left	Cheek	QPSK	1	0	0053M	1:1	0.279	1.102	0.307	A15
	SCC	1765.10	132523	High	LTE Band 66 (AWS)	10									1	49						
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	25.0	23.80	16	0.08	0	Left	Cheek	QPSK	1	0	0053M	1:1	0.235	1.318	0.310	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	16	-0.13	0	Left	Tilt	QPSK	1	0	0053M	1:1	0.122	1.242	0.152	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	16	0.05	1	Left	Tilt	QPSK	50	0	0053M	1:1	0.106	1.194	0.127	
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]	Ant State	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)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.07	0	Right	Cheek	QPSK	1	0	0053M	1:1	0.167	1.294	0.216	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.04	1	Right	Cheek	QPSK	50	0	0053M	1:1	0.139	1.274	0.177	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	0.11	0	Right	Tilt	QPSK	1	0	0053M	1:1	0.082	1.294	0.106	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	0.08	1	Right	Tilt	QPSK	50	0	0053M	1:1	0.067	1.274	0.085	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.13	0	Left	Cheek	QPSK	1	0	0053M	1:1	0.227	1.294	0.294	A16
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.11	1	Left	Cheek	QPSK	50	0	0053M	1:1	0.183	1.274	0.233	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.03	0	Left	Tilt	QPSK	1	0	0053M	1:1	0.064	1.294	0.083	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	0.05	1	Left	Tilt	QPSK	50	0	0053M	1:1	0.047	1.274	0.060	
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 30 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	0.10	0	Right	Cheek	QPSK	1	49	0041M	1:1	0.078	1.230	0.096	A17
2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	0.12	1	Right	Cheek	QPSK	25	0	0041M	1:1	0.051	1.178	0.060	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	0.12	0	Right	Tilt	QPSK	1	49	0041M	1:1	0.047	1.230	0.058	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	0.21	1	Right	Tilt	QPSK	25	0	0041M	1:1	0.046	1.178	0.054	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	0.10	0	Left	Cheek	QPSK	1	49	0041M	1:1	0.075	1.230	0.092	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	0.20	1	Left	Cheek	QPSK	25	0	0041M	1:1	0.069	1.178	0.081	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	0.16	0	Left	Tilt	QPSK	1	49	0041M	1:1	0.035	1.230	0.043	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	0.19	1	Left	Tilt	QPSK	25	0	0041M	1:1	0.029	1.178	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-18
LTE Band 7 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	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)	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	0.14	0	Right	Cheek	Ant B	QPSK	1	99	0041M	1:1	0.073	1.312	0.096	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	0.16	1	Right	Cheek	Ant B	QPSK	50	0	0041M	1:1	0.052	1.268	0.066	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	-0.10	0	Right	Tilt	Ant B	QPSK	1	99	0041M	1:1	0.075	1.312	0.098	A18
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	0.18	1	Right	Tilt	Ant B	QPSK	50	0	0041M	1:1	0.053	1.268	0.067	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	0.10	0	Left	Cheek	Ant B	QPSK	1	99	0041M	1:1	0.070	1.312	0.092	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	0.12	1	Left	Cheek	Ant B	QPSK	50	0	0041M	1:1	0.057	1.268	0.072	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	-0.02	0	Left	Tilt	Ant B	QPSK	1	99	0041M	1:1	0.039	1.312	0.051	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	0.13	1	Left	Tilt	Ant B	QPSK	50	0	0041M	1:1	0.035	1.268	0.044	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.14	0	Right	Cheek	Ant A	QPSK	1	0	0041M	1:1	0.032	1.271	0.041	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.11	1	Right	Cheek	Ant A	QPSK	50	50	0041M	1:1	0.025	1.219	0.030	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	-0.19	0	Right	Tilt	Ant A	QPSK	1	0	0041M	1:1	0.048	1.271	0.061	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.13	1	Right	Tilt	Ant A	QPSK	50	50	0041M	1:1	0.035	1.219	0.043	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.15	0	Left	Cheek	Ant A	QPSK	1	0	0041M	1:1	0.020	1.271	0.025	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.08	1	Left	Cheek	Ant A	QPSK	50	50	0041M	1:1	0.014	1.219	0.017	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.12	0	Left	Tilt	Ant A	QPSK	1	0	0041M	1:1	0.019	1.271	0.024	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.17	1	Left	Tilt	Ant A	QPSK	50	50	0041M	1:1	0.016	1.219	0.020	
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 48 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)	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.16	0	Right	Cheek	QPSK	1	99	0041M	1:1.58	0.035	1.143	0.040	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	0.14	1	Right	Cheek	QPSK	50	50	0041M	1:1.58	0.023	1.117	0.026	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.17	0	Right	Tilt	QPSK	1	99	0041M	1:1.58	0.030	1.143	0.034	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	0.10	1	Right	Tilt	QPSK	50	50	0041M	1:1.58	0.021	1.117	0.023	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.19	0	Left	Cheek	QPSK	1	99	0041M	1:1.58	0.074	1.143	**0.085**	A19
3690.00	56640	High	LTE Band 48	20	23.5	23.02	0.21	1	Left	Cheek	QPSK	50	50	0041M	1:1.58	0.053	1.117	0.059	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.17	0	Left	Tilt	QPSK	1	99	0041M	1:1.58	0.018	1.143	0.021	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	0.16	1	Left	Tilt	QPSK	50	50	0041M	1:1.58	0.012	1.117	0.013	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-20
LTE Band 41 Head SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	0.12	0	Right	Cheek	QPSK	1	0	0026M	1:1.58	0.037	1.180	0.044	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	0.11	1	Right	Cheek	QPSK	50	0	0026M	1:1.58	0.036	1.127	0.041	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	0.10	0	Right	Tilt	QPSK	1	0	0026M	1:1.58	0.056	1.180	0.066	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	0.18	1	Right	Tilt	QPSK	50	0	0026M	1:1.58	0.049	1.127	0.055	
1 CC Uplink - Power Class 2	N/A	2636.50	41055	Mid-High	LTE Band 41	20	28.3	27.72	-0.16	0	Right	Tilt	QPSK	1	0	0026M	1:2.31	0.076	1.143	0.087	
2 CC Uplink - Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	25.3	25.23	0.17	0	Right	Tilt	QPSK	1	0	0026M	1:1.58	0.065	1.016	0.066	
	SCC	2616.70	40857	Mid-High	LTE Band 41	20								1	99						
2 CC Uplink - Power Class 2	PCC	2636.50	41055	Mid-High	LTE Band 41	20	28.3	27.89	0.12	0	Right	Tilt	QPSK	1	0	0287M	1:2.31	0.085	1.099	0.093	A20
	SCC	2616.70	40857	Mid-High	LTE Band 41	20								1	99						
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	0.11	0	Left	Cheek	QPSK	1	0	0026M	1:1.58	0.048	1.180	0.057	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	0.15	1	Left	Cheek	QPSK	50	0	0026M	1:1.58	0.038	1.127	0.043	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	-0.14	0	Left	Tilt	QPSK	1	0	0026M	1:1.58	0.034	1.180	0.040	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	0.13	1	Left	Tilt	QPSK	50	0	0026M	1:1.58	0.030	1.127	0.034	
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
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	17.0	16.82	0.15	Right	Cheek	1	0132M	1	99.8	0.922	0.611	1.042	1.002	**0.638**	A21
2437	6	802.11b	DSSS	22	17.0	16.50	0.17	Right	Cheek	1	0132M	1	99.8	0.814	0.541	1.122	1.002	0.608	
2462	11	802.11b	DSSS	22	17.0	16.64	0.19	Right	Cheek	1	0132M	1	99.8	0.788	0.525	1.086	1.002	0.571	
2412	1	802.11b	DSSS	22	17.0	16.82	0.14	Right	Tilt	1	0132M	1	99.8	0.641	0.399	1.042	1.002	0.417	
2412	1	802.11b	DSSS	22	17.0	16.82	0.17	Left	Cheek	1	0132M	1	99.8	0.266	-	1.042	1.002	-	
2412	1	802.11b	DSSS	22	17.0	16.82	0.13	Left	Tilt	1	0132M	1	99.8	0.247	-	1.042	1.002	-	
2437	6	802.11b	DSSS	22	17.0	16.91	0.13	Right	Cheek	2	0132M	1	99.8	0.203	-	1.021	1.002	-	
2437	6	802.11b	DSSS	22	17.0	16.91	0.19	Right	Tilt	2	0132M	1	99.8	0.261	-	1.021	1.002	-	
2437	6	802.11b	DSSS	22	17.0	16.91	0.16	Left	Cheek	2	0132M	1	99.8	0.190	-	1.021	1.002	-	
2437	6	802.11b	DSSS	22	17.0	16.91	0.12	Left	Tilt	2	0132M	1	99.8	0.327	0.230	1.021	1.002	0.235	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-22
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	14.0	13.47	-0.11	Right	Cheek	1	0132M	13.5	98.5	0.395	0.169	1.130	1.015	0.194	
5270	54	802.11n	OFDM	40	14.0	13.47	-0.06	Right	Tilt	1	0132M	13.5	98.5	0.436	0.167	1.130	1.015	0.192	
5270	54	802.11n	OFDM	40	14.0	13.47	0.16	Left	Cheek	1	0132M	13.5	98.5	0.149	-	1.130	1.015	-	
5270	54	802.11n	OFDM	40	14.0	13.47	0.13	Left	Tilt	1	0132M	13.5	98.5	0.186	-	1.130	1.015	-	
5270	54	802.11n	OFDM	40	14.0	13.79	0.12	Right	Cheek	2	0132M	13.5	98.5	0.081	0.029	1.050	1.015	0.031	
5270	54	802.11n	OFDM	40	14.0	13.79	0.18	Right	Tilt	2	0132M	13.5	98.5	0.081	-	1.050	1.015	-	
5270	54	802.11n	OFDM	40	14.0	13.79	0.19	Left	Cheek	2	0132M	13.5	98.5	0.052	-	1.050	1.015	-	
5270	54	802.11n	OFDM	40	14.0	13.79	0.18	Left	Tilt	2	0132M	13.5	98.5	0.044	-	1.050	1.015	-	
5610	122	802.11ac	OFDM	80	14.0	13.91	0.18	Right	Cheek	1	0132M	29.3	98.4	0.391	0.173	1.021	1.016	0.179	
5610	122	802.11ac	OFDM	80	14.0	13.91	0.11	Right	Tilt	1	0132M	29.3	98.4	0.572	0.199	1.021	1.016	0.206	
5610	122	802.11ac	OFDM	80	14.0	13.91	0.12	Left	Cheek	1	0132M	29.3	98.4	0.210	-	1.021	1.016	-	
5610	122	802.11ac	OFDM	80	14.0	13.91	0.11	Left	Tilt	1	0132M	29.3	98.4	0.241	-	1.021	1.016	-	
5610	122	802.11ac	OFDM	80	14.0	13.89	0.11	Right	Cheek	2	0132M	29.3	98.4	0.079	-	1.026	1.016	-	
5610	122	802.11ac	OFDM	80	14.0	13.89	0.12	Right	Tilt	2	0132M	29.3	98.4	0.093	0.027	1.026	1.016	0.028	
5610	122	802.11ac	OFDM	80	14.0	13.89	0.14	Left	Cheek	2	0132M	29.3	98.4	0.026	-	1.026	1.016	-	
5610	122	802.11ac	OFDM	80	14.0	13.89	0.16	Left	Tilt	2	0132M	29.3	98.4	0.024	-	1.026	1.016	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	0.10	Right	Cheek	1	0132M	29.3	98.4	0.557	0.213	1.042	1.016	0.225	
5775	155	802.11ac	OFDM	80	14.0	13.82	0.15	Right	Tilt	1	0132M	29.3	98.4	0.730	0.251	1.042	1.016	**0.266**	
5775	155	802.11ac	OFDM	80	14.0	13.82	-0.14	Left	Cheek	1	0132M	29.3	98.4	0.222	-	1.042	1.016	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	0.17	Left	Tilt	1	0132M	29.3	98.4	0.314	-	1.042	1.016	-	
5775	155	802.11ac	OFDM	80	14.0	13.65	-0.19	Right	Cheek	2	0132M	29.3	98.4	0.227	0.055	1.084	1.016	0.061	
5775	155	802.11ac	OFDM	80	14.0	13.65	-0.15	Right	Tilt	2	0132M	29.3	98.4	0.207	-	1.084	1.016	-	
5775	155	802.11ac	OFDM	80	14.0	13.65	-0.10	Left	Cheek	2	0132M	29.3	98.4	0.051	-	1.084	1.016	-	
5775	155	802.11ac	OFDM	80	14.0	13.65	0.12	Left	Tilt	2	0132M	29.3	98.4	0.072	-	1.084	1.016	-	
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
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	14.0	13.47	14.0	13.79	0.00	Right	Cheek	MIMO	0132M	27	98.5	0.504	0.189	1.130	1.015	0.217	
5270	54	802.11n	OFDM	40	14.0	13.47	14.0	13.79	0.07	Right	Tilt	MIMO	0132M	27	98.5	0.556	0.214	1.130	1.015	0.245	
5270	54	802.11n	OFDM	40	14.0	13.47	14.0	13.79	0.13	Left	Cheek	MIMO	0132M	27	98.5	0.235	-	1.130	1.015	-	
5270	54	802.11n	OFDM	40	14.0	13.47	14.0	13.79	-0.18	Left	Tilt	MIMO	0132M	27	98.5	0.257	-	1.130	1.015	-	
5610	122	802.11ac	OFDM	80	14.0	13.91	14.0	13.89	0.05	Right	Cheek	MIMO	0132M	58.5	98.8	0.506	0.193	1.026	1.012	0.200	
5610	122	802.11ac	OFDM	80	14.0	13.91	14.0	13.89	0.07	Right	Tilt	MIMO	0132M	58.5	98.8	0.519	0.241	1.026	1.012	0.250	
5610	122	802.11ac	OFDM	80	14.0	13.91	14.0	13.89	-0.18	Left	Cheek	MIMO	0132M	58.5	98.8	0.218	-	1.026	1.012	-	
5610	122	802.11ac	OFDM	80	14.0	13.91	14.0	13.89	0.15	Left	Tilt	MIMO	0132M	58.5	98.8	0.249	-	1.026	1.012	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.19	Right	Cheek	MIMO	0132M	58.5	98.8	0.534	0.204	1.084	1.012	0.224	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.16	Right	Tilt	MIMO	0132M	58.5	98.8	0.743	0.290	1.084	1.012	0.318	A22
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.07	Left	Cheek	MIMO	0132M	58.5	98.8	0.195	-	1.084	1.012	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.15	Left	Tilt	MIMO	0132M	58.5	98.8	0.280	-	1.084	1.012	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram											

To achieve the 17.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14.0 dBm.

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Table 11-24
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)	
2402.00	0	Bluetooth	FHSS	18.5	16.67	0.06	Right	Cheek	0132M	1	77.6	0.457	1.524	1.289	0.898	
2441.00	39	Bluetooth	FHSS	18.5	18.13	-0.12	Right	Cheek	0132M	1	77.6	0.707	1.090	1.289	0.993	A23
2480.00	78	Bluetooth	FHSS	18.5	16.78	0.16	Right	Cheek	0132M	1	77.6	0.549	1.486	1.289	**1.052**	
2441.00	39	Bluetooth	FHSS	18.5	18.13	0.15	Right	Tilt	0132M	1	77.6	0.488	1.090	1.289	0.686	
2441.00	39	Bluetooth	FHSS	18.5	18.13	-0.04	Left	Cheek	0132M	1	77.6	0.228	1.090	1.289	0.320	
2441.00	39	Bluetooth	FHSS	18.5	18.13	-0.02	Left	Tilt	0132M	1	77.6	0.204	1.090	1.289	0.287	
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 11-25
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	Accessory	Device Serial Number	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	26.0	24.90	5	-0.01	15 mm	N/A	0003M	1:1	back	0.335	1.288	0.431	A24
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	26.0	24.95	5	0.00	15 mm	N/A	0003M	1:1	back	0.297	1.274	0.378	A26
836.60	190	GSM 850	GSM	33.5	32.34	N/A	-0.07	15 mm	N/A	0003M	1:8.3	back	0.226	1.306	0.295	A28
836.60	4183	UMTS 850	RMC	25.5	24.31	5	-0.01	15 mm	N/A	0003M	1:1	back	0.304	1.315	0.400	A30
1712.40	1312	UMTS 1750	RMC	25.0	23.72	27	-0.02	15 mm	N/A	0017M	1:1	back	0.660	1.343	0.886	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	-0.03	15 mm	N/A	0017M	1:1	back	0.601	1.276	0.767	
1752.60	1513	UMTS 1750	RMC	25.0	23.97	27	-0.01	15 mm	N/A	0017M	1:1	back	0.706	1.268	0.895	A32
1851.25	25	PCS CDMA	TDSO / SO32	24.5	23.27	16	-0.03	15 mm	N/A	0017M	1:1	back	0.951	1.327	1.262	
1880.00	600	PCS CDMA	TDSO / SO32	24.5	23.18	16	0.00	15 mm	N/A	0017M	1:1	back	0.953	1.355	1.291	
1908.75	1175	PCS CDMA	TDSO / SO32	24.5	23.22	16	-0.02	15 mm	N/A	0017M	1:1	back	1.020	1.343	**1.370**	A34
1908.75	1175	PCS CDMA	TDSO / SO32	21.5	20.93	16	-0.02	15 mm	Headphones	0017M	1:1	back	0.615	1.140	0.701	
1880.00	661	GSM 1900	GSM	30.5	29.21	N/A	-0.15	15 mm	N/A	0017M	1:8.3	back	0.396	1.346	0.533	A36
1852.40	9262	UMTS 1900	RMC	25.0	23.92	16	0.02	15 mm	N/A	0017M	1:1	back	0.722	1.282	0.926	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	-0.02	15 mm	N/A	0017M	1:1	back	0.782	1.318	1.031	
1907.60	9538	UMTS 1900	RMC	25.0	23.70	16	-0.03	15 mm	N/A	0017M	1:1	back	0.843	1.349	1.137	A38
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-26
LTE Body-Worn SAR

MEASUREMENT RESULTS																										
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Accessory	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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)	
1 CC Uplink	N/A	680.50	133297	Mid	LTE Band 71	20	N/A	25.5	24.47	0	0.00	0	Ant A	0049M	QPSK	1	0	15 mm	back	1:1	0.281	1.268	0.356	A40
1 CC Uplink	N/A	680.50	133297	Mid	LTE Band 71	20	N/A	24.5	23.61	0	0.02	1	Ant A	0049M	QPSK	50	0	15 mm	back	1:1	0.228	1.227	0.280	
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	N/A	25.5	24.49	0	-0.02	0	Ant A	0049M	QPSK	1	49	15 mm	back	1:1	0.291	1.262	0.367	A42
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	N/A	24.5	23.53	0	0.00	1	Ant A	0049M	QPSK	25	25	15 mm	back	1:1	0.230	1.250	0.288	
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	N/A	25.5	24.55	0	0.00	0	Ant A	0049M	QPSK	1	49	15 mm	back	1:1	0.274	1.245	0.341	A44
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	N/A	24.5	23.89	0	0.01	1	Ant A	0049M	QPSK	25	0	15 mm	back	1:1	0.231	1.151	0.266	
1 CC Uplink	N/A	793.00	23330	Mid	LTE Band 14	10	N/A	25.5	25.02	0	0.04	0	Ant A	0049M	QPSK	1	0	15 mm	back	1:1	0.318	1.117	0.355	A46
1 CC Uplink	N/A	793.00	23330	Mid	LTE Band 14	10	N/A	24.5	24.16	0	0.00	1	Ant A	0049M	QPSK	25	0	15 mm	back	1:1	0.268	1.081	0.290	
1 CC Uplink	N/A	831.50	26865	Mid	LTE Band 26 (Cell)	15	N/A	25.5	24.96	3	0.04	0	Ant A	0049M	QPSK	1	0	15 mm	back	1:1	0.292	1.132	0.331	A48
1 CC Uplink	N/A	831.50	26865	Mid	LTE Band 26 (Cell)	15	N/A	24.5	24.09	3	0.02	1	Ant A	0049M	QPSK	36	0	15 mm	back	1:1	0.240	1.099	0.264	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	N/A	25.5	24.73	3	0.01	0	Ant A	0049M	QPSK	1	0	15 mm	back	1:1	0.291	1.194	0.347	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	N/A	24.5	23.97	3	0.02	1	Ant A	0049M	QPSK	25	0	15 mm	back	1:1	0.241	1.130	0.272	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	N/A	25.5	25.50	3	-0.14	0	Ant A	0049M	QPSK	1	0	15 mm	back	1:1	0.361	1.000	0.361	A50
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5										1	24							
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	N/A	25.0	23.80	19	0.04	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.657	1.318	0.866	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	N/A	25.0	24.03	19	0.01	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.708	1.250	0.885	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	N/A	25.0	24.06	19	0.04	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.676	1.242	0.840	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	N/A	24.0	23.23	19	0.02	1	Ant A	0053M	QPSK	50	0	15 mm	back	1:1	0.566	1.194	0.676	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	N/A	24.0	23.19	19	0.00	1	Ant A	0053M	QPSK	100	0	15 mm	back	1:1	0.558	1.205	0.672	
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	N/A	25.0	24.22	19	-0.06	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.692	1.197	0.828	
	SCC	1725.20	132124	Mid	LTE Band 66 (AWS)	20										1	99							
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	N/A	25.0	24.25	19	-0.03	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.743	1.189	0.883	A52
	SCC	1735.10	132223	Mid	LTE Band 66 (AWS)	10										1	49							
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	10	N/A	25.0	23.87	19	0.02	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.650	1.297	0.843	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	N/A	25.0	23.70	16	0.00	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.915	1.349	1.234	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	N/A	25.0	23.88	16	-0.03	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.969	1.294	1.254	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	N/A	25.0	23.80	16	-0.01	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	1.020	1.318	1.344	A54
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	Headphones	21.0	20.63	16	-0.01	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	0.554	1.089	0.603	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	N/A	24.0	22.83	16	-0.01	1	Ant A	0053M	QPSK	50	0	15 mm	back	1:1	0.777	1.309	1.017	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	N/A	24.0	22.95	16	-0.03	1	Ant A	0053M	QPSK	50	0	15 mm	back	1:1	0.828	1.274	1.055	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	N/A	24.0	22.94	16	0.00	1	Ant A	0053M	QPSK	50	0	15 mm	back	1:1	0.851	1.276	1.086	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	N/A	24.0	22.94	16	-0.01	1	Ant A	0053M	QPSK	100	0	15 mm	back	1:1	0.833	1.276	1.063	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	N/A	25.0	23.80	16	0.01	0	Ant A	0053M	QPSK	1	0	15 mm	back	1:1	1.000	1.318	1.318	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	N/A	23.5	22.60	N/A	0.07	0	Ant A	0041M	QPSK	1	49	15 mm	back	1:1	0.569	1.230	0.700	A56
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	N/A	22.5	21.79	N/A	0.00	1	Ant A	0041M	QPSK	25	0	15 mm	back	1:1	0.500	1.178	0.589	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	N/A	25.0	23.82	N/A	-0.09	0	Ant B	0041M	QPSK	1	99	15 mm	back	1:1	0.470	1.312	0.617	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	N/A	25.0	23.75	N/A	-0.07	0	Ant B	0041M	QPSK	1	0	15 mm	back	1:1	0.456	1.334	0.608	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	N/A	25.0	23.76	N/A	0.03	0	Ant B	0041M	QPSK	1	99	15 mm	back	1:1	0.526	1.330	0.700	A58
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	N/A	24.0	22.97	N/A	-0.06	1	Ant B	0041M	QPSK	50	0	15 mm	back	1:1	0.388	1.268	0.492	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	N/A	25.0	23.96	N/A	0.06	0	Ant A	0041M	QPSK	1	0	15 mm	back	1:1	0.340	1.271	0.432	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	N/A	24.0	23.14	N/A	-0.03	1	Ant A	0041M	QPSK	50	50	15 mm	back	1:1	0.261	1.219	0.318	
1 CC Uplink	N/A	3690.00	56640	High	LTE Band 48	20	N/A	24.5	23.92	N/A	-0.03	0	Ant B	0041M	QPSK	1	99	15 mm	back	1:1.58	0.164	1.143	0.187	A60
1 CC Uplink	N/A	3690.00	56640	High	LTE Band 48	20	N/A	23.5	23.02	N/A	-0.09	1	Ant B	0041M	QPSK	50	50	15 mm	back	1:1.58	0.126	1.117	0.141	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement.

Table 11-27
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	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 - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	-0.01	0	0026M	QPSK	1	0	15 mm	back	1:1.58	0.327	1.180	0.386	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	-0.04	1	0026M	QPSK	50	0	15 mm	back	1:1.58	0.292	1.127	0.329	
1 CC Uplink - Power Class 2	N/A	2636.50	41055	Mid-High	LTE Band 41	20	28.3	27.72	-0.02	0	0026M	QPSK	1	0	15 mm	back	1:2.31	0.426	1.143	0.487	
2 CC Uplink - Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	25.3	25.23	0.02	0	0026M	QPSK	1	0	15 mm	back	1:1.58	0.358	1.016	0.364	
	SCC	2616.70	40857	Mid-High	LTE Band 41	20							1	99							
2 CC Uplink - Power Class 2	PCC	2636.50	41055	Mid-High	LTE Band 41	20	28.3	27.89	-0.08	0	0287M	QPSK	1	0	15 mm	back	1:2.31	0.483	1.099	0.531	A62
	SCC	2616.70	40857	Mid-High	LTE Band 41	20							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									

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Table 11-28
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	20.94	0.03	15 mm	1	0157M	1	back	99.8	0.079	0.063	1.014	1.002	0.064	
2412	1	802.11b	DSSS	22	21.0	20.97	-0.14	15 mm	2	0157M	1	back	99.8	0.117	0.126	1.007	1.002	**0.127**	A64
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
DTS MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna 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	802.11n	OFDM	20	17.0	16.42	17.0	16.52	-0.15	15 mm	MIMO	0157M	13	back	99.3	0.081	0.060	1.143	1.007	0.069	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

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

Table 11-30
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)	
5300	60	802.11a	OFDM	20	18.5	18.18	0.19	15 mm	1	0132M	6	back	98.6	0.218	0.116	1.076	1.014	0.127	
5300	60	802.11a	OFDM	20	18.5	18.37	0.13	15 mm	2	0132M	6	back	98.8	0.484	0.249	1.030	1.012	0.260	
5600	120	802.11a	OFDM	20	18.5	18.20	0.19	15 mm	1	0132M	6	back	98.6	0.250	0.114	1.072	1.014	0.124	
5720	144	802.11a	OFDM	20	18.5	18.39	0.16	15 mm	2	0132M	6	back	98.8	0.565	0.255	1.026	1.012	**0.265**	
5825	165	802.11a	OFDM	20	18.5	18.45	0.19	15 mm	1	0132M	6	back	98.6	0.375	0.180	1.012	1.014	0.185	
5785	157	802.11a	OFDM	20	18.5	18.24	0.11	15 mm	2	0132M	6	back	98.8	0.535	0.240	1.062	1.012	0.258	
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
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)	
5260	52	802.11n	OFDM	20	18.5	18.41	18.5	18.11	0.18	15 mm	MIMO	0157M	13	back	98.6	0.532	0.266	1.094	1.014	0.295	
5620	124	802.11n	OFDM	20	18.0	17.88	18.0	17.98	0.10	15 mm	MIMO	0157M	13	back	98.6	0.962	0.476	1.028	1.014	0.496	A66
5785	157	802.11n	OFDM	20	18.5	18.23	18.5	18.20	0.13	15 mm	MIMO	0157M	13	back	98.6	0.739	0.366	1.072	1.014	0.398	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

For channels 52 and 157, to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm. For channels 124 to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

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Table 11-32
NII MIMO Body-worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna 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)	
5270	54	802.11n	OFDM	40	14.0	13.47	14.0	13.79	0.15	15 mm	MIMO	0132M	27	back	98.5	0.260	0.135	1.130	1.015	0.155	
5610	122	802.11ac	OFDM	80	14.0	13.91	14.0	13.89	0.13	15 mm	MIMO	0132M	58.5	back	98.8	0.278	0.147	1.026	1.012	0.153	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.17	15 mm	MIMO	0132M	58.5	back	98.8	0.220	0.093	1.084	1.012	0.102	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

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

Table 11-33
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	18.5	18.13	0.19	15 mm	0157M	1	back	77.6	0.045	1.090	1.289	**0.063**	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									

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11.3 Standalone Hotspot SAR Data

Table 11-34
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS 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	26.0	24.84	5	0.01	10 mm	0003M	N/A	1:1	back	0.521	1.306	0.680	A25
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	24.84	5	-0.01	10 mm	0003M	N/A	1:1	front	0.455	1.306	0.594	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	24.84	5	0.07	10 mm	0003M	N/A	1:1	bottom	0.368	1.306	0.481	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	24.84	5	-0.01	10 mm	0003M	N/A	1:1	right	0.397	1.306	0.518	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	24.84	5	-0.05	10 mm	0003M	N/A	1:1	left	0.216	1.306	0.282	
824.70	1013	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.80	5	0.02	10 mm	0003M	N/A	1:1	back	0.577	1.318	0.760	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.94	5	-0.01	10 mm	0003M	N/A	1:1	back	0.598	1.276	0.763	A27
848.31	777	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.84	5	0.00	10 mm	0003M	N/A	1:1	back	0.557	1.306	0.727	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.94	5	0.03	10 mm	0003M	N/A	1:1	front	0.445	1.276	0.568	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.94	5	0.02	10 mm	0003M	N/A	1:1	bottom	0.387	1.276	0.494	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.94	5	-0.03	10 mm	0003M	N/A	1:1	right	0.362	1.276	0.462	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	24.94	5	0.03	10 mm	0003M	N/A	1:1	left	0.183	1.276	0.234	
824.20	128	GSM 850	GPRS	30.5	28.97	N/A	-0.14	10 mm	0003M	3	1:2.76	back	0.547	1.422	0.778	A29
836.60	190	GSM 850	GPRS	30.5	29.08	N/A	-0.17	10 mm	0003M	3	1:2.76	back	0.462	1.387	0.641	
848.80	251	GSM 850	GPRS	30.5	29.07	N/A	-0.01	10 mm	0003M	3	1:2.76	back	0.542	1.390	0.753	
836.60	190	GSM 850	GPRS	30.5	29.08	N/A	-0.09	10 mm	0003M	3	1:2.76	front	0.385	1.387	0.534	
836.60	190	GSM 850	GPRS	30.5	29.08	N/A	0.12	10 mm	0003M	3	1:2.76	bottom	0.311	1.387	0.431	
836.60	190	GSM 850	GPRS	30.5	29.08	N/A	-0.07	10 mm	0003M	3	1:2.76	right	0.408	1.387	0.566	
836.60	190	GSM 850	GPRS	30.5	29.08	N/A	-0.19	10 mm	0003M	3	1:2.76	left	0.221	1.387	0.307	
826.40	4132	UMTS 850	RMC	25.5	24.22	5	-0.18	10 mm	0003M	N/A	1:1	back	0.488	1.343	0.655	
836.60	4183	UMTS 850	RMC	25.5	24.31	5	-0.10	10 mm	0003M	N/A	1:1	back	0.497	1.315	0.654	
846.60	4233	UMTS 850	RMC	25.5	24.30	5	-0.02	10 mm	0003M	N/A	1:1	back	0.532	1.318	0.701	A31
836.60	4183	UMTS 850	RMC	25.5	24.31	5	-0.05	10 mm	0003M	N/A	1:1	front	0.385	1.315	0.506	
836.60	4183	UMTS 850	RMC	25.5	24.31	5	-0.06	10 mm	0003M	N/A	1:1	bottom	0.326	1.315	0.429	
836.60	4183	UMTS 850	RMC	25.5	24.31	5	0.00	10 mm	0003M	N/A	1:1	right	0.443	1.315	0.583	
836.60	4183	UMTS 850	RMC	25.5	24.31	5	-0.03	10 mm	0003M	N/A	1:1	left	0.209	1.315	0.275	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.01	10 mm	0017M	N/A	1:1	back	0.482	1.294	0.624	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.05	10 mm	0017M	N/A	1:1	front	0.383	1.294	0.496	
1712.40	1312	UMTS 1750	RMC	21.0	19.66	27	0.05	10 mm	0017M	N/A	1:1	bottom	0.714	1.361	0.972	A33
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.05	10 mm	0017M	N/A	1:1	bottom	0.688	1.294	0.890	
1752.60	1513	UMTS 1750	RMC	21.0	19.91	27	-0.08	10 mm	0017M	N/A	1:1	bottom	0.697	1.285	0.896	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.12	10 mm	0017M	N/A	1:1	right	0.115	1.294	0.149	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	0.00	10 mm	0017M	N/A	1:1	left	0.264	1.294	0.342	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	18.95	16	-0.04	10 mm	0017M	N/A	1:1	back	0.477	1.274	0.608	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	18.95	16	0.01	10 mm	0017M	N/A	1:1	front	0.372	1.274	0.474	
1851.25	25	PCS CDMA	EVDO Rev. 0	20.0	19.01	16	0.06	10 mm	0017M	N/A	1:1	bottom	0.574	1.256	0.721	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	18.95	16	0.00	10 mm	0017M	N/A	1:1	bottom	0.696	1.274	0.887	
1908.75	1175	PCS CDMA	EVDO Rev. 0	20.0	18.99	16	0.06	10 mm	0017M	N/A	1:1	bottom	0.717	1.262	0.905	A35
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	18.95	16	0.04	10 mm	0017M	N/A	1:1	right	0.046	1.274	0.059	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	18.95	16	-0.02	10 mm	0017M	N/A	1:1	left	0.053	1.274	0.068	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	0.03	10 mm	0017M	3	1:2.76	back	0.610	1.276	0.778	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	-0.09	10 mm	0017M	3	1:2.76	front	0.433	1.276	0.553	
1850.20	512	GSM 1900	GPRS	25.5	24.50	N/A	-0.03	10 mm	0017M	3	1:2.76	bottom	0.837	1.259	1.054	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	-0.09	10 mm	0017M	3	1:2.76	bottom	0.789	1.276	1.007	
1909.80	810	GSM 1900	GPRS	25.5	24.03	N/A	-0.11	10 mm	0017M	3	1:2.76	bottom	0.960	1.403	**1.347**	A37
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	-0.01	10 mm	0017M	3	1:2.76	right	0.068	1.276	0.087	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	-0.07	10 mm	0017M	3	1:2.76	left	0.099	1.276	0.126	
1880.00	9400	UMTS 1900	RMC	20.0	18.72	16	-0.01	10 mm	0017M	N/A	1:1	back	0.595	1.343	0.799	
1880.00	9400	UMTS 1900	RMC	20.0	18.72	16	-0.02	10 mm	0017M	N/A	1:1	front	0.476	1.343	0.639	
1852.40	9262	UMTS 1900	RMC	20.0	18.79	16	-0.03	10 mm	0017M	N/A	1:1	bottom	0.827	1.321	1.092	
1880.00	9400	UMTS 1900	RMC	20.0	18.72	16	-0.04	10 mm	0017M	N/A	1:1	bottom	0.901	1.343	1.210	
1907.60	9538	UMTS 1900	RMC	20.0	18.72	16	-0.03	10 mm	0017M	N/A	1:1	bottom	0.972	1.343	1.305	A39
1880.00	9400	UMTS 1900	RMC	20.0	18.72	16	-0.06	10 mm	0017M	N/A	1:1	right	0.077	1.343	0.103	
1880.00	9400	UMTS 1900	RMC	20.0	18.72	16	0.03	10 mm	0017M	N/A	1:1	left	0.099	1.343	0.133	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-35
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.47	0	-0.02	0	0049M	QPSK	1	0	10 mm	back	1:1	0.390	1.268	0.495	A41
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	-0.04	1	0049M	QPSK	50	0	10 mm	back	1:1	0.325	1.227	0.399	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.01	0	0049M	QPSK	1	0	10 mm	front	1:1	0.289	1.268	0.366	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	0.01	1	0049M	QPSK	50	0	10 mm	front	1:1	0.243	1.227	0.298	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	-0.05	0	0049M	QPSK	1	0	10 mm	bottom	1:1	0.156	1.268	0.198	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	-0.03	1	0049M	QPSK	50	0	10 mm	bottom	1:1	0.137	1.227	0.168	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.01	0	0049M	QPSK	1	0	10 mm	right	1:1	0.231	1.268	0.293	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	-0.03	1	0049M	QPSK	50	0	10 mm	right	1:1	0.186	1.227	0.228	
680.50	133297	Mid	LTE Band 71	20	25.5	24.47	0	0.04	0	0049M	QPSK	1	0	10 mm	left	1:1	0.182	1.268	0.231	
680.50	133297	Mid	LTE Band 71	20	24.5	23.61	0	-0.03	1	0049M	QPSK	50	0	10 mm	left	1:1	0.142	1.227	0.174	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-36
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.49	0	-0.01	0	0049M	QPSK	1	49	10 mm	back	1:1	0.393	1.262	0.496	A43
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	-0.07	1	0049M	QPSK	25	25	10 mm	back	1:1	0.314	1.250	0.393	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	-0.01	0	0049M	QPSK	1	49	10 mm	front	1:1	0.328	1.262	0.414	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	-0.01	1	0049M	QPSK	25	25	10 mm	front	1:1	0.262	1.250	0.328	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	-0.03	0	0049M	QPSK	1	49	10 mm	bottom	1:1	0.194	1.262	0.245	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	-0.05	1	0049M	QPSK	25	25	10 mm	bottom	1:1	0.147	1.250	0.184	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	0.01	0	0049M	QPSK	1	49	10 mm	right	1:1	0.231	1.262	0.292	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	0.02	1	0049M	QPSK	25	25	10 mm	right	1:1	0.190	1.250	0.238	
707.50	23095	Mid	LTE Band 12	10	25.5	24.49	0	0.02	0	0049M	QPSK	1	49	10 mm	left	1:1	0.199	1.262	0.251	
707.50	23095	Mid	LTE Band 12	10	24.5	23.53	0	0.00	1	0049M	QPSK	25	25	10 mm	left	1:1	0.151	1.250	0.189	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-37
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.55	0	-0.02	0	0049M	QPSK	1	49	10 mm	back	1:1	0.420	1.245	0.523	A45
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	-0.04	1	0049M	QPSK	25	0	10 mm	back	1:1	0.337	1.151	0.388	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	-0.03	0	0049M	QPSK	1	49	10 mm	front	1:1	0.299	1.245	0.372	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	-0.01	1	0049M	QPSK	25	0	10 mm	front	1:1	0.277	1.151	0.319	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	0.01	0	0049M	QPSK	1	49	10 mm	bottom	1:1	0.212	1.245	0.264	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	-0.02	1	0049M	QPSK	25	0	10 mm	bottom	1:1	0.169	1.151	0.195	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	-0.04	0	0049M	QPSK	1	49	10 mm	right	1:1	0.324	1.245	0.403	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	-0.01	1	0049M	QPSK	25	0	10 mm	right	1:1	0.255	1.151	0.294	
782.00	23230	Mid	LTE Band 13	10	25.5	24.55	0	-0.02	0	0049M	QPSK	1	49	10 mm	left	1:1	0.209	1.245	0.260	
782.00	23230	Mid	LTE Band 13	10	24.5	23.89	0	0.00	1	0049M	QPSK	25	0	10 mm	left	1:1	0.168	1.151	0.193	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 11-38
LTE Band 14 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	25.02	0	0.00	0	0049M	QPSK	1	0	10 mm	back	1:1	0.535	1.117	0.598	A47
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	0.01	1	0049M	QPSK	25	0	10 mm	back	1:1	0.470	1.081	0.508	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	-0.03	0	0049M	QPSK	1	0	10 mm	front	1:1	0.412	1.117	0.460	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	-0.06	1	0049M	QPSK	25	0	10 mm	front	1:1	0.362	1.081	0.391	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	-0.02	0	0049M	QPSK	1	0	10 mm	bottom	1:1	0.253	1.117	0.283	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	-0.02	1	0049M	QPSK	25	0	10 mm	bottom	1:1	0.229	1.081	0.248	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	0.02	0	0049M	QPSK	1	0	10 mm	right	1:1	0.356	1.117	0.398	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	-0.01	1	0049M	QPSK	25	0	10 mm	right	1:1	0.294	1.081	0.318	
793.00	23330	Mid	LTE Band 14	10	25.5	25.02	0	-0.03	0	0049M	QPSK	1	0	10 mm	left	1:1	0.226	1.117	0.252	
793.00	23330	Mid	LTE Band 14	10	24.5	24.16	0	0.05	1	0049M	QPSK	25	0	10 mm	left	1:1	0.176	1.081	0.190	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

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Table 11-39
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.96	3	-0.07	0	0049M	QPSK	1	0	10 mm	back	1:1	0.540	1.132	0.611	A49
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	3	-0.03	1	0049M	QPSK	36	0	10 mm	back	1:1	0.468	1.099	0.514	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	3	0.01	0	0049M	QPSK	1	0	10 mm	front	1:1	0.463	1.132	0.524	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	3	0.03	1	0049M	QPSK	36	0	10 mm	front	1:1	0.399	1.099	0.439	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	3	-0.08	0	0049M	QPSK	1	0	10 mm	bottom	1:1	0.356	1.132	0.403	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	3	-0.06	1	0049M	QPSK	36	0	10 mm	bottom	1:1	0.305	1.099	0.335	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	3	0.01	0	0049M	QPSK	1	0	10 mm	right	1:1	0.415	1.132	0.470	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	3	0.00	1	0049M	QPSK	36	0	10 mm	right	1:1	0.329	1.099	0.362	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.96	3	0.02	0	0049M	QPSK	1	0	10 mm	left	1:1	0.249	1.132	0.282	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.09	3	0.00	1	0049M	QPSK	36	0	10 mm	left	1:1	0.187	1.099	0.206	
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 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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	25.5	24.73	3	-0.03	0	0049M	QPSK	1	0	10 mm	back	1:1	0.509	1.194	0.608	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.97	3	-0.06	1	0049M	QPSK	25	0	10 mm	back	1:1	0.395	1.130	0.446	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.50	3	0.18	0	0049M	QPSK	1	0	10 mm	back	1:1	0.572	1.000	0.572	A51
	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	25.5	24.73	3	-0.01	0	0049M	QPSK	1	0	10 mm	front	1:1	0.417	1.194	0.498	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.97	3	0.00	1	0049M	QPSK	25	0	10 mm	front	1:1	0.340	1.130	0.384	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.73	3	-0.05	0	0049M	QPSK	1	0	10 mm	bottom	1:1	0.324	1.194	0.387	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.97	3	-0.05	1	0049M	QPSK	25	0	10 mm	bottom	1:1	0.275	1.130	0.311	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.73	3	-0.02	0	0049M	QPSK	1	0	10 mm	right	1:1	0.377	1.194	0.450	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.97	3	0.00	1	0049M	QPSK	25	0	10 mm	right	1:1	0.285	1.130	0.322	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.73	3	0.02	0	0049M	QPSK	1	0	10 mm	left	1:1	0.178	1.194	0.213	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.97	3	-0.09	1	0049M	QPSK	25	0	10 mm	left	1:1	0.140	1.130	0.158	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-41
LTE Band 66 (AWS) Hotspot 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]	Ant State	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	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	0.02	0	0053M	QPSK	1	0	10 mm	back	1:1	0.498	1.189	0.592	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	0.01	0	0053M	QPSK	50	0	10 mm	back	1:1	0.531	1.175	0.624	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	0.04	0	0053M	QPSK	1	0	10 mm	front	1:1	0.413	1.189	0.491	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	0.01	0	0053M	QPSK	50	0	10 mm	front	1:1	0.434	1.175	0.510	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.04	19	-0.07	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.669	1.247	0.834	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.03	19	0.02	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.662	1.250	0.828	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	-0.05	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.703	1.189	0.836	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.02	19	-0.03	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.659	1.253	0.826	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.14	19	-0.03	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.659	1.219	0.803	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	0.01	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.700	1.175	0.823	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.24	19	-0.02	0	0053M	QPSK	100	0	10 mm	bottom	1:1	0.683	1.191	0.813	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	21.00	19	-0.11	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.785	1.000	0.785	
	SCC	1750.20	132374	High	LTE Band 66 (AWS)	20								1	99							
CA_66B 2 CC Uplink	PCC	1775.00	132622	High	LTE Band 66 (AWS)	10	21.0	20.69	19	-0.03	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.838	1.074	0.900	A53
	SCC	1765.10	132523	High	LTE Band 66 (AWS)	10								1	49							
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	21.0	19.76	19	0.02	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.651	1.330	0.866	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	-0.08	0	0053M	QPSK	1	0	10 mm	right	1:1	0.069	1.189	0.082	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	-0.13	0	0053M	QPSK	50	0	10 mm	right	1:1	0.070	1.175	0.082	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	-0.03	0	0053M	QPSK	1	0	10 mm	left	1:1	0.106	1.189	0.126	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	-0.13	0	0053M	QPSK	50	0	10 mm	left	1:1	0.109	1.175	0.128	
CA_66B 2 CC Uplink	PCC	1775.00	132622	High	LTE Band 66 (AWS)	10	21.0	20.69	19	0.14	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.816	1.074	0.876	
	SCC	1765.10	132523	High	LTE Band 66 (AWS)	10							QPSK	1	49							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entry represents variability measurement.

Table 11-42
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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 #
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.77	16	-0.06	0	0053M	QPSK	1	0	10 mm	back	1:1	0.559	1.327	0.742	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.89	16	-0.04	0	0053M	QPSK	50	0	10 mm	back	1:1	0.581	1.291	0.750	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.77	16	-0.04	0	0053M	QPSK	1	0	10 mm	front	1:1	0.450	1.327	0.597	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.89	16	-0.05	0	0053M	QPSK	50	0	10 mm	front	1:1	0.466	1.291	0.602	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.0	18.60	16	0.00	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.680	1.380	0.938	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.77	16	0.00	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.712	1.327	0.945	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.0	18.70	16	-0.03	0	0053M	QPSK	1	0	10 mm	bottom	1:1	0.718	1.349	0.969	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.0	18.81	16	-0.02	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.703	1.315	0.924	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.89	16	-0.03	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.735	1.291	0.949	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.0	18.87	16	-0.08	0	0053M	QPSK	50	0	10 mm	bottom	1:1	0.752	1.297	0.975	A55
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.76	16	-0.03	0	0053M	QPSK	100	0	10 mm	bottom	1:1	0.721	1.330	0.959	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.77	16	-0.10	0	0053M	QPSK	1	0	10 mm	right	1:1	0.064	1.327	0.085	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.89	16	0.01	0	0053M	QPSK	50	0	10 mm	right	1:1	0.064	1.291	0.083	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.77	16	0.05	0	0053M	QPSK	1	0	10 mm	left	1:1	0.089	1.327	0.118	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	18.89	16	-0.07	0	0053M	QPSK	50	0	10 mm	left	1:1	0.088	1.291	0.114	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-43
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.55	0.06	0	0041M	QPSK	1	0	10 mm	back	1:1	0.573	1.245	0.713	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	0.01	0	0041M	QPSK	25	12	10 mm	back	1:1	0.594	1.230	0.731	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.55	-0.01	0	0041M	QPSK	1	0	10 mm	front	1:1	0.390	1.245	0.486	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	-0.05	0	0041M	QPSK	25	12	10 mm	front	1:1	0.408	1.230	0.502	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.55	-0.08	0	0041M	QPSK	1	0	10 mm	bottom	1:1	1.010	1.245	1.257	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	-0.06	0	0041M	QPSK	25	12	10 mm	bottom	1:1	1.090	1.230	1.341	A57
2310.00	27710	Mid	LTE Band 30	10	20.5	19.53	-0.09	0	0041M	QPSK	50	0	10 mm	bottom	1:1	1.060	1.250	1.325	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.55	-0.03	0	0041M	QPSK	1	0	10 mm	right	1:1	0.041	1.245	0.051	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	0.16	0	0041M	QPSK	25	12	10 mm	right	1:1	0.042	1.230	0.052	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.55	0.06	0	0041M	QPSK	1	0	10 mm	left	1:1	0.048	1.245	0.060	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	-0.03	0	0041M	QPSK	25	12	10 mm	left	1:1	0.052	1.230	0.064	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.60	0.00	0	0041M	QPSK	25	12	10 mm	bottom	1:1	1.050	1.230	1.292	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram														

Note: Blue entry represents variability measurement.

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Table 11-44
LTE Band 7 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)	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	-0.05	0	Ant B	0041M	QPSK	1	99	10 mm	back	1:1	0.431	1.337	0.576	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	-0.05	0	Ant B	0041M	QPSK	50	0	10 mm	back	1:1	0.437	1.306	0.571	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	-0.03	0	Ant B	0041M	QPSK	1	99	10 mm	front	1:1	0.283	1.337	0.378	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	-0.03	0	Ant B	0041M	QPSK	50	0	10 mm	front	1:1	0.281	1.306	0.367	
2510.00	20850	Low	LTE Band 7	20	22.0	20.67	-0.03	0	Ant B	0041M	QPSK	1	0	10 mm	bottom	1:1	0.664	1.358	0.902	
2535.00	21100	Mid	LTE Band 7	20	22.0	20.58	-0.04	0	Ant B	0041M	QPSK	1	0	10 mm	bottom	1:1	0.605	1.387	0.839	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	-0.08	0	Ant B	0041M	QPSK	1	99	10 mm	bottom	1:1	0.740	1.337	0.989	
2510.00	20850	Low	LTE Band 7	20	22.0	20.81	0.00	0	Ant B	0041M	QPSK	50	0	10 mm	bottom	1:1	0.658	1.315	0.865	
2535.00	21100	Mid	LTE Band 7	20	22.0	20.81	-0.01	0	Ant B	0041M	QPSK	50	25	10 mm	bottom	1:1	0.640	1.315	0.842	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	-0.03	0	Ant B	0041M	QPSK	50	0	10 mm	bottom	1:1	0.714	1.306	0.932	
2560.00	21350	High	LTE Band 7	20	22.0	20.73	0.00	0	Ant B	0041M	QPSK	100	0	10 mm	bottom	1:1	0.723	1.340	0.969	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	0.06	0	Ant B	0041M	QPSK	1	99	10 mm	left	1:1	0.093	1.337	0.124	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	-0.12	0	Ant B	0041M	QPSK	50	0	10 mm	left	1:1	0.092	1.306	0.120	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	0.04	0	Ant A	0041M	QPSK	1	0	10 mm	back	1:1	0.416	1.135	0.472	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	0.09	0	Ant A	0041M	QPSK	50	0	10 mm	back	1:1	0.399	1.094	0.437	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	-0.05	0	Ant A	0041M	QPSK	1	0	10 mm	front	1:1	0.342	1.135	0.388	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	-0.03	0	Ant A	0041M	QPSK	50	0	10 mm	front	1:1	0.319	1.094	0.349	
2510.00	20850	Low	LTE Band 7	20	22.0	20.97	-0.06	0	Ant A	0041M	QPSK	1	0	10 mm	bottom	1:1	0.742	1.268	0.941	
2535.00	21100	Mid	LTE Band 7	20	22.0	20.84	-0.02	0	Ant A	0041M	QPSK	1	99	10 mm	bottom	1:1	0.743	1.306	0.970	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	-0.03	0	Ant A	0041M	QPSK	1	0	10 mm	bottom	1:1	0.737	1.135	0.836	
2510.00	20850	Low	LTE Band 7	20	22.0	21.20	-0.04	0	Ant A	0041M	QPSK	50	0	10 mm	bottom	1:1	0.742	1.202	0.892	
2535.00	21100	Mid	LTE Band 7	20	22.0	20.92	-0.03	0	Ant A	0041M	QPSK	50	25	10 mm	bottom	1:1	0.771	1.282	0.988	A59
2560.00	21350	High	LTE Band 7	20	22.0	21.61	0.05	0	Ant A	0041M	QPSK	50	0	10 mm	bottom	1:1	0.702	1.094	0.768	
2560.00	21350	High	LTE Band 7	20	22.0	21.40	-0.03	0	Ant A	0041M	QPSK	100	0	10 mm	bottom	1:1	0.675	1.148	0.775	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	0.10	0	Ant A	0041M	QPSK	1	0	10 mm	right	1:1	0.078	1.135	0.089	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	0.03	0	Ant A	0041M	QPSK	50	0	10 mm	right	1:1	0.077	1.094	0.084	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	0.17	0	Ant A	0041M	QPSK	1	0	10 mm	left	1:1	0.014	1.135	0.016	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	0.19	0	Ant A	0041M	QPSK	50	0	10 mm	left	1:1	0.013	1.094	0.014	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram														

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Table 11-45
LTE Band 48 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)	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.09	0	0041M	QPSK	1	99	10 mm	back	1:1.58	0.342	1.143	0.391	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	0.09	1	0041M	QPSK	50	50	10 mm	back	1:1.58	0.261	1.117	0.292	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	-0.04	0	0041M	QPSK	1	99	10 mm	front	1:1.58	0.222	1.143	0.254	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	-0.14	1	0041M	QPSK	50	50	10 mm	front	1:1.58	0.168	1.117	0.188	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	0.06	0	0041M	QPSK	1	99	10 mm	bottom	1:1.58	0.491	1.143	**0.561**	A61
3690.00	56640	High	LTE Band 48	20	23.5	23.02	-0.02	1	0041M	QPSK	50	50	10 mm	bottom	1:1.58	0.373	1.117	0.417	
3690.00	56640	High	LTE Band 48	20	24.5	23.92	-0.03	0	0041M	QPSK	1	99	10 mm	left	1:1.58	0.175	1.143	0.200	
3690.00	56640	High	LTE Band 48	20	23.5	23.02	-0.17	1	0041M	QPSK	50	50	10 mm	left	1:1.58	0.133	1.117	0.149	
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 41 Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	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 - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.75	-0.15	0	0026M	QPSK	1	0	10 mm	back	1:1.58	0.339	1.189	0.403	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.94	-0.12	0	0026M	QPSK	50	0	10 mm	back	1:1.58	0.359	1.138	0.409	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.75	-0.10	0	0026M	QPSK	1	0	10 mm	front	1:1.58	0.203	1.189	0.241	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.94	-0.03	0	0026M	QPSK	50	0	10 mm	front	1:1.58	0.194	1.138	0.221	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.70	-0.12	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.821	1.202	0.987	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.75	-0.11	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.831	1.189	0.988	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.62	-0.03	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.551	1.225	0.675	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.72	0.02	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.680	1.197	0.814	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.46	-0.01	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.670	1.271	0.852	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.89	0.03	0	0026M	QPSK	50	0	10 mm	bottom	1:1.58	0.772	1.151	0.889	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.94	0.00	0	0026M	QPSK	50	0	10 mm	bottom	1:1.58	0.795	1.138	0.905	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.74	0.02	0	0026M	QPSK	50	0	10 mm	bottom	1:1.58	0.647	1.191	0.771	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.84	0.02	0	0026M	QPSK	50	0	10 mm	bottom	1:1.58	0.791	1.164	0.921	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.62	0.06	0	0026M	QPSK	50	0	10 mm	bottom	1:1.58	0.755	1.225	0.925	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.74	0.19	0	0026M	QPSK	100	0	10 mm	bottom	1:1.58	0.770	1.191	0.917	
1 CC Uplink - Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.68	0.01	0	0026M	QPSK	1	0	10 mm	bottom	1:2.31	0.551	1.208	0.666	
2 CC Uplink - Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	23.32	-0.16	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.978	1.042	1.019	A63
	SCC	2529.70	39987	Low-Mid	LTE Band 41	20							1	99							
2 CC Uplink - Power Class 2	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.98	-0.09	0	0287M	QPSK	1	0	10 mm	bottom	1:2.31	0.595	1.127	0.671	
	SCC	2529.70	39987	Low-Mid	LTE Band 41	20							1	99							
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.75	0.10	0	0026M	QPSK	1	0	10 mm	left	1:1.58	0.047	1.189	0.056	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.94	-0.08	0	0026M	QPSK	50	0	10 mm	left	1:1.58	0.045	1.138	0.051	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.70	-0.03	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.800	1.202	0.962	
2 CC Uplink - Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	23.32	-0.16	0	0026M	QPSK	1	0	10 mm	bottom	1:1.58	0.959	1.042	0.999	
	SCC	2529.70	39987	Low-Mid	LTE Band 41	20							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													

Note: Blue entry represents variability measurement.

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Table 11-47
WLAN Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	21.0	20.94	-0.09	10 mm	1	0157M	1	back	99.8	0.150	-	1.014	1.002	-	
2412	1	802.11b	DSSS	22	21.0	20.94	0.11	10 mm	1	0157M	1	front	99.8	0.171	-	1.014	1.002	-	
2412	1	802.11b	DSSS	22	21.0	20.94	0.17	10 mm	1	0157M	1	top	99.8	0.101	-	1.014	1.002	-	
2412	1	802.11b	DSSS	22	21.0	20.94	-0.04	10 mm	1	0157M	1	left	99.8	0.204	0.161	1.014	1.002	0.164	
2412	1	802.11b	DSSS	22	21.0	20.97	-0.12	10 mm	2	0157M	1	back	99.8	0.243	0.234	1.007	1.002	0.236	
2412	1	802.11b	DSSS	22	21.0	20.97	-0.13	10 mm	2	0157M	1	front	99.8	0.170	-	1.007	1.002	-	
2412	1	802.11b	DSSS	22	21.0	20.97	0.14	10 mm	2	0157M	1	top	99.8	0.564	0.426	1.007	1.002	**0.430**	A65
2412	1	802.11b	DSSS	22	21.0	20.97	0.16	10 mm	2	0157M	1	left	99.8	0.047	-	1.007	1.002	-	
5825	165	802.11a	OFDM	20	18.5	18.45	0.19	10 mm	1	0132M	6	back	98.6	0.592	0.294	1.012	1.014	0.302	
5825	165	802.11a	OFDM	20	18.5	18.45	0.10	10 mm	1	0132M	6	front	98.6	0.189	-	1.012	1.014	-	
5825	165	802.11a	OFDM	20	18.5	18.45	0.14	10 mm	1	0132M	6	top	98.6	0.540	-	1.012	1.014	-	
5825	165	802.11a	OFDM	20	18.5	18.45	0.13	10 mm	1	0132M	6	left	98.6	0.586	-	1.012	1.014	-	
5785	157	802.11a	OFDM	20	18.5	18.24	0.19	10 mm	2	0132M	6	back	98.8	0.977	0.528	1.062	1.012	**0.567**	
5785	157	802.11a	OFDM	20	18.5	18.24	0.09	10 mm	2	0132M	6	front	98.8	0.020	-	1.062	1.012	-	
5785	157	802.11a	OFDM	20	18.5	18.24	0.11	10 mm	2	0132M	6	top	98.8	0.035	-	1.062	1.012	-	
5785	157	802.11a	OFDM	20	18.5	18.24	0.18	10 mm	2	0132M	6	left	98.8	0.182	0.080	1.062	1.012	0.086	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-48
NII 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)	
5745	149	802.11n	OFDM	20	18.5	18.26	18.5	18.05	0.03	10 mm	MIMO	0157M	13	back	98.6	1.231	0.675	1.109	1.014	0.759	
5785	157	802.11n	OFDM	20	18.5	18.23	18.5	18.20	0.16	10 mm	MIMO	0157M	13	back	98.6	1.161	0.626	1.072	1.014	0.680	
5825	165	802.11n	OFDM	20	18.5	18.37	18.5	18.05	-0.04	10 mm	MIMO	0157M	13	back	98.6	1.262	0.778	1.109	1.014	0.875	A67
5785	157	802.11n	OFDM	20	18.5	18.23	18.5	18.20	0.09	10 mm	MIMO	0157M	13	front	98.6	0.147	0.051	1.072	1.014	0.055	
5785	157	802.11n	OFDM	20	18.5	18.23	18.5	18.20	0.11	10 mm	MIMO	0157M	13	top	98.6	0.441	-	1.072	1.014	-	
5785	157	802.11n	OFDM	20	18.5	18.23	18.5	18.20	0.16	10 mm	MIMO	0157M	13	left	98.6	0.771	0.338	1.072	1.014	0.367	
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 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm.

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Table 11-49
NII MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna 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)	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.12	10 mm	MIMO	0132M	58.5	back	98.8	0.372	0.198	1.084	1.012	0.217	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.14	10 mm	MIMO	0132M	58.5	front	98.8	0.043	-	1.084	1.012	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.13	10 mm	MIMO	0132M	58.5	top	98.8	0.155	-	1.084	1.012	-	
5775	155	802.11ac	OFDM	80	14.0	13.82	14.0	13.65	0.19	10 mm	MIMO	0132M	58.5	left	98.8	0.160	-	1.084	1.012	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

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

Table 11-50
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	18.5	18.13	0.02	10 mm	0157M	1	back	77.6	0.086	1.090	1.289	0.121	
2441	39	Bluetooth	FHSS	18.5	18.13	-0.12	10 mm	0157M	1	front	77.6	0.098	1.090	1.289	**0.138**	A69
2441	39	Bluetooth	FHSS	18.5	18.13	0.11	10 mm	0157M	1	top	77.6	0.050	1.090	1.289	0.070	
2441	39	Bluetooth	FHSS	18.5	18.13	0.03	10 mm	0157M	1	left	77.6	0.045	1.090	1.289	0.063	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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11.4 Standalone Phablet SAR Data

Table 11-51
GPRS/UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	-0.01	6 mm	0017M	N/A	1:1	back	0.962	1.276	1.228	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	0.06	4 mm	0017M	N/A	1:1	front	1.080	1.276	1.378	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	-0.05	8 mm	0017M	N/A	1:1	bottom	1.330	1.276	1.697	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	-0.03	0 mm	0017M	N/A	1:1	right	0.241	1.276	0.308	
1732.40	1412	UMTS 1750	RMC	25.0	23.94	27	-0.09	0 mm	0017M	N/A	1:1	left	0.515	1.276	0.657	
1712.40	1312	UMTS 1750	RMC	21.0	19.66	27	0.03	0 mm	0017M	N/A	1:1	back	1.560	1.361	2.123	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.12	0 mm	0017M	N/A	1:1	back	1.570	1.294	2.032	
1752.60	1513	UMTS 1750	RMC	21.0	19.91	27	-0.02	0 mm	0017M	N/A	1:1	back	1.400	1.285	1.799	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	0.03	0 mm	0017M	N/A	1:1	front	0.994	1.294	1.286	
1712.40	1312	UMTS 1750	RMC	21.0	19.66	27	-0.10	0 mm	0017M	N/A	1:1	bottom	2.140	1.361	2.913	
1732.40	1412	UMTS 1750	RMC	21.0	19.88	27	-0.09	0 mm	0017M	N/A	1:1	bottom	2.110	1.294	2.730	
1752.60	1513	UMTS 1750	RMC	21.0	19.91	27	0.09	0 mm	0017M	N/A	1:1	bottom	2.200	1.285	2.827	A70
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.26	16	-0.02	6 mm	0017M	N/A	1:1	back	1.340	1.330	1.782	
1851.25	25	PCS CDMA	EVDO Rev. 0	24.5	23.31	16	-0.01	4 mm	0017M	N/A	1:1	front	1.560	1.315	2.051	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.26	16	-0.01	4 mm	0017M	N/A	1:1	front	1.680	1.330	2.234	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.5	23.25	16	0.00	4 mm	0017M	N/A	1:1	front	1.900	1.334	2.535	
1851.25	25	PCS CDMA	EVDO Rev. 0	24.5	23.31	16	0.08	8 mm	0017M	N/A	1:1	bottom	1.310	1.315	1.723	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.26	16	-0.01	8 mm	0017M	N/A	1:1	bottom	1.670	1.330	2.221	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.5	23.25	16	-0.04	8 mm	0017M	N/A	1:1	bottom	1.790	1.334	2.388	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.26	16	-0.02	0 mm	0017M	N/A	1:1	right	0.285	1.330	0.379	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.26	16	-0.01	0 mm	0017M	N/A	1:1	left	0.361	1.330	0.480	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.5	21.12	16	0.21	0 mm	0017M	N/A	1:1	back	2.700	1.091	2.946	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	21.03	16	0.05	0 mm	0017M	N/A	1:1	back	2.770	1.114	3.086	A71
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.5	20.97	16	0.08	0 mm	0017M	N/A	1:1	back	2.580	1.130	2.915	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.5	21.12	16	-0.13	0 mm	0017M	N/A	1:1	front	1.560	1.091	1.702	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	21.03	16	-0.04	0 mm	0017M	N/A	1:1	front	1.880	1.114	2.094	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.5	20.97	16	-0.02	0 mm	0017M	N/A	1:1	front	1.600	1.130	1.808	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.5	21.12	16	0.05	0 mm	0017M	N/A	1:1	bottom	2.210	1.091	2.411	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	21.03	16	-0.02	0 mm	0017M	N/A	1:1	bottom	2.230	1.114	2.484	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.5	20.97	16	-0.02	0 mm	0017M	N/A	1:1	bottom	2.290	1.130	2.588	
1850.20	512	GSM 1900	GPRS	27.5	26.24	N/A	-0.18	6 mm	0017M	3	1:2.76	back	0.892	1.337	1.193	
1850.20	512	GSM 1900	GPRS	27.5	26.24	N/A	-0.17	4 mm	0017M	3	1:2.76	front	1.040	1.337	1.390	
1850.20	512	GSM 1900	GPRS	27.5	26.24	N/A	0.05	8 mm	0017M	3	1:2.76	bottom	1.010	1.337	1.350	
1850.20	512	GSM 1900	GPRS	27.5	26.24	N/A	-0.17	0 mm	0017M	3	1:2.76	right	0.209	1.337	0.279	
1850.20	512	GSM 1900	GPRS	27.5	26.24	N/A	-0.09	0 mm	0017M	3	1:2.76	left	0.370	1.337	0.495	
1850.20	512	GSM 1900	GPRS	25.5	24.50	N/A	0.02	0 mm	0017M	3	1:2.76	back	2.000	1.259	2.518	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	0.13	0 mm	0017M	3	1:2.76	back	2.080	1.276	2.654	
1909.80	810	GSM 1900	GPRS	25.5	24.03	N/A	0.04	0 mm	0017M	3	1:2.76	back	2.210	1.403	3.101	A72
1850.20	512	GSM 1900	GPRS	25.5	24.50	N/A	0.09	0 mm	0017M	3	1:2.76	front	1.570	1.259	1.977	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	0.02	0 mm	0017M	3	1:2.76	front	1.580	1.276	2.016	
1909.80	810	GSM 1900	GPRS	25.5	24.03	N/A	-0.10	0 mm	0017M	3	1:2.76	front	1.790	1.403	2.511	
1850.20	512	GSM 1900	GPRS	25.5	24.50	N/A	-0.02	0 mm	0017M	3	1:2.76	bottom	1.570	1.259	1.977	
1880.00	661	GSM 1900	GPRS	25.5	24.44	N/A	-0.11	0 mm	0017M	3	1:2.76	bottom	1.630	1.276	2.080	
1909.80	810	GSM 1900	GPRS	25.5	24.03	N/A	0.13	0 mm	0017M	3	1:2.76	bottom	1.720	1.403	2.413	
1852.40	9262	UMTS 1900	RMC	25.0	23.92	16	-0.04	6 mm	0017M	N/A	1:1	back	1.480	1.282	1.897	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	-0.05	6 mm	0017M	N/A	1:1	back	1.580	1.318	2.082	
1907.60	9538	UMTS 1900	RMC	25.0	23.70	16	-0.01	6 mm	0017M	N/A	1:1	back	1.710	1.349	2.307	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	0.01	4 mm	0017M	N/A	1:1	front	1.440	1.318	1.898	
1852.40	9262	UMTS 1900	RMC	25.0	23.92	16	-0.17	8 mm	0017M	N/A	1:1	bottom	1.540	1.282	1.974	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	0.10	8 mm	0017M	N/A	1:1	bottom	1.900	1.318	2.504	
1907.60	9538	UMTS 1900	RMC	25.0	23.70	16	-0.07	8 mm	0017M	N/A	1:1	bottom	2.080	1.349	2.806	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	-0.07	0 mm	0017M	N/A	1:1	right	0.309	1.318	0.407	
1880.00	9400	UMTS 1900	RMC	25.0	23.80	16	-0.20	0 mm	0017M	N/A	1:1	left	0.425	1.318	0.560	
1852.40	9262	UMTS 1900	RMC	21.5	20.80	16	0.00	0 mm	0017M	N/A	1:1	back	2.120	1.175	2.491	
1880.00	9400	UMTS 1900	RMC	21.5	20.73	16	0.05	0 mm	0017M	N/A	1:1	back	2.350	1.194	2.806	
1907.60	9538	UMTS 1900	RMC	21.5	20.70	16	0.05	0 mm	0017M	N/A	1:1	back	2.550	1.202	3.065	
1852.40	9262	UMTS 1900	RMC	21.5	20.80	16	-0.21	0 mm	0017M	N/A	1:1	front	1.560	1.175	1.833	
1880.00	9400	UMTS 1900	RMC	21.5	20.73	16	0.12	0 mm	0017M	N/A	1:1	front	1.770	1.194	2.113	
1907.60	9538	UMTS 1900	RMC	21.5	20.70	16	0.09	0 mm	0017M	N/A	1:1	front	1.960	1.202	2.356	
1852.40	9262	UMTS 1900	RMC	21.5	20.80	16	0.00	0 mm	0017M	N/A	1:1	bottom	2.570	1.175	3.020	
1880.00	9400	UMTS 1900	RMC	21.5	20.73	16	-0.02	0 mm	0017M	N/A	1:1	bottom	2.450	1.194	2.925	
1907.60	9538	UMTS 1900	RMC	21.5	20.70	16	-0.05	0 mm	0017M	N/A	1:1	bottom	2.740	1.202	3.293	A73
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams								

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Table 11-52
LTE Band 66/25/30 Phablet SAR

MEASUREMENT RESULTS																									
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g) (W/kg)	Scaling Factor	Reported SAR (10g) (W/kg)	Plot #
		MHz	Ch.																			
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	19	-0.03	0	005SM	QPSK	1	0	6 mm	back	1:1	1.220	1.242	1.515	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	19	0.00	1	005SM	QPSK	50	0	6 mm	back	1:1	1.040	1.194	1.242	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	19	0.06	0	005SM	QPSK	1	0	4 mm	front	1:1	1.350	1.242	1.677	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	19	0.06	1	005SM	QPSK	50	0	4 mm	front	1:1	1.150	1.194	1.373	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	19	0.00	0	005SM	QPSK	1	0	8 mm	bottom	1:1	1.080	1.242	1.341	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	19	-0.06	1	005SM	QPSK	50	0	8 mm	bottom	1:1	0.892	1.194	1.065	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	19	-0.08	0	005SM	QPSK	1	0	0 mm	right	1:1	0.293	1.242	0.364	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	19	-0.07	1	005SM	QPSK	50	0	0 mm	right	1:1	0.241	1.194	0.288	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.06	19	-0.12	0	005SM	QPSK	1	0	0 mm	left	1:1	0.560	1.242	0.696	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.23	19	-0.08	1	005SM	QPSK	50	0	0 mm	left	1:1	0.451	1.194	0.538	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	-0.10	0	005SM	QPSK	1	0	0 mm	back	1:1	1.630	1.189	1.938	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	-0.15	0	005SM	QPSK	50	0	0 mm	back	1:1	1.590	1.175	1.868	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	0.14	0	005SM	QPSK	1	0	0 mm	front	1:1	1.170	1.189	1.391	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	0.14	0	005SM	QPSK	50	0	0 mm	front	1:1	1.200	1.175	1.410	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.04	19	-0.05	0	005SM	QPSK	1	0	0 mm	bottom	1:1	1.970	1.247	2.457	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.03	19	-0.06	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.120	1.250	2.650	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	19	0.15	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.130	1.189	2.533	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.02	19	-0.05	0	005SM	QPSK	50	0	0 mm	bottom	1:1	2.030	1.253	2.544	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.14	19	-0.07	0	005SM	QPSK	50	0	0 mm	bottom	1:1	2.140	1.219	2.609	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.30	19	-0.05	0	005SM	QPSK	50	0	0 mm	bottom	1:1	2.250	1.175	2.644	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.24	19	-0.08	0	005SM	QPSK	100	0	0 mm	bottom	1:1	2.220	1.191	2.644	
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.55	19	0.15	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.530	1.109	2.806	
	SCC	1725.20	132124	Mid	LTE Band 66 (AWS)	20								1	99							
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	21.0	21.00	19	0.15	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.610	1.000	2.610	A74
	SCC	1735.10	132223	Mid	LTE Band 66 (AWS)	10								1	49							
1 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	21.0	20.02	19	0.04	0	005SM	QPSK	1	0	0 mm	bottom	1:1	1.980	1.253	2.481	
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	21.0	21.00	19	-0.15	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.550	1.000	2.550	
	SCC	1735.10	132223	Mid	LTE Band 66 (AWS)	10								1	49							
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.13	0	005SM	QPSK	1	0	6 mm	back	1:1	1.490	1.294	1.928	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.05	1	005SM	QPSK	50	0	6 mm	back	1:1	1.260	1.274	1.605	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.70	16	0.00	0	005SM	QPSK	1	0	4 mm	front	1:1	1.490	1.349	2.010	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.02	0	005SM	QPSK	1	0	4 mm	front	1:1	1.640	1.294	2.122	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	23.80	16	-0.04	0	005SM	QPSK	1	0	4 mm	front	1:1	1.610	1.318	2.122	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.01	1	005SM	QPSK	50	0	4 mm	front	1:1	1.360	1.274	1.733	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.94	16	-0.01	1	005SM	QPSK	100	0	4 mm	front	1:1	1.260	1.276	1.608	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.70	16	0.05	0	005SM	QPSK	1	0	8 mm	bottom	1:1	1.670	1.349	2.253	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	0.02	0	005SM	QPSK	1	0	8 mm	bottom	1:1	1.620	1.294	2.484	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	23.80	16	0.02	0	005SM	QPSK	1	0	8mm	bottom	1:1	2.010	1.318	2.649	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.83	16	0.03	1	005SM	QPSK	50	0	8 mm	bottom	1:1	1.420	1.309	1.859	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.08	1	005SM	QPSK	50	0	8 mm	bottom	1:1	1.620	1.274	2.064	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	22.94	16	0.00	1	005SM	QPSK	50	0	8 mm	bottom	1:1	1.650	1.276	2.105	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.94	16	0.01	1	005SM	QPSK	100	0	8 mm	bottom	1:1	1.550	1.276	1.978	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	0.04	0	005SM	QPSK	1	0	0 mm	right	1:1	0.398	1.294	0.515	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.07	1	005SM	QPSK	50	0	0 mm	right	1:1	0.335	1.274	0.427	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	23.88	16	-0.06	0	005SM	QPSK	1	0	0 mm	left	1:1	0.600	1.294	0.776	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	22.95	16	-0.09	1	005SM	QPSK	50	0	0 mm	left	1:1	0.527	1.274	0.671	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.77	16	-0.03	0	005SM	QPSK	1	0	0 mm	back	1:1	2.760	1.054	2.909	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.59	16	-0.02	0	005SM	QPSK	1	0	0 mm	back	1:1	2.790	1.099	3.066	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.63	16	-0.06	0	005SM	QPSK	1	0	0 mm	back	1:1	2.620	1.089	2.853	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.88	16	0.13	0	005SM	QPSK	50	25	0 mm	back	1:1	2.770	1.028	2.848	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.84	16	-0.04	0	005SM	QPSK	50	0	0 mm	back	1:1	2.880	1.038	2.989	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.79	16	-0.04	0	005SM	QPSK	50	25	0 mm	back	1:1	2.650	1.050	2.783	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.76	16	-0.03	0	005SM	QPSK	100	0	0 mm	back	1:1	2.830	1.057	2.991	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.77	16	-0.07	0	005SM	QPSK	1	0	0 mm	front	1:1	2.140	1.054	2.256	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.59	16	-0.04	0	005SM	QPSK	1	0	0 mm	front	1:1	2.220	1.099	2.440	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.63	16	-0.09	0	005SM	QPSK	1	0	0 mm	front	1:1	2.130	1.089	2.320	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.88	16	-0.05	0	005SM	QPSK	50	25	0 mm	front	1:1	2.210	1.028	2.272	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.84	16	-0.07	0	005SM	QPSK	50	0	0 mm	front	1:1	2.280	1.038	2.367	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.79	16	-0.08	0	005SM	QPSK	50	25	0 mm	front	1:1	2.150	1.050	2.258	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.76	16	-0.06	0	005SM	QPSK	100	0	0 mm	front	1:1	2.250	1.057	2.378	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.77	16	0.00	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.390	1.054	2.519	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.59	16	-0.02	0	005SM	QPSK	1	0	0 mm	bottom	1:1	2.180	1.099	2.396	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.63	16	-0.03	0	005SM	QPSK	1	0	0 mm	bottom	1:1	1.980	1.089	2.156	
1 CC Uplink	N/A	1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.88	16	-0.02	0	005SM	QPSK	50	25	0 mm	bottom	1:1	2.370	1.028	2.436	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.84	16	-0.07	0	005SM	QPSK	50	0	0 mm	bottom	1:1	2.260	1.038	2.346	
1 CC Uplink	N/A	1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.79	16	-0.03	0	005SM	QPSK	50	25	0 mm	bottom	1:1	1.980	1.050	2.079	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.76	16	-0.01	0	005SM	QPSK	100	0	0 mm	bottom	1:1	2.190	1.057	2.315	
1 CC Uplink	N/A	1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.84	16	0.01	0	005SM	QPSK	50	0	0 mm	back	1:1	2.860	1.038	3.000	A75
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	N/A	0.00	0	0041M	QPSK	1	49	6 mm	back	1:1	0.998	1.230	1.228	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	N/A	-0.01	1	0041 M	QPSK	25	0	6 mm	back	1:1	0.791	1.178	0.932	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	N/A	-0.05	0	0041M	QPSK	1	49	4 mm	front	1:1	0.887	1.230	1.091	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	N/A	-0.04	1	0041 M	QPSK	25	0	4 mm	front	1:1	0.713	1.178	0.840	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	N/A	0.03	0	0041M	QPSK	1	49	8 mm	bottom	1:1	1.400	1.230	1.722	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	N/A	-0.02	1	0041 M	QPSK	25	0	8 mm	bottom	1:1	0.987	1.178	1.163	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	N/A	-0.20	0	0041M	QPSK	1	49	0 mm	right	1:1	0.289	1.230	0.355	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	N/A	-0.07	1	0041 M	QPSK	25	0	0 mm	right	1:1	0.223	1.178	0.263	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	23.5	22.60	N/A	-0.15	0	0041M	QPSK	1	49	0 mm	left	1:1	0.338	1.230	0.416	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.5	21.79	N/A	-0.21	1	0041 M	QPSK	25	0	0 mm	left	1:1	0.273	1.178	0.322	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.11	N/A	-0.15	0	0041M	QPSK	1	49	0 mm	back	1:1	1.920	1.227	2.356	A76
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.14	N/A	-0.09	0	0041M	QPSK	25	12	0 mm	back	1:1	1.910	1.219	2.328	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.10	N/A	-0.03	0	0041M	QPSK	50	0	0 mm	back	1:1	1.880	1.230	2.312	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.11	N/A	-0.10	0	0041M	QPSK	1	49	0 mm	front	1:1	1.470	1.227	1.804	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.14	N/A	-0.10	0	0041M	QPSK	25	12	0 mm	front	1:1	1.510	1.219	1.841	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.11	N/A	-0.08	0	0041M	QPSK	1	49	0 mm	bottom	1:1	1.700	1.227	2.086	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.14	N/A	-0.07	0	0041M	QPSK	25	12	0 mm	bottom	1:1	1.770	1.219	2.158	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	22.0	21.10	N/A	-0.02	0	0041M	QPSK	50	0	0 mm	bottom	1:1	1.750	1.230	2.153	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams								

Note: Blue entry represents variability measurement.

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Table 11-53
LTE Band 7 Phablet 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 (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	0.06	0	Ant B	0041M	QPSK	1	99	6 mm	back	1:1	0.669	1.312	0.878	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	-0.04	1	Ant B	0041M	QPSK	50	0	6 mm	back	1:1	0.522	1.268	0.662	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	0.06	0	Ant B	0041M	QPSK	1	99	4 mm	front	1:1	0.657	1.312	0.862	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	-0.09	1	Ant B	0041M	QPSK	50	0	4 mm	front	1:1	0.500	1.268	0.634	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	-0.01	0	Ant B	0041M	QPSK	1	99	8 mm	bottom	1:1	0.739	1.312	0.970	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	-0.06	1	Ant B	0041M	QPSK	50	0	8 mm	bottom	1:1	0.546	1.268	0.692	
2510.00	20850	Low	LTE Band 7	20	25.0	23.82	-0.12	0	Ant B	0041M	QPSK	1	99	0 mm	left	1:1	0.612	1.312	0.803	
2510.00	20850	Low	LTE Band 7	20	24.0	22.97	-0.18	1	Ant B	0041M	QPSK	50	0	0 mm	left	1:1	0.472	1.268	0.598	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	-0.16	0	Ant B	0041M	QPSK	1	99	0 mm	back	1:1	1.190	1.337	1.591	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	-0.17	0	Ant B	0041M	QPSK	50	0	0 mm	back	1:1	1.210	1.306	1.580	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	0.14	0	Ant B	0041M	QPSK	1	99	0 mm	front	1:1	0.814	1.337	1.088	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	0.14	0	Ant B	0041M	QPSK	50	0	0 mm	front	1:1	0.832	1.306	1.087	
2560.00	21350	High	LTE Band 7	20	22.0	20.74	-0.10	0	Ant B	0041M	QPSK	1	99	0 mm	bottom	1:1	1.370	1.337	1.832	
2510.00	20850	Low	LTE Band 7	20	22.0	20.81	0.16	0	Ant B	0041M	QPSK	50	0	0 mm	bottom	1:1	1.640	1.315	2.157	A77
2535.00	21100	Mid	LTE Band 7	20	22.0	20.81	0.10	0	Ant B	0041M	QPSK	50	25	0 mm	bottom	1:1	1.640	1.315	2.157	
2560.00	21350	High	LTE Band 7	20	22.0	20.84	0.18	0	Ant B	0041M	QPSK	50	0	0 mm	bottom	1:1	1.610	1.306	2.103	
2560.00	21350	High	LTE Band 7	20	22.0	20.73	0.12	0	Ant B	0041M	QPSK	100	0	0 mm	bottom	1:1	1.590	1.340	2.131	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.01	0	Ant A	0041M	QPSK	1	0	6 mm	back	1:1	0.503	1.271	0.639	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	-0.01	1	Ant A	0041M	QPSK	50	50	6 mm	back	1:1	0.402	1.219	0.490	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	-0.11	0	Ant A	0041M	QPSK	1	0	4 mm	front	1:1	0.212	1.271	0.269	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	-0.07	1	Ant A	0041M	QPSK	50	50	4 mm	front	1:1	0.169	1.219	0.206	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.09	0	Ant A	0041M	QPSK	1	0	8 mm	bottom	1:1	0.900	1.271	1.144	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.16	1	Ant A	0041M	QPSK	50	50	8 mm	bottom	1:1	0.659	1.219	0.803	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	0.13	0	Ant A	0041M	QPSK	1	0	0 mm	right	1:1	0.037	1.271	0.047	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	0.10	1	Ant A	0041M	QPSK	50	50	0 mm	right	1:1	0.028	1.219	0.034	
2560.00	21350	High	LTE Band 7	20	25.0	23.96	-0.13	0	Ant A	0041M	QPSK	1	0	0 mm	left	1:1	0.194	1.271	0.247	
2560.00	21350	High	LTE Band 7	20	24.0	23.14	-0.17	1	Ant A	0041M	QPSK	50	50	0 mm	left	1:1	0.156	1.219	0.190	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	-0.09	0	Ant A	0041M	QPSK	1	0	0 mm	back	1:1	1.110	1.135	1.260	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	-0.08	0	Ant A	0041M	QPSK	50	0	0 mm	back	1:1	1.050	1.094	1.149	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	0.15	0	Ant A	0041M	QPSK	1	0	0 mm	front	1:1	0.327	1.135	0.371	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	0.15	0	Ant A	0041M	QPSK	50	0	0 mm	front	1:1	0.294	1.094	0.322	
2560.00	21350	High	LTE Band 7	20	22.0	21.45	-0.07	0	Ant A	0041M	QPSK	1	0	0 mm	bottom	1:1	1.180	1.135	1.339	
2560.00	21350	High	LTE Band 7	20	22.0	21.61	-0.07	0	Ant A	0041M	QPSK	50	0	0 mm	bottom	1:1	1.110	1.094	1.214	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams												

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Table 11-54
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	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 (10g) (W/kg)	Scaling Factor	Reported SAR (10g) (W/kg)	Plot #
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.3	24.41	0.08	0	0287M	QPSK	1	99	0 mm	bottom	1:1.58	2.150	1.227	2.638	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.56	0.17	0	0287M	QPSK	1	0	0 mm	bottom	1:1.58	2.030	1.186	2.408	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	25.3	24.38	0.15	0	0287M	QPSK	1	0	0 mm	bottom	1:1.58	1.700	1.236	2.101	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.3	24.58	0.10	0	0287M	QPSK	1	0	0 mm	bottom	1:1.58	1.550	1.180	1.829	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.3	24.37	-0.05	0	0287M	QPSK	1	0	0 mm	bottom	1:1.58	1.340	1.239	1.660	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.3	23.76	0.11	1	0287M	QPSK	50	0	0 mm	bottom	1:1.58	1.780	1.132	2.015	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.77	0.17	1	0287M	QPSK	50	0	0 mm	bottom	1:1.58	1.580	1.130	1.785	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.3	23.51	0.18	1	0287M	QPSK	50	0	0 mm	bottom	1:1.58	1.530	1.199	1.834	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.3	23.78	0.14	1	0287M	QPSK	50	0	0 mm	bottom	1:1.58	1.380	1.127	1.555	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.3	23.49	0.18	1	0287M	QPSK	50	0	0 mm	bottom	1:1.58	1.220	1.205	1.470	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.3	23.72	0.16	1	0287M	QPSK	100	0	0 mm	bottom	1:1.58	1.730	1.143	1.977	
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	25.3	23.84	-0.12	0	0287M	QPSK	1	99	0 mm	bottom	1:2.31	1.240	1.400	1.736	
2 CC Uplink - Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	25.3	24.82	0.02	0	0287M	QPSK	1	99	0 mm	bottom	1:1.58	2.260	1.117	2.524	A78
	SCC	2525.80	39948	Low	LTE Band 41								1	0							
2 CC Uplink - Power Class 2	PCC	2506.00	39750	Low	LTE Band 41	20	25.3	24.30	0.03	0	0287M	QPSK	1	99	0 mm	bottom	1:2.31	1.250	1.259	1.574	
	SCC	2525.80	39948	Low	LTE Band 41								1	0							
2 CC Uplink - Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	25.3	24.82	0.02	0	0287M	QPSK	1	99	0 mm	bottom	1:1.58	1.970	1.117	2.200	
	SCC	2525.80	39948	Low	LTE Band 41								1	0							
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.56	-0.15	0	0287M	QPSK	1	0	0 mm	bottom	1:1.58	2.220	1.186	2.633	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Phablet 4.0 W/kg (mW/g) averaged over 10 grams

Note: Blue entry represents variability measurement.

Table 11-55
WLAN Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY MHz	FREQUENCY Ch.	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 (10g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g) (W/kg)	Plot #
5300	60	802.11a	OFDM	20	18.5	18.18	0.17	0 mm	1	0132M	6	back	98.6	7.347	-	1.076	1.014	-	
5300	60	802.11a	OFDM	20	18.5	18.18	0.07	0 mm	1	0132M	6	front	98.6	3.235	-	1.076	1.014	-	
5300	60	802.11a	OFDM	20	18.5	18.18	0.16	0 mm	1	0132M	6	top	98.6	3.692	-	1.076	1.014	-	
5300	60	802.11a	OFDM	20	18.5	18.18	0.16	0 mm	1	0132M	6	left	98.6	8.555	0.689	1.076	1.014	0.752	
5300	60	802.11a	OFDM	20	18.5	18.37	-0.14	0 mm	2	0132M	6	back	98.8	13.091	1.310	1.030	1.012	1.365	
5300	60	802.11a	OFDM	20	18.5	18.37	0.15	0 mm	2	0132M	6	front	98.8	0.766	0.130	1.030	1.012	0.136	
5300	60	802.11a	OFDM	20	18.5	18.37	0.18	0 mm	2	0132M	6	top	98.8	1.124	0.073	1.030	1.012	0.076	
5300	60	802.11a	OFDM	20	18.5	18.37	0.16	0 mm	2	0132M	6	left	98.8	0.804	-	1.030	1.012	-	
5600	120	802.11a	OFDM	20	18.5	18.20	-0.06	0 mm	1	0132M	6	back	98.6	8.870	0.675	1.072	1.014	0.734	
5600	120	802.11a	OFDM	20	18.5	18.20	0.16	0 mm	1	0132M	6	front	98.6	3.577	-	1.072	1.014	-	
5600	120	802.11a	OFDM	20	18.5	18.20	0.09	0 mm	1	0132M	6	top	98.6	4.667	-	1.072	1.014	-	
5600	120	802.11a	OFDM	20	18.5	18.20	0.17	0 mm	1	0132M	6	left	98.6	8.523	-	1.072	1.014	-	
5520	104	802.11a	OFDM	20	18.5	18.27	0.05	0 mm	2	0132M	6	back	98.8	25.156	2.060	1.054	1.012	2.197	
5600	120	802.11a	OFDM	20	18.5	18.34	0.05	0 mm	2	0132M	6	back	98.8	25.020	2.380	1.038	1.012	**2.500**	
5720	144	802.11a	OFDM	20	18.5	18.39	-0.02	0 mm	2	0132M	6	back	98.8	18.229	2.090	1.026	1.012	2.170	
5720	144	802.11a	OFDM	20	18.5	18.39	-0.11	0 mm	2	0132M	6	front	98.8	1.495	0.120	1.026	1.012	0.125	
5720	144	802.11a	OFDM	20	18.5	18.39	0.10	0 mm	2	0132M	6	top	98.8	1.995	0.181	1.026	1.012	0.188	
5720	144	802.11a	OFDM	20	18.5	18.39	0.15	0 mm	2	0132M	6	left	98.8	1.755	-	1.026	1.012	-	
5600	120	802.11a	OFDM	20	18.5	18.34	-0.02	0 mm	2	0132M	6	back	98.8	42.352	2.250	1.038	1.012	2.364	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Phablet 4.0 W/kg (mW/g) averaged over 10 grams

Note: Blue entry represents variability measurement.

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Table 11-56
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)	
5260	52	802.11n	OFDM	20	18.5	18.41	18.5	18.11	0.16	0 mm	MIMO	0157M	13	back	98.6	26.974	1.730	1.094	1.014	1.919	
5260	52	802.11n	OFDM	20	18.5	18.41	18.5	18.11	0.17	0 mm	MIMO	0157M	13	front	98.6	3.149	0.396	1.094	1.014	0.439	
5260	52	802.11n	OFDM	20	18.5	18.41	18.5	18.11	0.13	0 mm	MIMO	0157M	13	top	98.6	5.722	-	1.094	1.014	-	
5260	52	802.11n	OFDM	20	18.5	18.41	18.5	18.11	0.20	0 mm	MIMO	0157M	13	left	98.6	9.974	0.878	1.094	1.014	0.974	
5600	120	802.11n	OFDM	20	18.0	17.75	18.0	17.85	0.10	0 mm	MIMO	0157M	13	back	98.6	21.606	2.170	1.059	1.014	2.330	
5620	124	802.11n	OFDM	20	18.0	17.88	18.0	17.98	0.12	0 mm	MIMO	0157M	13	back	98.6	19.138	2.220	1.028	1.014	2.314	
5720	144	802.11n	OFDM	20	18.0	17.69	18.0	17.90	0.11	0 mm	MIMO	0157M	13	back	98.6	25.965	2.510	1.074	1.014	2.733	A79
5620	124	802.11n	OFDM	20	18.0	17.88	18.0	17.98	0.19	0 mm	MIMO	0157M	13	front	98.6	1.788	0.319	1.028	1.014	0.333	
5620	124	802.11n	OFDM	20	18.0	17.88	18.0	17.98	0.16	0 mm	MIMO	0157M	13	top	98.6	6.955	0.440	1.028	1.014	0.459	
5620	124	802.11n	OFDM	20	18.0	17.88	18.0	17.98	0.10	0 mm	MIMO	0157M	13	left	98.6	6.885	-	1.028	1.014	-	
5720	144	802.11n	OFDM	20	18.0	17.69	18.0	17.90	-0.16	0 mm	MIMO	0157M	13	back	98.6	22.073	2.400	1.074	1.014	2.614	
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: 1) Blue entry represents variability measurement.

2) For channels 52 to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm. For channels 104, 124, and 144 to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, LTE Band 25 and PCS CDMA body-worn SAR was evaluated with a headset connected to the device since the standalone reported body-worn SAR for LTE Band 25 and PCS CDMA was > 1.2 W/kg.
8. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.

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12. This device utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
13. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
14. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

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.

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

UMTS Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg 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.

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LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 and LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 14 for linearity results.
8. For LTE Band 5, LTE Band 66, and 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.
9. For LTE Band 7 Antenna A operations, the device was connected in a radiated downlink carrier aggregation scenario per FCC Guidance. Combination CA_2A-7A was used for LTE Band 7 Antenna A.
10. This device supports ULCA active with Power Class 2. Highest SAR test configuration for each exposure condition in Power Class 3 with ULCA active was repeated with Power Class 2 with ULCA active.

WLAN Notes:

1. For held-to-ear, and hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n/ax) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not

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investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 8.7.6 for more information.

4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 12 for complete analysis.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.
6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
7. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.6 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.

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific 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.

(*) 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 condition was used for simultaneous transmission analysis.

Per FCC KDB Publication 648474 D04 Handset SAR v01r01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR (“-“).

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12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	0.638	0.235	0.941	0.538	1.176
	CDMA/EVDO BC0 (§22H)	0.339	0.638	0.235	0.977	0.574	1.212
	GSM 850	0.281	0.638	0.235	0.919	0.516	1.154
	UMTS 850	0.327	0.638	0.235	0.965	0.562	1.200
	UMTS 1750	0.181	0.638	0.235	0.819	0.416	1.054
	PCS CDMA/EVDO	0.335	0.638	0.235	0.973	0.570	1.208
	GSM 1900	0.118	0.638	0.235	0.756	0.353	0.991
	UMTS 1900	0.262	0.638	0.235	0.900	0.497	1.135
	LTE Band 71	0.166	0.638	0.235	0.804	0.401	1.039
	LTE Band 12	0.231	0.638	0.235	0.869	0.466	1.104
	LTE Band 13	0.273	0.638	0.235	0.911	0.508	1.146
	LTE Band 14	0.283	0.638	0.235	0.921	0.518	1.156
	LTE Band 26 (Cell)	0.328	0.638	0.235	0.966	0.563	1.201
	LTE Band 5 (Cell)	0.388	0.638	0.235	1.026	0.623	**1.261**
	LTE Band 66 (AWS)	0.310	0.638	0.235	0.948	0.545	1.183
	LTE Band 25 (PCS)	0.294	0.638	0.235	0.932	0.529	1.167
	LTE Band 30	0.096	0.638	0.235	0.734	0.331	0.969
	LTE Band 7	0.098	0.638	0.235	0.736	0.333	0.971
	LTE Band 48	0.085	0.638	0.235	0.723	0.320	0.958
	LTE Band 41	0.093	0.638	0.235	0.731	0.328	0.966

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	0.266	0.061	0.569	0.364	0.630
	CDMA/EVDO BC0 (§22H)	0.339	0.266	0.061	0.605	0.400	0.666
	GSM 850	0.281	0.266	0.061	0.547	0.342	0.608
	UMTS 850	0.327	0.266	0.061	0.593	0.388	0.654
	UMTS 1750	0.181	0.266	0.061	0.447	0.242	0.508
	PCS CDMA/EVDO	0.335	0.266	0.061	0.601	0.396	0.662
	GSM 1900	0.118	0.266	0.061	0.384	0.179	0.445
	UMTS 1900	0.262	0.266	0.061	0.528	0.323	0.589
	LTE Band 71	0.166	0.266	0.061	0.432	0.227	0.493
	LTE Band 12	0.231	0.266	0.061	0.497	0.292	0.558
	LTE Band 13	0.273	0.266	0.061	0.539	0.334	0.600
	LTE Band 14	0.283	0.266	0.061	0.549	0.344	0.610
	LTE Band 26 (Cell)	0.328	0.266	0.061	0.594	0.389	0.655
	LTE Band 5 (Cell)	0.388	0.266	0.061	0.654	0.449	**0.715**
	LTE Band 66 (AWS)	0.310	0.266	0.061	0.576	0.371	0.637
	LTE Band 25 (PCS)	0.294	0.266	0.061	0.560	0.355	0.621
	LTE Band 30	0.096	0.266	0.061	0.362	0.157	0.423
	LTE Band 7	0.098	0.266	0.061	0.364	0.159	0.425
	LTE Band 48	0.085	0.266	0.061	0.351	0.146	0.412
	LTE Band 41	0.093	0.266	0.061	0.359	0.154	0.420

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	0.638	0.235	0.266	0.061	1.503
	CDMA/EVDO BC0 (§22H)	0.339	0.638	0.235	0.266	0.061	1.539
	GSM 850	0.281	0.638	0.235	0.266	0.061	1.481
	UMTS 850	0.327	0.638	0.235	0.266	0.061	1.527
	UMTS 1750	0.181	0.638	0.235	0.266	0.061	1.381
	PCS CDMA/EVDO	0.335	0.638	0.235	0.266	0.061	1.535
	GSM 1900	0.118	0.638	0.235	0.266	0.061	1.318
	UMTS 1900	0.262	0.638	0.235	0.266	0.061	1.462
	LTE Band 71	0.166	0.638	0.235	0.266	0.061	1.366
	LTE Band 12	0.231	0.638	0.235	0.266	0.061	1.431
	LTE Band 13	0.273	0.638	0.235	0.266	0.061	1.473
	LTE Band 14	0.283	0.638	0.235	0.266	0.061	1.483
	LTE Band 26 (Cell)	0.328	0.638	0.235	0.266	0.061	1.528
	LTE Band 5 (Cell)	0.388	0.638	0.235	0.266	0.061	**1.588**
	LTE Band 66 (AWS)	0.310	0.638	0.235	0.266	0.061	1.510
	LTE Band 25 (PCS)	0.294	0.638	0.235	0.266	0.061	1.494
	LTE Band 30	0.096	0.638	0.235	0.266	0.061	1.296
	LTE Band 7	0.098	0.638	0.235	0.266	0.061	1.298
	LTE Band 48	0.085	0.638	0.235	0.266	0.061	1.285
	LTE Band 41	0.093	0.638	0.235	0.266	0.061	1.293

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	1.052	1.355
	CDMA/EVDO BC0 (§22H)	0.339	1.052	1.391
	GSM 850	0.281	1.052	1.333
	UMTS 850	0.327	1.052	1.379
	UMTS 1750	0.181	1.052	1.233
	PCS CDMA/EVDO	0.335	1.052	1.387
	GSM 1900	0.118	1.052	1.170
	UMTS 1900	0.262	1.052	1.314
	LTE Band 71	0.166	1.052	1.218
	LTE Band 12	0.231	1.052	1.283
	LTE Band 13	0.273	1.052	1.325
	LTE Band 14	0.283	1.052	1.335
	LTE Band 26 (Cell)	0.328	1.052	1.380
	LTE Band 5 (Cell)	0.388	1.052	**1.440**
	LTE Band 66 (AWS)	0.310	1.052	1.362
	LTE Band 25 (PCS)	0.294	1.052	1.346
	LTE Band 30	0.096	1.052	1.148
	LTE Band 7	0.098	1.052	1.150
	LTE Band 48	0.085	1.052	1.137
	LTE Band 41	0.093	1.052	1.145

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12.4 Head SAR Simultaneous Transmission Analysis for Main Band, Bluetooth, and 5GHz WLAN

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	1.052	0.266	See Table Below
	CDMA/EVDO BC0 (§22H)	0.339	1.052	0.266	See Table Below
	GSM 850	0.281	1.052	0.266	See Table Below
	UMTS 850	0.327	1.052	0.266	See Table Below
	UMTS 1750	0.181	1.052	0.266	1.499
	PCS CDMA/EVDO	0.335	1.052	0.266	See Table Below
	GSM 1900	0.118	1.052	0.266	1.436
	UMTS 1900	0.262	1.052	0.266	1.580
	LTE Band 71	0.166	1.052	0.266	1.484
	LTE Band 12	0.231	1.052	0.266	1.549
	LTE Band 13	0.273	1.052	0.266	**1.591**
	LTE Band 14	0.283	1.052	0.266	See Table Below
	LTE Band 26 (Cell)	0.328	1.052	0.266	See Table Below
	LTE Band 5 (Cell)	0.388	1.052	0.266	See Table Below
	LTE Band 66 (AWS)	0.310	1.052	0.266	See Table Below
	LTE Band 25 (PCS)	0.294	1.052	0.266	See Table Below
	LTE Band 30	0.096	1.052	0.266	1.414
	LTE Band 7	0.098	1.052	0.266	1.416
	LTE Band 48	0.085	1.052	0.266	1.403
	LTE Band 41	0.093	1.052	0.266	1.411

Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.303	1.052	0.225	**1.580**
	Right Tilt	0.225	0.686	0.266	1.177
	Left Cheek	0.289	0.320	0.266*	0.875
	Left Tilt	0.188	0.287	0.266*	0.741

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.275	1.052	0.225	**1.552**
	Right Tilt	0.147	0.686	0.266	1.099
	Left Cheek	0.205	0.320	0.266*	0.791
	Left Tilt	0.146	0.287	0.266*	0.699

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Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.339	1.052	0.225	See Note 1
	Right Tilt	0.197	0.686	0.266	**1.149**
	Left Cheek	0.291	0.320	0.266*	0.877
	Left Tilt	0.223	0.287	0.266*	0.776

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.267	1.052	0.225	**1.544**
	Right Tilt	0.129	0.686	0.266	1.081
	Left Cheek	0.194	0.320	0.266*	0.780
	Left Tilt	0.129	0.287	0.266*	0.682

Simult Tx	Configuration	GSM 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.281	1.052	0.225	**1.558**
	Right Tilt	0.141	0.686	0.266	1.093
	Left Cheek	0.230	0.320	0.266*	0.816
	Left Tilt	0.133	0.287	0.266*	0.686

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.327	1.052	0.225	See Note 1
	Right Tilt	0.167	0.686	0.266	**1.119**
	Left Cheek	0.246	0.320	0.266*	0.832
	Left Tilt	0.164	0.287	0.266*	0.717

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.247	1.052	0.225	**1.524**
	Right Tilt	0.125	0.686	0.266	1.077
	Left Cheek	0.335	0.320	0.266*	0.921
	Left Tilt	0.092	0.287	0.266*	0.645

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.172	1.052	0.225	**1.449**
	Right Tilt	0.078	0.686	0.266	1.030
	Left Cheek	0.251	0.320	0.266*	0.837
	Left Tilt	0.064	0.287	0.266*	0.617

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.283	1.052	0.225	**1.560**
	Right Tilt	0.124	0.686	0.266	1.076
	Left Cheek	0.222	0.320	0.266*	0.808
	Left Tilt	0.123	0.287	0.266*	0.676

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.328	1.052	0.225	See Note 1
	Right Tilt	0.170	0.686	0.266	**1.122**
	Left Cheek	0.260	0.320	0.266*	0.846
	Left Tilt	0.177	0.287	0.266*	0.730

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.388	1.052	0.225	See Note 1
	Right Tilt	0.209	0.686	0.266	**1.161**
	Left Cheek	0.294	0.320	0.266*	0.880
	Left Tilt	0.203	0.287	0.266*	0.756

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.166	1.052	0.225	**1.443**
	Right Tilt	0.137	0.686	0.266	1.089
	Left Cheek	0.310	0.320	0.266*	0.896
	Left Tilt	0.152	0.287	0.266*	0.705

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.216	1.052	0.225	**1.493**
	Right Tilt	0.106	0.686	0.266	1.058
	Left Cheek	0.294	0.320	0.266*	0.880
	Left Tilt	0.083	0.287	0.266*	0.636

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.303	1.052	0.061	1.416
	CDMA/EVDO BC0 (§22H)	0.339	1.052	0.061	1.452
	GSM 850	0.281	1.052	0.061	1.394
	UMTS 850	0.327	1.052	0.061	1.440
	UMTS 1750	0.181	1.052	0.061	1.294
	PCS CDMA/EVDO	0.335	1.052	0.061	1.448
	GSM 1900	0.118	1.052	0.061	1.231
	UMTS 1900	0.262	1.052	0.061	1.375
	LTE Band 71	0.166	1.052	0.061	1.279
	LTE Band 12	0.231	1.052	0.061	1.344
	LTE Band 13	0.273	1.052	0.061	1.386
	LTE Band 14	0.283	1.052	0.061	1.396
	LTE Band 26 (Cell)	0.328	1.052	0.061	1.441
	LTE Band 5 (Cell)	0.388	1.052	0.061	**1.501**
	LTE Band 66 (AWS)	0.310	1.052	0.061	1.423
	LTE Band 25 (PCS)	0.294	1.052	0.061	1.407
	LTE Band 30	0.096	1.052	0.061	1.209
	LTE Band 7	0.098	1.052	0.061	1.211
	LTE Band 48	0.085	1.052	0.061	1.198
	LTE Band 41	0.093	1.052	0.061	1.206

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Exposure Condition	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/EVDO BC10 (§90S)	0.303	1.052	0.318	See Table Below
	CDMA/EVDO BC0 (§22H)	0.339	1.052	0.318	See Table Below
	GSM 850	0.281	1.052	0.318	See Table Below
	UMTS 850	0.327	1.052	0.318	See Table Below
	UMTS 1750	0.181	1.052	0.318	**1.551**
	PCS CDMA/EVDO	0.335	1.052	0.318	See Table Below
	GSM 1900	0.118	1.052	0.318	1.488
	UMTS 1900	0.262	1.052	0.318	See Table Below
	LTE Band 71	0.166	1.052	0.318	1.536
	LTE Band 12	0.231	1.052	0.318	See Table Below
	LTE Band 13	0.273	1.052	0.318	See Table Below
	LTE Band 14	0.283	1.052	0.318	See Table Below
	LTE Band 26 (Cell)	0.328	1.052	0.318	See Table Below
	LTE Band 5 (Cell)	0.388	1.052	0.318	See Table Below
	LTE Band 66 (AWS)	0.310	1.052	0.318	See Table Below
	LTE Band 25 (PCS)	0.294	1.052	0.318	See Table Below
	LTE Band 30	0.096	1.052	0.318	1.466
	LTE Band 7	0.098	1.052	0.318	1.468
	LTE Band 48	0.085	1.052	0.318	1.455
	LTE Band 41	0.093	1.052	0.318	1.463

Simult Tx	Configuration	CDMA BC10 (§90S) 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	Right Cheek	0.303	1.052	0.224	**1.579**
	Right Tilt	0.225	0.686	0.318	1.229
	Left Cheek	0.289	0.320	0.318*	0.927
	Left Tilt	0.188	0.287	0.318*	0.793

Simult Tx	Configuration	EVDO BC10 (§90S) 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	Right Cheek	0.275	1.052	0.224	**1.551**
	Right Tilt	0.147	0.686	0.318	1.151
	Left Cheek	0.205	0.320	0.318*	0.843
	Left Tilt	0.146	0.287	0.318*	0.751

Simult Tx	Configuration	CDMA BC0 (§22H) 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	Right Cheek	0.339	1.052	0.224	See Note 1
	Right Tilt	0.197	0.686	0.318	**1.201**
	Left Cheek	0.291	0.320	0.318*	0.929
	Left Tilt	0.223	0.287	0.318*	0.828

Simult Tx	Configuration	EVDO BC0 (§22H) 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	Right Cheek	0.267	1.052	0.224	**1.543**
	Right Tilt	0.129	0.686	0.318	1.133
	Left Cheek	0.194	0.320	0.318*	0.832
	Left Tilt	0.129	0.287	0.318*	0.734

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Simult Tx	Configuration	GSM 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.281	1.052	0.224	**1.557**	Head SAR	Right Cheek	0.327	1.052	0.224	See Note 1
	Right Tilt	0.141	0.686	0.318	1.145		Right Tilt	0.167	0.686	0.318	**1.171**
	Left Cheek	0.230	0.320	0.318*	0.868		Left Cheek	0.246	0.320	0.318*	0.884
	Left Tilt	0.133	0.287	0.318*	0.738		Left Tilt	0.164	0.287	0.318*	0.769

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.247	1.052	0.224	**1.523**	Head SAR	Right Cheek	0.172	1.052	0.224	**1.448**
	Right Tilt	0.125	0.686	0.318	1.129		Right Tilt	0.078	0.686	0.318	1.082
	Left Cheek	0.335	0.320	0.318*	0.973		Left Cheek	0.251	0.320	0.318*	0.889
	Left Tilt	0.092	0.287	0.318*	0.697		Left Tilt	0.064	0.287	0.318*	0.669

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.246	1.052	0.224	**1.522**	Head SAR	Right Cheek	0.231	1.052	0.224	**1.507**
	Right Tilt	0.124	0.686	0.318	1.128		Right Tilt	0.110	0.686	0.318	1.114
	Left Cheek	0.262	0.320	0.318*	0.900		Left Cheek	0.186	0.320	0.318*	0.824
	Left Tilt	0.084	0.287	0.318*	0.689		Left Tilt	0.119	0.287	0.318*	0.724

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.273	1.052	0.224	**1.549**	Head SAR	Right Cheek	0.283	1.052	0.224	**1.559**
	Right Tilt	0.141	0.686	0.318	1.145		Right Tilt	0.124	0.686	0.318	1.128
	Left Cheek	0.195	0.320	0.318*	0.833		Left Cheek	0.222	0.320	0.318*	0.860
	Left Tilt	0.127	0.287	0.318*	0.732		Left Tilt	0.123	0.287	0.318*	0.728

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	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	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.328	1.052	0.224	See Note 1	Head SAR	Right Cheek	0.388	1.052	0.224	See Note 1
	Right Tilt	0.170	0.686	0.318	**1.174**		Right Tilt	0.209	0.686	0.318	**1.213**
	Left Cheek	0.260	0.320	0.318*	0.898		Left Cheek	0.294	0.320	0.318*	0.932
	Left Tilt	0.177	0.287	0.318*	0.782		Left Tilt	0.203	0.287	0.318*	0.808

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.166	1.052	0.224	**1.442**	Head SAR	Right Cheek	0.216	1.052	0.224	**1.492**
	Right Tilt	0.137	0.686	0.318	1.141		Right Tilt	0.106	0.686	0.318	1.110
	Left Cheek	0.310	0.320	0.318*	0.948		Left Cheek	0.294	0.320	0.318*	0.932
	Left Tilt	0.152	0.287	0.318*	0.757		Left Tilt	0.083	0.287	0.318*	0.688

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the distribution pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.11 for detailed SPLS ratio analysis.

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12.5 Body-Worn Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.431	0.064	0.127	0.495	0.558	0.622
	CDMA BC0 (§22H)	0.378	0.064	0.127	0.442	0.505	0.569
	GSM 850	0.295	0.064	0.127	0.359	0.422	0.486
	UMTS 850	0.400	0.064	0.127	0.464	0.527	0.591
	UMTS 1750	0.895	0.064	0.127	0.959	1.022	1.086
	PCS CDMA	1.370	0.064	0.127	1.434	1.497	**1.561**
	GSM 1900	0.533	0.064	0.127	0.597	0.660	0.724
	UMTS 1900	1.137	0.064	0.127	1.201	1.264	1.328
	LTE Band 71	0.356	0.064	0.127	0.420	0.483	0.547
	LTE Band 12	0.367	0.064	0.127	0.431	0.494	0.558
	LTE Band 13	0.341	0.064	0.127	0.405	0.468	0.532
	LTE Band 14	0.355	0.064	0.127	0.419	0.482	0.546
	LTE Band 26 (Cell)	0.331	0.064	0.127	0.395	0.458	0.522
	LTE Band 5 (Cell)	0.361	0.064	0.127	0.425	0.488	0.552
	LTE Band 66 (AWS)	0.885	0.064	0.127	0.949	1.012	1.076
	LTE Band 25 (PCS)	1.344	0.064	0.127	1.408	1.471	1.535
	LTE Band 30	0.700	0.064	0.127	0.764	0.827	0.891
	LTE Band 7	0.700	0.064	0.127	0.764	0.827	0.891
	LTE Band 48	0.187	0.064	0.127	0.251	0.314	0.378
	LTE Band 41	0.531	0.064	0.127	0.595	0.658	0.722

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	CDMA BC10 (§90S)	0.431	0.185	0.616
	CDMA BC0 (§22H)	0.378	0.185	0.563
	GSM 850	0.295	0.185	0.480
	UMTS 850	0.400	0.185	0.585
	UMTS 1750	0.895	0.185	1.080
	PCS CDMA	1.370	0.185	**1.555**
	GSM 1900	0.533	0.185	0.718
	UMTS 1900	1.137	0.185	1.322
	LTE Band 71	0.356	0.185	0.541
	LTE Band 12	0.367	0.185	0.552
	LTE Band 13	0.341	0.185	0.526
	LTE Band 14	0.355	0.185	0.540
	LTE Band 26 (Cell)	0.331	0.185	0.516
	LTE Band 5 (Cell)	0.361	0.185	0.546
	LTE Band 66 (AWS)	0.885	0.185	1.070
	LTE Band 25 (PCS)	1.344	0.185	1.529
	LTE Band 30	0.700	0.185	0.885
	LTE Band 7	0.700	0.185	0.885
	LTE Band 48	0.187	0.185	0.372
	LTE Band 41	0.531	0.185	0.716

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Body-Worn	CDMA BC10 (§90S)	0.431	0.265	0.696	N/A
	CDMA BC0 (§22H)	0.378	0.265	0.643	N/A
	GSM 850	0.295	0.265	0.560	N/A
	UMTS 850	0.400	0.265	0.665	N/A
	UMTS 1750	0.895	0.265	1.160	N/A
	PCS CDMA	1.370	0.265	See Note 1	0.02
	GSM 1900	0.533	0.265	0.798	N/A
	UMTS 1900	1.137	0.265	**1.402**	N/A
	LTE Band 71	0.356	0.265	0.621	N/A
	LTE Band 12	0.367	0.265	0.632	N/A
	LTE Band 13	0.341	0.265	0.606	N/A
	LTE Band 14	0.355	0.265	0.620	N/A
	LTE Band 26 (Cell)	0.331	0.265	0.596	N/A
	LTE Band 5 (Cell)	0.361	0.265	0.626	N/A
	LTE Band 66 (AWS)	0.885	0.265	1.150	N/A
	LTE Band 25 (PCS)	1.344	0.265	See Note 1	0.02
	LTE Band 30	0.700	0.265	0.965	N/A
	LTE Band 7	0.700	0.265	0.965	N/A
	LTE Band 48	0.187	0.265	0.452	N/A
	LTE Band 41	0.531	0.265	0.796	N/A

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Body-Worn	CDMA BC10 (§90S)	0.431	0.496	0.927	N/A
	CDMA BC0 (§22H)	0.378	0.496	0.874	N/A
	GSM 850	0.295	0.496	0.791	N/A
	UMTS 850	0.400	0.496	0.896	N/A
	UMTS 1750	0.895	0.496	**1.391**	N/A
	PCS CDMA	1.370	0.496	See Note 1	0.02
	GSM 1900	0.533	0.496	1.029	N/A
	UMTS 1900	1.137	0.496	See Note 1	0.02
	LTE Band 71	0.356	0.496	0.852	N/A
	LTE Band 12	0.367	0.496	0.863	N/A
	LTE Band 13	0.341	0.496	0.837	N/A
	LTE Band 14	0.355	0.496	0.851	N/A
	LTE Band 26 (Cell)	0.331	0.496	0.827	N/A
	LTE Band 5 (Cell)	0.361	0.496	0.857	N/A
	LTE Band 66 (AWS)	0.885	0.496	1.381	N/A
	LTE Band 25 (PCS)	1.344	0.496	See Note 1	0.02
	LTE Band 30	0.700	0.496	1.196	N/A
	LTE Band 7	0.700	0.496	1.196	N/A
	LTE Band 48	0.187	0.496	0.683	N/A
	LTE Band 41	0.531	0.496	1.027	N/A

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.431	0.069	0.155	0.655
	CDMA BC0 (§22H)	0.378	0.069	0.155	0.602
	GSM 850	0.295	0.069	0.155	0.519
	UMTS 850	0.400	0.069	0.155	0.624
	UMTS 1750	0.895	0.069	0.155	1.119
	PCS CDMA	1.370	0.069	0.155	**1.594**
	GSM 1900	0.533	0.069	0.155	0.757
	UMTS 1900	1.137	0.069	0.155	1.361
	LTE Band 71	0.356	0.069	0.155	0.580
	LTE Band 12	0.367	0.069	0.155	0.591
	LTE Band 13	0.341	0.069	0.155	0.565
	LTE Band 14	0.355	0.069	0.155	0.579
	LTE Band 26 (Cell)	0.331	0.069	0.155	0.555
	LTE Band 5 (Cell)	0.361	0.069	0.155	0.585
	LTE Band 66 (AWS)	0.885	0.069	0.155	1.109
	LTE Band 25 (PCS)	1.344	0.069	0.155	1.568
	LTE Band 30	0.700	0.069	0.155	0.924
	LTE Band 7	0.700	0.069	0.155	0.924
	LTE Band 48	0.187	0.069	0.155	0.411
	LTE Band 41	0.531	0.069	0.155	0.755

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	CDMA BC10 (§90S)	0.431	0.063	0.494
	CDMA BC0 (§22H)	0.378	0.063	0.441
	GSM 850	0.295	0.063	0.358
	UMTS 850	0.400	0.063	0.463
	UMTS 1750	0.895	0.063	0.958
	PCS CDMA	1.370	0.063	**1.433**
	GSM 1900	0.533	0.063	0.596
	UMTS 1900	1.137	0.063	1.200
	LTE Band 71	0.356	0.063	0.419
	LTE Band 12	0.367	0.063	0.430
	LTE Band 13	0.341	0.063	0.404
	LTE Band 14	0.355	0.063	0.418
	LTE Band 26 (Cell)	0.331	0.063	0.394
	LTE Band 5 (Cell)	0.361	0.063	0.424
	LTE Band 66 (AWS)	0.885	0.063	0.948
	LTE Band 25 (PCS)	1.344	0.063	1.407
	LTE Band 30	0.700	0.063	0.763
	LTE Band 7	0.700	0.063	0.763
	LTE Band 48	0.187	0.063	0.250
	LTE Band 41	0.531	0.063	0.594

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.10 for detailed SPLS ratio analysis.

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12.6 Body-worn SAR Simultaneous Transmission Analysis for Main Band, Bluetooth, and 5GHz WLAN

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.431	0.063	0.185	0.679
	CDMA BC0 (§22H)	0.378	0.063	0.185	0.626
	GSM 850	0.295	0.063	0.185	0.543
	UMTS 850	0.400	0.063	0.185	0.648
	UMTS 1750	0.895	0.063	0.185	1.143
	PCS CDMA	1.370	0.063	0.185	See Note 1
	GSM 1900	0.533	0.063	0.185	0.781
	UMTS 1900	1.137	0.063	0.185	1.385
	LTE Band 71	0.356	0.063	0.185	0.604
	LTE Band 12	0.367	0.063	0.185	0.615
	LTE Band 13	0.341	0.063	0.185	0.589
	LTE Band 14	0.355	0.063	0.185	0.603
	LTE Band 26 (Cell)	0.331	0.063	0.185	0.579
	LTE Band 5 (Cell)	0.361	0.063	0.185	0.609
	LTE Band 66 (AWS)	0.885	0.063	0.185	1.133
	LTE Band 25 (PCS)	1.344	0.063	0.185	**1.592**
	LTE Band 30	0.700	0.063	0.185	0.948
	LTE Band 7	0.700	0.063	0.185	0.948
	LTE Band 48	0.187	0.063	0.185	0.435
	LTE Band 41	0.531	0.063	0.185	0.779

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.431	0.063	0.265	0.759
	CDMA BC0 (§22H)	0.378	0.063	0.265	0.706
	GSM 850	0.295	0.063	0.265	0.623
	UMTS 850	0.400	0.063	0.265	0.728
	UMTS 1750	0.895	0.063	0.265	1.223
	PCS CDMA	1.370	0.063	0.265	See Note 1
	GSM 1900	0.533	0.063	0.265	0.861
	UMTS 1900	1.137	0.063	0.265	**1.465**
	LTE Band 71	0.356	0.063	0.265	0.684
	LTE Band 12	0.367	0.063	0.265	0.695
	LTE Band 13	0.341	0.063	0.265	0.669
	LTE Band 14	0.355	0.063	0.265	0.683
	LTE Band 26 (Cell)	0.331	0.063	0.265	0.659
	LTE Band 5 (Cell)	0.361	0.063	0.265	0.689
	LTE Band 66 (AWS)	0.885	0.063	0.265	1.213
	LTE Band 25 (PCS)	1.344	0.063	0.265	See Note 1
	LTE Band 30	0.700	0.063	0.265	1.028
	LTE Band 7	0.700	0.063	0.265	1.028
	LTE Band 48	0.187	0.063	0.265	0.515
	LTE Band 41	0.531	0.063	0.265	0.859

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Exposure Condition	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	CDMA BC10 (§90S)	0.431	0.063	0.496	0.990
	CDMA BC0 (§22H)	0.378	0.063	0.496	0.937
	GSM 850	0.295	0.063	0.496	0.854
	UMTS 850	0.400	0.063	0.496	0.959
	UMTS 1750	0.895	0.063	0.496	**1.454**
	PCS CDMA	1.370	0.063	0.496	See Note 1
	GSM 1900	0.533	0.063	0.496	1.092
	UMTS 1900	1.137	0.063	0.496	See Note 1
	LTE Band 71	0.356	0.063	0.496	0.915
	LTE Band 12	0.367	0.063	0.496	0.926
	LTE Band 13	0.341	0.063	0.496	0.900
	LTE Band 14	0.355	0.063	0.496	0.914
	LTE Band 26 (Cell)	0.331	0.063	0.496	0.890
	LTE Band 5 (Cell)	0.361	0.063	0.496	0.920
	LTE Band 66 (AWS)	0.885	0.063	0.496	1.444
	LTE Band 25 (PCS)	1.344	0.063	0.496	See Note 1
	LTE Band 30	0.700	0.063	0.496	1.259
	LTE Band 7	0.700	0.063	0.496	1.259
	LTE Band 48	0.187	0.063	0.496	0.746
	LTE Band 41	0.531	0.063	0.496	1.090

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the distribution pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.11 for detailed SPLS ratio analysis.

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12.7 Hotspot SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.164	0.430	0.844	1.110	1.274
	EVDO BC0 (§22H)	0.763	0.164	0.430	0.927	1.193	1.357
	GPRS 850	0.778	0.164	0.430	0.942	1.208	1.372
	UMTS 850	0.701	0.164	0.430	0.865	1.131	1.295
	UMTS 1750	0.972	0.164	0.430	1.136	1.402	1.566
	PCS EVDO	0.905	0.164	0.430	1.069	1.335	1.499
	GPRS 1900	1.347	0.164	0.430	1.511	See Table Below	See Table Below
	UMTS 1900	1.305	0.164	0.430	1.469	See Table Below	See Table Below
	LTE Band 71	0.495	0.164	0.430	0.659	0.925	1.089
	LTE Band 12	0.496	0.164	0.430	0.660	0.926	1.090
	LTE Band 13	0.523	0.164	0.430	0.687	0.953	1.117
	LTE Band 14	0.598	0.164	0.430	0.762	1.028	1.192
	LTE Band 26 (Cell)	0.611	0.164	0.430	0.775	1.041	1.205
	LTE Band 5 (Cell)	0.608	0.164	0.430	0.772	1.038	1.202
	LTE Band 66 (AWS)	0.900	0.164	0.430	1.064	1.330	1.494
	LTE Band 25 (PCS)	0.975	0.164	0.430	1.139	1.405	1.569
	LTE Band 30	1.341	0.164	0.430	1.505	See Table Below	See Table Below
	LTE Band 7	0.989	0.164	0.430	1.153	1.419	**1.583**
	LTE Band 48	0.561	0.164	0.430	0.725	0.991	1.155
	LTE Band 41	1.019	0.164	0.430	1.183	1.449	See Table Below

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.778	0.164*	0.236	0.942	1.014	1.178
	Front	0.553	0.164*	0.430*	0.717	0.983	1.147
	Top	-	0.164*	0.430	0.164	0.430	0.594
	Bottom	1.347	-	-	**1.347**	**1.347**	**1.347**
	Right	0.087	-	-	0.087	0.087	0.087
	Left	0.126	0.164	0.430*	0.290	0.556	0.720

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.799	0.164*	0.236	0.963	1.035	1.199
	Front	0.639	0.164*	0.430*	0.803	1.069	1.233
	Top	-	0.164*	0.430	0.164	0.430	0.594
	Bottom	1.305	-	-	**1.305**	**1.305**	**1.305**
	Right	0.103	-	-	0.103	0.103	0.103
	Left	0.133	0.164	0.430*	0.297	0.563	0.727

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.731	0.164*	0.236	0.895	0.967	1.131
	Front	0.502	0.164*	0.430*	0.666	0.932	1.096
	Top	-	0.164*	0.430	0.164	0.430	0.594
	Bottom	1.341	-	-	**1.341**	**1.341**	**1.341**
	Right	0.052	-	-	0.052	0.052	0.052
	Left	0.064	0.164	0.430*	0.228	0.494	0.658

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.409	0.164*	0.236	0.573	0.645	0.809
	Front	0.241	0.164*	0.430*	0.405	0.671	0.835
	Top	-	0.164*	0.430	0.164	0.430	0.594
	Bottom	1.019	-	-	**1.019**	**1.019**	**1.019**
	Right	-	-	-	-	-	-
	Left	0.056	0.164	0.430*	0.220	0.486	0.650

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.302	0.982
	EVDO BC0 (§22H)	0.763	0.302	1.065
	GPRS 850	0.778	0.302	1.080
	UMTS 850	0.701	0.302	1.003
	UMTS 1750	0.972	0.302	1.274
	PCS EVDO	0.905	0.302	1.207
	GPRS 1900	1.347	0.302	See Table Below
	UMTS 1900	1.305	0.302	See Table Below
	LTE Band 71	0.495	0.302	0.797
	LTE Band 12	0.496	0.302	0.798
	LTE Band 13	0.523	0.302	0.825
	LTE Band 14	0.598	0.302	0.900
	LTE Band 26 (Cell)	0.611	0.302	0.913
	LTE Band 5 (Cell)	0.608	0.302	0.910
	LTE Band 66 (AWS)	0.900	0.302	1.202
	LTE Band 25 (PCS)	0.975	0.302	1.277
	LTE Band 30	1.341	0.302	See Table Below
	LTE Band 7	0.989	0.302	1.291
	LTE Band 48	0.561	0.302	0.863
	LTE Band 41	1.019	0.302	**1.321**

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.778	0.302	1.080
	Front	0.553	0.302*	0.855
	Top	-	0.302*	0.302
	Bottom	1.347	-	**1.347**
	Right	0.087	-	0.087
	Left	0.126	0.302*	0.428

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.799	0.302	1.101
	Front	0.639	0.302*	0.941
	Top	-	0.302*	0.302
	Bottom	1.305	-	**1.305**
	Right	0.103	-	0.103
	Left	0.133	0.302*	0.435

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.731	0.302	1.033
	Front	0.502	0.302*	0.804
	Top	-	0.302*	0.302
	Bottom	1.341	-	**1.341**
	Right	0.052	-	0.052
	Left	0.064	0.302*	0.366

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.567	1.247
	EVDO BC0 (§22H)	0.763	0.567	1.330
	GPRS 850	0.778	0.567	1.345
	UMTS 850	0.701	0.567	1.268
	UMTS 1750	0.972	0.567	1.539
	PCS EVDO	0.905	0.567	1.472
	GPRS 1900	1.347	0.567	See Table Below
	UMTS 1900	1.305	0.567	See Table Below
	LTE Band 71	0.495	0.567	1.062
	LTE Band 12	0.496	0.567	1.063
	LTE Band 13	0.523	0.567	1.090
	LTE Band 14	0.598	0.567	1.165
	LTE Band 26 (Cell)	0.611	0.567	1.178
	LTE Band 5 (Cell)	0.608	0.567	1.175
	LTE Band 66 (AWS)	0.900	0.567	1.467
	LTE Band 25 (PCS)	0.975	0.567	1.542
	LTE Band 30	1.341	0.567	See Table Below
	LTE Band 7	0.989	0.567	1.556
	LTE Band 48	0.561	0.567	1.128
	LTE Band 41	1.019	0.567	**1.586**

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.778	0.567	1.345
	Front	0.553	0.567*	1.120
	Top	-	0.567*	0.567
	Bottom	1.347	-	**1.347**
	Right	0.087	-	0.087
	Left	0.126	0.086	0.212

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.799	0.567	**1.366**
	Front	0.639	0.567*	1.206
	Top	-	0.567*	0.567
	Bottom	1.305	-	1.305
	Right	0.103	-	0.103
	Left	0.133	0.086	0.219

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.731	0.567	1.298
	Front	0.502	0.567*	1.069
	Top	-	0.567*	0.567
	Bottom	1.341	-	**1.341**
	Right	0.052	-	0.052
	Left	0.064	0.086	0.150

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Exposure Condition	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)	0.680	0.875	1.555
	EVDO BC0 (§22H)	0.763	0.875	See Table Below
	GPRS 850	0.778	0.875	See Table Below
	UMTS 850	0.701	0.875	**1.576**
	UMTS 1750	0.972	0.875	See Table Below
	PCS EVDO	0.905	0.875	See Table Below
	GPRS 1900	1.347	0.875	See Table Below
	UMTS 1900	1.305	0.875	See Table Below
	LTE Band 71	0.495	0.875	1.370
	LTE Band 12	0.496	0.875	1.371
	LTE Band 13	0.523	0.875	1.398
	LTE Band 14	0.598	0.875	1.473
	LTE Band 26 (Cell)	0.611	0.875	1.486
	LTE Band 5 (Cell)	0.608	0.875	1.483
	LTE Band 66 (AWS)	0.900	0.875	See Table Below
	LTE Band 25 (PCS)	0.975	0.875	See Table Below
	LTE Band 30	1.341	0.875	See Table Below
	LTE Band 7	0.989	0.875	See Table Below
	LTE Band 48	0.561	0.875	1.436
	LTE Band 41	1.019	0.875	See Table Below

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.763	0.875	See Note 1	0.02
	Front	0.568	0.055	0.623	N/A
	Top	-	0.875*	**0.875**	N/A
	Bottom	0.494	-	0.494	N/A
	Right	0.462	-	0.462	N/A
	Left	0.234	0.367	0.601	N/A

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.778	0.875	See Note 1	0.02
	Front	0.534	0.055	0.589	N/A
	Top	-	0.875*	**0.875**	N/A
	Bottom	0.431	-	0.431	N/A
	Right	0.566	-	0.566	N/A
	Left	0.307	0.367	0.674	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.624	0.875	**1.499**
	Front	0.496	0.055	0.551
	Top	-	0.875*	0.875
	Bottom	0.972	-	0.972
	Right	0.149	-	0.149
	Left	0.342	0.367	0.709

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.608	0.875	**1.483**
	Front	0.474	0.055	0.529
	Top	-	0.875*	0.875
	Bottom	0.905	-	0.905
	Right	0.059	-	0.059
	Left	0.068	0.367	0.435

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Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.778	0.875	See Note 1	0.02
	Front	0.553	0.055	0.608	N/A
	Top	-	0.875*	0.875	N/A
	Bottom	1.347	-	**1.347**	N/A
	Right	0.087	-	0.087	N/A
	Left	0.126	0.367	0.493	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.799	0.875	See Note 1	0.02
	Front	0.639	0.055	0.694	N/A
	Top	-	0.875*	0.875	N/A
	Bottom	1.305	-	**1.305**	N/A
	Right	0.103	-	0.103	N/A
	Left	0.133	0.367	0.500	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.624	0.875	**1.499**
	Front	0.510	0.055	0.565
	Top	-	0.875*	0.875
	Bottom	0.900	-	0.900
	Right	0.082	-	0.082
	Left	0.128	0.367	0.495

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.750	0.875	See Note 1	0.02
	Front	0.602	0.055	0.657	N/A
	Top	-	0.875*	0.875	N/A
	Bottom	0.975	-	**0.975**	N/A
	Right	0.085	-	0.085	N/A
	Left	0.118	0.367	0.485	N/A

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.731	0.875	See Note 1	0.02
	Front	0.502	0.055	0.557	N/A
	Top	-	0.875*	0.875	N/A
	Bottom	1.341	-	**1.341**	N/A
	Right	0.052	-	0.052	N/A
	Left	0.064	0.367	0.431	N/A

Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.472	0.875	**1.347**
	Front	0.388	0.055	0.443
	Top	-	0.875*	0.875
	Bottom	0.988	-	0.988
	Right	0.089	-	0.089
	Left	0.016	0.367	0.383

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.576	0.875	**1.451**
	Front	0.378	0.055	0.433
	Top	-	0.875*	0.875
	Bottom	0.989	-	0.989
	Right	-	-	-
	Left	0.124	0.367	0.491

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.409	0.875	**1.284**
	Front	0.241	0.055	0.296
	Top	-	0.875*	0.875
	Bottom	1.019	-	1.019
	Right	-	-	-
	Left	0.056	0.367	0.423

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Table 12-13
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.164	0.430	0.217	1.491
	EVDO BC0 (§22H)	0.763	0.164	0.430	0.217	1.574
	GPRS 850	0.778	0.164	0.430	0.217	**1.589**
	UMTS 850	0.701	0.164	0.430	0.217	1.512
	UMTS 1750	0.972	0.164	0.430	0.217	See Table Below
	PCS EVDO	0.905	0.164	0.430	0.217	See Table Below
	GPRS 1900	1.347	0.164	0.430	0.217	See Table Below
	UMTS 1900	1.305	0.164	0.430	0.217	See Table Below
	LTE Band 71	0.495	0.164	0.430	0.217	1.306
	LTE Band 12	0.496	0.164	0.430	0.217	1.307
	LTE Band 13	0.523	0.164	0.430	0.217	1.334
	LTE Band 14	0.598	0.164	0.430	0.217	1.409
	LTE Band 26 (Cell)	0.611	0.164	0.430	0.217	1.422
	LTE Band 5 (Cell)	0.608	0.164	0.430	0.217	1.419
	LTE Band 66 (AWS)	0.900	0.164	0.430	0.217	See Table Below
	LTE Band 25 (PCS)	0.975	0.164	0.430	0.217	See Table Below
	LTE Band 30	1.341	0.164	0.430	0.217	See Table Below
	LTE Band 7	0.989	0.164	0.430	0.217	See Table Below
	LTE Band 48	0.561	0.164	0.430	0.217	1.372
	LTE Band 41	1.019	0.164	0.430	0.217	See Table Below

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.624	0.164*	0.236	0.217	1.241
	Front	0.496	0.164*	0.430*	0.217*	**1.307**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.972	-	-	-	0.972
	Right	0.149	-	-	-	0.149
	Left	0.342	0.164	0.430*	0.217*	1.153

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.608	0.164*	0.236	0.217	1.225
	Front	0.474	0.164*	0.430*	0.217*	**1.285**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.905	-	-	-	0.905
	Right	0.059	-	-	-	0.059
	Left	0.068	0.164	0.430*	0.217*	0.879

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Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.778	0.164*	0.236	0.217	**1.395**
	Front	0.553	0.164*	0.430*	0.217*	1.364
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	1.347	-	-	-	1.347
	Right	0.087	-	-	-	0.087
	Left	0.126	0.164	0.430*	0.217*	0.937

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.799	0.164*	0.236	0.217	1.416
	Front	0.639	0.164*	0.430*	0.217*	**1.450**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	1.305	-	-	-	1.305
	Right	0.103	-	-	-	0.103
	Left	0.133	0.164	0.430*	0.217*	0.944

Simult Tx	Configuration	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)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.624	0.164*	0.236	0.217	1.241
	Front	0.510	0.164*	0.430*	0.217*	**1.321**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.900	-	-	-	0.900
	Right	0.082	-	-	-	0.082
	Left	0.128	0.164	0.430*	0.217*	0.939

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.750	0.164*	0.236	0.217	1.367
	Front	0.602	0.164*	0.430*	0.217*	**1.413**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.975	-	-	-	0.975
	Right	0.085	-	-	-	0.085
	Left	0.118	0.164	0.430*	0.217*	0.929

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.731	0.164*	0.236	0.217	**1.348**
	Front	0.502	0.164*	0.430*	0.217*	1.313
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	1.341	-	-	-	1.341
	Right	0.052	-	-	-	0.052
	Left	0.064	0.164	0.430*	0.217*	0.875

Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.472	0.164*	0.236	0.217	1.089
	Front	0.388	0.164*	0.430*	0.217*	**1.199**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.988	-	-	-	0.988
	Right	0.089	-	-	-	0.089
	Left	0.016	0.164	0.430*	0.217*	0.827

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.576	0.164*	0.236	0.217	**1.193**
	Front	0.378	0.164*	0.430*	0.217*	1.189
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	0.989	-	-	-	0.989
	Right	-	-	-	-	-
	Left	0.124	0.164	0.430*	0.217*	0.935

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.409	0.164*	0.236	0.217	1.026
	Front	0.241	0.164*	0.430*	0.217*	**1.052**
	Top	-	0.164*	0.430	0.217*	0.811
	Bottom	1.019	-	-	-	1.019
	Right	-	-	-	-	-
	Left	0.056	0.164	0.430*	0.217*	0.867

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Table 12-14
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.138	0.818
	EVDO BC0 (§22H)	0.763	0.138	0.901
	GPRS 850	0.778	0.138	0.916
	UMTS 850	0.701	0.138	0.839
	UMTS 1750	0.972	0.138	1.110
	PCS EVDO	0.905	0.138	1.043
	GPRS 1900	1.347	0.138	**1.485**
	UMTS 1900	1.305	0.138	1.443
	LTE Band 71	0.495	0.138	0.633
	LTE Band 12	0.496	0.138	0.634
	LTE Band 13	0.523	0.138	0.661
	LTE Band 14	0.598	0.138	0.736
	LTE Band 26 (Cell)	0.611	0.138	0.749
	LTE Band 5 (Cell)	0.608	0.138	0.746
	LTE Band 66 (AWS)	0.900	0.138	1.038
	LTE Band 25 (PCS)	0.975	0.138	1.113
	LTE Band 30	1.341	0.138	1.479
	LTE Band 7	0.989	0.138	1.127
	LTE Band 48	0.561	0.138	0.699
	LTE Band 41	1.019	0.138	1.157

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.10 for detailed SPLS ratio analysis.

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12.8 Hotspot SAR Simultaneous Transmission Analysis for Main Band, Bluetooth, and 5GHz WLAN

Table 12-15
Simultaneous Transmission Scenario with Bluetooth and 5GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.138	0.302	1.120
	EVDO BC0 (§22H)	0.763	0.138	0.302	1.203
	GPRS 850	0.778	0.138	0.302	1.218
	UMTS 850	0.701	0.138	0.302	1.141
	UMTS 1750	0.972	0.138	0.302	1.412
	PCS EVDO	0.905	0.138	0.302	1.345
	GPRS 1900	1.347	0.138	0.302	See Table Below
	UMTS 1900	1.305	0.138	0.302	See Table Below
	LTE Band 71	0.495	0.138	0.302	0.935
	LTE Band 12	0.496	0.138	0.302	0.936
	LTE Band 13	0.523	0.138	0.302	0.963
	LTE Band 14	0.598	0.138	0.302	1.038
	LTE Band 26 (Cell)	0.611	0.138	0.302	1.051
	LTE Band 5 (Cell)	0.608	0.138	0.302	1.048
	LTE Band 66 (AWS)	0.900	0.138	0.302	1.340
	LTE Band 25 (PCS)	0.975	0.138	0.302	1.415
	LTE Band 30	1.341	0.138	0.302	See Table Below
	LTE Band 7	0.989	0.138	0.302	1.429
	LTE Band 48	0.561	0.138	0.302	1.001
	LTE Band 41	1.019	0.138	0.302	**1.459**

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.799	0.121	0.302	1.222
	Front	0.639	0.138	0.302*	1.079
	Top	-	0.070	0.302*	0.372
	Bottom	1.305	-	-	**1.305**
	Right	0.103	-	-	0.103
	Left	0.133	0.063	0.302*	0.498

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.778	0.121	0.302	1.201
	Front	0.553	0.138	0.302*	0.993
	Top	-	0.070	0.302*	0.372
	Bottom	1.347	-	-	**1.347**
	Right	0.087	-	-	0.087
	Left	0.126	0.063	0.302*	0.491

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.731	0.121	0.302	1.154
	Front	0.502	0.138	0.302*	0.942
	Top	-	0.070	0.302*	0.372
	Bottom	1.341	-	-	**1.341**
	Right	0.052	-	-	0.052
	Left	0.064	0.063	0.302*	0.429

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.680	0.138	0.567	1.385
	EVDO BC0 (§22H)	0.763	0.138	0.567	1.468
	GPRS 850	0.778	0.138	0.567	**1.483**
	UMTS 850	0.701	0.138	0.567	1.406
	UMTS 1750	0.972	0.138	0.567	See Table Below
	PCS EVDO	0.905	0.138	0.567	See Table Below
	GPRS 1900	1.347	0.138	0.567	See Table Below
	UMTS 1900	1.305	0.138	0.567	See Table Below
	LTE Band 71	0.495	0.138	0.567	1.200
	LTE Band 12	0.496	0.138	0.567	1.201
	LTE Band 13	0.523	0.138	0.567	1.228
	LTE Band 14	0.598	0.138	0.567	1.303
	LTE Band 26 (Cell)	0.611	0.138	0.567	1.316
	LTE Band 5 (Cell)	0.608	0.138	0.567	1.313
	LTE Band 66 (AWS)	0.900	0.138	0.567	See Table Below
	LTE Band 25 (PCS)	0.975	0.138	0.567	See Table Below
	LTE Band 30	1.341	0.138	0.567	See Table Below
	LTE Band 7	0.989	0.138	0.567	See Table Below
	LTE Band 48	0.561	0.138	0.567	1.266
	LTE Band 41	1.019	0.138	0.567	See Table Below

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.624	0.121	0.567	**1.312**
	Front	0.496	0.138	0.567*	1.201
	Top	-	0.070	0.567*	0.637
	Bottom	0.972	-	-	0.972
	Right	0.149	-	-	0.149
	Left	0.342	0.063	0.086	0.491

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.608	0.121	0.567	**1.296**
	Front	0.474	0.138	0.567*	1.179
	Top	-	0.070	0.567*	0.637
	Bottom	0.905	-	-	0.905
	Right	0.059	-	-	0.059
	Left	0.068	0.063	0.086	0.217

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.778	0.121	0.567	**1.466**
	Front	0.553	0.138	0.567*	1.258
	Top	-	0.070	0.567*	0.637
	Bottom	1.347	-	-	1.347
	Right	0.087	-	-	0.087
	Left	0.126	0.063	0.086	0.275

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.799	0.121	0.567	**1.487**
	Front	0.639	0.138	0.567*	1.344
	Top	-	0.070	0.567*	0.637
	Bottom	1.305	-	-	1.305
	Right	0.103	-	-	0.103
	Left	0.133	0.063	0.086	0.282

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Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.624	0.121	0.567	**1.312**	Hotspot SAR	Back	0.750	0.121	0.567	**1.438**
	Front	0.510	0.138	0.567*	1.215		Front	0.602	0.138	0.567*	1.307
	Top	-	0.070	0.567*	0.637		Top	-	0.070	0.567*	0.637
	Bottom	0.900	-	-	0.900		Bottom	0.975	-	-	0.975
	Right	0.082	-	-	0.082		Right	0.085	-	-	0.085
	Left	0.128	0.063	0.086	0.277		Left	0.118	0.063	0.086	0.267

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.731	0.121	0.567	**1.419**	Hotspot SAR	Back	0.472	0.121	0.567	**1.160**
	Front	0.502	0.138	0.567*	1.207		Front	0.388	0.138	0.567*	1.093
	Top	-	0.070	0.567*	0.637		Top	-	0.070	0.567*	0.637
	Bottom	1.341	-	-	1.341		Bottom	0.988	-	-	0.988
	Right	0.052	-	-	0.052		Right	0.089	-	-	0.089
	Left	0.064	0.063	0.086	0.213		Left	0.016	0.063	0.086	0.165

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.576	0.121	0.567	**1.264**	Hotspot SAR	Back	0.409	0.121	0.567	**1.097**
	Front	0.378	0.138	0.567*	1.083		Front	0.241	0.138	0.567*	0.946
	Top	-	0.070	0.567*	0.637		Top	-	0.070	0.567*	0.637
	Bottom	0.989	-	-	0.989		Bottom	1.019	-	-	1.019
	Right	-	-	-	-		Right	-	-	-	-
	Left	0.124	0.063	0.086	0.273		Left	0.056	0.063	0.086	0.205

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Exposure Condition	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 SAR	EVDO BC10 (§90S)	0.680	0.138	0.875	See Table Below
	EVDO BC0 (§22H)	0.763	0.138	0.875	See Table Below
	GPRS 850	0.778	0.138	0.875	See Table Below
	UMTS 850	0.701	0.138	0.875	See Table Below
	UMTS 1750	0.972	0.138	0.875	See Table Below
	PCS EVDO	0.905	0.138	0.875	See Table Below
	GPRS 1900	1.347	0.138	0.875	See Table Below
	UMTS 1900	1.305	0.138	0.875	See Table Below
	LTE Band 71	0.495	0.138	0.875	1.508
	LTE Band 12	0.496	0.138	0.875	1.509
	LTE Band 13	0.523	0.138	0.875	1.536
	LTE Band 14	0.598	0.138	0.875	See Table Below
	LTE Band 26 (Cell)	0.611	0.138	0.875	See Table Below
	LTE Band 5 (Cell)	0.608	0.138	0.875	See Table Below
	LTE Band 66 (AWS)	0.900	0.138	0.875	See Table Below
	LTE Band 25 (PCS)	0.975	0.138	0.875	See Table Below
	LTE Band 30	1.341	0.138	0.875	See Table Below
	LTE Band 7	0.989	0.138	0.875	See Table Below
	LTE Band 48	0.561	0.138	0.875	**1.574**
	LTE Band 41	1.019	0.138	0.875	See Table Below

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.680	0.121	0.875	See Note 1
	Front	0.594	0.138	0.055	0.787
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.481	-	-	0.481
	Right	0.518	-	-	0.518
	Left	0.282	0.063	0.367	0.712

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.763	0.121	0.875	See Note 1
	Front	0.568	0.138	0.055	0.761
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.494	-	-	0.494
	Right	0.462	-	-	0.462
	Left	0.234	0.063	0.367	0.664

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.778	0.121	0.875	See Note 1
	Front	0.534	0.138	0.055	0.727
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.431	-	-	0.431
	Right	0.566	-	-	0.566
	Left	0.307	0.063	0.367	0.737

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.701	0.121	0.875	See Note 1
	Front	0.506	0.138	0.055	0.699
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.429	-	-	0.429
	Right	0.583	-	-	0.583
	Left	0.275	0.063	0.367	0.705

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Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.624	0.121	0.875	See Note 1
	Front	0.496	0.138	0.055	0.689
	Top	-	0.070	0.875*	0.945
	Bottom	0.972	-	-	**0.972**
	Right	0.149	-	-	0.149
	Left	0.342	0.063	0.367	0.772

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.608	0.121	0.875	See Note 1
	Front	0.474	0.138	0.055	0.667
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.905	-	-	0.905
	Right	0.059	-	-	0.059
	Left	0.068	0.063	0.367	0.498

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.778	0.121	0.875	See Note 1
	Front	0.553	0.138	0.055	0.746
	Top	-	0.070	0.875*	0.945
	Bottom	1.347	-	-	**1.347**
	Right	0.087	-	-	0.087
	Left	0.126	0.063	0.367	0.556

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.799	0.121	0.875	See Note 1
	Front	0.639	0.138	0.055	0.832
	Top	-	0.070	0.875*	0.945
	Bottom	1.305	-	-	**1.305**
	Right	0.103	-	-	0.103
	Left	0.133	0.063	0.367	0.563

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.598	0.121	0.875	**1.594**
	Front	0.460	0.138	0.055	0.653
	Top	-	0.070	0.875*	0.945
	Bottom	0.283	-	-	0.283
	Right	0.398	-	-	0.398
	Left	0.252	0.063	0.367	0.682

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.611	0.121	0.875	See Note 1
	Front	0.524	0.138	0.055	0.717
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.403	-	-	0.403
	Right	0.470	-	-	0.470
	Left	0.282	0.063	0.367	0.712

Simult Tx	Configuration	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	1+2+3
Hotspot SAR	Back	0.608	0.121	0.875	See Note 1
	Front	0.498	0.138	0.055	0.691
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.387	-	-	0.387
	Right	0.450	-	-	0.450
	Left	0.213	0.063	0.367	0.643

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.624	0.121	0.875	See Note 1
	Front	0.510	0.138	0.055	0.703
	Top	-	0.070	0.875*	**0.945**
	Bottom	0.900	-	-	0.900
	Right	0.082	-	-	0.082
	Left	0.128	0.063	0.367	0.558

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.750	0.121	0.875	See Note 1
	Front	0.602	0.138	0.055	0.795
	Top	-	0.070	0.875*	0.945
	Bottom	0.975	-	-	**0.975**
	Right	0.085	-	-	0.085
	Left	0.118	0.063	0.367	0.548

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.731	0.121	0.875	See Note 1
	Front	0.502	0.138	0.055	0.695
	Top	-	0.070	0.875*	0.945
	Bottom	1.341	-	-	**1.341**
	Right	0.052	-	-	0.052
	Left	0.064	0.063	0.367	0.494

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Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.472	0.121	0.875	**1.468**
	Front	0.388	0.138	0.055	0.581
	Top	-	0.070	0.875*	0.945
	Bottom	0.988	-	-	0.988
	Right	0.089	-	-	0.089
	Left	0.016	0.063	0.367	0.446

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.576	0.121	0.875	**1.572**
	Front	0.378	0.138	0.055	0.571
	Top	-	0.070	0.875*	0.945
	Bottom	0.989	-	-	0.989
	Right	-	-	-	-
	Left	0.124	0.063	0.367	0.554

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.409	0.121	0.875	**1.405**
	Front	0.241	0.138	0.055	0.434
	Top	-	0.070	0.875*	0.945
	Bottom	1.019	-	-	1.019
	Right	-	-	-	-
	Left	0.056	0.063	0.367	0.486

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the distribution pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.11 for detailed SPLS ratio analysis.

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12.9 Phablet Simultaneous Transmission Analysis

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

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 12-16
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	UMTS 1750	2.913	0.752	3.665
	PCS EVDO	3.086	0.752	3.838
	GPRS 1900	3.101	0.752	**3.853**
	UMTS 1900	3.293	0.752	See Table Below
	LTE Band 66 (AWS)	2.806	0.752	3.558
	LTE Band 25 (PCS)	3.066	0.752	3.818
	LTE Band 30	2.356	0.752	3.108
	LTE Band 7	2.157	0.752	2.909
	LTE Band 41	2.638	0.752	3.390

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	3.065	0.734	**3.799**
	Front	2.356	0.752*	3.108
	Top	-	0.752*	0.752
	Bottom	3.293	-	3.293
	Right	0.407	-	0.407
	Left	0.560	0.752	1.312

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	UMTS 1750	2.913	2.500	See Table Below
	PCS EVDO	3.086	2.500	See Table Below
	GPRS 1900	3.101	2.500	See Table Below
	UMTS 1900	3.293	2.500	See Table Below
	LTE Band 66 (AWS)	2.806	2.500	See Table Below
	LTE Band 25 (PCS)	3.066	2.500	See Table Below
	LTE Band 30	2.356	2.500	See Table Below
	LTE Band 7	2.157	2.500	See Table Below
	LTE Band 41	2.638	2.500	See Table Below

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.123	2.500	See Note 1	0.08
	Front	1.378	0.136	1.514	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.913	-	2.913	N/A
	Right	0.308	-	0.308	N/A
	Left	0.657	2.500*	**3.157**	N/A

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.086	2.500	See Note 1	0.10
	Front	2.535	0.136	2.671	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.588	-	2.588	N/A
	Right	0.379	-	0.379	N/A
	Left	0.480	2.500*	**2.980**	N/A

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.101	2.500	See Note 1	0.10
	Front	2.511	0.136	2.647	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.413	-	2.413	N/A
	Right	0.279	-	0.279	N/A
	Left	0.495	2.500*	**2.995**	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.065	2.500	See Note 1	0.10
	Front	2.356	0.136	2.492	N/A
	Top	-	0.188	0.188	N/A
	Bottom	3.293	-	**3.293**	N/A
	Right	0.407	-	0.407	N/A
	Left	0.560	2.500*	3.060	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.938	2.500	See Note 1	0.07
	Front	1.677	0.136	1.813	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.806	-	2.806	N/A
	Right	0.364	-	0.364	N/A
	Left	0.696	2.500*	**3.196**	N/A

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.066	2.500	See Note 1	0.10
	Front	2.440	0.136	2.576	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.649	-	2.649	N/A
	Right	0.515	-	0.515	N/A
	Left	0.776	2.500*	**3.276**	N/A

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Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.356	2.500	See Note 1	0.08
	Front	1.841	0.136	1.977	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.158	-	2.158	N/A
	Right	0.355	-	0.355	N/A
	Left	0.416	2.500*	**2.916**	N/A

Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.260	2.500	**3.760**
	Front	0.371	0.136	0.507
	Top	-	0.188	0.188
	Bottom	1.339	-	1.339
	Right	0.047	-	0.047
	Left	0.247	2.500*	2.747

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.591	2.500	See Note 1	0.07
	Front	1.088	0.136	1.224	N/A
	Top	-	0.188	0.188	N/A
	Bottom	2.157	-	2.157	N/A
	Right	-	-	-	N/A
	Left	0.803	2.500*	**3.303**	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	-	2.500	2.500
	Front	-	0.136	0.136
	Top	-	0.188	0.188
	Bottom	2.638	-	**2.638**
	Right	-	-	-
	Left	-	2.500*	2.500

Table 12-17
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.123	2.733	See Note 1	0.08
	Front	1.378	0.439	1.817	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.913	-	**2.913**	N/A
	Right	0.308	-	0.308	N/A
	Left	0.657	0.974	1.631	N/A

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.086	2.733	See Note 1	0.10
	Front	2.535	0.439	**2.974**	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.588	-	2.588	N/A
	Right	0.379	-	0.379	N/A
	Left	0.480	0.974	1.454	N/A

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.101	2.733	See Note 1	0.10
	Front	2.511	0.439	**2.950**	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.413	-	2.413	N/A
	Right	0.279	-	0.279	N/A
	Left	0.495	0.974	1.469	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.065	2.733	See Note 1	0.09
	Front	2.356	0.439	2.795	N/A
	Top	-	0.459	0.459	N/A
	Bottom	3.293	-	**3.293**	N/A
	Right	0.407	-	0.407	N/A
	Left	0.560	0.974	1.534	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.938	2.733	See Note 1	0.07
	Front	1.677	0.439	2.116	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.806	-	**2.806**	N/A
	Right	0.364	-	0.364	N/A
	Left	0.696	0.974	1.670	N/A

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	3.066	2.733	See Note 1	0.10
	Front	2.440	0.439	**2.879**	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.649	-	2.649	N/A
	Right	0.515	-	0.515	N/A
	Left	0.776	0.974	1.750	N/A

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Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.356	2.733	See Note 1	0.08
	Front	1.841	0.439	**2.280**	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.158	-	2.158	N/A
	Right	0.355	-	0.355	N/A
	Left	0.416	0.974	1.390	N/A

Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.260	2.733	**3.993**
	Front	0.371	0.439	0.810
	Top	-	0.459	0.459
	Bottom	1.339	-	1.339
	Right	0.047	-	0.047
	Left	0.247	0.974	1.221

Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.591	2.733	See Note 1	0.07
	Front	1.088	0.439	1.527	N/A
	Top	-	0.459	0.459	N/A
	Bottom	2.157	-	**2.157**	N/A
	Right	-	-	-	N/A
	Left	0.803	0.974	1.777	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	-	2.733	**2.733**
	Front	-	0.439	0.439
	Top	-	0.459	0.459
	Bottom	2.638	-	2.638
	Right	-	-	-
	Left	-	0.974	0.974

Note 1 - No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.10 for detailed SPLS ratio analysis.

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12.10 SPLSR Evaluation and Analysis

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

$$\text{Distance}_{Tx1-Tx2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2} \text{ (Head)}$$

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

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

12.10.1 Body-worn SPLSR Evaluation and Analysis

Table 12-18
Peak SAR Locations for Body-worn Back Side

Mode/Band	x (mm)	y (mm)	Reported SAR (W/kg)
5 GHz WLAN Ant 2	9.00	51.00	0.265
5 GHz WLAN MIMO	10.00	53.00	0.496
PCS CDMA	-32.00	-73.50	1.370
UMTS 1900	-20.00	-73.50	1.137
LTE Band 25 (PCS)	-21.50	-76.50	1.344

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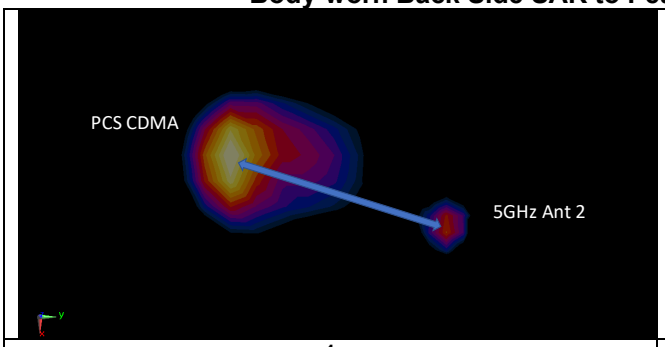
Table 12-19
Body-worn Back Side SAR to Peak Location Separation Ratio Calculations

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}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 2	PCS CDMA	0.265	1.370	1.635	131.08	0.02	1
5 GHz WLAN Ant 2	LTE Band 25 (PCS)	0.265	1.344	1.609	131.10	0.02	2
5 GHz WLAN MIMO	PCS CDMA	0.496	1.370	1.866	133.29	0.02	3
5 GHz WLAN MIMO	UMTS 1900	0.496	1.137	1.633	130.01	0.02	4
5 GHz WLAN MIMO	LTE Band 25 (PCS)	0.496	1.344	1.840	133.28	0.02	5

Table 12-20
Body-worn Back Side SAR to Peak Location Separation Ratio Plots



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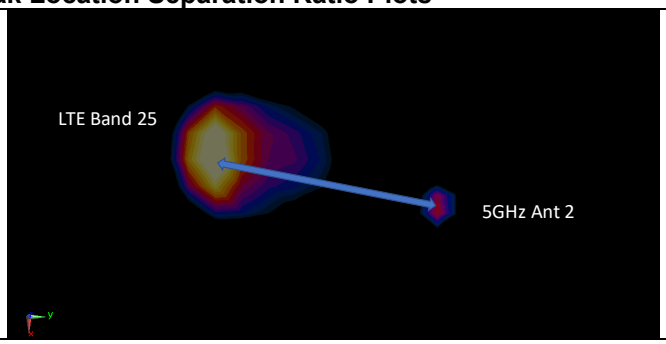

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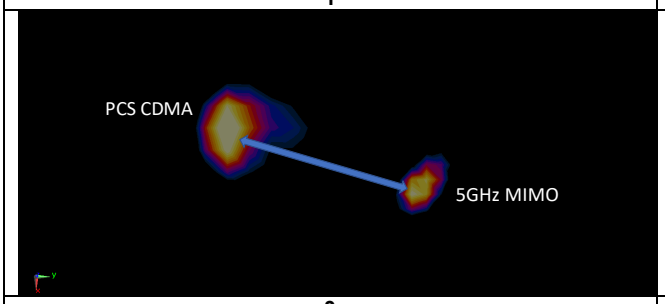

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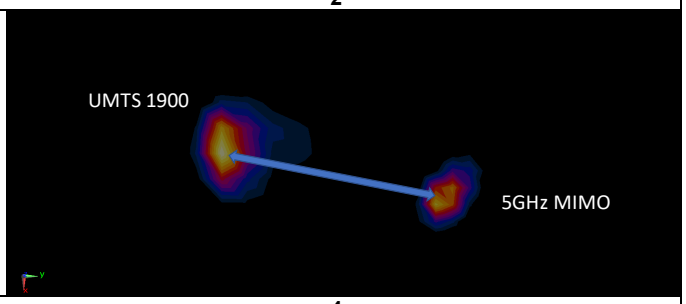

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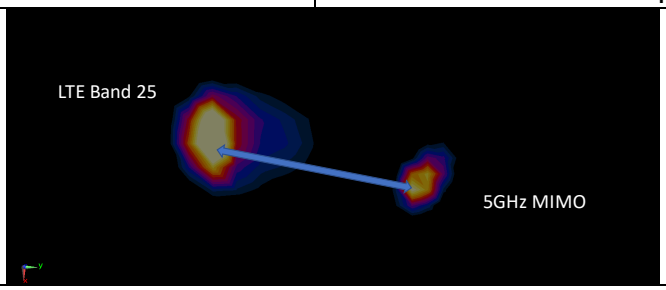

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12.10.2 Hotspot Back Side SPLSR Evaluation and Analysis

Table 12-21
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)	Reported SAR (W/kg)
5 GHz WLAN MIMO	10.00	56.00	0.875
EVDO BC0 (§22H)	-19.50	-80.00	0.763
GPRS 850	-10.00	-73.50	0.778
GPRS 1900	-33.50	-70.50	0.778
UMTS 1900	-20.00	-75.00	0.799
LTE Band 25 (PCS)	-21.50	-76.50	0.750
LTE Band 30 (PCS)	-28.60	-70.80	0.731

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

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN MIMO	EVDO BC0 (§22H)	0.875	0.763	1.638	139.16	0.02	1
5 GHz WLAN MIMO	GPRS 850	0.875	0.778	1.653	131.04	0.02	2
5 GHz WLAN MIMO	GPRS 1900	0.875	0.778	1.653	133.77	0.02	3
5 GHz WLAN MIMO	UMTS 1900	0.875	0.799	1.674	134.39	0.02	4
5 GHz WLAN MIMO	LTE Band 25 (PCS)	0.875	0.75	1.625	136.19	0.02	5
5 GHz WLAN MIMO	LTE Band 30 (PCS)	0.875	0.731	1.606	132.55	0.02	6

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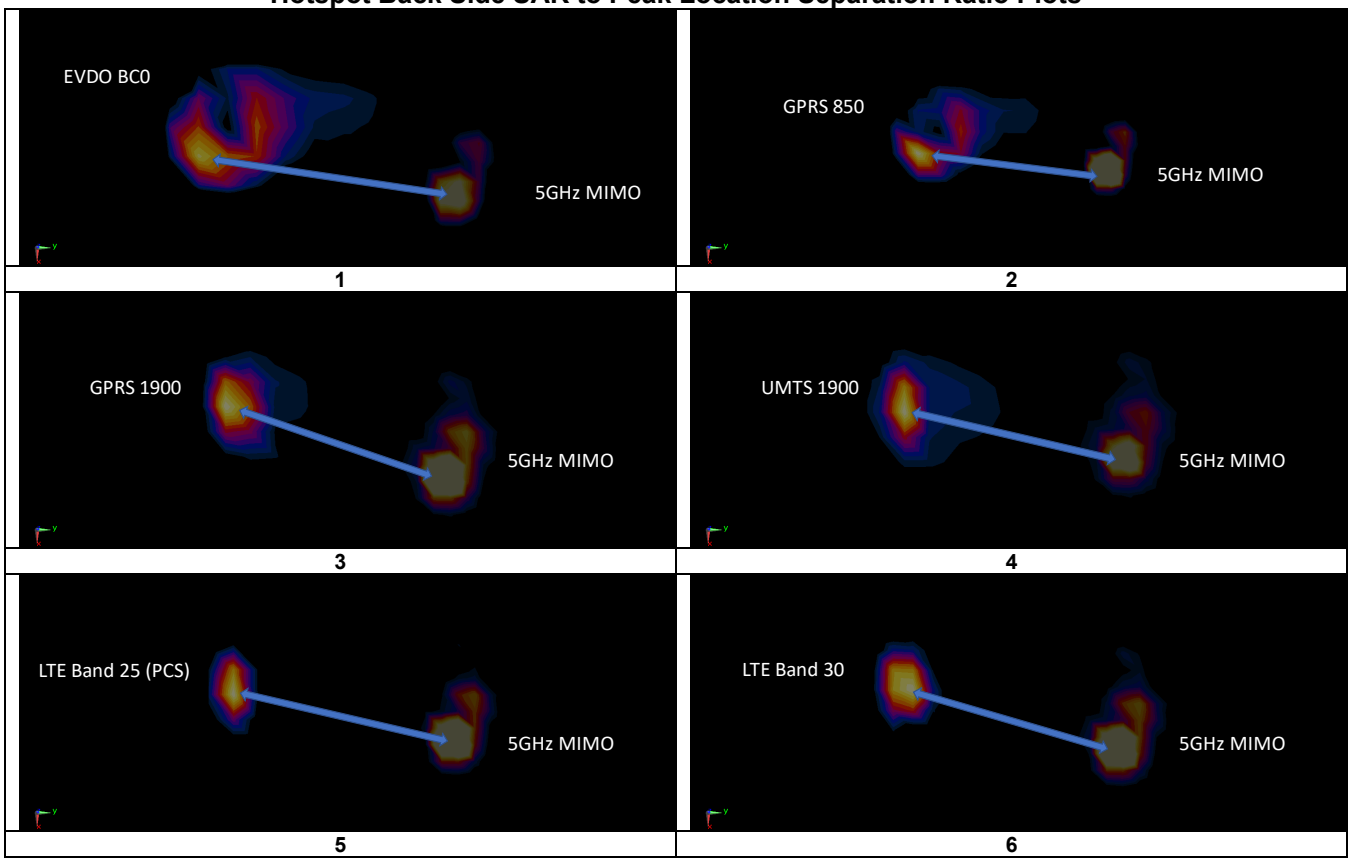
Table 12-23
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



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12.10.3 Phablet Back Side SPLSR Evaluation and Analysis

Table 12-24
Peak SAR Locations for Phablet Back Side

Mode/Band	x (mm)	y (mm)	Reported SAR (W/kg)
5 GHz WLAN Ant 2	10.00	50.00	2.500
5 GHz WLAN MIMO	12.00	64.00	2.733
UMTS 1750	-25.00	-72.00	2.123
PCS EVDO	-26.00	-78.00	3.086
GPRS 1900	-24.50	-79.50	3.101
UMTS 1900	-23.00	-79.50	3.065
LTE Band 66 (AWS)	-40.50	-69.00	1.938
LTE Band 25 (PCS)	-27.50	-76.50	3.066
LTE Band 30	-42.20	-68.40	2.356
LTE Band 7 Ant B	-1.00	-67.40	1.591

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

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 2	UMTS 1750	2.500	2.123	4.623	126.92	0.08	1
5 GHz WLAN Ant 2	PCS EVDO	2.500	3.086	5.586	132.97	0.10	2
5 GHz WLAN Ant 2	GPRS 1900	2.500	3.101	5.601	134.02	0.10	3
5 GHz WLAN Ant 2	UMTS 1900	2.500	3.065	5.565	133.64	0.10	4
5 GHz WLAN Ant 2	LTE Band 66 (AWS)	2.500	1.938	4.438	129.27	0.07	5
5 GHz WLAN Ant 2	LTE Band 25 (PCS)	2.500	3.066	5.566	131.94	0.10	6
5 GHz WLAN Ant 2	LTE Band 30	2.500	2.356	4.856	129.40	0.08	7
5 GHz WLAN Ant 2	LTE Band 7 Ant B	2.500	1.591	4.091	117.91	0.07	8
5 GHz WLAN MIMO	UMTS 1750	2.733	2.123	4.856	140.94	0.08	9
5 GHz WLAN MIMO	PCS EVDO	2.733	3.086	5.819	147.00	0.10	10
5 GHz WLAN MIMO	GPRS 1900	2.733	3.101	5.834	148.07	0.10	11
5 GHz WLAN MIMO	UMTS 1900	2.733	3.065	5.798	147.71	0.09	12
5 GHz WLAN MIMO	LTE Band 66 (AWS)	2.733	1.938	4.671	142.99	0.07	13
5 GHz WLAN MIMO	LTE Band 25 (PCS)	2.733	3.066	5.799	145.95	0.10	14
5 GHz WLAN MIMO	LTE Band 30	2.733	2.356	5.089	143.06	0.08	15
5 GHz WLAN MIMO	LTE Band 7 Ant B	2.733	1.591	4.324	132.04	0.07	16

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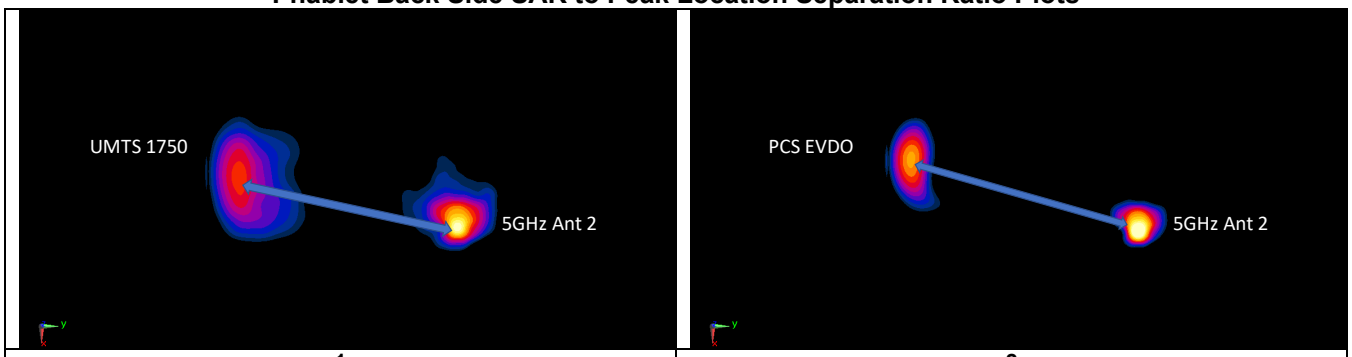
Table 12-26
Phablet Back Side SAR to Peak Location Separation Ratio Plots



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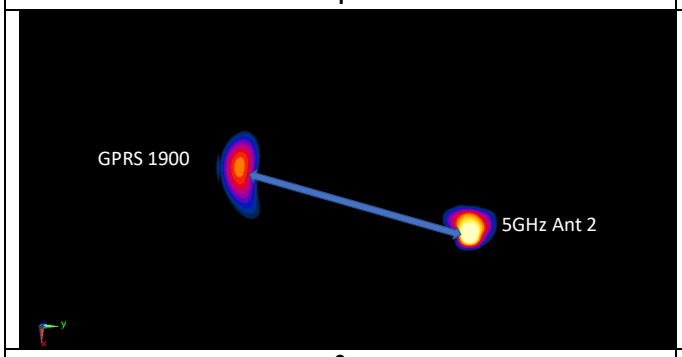

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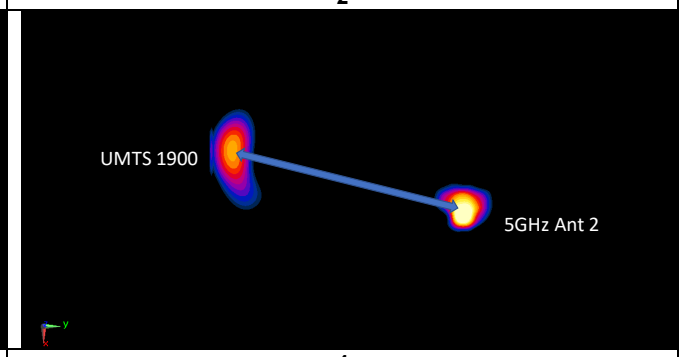

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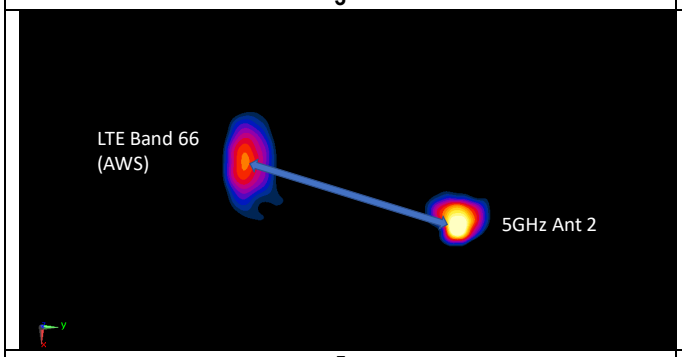

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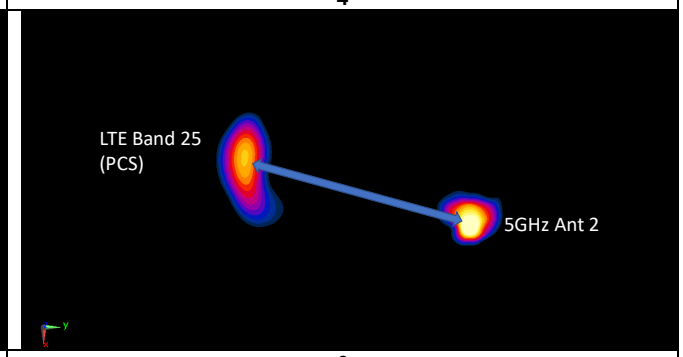

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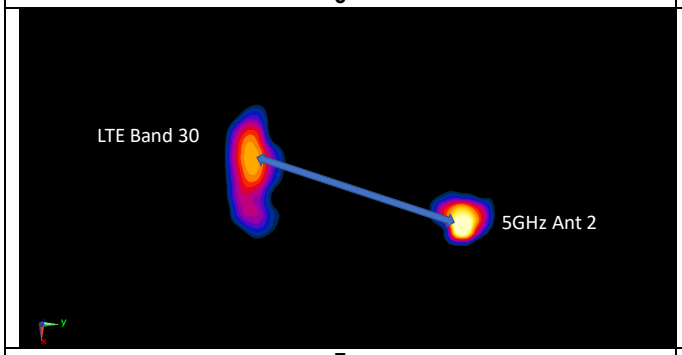

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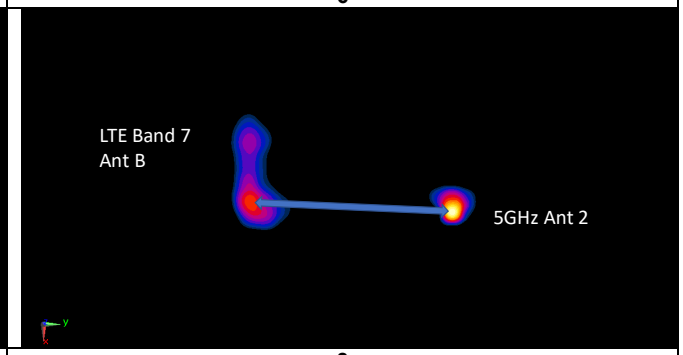

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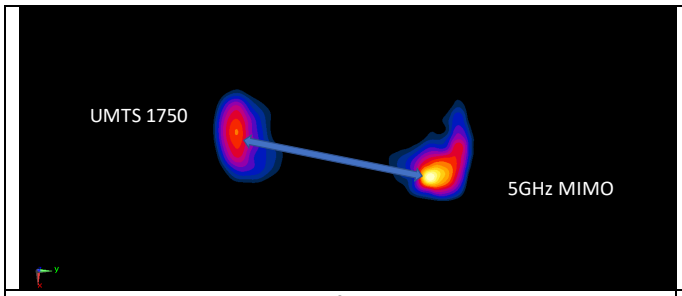

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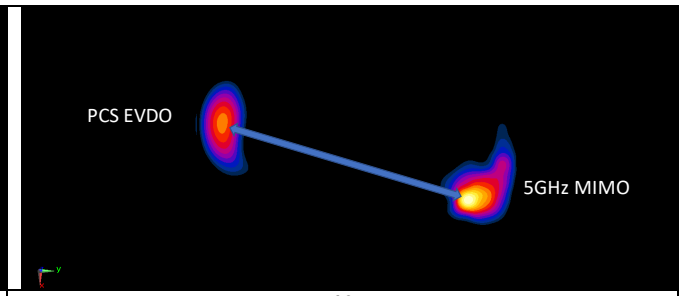

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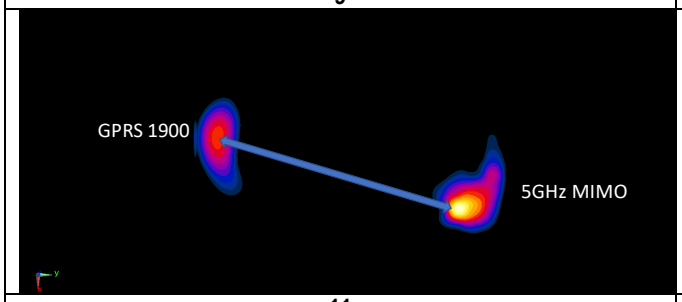

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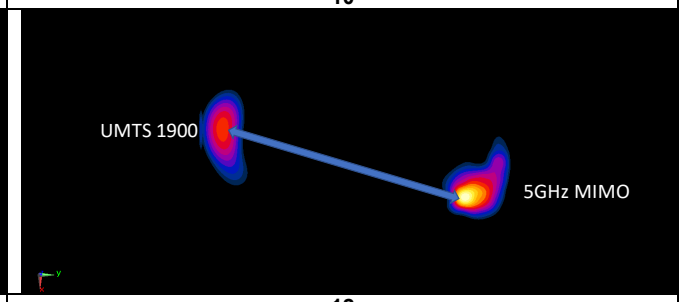

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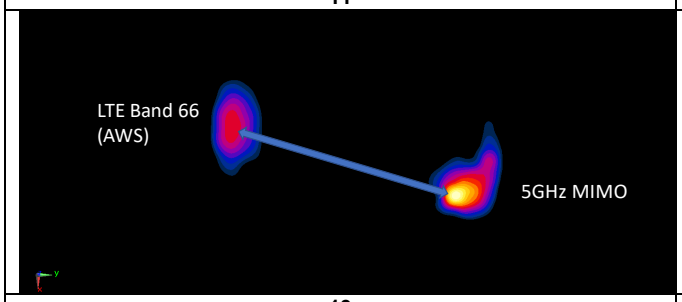

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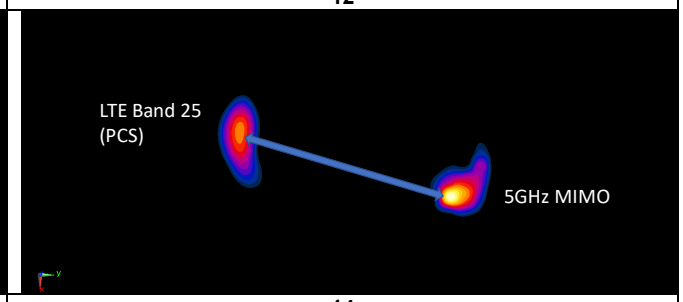

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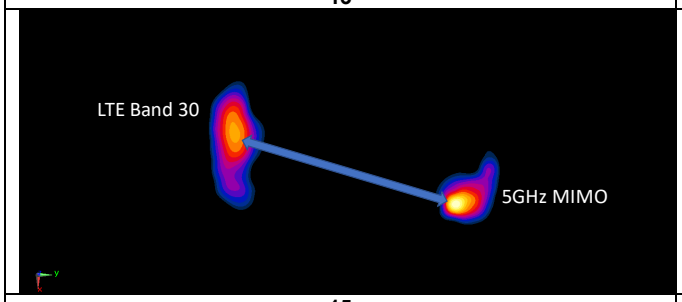

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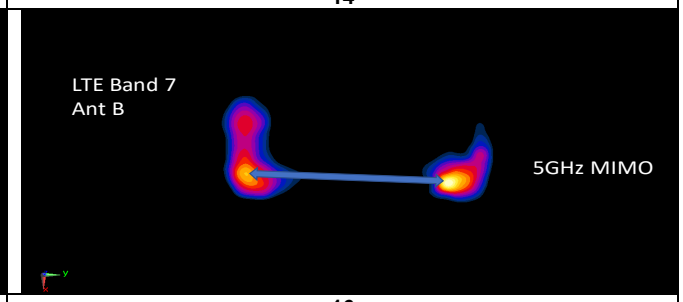

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12.11 Additional Simultaneous SAR Evaluation and Analysis for Main Band, Bluetooth and 5 GHz WLAN Operations

Per KDB Publication 865664, when the sum of the transmitters potentially operating simultaneously is greater than the 1.6 W/kg or 4.0 W/kg and the sum to peak SAR location separation ratio between any pair of transmitters is more than 0.04 for 1g or 0.1 for 10g, SAR tests are required for simultaneous transmission to determine the aggregate 1g or 10g SAR. When required, each transmitter is tested for simultaneous transmission in the configuration, channel and operating mode that resulted in the highest SAR during the stand-alone evaluation.

The Bluetooth and 5 GHz WLAN transmitters are spatially separated from the 2G/3G/4G antenna. Therefore, simultaneous transmission SAR evaluations (Volumetric SAR Evaluations) were performed for the transmitters with the overlapping distributions - Bluetooth and 5 GHz WIFI. The SPLSR procedures in FCC KDB Publication 447498 was applied to the 2G/3G/4G transmitter and the aggregate Bluetooth and 5 GHz WLAN distribution to determine simultaneous SAR compliance.

12.11.1 Right Cheek Volumetric SAR Evaluation and Analysis for Bluetooth, and 5GHz WLAN Simultaneous Transmission

Table 12-27
Simultaneous Transmission SAR Analysis

Band/ Mode	Configuration	Frequency [MHz]	Measured Standalone 1g SAR [W/kg]	Maximum Allowed Power [dBm]	Conducted Power (Ant 1) [dBm]	Conducted Power (Ant 2) [dBm]	Duty Cycle (%)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Volumetric 1g SAR [W/kg]	Scaled Volumetric 1g SAR [W/kg]	Volumetric SAR Plot Number
Bluetooth	Right Cheek, Ch. 78, 1 Mbps	2480	0.549	18.5	16.78	N/A	77.6	1.486	1.289	0.634	1.214	A82
5GHz WLAN Ant 1	Right Cheek, 802.11ac, 80 MHz, Ch. 155, 29.3 Mbps	5775	0.213	14.0	13.82	N/A	98.4	1.042	1.016	0.216	0.229	A80
5GHz WLAN MIMO	Right Cheek, 802.11ac, 80MHz, Ch. 155, 58.5 Mbps	5775	0.204	14.0	13.82	13.65	98.80	1.084	1.012	0.226	0.248	A81

Simultaneous Transmission Bands/Modes		Scaled Multi-Band SAR (W/kg)	Simultaneous SAR Plot Number
Bluetooth	5GHz WLAN Ant 1	1.300	A88
Bluetooth	5GHz WLAN MIMO	1.333	A89

Note:
1. All volumetric zoom scans were performed with DASY52 SAR system version 52.10. Post processor SEMCAD X Versions 14.6.12 (7450) multiband combiner requires enlarged zoom scans to overlap but does not require measurement point resolutions within the volumes to be identical for interpolation and superposition.
2. Each antenna was evaluated independently using the channel/configuration that produced the highest measured SAR when the standalone SAR was tested.
3. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v05. The simultaneous transmission SAR results of the individual transmitters were scaled using SEMCAD X during processing.

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12.11.2 Right Cheek SPLSR Evaluation and Analysis for Main Band, Bluetooth, and 5GHz WLAN Simultaneous Transmission

Table 12-28
Peak SAR Locations for Right Cheek

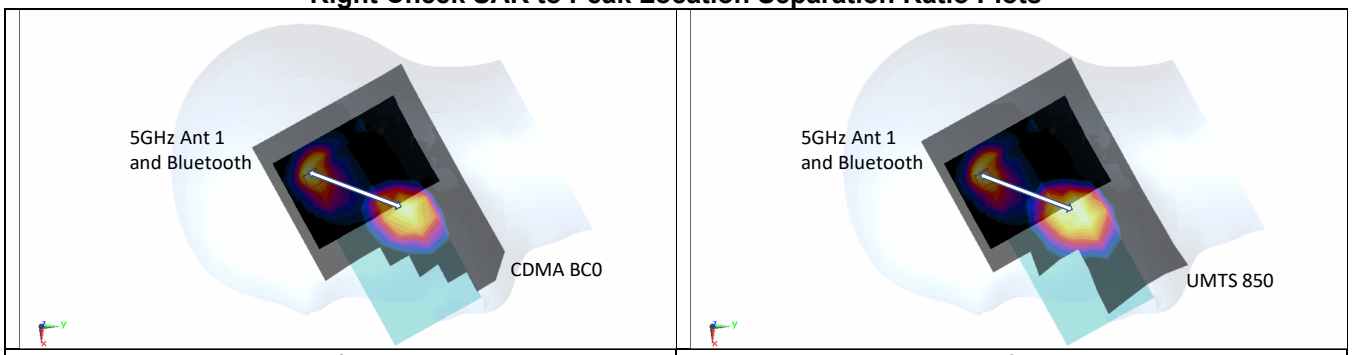
Mode/Band	x (mm)	y (mm)	z (mm)	Reported SAR (W/kg)
5 GHz WLAN Ant 1 and Bluetooth	11.39	-333.52	-176.74	1.300
5 GHz WLAN MIMO and Bluetooth	11.39	-333.52	-176.74	1.330
CDMA BC0	34.09	-266.74	-175.94	0.339
UMTS 850	39.65	-267.10	-175.53	0.327
LTE Band 5 (Cell)	40.56	-274.07	-175.92	0.388
LTE Band 26 (Cell)	42.40	-263.87	-174.84	0.328

The Bluetooth and 5 GHz WIFI SAR values above represent the aggregate distributions from the simultaneous transmission (volumetric) SAR evaluation.

Table 12-29
Right Cheek 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}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 1 and Bluetooth	CDMA BC0	1.300	0.339	1.639	70.54	0.03	1
5 GHz WLAN Ant 1 and Bluetooth	UMTS 850	1.300	0.327	1.627	72.19	0.03	2
5 GHz WLAN Ant 1 and Bluetooth	LTE Band 5 (Cell)	1.300	0.388	1.688	66.23	0.03	3
5 GHz WLAN Ant 1 and Bluetooth	LTE Band 26 (Cell)	1.300	0.328	1.628	76.27	0.03	4
5 GHz WLAN MIMO and Bluetooth	CDMA BC0	1.330	0.339	1.669	70.54	0.03	5
5 GHz WLAN MIMO and Bluetooth	UMTS 850	1.330	0.327	1.657	72.19	0.03	6
5 GHz WLAN MIMO and Bluetooth	LTE Band 5 (Cell)	1.330	0.388	1.718	66.23	0.03	7
5 GHz WLAN MIMO and Bluetooth	LTE Band 26 (Cell)	1.330	0.328	1.658	76.27	0.03	8

Table 12-30
Right Cheek SAR to Peak Location Separation Ratio Plots



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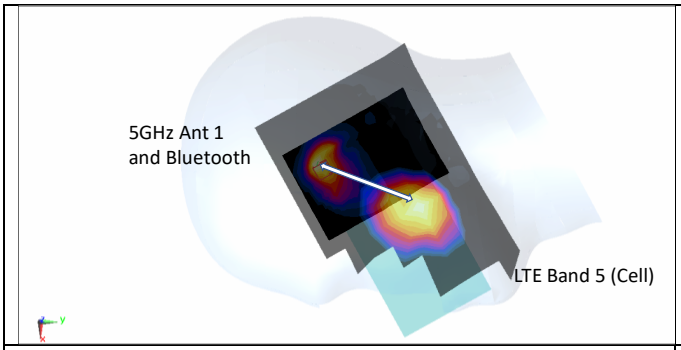

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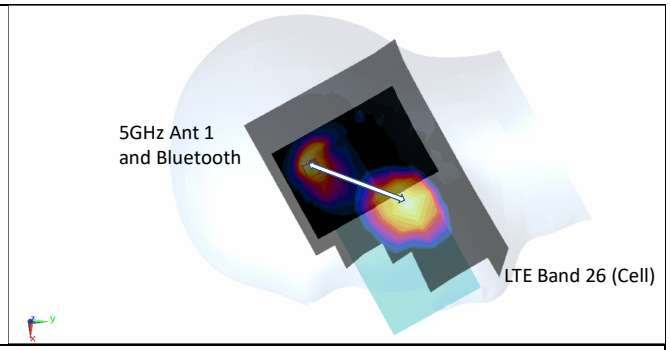

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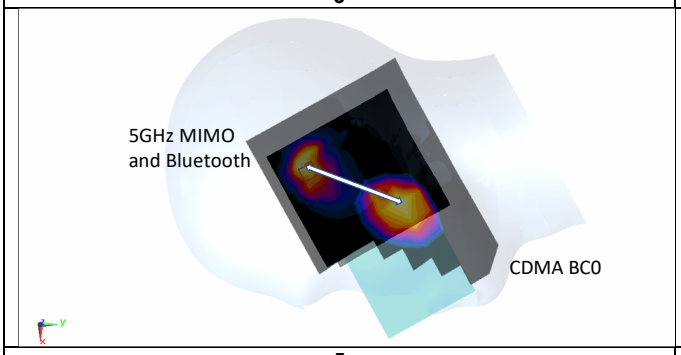

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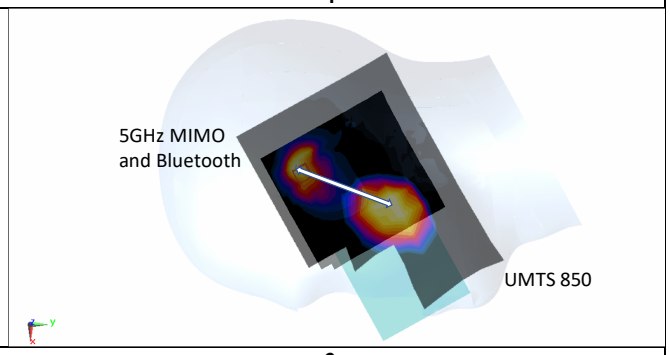

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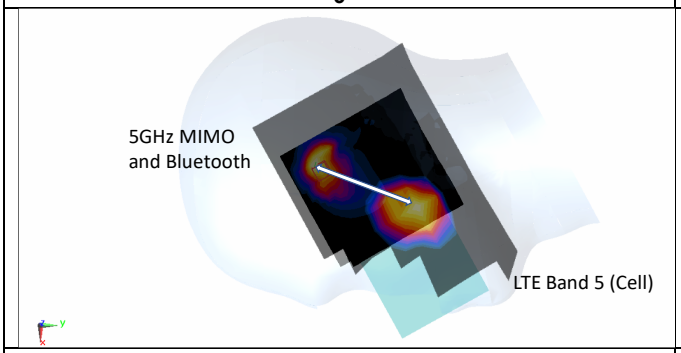

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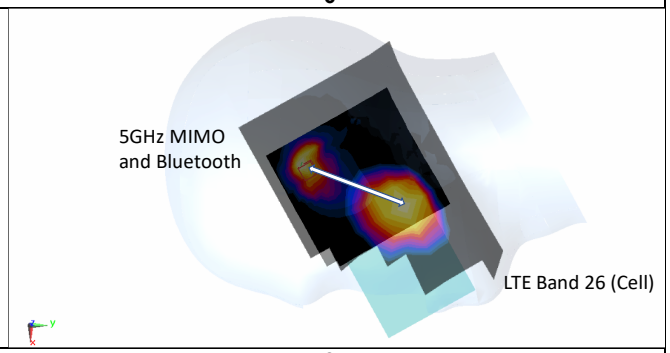

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12.11.3 Body-worn Back Side Volumetric SAR Evaluation and Analysis for Bluetooth, and 5GHz WLAN Simultaneous Transmission

Table 12-31
Simultaneous Transmission SAR Analysis

Band/ Mode	Configuration	Frequency [MHz]	Measured Standalone 1g SAR [W/kg]	Maximum Allowed Power [dBm]	Conducted Power (Ant 1) [dBm]	Conducted Power (Ant 2) [dBm]	Duty Cycle (%)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Volumetric 1g SAR [W/kg]	Scaled Volumetric 1g SAR [W/kg]	Volumetric SAR Plot Number
Bluetooth	Back side, Ch. 39, 1 Mbps, 10 mm	2441	0.086	18.5	18.13	N/A	77.6	1.090	1.289	0.077	0.108	A87
5GHz WLAN Ant 1	Back side, 802.11a, 20 MHz, Ch. 165, 6 Mbps, 15 mm	5825	0.180	18.5	18.45	N/A	98.6	1.012	1.014	0.157	0.161	A83
5GHz WLAN Ant 2	Back side, 802.11a, 20 MHz, Ch. 144, 6Mpbs, 15 mm	5720	0.255	18.5	N/A	18.39	98.8	1.026	1.012	0.267	0.277	A84
5GHz WLAN MIMO	Back side, 802.11n, 20 Mhz, Ch. 124, 13 Mbps, 15 mm	5620	0.476	18.0	17.88	17.98	98.6	1.028	1.014	0.466	0.486	A85

Simultaneous Transmission Bands/Modes		Scaled Multi-Band SAR (W/kg)	Simultaneous SAR Plot Number
Bluetooth	5GHz WLAN Ant 1	0.237	A90
Bluetooth	5GHz WLAN Ant 2	0.383	A91
Bluetooth	5GHz WLAN MIMO	0.593	A92

Note:
1. All volumetric zoom scans were performed with DASY52 SAR system version 52.10. Post processor SEMCAD X Versions 14.6.12 (7450) multiband combiner requires enlarged zoom scans to overlap but does not require measurement point resolutions within the volumes to be identical for interpolation and superposition.
2. Each antenna was evaluated independently using the channel/configuration that produced the highest measured SAR when the standalone SAR was tested.
3. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v05. The simultaneous transmission SAR results of the individual transmitters were scaled using SEMCAD X during processing.
4. Volumetric SAR for Bluetooth at 10 mm was considered for simultaneous transmission evaluation at 15mm as it is more conservative. There were no significant changes in the distributions bluetooth at 10mm and 15mm.

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12.11.4 Body-worn SPLSR Evaluation and Analysis for Main Band, Bluetooth, and 5GHz WLAN Simultaneous Transmission

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

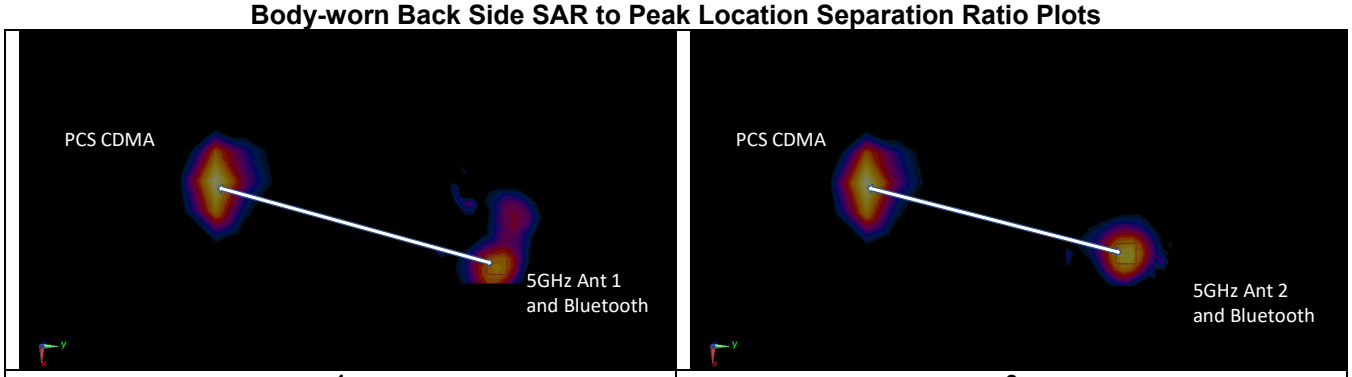
Mode/Band	x (mm)	y (mm)	Reported SAR (W/kg)
5 GHz WLAN Ant 1 and Bluetooth	11.00	64.00	0.237
5 GHz WLAN Ant 2 and Bluetooth	3.00	56.00	0.383
5 GHz WLAN MIMO and Bluetooth	3.00	56.00	0.593
PCS CDMA	-32.00	-73.50	1.370
UMTS 1900	-20.00	-73.50	1.137
LTE Band 25 (PCS)	-21.50	-76.50	1.344

The Bluetooth and 5 GHz WIFI SAR values above represent the aggregate distributions from the simultaneous transmission (volumetric) SAR evaluation.

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}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 1 and Bluetooth	PCS CDMA	0.237	1.370	1.607	144.07	0.01	1
5 GHz WLAN Ant 2 and Bluetooth	PCS CDMA	0.383	1.370	1.753	134.15	0.02	2
5 GHz WLAN Ant 2 and Bluetooth	LTE Band 25 (PCS)	0.383	1.344	1.727	134.75	0.02	3
5 GHz WLAN MIMO and Bluetooth	PCS CDMA	0.593	1.370	1.963	134.15	0.02	4
5 GHz WLAN MIMO and Bluetooth	UMTS 1900	0.593	1.137	1.730	131.53	0.02	5
5 GHz WLAN MIMO and Bluetooth	LTE Band 25 (PCS)	0.593	1.344	1.937	134.75	0.02	6

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



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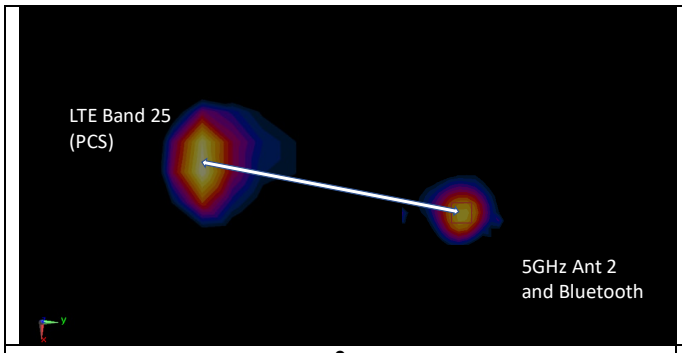

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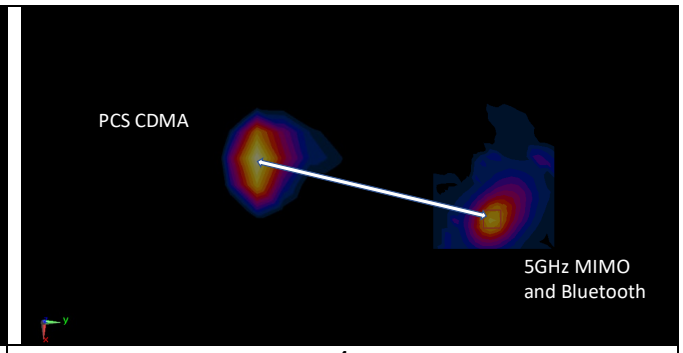

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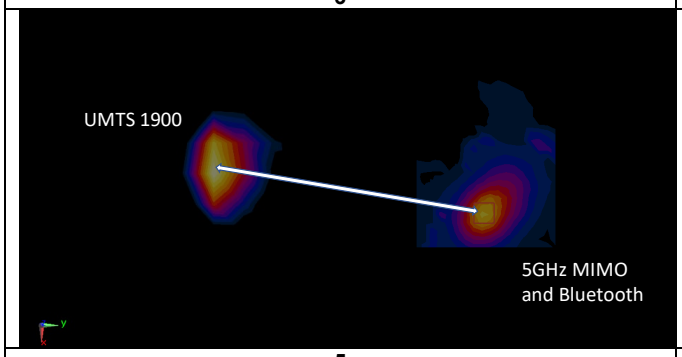

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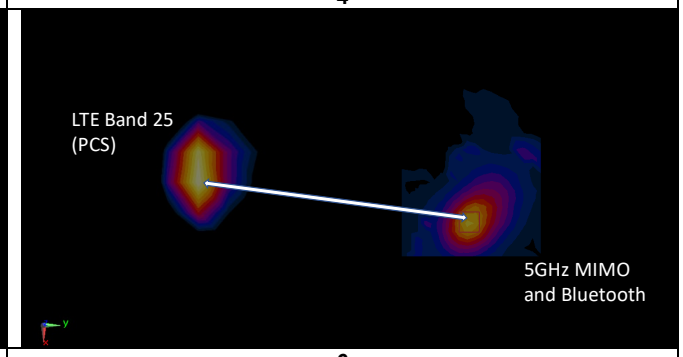

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12.11.5 Hotspot Back Side Volumetric SAR Evaluation and Analysis for Bluetooth, and 5GHz WLAN Simultaneous Transmission

Table 12-35
Simultaneous Transmission SAR Analysis

Band/ Mode	Configuration	Frequency [MHz]	Measured Standalone 1g SAR [W/kg]	Maximum Allowed Power [dBm]	Conducted Power (Ant 1) [dBm]	Conducted Power (Ant 2) [dBm]	Duty Cycle (%)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Volumetric 1g SAR [W/kg]	Scaled Volumetric 1g SAR [W/kg]	Volumetric SAR Plot Number
Bluetooth	Back side, Ch. 39, 1Mbps, 10 mm	2441	0.086	18.5	18.13	N/A	77.6	1.090	1.289	0.077	0.108	A87
5GHz WLAN MIMO	Back side, 802.11n, 20Mhz, Ch. 165, 13 Mbps, 10 mm	5825	0.778	18.5	18.37	18.05	98.6	1.109	1.014	0.801	0.901	A86

Simultaneous Transmission Bands/Modes		Scaled Multi-Band SAR (W/kg)	Simultaneous SAR Plot Number
Bluetooth	5GHz WLAN MIMO	0.994	A93

Note:
1. All volumetric zoom scans were performed with DASY52 SAR system version 52.10. Post processor SEMCAD X Versions 14.6.12 (7450) multiband combiner requires enlarged zoom scans to overlap but does not require measurement point resolutions within the volumes to be identical for interpolation and superposition.
2. Each antenna was evaluated independently using the channel/configuration that produced the highest measured SAR when the standalone SAR was tested.
3. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v05. The simultaneous transmission SAR results of the individual transmitters were scaled using SEMCAD X during processing.

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12.11.6 Hotspot Back Side SPLSR Evaluation and Analysis for Main Band, Bluetooth, and 5GHz WLAN Simultaneous Transmission

Table 12-36
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)	Reported SAR (W/kg)
5 GHz WLAN MIMO and Bluetooth	3.00	56.00	0.994
EVDO BC10 (§90S)	-19.50	-80.00	0.680
EVDO BC0 (§22H)	-19.50	-80.00	0.763
GPRS 850	-10.00	-73.50	0.778
UMTS 850	-11.50	-80.00	0.701
UMTS 1750	-26.50	-72.00	0.624
PCS EVDO	-21.50	-78.00	0.608
GPRS 1900	-33.50	-70.50	0.778
UMTS 1900	-20.00	-75.00	0.799
LTE Band 26 (Cell)	-13.00	-80.00	0.611
LTE Band 5 (Cell)	-11.50	-72.00	0.608
LTE Band 66 (AWS)	-26.50	-70.50	0.624
LTE Band 25 (PCS)	-21.50	-76.50	0.750
LTE Band 30	-28.60	-70.80	0.731

The Bluetooth and 5 GHz WIFI SAR values above represent the aggregate distributions from the simultaneous transmission (volumetric) SAR evaluation.

Table 12-37
Hotspot Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN MIMO and Bluetooth	EVDO BC10 (§90S)	0.994	0.680	1.674	137.85	0.02	1
5 GHz WLAN MIMO and Bluetooth	EVDO BC0 (§22H)	0.994	0.763	1.757	137.85	0.02	2
5 GHz WLAN MIMO and Bluetooth	GPRS 850	0.994	0.778	1.772	130.15	0.02	3
5 GHz WLAN MIMO and Bluetooth	UMTS 850	0.994	0.701	1.695	136.77	0.02	4
5 GHz WLAN MIMO and Bluetooth	UMTS 1750	0.994	0.624	1.618	131.36	0.02	5
5 GHz WLAN MIMO and Bluetooth	PCS EVDO	0.994	0.608	1.602	136.22	0.01	6
5 GHz WLAN MIMO and Bluetooth	GPRS 1900	0.994	0.778	1.772	131.66	0.02	7
5 GHz WLAN MIMO and Bluetooth	UMTS 1900	0.994	0.799	1.793	133.00	0.02	8
5 GHz WLAN MIMO and Bluetooth	LTE Band 26 (Cell)	0.994	0.611	1.605	136.94	0.01	9
5 GHz WLAN MIMO and Bluetooth	LTE Band 5 (Cell)	0.994	0.608	1.602	128.82	0.02	10
5 GHz WLAN MIMO and Bluetooth	LTE Band 66 (AWS)	0.994	0.624	1.618	129.89	0.02	11
5 GHz WLAN MIMO and Bluetooth	LTE Band 25 (PCS)	0.994	0.750	1.744	134.75	0.02	12
5 GHz WLAN MIMO and Bluetooth	LTE Band 30	0.994	0.731	1.725	130.68	0.02	13

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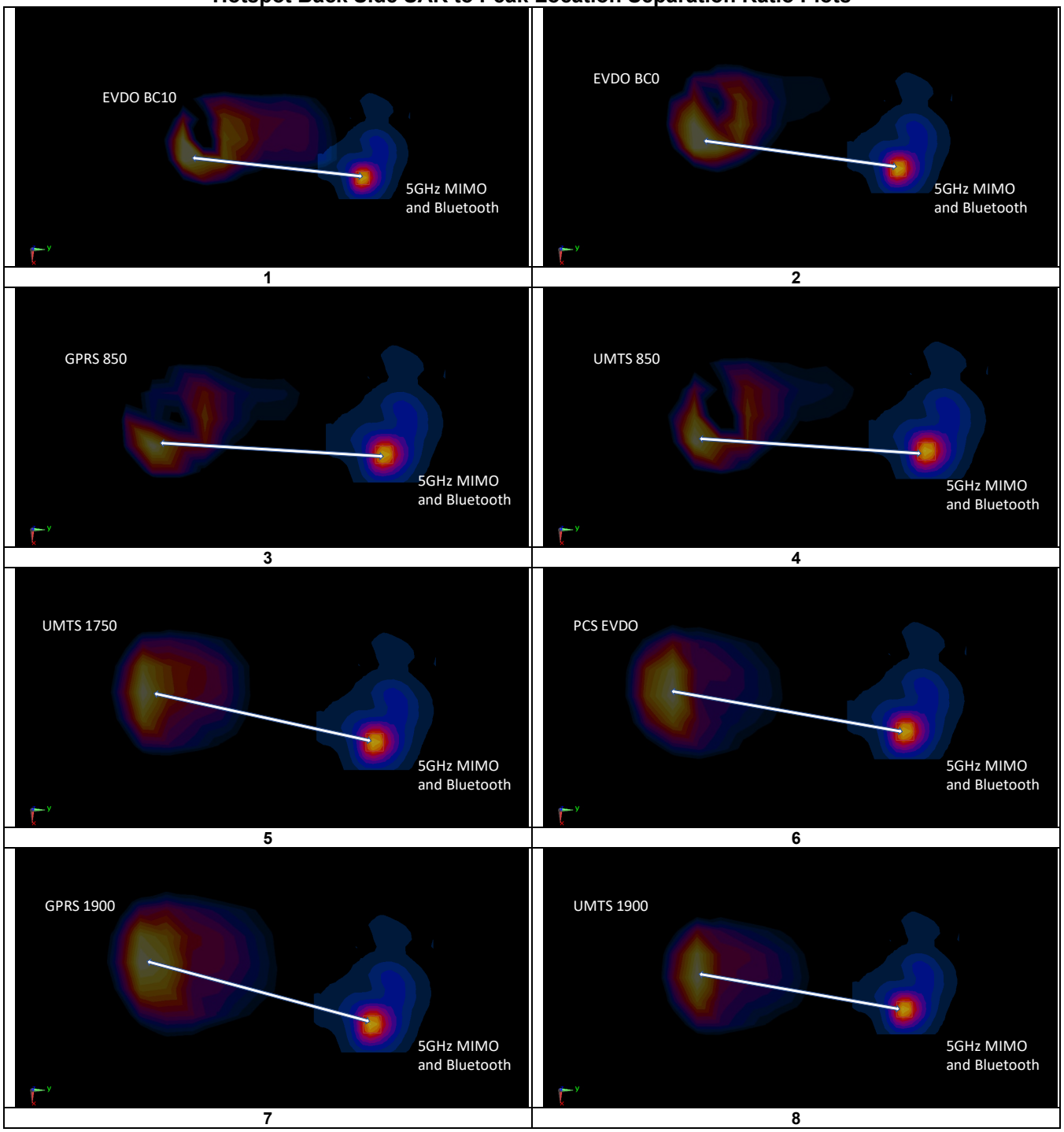
Table 12-38
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



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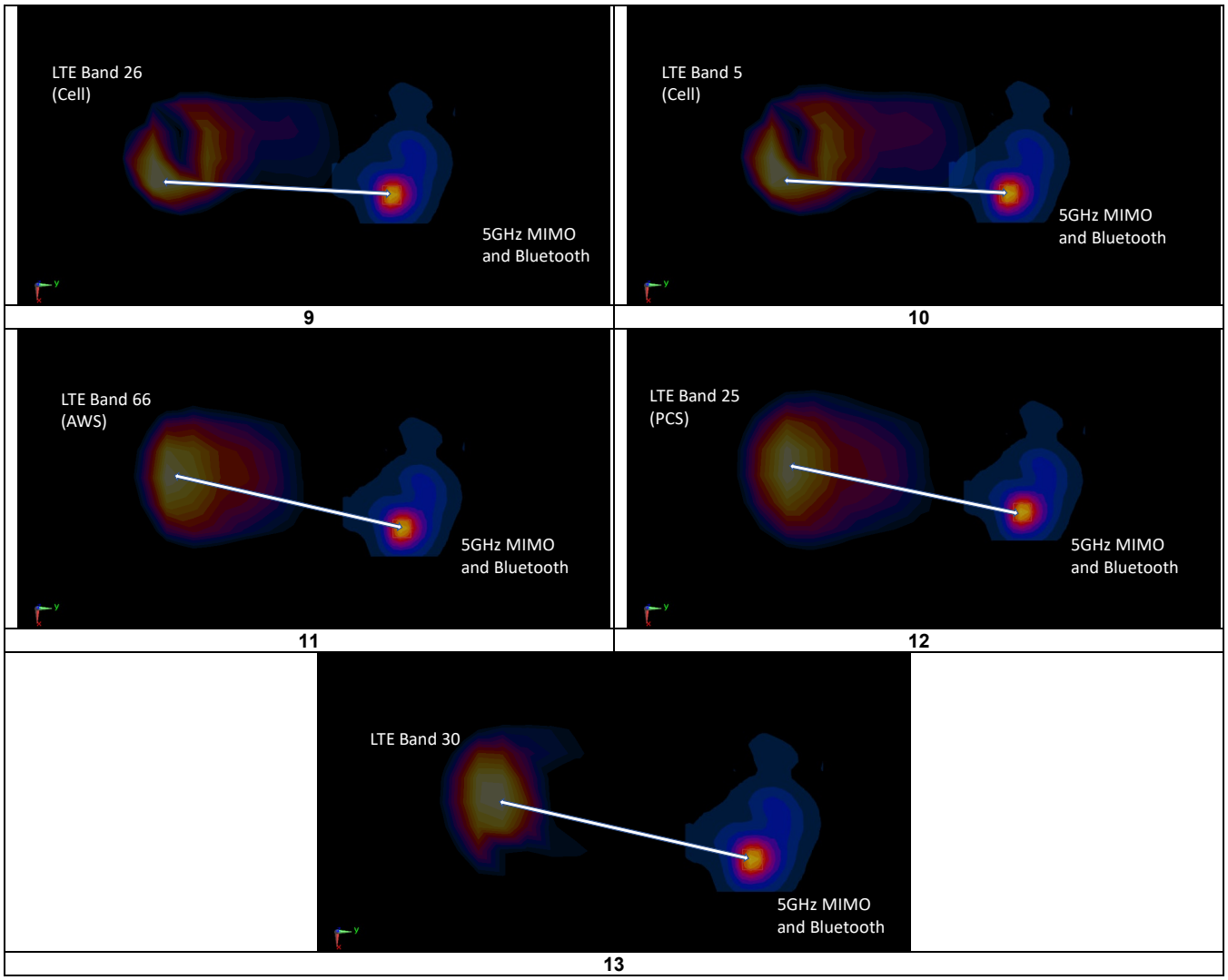

12.12 Simultaneous Transmission Conclusion

The above analysis for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

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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	Component Carrier	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
		MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	PCC	1775.00	132622	LTE Band 66 (AWS) ULCA, 10 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.838	0.816	1.03	N/A	N/A	N/A	N/A
	SCC	1765.10	132523		QPSK, 1RB, 49 RB Offset									
1900	N/A	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	back	15 mm	1.020	1.000	1.02	N/A	N/A	N/A	N/A
2300	N/A	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 12 RB Offset	bottom	10 mm	1.090	1.050	1.04	N/A	N/A	N/A	N/A
2450	N/A	2506.00	39750	LTE Band 41, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.821	0.800	1.03	N/A	N/A	N/A	N/A
2600	PCC	2549.50	40185	LTE Band 41 ULCA, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.978	0.959	1.02	N/A	N/A	N/A	N/A
	SCC	2529.70	39987		QPSK, 1RB, 99 RB Offset									
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS																
Band	Component Carrier	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
		MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	PCC	1745.00	132322	LTE Band 66 (AWS) ULCA, 10 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	bottom	0 mm	2.610	2.550	1.02	N/A	N/A	N/A	N/A
	SCC	1735.10	132223		QPSK, 1RB, 49 RB Offset										
1900	N/A	1882.50	26365	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 0 RB Offset	N/A	back	0 mm	2.880	2.890	1.00	N/A	N/A	N/A	N/A
2450	PCC	2506.00	39750	LTE Band 41 ULCA, 20 MHz Bandwidth	QPSK, 1 RB, 99 RB Offset	N/A	bottom	0 mm	2.260	1.970	1.15	N/A	N/A	N/A	N/A
	SCC	2525.80	39948		QPSK, 1RB, 0 RB Offset										
2600	N/A	2549.50	40185	LTE Band 41, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	bottom	0 mm	2.030	2.220	1.09	N/A	N/A	N/A	N/A
5600	N/A	5600.00	120	802.11a, 20 MHz Bandwidth	OFDM, ANT 2	6	back	0 mm	2.380	2.250	1.06	N/A	N/A	N/A	N/A
5750	N/A	5720.00	144	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.510	2.400	1.05	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.

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14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

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

To evaluate all the tuner states, the 60 tuner states were divided among the aggregate band, mode and exposure combinations so that each combination was evaluated for at least 20 tuner states and also so that at least 3 single point SAR measurements were made for every available tuner state. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 60 states.

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

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

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Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data									
UMTS Band 5		UMTS Band 4		UMTS Band 2		CDMA BC0		CDMA BC1	
RMC		RMC		RMC		RC3/SO55		RC3/SO55	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880	Frequency (MHz)	836.52	Frequency (MHz)	1880
Channel	4183	Channel	1412	Channel	9400	Channel	384	Channel	600
Measured 1g SAR (W/kg)	0.249	Measured 1g SAR (W/kg)	0.142	Measured 1g SAR (W/kg)	0.199	Measured 1g SAR (W/kg)	0.268	Measured 1g SAR (W/kg)	0.251
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 2)	0.316	Auto-tune (State 16)	0.202	Auto-tune (State 16)	0.256	Auto-tune (State 2)	0.369	Auto-tune (State 16)	0.298
Default (State 0)	0.309	Default (State 16)	0.202	Default (State 16)	0.254	Default (State 0)	0.360	Default (State 16)	0.298
State 0	0.309	State 4	0.131	State 4	0.213	State 0	0.360	State 0	0.275
State 1	0.299	State 7	0.131	State 6	0.199	State 2	0.373	State 5	0.232
State 2	0.314	State 10	0.098	State 9	0.178	State 3	0.360	State 7	0.211
State 5	0.288	State 11	0.086	State 11	0.144	State 9	0.240	State 11	0.140
State 11	0.131	State 14	0.063	State 16	0.254	State 11	0.156	State 12	0.112
State 16	0.236	State 16	0.202	State 17	0.251	State 16	0.274	State 16	0.298
State 18	0.285	State 17	0.191	State 21	0.239	State 22	0.330	State 17	0.296
State 21	0.288	State 21	0.196	State 23	0.228	State 23	0.321	State 18	0.287
State 22	0.283	State 24	0.196	State 24	0.231	State 25	0.256	State 25	0.243
State 25	0.220	State 27	0.187	State 26	0.204	State 29	0.087	State 27	0.195
State 27	0.141	State 30	0.149	State 29	0.130	State 32	0.279	State 32	0.295
State 28	0.099	State 33	0.180	State 32	0.243	State 39	0.322	State 34	0.280
State 29	0.076	State 36	0.171	State 33	0.242	State 41	0.260	State 36	0.270
State 33	0.240	State 39	0.164	State 36	0.233	State 44	0.117	State 37	0.268
State 37	0.292	State 42	0.151	State 38	0.222	State 46	0.063	State 43	0.173
State 42	0.184	State 45	0.118	State 41	0.204	State 47	0.037	State 45	0.117
State 51	0.303	State 48	0.142	State 44	0.140	State 51	0.350	State 48	0.218
State 52	0.234	State 55	0.190	State 45	0.117	State 54	0.342	State 53	0.287
State 53	0.242	State 57	0.158	State 54	0.212	State 56	0.279	State 55	0.272
State 57	0.305	State 58	0.199	State 56	0.222	State 57	0.369	State 58	0.300

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data															
LTE Band 71		LTE Band 12		LTE Band 13		LTE Band 14		LTE Band 5		LTE Band 26		LTE Band 66		LTE Band 25	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	793	Frequency (MHz)	836.5	Frequency (MHz)	831.5	Frequency (MHz)	1770	Frequency (MHz)	1882.5
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	20525	Channel	26865	Channel	132572	Channel	26365
Measured 1g SAR (W/kg)	0.131	Measured 1g SAR (W/kg)	0.183	Measured 1g SAR (W/kg)	0.219	Measured 1g SAR (W/kg)	0.253	Measured 1g SAR (W/kg)	0.325	Measured 1g SAR (W/kg)	0.290	Measured 1g SAR (W/kg)	0.202	Measured 1g SAR (W/kg)	0.227
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.182	Auto-tune (State 0)	0.206	Auto-tune (State 0)	0.234	Auto-tune (State 0)	0.279	Auto-tune (State 0)	0.385	Auto-tune (State 0)	0.369	Auto-tune (State 16)	0.238	Auto-tune (State 16)	0.285
Default (State 1)	0.180	Default (State 0)	0.210	Default (State 0)	0.239	Default (State 0)	0.266	Default (State 0)	0.383	Default (State 0)	0.368	Default (State 16)	0.235	Default (State 16)	0.278
State 0	0.180	State 0	0.210	State 0	0.239	State 0	0.266	State 0	0.383	State 0	0.368	State 0	0.202	State 0	0.239
State 1	0.180	State 1	0.209	State 1	0.233	State 3	0.235	State 1	0.373	State 5	0.340	State 1	0.195	State 3	0.230
State 2	0.134	State 2	0.166	State 8	0.179	State 4	0.235	State 3	0.365	State 8	0.306	State 4	0.163	State 5	0.224
State 5	0.124	State 10	0.087	State 17	0.097	State 6	0.216	State 6	0.326	State 9	0.267	State 5	0.161	State 8	0.209
State 8	0.097	State 12	0.050	State 20	0.149	State 9	0.175	State 10	0.216	State 12	0.135	State 9	0.135	State 10	0.175
State 9	0.080	State 14	0.030	State 24	0.151	State 11	0.122	State 13	0.095	State 14	0.080	State 11	0.106	State 12	0.122
State 15	0.011	State 22	0.136	State 33	0.102	State 12	0.090	State 17	0.205	State 17	0.173	State 15	0.046	State 14	0.080
State 16	0.106	State 27	0.044	State 34	0.154	State 14	0.055	State 19	0.286	State 21	0.255	State 16	0.235	State 16	0.278
State 21	0.110	State 40	0.131	State 39	0.160	State 22	0.185	State 23	0.296	State 25	0.246	State 19	0.232	State 17	0.268
State 22	0.105	State 45	0.020	State 43	0.081	State 24	0.183	State 26	0.232	State 30	0.046	State 20	0.228	State 23	0.248
State 25	0.070	State 46	0.013	State 50	0.102	State 26	0.123	State 30	0.055	State 31	0.026	State 21	0.227	State 28	0.169
State 28	0.020	State 51	0.208	State 56	0.101	State 29	0.035	State 35	0.291	State 36	0.259	State 25	0.215	State 35	0.248
State 29	0.013	State 59	0.108	State 57	0.232	State 36	0.186	State 38	0.302	State 39	0.273	State 31	0.112	State 40	0.236
State 32	0.110					State 38	0.191	State 42	0.240	State 41	0.256	State 32	0.215	State 41	0.217
State 33	0.110					State 41	0.167	State 44	0.122	State 45	0.078	State 37	0.198	State 44	0.145
State 37	0.119					State 48	0.262	State 49	0.203	State 47	0.029	State 40	0.187	State 48	0.192
State 51	0.173					State 53	0.119	State 52	0.205	State 50	0.178	State 43	0.155	State 52	0.267
State 52	0.105					State 54	0.256	State 55	0.203	State 53	0.181	State 49	0.205	State 54	0.223
State 53	0.111					State 56	0.118	State 56	0.212	State 54	0.361	State 53	0.216	State 56	0.233
State 57	0.170					State 57	0.255	State 59	0.219	State 56	0.178	State 58	0.227	State 59	0.255

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Table 14-3
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data									
UMTS Band 5		UMTS Band 4		UMTS Band 2		CDMA BC0		CDMA BC1	
RMC		RMC		RMC		EVDO Rev. 0		RC3/SO55	
Test Position	Back	Test Position	Bottom	Test Position	Bottom	Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	15 mm
Frequency (MHz)	846.6	Frequency (MHz)	1712.4	Frequency (MHz)	1907.6	Frequency (MHz)	836.52	Frequency (MHz)	1908.75
Channel	4233	Channel	1312	Channel	9538	Channel	384	Channel	1175
Measured 1g SAR (W/kg)	0.532	Measured 1g SAR (W/kg)	0.714	Measured 1g SAR (W/kg)	0.972	Measured 1g SAR (W/kg)	0.598	Measured 1g SAR (W/kg)	1.020
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 5)	0.905	Auto-tune (State 27)	1.003	Auto-tune (State 16)	1.042	Auto-tune (State 5)	0.989	Auto-tune (State 16)	1.145
Default (State 0)	0.867	Default (State 16)	0.873	Default (State 16)	1.054	Default (State 0)	0.968	Default (State 16)	1.147
State 0	0.867	State 0	0.804	State 0	1.005	State 0	0.968	State 0	1.063
State 2	0.892	State 1	0.810	State 3	0.930	State 1	0.960	State 3	0.996
State 4	0.879	State 3	0.733	State 5	0.915	State 3	0.987	State 6	0.927
State 5	0.884	State 7	0.689	State 8	0.872	State 4	0.976	State 8	0.909
State 7	0.828	State 9	0.651	State 10	0.747	State 5	1.010	State 12	0.526
State 10	0.646	State 12	0.504	State 15	0.287	State 7	0.863	State 13	0.418
State 11	0.534	State 16	0.873	State 16	1.054	State 8	0.838	State 16	1.147
State 14	0.156	State 17	0.864	State 18	1.048	State 17	0.654	State 17	1.101
State 24	0.631	State 18	0.956	State 21	1.034	State 19	0.828	State 20	1.144
State 27	0.418	State 23	1.006	State 25	0.976	State 22	0.827	State 23	1.083
State 31	0.079	State 27	1.073	State 30	0.562	State 28	0.293	State 26	0.941
State 32	0.450	State 29	1.003	State 33	1.016	State 33	0.669	State 31	0.315
State 34	0.586	State 35	0.887	State 35	0.988	State 34	0.838	State 35	1.076
State 36	0.610	State 36	0.891	State 37	0.978	State 35	0.839	State 39	0.995
State 43	0.446	State 39	0.898	State 41	0.892	State 40	0.81	State 43	0.735
State 46	0.148	State 41	0.899	State 42	0.844	State 45	0.233	State 45	0.495
State 47	0.087	State 48	0.744	State 44	0.663	State 46	0.161	State 47	0.276
State 49	0.861	State 49	0.770	State 50	0.841	State 48	0.937	State 52	1.085
State 52	0.881	State 52	0.860	State 53	1.007	State 50	0.654	State 55	1.047
State 55	0.864	State 56	0.822	State 54	0.908	State 55	0.943	State 57	1.014
State 58	0.875	State 59	0.851	State 55	0.942	State 57	0.956	State 58	1.105

Table 14-4
LTE Supplemental Body SAR Data

Supplemental Body SAR Data															
LTE Band 71		LTE Band 12		LTE Band 13		LTE Band 14		LTE Band 5		LTE Band 26		LTE Band 66		LTE Band 25	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	15 mm	Spacing	15 mm
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	793	Frequency (MHz)	836.5	Frequency (MHz)	836.5	Frequency (MHz)	1745	Frequency (MHz)	1905
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	20525	Channel	26865	Channel	132322	Channel	26590
Measured 1g SAR (W/kg)	0.390	Measured 1g SAR (W/kg)	0.393	Measured 1g SAR (W/kg)	0.420	Measured 1g SAR (W/kg)	0.535	Measured 1g SAR (W/kg)	0.509	Measured 1g SAR (W/kg)	0.540	Measured 1g SAR (W/kg)	0.708	Measured 1g SAR (W/kg)	1.020
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.594	Auto-tune (State 0)	0.632	Auto-tune (State 0)	0.629	Auto-tune (State 0)	0.71	Auto-tune (State 3)	0.822	Auto-tune (State 3)	0.891	Auto-tune (State 19)	0.880	Auto-tune (State 16)	1.129
Default (State 1)	0.604	Default (State 0)	0.612	Default (State 0)	0.604	Default (State 0)	0.702	Default (State 0)	0.817	Default (State 0)	0.887	Default (State 16)	0.814	Default (State 16)	1.142
State 0	0.606	State 0	0.612	State 0	0.604	State 0	0.702	State 0	0.817	State 0	0.887	State 0	0.736	State 0	1.065
State 1	0.604	State 1	0.610	State 1	0.601	State 2	0.666	State 3	0.808	State 1	0.876	State 2	0.669	State 1	1.056
State 2	0.466	State 6	0.470	State 6	0.540	State 3	0.655	State 8	0.712	State 3	0.861	State 6	0.617	State 3	0.976
State 8	0.331	State 9	0.379	State 11	0.329	State 5	0.640	State 9	0.616	State 6	0.815	State 8	0.607	State 6	0.907
State 9	0.264	State 13	0.159	State 13	0.198	State 8	0.574	State 15	0.102	State 7	0.788	State 13	0.360	State 8	0.901
State 19	0.355	State 15	0.082	State 19	0.382	State 10	0.434	State 16	0.486	State 10	0.597	State 14	0.307	State 9	0.816
State 20	0.353	State 21	0.325	State 21	0.391	State 14	0.161	State 18	0.630	State 13	0.299	State 16	0.814	State 11	0.662
State 22	0.337	State 23	0.258	State 26	0.250	State 16	0.312	State 20	0.638	State 17	0.390	State 17	0.798	State 13	0.452
State 33	0.349	State 31	0.015	State 30	0.047	State 18	0.448	State 22	0.652	State 18	0.555	State 19	0.856	State 16	1.142
State 34	0.376	State 34	0.381	State 35	0.399	State 21	0.469	State 24	0.646	State 22	0.607	State 20	0.860	State 17	1.131
State 36	0.372	State 38	0.302	State 45	0.082	State 25	0.398	State 26	0.498	State 23	0.609	State 22	0.864	State 19	1.108
State 40	0.320	State 43	0.097	State 49	0.250	State 30	0.058	State 34	0.646	State 27	0.219	State 28	0.404	State 26	0.958
State 43	0.117	State 51	0.603	State 54	0.599	State 33	0.322	State 38	0.673	State 30	0.101	State 33	0.781	State 30	0.536
State 44	0.071					State 37	0.492	State 40	0.667	State 37	0.101	State 40	0.770	State 32	1.106
State 47	0.021					State 39	0.487	State 41	0.614	State 38	0.641	State 42	0.729	State 38	0.989
State 49	0.329					State 42	0.328	State 44	0.267	State 41	0.646	State 47	0.459	State 42	0.86
State 51	0.609					State 44	0.142	State 48	0.790	State 42	0.602	State 49	0.719	State 45	0.561
State 53	0.350					State 48	0.687	State 50	0.499	State 49	0.407	State 51	0.787	State 47	0.337
State 54	0.607					State 50	0.318	State 53	0.507	State 50	0.386	State 53	0.783	State 49	0.932
State 58	0.333					State 54	0.690	State 56	0.495	State 52	0.398	State 55	0.761	State 54	0.948
State 59	0.351					State 57	0.696	State 57	0.807	State 55	0.388	State 59	0.795	State 58	1.133

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

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR for each exposure condition. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear. When ULCA is active, the linearity between the Power Class 2 with ULCA active and Power Class 3 with ULCA active SAR results and the respective frame averaged powers was calculated to determine that the results were linear. Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes was < 10% and all reported SAR values were < 1.4 W/kg for 1g and < 3.5 W/kg for 10g.

LTE Band 41 SAR testing with power class 2 at the highest power and available duty factor was additionally performed for the power class 3 configuration with the highest SAR for each exposure condition.

Table 14-5
LTE Band 41 Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	24.58	27.72
Measured SAR (W/kg)	0.056	0.076
Measured Power (mW)	287.08	591.56
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	181.72	256.15
% deviation from expected linearity		-3.72%

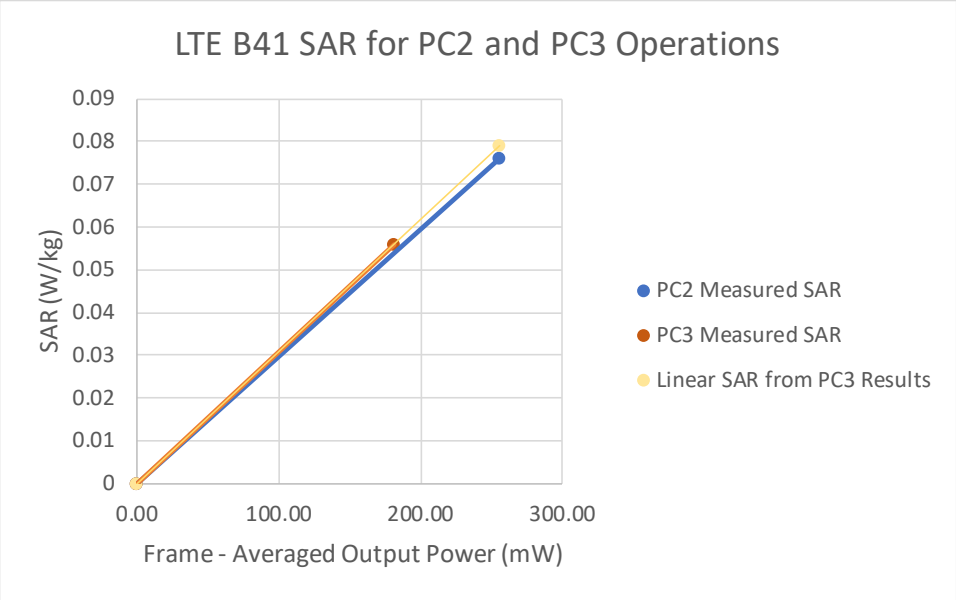

Figure 14-1
LTE Band 41 Head Linearity

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Table 14-6
LTE Band 41 ULCA Head Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	25.23	27.89
Measured SAR (W/kg)	0.065	0.085
Measured Power (mW)	333.43	615.18
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	211.06	266.37
% deviation from expected linearity		3.49%

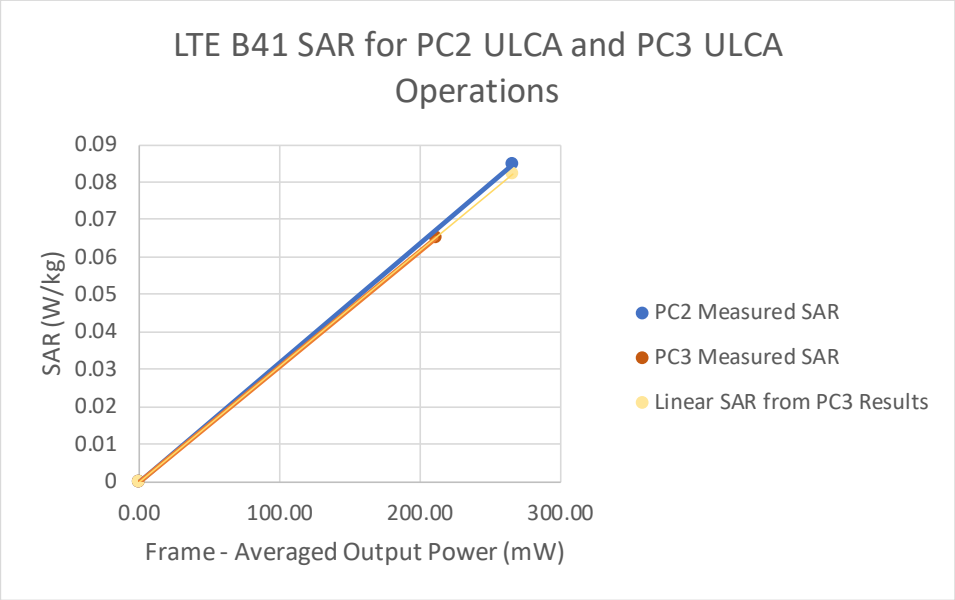

Figure 14-2
LTE Band 41 Head Linearity

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Table 14-7
LTE Band 41 Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	24.58	27.72
Measured SAR (W/kg)	0.327	0.426
Measured Power (mW)	287.08	591.56
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	181.72	256.15
% deviation from expected linearity		-7.58%

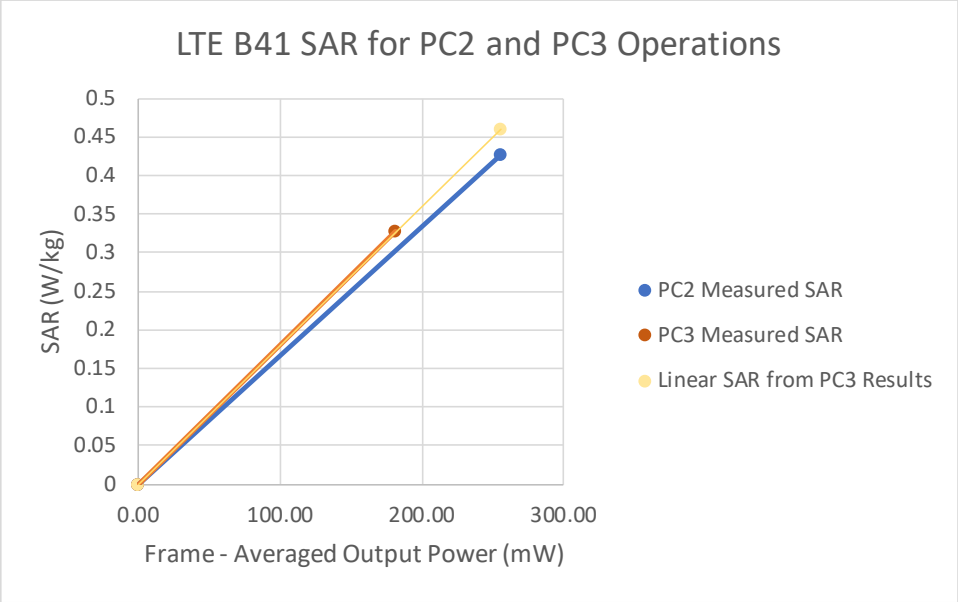

Figure 14-3
LTE Band 41 Body-Worn Linearity

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Table 14-8
LTE Band 41 ULCA Body-Worn Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	25.23	27.89
Measured SAR (W/kg)	0.358	0.483
Measured Power (mW)	333.43	615.18
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	211.06	266.37
% deviation from expected linearity		6.90%

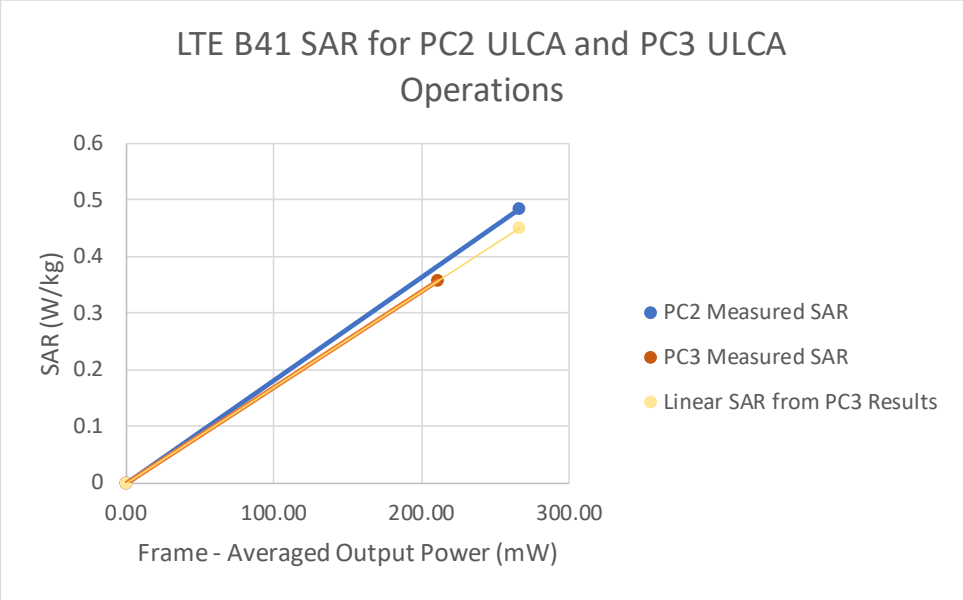

Figure 14-4
LTE Band 41 Body-Worn Linearity

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Table 14-9
LTE Band 41 Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	23.5	23.5
Measured Output Power (dBm)	22.75	22.68
Measured SAR (W/kg)	0.831	0.551
Measured Power (mW)	188.36	185.35
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	119.23	80.26
% deviation from expected linearity		-1.49%

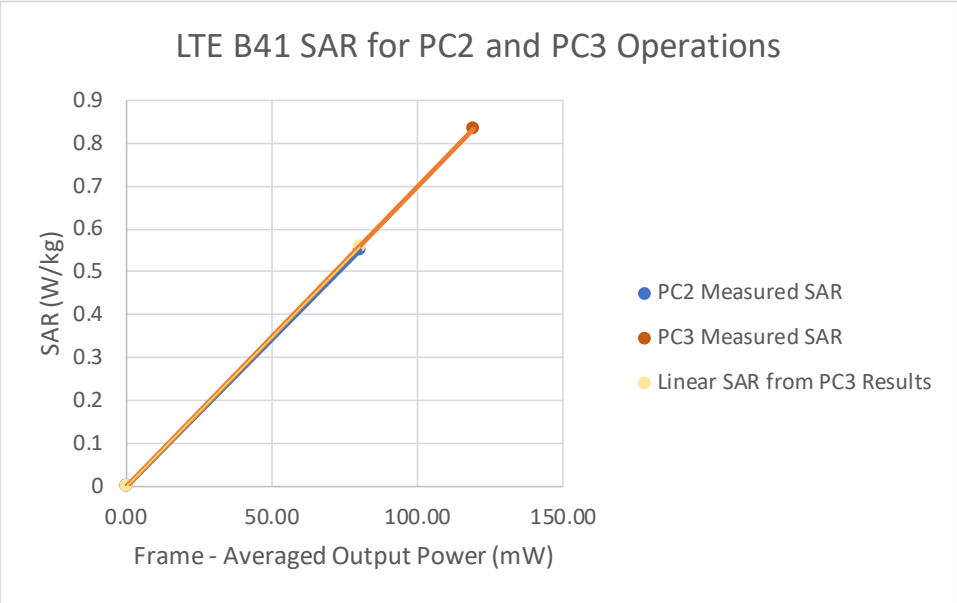

Figure 14-5
LTE Band 41 Hotspot Linearity

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Table 14-10
LTE Band 41 ULCA Hotspot Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	23.5	23.5
Measured Output Power (dBm)	23.32	22.98
Measured SAR (W/kg)	0.978	0.595
Measured Power (mW)	214.78	198.61
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	135.96	86.00
% deviation from expected linearity		-3.82%

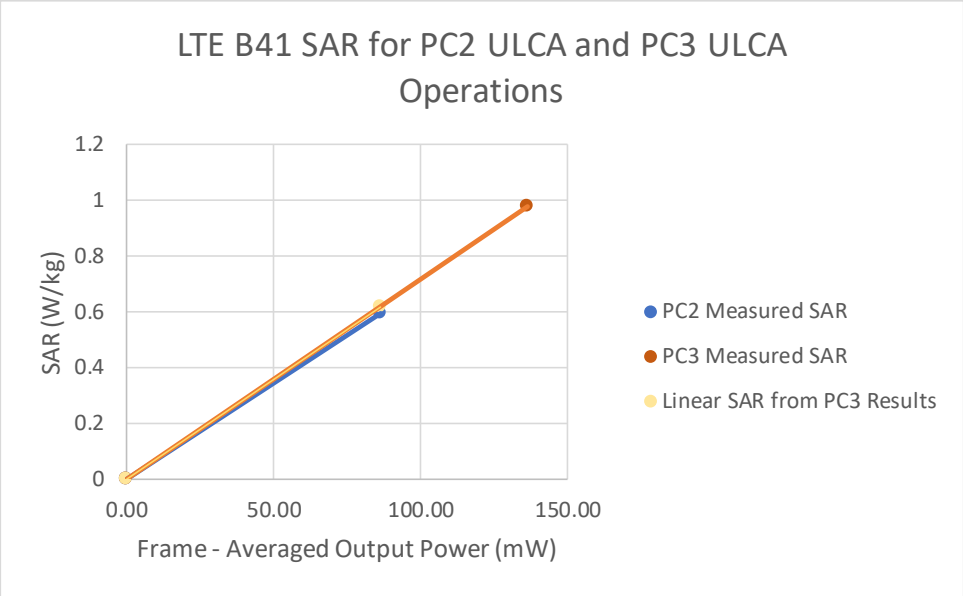

Figure 14-6
LTE Band 41 Hotspot Linearity

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Table 14-11
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.3	25.3
Measured Output Power (dBm)	24.41	23.84
Measured SAR (W/kg)	2.15	1.24
Measured Power (mW)	276.06	242.10
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	174.74	104.83
% deviation from expected linearity		-3.86%

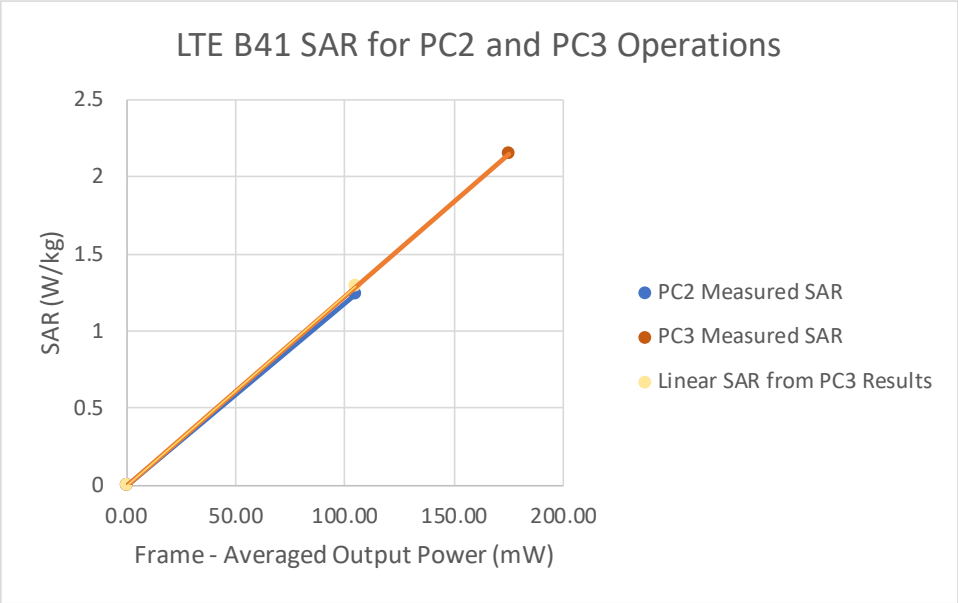

Figure 14-7
LTE Band 41 Phablet Linearity

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Table 14-12
LTE Band 41 ULCA Phablet Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.3	25.3
Measured Output Power (dBm)	24.82	24.30
Measured SAR (W/kg)	2.26	1.25
Measured Power (mW)	303.39	269.15
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	192.05	116.54
% deviation from expected linearity		-8.86%

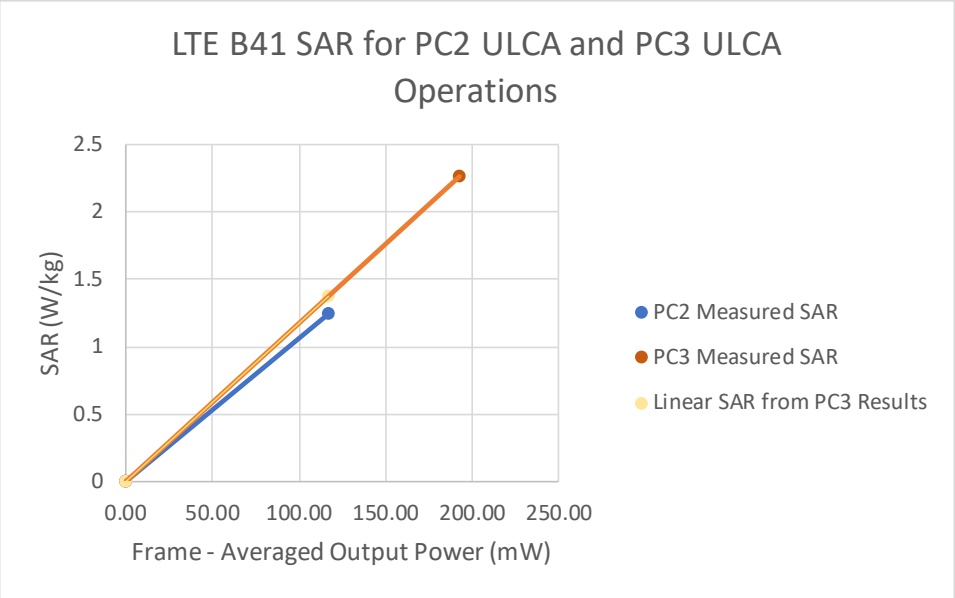

Figure 14-8
LTE Band 41 Phablet Linearity

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15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753E	(30kHz-6GHz) Network Analyzer	9/28/2018	Annual	9/28/2019	JP38020182
Agilent	E4432B	ESG-D Series Signal Generator	4/19/2018	Annual	4/19/2019	US40053896
Agilent	E5515C	Wireless Communications Test Set	2/28/2018	Biennial	2/28/2020	GB41450275
Agilent	N9020A	MXA Signal Analyzer	1/24/2018	Annual	1/24/2019	US46470561
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	E5515C	Wireless Communications Test Set	2/7/2018	Triennial	2/7/2021	GB43304447
Agilent	8753ES	S-Parameter Network Analyzer	2/8/2018	Annual	2/8/2019	US39170122
Agilent	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800
Agilent	E4438C	ESG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY45091346
Agilent	8753ES	S-Parameter Network Analyzer	10/2/2018	Annual	10/2/2019	US39170118
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/30/2018	Annual	8/30/2019	MY40003841
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Anritsu	MT8821C	Radio Communication Analyzer	11/6/2018	Annual	11/6/2019	6200901190
Anritsu	MA24106A	USB Power Sensor	6/5/2018	Annual	6/5/2019	1231538
Anritsu	MA24106A	USB Power Sensor	6/5/2018	Annual	6/5/2019	1231535
Anritsu	ML2496A	Power Meter	10/21/2018	Annual	10/21/2019	1138001
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	1126066
Anritsu	MT8820C	Radio Communication Analyzer	6/27/2018	Annual	6/27/2019	6201240328
Anritsu	ML2496A	Power Meter	5/21/2018	Annual	5/21/2019	1351001
Anritsu	MT8821C	Radio Communication Analyzer	7/26/2018	Annual	7/26/2019	6201144418
Anritsu	MT8820C	Radio Communication Analyzer	3/20/2018	Annual	3/20/2019	6201144419
Anritsu	MT8821C	Radio Communication Analyzer	7/24/2018	Annual	7/24/2019	6201664756
Anritsu	MT8862A	Wireless Connectivity Test Set	7/3/2018	Annual	7/3/2019	6261782395
Control Company	4040	Temperature / Humidity Monitor	2/28/2018	Biennial	2/28/2020	150761911
Control Company	4040	Therm./ Clock/ Humidity Monitor	1/8/2018	Annual	1/8/2019	160473909
Control Company	4352	Ultra Long Stem Thermometer	1/8/2018	Annual	1/8/2019	160508097
Control Company	4352	Ultra Long Stem Thermometer	1/8/2018	Annual	1/8/2019	160508122
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini Circuits	PWR-4GHS	USB Power Sensor	1/20/2018	Annual	1/20/2019	11710030063
Mini Circuits	PWR-4GHS	USB Power Sensor	1/22/2018	Annual	1/22/2019	11710030062
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	NC-100	Torque Wrench	4/18/2018	Annual	4/18/2019	N/A
Pasternack	NC-100	Torque Wrench	5/23/2018	Biennial	5/23/2020	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	5/18/2018	Annual	5/18/2019	109892
Rohde & Schwarz	CMW500	Radio Communication Tester	6/8/2018	Annual	6/8/2019	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	7/5/2018	Annual	7/5/2019	106578
Rohde & Schwarz	CMW500	Radio Communication Tester	10/4/2018	Annual	10/4/2019	109366
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	10/30/2018	Annual	10/30/2019	164948
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	5/29/2018	Annual	5/29/2019	161662
SPEAG	EX3DV4	SAR Probe	5/22/2018	Annual	5/22/2019	7406
SPEAG	EX3DV4	SAR Probe	8/23/2018	Annual	8/23/2019	7308
SPEAG	ES3DV3	SAR Probe	10/22/2018	Annual	10/22/2019	3287
SPEAG	ES3DV3	SAR Probe	2/13/2018	Annual	2/13/2019	3213
SPEAG	EX3DV4	SAR Probe	7/20/2018	Annual	7/20/2019	7410
SPEAG	EX3DV4	SAR Probe	8/24/2018	Annual	8/24/2019	3949
SPEAG	EX3DV4	SAR Probe	6/25/2018	Annual	6/25/2019	7409
SPEAG	ES3DV3	SAR Probe	3/27/2018	Annual	3/27/2019	3347
SPEAG	ES3DV3	SAR Probe	8/22/2018	Annual	8/22/2019	3332
SPEAG	ES3DV3	SAR Probe	3/13/2018	Annual	3/13/2019	3319
SPEAG	EX3DV4	SAR Probe	2/14/2018	Annual	2/14/2019	3914
SPEAG	EX3DV4	SAR Probe	4/18/2018	Annual	4/18/2019	7357
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/22/2018	Annual	5/22/2019	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/3/2018	Annual	10/3/2019	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/18/2018	Annual	10/18/2019	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2018	Annual	2/9/2019	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2018	Annual	7/11/2019	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2018	Annual	6/18/2019	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/15/2018	Annual	2/15/2019	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/7/2018	Annual	3/7/2019	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/11/2018	Annual	4/11/2019	1407
SPEAG	D750V3	750 MHz Dipole	3/7/2017	Biennial	3/7/2019	1054
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d047
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d133
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Annual	10/22/2019	1150
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2017	Biennial	5/9/2019	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	2/7/2018	Annual	2/7/2019	5d148
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Annual	8/13/2019	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Annual	8/16/2019	981
SPEAG	D2600V2	2600 MHz SAR Dipole	9/13/2016	Triennial	9/13/2019	1071
SPEAG	D3700V2	3700 MHz SAR Dipole	9/13/2018	Annual	9/13/2019	1002
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Annual	1/16/2019	1057
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/21/2016	Triennial	9/21/2019	1191
SPEAG	D835V2	835 MHz SAR Dipole	1/15/2018	Annual	1/15/2019	4d132
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d080
SPEAG	D2450V2	2450 MHz SAR Dipole	8/17/2017	Biennial	8/17/2019	719
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Biennial	9/11/2019	797
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Annual	4/11/2019	1004
SPEAG	D2600V2	2600 MHz SAR Dipole	8/13/2018	Annual	8/13/2019	1126
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/15/2018	Annual	5/15/2019	1070

Note: 1. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. All equipment was used solely within its calibration period.

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16 MEASUREMENT UNCERTAINTIES

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

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17 CONCLUSION

17.1 Measurement Conclusion

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

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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